# COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION 

In the Matter of:

| THE APPLICATION OF |  |
| :--- | :--- |
| CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS | ) |
| AND TOWERCO 2013, LLC FOR ISSUANCE | CASE NO. 2023-00382 |
| OF A CERTIFICATE OF PUBLIC CONVENIENCE AND | ) |
| NECESSITY TO CONSTRUCT A WIRELESS |  |
| COMMUNICATIONS FACILITY IN THE |  |
| COMMONWEALTH OF KENTUCKY IN THE COUNTY | ) |
| OF PULASKI |  |

SITE NAME: ETNA

## APPLICATION FOR <br> CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR CONSTRUCTION OF A WIRELESS COMMUNICATIONS FACILITY

Cellco Partnership, d/b/a Verizon Wireless and TowerCo 2013, LLC ("Co-Applicants"), by counsel, pursuant to (i) KRS §§278.020, 278.040, 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submits this Application requesting issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to construct, maintain, and operate a Wireless Communications Facility ("WCF") to serve the customers of the Applicant with wireless communications services.

In support of this Application, Co-Applicants respectfully provide and state the following information:

1. The complete name and address of the Co-Applicants:
a. Cellco Partnership, d/b/a Verizon Wireless, having a local address of 2902 Ring Road, Elizabethtown, KY, 42701.
b. TowerCo 2013, LLC, having a local address of 5000 Valleystone Drive, Cary, NC 27519
2. Co-Applicants:
a. Cellco Partnership, d/b/a Verizon Wireless is a Delaware general partnership and a copy of the Statement of Good Standing from Delaware, and the Certificate of Assumed Name is on file with the Secretary of State of Commonwealth of Kentucky and included as part of Exhibit A.
b. TowerCo 2013, LLC is a Delaware limited liability company and a copies of the formulation document and the Statement of Good Standing from Delaware, and the Certificate of Authorization is on file with the Secretary of State of Commonwealth of Kentucky, are included as part of Exhibit A.
3. Co-Applicants propose construction of an antenna tower for communications services, which is to be located in an area outside the jurisdiction of a planning commission, and Applicant submits this application to the PSC for a certificate of public convenience and necessity pursuant to KRS §§ 278.020(1), 278.040, 278.650, 278.665, and other statutory authority.
4. The Co-Applicant operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. A copy of the Co-Applicant's FCC Application and Licenses with Authorization to provide wireless services are attached to this Application or described as part of Exhibit B, and the facility will be constructed and operated in accordance with applicable FCC regulations. Co-Applicants will submit the approval as soon as received.
5. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve the Co-Applicant's services to an area
currently not served or not adequately served by the Co-Applicants by increasing coverage or capacity and thereby enhancing the public's access to innovative and competitive wireless communications services. A statement from Co-Applicant's RF Design Engineer outlining said need is attached as Exhibit Q along with Propagation Maps attached as Exhibit R. The WCF is an integral link in the Applicant's network design that must be in place to provide adequate coverage to the service area.
6. To address the above-described service needs, Co-Applicants propose to construct a WCF at on a site located on the north side of Yancy Rd, west of Henderson Road, Eubank, KY 42567 (North Latitude: ( $37^{\circ} 14^{\prime} 04.61^{\prime \prime}$, West Longitude $84^{\circ} 32^{\prime} 50.39^{\prime \prime}$ ), on a parcel of land located entirely within the county referenced in the caption of this application. The property on which the WCF will be located is owned by Spencer Loveless and Glenn E. Loveless pursuant to a Deed recorded in Deed Book 770, Page 412 in the office of the County Clerk. The proposed WCF will consist of a 350 -foot tall tower, with an approximately 5 -foot tall lightning arrestor attached at the top, for a total height of $355-$ feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of the Co-Applicant's radio electronics equipment and appurtenant equipment. The Applicant's equipment cabinet or shelter will be approved for use in the Commonwealth of Kentucky by the relevant building inspector. The WCF compound will be fenced and all access gate(s) will be secured. A description of the manner in which the proposed WCF will be constructed is attached as Exhibit C and Exhibit D.
7. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete along with a map showing the proposed location as well as the identified like facilities is attached as Exhibit E.
8. The site development plan and a vertical profile sketch of the WCF signed and sealed by a professional engineer registered in Kentucky depicting the tower height, as well as a proposed configuration for the antennas of the Applicant has also been included as part of Exhibit C.
9. Foundation design plans signed and sealed by a professional engineer registered in Kentucky and a description of the standards according to which the tower was designed are included as part of Exhibit D.
10. Co-Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate Applicant's antennas on an existing structure. When suitable towers or structures exist, Co-Applicant attempts to co-locate on existing structures such as communications towers or other structures capable of supporting Applicant's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site. A statement from Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless's RF Design Engineer outlining exploration of co-location opportunities is attached as Exhibit Q.
11. A copy of the Application for Federal Aviation Administration's ("FAA") and the FAA Determination of No Hazard are attached as Exhibit F.
12. A copy of the Application for Kentucky Airport Zoning Commission ("KAZC") and the KAZA Approval are attached as Exhibit G.
13. A geotechnical engineering report was performed at the WCF site by Power of Design, 11490 Bluegrass Parkway, Louisville, Kentucky 40299, dated June 9, 2023 and is attached as Exhibit H. The name and address of the geotechnical engineering firm and the professional
engineer registered in Kentucky who prepared the report are included as part of Exhibit H and

## Exhibit S.

14. Clear directions to the proposed WCF site from the County seat are attached as Exhibit I. The name and telephone number of the preparer of Exhibit I are included as part of this exhibit.
15. Applicant, pursuant to a written agreement, has acquired the right to use the WCF site and associated property rights. A copy of the agreement or an abbreviated agreement recorded with the County Clerk is attached as Exhibit J.
16. Personnel directly responsible for the design and construction of the proposed WCF are well qualified and experienced. The tower and foundation drawings for the proposed tower submitted as part of Exhibit D bear the signature and stamp of a professional engineer registered in the Commonwealth of Kentucky. All tower designs meet or exceed the minimum requirements of applicable laws and regulations. The identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in Exhibit S.
17. The Construction Manager for the proposed facility is Billy Waldridge Jr. and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in Exhibit S.
18. As noted on the Survey attached as part of Exhibit C, the surveyor has determined that the tower site and access easement are not within any flood hazard area per Flood Hazard Boundary Map, Community Panel Number 21199C0175C, Dated July 22, 2010. Exhibit C also identifies every structure and every easement within 500 feet of the proposed tower or within 200 feet of the access road including intersection with the public street system.
19. Attached as Exhibit $\mathbf{K}$ is the Notification List with screen shots of the PVA records
verified and updated using the Pulaski County PVA on November 20, 2023.
20. Co-Applicants have sent certified notices every person who, according to the records of the County Property Valuation Administrator, owns property which is within 500 feet of the proposed tower or contiguous to the site property, by certified mail, return receipt requested, of the proposed construction. Each notified property owner has been provided with a map of the location of the proposed construction, the PSC docket number for this application, the address of the PSC, and informed of his or her right to request intervention. A copy of the form of the notice sent by certified mail to each landowner on November 22, 2023, is attached as Exhibit L. Fourteen (14) notices were sent to surrounding property owners; to date twelve (12) notice green cards have been returned, one (1) envelope has been returned, and USPS tracking indicates that one (1) notice was delivered. Copies of the mailed envelopes, returned green cards, returned envelope and USPS tracking are included in Exhibit L. There are no unaccountable notices.
21. Co-Applicants have notified the applicable County Judge/Executive by certified mail, return receipt requested, of the proposed construction. This notice included the PSC docket number under which the application will be processed and informed the County Judge/Executive of his/her right to request intervention. A copy of this notice along with a copy of the mailed envelope and USPS tracking indicating that the notice was delivered is attached as Exhibit M.
22. Notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2) that measure at least 2 feet in height and 4 feet in width and that contain all required language in letters of required height, have been posted, one in a visible location on the proposed site and one on the nearest public road. Such signs shall remain posted for at least two weeks after filing of the Application, and a copy of the posted text is attached as Exhibit N.
23. A legal notice advertisement regarding the location of the proposed facility has been published in a newspaper of general circulation in the county in which the WCF is proposed to be located. A copy of the newspaper legal notice advertisement is attached as Exhibit O.
24. The area of the proposed facility is in the unincorporated area of Pulaski County, Kentucky. The site is located on the north side of Yancy Rd, west of Henderson Road, Eubank, KY, 42567. The site is utilized for agricultural production and the area is mostly large farm properties and smaller residential properties. The terrain in the area varies from rolling to hilly with areas of tree growth. There is no zoning or Plan Commission in Pulaski County. The general area where the proposed facility is proposed is open, tilled area and, removed a significant distance from any residential structures. The nearest residential structure is 352 feet from the proposed tower site.
25. The process that was used by the Co-Applicant's radio frequency engineers in selecting the site for the proposed WCF was consistent with the general process used for selecting all other existing and proposed WCF facilities within the proposed network design area. CoApplicant's radio frequency engineers have conducted studies and tests in order to develop a highly efficient network that is designed to handle voice and data traffic in the service area. The engineers determined an optimum area for the placement of the proposed facility in terms of elevation and location to provide the best quality service to customers in the service area. A radio frequency design search area prepared in reference to these radio frequency studies was considered by the Co-Applicant when searching for sites for its antennas that would provide the coverage deemed necessary by the Co-Applicant. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements is attached as Exhibit P.
26. The tower must be located at the proposed location and proposed height to provide necessary service to wireless communications users in the subject area, as set out and documented in the RF Design Engineer’s Statement of Need and Propagation Maps attached as Exhibit Q and Exhibit R, respectively. The proposed tower will expand and improve voice and data service for Verizon Wireless customers.
27. Attached hereto as Exhibit T please find an Affidavit of Certification for all information contained in this application.
28. All Exhibits to this Application are hereby incorporated by reference as if fully set out as part of the Application.
29. All responses and requests associated with this Application may be directed to:

Russell L. Brown
Clark, Quinn, Moses, Scott \& Grahn, LLP
320 North Meridian Street, Suite 1100
Indianapolis, IN 46204
Phone: (317) 637-1321
FAX: (317) 687-2344
Email: rbrown@clarkquinnlaw.com

WHEREFORE, Co-Applicants respectfully request that the PSC accept the foregoing Application for filing and, having met the requirements of KRS §§278.020(1), 278.650, and 278 . 665 and all applicable rules and regulations of the PSC, grant a Certificate of Public Convenience and Necessity to construct and operate the WCF at the location set forth herein.

Respectfully submitted,


Russell L. Brown
Clark, Quinn, Moses, Scott \& Grahn, LLP
320 North Meridian Street, Suite 1100
Indianapolis, IN 46204
Phone: (317) 637-1321 / FAX: (317) 687-2344
Email: rbrown@clarkquinnlaw.com
Attorney for Cellco Partnership d/b/a Verizon Wireless

## LIST OF EXHIBITS

A Applicant Entity
B FCC Registration and License Documentation
C Site Development Plan:
500' Vicinity Map Legal Descriptions Flood Plain Certification Site Plan Vertical Tower Profile

D Tower and Foundation Design
E Competing Utilities, Corporations, or Persons List And Map of Like Facilities in Vicinity

F FAA Application and Determination of No Hazard
G KAZC Application and Approval
H Geotechnical Report
I Directions to WCF Site
J Copy of Real Estate Agreement
K Notification Listing with PVA Verification
L Copy of Property Owner Notification
M Copy of County Judge/Executive notice
N Copy of Posted Notices
O Copy of Newspaper Legal Notice Advertisement
P Copy of Radio Frequency Design Search Area
Q Copy of RF Design Engineer State of Need
R Propagation Maps
S List of Qualified Professionals
T Affidavit of Certification

The First State


#### Abstract

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "CELLCO PARTNERSHIP" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND has a legal existence so far as the records of this office show, as OF THE TWENTY-SEVENTH DAY OF APRIL, A.D. 2023.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.




Authentication: 203227418


## Certificate

I, Michael G. Adams, Secretary of State for the Commonwealth of Kentucky, do hereby certify that the foregoing writing has been carefully compared by me with the original thereof, now in my official custody as Secretary of State and remaining on file in my office, and found to be a true and correct copy of

## CERTIFICATE OF ASSUMED NAME OF VERIZON WIRELESS ADOPTED BY GENERAL PARTNERS OF CELLCO PARTNERSHIP FILED JUNE 21, 2006.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 10th day of May, 2023.


Michael G. Adams
Secretary of State
Commonwealth of Kentucky
kdcoleman/0641227 - Certificate ID: 290787


Trey Grayson
Secretary of State
Received and Filed
06/21/2006 12:06:09 PM
Fee Receipt: $\$ 20.00$

## CERTIFICATE OF ASSUMED NAME

This certifies that the assumed name of
Verizon Wireless
has been adopted by $\qquad$ see Addendum
which is the "real name" of roumust check one]

$\qquad$ a Joint Venture
organized and existing in the state or country of Delaware and whose address is


The certificate of assumed nama is executed by


## Addendum

The full name of the Partnership is Cellco Partnership; a Delaware general partnership with its headquarters located One Verizon Way, Basking Ridge NJ 07920-1097.

| General Partners of Cellco Partnership | Address |
| :--- | :--- |
| Bell Atlantic Cellular Holdings, L.P. | One Verizon Way Basking Ridge, NJ 07920 |
| NYNEX PCS Inc. | One Verizon Way Basking Ridge, NJ 07920 |
| PCSCO Partnership | One Verizon Way Basking Ridge, NJ 07920 |
| GTE Wireless Incorporated | One Verizon Way Basking Ridge, NJ 07920 |
| GTE Wireless of Ohio Incorporated | One Verizon Way Basking Ridge, NJ 07920 |
| PCS Nucleus, L.P. | 2999 Oak Road, $7^{\text {h }}$ Floor Walnut Creek, CA 94597 |
| JV PartnerCo, LLC | 2999 Oak Road, $7^{\text {h }}$ Floor Walnut Creek, CA 94597 |

## Commonwealth of Kentucky Michael G. Adams, Secretary of State

Michael G. Adams
Secretary of State
P. O. Box 718

Frankfort, KY 40602-0718
(502) 564-3490
http://www.sos.ky.gov

Certificate of Authorization

Authentication number: 297432
Visit https://web.sos.ky.gov/ftshow/certvalidate.aspx to authenticate this certificate.
I, Michael G. Adams, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

## TOWERCO 2013 LC

, a limited liability company authorized under the laws of the state of Delaware, is authorized to transact business in the Commonwealth of Kentucky, and received the authority to transact business in Kentucky on June 12, 2013.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that an application for certificate of withdrawal has not been filed; and that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this $15^{\text {th }}$ day of September, 2023, in the $232^{\text {nd }}$ year of the Commonwealth.



Michael G. Adams

Secretary of State
Commonwealth of Kentucky
297432/0859822

## The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "TOWERCO 2013 LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE TWENTY-SEVENTH DAY OF SEPTEMBER, A.D. 2023.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "TOWERCO 2013

LLC" WAS FORMED ON THE THIRD DAY OF OCTOBER, A.D. 2012.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN PAID TO DATE.


Authentication: 204256340
A1225019
A Map Application - Printable Page 埳 Referencer

## Application A1225019

Application Detail
File Number
NEPA
Application Information
$09 / 15 / 2023$
$09 / 15 / 2023$
Position of Tower in
Array

[^0]Overall Height Above Ground (AGL) 108.2
FAA Issue Date
Owner Entity Type Corporation
P: (770)797-1070
F: NetworkRegulatory@VerizonWireless.com
E:
P: (770)797-1070
F: NetworkRegulatory@VerizonWireless.com
E:
Is the applicant submitting an Environmental Assessment?
No
Does the applicant certify to No Significant Environmental Effect
pursuant to Section
Basis for Certification
Local Notice Date

Authorized Representative

Title


$$
\begin{aligned}
& \text { Event } \\
& \text { Application Resubmitted } \\
& \text { Return Letter Sent } \\
& \text { Application Returned }
\end{aligned}
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Requested Value

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\begin{aligned}
& \text { Value } \\
& \text { Date Entered }
\end{aligned}
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This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.

## Federal Communications Commission

## Wireless Telecommunications Bureau

## RADIO STATION AUTHORIZATION

LICENSEE: RURAL CELLULAR CORPORATION

ATTN: REGULATORY
RURAL CELLULAR CORPORATION
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

| Call Sign <br> KNKN940 | File Number <br> 0009139416 |
| :---: | :---: |
| Radio Service <br> CL - Cellular |  |
| Market Numer <br> CMA448 | Channel Block <br> A |
| Sub-Market Designator |  |
| 0 |  |

FCC Registration Number (FRN): 0003715919

## Market Name

Kentucky 6 - Madison

| Grant Date <br> $09-01-2020$ | Effective Date <br> $09-01-2020$ | Expiration Date <br> $10-01-2030$ | Five Yr Build-Out Date | Print Date <br> $09-01-2020$ |
| :---: | :---: | :---: | :---: | :---: |

## Site Information:

| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 1 | $37-42-55.3 \mathrm{~N}$ | $084-16-14.8 \mathrm{~W}$ |  |  |

Address: WEST OF US-25 1.2 MILES SOUTH OF INTERSECTION OF US-25 \& SR-876
City: RICHMOND County: MADISON State: KY Construction Deadline:

## Antenna: 1

|  |  |  |  |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Maximum Transmitting ERP in Watts: | 115.000 |  |  |  |  |  |  |  |
| Azimuth(from true north) | $\mathbf{0}$ | $\mathbf{4 5}$ | $\mathbf{9 0}$ | $\mathbf{1 3 5}$ | $\mathbf{1 8 0}$ | $\mathbf{2 2 5}$ | $\mathbf{2 7 0}$ | $\mathbf{3 1 5}$ |
| Antenna Height AAT (meters) | 137.000 | 130.000 | 127.000 | 93.000 | 96.000 | 102.000 | 124.000 | 114.000 |
| Transmitting ERP (watts) | 74.000 | 74.000 | 74.000 | 74.000 | 74.000 | 74.000 | 74.000 | 74.000 |

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934, as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. § 310 (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.


| Location Latitude Longi | Longitude | Ground Elevation (meters) | Structure Hgt to Tip (meters) |  | Antenna Structure Registration No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 37-17-21.3 N 084-15 | N 084-15-51.8 W | 430.0 |  |  |  |  |
| Address: ON SAND HILL 2.6 MILES SOUTHWEST OF |  |  |  |  |  |  |
| City: LIVINGSTON County: ROC |  | State: KY Construction | eadline: |  |  |  |
| Antenna: 1 |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 172.000 |  |  |  |  |  |  |
| Azimuth(from true north) | north) 0 | $\begin{array}{llll}45 & 90 & 135\end{array}$ | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | neters) $\quad 175.000$ | $\begin{array}{llll}144.000 & 190.000 & 181.000\end{array}$ | 192.000 | 185.000 | 167.000 | 141.000 |
| Transmitting ERP (watts) | ts) 47.000 | $\begin{array}{lll}22.000 & 19.000 & 41.000\end{array}$ | 90.000 | 114.000 | 120.000 | 102.000 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 4 | 37-08-57.3 N | $084-05-58.8 \mathrm{~W}$ | 408.0 |  |
| Address: 1 MILE NORTH OF |  |  |  |  |
| City: LONDON | County: LAUREL | State: KY | Construction Deadline: |  |

Antenna: 1

| And |  |  |  |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Maximum Transmitting ERP in Watts: | 138.000 |  |  |  |  |  |  |  |
| Azimuth(from true north) | $\mathbf{0}$ | $\mathbf{4 5}$ | $\mathbf{9 0}$ | $\mathbf{1 3 5}$ | $\mathbf{1 8 0}$ | $\mathbf{2 2 5}$ | $\mathbf{2 7 0}$ | $\mathbf{3 1 5}$ |
| Antenna Height AAT (meters) | 139.000 | 161.000 | 113.000 | 124.000 | 135.000 | 153.000 | 127.000 | 152.000 |
| Transmitting ERP (watts) | 40.000 | 34.000 | 54.000 | 128.000 | 146.000 | 137.000 | 146.000 | 95.000 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 5 | $37-36-05.3 \mathrm{~N}$ | $084-39-36.8 \mathrm{~W}$ |  |  |

Address: 4 MILES SOUTHWEST OF
City: LANCASTER County: LINCOLN State: KY Construction Deadline:

Antenna: 1

| Maximum Transmitting ERP in Watts: | 128.000 |  |  |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Azimuth(from true north) | $\mathbf{0}$ | $\mathbf{4 5}$ | $\mathbf{9 0}$ | $\mathbf{1 3 5}$ | $\mathbf{1 8 0}$ | $\mathbf{2 2 5}$ | $\mathbf{2 7 0}$ | $\mathbf{3 1 5}$ |
| Antenna Height AAT (meters) | 139.000 | 148.000 | 120.000 | 148.000 | 104.000 | 119.000 | 100.000 | 148.000 |
| Transmitting ERP (watts) | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |



| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 9 | $37-52-45.3 \mathrm{~N}$ | $084-19-32.8 \mathrm{~W}$ | 277.0 |  |  |

Address: 0.45 MILES NORTHEAST OF INTERSECTION OF I-75 \& US-25/421 1 MILE ESE OF
City: CLAYS FERRY County: CLARK State: KY Construction Deadline:

Antenna: 1

| Maximum Transmitting ERP in Watts: | 109.000 |  |  |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Azimuth(from true north) | $\mathbf{0}$ | $\mathbf{4 5}$ | $\mathbf{9 0}$ | $\mathbf{1 3 5}$ | $\mathbf{1 8 0}$ | $\mathbf{2 2 5}$ | $\mathbf{2 7 0}$ | $\mathbf{3 1 5}$ |
| Antenna Height AAT (meters) | 92.000 | 122.000 | 158.000 | 111.000 | 90.000 | 121.000 | 102.000 | 77.000 |
| Transmitting ERP (watts) | 1.120 | 6.920 | 58.880 | 100.000 | 100.000 | 91.200 | 22.390 | 0.930 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 12 |  | $37-21-22.3 \mathrm{~N}$ | $084-55-12.8 \mathrm{~W}$ | 336.0 |

Antenna: 1

| Maximum Transmitting ERP in Watts: | 140.000 |  |  |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Azimuth(from true north) | $\mathbf{0}$ | $\mathbf{4 5}$ | $\mathbf{9 0}$ | $\mathbf{1 3 5}$ | $\mathbf{1 8 0}$ | $\mathbf{2 2 5}$ | $\mathbf{2 7 0}$ | $\mathbf{3 1 5}$ |
| Antenna Height AAT (meters) | 117.000 | 132.000 | 144.000 | 114.000 | 152.000 | 158.000 | 146.000 | 159.000 |
| Transmitting ERP (watts) | 75.000 | 75.000 | 75.000 | 75.000 | 75.000 | 75.000 | 75.000 | 75.000 |



| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 14 | $37-46-29.3 \mathrm{~N}$ | $084-19-15.8 \mathrm{~W}$ | 287.4 |  |

Address: MTSO CELL SITE: 124 S. KEENELAND DR
City: RICHMOND County: MADISON State: KY Construction Deadline:



Address: 3.4 miles East of Nancy, KY
City: Nancy County: PULASKI State: KY Construction Deadline:

| Antenna: 1 <br> Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Azimuth(from true north) Antenna Height AAT (meters) | $\begin{gathered} \mathbf{0} \\ 120.400 \\ 29.000 \end{gathered}$ | $\begin{aligned} & \mathbf{4 5} \\ & 163.100 \\ & 29.000 \end{aligned}$ | $\begin{aligned} & \mathbf{9 0} \\ & 170.400 \\ & 29.000 \end{aligned}$ | $\begin{aligned} & \mathbf{1 3 5} \\ & 196.600 \\ & 29.000 \end{aligned}$ | $\begin{aligned} & \mathbf{1 8 0} \\ & 188.000 \\ & 29.000 \end{aligned}$ | $\begin{aligned} & \mathbf{2 2 5} \\ & 195.900 \\ & 29.000 \end{aligned}$ | $\begin{aligned} & \mathbf{2 7 0} \\ & 164.000 \\ & 29.000 \end{aligned}$ | $\begin{aligned} & \mathbf{3 1 5} \\ & 150.900 \\ & 29.000 \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |
| Transmitting ERP (watts) |  |  |  |  |  |  |  |  |
| Location Latitude |  | Ground Elevation S |  |  | Structure Hgt to Tip |  | Antenna Structure Registration No. |  |
| 18 37-38-56.9 N | 46.2 W | 2 |  |  |  |  |  |  |
| Address: Perryville Cell Site: 710 Cox Street |  |  |  |  |  |  |  |  |
| City: Perryville County: BOYLE State: KY Construction Deadline: |  |  |  |  |  |  |  |  |
| Antenna: 1 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 |  |  | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 90.100 | 62.100 | 41.400 | -1.800 | 24.600 | 40.300 | 71.100 | 64.200 |
| Transmitting ERP (watts) | 99.100 | 143.700 | 70.200 | 6.300 | 0.400 | 0.400 | 0.500 | 14.200 |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 |  | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 90.100 | 62.100 | 41.400 | -1.800 | 24.600 | 40.300 | 71.100 | 64.200 |
| Transmitting ERP (watts) | 0.400 | 1.600 | 33.200 | 128.600 | 132.400 | 39.100 | 2.200 | 0.400 |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 90.100 | 62.100 | 41.400 | -1.800 | 24.600 | 40.300 | 71.100 | 64.200 |
| Transmitting ERP (watts) | 9.000 | 0.400 | 0.400 | 0.400 | 10.400 | 87.000 | 143.500 | 82.100 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 19 | $37-06-10.0 \mathrm{~N}$ | $084-35-45.0 \mathrm{~W}$ | 388.0 | 91.4 | 1043625 |
| Address: | (Somerset site) | 500 Rock Query Road |  |  |  |
| City: SOMERSET | County: PULASKI | State: KY | Construction Deadline: 05-30-2014 |  |  |

Antenna: 1

| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  | 270 | 315 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 |  |  |
| Antenna Height AAT (meters) | 159.200 | 158.600 | 169.600 | 169.900 | 213.500 | 200.800 | 177.700 | 154.800 |
| Transmitting ERP (watts) | 110.230 | 148.690 | 21.490 | 0.730 | 0.400 | 0.330 | 0.450 | 7.630 |
| Antenna: 3 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: | 140.820 |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 159.200 | 158.600 | 169.600 | 169.900 | 213.500 | 200.800 | 177.700 | 154.800 |
| Transmitting ERP (watts) | 0.330 | 0.620 | 0.330 | 0.330 | 2.050 | 69.550 | 163.040 | 61.990 |

Call Sign: KNKN940
File Number: 0009139416
Print Date: 09-01-2020


## Control Points:

## Control Pt. No. 2

Address: 500 W Dove Rd
City: Southlake County: TARRANT State: TX Telephone Number: (800)264-6620

## Waivers/Conditions:

NONE

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| Call Sign <br> WPOK659 | File Number <br> 0010160394 |
| :---: | :---: |
| Radio Service |  |
| CW - PCS Broadband |  |

FCC Registration Number (FRN): 0003290673

| Grant Date 09-12-2019 | Effective Date 09-23-2022 | Expiration Date 09-29-2029 | $\begin{aligned} & \text { Print Date } \\ & 02-10-2023 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Market Number BTA423 | $\mathrm{Cl}$ |  | Sub-Market Designator 1 |
| Market Name Somerset, KY |  |  |  |
| $\begin{gathered} \text { 1st Build-out Date } \\ 09-29-2004 \end{gathered}$ | $\begin{gathered} \text { 2nd Build-out Date } \\ 09-29-2009 \end{gathered}$ | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km ( 45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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| Call Sign <br> WPZX945 | File Number <br> 0009262040 |
| :---: | :---: |
| Radio Service |  |
| CW - PCS Broadband |  |

FCC Registration Number (FRN): 0003290673

| Grant Date 09-06-2019 | Effective Date 01-13-2021 | Expiration Date 09-29-2029 | Print Date 03-10-2021 |
| :---: | :---: | :---: | :---: |
| Market Number BTA423 | $\mathrm{Cl}$ |  | Sub-Market Designator 2 |
| Market Name Somerset, KY |  |  |  |
| 1st Build-out Date 09-29-2004 | $\begin{gathered} \text { 2nd Build-out Date } \\ 09-29-2009 \end{gathered}$ | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km ( 45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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FCC Registration Number (FRN): 0003290673

| Grant Date <br> $12-21-2021$ | Effective Date <br> $12-21-2021$ | Expiration Date <br> $11-29-2036$ | Print Date <br> $12-21-2021$ |
| :---: | :---: | :---: | :---: |
| Market Number <br> BEA047 | Channel Block <br> B | 11 |  |


| 1st Build-out Date | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |
| :---: | :---: | :---: | :---: |

## Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the $1710-1755 \mathrm{MHz}$ band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934, as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

| Call Sign <br> WQJQ692 | File Number |
| :---: | :---: |
| Radio Service |  |
| WU -700 MHz Upper Band (Block C) |  |

FCC Registration Number (FRN): 0003290673

| Grant Date 01-10-2020 | Effective Date 02-11-2021 | Expiration Date 06-13-2029 | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number REA004 | $\overline{\mathrm{C}}$ |  | Sub-Market Designator 0 |
| Market Name Mississippi Valley |  |  |  |
| 1st Build-out Date 06-13-2013 | 2nd Build-out Date 06-13-2019 | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934, as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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File Number:
Print Date:

700 MHz Relicensed Area Information:

## Market

Market Name
Buildout Deadline
Buildout Notification
Status


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LICENSEE: RURAL CELLULAR CORPORATION

ATTN: REGULATORY
RURAL CELLULAR CORPORATION
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

| Call Sign <br> WQUZ670 | File Number |
| :---: | :---: |
| Radio Service |  |
| AW - AWS (1710-1755 MHz and |  |
| $2110-2155 \mathrm{MHz})$ |  |

FCC Registration Number (FRN): 0003715919

| Grant Date $11-16-2021$ | Effective Date 09-23-2022 | Expiration Date 11-29-2036 | Print Date $02-16-2023$ |
| :---: | :---: | :---: | :---: |
| Market Number REA004 | $\bar{C}$ |  | Sub-Market Designator 10 |
| Market Name Mississippi Valley |  |  |  |
| 1st Build-out Date | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the $1710-1755 \mathrm{MHz}$ band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934, as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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## Licensee Name: RURAL CELLULAR CORPORATION

File Number:

The license is subject to compliance with the provisions of the January 12, 2001 Agreement between Deutsche Telekom AG, VoiceStream Wireless Corporation, VoiceStream Wireless Holding Corporation and the Department of Justice (DOJ) and the Federal Bureau of Investigation (FBI), which addresses national security, law enforcement, and public safety issues of the FBI and the DOJ regarding the authority granted by this license. Nothing in the Agreement is intended to limit any obligation imposed by Federal lawor regulation including, but not limited to, 47 U.S.C. Section 222(a) and (c)(1) and the FCC's implementing regulations. The Agreement is published at VoiceStream-DT Order, IB Docket No. 00-187, FCC 01-142, 16 FCC Rcd 9779, 9853 (2001).



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FCC Registration Number (FRN): 0003290673

| Grant Date 01-09-2018 | Effective Date 01-13-2021 | Expiration Date 01-09-2030 | Print Date 03-11-2021 |
| :---: | :---: | :---: | :---: |
| Market Number PEA096 | $\bar{C}$ |  | Sub-Market Designator 1 |
| Market Name Richmond, KY |  |  |  |
| 1st Build-out Date 01-09-2024 | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

## NONE



## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934, as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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FCC Registration Number (FRN): 0003290673

| Grant Date 09-07-2018 | Effective Date $11-18-2022$ | Expiration Date 09-21-2028 | Print Date 03-15-2023 |
| :---: | :---: | :---: | :---: |
| Market Number BTA423 | $\bar{C}$ |  | Sub-Market Designator 0 |
| Market Name Somerset, KY |  |  |  |
| 1st Build-out Date $06-01-2024$ | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

## NONE



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FCC Registration Number (FRN): 0003290673

| Grant Date 09-07-2018 | Effective Date $11-18-2022$ | Expiration Date 09-21-2028 | Print Date 03-15-2023 |
| :---: | :---: | :---: | :---: |
| Market Number BTA423 | $\bar{C}$ |  | Sub-Market Designator 0 |
| Market Name Somerset, KY |  |  |  |
| 1st Build-out Date $06-01-2024$ | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

## NONE



## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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FCC Registration Number (FRN): 0003290673

| Grant Date $12-11-2019$ | Effective Date 01-13-2021 | Expiration Date $12-11-2029$ | Print Date 03-11-2021 |
| :---: | :---: | :---: | :---: |
| Market Number PEA096 |  |  | Sub-Market Designator 3 |
| Market Name Richmond, KY |  |  |  |
| 1st Build-out Date | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

## NONE



## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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FCC Registration Number (FRN): 0003290673

| Grant Date 06-04-2020 | Effective Date $11-18-2022$ | Expiration Date 06-04-2030 | Print Date 03-15-2023 |
| :---: | :---: | :---: | :---: |
| Market Number PEA096 | $\bar{C}$ |  | Sub-Market Designator 0 |
| Market Name Richmond, KY |  |  |  |
| 1st Build-out Date | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

## NONE



## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309(\mathrm{~h})$, this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

| Call Sign <br> WRNF549 | File Number |
| :---: | :---: |
| Radio Service |  |
| PM - 3.7 GHz Service |  |

FCC Registration Number (FRN): 0003290673

| Grant Date 07-23-2021 | Effective Date 07-23-2021 | Expiration Date 07-23-2036 | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number PEA096 | $\mathrm{Ch}$ |  | Sub-Market Designator 0 |
| Market Name Richmond, KY |  |  |  |


| 1st Build-out Date <br> $07-23-2029$ | 2nd Build-out Date <br> $07-23-2033$ | 3rd Build-out Date | 4th Build-out Date |
| :---: | :---: | :---: | :---: |

## Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § $27.1412(\mathrm{~g})$.

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401-27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309$ (h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

File Number:
Print Date:

700 MHz Relicensed Area Information:

Market
Market Name
Buildout Deadline
Buildout Notification
Status


This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.


LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

| Call Sign <br> WRNF554 | File Number |
| :---: | :---: |
| Radio Service |  |
| PM - 3.7 GHz Service |  |

FCC Registration Number (FRN): 0003290673

| Grant Date 07-23-2021 | Effective Date 07-23-2021 | Expiration Date 07-23-2036 | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number PEA096 |  |  | Sub-Market Designator 0 |
| Market Name Richmond, KY |  |  |  |
| 1st Build-out Date 07-23-2029 | $\begin{gathered} \text { 2nd Build-out Date } \\ 07-23-2033 \end{gathered}$ | 3rd Build-out Date | 4th Build-out Date |

## Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § $27.1412(\mathrm{~g})$.

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401-27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309$ (h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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Call Sign: WRNF554


700 MHz Relicensed Area Information:

## Market

File Number:
Print Date:


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LICENSEE: RURAL CELLULAR CORPORATION

ATTN: REGULATORY
RURAL CELLULAR CORPORATION
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

| Call Sign <br> WRWF636 | File Number <br> 0010160917 |
| :---: | :---: |
| Radio Service |  |
| AW - AWS (1710-1755 MHz and |  |
| $2110-2155 \mathrm{MHz})$ |  |

FCC Registration Number (FRN): 0003715919

| Grant Date 09-23-2022 | Effective Date $09-23-2022$ | Expiration Date 12-18-2036 | Print Date $02-16-2023$ |
| :---: | :---: | :---: | :---: |
| Market Number BEA047 | $\mathrm{Ch}$ |  | Sub-Market Designator 14 |
| Market Name <br> Lexington, KY-TN-VA-WV |  |  |  |


| 1st Build-out Date | 2nd Build-out Date | 3rd Build-out Date | 4th Build-out Date |
| :---: | :---: | :---: | :---: |

## Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the $1710-1755 \mathrm{MHz}$ band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Special Condition for AU/name change (6/4/2016): Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

## Conditions:

Pursuant to $\S 309(\mathrm{~h})$ of the Communications Act of 1934 , as amended, 47 U.S.C. $\S 309$ (h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934 , as amended. See 47 U.S.C. $\S 310$ (d). This license is subject in terms to the right of use or control conferred by $\S 706$ of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.









|  | TowerCo |  |  |  |  |  |  |  |  |  |  |  |  |  |  | كr |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |







|  | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 3 \\ 0 \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |  | 莬 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

DATE: JANUARY 17, 2024
PURCHASER: TOWERCO LLC

PROJECT: 350FT RTL SELF SUPPORT TOWER
KY0106 LV ETNA, KY

FILE NUMBER: 245169

I CERTIFY THAT THE ATTACHED DRAWINGS WERE PREPARED UNDER MY SUPERVISION IN ACCORDANCE WITH THE DESIGN AND LOADING CRITERIA SPECIFIED BY THE PURCHASER AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY.





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Peoria, IL
File: W:\Jobs\2024\245169\ENGINEERING\245169.out
Contract: 245169
Project: 350 FT RTL TOWER

Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

## Section A: PROJECT DATA

| Project Title: | 350 FT RTL TOWER |
| :--- | :--- |
| Customer Name: | TOWERCO LLC |
| Site: | KY0106 LV ETNA- KY |
| Contract No.: | 245169 |
| Revision: | 1 |
| Engineer: | AS |
| Date: | Jan 17 2024 |
| Time: | $09: 19: 26$ AM |
|  |  |
| Design Standard: | ANSI/TIA-222-G-2005 Addendum 2 |

GENERAL DESIGN CONDITIONS

| Start wind direction: | 0.00 (Deg) |
| :---: | :---: |
| End wind direction: | 330.00 (Deg) |
| Increment wind direction: | 30.00 (Deg) |
| Elevation above ground: | 0.00 (ft) |
| Gust Response Factor Gh: | 0.85 |
| Structure class: | II |
| Exposure category: | C |
| Topographic category: | 1 |
| Material Density: | 490.1(lbs/ft^3) |
| Young's Modulus: | 29000.0(ksi) |
| Poisson Ratio: | 0.30 |
| Weight Multiplier: | 1.25 |
| Minimum Bracing Resistance as per 4.4.1 |  |
| WIND ONLY CONDITIONS: |  |
| Ultimate Design Wind Speed (No Ice): | 115.00 (mph) |
| Nominal Design Wind Speed (No Ice): | 89.08 (mph) |
| Directionality Factor Kd: | 0.85 |
| Importance Factor I: | 1.00 |
| Wind Load Factor: | 1.60 |
| Dead Load Factor: | 1.20 |
| Dead Load Factor for Uplift: | 0.90 |
| WIND AND ICE CONDITIONS: |  |
| Basic Wind Speed (With Ice): | 30.00 (mph) |
| Directionality Factor Kd: | 0.85 |
| Wind Load Importance Factor Iw: | 1.00 |
| Ice Thickness Importance Factor Ii: | 1.00 |
| Ice Thickness: | 0.75 (in) |
| Ice Density: | 56.19 (lbs/ft^3) |
| Wind Load Factor: | 1.00 |
| Dead Load Factor: | 1.20 |
| Ice Load Factor: | 1.00 |
| WIND ONLY SERVICEABILITY CONDITIONS: |  |
| Serviceability Wind Speed: | 60.00 (mph) |
| Directionality Factor Kd: | 0.85 |
| Importance Factor I: | 1.00 |
| Wind Load Factor: | 1.00 |
| Dead Load Factor: | 1.00 |
| EARTHQUAKE CONDITIONS: |  |
| Site class definition: | C |
| Spectral response acceleration Ss: | 0.208 |
| Spectral response acceleration S1: | 0.095 |
| Accelaration-based site coefficient Fa: | 1.200 |
| Velocity-based site coefficient Fv: | 1.700 |
| Design spectral response acceleration Sds: | 0.166 |

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Project: 350 FT RTL TOWER
Date and Time: 1/17/2024 9:19:49 AM
Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

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Peoria, IL

| Design spectral response acceleration Sd1: | 0.108 |
| :--- | :--- | :--- |
| Seismic analysis method: | 1 |
| Fundamental frequency of structure f1: | 0.677 |
| Total seismic shear Vs (Kips) : | 3.27 |
|  |  |
| Analysis performed using: TowerSoft Finite Element Analysis Program |  |

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Peoria, IL

| File: W: \Jobs \2024\245169\ENGINEERING\245169.out |  |
| :--- | :--- |
| Contract: 245169 | Revision: 1 |
| Project: 350 FT RTL TOWER | Site: KY0106 LV ETNA- KY |
| Date and Time: 1/17/2024 9:19:49 AM | Engineer: AS |

## Section B: STRUCTURE GEOMETRY

TOWER GEOMETRY

| Cross-Section | Height <br> $(\mathrm{ft})$ | Tot Height <br> $(\mathrm{ft})$ | $\#$ of Section | Bot Width <br> (in) | Top Width <br> (in) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Triangular | 350.00 | 455.00 | 14 | 461.54 | 57.53 |

SECTION GEOMETRY

| Sec | Sec. Name | Elevation |  | Widths |  | Masses |  |  |  |  |  | Brcg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \# |  | $\begin{aligned} & \text { Bottom } \\ & \text { (ft) } \end{aligned}$ | Top (ft) | $\begin{aligned} & \text { Bottom } \\ & \text { (in) } \end{aligned}$ | Top (in) | Legs <br> (lbs) | Brcg. <br> (lbs) | $\begin{gathered} \text { Sec.Brc } \\ \text { (lbs) } \end{gathered}$ | ```Int.Brc (lbs)``` | Sect. <br> (lbs) | $\begin{gathered} \text { Database } \\ \text { (lbs) } \end{gathered}$ | Clear. <br> (in) |
| 14 | RLS04* | 330.00 | 350.00 | 58 | 58 | 572 | 478 | 0 | 0 | 1050 | 0 | 0.787 |
| 13 | RLT06 | 310.00 | 330.00 | 83 | 58 | 1131 | 680 | 0 | 0 | 1811 | 0 | 0.787 |
| 12 | RLT08 | 290.00 | 310.00 | 108 | 83 | 1565 | 749 | 0 | 0 | 2314 | 0 | 0.787 |
| 11 | RLT10 | 270.00 | 290.00 | 132 | 108 | 1717 | 830 | 0 | 0 | 2547 | 0 | 0.787 |
| 10 | RLT12 | 250.00 | 270.00 | 156 | 132 | 2153 | 1253 | 0 | 0 | 3407 | 0 | 0.787 |
| 9 | RLT14* | 230.00 | 250.00 | 182 | 156 | 2154 | 1301 | 0 | 0 | 3455 | 0 | 0.787 |
| 8 | RLT16* | 210.00 | 230.00 | 206 | 182 | 2484 | 1397 | 0 | 0 | 3881 | 0 | 0.787 |
| 7 | RLT19* | 180.00 | 210.00 | 242 | 206 | 4896 | 2741 | 0 | 0 | 7638 | 0 | 0.787 |
| 6 | RLT22* | 150.00 | 180.00 | 280 | 242 | 4897 | 3557 | 0 | 0 | 8455 | 0 | 0.787 |
| 5 | RLT25* | 120.00 | 150.00 | 316 | 280 | 6178 | 3977 | 0 | 0 | 10155 | 0 | 0.787 |
| 4 | RLT28* | 90.00 | 120.00 | 352 | 316 | 6177 | 4916 | 1664 | 584 | 13341 | 0 | 0.787 |
| 3 | RLT31* | 60.00 | 90.00 | 390 | 352 | 6178 | 5962 | 1803 | 746 | 14688 | 0 | 0.787 |
| 2 | RLT34* | 30.00 | 60.00 | 426 | 390 | 7381 | 6825 | 1949 | 823 | 16977 | 0 | 0.787 |
| 1 | RLT37* | 0.00 | 30.00 | 462 | 426 | 7381 | 7900 | 2092 | 1330 | 18703 | 0 | 0.787 |
| Tota | 1 Mass: |  |  |  |  | 54863 | 42567 | 7508 | 3483 | 108422 | 0 |  |

PANEL GEOMETRY

| Sec\# | Pnl\# | Type | SecBrcg | Mid. Horiz Continuous | Horiz | Height (ft) | Bottom Width <br> (in) | Top Width <br> (in) | Plan <br> Bracing | Hip <br> Bracing | Gusset <br> Plate <br> Area <br> (ft^2) | Gusset <br> Plate <br> Weight <br> (lbs) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14 | 4 | X | (None) |  | Yes | 5.0 | 57.7 | 57.5 | (None) | (None) | 0.000 | 0.00 |
| 14 | 3 | X | (None) |  | None | 5.0 | 58.0 | 57.7 | (None) | (None) | 0.300 | 0.30 |
| 14 | 2 | X | (None) |  | None | 5.0 | 58.2 | 58.0 | (None) | (None) | 0.300 | 0.30 |
| 14 | 1 | X | (None) |  | None | 5.0 | 58.4 | 58.2 | (None) | (None) | 0.300 | 0.30 |
| 13 | 3 | X | (None) |  | Yes | 6.7 | 66.7 | 58.4 | (None) | (None) | 0.300 | 0.30 |
| 13 | 2 | X | (None) |  | None | 6.7 | 75.0 | 66.7 | (None) | (None) | 0.300 | 0.30 |
| 13 | 1 | X | (None) |  | None | 6.7 | 83.3 | 75.0 | (None) | (None) | 0.300 | 0.30 |
| 12 | 3 | X | (None) |  | None | 6.7 | 91.6 | 83.3 | (None) | (None) | 0.300 | 0.30 |
| 12 | 2 | X | (None) |  | None | 6.7 | 99.9 | 91.6 | (None) | (None) | 0.300 | 0.30 |
| 12 | 1 | X | (None) |  | None | 6.7 | 108.2 | 99.9 | (None) | (None) | 0.300 | 0.30 |
| 11 | 3 | X | (None) |  | None | 6.7 | 116.2 | 108.2 | (None) | (None) | 0.300 | 0.30 |
| 11 | 2 | X | (None) |  | None | 6.7 | 124.2 | 116.2 | (None) | (None) | 0.300 | 0.30 |
| 11 | 1 | X | (None) |  | None | 6.7 | 132.2 | 124.2 | (None) | (None) | 0.300 | 0.30 |
| 10 | 3 | X | (None) |  | None | 6.7 | 140.2 | 132.2 | (None) | (None) | 0.300 | 0.30 |
| 10 | 2 | X | (None) |  | None | 6.7 | 148.2 | 140.2 | (None) | (None) | 0.300 | 0.30 |
| 10 | 1 | X | (None) |  | None | 6.7 | 156.2 | 148.2 | (None) | (None) | 0.300 | 0.30 |
| 9 | 3 | X | (None) |  | None | 6.7 | 164.8 | 156.2 | (None) | (None) | 0.300 | 0.30 |
| 9 | 2 | X | (None) |  | None | 6.7 | 173.4 | 164.8 | (None) | (None) | 0.300 | 0.30 |
| 9 | 1 | X | (None) |  | None | 6.7 | 182.0 | 173.4 | (None) | (None) | 0.300 | 0.30 |
| 8 | 2 | X | (None) |  | None | 10.0 | 194.0 | 182.0 | (None) | (None) | 0.300 | 0.30 |
| 8 | 1 | X | (None) |  | None | 10.0 | 206.0 | 194.0 | (None) | (None) | 0.300 | 0.30 |
| 7 | 3 | X | (None) |  | None | 10.0 | 218.0 | 206.0 | (None) | (None) | 0.300 | 0.30 |
| 7 | 2 | X | (None) |  | None | 10.0 | 230.0 | 218.0 | (None) | (None) | 0.300 | 0.30 |
| 7 | 1 | X | (None) |  | None | 10.0 | 242.0 | 230.0 | (None) | (None) | 0.300 | 0.30 |
| 6 | 3 | X | (None) |  | None | 10.0 | 254.6 | 242.0 | (None) | (None) | 0.300 | 0.30 |
| 6 | 2 | X | (None) |  | None | 10.0 | 267.2 | 254.6 | (None) | (None) | 0.300 | 0.30 |
| 6 | 1 | X | (None) |  | None | 10.0 | 279.8 | 267.2 | (None) | (None) | 0.300 | 0.30 |
| 5 | 3 | X | (None) |  | None | 10.0 | 291.8 | 279.8 | (None) | (None) | 0.300 | 0.30 |
| 5 | 2 | X | (None) |  | None | 10.0 | 303.8 | 291.8 | (None) | (None) | 0.300 | 0.30 |
| 5 | 1 | X | (None) |  | None | 10.0 | 315.8 | 303.8 | (None) | (None) | 0.300 | 0.30 |

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2-Subdiv.
2-Subdiv.
2-Subdiv.
2-Subdiv.
2-Subdiv.
2-Subdiv.
2-Subdiv.
2-Subdiv.

Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

| Yes | 15.0 | 333.8 | 315.8 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Yes | 15.0 | 351.8 | 333.8 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| Yes | 15.0 | 370.7 | 351.8 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| Yes | 15.0 | 389.5 | 370.7 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| Yes | 15.0 | 407.5 | 389.5 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| Yes | 15.0 | 425.5 | 407.5 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| Yes | 15.0 | 443.5 | 425.5 | 2-Subdiv. | (None) | 0.300 | 0.30 |
| Yes | 15.0 | 461.5 | 443.5 | 2-Subdiv. | (None) | 0.300 | 0.30 |

MEMBER PROPERTIES

| Sec/ Type | Description | Steel |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Member |  |  |
| Pnl |  |  |
| Spacing |  |  |

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Date and Time: 1/17/2024 9:19:49 AM

| 4/2 | SecD1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |
| 4/2 | Sech1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |
| 4/2 | PlanH1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |
| 4/1 | Leg | PIPE | E 10.75 | $50 \times 0.500$ | A500 | gr.CSTension | 6-1.500 | A325X |  |  |  |  |  |
| 4/1 | Diag | 2L3 1/2x3 |  | 1/2x1/4 | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 1.750 | 0.375 | A572 | gr. 50 |
|  |  |  |  | 2.000 |  |  |  |  |  |  |  |  |
| 0.3755 .12 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4/1 | Horiz | L $4 \times 4 \times 1 / 4$ |  |  | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 2.000 | 0.375 | A572 gr. 50 |  |
|  |  |  |  |  |  |  |  |  |  |  |  | gr. 50 |
| 4/1 | SecD1 |  | 1/2x3 |  |  | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 |  | 1.750 | 0.250 | A572 |
|  |  |  |  | 2.000 |  |  |  |  |  |  |  |  |  |  |  |
| 4/1 | Sech1 |  | 1/2x3 |  | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 |  |  |
|  |  |  |  | 2.000 |  |  |  |  |  |  |  |  |  |  |  |
| 4/1 | PlanH1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/2 | Leg | PIPE $10.750 \times 0.500$ |  |  |  | gr.CSTension | 9-1.500 | A325X |  |  | 0.375 |  | $\begin{aligned} & g r .50 \\ & 2.000 \end{aligned}$ |  |  |
| 3/2 | Diag | 2L3 1/2x3 1/2x1/4 |  |  | $\begin{aligned} & \text { A500 } \\ & \text { A529 } \end{aligned}$ | gr.50Bolted | 2-0.625 | A325X | $1.125$ | 1.750 | 0.375 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.3753 .60 ( 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3/2 | Horiz | L4x | 4x3/8 |  |  | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 2.000 | 0.375 | A572 | gr. 50 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/2 | SecD1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/2 | SecH1 |  | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/2 | PlanH1 | L4x | 4×1/4 |  | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 2.000 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/1 | Leg | PIP | E 10.75 | 50x0.500 | A500 | gr.CSTension | 7-1.500 | A325X |  |  |  |  |  |  |  |
| 3/1 | Diag | 2L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 1.750 | 0.375 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 0.3753 .60 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3/1 | Horiz | L4x | 4x3/8 |  | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 2.000 | 0.375 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/1 | SecD1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/1 | SecH1 |  | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 3/1 | PlanH1 | L4x | 4×1/4 |  | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 2.000 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 2/2 | Leg | PIPE | E 12.75 | $50 \times 0.500$ | A500 | gr.CSTension | 9-1.500 | A325X |  |  |  |  |  |  |  |
| 2/2 | Diag | 2L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 1.750 | 0.375 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 0.3753 .49 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2/2 | Horiz | 2L3 | $1 / 2 \times 3$ | $1 / 2 \times 1 / 4$ | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 1.750 | 0.375 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 0.3755 .15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2/2 | SecD1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 2/2 | SecH1 | L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 1.750 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 2/2 | PlanH1 | L4x | 4x1/4 |  | A529 | gr.50Bolted | 1-0.625 | A325X | 1.500 | 2.000 | 0.250 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 2/1 | Leg | PIP | E 12.75 | $50 \times 0.500$ | A500 | gr.CSTension | 7-1.500 | A325X |  |  |  |  |  |  |  |
| 2/1 | Diag | 2L3 | 1/2x3 | 1/2x1/4 | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 1.750 | 0.375 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |
| 0.3753 .80 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2/1 | Horiz | 2L3 | $1 / 2 \times 3$ | 1/2x1/4 | A529 | gr.50Bolted | 2-0.625 | A325X | 1.125 | 1.750 | 0.375 | A572 | gr. 50 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2.000 |  |  |

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```
Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS
```

Project: 350 FT RTL TOWER
Date and Time: 1/17/2024 9:19:49 AM


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Date and Time: 1/17/2024 9:19:49 AM

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## Section D: TRANSMISSION LINE DATA

Transmission Lines Position

| No. | $\begin{aligned} & \text { Bot El } \\ & (\mathrm{ft}) \end{aligned}$ | $\begin{aligned} & \text { Top El } \\ & \text { (ft) } \end{aligned}$ | Desc. | Radius <br> (ft) | Az. | Orient. | No. | No. of Rows | Vert. Antenna | User Ka |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.00 | 350.00 | 3/8 CABLE | 23.00 | 0.00 | 0.00 | 1 | 1 | Yes |  |
| 2 | 0.00 | 350.00 | RC0.75-Cnd | 19.36 | 60.00 | 5.00 | 1 | 1 | No |  |
| 3 | 0.00 | 345.00 | TX Ladder | 12.82 | 60.00 | 30.00 | 1 | 1 | No |  |
| 4 | 0.00 | 345.00 | LDF 7 P -50A | 12.82 | 60.00 | 30.00 | 12 | 2 | No |  |
| 5 | 0.00 | 333.00 | TX Ladder | 12.82 | 180.00 | 150.00 | 1 | 1 | No |  |
| 6 | 0.00 | 333.00 | LDF7P-50A | 12.82 | 180.00 | 150.00 | 12 | 2 | No |  |
| 7 | 0.00 | 323.00 | TX Ladder | 12.82 | 300.00 | 270.00 | 1 | 1 | No |  |
| 8 | 0.00 | 323.00 | LDF7P-50A | 12.82 | 300.00 | 270.00 | 12 | 2 | No |  |

Transmission Lines Details

| No. | Desc. | Width (in) | $\begin{aligned} & \text { Depth } \\ & \text { (in) } \end{aligned}$ | Unit Mass (lb/ft) | $\begin{gathered} \text { Line Spacing } \\ (\text { in) } \end{gathered}$ | $\begin{gathered} \text { Row Spacing } \\ \text { (in) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3/8 CABLE | 0.38 | 0.38 | 1.00 | 2.750 | 2.750 |
| 2 | RC0.75-Cnd | 1.05 | 1.05 | 1.09 | 2.750 | 2.750 |
| 3 | TX Ladder | 4.70 | 1.50 | 4.00 | 2.750 | 2.750 |
| 4 | LDF7P-50A | 2.01 | 2.01 | 0.92 | 2.250 | 2.750 |
| 5 | TX Ladder | 4.70 | 1.50 | 4.00 | 2.750 | 2.750 |
| 6 | LDF7P-50A | 2.01 | 2.01 | 0.92 | 2.250 | 2.750 |
| 7 | TX Ladder | 4.70 | 1.50 | 4.00 | 2.750 | 2.750 |
| 8 | LDF7P-50A | 2.01 | 2.01 | 0.92 | 2.250 | 2.750 |

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## Peoria, IL

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Revision: 1
Project: 350 FT RTL TOWER
Site: KY0106 LV ETNA- KY
Date and Time: 1/17/2024 9:19:49 AM
Engineer: AS

## Section $F$ : POINT LOAD DATA

Structure Azimuth from North:0.00
POINT LOADS


POINT LOADS WIND AREAS AND WEIGHTS

| No. | Description |  |  |  | Frontal <br> Bare Area <br> (ft^2) | Lateral <br> Bare Area <br> (ft^2) | Frontal <br> Iced Area <br> (ft^2) | Lateral <br> Iced Area <br> (ft^2) | Weight Bare (Kips) | Weight Iced (Kips) | Gh |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | BEACON | \& LR |  |  | 5.00 | 5.00 | 10.00 | 10.00 | 0.25 | 0.50 | 0.85 |
| 2 | 42,000 | SQ-IN | MAX | EPA | 337.00 | 337.00 | 674.00 | 674.00 | 4.00 | 8.00 | 0.85 |
| 3 | 20,000 | SQ-IN | MAX |  | 184.00 | 184.00 | 368.00 | 368.00 | 3.00 | 6.00 | 0.85 |
| 4 | 20,000 | SQ-IN | MAX | EPA | 184.00 | 184.00 | 368.00 | 368.00 | 3.00 | 6.00 | 0.85 |

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Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

Section H: STRUCTURE DISPLACEMENT DATA
Load Combination
Wind Only - Serviceability

Wind Direction Maximum displacements

| Node | Elev. <br> (ft) | $\begin{aligned} & \text { N-S Disp } \\ & \text { (in) } \end{aligned}$ | $\begin{aligned} & \text { W-E Disp } \\ & \text { (in) } \end{aligned}$ | $\begin{aligned} & \text { Vert.Disp } \\ & \text { (in) } \end{aligned}$ | $\mathrm{N}-\mathrm{S}$ Rot (Deg) | W-E Rot (Deg) | Twist <br> (Deg) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 141 | 350.0 | 18.3 | 17.9 | -0.2 | 0.61 | 0.61 | 0.01 |
| 138 | 345.0 | 17.7 | 17.3 | -0.2 | 0.63 | 0.63 | 0.01 |
| 135 | 340.0 | 17.0 | 16.6 | -0.2 | 0.62 | 0.61 | 0.01 |
| 132 | 335.0 | 16.4 | 16.0 | -0.2 | 0.61 | 0.60 | 0.01 |
| 129 | 330.0 | 15.7 | 15.4 | -0.2 | 0.59 | 0.58 | 0.01 |
| 126 | 323.3 | 14.9 | 14.6 | -0.2 | 0.57 | 0.56 | 0.01 |
| 123 | 316.7 | 14.1 | 13.8 | -0.2 | 0.54 | 0.53 | -0.01 |
| 120 | 310.0 | 13.4 | 13.0 | -0.2 | 0.51 | 0.50 | 0.01 |
| 117 | 303.3 | 12.7 | 12.3 | -0.2 | 0.50 | 0.49 | -0.01 |
| 114 | 296.7 | 12.0 | 11.7 | -0.2 | 0.47 | 0.46 | 0.01 |
| 111 | 290.0 | 11.3 | 11.0 | -0.2 | 0.46 | 0.45 | -0.01 |
| 108 | 283.3 | 10.7 | 10.4 | -0.2 | 0.43 | 0.42 | 0.01 |
| 105 | 276.7 | 10.1 | 9.8 | -0.2 | 0.42 | 0.41 | -0.01 |
| 102 | 270.0 | 9.5 | 9.2 | -0.2 | 0.38 | 0.37 | 0.01 |
| 99 | 263.3 | 9.0 | 8.7 | -0.2 | 0.38 | 0.38 | -0.01 |
| 96 | 256.7 | 8.4 | 8.2 | -0.2 | 0.35 | 0.34 | 0.01 |
| 93 | 250.0 | 7.9 | 7.7 | -0.2 | 0.35 | 0.34 | -0.01 |
| 90 | 243.3 | 7.4 | 7.2 | -0.2 | 0.32 | 0.31 | 0.01 |
| 87 | 236.7 | 7.0 | 6.8 | -0.1 | 0.32 | 0.31 | -0.01 |
| 84 | 230.0 | 6.6 | 6.4 | -0.1 | 0.28 | 0.28 | 0.01 |
| 81 | 220.0 | 6.0 | 5.8 | -0.1 | 0.27 | 0.27 | 0.00 |
| 78 | 210.0 | 5.4 | 5.2 | -0.1 | 0.24 | 0.24 | 0.01 |
| 75 | 200.0 | 4.9 | 4.7 | -0.1 | 0.24 | 0.23 | 0.00 |
| 72 | 190.0 | 4.4 | 4.2 | -0.1 | 0.21 | 0.21 | 0.01 |
| 69 | 180.0 | 3.9 | 3.8 | -0.1 | 0.21 | 0.20 | 0.00 |
| 66 | 170.0 | 3.5 | 3.4 | -0.1 | 0.18 | 0.18 | 0.01 |
| 63 | 160.0 | 3.1 | 3.0 | -0.1 | 0.18 | 0.17 | 0.00 |
| 60 | 150.0 | 2.7 | 2.6 | -0.1 | 0.16 | 0.15 | 0.01 |
| 57 | 140.0 | 2.4 | 2.3 | -0.1 | 0.16 | 0.15 | 0.00 |
| 54 | 130.0 | 2.1 | 2.0 | -0.1 | 0.14 | 0.13 | 0.00 |
| 50 | 120.0 | 1.8 | 1.7 | -0.1 | 0.12 | 0.12 | 0.00 |
| 44 | 105.0 | 1.4 | 1.3 | -0.1 | 0.11 | 0.10 | 0.00 |
| 38 | 90.0 | 1.1 | 1.0 | -0.1 | 0.09 | 0.09 | 0.00 |
| 32 | 75.0 | 0.8 | 0.7 | -0.1 | 0.07 | 0.07 | 0.00 |
| 26 | 60.0 | 0.5 | 0.5 | 0.0 | 0.06 | 0.06 | 0.00 |
| 20 | 45.0 | 0.3 | -0.3 | 0.0 | 0.05 | 0.05 | 0.00 |
| 14 | 30.0 | 0.2 | -0.2 | 0.0 | 0.04 | -0.03 | 0.00 |
| 8 | 15.0 | 0.1 | -0.1 | 0.0 | 0.02 | -0.02 | 0.00 |
| 3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |

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Date and Time: 1/17/2024 9:19:49 AM

Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

Section L: STRENGTH ASSESSMENT SORTED DATA

Load Combination
Wind Direction

Max Envelope Maximum

Sec Pnl Elev. MType
Desc.
$\left.\begin{array}{lllllll}\text { Len } & \text { kl/r } & \text { Gov. } & \text { Gov. } & \text { Max } & \text { Max } & \text { Asses. } \\ & & \text { comp. } & \text { tens. } & \text { Compr. } & \text { Tens. } & \text { Ratio } \\ \text { (ft) } & & \text { cap. } & \text { (Kips) } & \text { (Kips) } & \text { (Kips) } & \text { (Kips) }\end{array}\right]$

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Date and Time: 1/17/2024 9:19:49 AM

Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

| 9 | 3 | 243.33 | Diag | L3x3x3/16 | 14.95 | 144.1 | 11.9 | 14.7 | 7.6 | 7.6 | 0.64 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9 | 2 | 236.67 | Diag | L3x3x3/16 | 15.59 | 150.8 | 10.8 | 14.7 | 7.7 | 7.7 | 0.71 |
| 9 | 1 | 230.00 | Diag | L3x3x3/16 | 16.24 | 157.5 | 9.9 | 14.7 | 7.9 | 7.9 | 0.80 |
| 8 | 2 | 220.00 | Diag | L $3 \times 3 \times 1 / 4$ | 18.59 | 165.0 | 11.9 | 28.1 | 9.6 | 9.6 | 0.80 |
| 8 | 1 | 210.00 | Diag | L $3 \times 3 \times 1 / 4$ | 19.44 | 171.8 | 11.0 | 28.1 | 9.9 | 9.8 | 0.90 |
| 7 | 3 | 200.00 | Diag | L3 1/2x3 1/2x1/4 | 20.30 | 156.7 | 15.5 | 30.4 | 10.0 | 10.1 | 0.65 |
| 7 | 2 | 190.00 | Diag | L3 1/2x3 1/2x1/4 | 21.18 | 162.6 | 14.4 | 30.4 | 10.4 | 10.3 | 0.72 |
| 7 | 1 | 180.00 | Diag | L3 1/2x3 1/2x1/4 | 22.06 | 168.6 | 13.4 | 30.4 | 10.7 | 10.7 | 0.79 |
| 6 | 3 | 170.00 | Diag | L $4 \times 4 \times 1 / 4$ | 22.98 | 154.7 | 18.3 | 30.4 | 10.5 | 10.3 | 0.57 |
| 6 | 2 | 160.00 | Diag | L $4 \times 4 \times 1 / 4$ | 23.93 | 160.2 | 17.1 | 30.4 | 10.8 | 10.8 | 0.63 |
| 6 | 1 | 150.00 | Diag | L $4 \times 4 \times 1 / 4$ | 24.89 | 165.7 | 16.0 | 30.4 | 11.3 | 11.2 | 0.71 |
| 5 | 3 | 140.00 | Diag | L $4 \times 4 \times 1 / 4$ | 25.83 | 169.9 | 15.2 | 30.4 | 12.3 | 12.5 | 0.81 |
| 5 | 2 | 130.00 | Diag | L $4 \times 4 \times 1 / 4$ | 26.76 | 175.2 | 14.3 | 30.4 | 13.0 | 12.8 | 0.91 |
| 5 | 1 | 120.00 | Diag | L $4 \times 4 \times 1 / 4$ | 27.69 | 180.6 | 13.4 | 30.4 | 13.3 | 13.4 | 0.99 |
| 4 | 2 | 105.00 | Diag | 2L3 1/2x3 1/2x1/4 | 20.46 | 163.7 | 28.5 | 46.6 | 19.8 | 19.8 | 0.69 |
| 4 | 1 | 90.00 | Diag | 2L3 1/2x3 1/2x1/4 | 20.98 | 170.9 | 26.1 | 46.6 | 20.4 | 20.4 | 0.78 |
| 3 | 2 | 75.00 | Diag | 2L3 1/2x3 1/2x1/4 | 21.53 | 162.6 | 28.9 | 46.6 | 19.9 | 19.9 | 0.69 |
| 3 | 1 | 60.00 | Diag | 2L3 1/2x3 1/2x1/4 | 22.11 | 166.6 | 27.5 | 46.6 | 20.5 | 20.5 | 0.74 |
| 2 | 2 | 45.00 | Diag | 2L3 1/2x3 1/2x1/4 | 22.66 | 169.1 | 26.7 | 46.6 | 22.1 | 22.1 | 0.83 |
| 2 | 1 | 30.00 | Diag | 2L3 1/2x3 1/2x1/4 | 23.23 | 175.1 | 24.9 | 46.6 | 22.6 | 22.6 | 0.91 |
| 1 | 2 | 15.00 | Diag | $2 \mathrm{~L} 4 \times 4 \times 1 / 4$ | 23.81 | 157.1 | 35.5 | 53.7 | 23.0 | 23.0 | 0.65 |
| 1 | 1 | 0.00 | Diag | $2 \mathrm{~L} 4 \times 4 \times 1 / 4$ | 24.39 | 162.6 | 33.2 | 51.2 | 23.3 | 23.3 | 0.70 |
| 14 | 4 | 345.00 | Horiz | L1 3/4x1 3/4×3/16 | 4.79 | 145.5 | 6.6 | 10.7 | 1.7 | 1.7 | 0.26 |
| 13 | 3 | 323.33 | Horiz | L1 3/4x1 3/4x3/16 | 4.87 | 145.1 | 6.7 | 10.7 | 1.2 | 1.2 | 0.18 |
| 4 | 2 | 105.00 | Horiz | L $4 \times 4 \times 1 / 4$ | 13.16 | 161.2 | 16.9 | 30.4 | 13.6 | 13.4 | 0.81 |
| 4 | 1 | 90.00 | Horiz | L $4 \times 4 \times 1 / 4$ | 13.91 | 168.1 | 15.5 | 30.4 | 14.3 | 14.2 | 0.93 |
| 3 | 2 | 75.00 | Horiz | L $4 \times 4 \times 3 / 8$ | 14.66 | 176.7 | 20.7 | 30.4 | 14.4 | 14.1 | 0.70 |
| 3 | 1 | 60.00 | Horiz | L $4 \times 4 \times 3 / 8$ | 15.44 | 184.0 | 19.1 | 30.4 | 15.1 | 14.9 | 0.79 |
| 2 | 2 | 45.00 | Horiz | 2L3 1/2x3 1/2x1/4 | 16.23 | 170.2 | 26.4 | 46.6 | 16.6 | 16.5 | 0.63 |
| 2 | 1 | 30.00 | Horiz | 2L3 1/2x3 1/2x1/4 | 16.98 | 178.4 | 24.0 | 46.6 | 17.4 | 17.2 | 0.73 |
| 1 | 2 | 15.00 | Horiz | 2L3 1/2x3 1/2x1/4 | 17.73 | 161.0 | 29.4 | 49.0 | 18.0 | 17.8 | 0.61 |
| 1 | 1 | 0.00 | Horiz | 2L3 1/2x3 1/2x1/4 | 18.48 | 166.1 | 27.7 | 46.6 | 18.5 | 18.3 | 0.67 |
| 4 | 2 | 105.00 | SecH1 | L3 1/2x3 $1 / 2 \times 1 / 4$ | 6.58 | 117.2 | 15.2 | 15.2 | 9.4 | 9.4 | 0.62 |
| 4 | 2 | 105.00 | SecD1 | L3 $1 / 2 \times 31 / 2 \times 1 / 4$ | 9.74 | 169.3 | 13.3 | 15.2 | 7.4 | 7.4 | 0.55 |
| 4 | 2 | 105.00 | PlanH1 | L3 1/2x3 1/2x1/4 | 13.16 | 228.8 | 7.3 | 15.2 | 0.1 | 0.1 | 0.01 |
| 4 | 1 | 90.00 | Sech1 | L3 1/2x3 1/2x1/4 | 6.95 | 120.9 | 15.2 | 15.2 | 9.9 | 9.9 | 0.65 |
| 4 | 1 | 90.00 | SecD1 | L3 1/2x3 1/2x1/4 | 9.98 | 173.6 | 12.7 | 15.2 | 7.5 | 7.5 | 0.59 |
| 4 | 1 | 90.00 | PlanH1 | L3 1/2x3 1/2x1/4 | 13.91 | 241.9 | 6.5 | 15.2 | 0.1 | 0.1 | 0.01 |
| 3 | 2 | 75.00 | Sech1 | L3 1/2x3 1/2x1/4 | 7.33 | 127.5 | 15.2 | 15.2 | 10.4 | 10.4 | 0.69 |
| 3 | 2 | 75.00 | SecD1 | L3 1/2x3 1/2x1/4 | 10.22 | 177.7 | 12.1 | 15.2 | 7.7 | 7.7 | 0.64 |
| 3 | 2 | 75.00 | PlanH1 | L $4 \times 4 \times 1 / 4$ | 14.66 | 219.9 | 9.1 | 15.2 | 0.1 | 0.1 | 0.01 |
| 3 | 1 | 60.00 | Sech1 | L3 1/2x3 1/2x1/4 | 7.72 | 134.3 | 15.2 | 15.2 | 10.9 | 10.9 | 0.72 |
| 3 | 1 | 60.00 | SecD1 | L3 1/2x3 1/2x1/4 | 10.49 | 182.4 | 11.5 | 15.2 | 7.8 | 7.8 | 0.68 |
| 3 | 1 | 60.00 | PlanH1 | L $4 \times 4 \times 1 / 4$ | 15.44 | 231.7 | 8.2 | 15.2 | 0.1 | 0.1 | 0.01 |
| 2 | 2 | 45.00 | Sech1 | L3 1/2x3 1/2x1/4 | 8.12 | 141.1 | 15.2 | 15.2 | 11.4 | 11.4 | 0.75 |
| 2 | 2 | 45.00 | SecD1 | L3 1/2x3 1/2x1/4 | 10.78 | 187.5 | 10.9 | 15.2 | 8.0 | 8.0 | 0.73 |
| 2 | 2 | 45.00 | PlanH1 | L $4 \times 4 \times 1 / 4$ | 16.23 | 243.5 | 7.4 | 15.2 | 0.1 | 0.1 | 0.01 |
| 2 | 1 | 30.00 | SecH1 | L3 1/2x3 1/2x1/4 | 8.49 | 147.7 | 15.2 | 15.2 | 12.0 | 12.0 | 0.79 |
| 2 | 1 | 30.00 | SecD1 | L3 1/2x3 1/2x1/4 | 11.05 | 192.2 | 10.3 | 15.2 | 8.1 | 8.1 | 0.79 |
| 2 | 1 | 30.00 | PlanH1 | L4x4×1/4 | 16.98 | 254.7 | 6.8 | 15.2 | 0.1 | 0.1 | 0.02 |
| 1 | 2 | 15.00 | Sech1 | L3 1/2x3 1/2x1/4 | 8.87 | 154.2 | 15.2 | 15.2 | 12.5 | 12.5 | 0.82 |
| 1 | 2 | 15.00 | SecD1 | L3 1/2x3 1/2x1/4 | 11.33 | 197.1 | 9.8 | 15.2 | 8.3 | 8.3 | 0.85 |
| 1 | 2 | 15.00 | PlanH1 | $2 \mathrm{~L} 3 \times 3 \times 1 / 4$ | 17.73 | 228.8 | 12.4 | 30.4 | 0.1 | 0.1 | 0.01 |
| 1 | 1 | 0.00 | Sech1 | L3 1/2x3 1/2x1/4 | 9.24 | 160.7 | 14.8 | 15.2 | 13.0 | 13.0 | 0.88 |
| 1 | 1 | 0.00 | SecD1 | L3 1/2x3 1/2x1/4 | 11.61 | 202.0 | 9.4 | 15.2 | 8.5 | 8.5 | 0.91 |
| 1 | 1 | 0.00 | PlanH1 | $2 \mathrm{~L} 3 \times 3 \times 1 / 4$ | 18.48 | 238.5 | 11.4 | 19.5 | 0.1 | 0.1 | 0.01 |

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Contract: 245169
Project: 350 FT RTL TOWER
Date and Time: 1/17/2024 9:19:49 AM

Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

Section M: SECTION PROPERTIES DATA

| Sec | Pan | Memb. <br> Type | Steel <br> Grade |  | Conn. Type | Bolts Bolts | Bolt Size (in) | Bolt <br> Grade | End Dist. (in) | Gusset <br> Thick. <br> (in) | kl/r | Comp Cap. (Kips) | Tens Cap. (Kips) | Bolt <br> Cap. <br> (Kips) |  | Block <br> Shear <br> (Kips) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14 | 4 | Leg | A500 | gr.cS | Tension | 5 | 0.875 | A325X | 2.100 | N/A | 51.7 | 82.5 | 100.4 | 209.9T | N/A | N/A |
| 14 | 4 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 108.5 | 11.8 | 17.4 | 15.2 S | 14.7 | 10.7 |
| 14 | 4 | Horiz | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 145.5 | 6.6 | 17.4 | 15.2S | 14.7 | 10.7 |
| 14 | 3 | Leg | A500 | gr.CS | Tension | 5 | 0.875 | A325X | 2.100 | N/A | 51.7 | 82.5 | 100.4 | 209.9T | N/A | N/A |
| 14 | 3 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 108.7 | 11.8 | 17.4 | 15.2 S | 14.7 | 10.7 |
| 14 | 2 | Leg | A500 | gr.CS | Tension | 5 | 0.875 | A325X | 2.100 | N/A | 51.7 | 82.5 | 100.4 | 209.9T | N/A | N/A |
| 14 | 2 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 108.9 | 11.7 | 17.4 | 15.2S | 14.7 | 10.7 |
| 14 | 1 | Leg | A500 | gr.CS | Tension | 5 | 0.875 | A325X | 2.100 | N/A | 51.7 | 82.5 | 100.4 | 209.9T | N/A | N/A |
| 14 | 1 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 109.1 | 11.7 | 17.4 | 15.2S | 14.7 | 10.7 |
| 13 | 3 | Leg | A500 | gr.CS | Tension | 5 | 1.000 | A325X | 2.400 | N/A | 54.2 | 160.1 | 198.4 | 275.3T | N/A | N/A |
| 13 | 3 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 118.4 | 15.1 | 27.3 | 15.2S | 19.5 | 15.7 |
| 13 | 3 | Horiz | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 145.1 | 6.7 | 17.4 | 15.2S | 14.7 | 10.7 |
| 13 | 2 | Leg | A500 | gr.CS | Tension | 5 | 1.000 | A325X | 2.400 | N/A | 54.2 | 160.1 | 198.4 | 275.3T | N/A | N/A |
| 13 | 2 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 125.5 | 13.5 | 27.3 | 15.2S | 19.5 | 15.7 |
| 13 | 1 | Leg | A500 | gr.CS | Tension | 5 | 1.000 | A325X | 2.400 | N/A | 54.2 | 160.1 | 198.4 | 275.3T | N/A | N/A |
| 13 | 1 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 133.5 | 11.9 | 27.3 | 15.2 S | 19.5 | 15.7 |
| 12 | 3 | Leg | A500 | gr.cS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 43.6 | 239.3 | 275.0 | 330.3 T | N/A | N/A |
| 12 | 3 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 139.7 | 10.9 | 27.3 | 15.2 S | 19.5 | 15.7 |
| 12 | 2 | Leg | A500 | gr.CS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 43.6 | 239.3 | 275.0 | 330.3 T | N/A | N/A |
| 12 | 2 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 148.3 | 9.7 | 27.3 | 15.2 S | 19.5 | 15.7 |
| 12 | 1 | Leg | A500 | gr.CS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 43.6 | 239.3 | 275.0 | 330.3 T | N/A | N/A |
| 12 | 1 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 157.0 | 8.6 | 27.3 | 15.2 S | 19.5 | 15.7 |
| 11 | 3 | Leg | A500 | gr.cS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 36.0 | 274.8 | 302.1 | 330.3 T | N/A | N/A |
| 11 | 3 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 129.9 | 12.1 | 27.7 | 15.2 S | 14.7 | 14.1 |
| 11 | 2 | Leg | A500 | gr.cS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 36.0 | 274.8 | 302.1 | 330.3 T | N/A | N/A |
| 11 | 2 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 136.9 | 10.9 | 27.7 | 15.2 S | 14.7 | 14.1 |
| 11 | 1 | Leg | A500 | gr.cS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 36.0 | 274.8 | 302.1 | 330.3 T | N/A | N/A |
| 11 | 1 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 144.0 | 9.8 | 27.7 | 15.2 S | 14.7 | 14.1 |
| 10 | 3 | Leg | A500 | gr.CS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 36.4 | 343.5 | 378.5 | 330.3 T | N/A | N/A |
| 10 | 3 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 151.2 | 11.8 | 36.5 | 15.2 S | 19.5 | 18.7 |
| 10 | 2 | Leg | A500 | gr.CS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 36.4 | 343.5 | 378.5 | 330.3 T | N/A | N/A |
| 10 | 2 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 158.5 | 10.7 | 36.5 | 15.2 S | 19.5 | 18.7 |
| 10 | 1 | Leg | A500 | gr.CS | Tension | 6 | 1.000 | A325X | 2.400 | N/A | 36.4 | 343.5 | 378.5 | 330.3 T | N/A | N/A |
| 10 | 1 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 165.8 | 9.8 | 36.5 | 15.2S | 19.5 | 18.7 |
| 9 | 3 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 2.250 | N/A | 36.4 | 343.5 | 378.5 | 765.3 T | N/A | N/A |
| 9 | 3 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 144.1 | 11.9 | 34.6 | 15.2S | 14.7 | 16.4 |
| 9 | 2 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 2.250 | N/A | 36.4 | 343.5 | 378.5 | 765.3T | N/A | N/A |
| 9 | 2 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 150.8 | 10.8 | 34.6 | 15.2S | 14.7 | 16.4 |
| 9 | 1 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 2.250 | N/A | 36.4 | 343.5 | 378.5 | 765.3T | N/A | N/A |
| 9 | 1 | Diag | A529 | gr. 50 | Bolted | 1 | 0.625 | A325X | 1.500 | 0.250 | 157.5 | 9.9 | 34.6 | 15.2S | 14.7 | 16.4 |
| 8 | 2 | Leg | A500 | gr.cS | Tension | 6 | 1.500 | A325X | 3.600 | N/A | 41.2 | 386.4 | 437.4 | 765.3 T | N/A | N/A |
| 8 | 2 | Diag | A529 | gr. 50 | Bolted | 2 | 0.625 | A325X | 1.125 | 0.375 | 165.0 | 11.9 | 45.6 | 30.45 | 34.1 | 28.1 |
| 8 | 1 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 3.600 | N/A | 41.2 | 386.4 | 437.4 | 765.3 T | N/A | N/A |
| 8 | 1 | Diag | A529 | gr. 50 | Bolted | 2 | 0.625 | A325X | 1.125 | 0.375 | 171.8 | 11.0 | 45.6 | 30.4 S | 34.1 | 28.1 |
| 7 | 3 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 3.600 | N/A | 41.7 | 505.5 | 574.2 | 765.3 T | N/A | N/A |
| 7 | 3 | Diag | A529 | gr. 50 | Bolted | 2 | 0.625 | A325X | 1.125 | 0.375 | 156.7 | 15.5 | 54.8 | 30.4 S | 34.1 | 31.1 |
| 7 | 2 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 3.600 | N/A | 41.7 | 505.5 | 574.2 | 765.3 T | N/A | N/A |
| 7 | 2 | Diag | A529 | gr. 50 | Bolted | 2 | 0.625 | A325X | 1.125 | 0.375 | 162.6 | 14.4 | 54.8 | 30.4S | 34.1 | 31.1 |
| 7 | 1 | Leg | A500 | gr.CS | Tension | 6 | 1.500 | A325X | 3.600 | N/A | 41.7 | 505.5 | 574.2 | 765.3 T | N/A | N/A |
| 7 | 1 | Diag | A529 | gr. 50 | Bolted | 2 | 0.625 | A325X | 1.125 | 0.375 | 168.6 | 13.4 | 54.8 | 30.4 S | 34.1 | 31.1 |

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Contract: 245169
Project: 350 FT RTL TOWER
Date and Time: 1/17/2024 9:19:49 AM

## Revision: 1

Site: KY0106 LV ETNA- KY
Engineer: AS


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Date and Time: 1/17/2024 9:19:49 AM

Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

## Section N: LEG REACTION DATA

Load Combination
Wind Direction

| Force-Y <br> Download <br> (Kips) | Force-Y <br> Uplift <br> (Kips) | Shear-X | Shear-Z | Max Shear |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  | (Kips) | (Kips) | (Kips)

Peoria, IL

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## Section O: TOWER FOUNDATION DATA

Load Combination
Wind Direction

| Axial | Shear | Shear | Total | Moment-X | Moment-Y | Moment-Z | Total Moment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Load (Kips) | Load-X <br> (Kips) | Load-Z <br> (Kips) | Shear (Kips) | (Kipsft) | (Kipsft) | (Kipsft) | (Kipsft) |
| 121.16 | 61.09 | 105.82 | 122.18 | 21041.69 | -3.91 | -12147.01 | 24296.14 |
| 121.16 | 61.09 | 105.82 | 122.18 | 21041.69 | -3.91 | -12147.01 | 24296.14 |

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Project: 350 FT RTL TOWER
Date and Time: 1/17/2024 9:19:49 AM
Revision: 1
Site: KY0106 LV ETNA- KY
Engineer: AS

## DESIGN SPECIFICATION

Design Standard: ANSI/TIA-222-G-2005 Add. 2
Ultimate Design Wind Speed (No Ice) $=115.0(\mathrm{mph})$
Nominal Design Wind Speed (No Ice) $=89.1$ (mph)
Basic Wind Speed (With Ice) $=30.0(\mathrm{mph})$
Design Ice Thickness $=0.75$ (in)
Structure Class = II
Exposure Category = C
Topographic Category $=1$

| Sct. | Length <br> (ft) | Top W. W. <br> (in) | Bot Width <br> (in) |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| 1 | 30.00 | 425.54 | 461.54 |
| 2 | 30.00 | 389.54 | 425.54 |
| 3 | 30.00 | 351.81 | 389.54 |
| 4 | 30.00 | 315.81 | 351.81 |
| 5 | 30.00 | 279.81 | 315.81 |
| 6 | 30.00 | 241.97 | 279.81 |
| 7 | 30.00 | 205.97 | 241.97 |
| 8 | 20.00 | 181.97 | 205.97 |
| 9 | 20.00 | 156.24 | 181.97 |
| 10 | 20.00 | 132.24 | 156.24 |
| 11 | 20.00 | 108.24 | 132.24 |
| 12 | 20.00 | 83.32 | 108.24 |
| 13 | 20.00 | 58.40 | 83.32 |
| 14 | 20.00 | 57.53 | 58.40 |

## MAXIMUM BASE REACTIONS

| Download (Kips) | 783.3 |
| :--- | :--- |
| Uplift (Kips) | 651.9 |
| Shear (Kips) | 73.3 |



Customer: TOWERCO LLC
Project: 350 FT RTL TOWER
Site: KY0106 LV ETNA, KY
Engr. File: 245169
Build Code: ANSI/TIA-222-H-2016

## Mat Foundation

## Design Parameters

|  | Load Case |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Description | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | Service |
| Total Moment, ft-kips | $24,295.91$ | $24,296.14$ | $2,978.37$ | 825.31 | 824.82 | $7,014.98$ |
| Total Shear, kips | 122.13 | 122.18 | 14.02 | 3.27 | 3.27 | 35.20 |
| Total Tower Wt, kips | 161.52 | 121.16 | 369.24 | 161.41 | 121.06 | 134.52 |
| Max. Uplift, kips | 638.50 | 651.95 | .00 | .00 | .00 | 155.30 |
| Shear, kips | 64.21 | 64.98 | 64.98 | 16.74 | 16.74 | 16.74 |
| Max Download, kips | 783.25 | 769.81 | 212.50 | 78.58 | 65.12 | 255.44 |
| Shear | 73.31 | 72.58 | 15.17 | 4.98 | 4.23 | 22.96 |
| Soil L.F. | 1.20 | 0.90 | 1.20 | 1.20 | 0.90 | 1.00 |
| Concrete L.F. | 1.20 | 0.90 | 1.20 | 1.20 | 0.90 | 1.00 |


| Foundation |  |
| :--- | ---: |
| Ht. AGL, ft | 0.50 |
| Depth, ft. | 5.25 |
| Tower | 38.46 |
| Face Width, ft | 69.00 |
| Offset, in | N/A |
| Soil | $\mathrm{N} / \mathrm{A}$ |
| Blow Count | 110.00 |
| Inplace Unit Wt, pcf | 60.00 |
| Submerged Unit Wt, pcf | 30.00 |
| Friction Angle, $\phi$, deg. | $\mathrm{N} / \mathrm{A}$ |
| Cohesion, ksf | 30.00 |
| Uplift Angle, deg. | None |
| Water Depth, ft |  |
|  | 7.00 |
| Ult Bearing Capacity, ksf |  |


| Mat |  |
| :--- | ---: |
| Thickness, ft | 2.25 |
| Width, ft | 46.00 |
| EA, in | 21.00 |
| Batter, in/ft | 0.00 |


| Pier |  |
| :--- | ---: |
| Height, ft | 3.50 |
| Diameter, ft | 4.00 |
| No. Piers | 3 |
| Shape | Round |


| Anchor Bolts |  |
| :--- | ---: |
| Diameter, in | 1.5000 |
| No. | 9 |
| Length, in | 74.00 |
| Bolt Circle, in | 20.00 |
| Projection, in | 9.00 |
| Concrete |  |
| 28 Day Strength, ksi | 4.50 |
| Dry Unit Wt, pcf | 150.00 |
| Wet Unit Wt, pcf | 88.00 |


| Pocket |  |
| :--- | ---: |
| Diameter, in | N/A |
| Thickness, ft | N/A |

## Results

| $\phi \mathrm{M}_{\mathrm{N}}$ - Parallel Axis | $28,676.00$ | $\mathrm{ft}-\mathrm{kips}$ |
| :--- | ---: | :--- |
| $\phi \mathrm{M}_{\mathrm{N}}$ - Diagonal Axis | $30,811.53$ | $\mathrm{ft}-\mathrm{kips}$ |
| Moment - Interaction Ratio | 0.898 |  |
| $\phi \mathrm{~V}_{\mathrm{N}}$ - Lateral Load | 367.23 | kips |
| Lateral Load - Interaction Ratio | 0.333 |  |

Final Mat Dimension $: 46.00 \times 46.00 \times 2.25 \mathrm{ft}$. thick w/ (3) 4.00 ft . Dia. Piers
Final Pocket Dimension : Pockets not required
Total Volume of Concrete : 181.2 yd $^{3}$

Customer: TOWERCO LLC
Project: 350 FT RTL TOWER
Site: KY0106 LV ETNA, KY
Engr. File: 245169
Build Code: ANSI/TIA-222-H-2016

## Mat Foundation

## OTM Capacity

Controlling Load Case: 2 [Wind w/Min. Dead Load]
Foundation Width $=46.00 \mathrm{ft}$
$\mathrm{M}_{\mathrm{U}}=25,737.6 \mathrm{ft}-\mathrm{kips}$

|  | $\phi \mathrm{M}_{\mathrm{N}}, \mathrm{ft}-$ kips | $\mathrm{x}, \mathrm{ft}$ | N | $\sigma_{\text {ur }}$ |
| ---: | :---: | :---: | :---: | :---: |
| Parallel | $28,676.0$ | 5.874 | 0.128 | 7.00 |
| Diagonal | $30,811.5$ | 16.437 | 0.253 | 7.00 |

$$
\begin{array}{ll}
\phi \mathrm{M}_{\mathrm{N}}=28,676.00 \mathrm{ft}-\mathrm{kips} & \text { IRatio }=0.898 \\
\phi \mathrm{~V}_{\mathrm{N}}=367.23 \text { kips } & \text { IRatio }=0.333
\end{array}
$$

## Mat Design

$$
\gamma_{\mathrm{e}}=127.14 \mathrm{pcf}
$$

|  |  |  |  |  |  | Moment, ft-kips/ft |  | Shear, kips/ft |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Exterior } \\ \text { Slab } \end{gathered}$ | $\mathbf{x}, \mathrm{ft}$ | N | $\sigma_{\mathrm{R}}, \mathbf{k s f}$ | $\begin{gathered} \mathbf{P}_{\mathrm{s}} \\ \text { kips } \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{P}_{\text {su }} \\ \text { kips } \\ \hline \end{gathered}$ | DownLoad Side | Uplift Side | Download Side | Uplift Side |
| Parallel | 9.908 | 0.215 | 3.11 | 19.49 | 0.00 | 25.90 | 10.06 | 11.40 | 4.03 |
| Diagonal | 21.722 | 0.334 | 3.00 | 19.49 | 0.00 | 160.55 | 59.63 | 26.08 | 10.10 |


| Interior <br> Slab | Moment, ft-kips/ft |  | Shear, kips/ft |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | DownLoad <br> Side | Uplift <br> Side | Download <br> Side | Uplift <br> Side | Soil Pressure <br> Termination |
|  | 46.98 | 119.34 | 9.01 | 10.66 | 8.96 |


| Punching Shear | Download |  |  | Uplift |  |  | Description |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Interior | Edge | Corner | Interior | Edge | Corner |  |
| $\mathrm{b}_{0}, \mathrm{ft}$ | 21.51 | 18.30 | 15.30 | 18.85 | 16.97 | 14.63 | 2-Way Shear |
| Vsu, psi | 149.10 | 182.23 | 227.28 | 140.99 | 162.52 | 197.99 |  |
| $\phi \mathrm{Vc}, \mathrm{psi}$ | 228.08 | 228.08 | 228.08 | 228.08 | 228.08 | 228.08 |  |
| IR | 0.65 | 0.80 | 1.00 | 0.62 | 0.71 | 0.87 |  |
| $\mathrm{M}_{\mathrm{ut}}$, ft-kips | 154.0 |  |  | 136.5 |  |  | Moment transfer to slab |
| $\mathrm{B}_{\mathrm{e}}, \mathrm{ft}$ | 9.1 |  |  | 8.8 |  |  |  |
| $\mathrm{M}_{\mathrm{u}}, \mathrm{ft}$-kips/ft | 16.8 |  |  | 15.6 |  |  |  |
| Edge Distances: $\mathrm{a}=6.55 \mathrm{ft} . \quad \mathrm{b}=3.77 \mathrm{ft} . \quad \mathrm{c}=6.15 \mathrm{ft}$. |  |  |  |  |  |  |  |


| Summary | Max. <br> Value | Utilization |
| ---: | :---: | :---: |
| Slab Moment, ft-kips/ft | 160.55 | 0.983 |
| Slab Shear, kips/ft | 26.08 | 0.866 |
| Punching Shear, psi | 227.28 | 0.996 |
| Soil Bearing Required, our, ksf | 4.14 | 0.592 |


| Mat Reinforcement |  |
| ---: | :---: |
| Min. Steel Area (Strength) | $1.616 \mathrm{in}^{2} / \mathrm{ft}$. |
| Min. Steel Area (Temperature) | $.292 \mathrm{in}^{2} / \mathrm{ft}$. |
| Steel Strain Actual | 0.014 |
| Minimum Steel Strain Required | 0.005 |

76 - \#9 Horizontal bars equally spaced @ 7.28 in ., each way, top and bottom, total of $304, \mathrm{~A}_{\mathrm{s}}=1.651 \mathrm{in}^{2} / \mathrm{ft}$

Date: 17 January, 2024 @ 09:26 AM

## Pier Design

Controlling Load Case: 1 [Wind w/Max. Dead Load]

| $\mathrm{C}=783.25 \mathrm{kips}$ | $\mathrm{Vc}=73.31 \mathrm{kips}$ | $\mathrm{Mc}=256.59 \mathrm{ft}-\mathrm{kips}$ |
| :--- | :--- | :--- |
| $\mathrm{T}=638.50 \mathrm{kips}$ | $\mathrm{Vt}=64.21 \mathrm{kips}$ | $\mathrm{Mt}=224.74 \mathrm{ft}-\mathrm{kips}$ |
| $\mathrm{Fy}=60.00 \mathrm{ksi}$ | $\mathrm{Fyt}=60.00 \mathrm{ksi}$ | $\mathrm{L} . \mathrm{F}=1.00$ |
| $\mathrm{H}=48.00 \mathrm{in}$. | $\mathrm{Ds}=39.00 \mathrm{in}$. | $\mathrm{F}=4.50 \mathrm{ksi}$ |
| $\mathrm{U}=1.00$ | Irs $=$ Round |  |
|  | $* * *$ NOTE: Pier cross section is Round $* * *$ |  |

## SUMMARY OF ANALYSIS

$$
\begin{array}{lll}
\text { Minimum area of steel required } & =18.208 \mathrm{in}^{2} & \\
\text { Area of steel provided. } & =20.268 \mathrm{in}^{2} & \\
\text { (Rhomin }=0.0101) \\
\text { Maximum steel area limit } & =144.765 \mathrm{in}^{2} & \\
(\text { Rhomax }=0.0112) \\
& =0.0800)
\end{array}
$$

(16) \#10 Vertical Bars equally spaced w/ \#4 Circular Ties @ 3" on center.

## CIRCULAR TIE DATA

| Size | Spacing |
| :--- | :--- |
| 3 | 5.5 |
| 4 | 10.0 |
| 5 | 12.0 |
| 6 | 12.0 |

Use spacing shown or maximum tie spacing specified in ACI 318, Section 7.10.5 for compression reinforcement, whichever is less.

## DEVELOPMENT LENGTH MODIFIERS FOR BAR DEVELOPMENT

Modifier for tension development $\quad=1.000$
Modifier for compression development $=0.195$
REQUIRED Ld $=$ MODIFIER $*$ BASIC Ld * ACI 318 MODIFIERS, (12 in. min.)

File no: 245169
Customer: TOWERCO LLC
Date 01/17/24

n: 350 FT RTL TOWER KY0106 LV ETNA, KY

Page 1
Ver. 11/16/01

FACTORED REACTIONS / LEG
COMPRESSION =
Tower Type: RT

UPLIFT $=\quad 651.95 \mathrm{k}$
( 8 ) - 1.5 " dia A.B. per leg
SHEAR =
73.31 k
$\mathrm{f}_{\mathrm{c}}=4,500 \mathrm{psi}$
$f_{y}=60,000 \mathrm{psi}$

## SOIL PARAMETERS

A) Depth neglected for skin friction = Top 2.0 ft
B) Average ultimate skin shear for uplift:
2.0 ft to 10.0 ft depth $=400 \mathrm{psf}$, and 10.0 ft to 24.0 ft depth $=200 \mathrm{psf}$, and 24.0 ft to 27.5 ft depth $=400 \mathrm{psf}$, and 27.5 ft to 37.0 ft depth $=2000 \mathrm{psf}$.
C) Average ultimate skin shear for download:
2.0 ft to 10.0 ft depth $=400 \mathrm{psf}$, and 10.0 ft to 24.0 ft depth $=200 \mathrm{psf}$, and 24.0 ft to 27.5 ft depth $=400 \mathrm{psf}$, and 27.5 ft to 37.0 ft depth $=2000 \mathrm{psf}$.
D) Ultimate net end bearing at $37.0 \mathrm{ft}=150.00 \mathrm{ksf}$.
E) Groundwater table at 14.0 ft below ground.

USE 8'- 0" DIAMETER AND 37'- 0" DEEP DRILLED PIER WITH 0'- 6" CAP

| Perimeter | $=$ | 25.13 ft |  |
| ---: | :--- | :---: | :--- |
| Total Download | $=$ | $783.25+[1.2 \times 0.15-0.75 \times 0.120] \times 37 \times 50.27=$ |  |
|  | $=$ | 952.9 k |  |

Tension Capacity $=50.27 \times(14.5 \times 0.15+23.0 \times 0.09) \times 0.90+$
$25.13 \times(0.400 \times 8.0+0.200 \times 14.0+0.400 \times 3.5+2.000 \times 9.5) \times 0.75=$
$192.1+497.6=689.7 \mathrm{k}$ 689.7 >= 651.95 OK

Comp. Capacity $=50.27 \times 150.00 \times 0.75+$
$25.13 \times(0.400 \times 8.0+0.200 \times 14.0+0.400 \times 3.5+2.000 \times 9.5) \times 0.75=$

$5655.4+$| 497.6 | $=$ | 6153.0 k |
| :--- | :--- | :--- |
| 6153.0 | $>=$ | 952.9 OK |

## LATERAL - SEE ATTACHED CALCULATIONS USING WIGGINS METHOD

$$
\text { Max } \mathrm{M}=\quad 778.18 \mathrm{ft}-\mathrm{k} \quad \text { Max } V=73.31 \mathrm{k}
$$

## REINFORCEMENT - SEE ATTACHED SHAFT PROGRAM



```
    ********************
    ** WIGGINS METHOD **
** DEtermine maximum Lateral SOIl pressure **
** AND MAXIMUM MOMENT IN THE SHAFT FOR **
** A DRILLED PIER FOUNDATION **
*********** Wed Jan 17 09:50:01 2024 **********
Ver. 2.3 NT
```

FILE NO.- 245169
ENGR.- AS
DESCR.- TOWERCO LLC 350 FT RTL TOWER K


Diameter of Pier = D = 8.00 ft
Projection Above Grade $=\mathrm{R}=.50 \mathrm{ft}$
Embedment Depth $=\mathrm{E}=37.00 \mathrm{ft}$
Depth of Soil Ignored $=G=2.00 \mathrm{ft}$
$\mathrm{K}=.2409 \quad \mathrm{~S} 1=1.795 \mathrm{ksf} \quad \mathrm{SP} 1=49 \mathrm{psf} / \mathrm{ft}$
$\mathrm{Y}=12.98 \mathrm{ft}$

MAXIMUM LATERAL SOIL PRESSURES
$\mathrm{S} 2=.957 \mathrm{ksf} \mathrm{SP} 2=64 \mathrm{psf} / \mathrm{ft}$

Equivalent Length of Pier $=\mathrm{L}=37.50 \mathrm{ft}$
Length for NO Soil Resistance $=\mathrm{NL}=2.50 \mathrm{ft}$
Applied Moment at Top of Pier $=$ MA $=\quad .00 \mathrm{ft}-\mathrm{k}$ Shear at Top of Pier $=P=73.31 \mathrm{kips}$

MAXIMUM VALUES IN SHAFT

$$
\begin{array}{rr}
\mathrm{M} & =778.18 \mathrm{ft}-\mathrm{k} \\
\mathrm{~V} & =73.31 \mathrm{kips}
\end{array}
$$

```
                    ********************************** 245169 24* TOWERCO LLC 350 F
BROMS -_---->
PHI = 30.0 degrees
    CLAY
                                    C = 1.00 ksf
        DENSITY = 100.00 pcf
    Y = 100.00 pcf
                                    E = 24.53 ft
    Max. M = 495.18 ft-k
        Max. V = 191.91 kips
        Ls = 12.139 ft
```

EIA REV. E NORMAL SOIL --------------------> E $=14.33 \mathrm{ft}$
EIA REV. F NORMAL SOIL --------------------> E = 17.91 ft

```
DESIGNED BY: AS
ENG. FILE NO.: 245169
DATE: 01/17/24
CUSTOMER: TOWERCO LLC
DESCRIPTION: 350 FT RTL TOWERKY0106 LV ETNA, KY
                    INPUT DATA
                                    ===========
C=783.25 Kips Vc=73.31 Kips Mc = 778.18 Ft-k
```



```
Fy=60.00 Ksi Fyt = 60.00 Ksi L.F. = 1.00
H= 96.00 In. Ds = 84.00 In. F'C = 4.50 Ksi
U = 1.00 Irs = 1
*** SHAFT CROSS SECTION IS ROUND ***
SUMMARY OF ANALYSIS
Minimum area of steel req'd. = 36.19 sq.in. (Rhomin = 0.0050)
Maximum steel area limit = 579.06 sq.in. (Rhomax = 0.0800)
CIRCULAR TIE DATA
Vu <.85*Vc/2, shear reinforcement is not required.
Use maximum tie spacing specified in A.C.I. 318-83,
Section 7.10.5 for compression reinforcement.
```

DEVELOPMENT LENGTH MODIFIERS FOR TENSION AND COMPRESSION BAR DEVELOPMENT
＝＝ニーニーニ
DLMT＝MODIFIER FOR TENSION DEVELOPMENT $=1.000$
DLMC＝MODIFIER FOR COMPRESSION DEVELOPMENT＝ 1.313
REQUIRED Ld＝MODIFIER＊BASIC Ld＊ACI 318 MODIFIERS（12 in．min．）
DLMT $=$ MODIFIER FOR TENSION DEVELOPMENT $=$
DLMC $=$ MODIFIER FOR COMPRESSION DEVELOPMENT＝ 1.000
REQUIRED Ld＝MODIFIER＊BASIC Ld＊ACI 318 MODIFIERS（12 in．min．）

| TowerCo <br> SO00 VALLEYSTONE DR. CARY, NC 27519 OFFICE: (919) $653-5700$ WWW.TOWERCO.COM |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
| $\qquad$ | $\triangle \quad \mathrm{Apvo}$ |  |
| SUBMITIALS |  |  |
|  | ${ }_{\text {osem }}^{\text {oscernow }}$ | Revissued |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| $\frac{\text { SITE NAME: }}{\text { LV ETNA }}$ |  |  |
| SITE ADDRESS: |  |  |
| YANCEY ROAD EUBANK, KY 42567 |  |  |
| SITE ID: |  |  |
| KY0106 |  |  |
| SHEET TITLE |  |  |
| TITLE SHEET |  |  |
| SHEET NUMBER |  |  |
| T-1 |  |  |






| GENERAL NOTES: | APPLICABLE CODES AND STANDARDS: | Prepared for: |
| :---: | :---: | :---: |
| 1. ALL REFERENCES TO TOWER OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED AS TOWERCO OR ITS DESIGNATED REPRESENTATIVE. | 1. ANSITILA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS. | ower |
|  | 2.2015 INTERNATIONAL BULLDING CODE |  |
| CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, | 3.2018 KENTUCKY BUILDNN CODE |  |
| THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE. | 4. ACI 318: AMERICAN CONCRETE INSTTTUTE, BULDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318-14. |  |
|  | 5. CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST |  |
| 2015 INTERNATIONAL BULDING CODE AND 2018 KENTUCKY BUILDING CODE | 6. AISC: AMERICAN INSTTIUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, 13 TH EDITIO |  |
| 4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT. | 7. AWS: AMERICAN WELDING SOCIETY DI.1, STRUCTURAL WELDING CODE, LATEST EDITIO |  |
| 5. ALL PRODUCT MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN. | CONSTRUCTION INSPECTION NOTES: |  |
| 6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE MODIFICATION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION ANDIOR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE-DOWNS THAT MAY BE NECESSARY, SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT. | 1. FOUNDATION AND GEOTECHNICAL INSPECTIONS: A THIRD PARTY INSPECTION SHALL BE PERFORMED TO VERIFY: <br> A. PARAMETERS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT FOR THE SITE <br> B. FOUNDATION DIMENSIONS <br> C. REINFORCING STEEL GRADE, SIZE, CONDITION, SUPPORT, PLACEMENT AND COVER <br> D. CONCRETE MLX DESIGN DOCUMENTATION MATCHES STRENGTH AND DURABILITY REQUIREMENTS <br> E. CONCRETE TESTS REQUIRED TO BE PERFORMED PRIOR TO PLACEMENT OF CONCRETE, INCLUDING SLUMP, TEMPERATURE, AIR CONTENT, AND TEST CYLINDERS <br> F. ANCHOR ROD AND/OR POST-INSTALLED REBAR DIMENSIONS AND PLACEMENT, SIZE, EMBEDMENT DEPTH, PROJECTION ABOVE CONCRETE, ORIENTATION, PATTERN, AND ALGGNMENT <br> G. CONDITION OF SUBGRADE IMMEDIATELY PRIOR TO CONCRETE PLACEMENT <br> H. PROPER CONCRETE PLACEMENT, AVOIDING SEGREGATION OF AGGREGATES, AND CURING <br> I. STRUCTURAL BACKFILL MATERIAL AND PLACEMENT, INCLUDING MAXIMUM LIFT THICKNESS, MOISTURE CONTENT AND DENSITY. |  |
| 7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES AND PROCEDURES. |  |  |
| 8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BENG SUBSTTTUTED. |  |  |
| 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITLATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE AND LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS work. |  |  |
|  |  |  |
| 0. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL. |  | Amvo |
|  |  |  |
| 11. PARTS LISTS AND PART NUMBERS LISTED ON THE CONSTRUCTION DRAWINGS ARE INTENDED TO AID THE CONTRACTOR/OWNER CONTRACTOR/OWNER SHALL VERIFY PARTS AND QUANTITIES WITH THE MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS. |  |  |
| 12. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNING AGENCIES. <br> 13. ALL PERMITS THAT MUST BE OBTANED ARE THE RESPONSIBILTY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE |  |  |
| 13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS. |  |  |
| 14. 24 HOURS BEFORE THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. |  |  |
| 15. IF THE MATERIAL REMAINS UNSUITABLE AFTER REWORKING, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE IT WITH APPROVED MATERIAL. IF PAVING IS TO BE DONE, ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED. |  |  |
|  |  | SITE NAME: |
| 16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION. <br> 17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE. <br> 18. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS. |  | LV ETNA |
|  |  | YANCEY ROAD EUBANK, KY 42567 |
|  |  |  |
|  |  | SITE ID: |
|  |  | SHEET TITLE |
|  |  | GENERAL NOTES |
|  |  | SHEET NUMBER |
|  |  | GN-1 |

$\frac{8}{6}$



|  | $\stackrel{\square}{\Sigma}$ |
| :---: | :---: |
|  |  |



## Archive Search Results Form 7460-1 for ASN 2023-ASO-23317-OE



Archive Search Results Form 7460-1 for ASN 2023-ASO-23317-OE

|  |  | 1670 | 1675 | MHz | 500 | w |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1710 | 1755 | MHz | 500 | w |
|  |  | 1850 | 1910 | MHz | 1640 | w |
|  |  | 1850 | 1990 | MHz | 1640 | w |
|  |  | 1930 | 1990 | MHz | 1640 | w |
|  |  | 1990 | 2025 | MHz | 500 | w |
|  |  | 2110 | 2200 | MHz | 500 | w |
|  |  | 2305 | 2360 | MHz | 2000 | w |
|  |  | 2305 | 2310 | MHz | 2000 | w |
|  |  | 2345 | 2360 | MHz | 2000 | w |
|  |  | 2496 | 2690 | MHz | 500 | w |
|  |  | 3700 | 3980 | MHz | 3280 | w |
| Previous | Back to Search Result | Next |  |  |  |  |

Mail Processing Center
Federal Aviation Administration

Issued Date: 04/25/2023

Network Regulatory
Cellco Partnership
5055 North Point Pkwy
NP2NE Network Engineering
Alpharetta, GA 30022

## ** 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 LV Etna - B |
| :--- | :--- |
| Location: | Eubank, KY |
| Latitude: | $37-14-04.61 \mathrm{~N}$ NAD 83 |
| Longitude: | $84-32-50.39 \mathrm{~W}$ |
| Heights: | 1078 feet site elevation (SE) |
|  | 355 feet above ground level (AGL) |
|  | 1433 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:

Emissions from this site must be in compliance with the parameters set by collaboration between the FAA and telecommunications companies and reflected in the FAA 5G C band compatibility evaluation process (such as power, frequencies, and tilt angle). Operational use of this frequency band is not objectionable provided the Wireless Providers (WP) obtain and adhere to the parameters established by the FAA 5G C band compatibility evaluation process. Failure to comply with this condition will void this determination of no hazard.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, a med-dual system-Chapters 4,8(M-Dual),\&15.

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 Air Missions (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:
$\qquad$ At least 10 days prior to start of construction (7460-2, Part 1)
_ X _ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 10/25/2024 unless:
(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling @faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ASO-37327-OE.

Case Description
Frequency Data
Map(s)
cc: FCC

Page 3 of 7

Propose 355ft Antenna Tower.Emissions from this site will adhere to the parameters set by collaboration between the FAA and telecommunications companies and reflected in the FAA 5G C band compatibility evaluation process.If $M \& L$ req. request dual red \& med intensity.Questions Michele W.

| $\begin{gathered} \text { LOW } \\ \text { FREQUENCY } \end{gathered}$ | HIGH <br> FREQUENCY | $\begin{gathered} \text { FREQUENCY } \\ \text { UNIT } \\ \hline \end{gathered}$ | ERP | $\begin{aligned} & \text { ERP } \\ & \text { UNIT } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 6 | 7 | GHz | 55 | dBW |
| 6 | 7 | GHz | 42 | dBW |
| 10 | 11.7 | GHz | 55 | dBW |
| 10 | 11.7 | GHz | 42 | dBW |
| 17.7 | 19.7 | GHz | 55 | dBW |
| 17.7 | 19.7 | GHz | 42 | dBW |
| 21.2 | 23.6 | GHz | 55 | dBW |
| 21.2 | 23.6 | GHz | 42 | dBW |
| 614 | 698 | MHz | 2000 | W |
| 614 | 698 | MHz | 1000 | W |
| 698 | 806 | MHz | 1000 | W |
| 806 | 901 | MHz | 500 | W |
| 806 | 824 | MHz | 500 | W |
| 824 | 849 | MHz | 500 | W |
| 851 | 866 | MHz | 500 | W |
| 869 | 894 | MHz | 500 | W |
| 896 | 901 | MHz | 500 | W |
| 901 | 902 | MHz | 7 | W |
| 929 | 932 | MHz | 3500 | W |
| 930 | 931 | MHz | 3500 | W |
| 931 | 932 | MHz | 3500 | W |
| 932 | 932.5 | MHz | 17 | dBW |
| 935 | 940 | MHz | 1000 | W |
| 940 | 941 | MHz | 3500 | W |
| 1670 | 1675 | MHz | 500 | W |
| 1710 | 1755 | MHz | 500 | W |
| 1850 | 1910 | MHz | 1640 | W |
| 1850 | 1990 | MHz | 1640 | W |
| 1930 | 1990 | MHz | 1640 | W |
| 1990 | 2025 | MHz | 500 | W |
| 2110 | 2200 | MHz | 500 | W |
| 2305 | 2360 | MHz | 2000 | W |
| 2305 | 2310 | MHz | 2000 | W |
| 2345 | 2360 | MHz | 2000 | W |
| 2496 | 2690 | MHz | 500 | W |
| 3700 | 3980 | MHz | 3280 | W |



Page 6 of 7


## APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

## JURISDICTION

## 602 KAR 50:030

Section 1. The commission has zoning jurisdiction over that airspace over and around the public use and military airports within the Commonwealth which lies above the imaginary surface that extends outward and upward at one (1) of the following slopes:
(1) 100 to one (1) for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each public use airport and military airport with at least one (1) runway 3,200 feet or more in length; or
(2) fifty (50) to one (1) for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each public use and military airport with its longest runway less than 3,200 feet in length.
Section 2. The commission has zoning jurisdiction over the use of land and structures within public use airports within the state.
Section 3. The commission has jurisdiction from the ground upward within the limits of the primary and approach surfaces of each public use airport and military airport as depicted on airport zoning maps approved by the Kentucky Airport Zoning Commission.
Section 4. The Commission has jurisdiction over the airspace of the Commonwealth that exceeds 200 feet in height above the ground.
Section 5. The owner or person who has control over a structure which penetrates or will penetrate the airspace over which the Commission has Jurisdiction shall apply for a permit from the Commission in accordance with 602 KAR 50:090.

## INSTRUCTIONS

1. "Alteration" means to increase or decrease the height of a structure or change the obstruction marking and lighting.
2. "Applicant" means the person who will own or have control over the completed structure.
3. "Certification by Applicant" shall be made by the individual who will own or control the completed structure; or a partner in a partnership; or the president or authorized officer of a corporation company, or association; or the authorized official of a body politic; or the legally designated representative of a trustee, receiver, or assignee.
4. Prepare the application and forward to the Kentucky Dept. of Aviation, ATTN: Airport Zoning Commission, 90 Airport Drive, Frankfort KY 40601. For questions, telephone 502-782-4043.
5. The statutes applicable to the Kentucky Airport Commission are KRS 183.861 to 183.990 and the administrative regulations are 602 KAR Chapter 50.
6. When applicable, attach the following appendices to the application:

Appendix A. A 7.5 minute quadrangle topographical map prepared by the U.S. Geological Survey and the Kentucky Geological Survey with the exact location of the structure which is the subject of the application indicated thereon. (The 7.5 minute quadrangle map may be obtained from the Kentucky Geological Survey, Department of Mines and Minerals, Lexington, KY 40506.)
Appendix B. For structures on or very near to property of a public use airport, a copy of the airport layout drawing (ALP) with the exact location of the structure which is the subject of this application indicated thereon. (The ALP may be obtained from the Chairperson of the local airport board or the Kentucky Airport Zoning Commission.)
Appendix C. Copies of Federal Aviation Administration Applications (FFA Form 7460-1) or any orders issued by the manager, Air Traffic Division, FAA regional office.
Appendix D. If the applicant has indicated in item number 7 of the application that the structure will not be marked or lighted in accordance with the regulations of the Commission, the applicant shall attach a written request for a determination by the commission that the marking and lighting are not necessary. The applicant shall specifically state the reasons that the absence of marking and lighting will not impair the safety of air navigation.
Appendix E. The overall height in feet of the overhead transmission line or static wire above ground level or mean water level with span length 1,000 feet and over shall be depicted on a blueprint profile map.

## PENALTIES

1. Persons failing to comply with the Airport Zoning Commission statutes and regulations are liable for a fine or imprisonment as set forth in KRS 183.990(3).
2. Applicants are cautioned: Noncompliance with Federal Aviation Administration Regulations may provide for further penalties.

## KENTUCKY AIRPORT ZONING COMMISSION

## APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE



KENTUCKY AIRPORT ZONING COMMISSION

ANDY BESHEAR
Governor

Department of Aviation, 90 Airport Road
Frankfort, KY 40601 www.transportation.ky.gov 502-564-0151

## APPROVAL OF APPLICATION

Tuesday, August 15, 2023

Verizon
5055 North Point Parkway
Alpharetta, GA 30022

## SUBJECT STUDY \#:

AS-2023-052-SME
APPLICANTS NAME:
NEAREST CITY:
LATITUDE/LONGITUDE:
HEIGHT (In Feet):
CONSTRUCTION PROPOSED:

Lake Cumberland Regional Airport
Verizon
Eubanks, KY
$37^{\circ} 14^{\prime} 4.61^{\prime \prime} \mathrm{N}, 84^{\circ} 32^{\prime} 50.39^{\prime \prime} \mathrm{W}$
355' AGL / 1433 ' AMSL

NOTES: The proposed tower exceeds 200 ft AGL and is approximately 11.11 nm N of SME. It penetrates no protected air surfaces.
FAA DETERMINATION: 2022-ASO-37327-OE, expires 10/25/2024. Does not exceed obstruction standards, No Hazard/No Impact to Air Navigation. No objection as long as marked and lighted IAW AC 70/7460-1M, Obstruction Marking and Lighting, a med-dual system.

This letter is to notify you that the Kentucky Airport Zoning Commission APPROVED your permit application for the construction of Structures at the Location, Coordinates, and Height as indicated above. Construction must comply with requirements, if any, listed in the FAA Determination.

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.

An email of this letter was also sent to your representative, Maureen Ramdath, maureen.ramdath@verizonwireless.com. If you have any questions, please contact us.

Respectfully,

## Anthony Adams

Airport Zoning Commission Administrator
KY Department of Aviation
AirportZoning@ky.gov
502-564-0151 Office

## GEOTECHNICAL REPORT

## LV ETNA

## $37^{\circ} 14^{\prime} 04.616383^{\prime \prime} \mathrm{N}$ $84^{\circ} 32^{\prime} 50.392519^{\prime \prime}$ W

Yancey Road, Eubank, KY 42567

Prepared For:

## verizon ${ }^{\vee}$



June 9, 2023

Ms. Jackie Straight
Verizon Wireless
2902 Ring Road
Elizabethtown, KY 42701

Re: Geotechnical Report - PROPOSED 350' SELF-SUPPORT TOWER w/ 5' LIGHTNING ARRESTOR Site Name: LV ETNA
Site Address: Yancey Rd, Eubanks, Pulaski County, Kentucky
Coordinates: N37 ${ }^{\circ} 14^{\prime} 04.616383^{\prime \prime}$, W84 ${ }^{\circ} 32^{\prime} 50.392519^{\prime \prime}$
POD Project No. 22-134830

## Dear Ms. Straight:

Attached is our geotechnical engineering report for the referenced project. This report contains our findings, an engineering interpretation of these findings with respect to the available project characteristics, and recommendations to aid design and construction of the tower and equipment support foundations.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding this report, please contact our office.

Cordially,


Mark Patterson, P.E.
Project Engineer
License No.: KY 16300


Copies submitted: (3) Ms. Jackie Straight

## LETTER OF TRANSMITTAL

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## APPENDIX

BORING LOCATION PLAN BORING LOGS
SOIL SAMPLE CLASSIFICATION

Geotechnical Report<br>PROPOSED 350' SELF-SUPPORT TOWER w/ 5' LIGHTNING ARRESTOR<br>Site Name: LV ETNA<br>Site Address: Yancey Rd, Eubanks, Pulaski County, Kentucky<br>Coordinates: N37 ${ }^{\circ} 14^{\prime} 04.616383^{\prime \prime}$, W84 ${ }^{\circ} 32^{\prime} 50.392519^{\prime \prime}$

## 1. PURPOSE AND SCOPE

The purpose of this study was to determine the general subsurface conditions at the site of the proposed tower by drilling three borings and to evaluate this data with respect to foundation concept and design for the proposed tower and shelter. Also included is an evaluation of the site with respect to potential construction problems and recommendations dealing with quality control during construction.

## 2. PROJECT CHARACTERISTICS

Verizon is proposing to construct a self-support tower and either an equipment shelter, slab, or platform at N37 $14^{\prime} 04.616383^{\prime \prime}$, W84 $32^{\prime} 50.392519^{\prime \prime}$, Yancey Rd, Eubanks, Pulaski County, Kentucky. The site is located in a sloping farm field in a rural part of Pulaski County southeast of Eubanks and northeast of Somerset, KY. The proposed lease area will be 10,000 square feet and will be accessed by a very short access road south to Yancey Rd. The elevation at the proposed tower location is about EL 1078 and there is at least a 10 -foot of change in elevation across the proposed lease area. The development will also include a small equipment shelter near the base of the tower. The proposed tower location is shown on the Boring Location Plan in the Appendix.

## 3. SUBSURFACE CONDITIONS

The subsurface conditions were explored by drilling three test borings near the base of the proposed tower. The Geotechnical Soil Test Boring Logs, which are included in the Appendix, describes the materials and conditions encountered. A sheet defining the terms and symbols used on the boring logs is also included in the Appendix. The general subsurface conditions disclosed by the test borings are discussed in the following paragraphs.

According to the Kentucky Geological Survey, Kentucky Geologic Map Information Services, the site is underlain by the Upper Mississippian St Louis Limestone which is made up of limestone, clayshale and siltstone. This formation is prone to karst and is adjacent to an intensely karst formation.

The borings encountered about 3 to 4 inches of topsoil at the existing ground surface. Below the topsoil, the borings encountered clay $(\mathrm{CH})$ of medium to high plasticity. The SPT N -values in the clay soil were between 4 to 15 blows per foot (bpf) generally indicating a soft to stiff consistency. Borings B-1 and B-2 encountered a layer of loose sand between 19 and 24 feet just above auger refusal. Boring B-2 also encountered a weathered rock seam from about 12.5
feet to 19 feet that was hard enough for spoon refusal, so a sample was not taken. Boring B-3 encountered clayshale at about 19 feet before the scheduled termination depth of 20.5 feet. Borings B-1 and B-2 encountered auger refusal at 24 feet and 19.5 feet, respectively in the loose sand layer. Auger refusal is defined as the depth at which the boring can no longer be advanced using the current drilling method.

The refusal material was cored in Boring B-1 from 27.5 to 37.5 feet below the ground surface. Limestone that was continuous, hard, fresh and very light gray was encountered. The recoveries of the rock cores were all 100 percent and the RQD values were also all about 100 percent. These values generally represent excellent quality rock from a foundation support viewpoint.

Observations made at the completion of soil drilling operations indicated the borings B-1 and B-2 to be dry. Groundwater was noted at 14 feet in Boring B-3 at completion. It must be noted, however, that short-term water readings in test borings are not necessarily a reliable indication of the actual groundwater level. Furthermore, it must be emphasized that the groundwater level is not stationary, but will fluctuate seasonally.

Based on the limited subsurface conditions encountered at the site and using Table 1615.1.1 of the 2018 Kentucky Building Code, the site class is considered " C ". Seismic design requirements for telecommunication towers are given in section 1622 of the code. A detailed seismic study was beyond the scope of this report.

## 4. FOUNDATION DESIGN RECOMMENDATIONS

The following design recommendations are based on the previously described project information, the subsurface conditions encountered in our borings, the results of our laboratory testing, empirical correlations for the soil types encountered, our analyses, and our experience. If there is any change in the project criteria or structure location, you should retain us to review our recommendations so that we can determine if any modifications are required. The findings of such a review can then be presented in a supplemental report or addendum.

We recommend that the geotechnical engineer be retained to review the near-final project plans and specifications, pertaining to the geotechnical aspects of the project, prior to bidding and construction. We recommend this review to check that our assumptions and evaluations are appropriate based on the current project information provided to us, and to check that our foundation and earthwork recommendations were properly interpreted and implemented.

### 4.1. Proposed Tower

Our findings indicate that the proposed self-support can be supported on drilled piers or on a common mat foundation.

### 4.1.1. Drilled Piers

The following table summarizes the recommended values for use in analyzing lateral and frictional resistance for the various strata encountered at the test boring. It is important to note that these values are estimated based on the standard penetration test results and soil types, and were not directly measured. The all values provided are ultimate values and appropriate factors of safety should be used in conjunction with these values. If the piers will bear deeper than about 35 feet, a deeper boring should be drilled to determine the nature of the deeper material.

| Depth Below Ground Surface, feet | $0-2$ | $2-10$ | $10-24$ | $24-27.5$ | $27.5-35$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ultimate Bearing Pressure (psf) |  | 11,000 | 5,500 | 2,800 | 150,000 |
| C |  |  |  |  |  |
| Undrained Shear Strength, psf |  |  |  |  |  |
| $\emptyset$ | 500 | 2,000 | 1,000 | 0 | 30,000 |
| Angle of Internal Friction degrees | 0 | 0 | 0 | $27^{\circ}$ | 0 |
| Total Unit Weight, pcf | 110 | 120 | 120 | 100 | 135 |
| Soil Modulus Parameter |  |  |  |  |  |
| k, pci | 30 | 500 | 500 | 90 | 2000 |
| Passive Soil Pressure, |  | $1,340+$ | $675+$ | $245\left(D^{2}\right)$ | $20,000+$ |
| psf/one foot of depth |  |  |  |  |  |
| Side Friction, psf | $40(D-2)$ | $40(D-10)$ |  | $45(D-27.5)$ |  |

Note: $\mathrm{D}=$ Depth below ground surface (in feet) to point at which the passive pressure is calculated.

It is important that the drilled piers be installed by an experienced, competent drilled pier contractor who will be responsible for properly installing the piers in accordance with industry standards and generally accepted methods, without causing deterioration of the subgrade. The recommendations contained herein relate only to the soil-pier interaction and do not account for the structural design of the piers.

### 4.1.2. Mat Foundation

The tower could be supported on a common mat foundation bearing on the clay at a minimum of 4 feet can be designed using an allowable soil pressure of 3,500 pounds per square foot may be used. This value may be increased by 30 percent for the maximum edge pressure under transient loads. A friction value of 0.30 may be used between the concrete and the clay soil. The passive pressures given for the drilled pier foundation may be used to resist lateral forces.

It is important that the mat be designed with an adequate factor of safety with regard to overturning under the maximum design wind load.

### 4.2. Equipment Platform

An equipment platform may be supported on shallow piers bearing in the natural clay and designed for a net allowable soil pressure of 2,500 pounds per square foot. The piers should bear at a depth of at least 30 inches to minimize the effects of frost action. All existing topsoil or soft natural soil should be removed beneath footings.

### 4.3. Equipment Slab

A concrete slab supporting the equipment must be supported on at least 6-inch layer of relatively clean granular material such as gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Provided that a minimum of 6 in . of granular material is placed below the slab, a modulus of subgrade reaction ( k 30 ) of 110 $\mathrm{lbs} / \mathrm{cu} . \mathrm{in}$. can be used for design of the slab. All existing topsoil or soft natural soil should be removed beneath crushed stone layer.

### 4.4. Equipment Building

If an equipment building support on a slab is chosen in place of the equipment platform, it may be supported on shallow spread footings bearing in the natural clay soil and designed for a net allowable soil pressure of 2,500 pounds per square foot.

The footings should be at least ten inches wide. If the footings bear on soil they should bear at a depth of at least 30 inches to minimize the effects of frost action. All existing topsoil or soft natural soil should be removed beneath footings.

The floor slab for the new equipment building can be supported on firm natural soils or on new compacted structural fill. Floor slabs must be supported on at least 4-inch layer of relatively clean granular material such as gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Provided that a minimum of 4 in . of granular material is placed below the slab, a modulus of subgrade reaction (k30) of $110 \mathrm{lbs} / \mathrm{cu}$. in. can be used for design of the floor slabs.

### 4.5. Drainage and Groundwater Considerations

Good site drainage must be provided. Surface run-off water should be drained away from the tower and platform and not allowed to pond. It is recommended that all foundation concrete be placed the same day the excavation is made.

At the time of this investigation, groundwater was encountered at 14 feet in one boring. Therefore, no special provisions regarding groundwater control are considered necessary for shallow foundations. Any seepage should be able to be pumped with sumps.

## 5. GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS

It is possible that variations in subsurface conditions will be encountered during construction. Although only minor variations that can be readily evaluated and adjusted for during construction are anticipated, it is recommended the geotechnical engineer, or a qualified representative be retained to perform continuous inspection and review during construction of the soils-related phases of the work. This will permit correlation between the test boring data and the actual soil conditions encountered during construction.

### 5.1 Drilled Piers

The following recommendations are recommended for drilled pier construction:

- All piers must be poured the same day drilling is completed so that any shale is not allowed to swell. Clean the foundation bearing area so it is nearly level or suitably benched and is free of ponded water or loose material.
- Make provisions for ground water removal from the drilled shaft excavation. While the two of the three borings were dry prior to rock coring and significant seepage is not anticipated, the drilled pier contractor should have pumps on hand to remove water in the event seepage into
the drilled pier is encountered.

Q Specify concrete slumps ranging from 4 to 7 inches for the drilled shaft construction. These slumps are recommended to fill irregularities along the sides and bottom of the drilled hole, displace water as it is placed, and permit placement of reinforcing cages into the fluid concrete.

- Retain the geotechnical engineer to observe foundation excavations after the bottom of the hole is leveled, cleaned of any mud or extraneous material, and dewatered.
* Install a temporary protective steel casing to prevent side wall collapse, prevent excessive mud and water intrusion in the drilled shaft.
* The protective steel casing may be extracted as the concrete is placed provided a sufficient head of concrete is maintained inside the steel casing to prevent soil or water intrusion into the newly placed concrete.
\& Direct the concrete placement into the drilled hole through a centering chute to reduce side flow or segregation.


### 5.2 Fill Compaction

All engineered fill placed adjacent to and above the tower foundation should be compacted to a dry density of at least 95 percent of the standard Proctor maximum dry density (ASTM D-698). This minimum compaction requirement should be increased to 98 percent for any fill placed below the tower foundation bearing elevation. Any fill placed beneath the tower foundation should be limited to well-graded sand and gravel or crushed stone. The compaction should be accomplished by placing the fill in about 8 inch (or less) loose lifts and mechanically compacting each lift to at least the specified minimum dry density. Field density tests should be performed on each lift as necessary to ensure that adequate moisture conditioning and compaction is being achieved.

Compaction by flooding is not considered acceptable. This method will generally not achieve the desired compaction and large quantities of water will tend to soften the foundation soils.

### 5.3 Construction Dewatering

If groundwater is encountered in the shallow foundations, it should be minor and can be handled by conventional dewatering methods such as pumping from sumps.

If groundwater is encountered in the drilled pier excavations, it may be more difficult since pumping directly from the excavations could cause a deterioration of the bottom of the excavation. If the pier excavations are not dewatered, concrete should be placed by the termie method. If groundwater sits on the bottom of the foundation for longer than an hour, the bottom should be cleaned again before the pier is poured.

## 6 FIELD INVESTIGATION

Three soil test borings were drilled near the base of the proposed tower. Split-spoon samples were obtained by the Standard Penetration Test (SPT) procedure (ASTM D1586) in all test borings. Boring B-3 was terminated at the scheduled depth of 20.5 feet. Borings B-1 and B-2 encountered auger refusal at 27.5 feet and 19.5 feet, respectively. A rock core of the refusal material was taken in Boring B-1 from 27.5 to 37.5 feet. The split spoon samples were inspected and visually classified by a geotechnical engineer. Representative portions of the soil samples were sealed in glass jars and returned to our laboratory.

The boring logs are included in the Appendix along with a sheet defining the terms and symbols used on the logs and an explanation of the Standard Penetration Test (SPT) procedure. The logs present visual descriptions of the soil strata encountered, Unified System soil classifications, groundwater observations, sampling information, laboratory test results, and other pertinent field data and observations.

## 7 WARRANTY AND LIMITATIONS OF STUDY

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either express or implied. POD Group is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

A geotechnical study is inherently limited since the engineering recommendations are developed from information obtained from test borings, which depict subsurface conditions only at the specific locations, times and depths shown on the log. Soil conditions at other locations may differ from those encountered in the test borings, and the passage of time may cause the soil conditions to change from those described in this report.

The nature and extent of variation and change in the subsurface conditions at the site may not become evident until the course of construction. Construction monitoring by the geotechnical engineer or a representative is therefore considered necessary to verify the subsurface conditions and to check that the soils connected construction phases are properly completed. If significant variations or changes are in evidence, it may then be necessary to reevaluate the
recommendations of this report. Furthermore, if the project characteristics are altered significantly from those discussed in this report, if the project information contained in this report is incorrect, or if additional information becomes available, a review must be made by this office to determine if any modification in the recommendations will be required.

## APPENDIX

## BORING LOCATION PLAN

BORING LOGS
SOIL SAMPLE CLASSIFICATION



Boring: B-2

| Project: | LV Etna |  | City, State | Eubanks, KY |
| :---: | :---: | :---: | :---: | :---: |
| Method: S.F.A. | Boring Date: | 9-May-23 | Location: 25' E | Center |
| Inside Diameter: 4" | Drill Rig Type: | B-51 (ATV) | Hammer Type |  |
| Groundwater: DRY |  |  | Weather: |  |
| Driller: Strata Group, LLC | Note: About 3 inches of topsoil was encountered at the ground surface |  |  |  |



| Boring: B-3 |  |
| :--- | :---: | :---: |
| POWER OF DESIGN | Boring Log 1 of 1 |


|  |  | Etna |  | City, State | Eubanks, KY |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Method: | S.F.A. | Boring Date: | 9-May-23 | Location: 25' S | er Center |
| Inside Diameter: 4" |  | Drill Rig Type: | B-51 (ATV) | Hammer Type |  |
| Groundwater: 14' at completion |  |  |  | Weather: |  |

Driller: Strata Group, LLC
Note: About 3 inches of topsoil was encountered at the ground surface


| FINE AND COARSE GRAINED SOIL INFORMATION |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| COARSE GRAINED SOILS (SANDS \& GRAVELS) |  | FINE GRAINED SOILS (SILTS \& CLAYS) |  |  | PARTICLE SIZE |  |
| N | Relative Density | N | Consistency | Qu, KSF <br> Estimated | Boulders | Greater than 300 mm (12 in) |
| 0-4 | Very Loose | 0-1 | Very Soft | 0-0.5 | Cobbles | 75 mm to 300 mm (3 to 12 in ) |
| 5-10 | Loose | 2-4 | Soft | 0.5-1 | Gravel | 4.74 mm to 75 mm (3/16 to 3 in ) |
| 11-20 | Firm | 5-8 | Firm | 1-2 | Coarse Sand | 2 mm to 4.75 mm |
| 21-30 | Very Firm | 9-15 | Stiff | 2-4 | Medium Sand | 0.425 mm to 2 mm |
| 31-50 | Dense | 16-30 | Very Stiff | 4-8 | Fine Sand | 0.075 mm to 0.425 mm |
| Over 50 | Very Dense | Over 31 | Hard | 8+ | Silts \& Clays | Less than 0.075 mm |

The STANDARD PENETRATION TEST as defined by ASTM D 1586 is a method to obtain a disturbed soil sample for examination and testing and to obtain relative density and consistency information. A standard 1.4 -inch I.D./2-inch O.D. split-barrel sampler is driven three 6 -inch increments with a 140 lb . hammer falling 30 inches. The hammer can either be of a trip, free-fall design, or actuated by a rope and cathead. The blow counts required to drive the sampler the final two increments are added together and designate the N -value defined in the above tables.


Directions to the Site:
FROM PULASKI COUNTY CLERK'S OFFICE; 100 NORTH MAIN STREET, SOMERSET KY 42502; HEAD NORTH TOWARDS NORTH VINE STREET (66 FEET); TURN LEFT TOWARD NORTH VINE STREET (121 FEET), TURN LEFT ONTO NORTH VINE STREET (148 FEET), TURN LEFT AT THE FIRST CROSS STREET ONTO WEST MT VERNON STREET (325 FEET), TURN LEFT ONTO NORTH MAIN STREET (0.5 MILE), TURN RIGHT ONTO KY-39 NORTH / CRAB ORCHARD ROAD AND CONTINUE TO FOLLOW KY-39 NORTH (9.2 MILE), TURN LEFT ONTO STATE HIGHWAY 452 (1.6 MILE), TURN RIGHT ONTO TEXAS SCHOOL ROAD (0.6 MILE), TURN RIGHT ONTO HENDERSON ROAD (0.5 MILE), SLIGHT RIGHT ONTO YANCY ROAD (0.2 MILE), SITE WILL BE LOCATED ON LEFT (NORTH) SIDE OF THE ROAD.

Power of Design 502-437-5252

# This Instrument prepared by and after recording return to: <br> Rural Cellular Corporation d/b/a Verizon Wireless c/o Coots Henke \& Wheeler, P.C. 

255 E. Carmel Drive
Carmel, IN 46032
Attn: Daniel E. Coots, Esq. $\qquad$
VzW Site Name: LV ETNA
Location Code: 639571

## STATE OF KENTUCKY

## COUNTY OF PULASKI

Prior Deed References: Deed Book 770, Pages 412-418 in Office of Clerk of Pulaski County, Kentucky

## MEMORANDUM OF LAND LEASE AGREEMENT

This Memorandum of Land Lease Agreement is made this 54 L day of ANil, 2083 , between Glenn E. Loveless and Spencer Loveless, having a mailing address of 2530 Texas School Road, Eubank, KY 42567, hereinafter designated LESSOR, and Rural Cellular Corporation d/b/a Verizon Wireless, with its principal offices at One Verizon Way, Mailstop 4AW100, Basking Ridge, NJ 07920, hereinafter designated LESSEE.

LESSOR and LESSEE entered into a certain Land Lease Agreement ("Lease") dated automatically extended for four (4) additional five (5) year terms, unless LESSEE terminates the Lease in accordance with the terms thereof.
2. In consideration of the rental set forth in the Lease, LESSOR hereby leases to LESSEE certain ground space area consisting of approximately $100^{\prime} \times 100^{\prime}$, or 10,000 square feet, for the construction and maintenance of LESSEE's telecommunications facility upon that certain real estate located approximately at approximately 0 Yancy Road, Eubank, Kentucky $42567 R_{4}$ laski County), with a legal description attached as Exhibit A ("Property"), together with the non-exclusive right for ingress and egress, access, and utility easements.
3. The term of the Lease shall commence the first $\left(1^{\text {st }}\right)$ day of the month after LESSEE begins construction of LESSEE's telecommunications facility. A copy of the Lease is on file in the office

## MEMORANDUM OF LAND LEASE AGREEMENT CONTINUED

of the LESSOR and LESSEE.
4. The terms, covenants and provisions of the Lease of which this is a Memorandum, shall extend to and be binding upon the respective executors, administrators, heirs, successors and assigns of LESSOR and LESSEE, including but not limited to any rights of first refusal to purchase the Premises/Property during any given Term of the Lease.
5. The purpose of this Memorandum is to give record notice of the Lease and of the rights created thereby, all of which are hereby confirmed. In the event of a conflict between the terms of this Memorandum and the terms of the Lease, the terms of the Lease shall prevail.

## MEMORANDUM OF LAND LEASE AGREEMENT CONTINUED

IN WITNESS WHEREOF, hereunto and to a duplicate hereof, LESSOR and LESSEE have caused this Memorandum to be duly executed on $\qquad$ , 2083.

LESSEE:

## RURAL CELLULAR CORPORATION

d/b/a Verizon Wireless

By:


Printed:

## Ed Mather

Title: Director - Notwork Field Engineering
Address: One Verizon Way, Mailstop 4AW100
Basking Ridge, NJ 07920
Date:
4) 3123

## LESSEE NOTARY BLOCK:

STATE OF


COUNTY OF $\qquad$
The foregoing instrument was acknowledged before me this $\psi_{\text {day }}$ of |ANil $\qquad$ , 2083 , by
 Corporation d/b/a Verizon Wireless, who is personallydnowh to me

$\qquad$

## MEMORANDUM OF LAND LEASE AGREEMENT CONTINUED

## LESSOR:



Glenn E. Loveless


Date:


## LESSOR NOTARY BLOCK:

STATE OF


COUNTY OF $\qquad$ Pulaski
The foregoing instrument was acknowledged before me this $\square$ day of $\qquad$ , 2023,


"I, affirm, under the penalties for perjury, that I have taken reasonable care to redact each Social Security number in this document, unless required by law."

EXHIBIT A

## Legal Description

See next page

Tract $\mid$
A certain tract of land lying in the County of Pulaski, State of Kentucky, on the waters of Indian Creek and bounded as follows, to wit:

Beginning al a stone by the side of the road; thence South $7^{\circ}$ East $251 / 4$ poles to a stone; thence South $71^{\circ}$ East 36 poles to a stone in a drain: thence down said drain South $38^{\circ}$ East $151 / 2$ poles to a stone in said drain; thence South $48^{\circ}$ East $91 / 2$ poles to a stone; thence South $4^{\circ}$ East 29 poles to a stone, between a branch and a cliff; thence South $20^{\circ}$ West 16 poles and 3 feet to a stone; thence South $31^{\circ}$ West 21 poles 16 feet to a stone; thence South $28^{\circ}$ West 10 poles 14 feet to a stone; thence South $31^{\circ}$ Wesi with a cliff $141 / 2$ poles to a stone at the foot of the cliff; thence across Indian Creek South $101 / 4^{\circ}$ East 28 poles and 3 feet to a slone at the mouth of the dry branch; thence up said creek South $55^{\circ}$ West 21 poles 10 feet; North $42^{\circ} 9^{\prime}$ West 56 poles; South $69^{\circ}$ West 21 poles to a stone on the south bank of Indian Creek; thence North $9^{6}$ West 126 poles to a stone by the road; thence North $55^{\circ}$ East 49 poles o the beginning, containing $771 / 3$ acres, more or less.

Tract II
A certain tract or boundary of land located and being in Pulaski County. Kentucky, on the waters of Buck Creek and bounded and described as follows, to wit:

Beginning at a stone on the north side of Texas Rural Highway No. 34, thence South $10^{*}$ East 112 poles to a stone on the cliff Indian Creek, comer of William Yancey and George Dye; thence South $28^{\circ}$ West 18 poles to a Spanish oak on the bluff of Indian Creek, comer of sald to Yancy and Dye; thence South $47^{\circ}$ West 22 poles to a stone where stood an ash and sugar tree at a branch; thence up said branch with meanders of same North $40^{\circ}$ West 90 poles lo a stone, William Barron's comer; thence South $60^{\circ}$ West 32 poles to a stone, Barron, York and Dye's corner; thence Northwest 31 poles to a post oak; thence North $60^{\circ}$ West 40 poles to a stone on the south side of Rural Highway 34; thence North $631 / 2^{\circ}$ East 68 poles and 18 links to a stone at side of road; thence North $88^{\circ}$ East 50 poles to a stone; thence North $801 / 2^{\circ}$ East 38 poles and 16 links to a stone; thence North $541 / 2^{\circ}$ East 5 poles and 21 links to the beginning.

Tract III
A certain tract or parcel of land lying and being in the County of Pulaski, and State of Kentucky, on the waters of Buck Creek, and bounded as follows, to wit:

Beginning at a stone on the south side of Texas R.H. Road No. 34 , running North $45^{\circ}$ West 70 poles to a post oak and two hickories, Pleasant George's corner; thence w/th his line North $731 / 2^{\circ}$ East 188 poles to a hickory; thence South $13^{\circ}$ East 60 poles to a stone on the north side of R.H.No.34; thence South $541 / 2^{\circ}$ West 5 poles and 21 links to a stone on the north side of said road; thence South $801 / 2^{\circ}$ West 38 poles and 16 links to a stone on the north side of sald road; thence South $88^{\circ}$ West 50 poles to a stone on the south side of said R.H. Road No.34; thence $631 / 2^{\circ}$ West poles and 18 links to the beginning, containing 70 acres, more of less.

Being the same property acquired by SPENCER LOVELESS and GLENN E. LOVELESS, by Deed of Conveyance dated August 3, 2005, of record in Deed Book 770, Page 412, In the Office of the Clerk of Pulaski County, Kentucky.

Notification Listing with PVA Screen Shots
Parcel Number 086-0-0-42
LOVELESS SPENCER \& GLENN E
2530 TEXAS SCHOOL RD
EUBANK KY 42567


Parcel Number 072-0-0-83
BRAY LESLIE
233 LESLIE BRAY RD
EUBANK KY 42567


Parcel Number 072-0-0-82.1
THURMAN DWIGHT \& JO CAROL
460 BOB KELLER RD
EUBANK KY 42567


Parcel Number 071-0-0-15
ANDERSON JONATHAN \& MARY
650 TEXAS SCHOOL RD
EUBANK KY 42567
Kentuchỳ Pulaski County, KY PVA
4 losin Sarch rearch a


Parcel Number 071-0-0-13
ANDERSON ALLEN \& PATRICIA

## 260 HENDERSON RD

EUBANK KY 42567


Parcel Number 071-0-0-12
PRICE ALEX S \& AMANDA K
290 HENDERSON RD
EUBANK KY 42567
Kentucky̆ Pulaski County, KY PVA stant seant seach a


Parcel Number 071-0-0-14
ALEXANDER WILLIAM E \& LOIS
4680 E HWY 452
EUBANK KY 42567


Parcel Number 071-0-0-16
HENDERSON DALE \& SHIRLEY
701 HENDERSON RD
EUBANK KY 42567


Parcel Number 071-0-0-09
HENDERSON MICHAEL
716 HENDERSON RD
EUBANK KY 42567

Kentucky Pulaski County, KYPVA
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Parcel Number 086-0-0-45
MOUNCE LOUIE C \& BETTY ANN
165 SAVANNAH TRAIL
EUBANK KY 42567

Kentucky Pulaski County, KY PVA


Parcel Number 086-0-0-43
ROARK EMILY
450 YANCEY RD
EUBANK KY 42567


Parcel Number 086-0-0-43.1
ROARK EMILY N \& DANIEL W
450 YANCEY RD
EUBANK KY 42567
Kentucky Pulaski County, KY PVA


Parcel Number 086-0-0-41
SKAGGS EVERETT \& NELL
10311 HWY 39
SOMERSET KY 42503


Parcel Number 087-0-0-31
WITT STANLEY \& JO ANN
4870 E HWY 452
EUBANK KY 42567


Clark Quinn

Russell L. Brown<br>Attorney at Law<br>rbrown@clarkquinnlaw.com

320 N. Meridian St., Ste. 1100
Indianapolis, IN 46204
(317) 637-1321 main
(317) 687-2344 fax

November 22, 2023

## Notice of Proposed Construction of Wireless Communications Facility Site Name: ETNA

Cello Partnership, d/b/a Verizon Wireless and TowerCo 2013, LLC propose to construct a wireless communications facility on a site located on the north side of Yancy Rd, west of Henderson Road, Embank, KY 42567. (North Latitude: ( $37^{\circ} 14^{\prime} 04.61^{\prime \prime}$, West Longitude $84^{\circ} 32^{\prime} 50.39$ "). The proposed facility will include a 350 -foot tall antenna tower, plus a 5 -foot lightning arrestor and related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

This notice is being sent to you because the County Property Valuation Administrator's records indicate that you may own property that is within a 500' radius of the proposed tower site or contiguous to the property on which the tower is to be constructed. You have a right to submit testimony to the Kentucky Public Service Commission ("PSC"), either in writing or to request intervention in the PSC's proceedings on the application. You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00382 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. Applicant's radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us at 317-637-1321 if you have any comments or questions about this proposal.

Sincerely,
Russell L. Brown
Attorney for Applicant
RLB/mnw
enclosure

Location Map


LOVELESS SPENCER \＆GLENN E 2530 TEXAS SCHOOL RD EUBANK，KY 42567

## ClarkQuinn <br> lark，Quinn，Moses，Scott \＆Grahn，LLP <br> CERTMII爵DAMIL <br>  <br>  <br> 



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EUBANK，KY 42567

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THURMAN DWIGHT \＆JO CAROL
460 BOB KELLER RD
EUBANK，KY 42567

ANDERSON JONATHAN \＆MARY 650 TEXAS SCHOOL RD
EUBANK，KY 42567

こlarkQuinn
：lark，Quinn，Moses，Scott \＆Grahn，LLP



ANDERSON ALLEN \＆PATRICIA 260 HENDERSON RD EUBANK，KY 42567

## ClarkQuinn ：lark，Quinn，Moses，Scott \＆Grahn，LLP <br>  <br>  <br>  <br> US POSTAGE Im PITNEY BOWES <br> 



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EUBANK，KY 42567

ALEXANDER WILLIAM E \& LOIS
4680 E HWY 452
EUBANK, KY 42567



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EUBANK，KY 42567

## ClarkQuinn <br> Jlark，Quinn，Moses，Scott \＆Grahn，LLP <br> 



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EUBANK，KY 42567

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450 YANCEY RD
EUBANK，KY 42567


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Jlark, Quinn, Moses, Scott \& Grahn, LLP


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SKAGGS EVERETT \& NELL
10311 HWY 39
SOMERSET, KY 42503


WITT STANLEY \& JO ANN
4870 E HWY 452
EUBANK, KY 42567

## SENDER：COMPIETE THIS SECTION

－Complete items 1，2，and 3.
－Print your name and address on the reverse so that we can return the card to you．
－Attach this card to the back of the mailpiece， or on the front if space permits．
1．Article Addressed to：

## PRICE ALEX S \＆AMAN䡃AK 290 HENDERSON RD EUBANK，彐Y 42567

COMPLETE THIS SECTION ON DELIVERY
A．Signature


D．Is delivery address different from Item 1 ？$\square \mathrm{N}$
$\square$ Priority Mail Express（9）

3．Service Type
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PS Form 3811，July 2020 PSN 7530－02－000－9053

## SENDER：COMPLETE THIS SECTION

－Complete items 1，2，and 3.
－Print your name and address on the reverse so that we can return the card to you．
－Attach this card to the back of the mailpiece， or on the front if space permits．
1．Article Addressed to：

## ALEXANDER WILLIAM E叒 LOIS 4680． HWY 452 EUB屋洓K，KY 42567



## COMPLETE THIS SECTION ON DELIVERY



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D．Is delivery address different from Item 1？$\square$ Yes If YES，enter delivery address below： $\qquad$

## MOUNCE LOUHE C \＆BE PTY ANN 165 SAVANNAH TRAIL EUBANK，KY 42567

## SENDER：COMPLETE THIS SECTION

－Complete items 1，2，and 3.
－Print your name and address on the reverse so that we can return the card to you．
－Attach this card to the back of the mailpiece， or on the front if space permits．
1．Article Addressed to：

2．Article Number（Transfer from service label）
9589 ロア1ロ 527ロ 162ヨ 26l？

## SENDER：COMPLETE THIS SECTION

－Complete items 1，2，and 3.
－Print your name and address on the reverse so that we can return the card to you．
－Attach this card to the back of the mailpiece， or on the front if space permits．
1．Article Addressed to：
LOVELESS SPENCER \＆GIENN E 2530 TEXAS SCHOOL RD EUBANK，罡 42567

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SENDER：COMPLETE THIS SECTION
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－Print your name and address on the reverse so that we can return the card to you．
－Attach this card to the back of the mailpiece， or on the front if space permits．
1．Article Addressed to：

## ANDERSON JONATHAN \＆MARY 650 TEXAS SCH ${ }^{\circ} 0 \mathrm{OL}$ RD EUBANK，KY 42



2．Article Number（Transfer from service label）
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－Print your name and address on the reverse so that we can return the card to you．
－Attach this card to the back of the mailpiece， or on the front if space permits．
1．Article Addressed to：

HENDERSON DALE \＆SHIRLEY 701 HENDERSON RD
EUBANK，Kil 42567


2．Article Number（Transfer from service label）


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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

## ANDERSON ALLEN \& PATRICIA 260 HENDERSON RD EUBANK KY 42567



## COMPLETE THIS SECTION ON DELIVERY

A. Signature

B. Received by (Printed Name)
C. Date Dolve
D. Is delivery address different from item 1 ? If YES, enter delivery address below:

Yes No

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Printyour nameand address on the reverse so that we can return the card to you.
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1. Article Addressed to:

## THURKMAN DWIGHT \& JOCAROL 460 BOB KELLER RD EUBANK, KY 42567



PS Form 3811, July 2020 PSN 7530-02-000-9053
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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

ROARK EMILY N \& DANIEE W 450 YANCEY RD EUBANK, KY 42567


Priority Mall Expresse $\square$ Registered Maillm
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PS Form 3811, July 2020 PSN 7530-02-000-9053

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- Complete items 1,2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

## SKAGGS EVERETT \& NELL <br> 10311HWY 39 <br> SOMERSETT, KY 42503



## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

WITT STANLEY \& JO ANN
4870 E HWY 452
EUBANK, KY 42567

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Copy Add to Informed Delivery (https://informeddelivery.usps.com/)

## Latest Update

Your item was picked up at the post office at 11:13 am on November 30, 2023 in EUBANK, KY 42567.

Get More Out of USPS Tracking:
USPS Tracking Plus ${ }^{\circledR}$
Delivered
Delivered, Individual Picked Up at Post Office
EUBANK, KY 42567
November 30, 2023, 11:13 am

See All Tracking History
What Do USPS Tracking Statuses Mean? (https://faq.usps.com/s/article/Where-is-my-package)

## Text \& Email Updates

USPS Tracking Plus® ${ }^{\circledR}$

Product Information

See Less $\wedge$

Track Another Package

Enter tracking or barcode numbers

## Need More Help?

Contact USPS Tracking support for further assistance.

FAQs

Tracking Number:

## 9589071052701623260922

Copy Add to Informed Delivery (https://informeddelivery.usps.com/)

## Latest Update

Your item has been delivered to the original sender at $12: 16$ pm on December 27, 2023 in INDIANAPOLIS, IN 46204.

Get More Out of USPS Tracking:
USPS Tracking Plus ${ }^{\circledR}$

## Delivered

Delivered, To Original Sender
INDIANAPOLIS, IN 46204
December 27, 2023, 12:16 pm

See All Tracking History

What Do USPS Tracking Statuses Mean? (https://faq.usps.com/s/article/Where-is-my-package)

Text \& Email Updates

USPS Tracking Plus®

## Product Information

See Less

Track Another Package
Enter tracking or barcode numbers

## Need More Help?

Contact USPS Tracking support for further assistance.

FAQs

ClarkQuinn

Russell L. Brown
Attorney at Law
rbrown@clarkquinnlaw.com

320 N. Meridian St., Ste. 1100
Indianapolis, IN 46204
(317) 637-1321 main
(317) 687-2344 fax

November 22, 2023
Via Certified Mail, Return Receipt Requested

Hon. Marshall Todd
Pulaski County Judge/Executive
100 N. Main Street, Ste 202
Somerset, Ky 42501
RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2023-00382
Site Name: ETNA
Dear Judge Todd:
Cellco Partnership, d/b/a Verizon Wireless and TowerCo 2013, LLC propose to construct a wireless communications facility on a site located on the north side of Yancy Rd, west of Henderson Road, Eubank, KY 42567. (North Latitude: ( $37^{\circ} 14^{\prime} 04.61^{\prime \prime}$, West Longitude $84^{\circ} 32^{\prime}$ 50.39 "). The proposed facility will include a 350 -foot tall antenna tower, plus a 5 -foot lightning arrestor and related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 202300382 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. Verizon Wireless' radio frequency engineers assisted in selecting the proposed site for the facility, and they have determined it is the proper location and elevation needed to provide quality service to wireless customers in the area. Please feel free to contact us with any comments or questions you may have.

Sincerely,
Russell L. Brown


Location Map



Hon. Marshall Todd
Pulaski County Judge/Executive
100 N. Main Street, Ste 202
Somerset, Ky 42501

Tracking Number:

## 9589071052701623261783

Copy Add to Informed Delivery (https://informeddelivery.usps.com/)

## Latest Update

Your item was delivered to an individual at the address at 1:30 pm on November 28, 2023 in SOMERSET, KY 42501.

Get More Out of USPS Tracking:
USPS Tracking Plus ${ }^{\circledR}$

## Delivered

Delivered, Left with Individual
SOMERSET, KY 42501
November 28, 2023, 1:30 pm

See All Tracking History

What Do USPS Tracking Statuses Mean? (https://faq.usps.com/s/article/Where-is-my-package)

Text \& Email Updates

USPS Tracking Plus®

## Product Information

## See Less

Track Another Package
Enter tracking or barcode numbers

## Need More Help?

Contact USPS Tracking support for further assistance.

FAQs

## SITE NAME: ETNA NOTICE SIGNS

The signs are at least (2) feet by four (4) feet in size, of durable material, with the text printed in black letters at least one (1) inch in height against a white background, except for the word "tower," which is at least four (4) inches in height.

TowerCo and Cellco Partnership, d/b/a Verizon Wireless proposes to construct a telecommunications tOWer on this site. If you have questions, please contact Clark, Quinn, Moses, Scott \& Grahn, LLP, 320 N. Meridian Street, Indianapolis, IN 46204; 317-637-1321, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00382 in your correspondence.

TowerCo and Cellco Partnership, d/b/a Verizon Wireless proposes to construct a telecommunications tOWer on this site. If you have questions, please contact Clark, Quinn, Moses, Scott \& Grahn, LLP, 320 N. Meridian Street, Indianapolis, IN 46204; 317-637-1321, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00382 in your correspondence.

ClarkQuinn

Commonwealth Journal 110-112 E. Mt. Vernon Street

| RE: | Legal Notice Advertisement |
| :--- | :--- |
| Site Name: | ETNA |

To Whom It May Concern,
Please publish the following legal notice advertisement in the next available edition of the Commonwealth Journal:

## NOTICE

Cellco Partnership, d/b/a Verizon Wireless and TowerCo 2013, LLC are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located on the north side of Yancy Rd, west of Henderson
 The proposed facility will include a 350-foot tall antenna tower, plus a 5 -foot lightning arrestor and related ground facilities. You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00382 in any correspondence sent in connection with this matter.

After this advertisement has been published, please forward a tearsheet copy, affidavit of publication, and invoice to Clark, Quinn, Moses, Scott \& Grahn, LLC, 320 N. Meridian Street, Indianapolis, IN 46204 or by email to ebw@clarkquinnlaw.com. Please call me on my cell with any questions at 317-902-2187 if you have any questions. Thank you for your assistance.

Sincerely,
Suingith Buty Wheriais

Elizabeth Bentz Williams, AICP

## Design Search Area



Dec 6, 2023
RE: Proposed Verizon Wireless Communications Facility Site Name: LV Etna

## To Whom It May Concern:

As a radio frequency engineer for Verizon Wireless, I am providing this letter to state the need for the Verizon Wireless site called LV Etna and its compliance to RF emission standards as set by FCC. The LV Etna cell site is necessary to achieve coverage and capacity needs in the Etna area, along HWY 39, SR 452, Texas School Rd and to the surrounding residential areas. This site is necessary to provide this coverage and capacity that cannot be established in any other manner. This new tower is required as there is no other means of providing this service in this area.

Whenever possible, Verizon Wireless seeks out colocation opportunities. Colocation allows Verizon Wireless to increase capacity, coverage and services in a targeted area in a more timely manner and at less cost than building a new raw land site.

The height for the LV Etna site was determined through in-depth terrain modeling as well as signal propagation modeling. Due to the rising and falling terrain combine with the dense wooded area, it was determined that a centerline height of 350 feet was necessary to provide adequate coverage in the area. A lower height would greatly reduce coverage and result in the inability of the LV Etna site to operate properly in the Verizon Network.

The site will provide the quality coverage our customers expect and rely on; Customers will experience access to mobile voice and wireless data services previously unavailable, and support Homeland Security through enhanced 911 services.

This cell site has been designed, and will be constructed and operated in a manner that satisfies regulations and requirements of all applicable governmental agencies that have been charged with regulating tower specifications, operation, construction, and placement, including the FAA and FCC.

RF emission readings at this site in the accessible areas would be well below the applicable limits for FCC Uncontrolled/General Population and FCC Controlled/Occupational environments as outlined in 47 CFR 1.1301 through 1.1319. The site would carry appropriate RF emission signage to the public entering the site area.

This site would taansit frequencies within the licensed frequency bands and the power limitations set by FCC regulatory authority. The site would go through the complete rigorous regulatory process before it comes on-air to provide selvice to our customers.

Sincerely,


Gordon Snyder
RF Engineer, Verızon Wireless




## Exhibit S

 List of Qualified ProfessionalsMark E. Patterson<br>Professional Land Surveyor<br>Kentucky License 3136<br>Power of Design<br>11490 Bluegrass Parkway<br>Louisville, KY 40299<br>Mark E. Patterson<br>Professional Engineer<br>Kentucky License 16300<br>Power of Design<br>11490 Bluegrass Parkway<br>Louisville, KY 40299<br>Robert E. Beacom<br>Professional Engineer<br>Kentucky License 28165<br>Sabre Industries, Inc.<br>7101 Southbridge Drive<br>P.O. Box 658<br>Sioux City, IA 51102<br>Billy Waldridge Jr.<br>Construction Manager<br>Verizon Wireless<br>2421 Holloway Road<br>Louisville, KY 40299<br>Gordon Snyder<br>RF Engineer<br>Verizon Wireless<br>2421 Holloway Road<br>Louisville, KY 40299

## STATE OF INDIANA ) ) SS:

COUNTY OF MARION )

## AFFIDAVIT OF CERTIFICATION COMMONWEALTH OF KENTUCKY PUBLIC SERVICE COMMISSION

I Russell L. Brown, attorney for Cellco Partnership, $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Verizon Wireless do hereby certify that as the person supervising the preparation of this application that the all statements and information contained herein are true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry for all information within this application.


STATE OF INDIANA, COUNTY OF MARION, SS:
Subscribed and sworn to before me this $4^{\text {th }}$ day of January, 2024.


My commission expires: November 18, 2028
My County of Residence: Marion
Commission \#: $\underline{0639620}$


[^0]:    Overall Height Above Ground w/o Appurtenances
    106.7

