# COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION 

In the Matter of:

THE APPLICATION OF )<br>CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS )<br>AND TOWERCO 2013, LLC FOR ISSUANCE )<br>OF A CERTIFICATE OF PUBLIC CONVENIENCE AND )<br>NECESSITY TO CONSTRUCT A WIRELESS )<br>COMMUNICATIONS FACILITY IN THE )<br>COMMONWEALTH OF KENTUCKY IN THE COUNTY )<br>OF BRECKINRIDGE

SITE NAME: STEPHENSPORT COW RELO

## 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 submit 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 Co-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, $\mathrm{d} / \mathrm{b} / \mathrm{a}$ 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 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 Co-Applicants submit this application to the PSC for a certificate of public convenience and necessity pursuant to KRS $\S 278.020(1), 278.040$, 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-Applicants’ FCC Registration 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.
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 R along with Propagation Maps attached as Exhibit S. 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 located on the east side of HWY 2779, south of KY 144, Stephensport, KY 40170 (North Latitude: ( $37^{\circ} 54^{\prime} 13.31^{\prime \prime}$, West Longitude $86^{\circ} 31^{\prime} 40.29^{\prime \prime}$ ), 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 Corey M \& Lisa Biddle pursuant to a Deed recorded in Deed Book 425, Page 341 in the office of the County Clerk. The proposed WCF will consist of a 195 -foot tall tower, with an approximately 4-foot tall lightning arrestor attached at the top, for a total height of 199-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 Co-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 Co-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 Co-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 Co-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 R.
11. A copy of the Application for Federal Aviation Administration's ("FAA") and the FAA Determination of No Hazard (DNH) are attached as Exhibit F
12. A copy of the documentation of application submission to the Kentucky Airport Zoning Commission ("KAZC") is attached as Exhibit G. The KAZC Approval will be provided as soon as received.
13. A geotechnical engineering report was performed at the WCF site by Delta Oaks Group, 4904 Professional Court, Second Floor, Raleigh, NC 27609, dated April 16, 2024 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 T.
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 T.
17. The Construction Manager for the proposed facility is Larry Rhoads and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in Exhibit T.
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 21027C0070C, Dated August 4, 2008.
19. Exhibit C includes a map drawn to an appropriate scale that shows the location of
the proposed tower and identifies every owner of real estate within 500 feet of the proposed tower, every owner of real estate within 200 feet of the access road including intersection with the public street system and all abutting property owners (according to the records maintained by the County Property Valuation Administrator). Attached as Exhibit K is the Notification List with screen shots of the PVA records verified and updated using the Breckinridge County PVA on May 2, 2024. 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.
20. Co-Applicants have sent certified notices to 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 May 3, 2024, is attached as Exhibit L. Seven (7) notices were sent to surrounding property owners; to date three (3) notice green cards have been returned. USPS tracking indicates that four (4) notices are deemed "Unclaimed" and are being returned to sender. Exhibit $\mathbf{L}$ includes the notice, returned green cards and USPS tracking information. This application will be updated as information is received.
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 returned green card 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 $\mathbf{N}$.
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 Graves County, Kentucky. The site is located on the east side of HWY 2779, south of KY 144, Stephensport, KY 40170. The proposed site is an open area within a heavily treed site. The area is largely wooded with agricultural uses and scattered single family homes. The terrain is hilly. There is no zoning or Plan Commission in this area of Breckinridge County. The proposed facility is removed a significant distance from any residential structures. The nearest residential structure is 285 feet from the proposed tower site.
25. It should be noted that this tower will replace the existing temporary tower located on the north side of River View Drive, west of HWY 2779. Please see the Location Map of the proposed permanent site and the existing temporary tower, attached as Exhibit P. Once the permanent tower is constructed and operating, the temporary tower will be decommissioned and removed.
26. 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. Co-

Applicant'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 Q.
27. 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 R and Exhibit S, respectively. The proposed tower will expand and improve voice and data service for Verizon Wireless customers.
28. Attached hereto as Exhibit $\mathbf{U}$ please find an Affidavit of Certification for all information contained in this application.
29. All Exhibits to this Application are hereby incorporated by reference as if fully set out as part of the Application.
30. 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.


## LIST OF EXHIBITS

A Applicant Entities
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 List and Map
F FAA Application and Determination of No Hazard
G KAZC Application Documentation
H Geotechnical Report
I Directions to WCF Site
J Real Estate Agreement
K Notification Listing with PVA Verification
L Property Owner Notification
M County Judge/Executive notice
N Posted Notices
O Newspaper Legal Notice Advertisement
P Location Map of Proposed Permanent and Existing Temporary Tower
Q Radio Frequency Design Search Area
R RF Design Engineer Statement of Need
S Propagation Maps
T List of Qualified Professionals
U 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

## CERTIFICATE OF ASSUMED NAME

This certifies that the assumed name of


The cerlificate of assumed narma ls exacuted 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, $7^{\text {th }}$ Floor Walnut Creek, CA 94597 |
| SV PartaerCo, 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<br>Secretary of State<br>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

Approved by OMD - 3060-0139
See instructions for public burden estimate

## Application for Antenna Structure Registration

## Purpose of Filing

1) Enter the application purpose: ( NE )

AM - Amendment of a Pending Application
AU - Administrative Update
CA - Cancellation of an Antenna Structure Registration
DI - Notification of an Antenna Structure Dismantlement
MD - Modification of a Antenna Structure Registration

NE - Registration of a New Antenna Structure
NT - Required Construction/Alteration Notification
OC - Ownership Change
RE - Registration of a Replacement Antenna Structure
WD - Withdrawal of a Pending Application

| 2a) If the answer to 1 is AU, CA, DI, MD, NT, OC or RE, provide the FCC Antenna Structure <br> Registration (ASR) Number. | FCC ASR Number: |
| :--- | :--- |
| 2b) If the answer to 1 is AM or WD, provide the File Number of the pending application on file. | File Number: |
| 2c) If the answer to 1 is MD or NT, provide the date the Antenna Structure was constructed or the date it <br> was last altered (mm/dd/yyyy). | Date: |
| 2d) If the answer to 1 is DI, provide the date the Antenna Structure was dismantled (mm/dd/yyyy). | Date: |

## Antenna Structure Ownership Information



Contact Representative Information

| 17) First Name (if individual): | MI: | Last Name: | Suffix: |
| :---: | :---: | :---: | :---: |
| 18) Business Name: TowerCo V Holdings LLC |  |  |  |
| 19) Attention To: Henry Byrne | 20) P.O. Box |  | And/Or |
| 21a) Street Address 1: 5000 Valleystone Dr |  | 21b) Street Address 2: Suite 200 |  |
| $\begin{aligned} & \text { 22) City: } \\ & \text { Cary } \end{aligned}$ | 23) State: NC | $\begin{aligned} & \text { 24) Zip Code: } \\ & 27519 \end{aligned}$ |  |
| 25) Telephone Number ( $x x x-x x x-x x x x$ ): (919) 653-5700 |  | 26) Fax Number: (xxx-xxx-xxxx): |  |
| 27) E-mail Address: hbyrne@towerco.com |  |  |  |

Antenna Structure Information


## Proposed Marking and/or Lighting

42) Enter the proposed marking and/or lighting: ( 1 )

See Form 854 Item 42 Instructions for detailed tier and lighting information.

1) None
2) FAA Style B
3) FAA Style E
4) FAA Style D
5) FAA Style F
6) FAA Style C
7) FAA Style $A$
8) FAA Style G

## FAA Notification

| 43) FAA Study Number: | 44) Date Issued: |
| :--- | :--- |
| 2023-ASO-28445-OE | $\mathbf{1 1 / 2 1 / 2 0 2 3}$ |

## Environmental Compliance

| 45) Does the applicant request a waiver of the Commission's rules for environmental notice prior to construction due to an emergency situation? | (No ) Yes or No |
| :---: | :---: |
| 46a) If the answer to 45 is No, is another federal agency taking responsibility for environmental review of the Antenna Structure? | ( No ) Yes or No |
| 46b) If the answer to 46a is Yes, indicate why: <br> 1) The Antenna Structure is on Federal Land and the landholding agency is taking responsibility for the environmental review of the Antenna Structure. <br> 2) Another federal agency has agreed with the FCC in writing to take responsibility for the environmental review of the Antenna Structure. | ( ) 1 or 2 |
| 46c) If the answer to 46a is Yes, provide the name of the federal agency taking responsibility for the environmental review of the Antenna Structure. | Name: |
| 47) If the answers to 45 and 46a are No, provide the National Notice Date for the application to be posted on the FCC's website (mm/dd/yyyy). | $\begin{aligned} & \text { Date: } \\ & 01 / 29 / 2024 \end{aligned}$ |
| 48) Is the applicant submitting an environmental assessment? | ( No ) Yes or No |
| 49) Does the applicant certify that grant of Authorizations at this location would not have a significant environmental effect pursuant to Section 1.1307 of the FCC's rules? | ( ) Yes or No |
| 50) If the answer to 49 is Yes, select the basis for this certification. <br> 1) The construction is exempt from environmental notification (other than due to another agency's review) and it does not fall within one of the categories in Section 1.1307(a) or (b) of the FCC's rules? <br> 2) The construction is exempt from environmental notification due to another agency's review, and the other agency has issued a Finding of No Significant Impact. <br> 3) The environmental notification has been completed, and the FCC has notified the applicant that an Environmental Assessment is not required under Section 1.1307(c) or (d) of the FCC's rules, and the Construction does not fall within one of the categories in Section 1.1307(a) or (b) of the FCC's rules. <br> 4) The FCC has issued a Finding of No Significant Impact. | ( ) 1, 2, 3, 4 |
| 51) If the answer to 50 is 3 or 4 , enter the date that Local Notice was provided (mm/dd/yyyy). | Date: |

## Certification Statements

1) The applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.
2) The applicant certifies that neither the applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862, because of a conviction for possession or distribution of a controlled substance. See Section $1.2002(\mathrm{~b})$ of the rules, 47 CFR $\S 1.2002(\mathrm{~b})$, for the definition of "party to the application" as used in this certification.

Signature (Typed or Printed Name of Party Authorized to Sign) (For OC Applications, to be completed by Assignee)

| 52) | First Name: Henry |  | MI: | Last Name: <br> Byrne |  | Suffix: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 53) | Title: FCC Contact |  |  |  |  |  |
| 54) | Signature: Henry | Byrne |  |  |  | $2023$ |

Signature (Typed or Printed Name of Party Authorized to Sign) (For OC Applications, to be completed by Assignor)

| 56) First Name: | MI: | Sast Name: | Suffix: |
| :--- | :--- | :--- | :--- | :--- |
| 57) Title: |  | 59) Date: |  |
| 58) Signature: |  |  |  |

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

ATTN: LICENSING MANAGER
KENTUCKY RSA NO. 1 PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

| Call Sign <br> KNKQ306 | File Number <br> 0009611390 |
| :---: | :---: |
| Radio Service <br> CL - Cellular |  |
| Market Numer <br> CMA443 | Channel Block <br> B |
| Sub-Market Designator |  |
| 0 |  |

FCC Registration Number (FRN): 0001836709

## Market Name

Kentucky 1 - Fulton

| Grant Date <br> $08-31-2021$ | Effective Date <br> $08-31-2021$ | Expiration Date <br> $10-01-2031$ | Five Yr Build-Out Date | Print Date <br> $08-31-2021$ |
| :---: | :---: | :---: | :---: | :---: |

## Site Information:

| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 1 | $36-20-59.2 \mathrm{~N}$ | $089-22-12.3 \mathrm{~W}$ | 98.0 |  |

Address: 0.68 MILE SOUTH OF LASSITER CORNER \& REEL FOOT LAKE
City: LASSITER CORNER County: LAKE State: TN Construction Deadline:

## Antenna: 1

| Maximum Transmitting ERP in Watts: 135.800 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 148.000 | 117.000 | 107.000 | 117.000 | 121.000 | 147.000 | 149.000 | 146.000 |
| Transmitting ERP (watts) | 133.300 | 103.500 | 36.500 | 4.500 | 1.500 | 3.900 | 38.800 | 109.600 |

## 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.
Print Date: 08-31-2021

| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 2 | $36-45-58.0 \mathrm{~N}$ | $088-38-50.0 \mathrm{~W}$ | 143.0 | 147.8 |

Address: 416 Jimtown Road
City: MAYFIELD County: GRAVES State: KY Construction Deadline:

| Antenna: $\mathbf{2}$ |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Maximum Transmitting ERP in Watts: | 140.820 |  |  |  |  |  |  |  |
| 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) | 124.300 | 120.000 | 100.800 | 92.100 | 88.300 | 103.100 | 108.600 | 100.800 |
| Transmitting ERP (watts) | 91.200 | 87.100 | 85.110 | 85.110 | 89.130 | 87.100 | 89.130 | 89.130 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 4 | $36-54-35.5 \mathrm{~N}$ | $089-04-01.6 \mathrm{~W}$ | 110.3 | 121.0 |

Address: (Wickliffe) 353 CR 1307
City: Bardwell County: CARLISLE State: KY Construction Deadline:

| Antenna: 4 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 107.500 | 98.100 | 119.800 | 96.700 | 86.900 | 133.300 | 130.900 | 130.400 |
| Transmitting ERP (watts) | 189.230 | 48.640 | 1.690 | 0.930 | 0.930 | 0.930 | 1.810 | 52.120 |
| Antenna: 5 |  | 8.640 |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 107.500 | 98.100 | 119.800 | 96.700 | 86.900 | 133.300 | 130.900 | 130.400 |
| Transmitting ERP (watts) | 1.710 | 64.860 | 368.980 | 174.580 | 8.750 | 0.930 | 0.930 | 0.930 |
| Antenna: 6 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 107.800 | 98.100 | 119.800 | 96.700 | 86.900 | 133.300 | 130.900 | 130.400 |
| Transmitting ERP (watts) | 0.350 | 0.350 | 1.230 | 35.330 | 112.440 | 35.270 | 1.000 | 0.350 |
| Location Latitude Longitude |  | Ground Elevation (meters) |  |  | Structure Hgt to Tip (meters) |  | Antenna Structure Registration No. |  |
| 6 36-31-12.4 N 088-50 | 0-41.5 W |  | 4.2 |  |  |  | 1030665 |  |
| Address: (Fulton) 550 Powell Road |  |  |  |  |  |  |  |  |
| City: Fulton County: HICKMAN | State: KY | Cons | ruction D | adline: |  |  |  |  |
| Antenna: 4 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 |  | 270 | 315 |
| Antenna Height AAT (meters) | 128.200 | 122.800 | 123.200 | 135.200 | 147.500 | 157.200 | 143.900 | 141.700 |
| Transmitting ERP (watts) Antenna: 5 | 110.570 | 412.100 | 98.560 | 4.220 | 1.510 | 0.920 | 0.920 | 6.530 |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 128.200 | 122.800 | 123.200 | 135.200 | 147.500 | 157.200 | 143.900 | 141.700 |
| Transmitting ERP (watts) | 0.550 | 0.550 | 0.550 | 0.550 | 1.480 | 16.430 | 11.480 | 0.700 |



| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 8 | $37-03-51.4 \mathrm{~N}$ | $088-57-23.6 \mathrm{~W}$ | 116.4 | 92.4 |

Address: (La Center) 220 RICHARDSON LN
City: LA CENTER County: BALLARD State: KY Construction Deadline:


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 11 | $37-02-00.0 \mathrm{~N}$ | $088-22-10.0 \mathrm{~W}$ | 105.5 | 106.7 | 1040303 |

Address: (Calvert City) 641 Jary Johnson Rd.
City: Calvert City County: MARSHALL State: KY Construction Deadline:

| Antenna: 2 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 78.900 | 77.600 | 88.100 | 83.000 | 68.600 | 85.300 | 97.900 | 93.100 |
| Transmitting ERP (watts) | 23.380 | 330.300 | 378.360 | 36.130 | 0.970 | 0.970 | 0.970 | 0.970 |
| 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) | 78.900 | 77.600 | 88.100 | 83.000 | 68.600 | 85.300 | 97.900 | 93.100 |
| Transmitting ERP (watts) | 0.970 | 0.970 | 0.970 | 14.730 | 240.930 | 357.480 | 49.940 | 1.230 |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 78.900 | 77.600 | 88.100 | 83.000 | 68.600 | 85.300 | 97.900 | 93.100 |
| Transmitting ERP (watts) | 63.740 | 2.060 | 0.660 | 0.660 | 0.660 | 4.020 | 107.530 | 274.970 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 12 | $36-34-49.2 \mathrm{~N}$ | $088-31-45.2 \mathrm{~W}$ | 155.5 | 91.4 | 1202399 |

Address: 12201 SR 97
City: TriCity County: GRAVES State: KY Construction Deadline:

| Antenna: 2 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 75.100 | 73.400 | 74.100 | 70.100 | 102.600 | 100.900 | 74.700 | 81.300 |
| Transmitting ERP (watts) | 0.280 | 4.680 | 67.610 | 91.200 | 13.180 | 0.450 | 0.250 | 0.200 |
| Antenna: 3 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) |  | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 75.100 | 73.400 | 74.100 | 70.100 | 102.600 | 100.900 | 74.700 | 81.300 |
| Transmitting ERP (watts) | 0.360 | 0.200 | 0.200 | 0.350 | 18.200 | 89.130 | 66.070 | 2.630 |
| Antenna: 4 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) |  |  | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 75.100 | 73.400 | 74.100 | 70.100 | 102.600 | 100.900 | 74.700 | 81.300 |
| Transmitting ERP (watts) | 100.000 | 38.020 | 0.200 | 0.380 | 0.200 | 0.200 | 1.260 | 42.660 |


| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 14 |  |  |  | $67-05-47.2 \mathrm{~N}$ | $088-42-35.2 \mathrm{~W}$ |

Address: (Paducah West) 4415 Merredith Rd.
City: Paducah County: MCCRACKEN State: KY Construction Deadline: 07-08-2014

| Antenna: 4 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 59.900 | 55.900 | 65.200 | 50.700 | 38.200 | 34.700 | 42.800 | 64.600 |
| Transmitting ERP (watts) | 24.580 | 50.820 | 50.310 | 19.100 | 0.840 | 0.330 | 0.330 | 1.370 |
| Antenna: 5 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 59.900 | 55.900 | 65.200 | 50.700 | 38.200 | 34.700 | 42.800 | 64.600 |
| Transmitting ERP (watts) | 0.440 | 0.440 | 12.210 | 76.570 | 112.800 | 57.980 | 5.460 | 0.440 |
| Antenna: 6 |  |  |  |  |  |  |  |  |
| Maximum Transmitting ERP in Watts: 140.820 |  |  |  |  |  |  |  |  |
| Azimuth(from true north) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
| Antenna Height AAT (meters) | 59.900 | 55.900 | 65.200 | 50.700 | 38.200 | 34.700 | 42.800 | 64.600 |
| Transmitting ERP (watts) | 20.830 | 0.780 | 0.440 | 0.440 | 2.790 | 42.940 | 108.040 | 89.900 |



| Location Latitude | Longitude | Ground Elevation <br> (meters) | Structure Hgt to Tip <br> (meters) | Antenna Structure <br> Registration No. |
| :--- | :--- | :--- | :--- | :--- |
| 16 | $36-34-03.0 \mathrm{~N}$ | $089-10-30.9 \mathrm{~W}$ | 109.4 | 91.4 |

Address: (Hickman site) Holley Street
City: Hickman County: FULTON State: KY Construction Deadline: 05-28-2014


Address: (Monkey's Eyebrow) 4625 Odgen Colvin Circle City: Kevil County: BALLARD State: KY Construction Deadline: 10-24-2014



## Control Points:

Control Pt. No. 3
Address: 500 W. Dove Rd.
City: Southlake County: TARRANT State: TX Telephone Number: (800)264-6620

## Waivers/Conditions:

NONE

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LICENSEE: CELLCO PARTNERSHIP

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

| Call Sign <br> KNLH404 | File Number |
| :---: | :---: |
| Radio Service |  |
| CW - PCS Broadband |  |

FCC Registration Number (FRN): 0003290673


| 1st Build-out Date <br> $04-28-2002$ | 2nd Build-out Date | 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.

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


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FCC Registration Number (FRN): 0002942159

| Grant Date $06-05-2015$ | Effective Date $05-07-2020$ | Expiration Date $06-23-2025$ | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number MTA026 | Cha |  | Sub-Market Designator 18 |
| Market Name <br> Louisville-Lexington-Evansvill |  |  |  |


| 1st Build-out Date <br> $10-23-2000$ | 2nd Build-out Date | 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.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

## 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.

This license is conditioned upon compliance with the provisions of Applications of AT\&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).


Call Sign: WQBT313


700 MHz Relicensed Area Information:

## Market

File Number:
Print Date:


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FCC Registration Number (FRN): 0002942159

| Grant Date $06-05-2015$ | Effective Date $05-07-2020$ | Expiration Date 06-23-2025 | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number MTA026 | Cha |  | Sub-Market Designator 16 |
| Market Name <br> Louisville-Lexington-Evansvill |  |  |  |


| 1st Build-out Date <br> $06-23-2000$ | 2nd Build-out Date | 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.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

## 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.

This license is conditioned upon compliance with the provisions of Applications of AT\&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).


Call Sign: WQBT318


700 MHz Relicensed Area Information:

## Market

File Number:
Print Date:


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FCC Registration Number (FRN): 0003290673

| Grant Date $02-22-2022$ | Effective Date $02-22-2022$ | Expiration Date 11-29-2036 | $\begin{aligned} & \text { Print Date } \\ & 02-23-2022 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Market Number REA004 | $\mathrm{Cl}$ |  | Sub-Market Designator 15 |
| 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.

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.


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| Call Sign <br> WQGA960 | File Number <br> 0009775572 |
| :---: | :---: |
| Radio Service |  |
| AW - AWS (1710-1755 MHz and |  |
| $2110-2155 \mathrm{MHz})$ |  |

FCC Registration Number (FRN): 0003290673

| $\begin{aligned} & \text { Grant Date } \\ & 01-03-2022 \end{aligned}$ | Effective Date 01-03-2022 | Expiration Date 11-29-2036 | Print Date 01-05-2022 |
| :---: | :---: | :---: | :---: |
| Market Number BEA072 | $\mathbf{C}$ |  | Sub-Market Designator 0 |
| Market Name Paducah, KY-IL |  |  |  |
| 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.

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.


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| Call Sign <br> WQGD606 | File Number <br> 0009565676 |
| :---: | :---: |
| Radio Service |  |
| AW - AWS (1710-1755 MHz and |  |
| $2110-2155 \mathrm{MHz})$ |  |

FCC Registration Number (FRN): 0003290673

| $\begin{gathered} \text { Grant Date } \\ 12-16-2021 \end{gathered}$ | Effective Date $12-16-2021$ | Expiration Date 12-18-2036 | Print Date 07-09-2022 |
| :---: | :---: | :---: | :---: |
| Market Number BEA072 |  |  | Sub-Market Designator 0 |
| Market Name Paducah, KY-IL |  |  |  |
| 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.


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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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FCC Registration Number (FRN): 0003290673

| Grant Date 10-02-2019 | Effective Date 10-02-2019 | Expiration Date 10-02-2029 | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number C21083 |  |  | Sub-Market Designator 0 |
| Market Name GRAVES, 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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Call Sign: WREF214


700 MHz Relicensed Area Information:

## Market

Print Date:

Buildout Notification
Status


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FCC Registration Number (FRN): 0012576435

| Grant Date <br> $06-04-2020$ | Effective Date <br> $06-04-2020$ | Expiration Date <br> $06-04-2030$ | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number <br> PEA243 | Channel Block <br> M1 | Sub-Market Designator <br> 0 |  |
| \begin{tabular}{\|c|c|c|}
\hline
\end{tabular} |  |  |  |
| Market Name <br> Paducah, KY |  |  |  |


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

## Waivers/Conditions:

## NONE



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.


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FCC Registration Number (FRN): 0012576435

| Grant Date $06-04-2020$ | Effective Date 06-04-2020 | Expiration Date 06-04-2030 | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number PEA243 | Ch |  | Sub-Market Designator 0 |
| Market Name Paducah, 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> WRNG985 | File Number |
| :---: | :---: |
| Radio Service |  |
| PM - 3.7 GHz Service |  |

FCC Registration Number (FRN): 0003290673

| Grant Date <br> $07-23-2021$ | Effective Date <br> $07-23-2021$ | Expiration Date <br> $07-23-2036$ | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number <br> PEA243 | Channel Block <br> A1 | Sub-Market Designator <br> 0 |  |
| Market Name <br> Paducah, 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. $\S 309(\mathrm{~h})$, 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: CELLCO PARTNERSHIP

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

| Call Sign <br> WRNG990 | File Number |
| :---: | :---: |
| Radio Service |  |
| PM - 3.7 GHz Service |  |

FCC Registration Number (FRN): 0003290673

| Grant Date <br> $07-23-2021$ | Effective Date <br> $07-23-2021$ | Expiration Date <br> $07-23-2036$ | Print Date |
| :---: | :---: | :---: | :---: |
| Market Number <br> PEA243 | Channel Block <br> B1 | Sub-Market Designator <br> 0 |  |
| \begin{tabular}{\|c|c|c|}
\hline
\end{tabular} |  |  |  |
| Market Name <br> Paducah, 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.

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|  |  |  |
| :---: | :---: | :---: |


PROJECT SUMMARY
菏 宸

SITE NAME:CK STEPHENSPORT COW RELO BD KENTUCKY STATE HWY 2779
STEPHENSPORT, KY 40170




## 

> Being a portion of the property conveyed to Corey M. Biddle and wife, Lisa Biddle, of record in Deed Book 380, Page 733, Being a portion of the property conveyed to Corey M. Buda
of the Court Clerk's Office of Breckinridge County, Kentucky.

Being a variable width joint access utility easement extending from the east margin of Kentucky State Highway 2279 to the
west margin of TowerCo N Holdings LLC's tower lease area, being more particularly described as follows:
 Thence, with the east margin of Kentucky State Highway 2279, North 16 degrees 20 minutes 38 seconds East, 21.36 feet to a
capped "Sharondale Nashville" iron pin set; Thence, leaving the east margin of Kentucky State Highway 2279, North 85 degrees 48 minutes 17 seconds East, 37.21 feet
to a point; Thence, North 79 degrees 19 minutes 50 seconds East, 94.85 feet to a point; Thence, North 11 degrees 46 minutes 31 seconds East, 79.68 feet to a point; Thence, South 78 degrees 13 minutes 29 seconds East, 20.00 feet to a capped capped "Sharondale Nashville" iron pin set at
the northwest corner of TowerCo N Holdings LLC's tower lease area; Thence, with the west margin of TowerCo N Holdings LLC's tower lease area, South 11 degrees 46 minutes 31 seconds West,
100.00 feet to capped "Sharondale Nashville" iron pin set at the southwest corner of TowerCo N Holdings LLC's tower lease Thence, leaving the west margin of TowerCo IV Holdings LLC's tower lease area, North 84 degrees 27 minutes 25 seconds
West, 22.98 feet to a point; Thence, South 79 degrees 19 minutes 50 seconds West, 84.64 feet to a point; Thence, South 85 degrees 48 minutes 17 seconds West, 45.83 feet to the point of beginning, containing 4,679 square feet, Being a portion of the property conveyed to Corey M. Biddle and wife, Lisa Biddle, of record in Deed Book 380, Page 733,
of the Court Clerk's Office of Breckinridge County, Kentucky. UNDERLYING LANDOWNER'S PROPERTY AREA DESCRIPTION

Being Parrel \#20 (6.730 acres), as shown on plat of Stanley Williams Farm Division, Section 1, recorded in Plat Cabinet B,
Slide 87, in Breckinidge County Clerk's Office.


| FCC REGISTERED SITES (LAUREL COUNTY) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| TOWER | ASR | LATITUDE | LONGITUDE | TOWER OWNER |
| 1 | 1305108 | $38^{\circ} 1$ '12.90"N | 86²9'39.90"W | VERIZON WIRELESS |
| 2 | 1043429 | $37^{\circ} 57^{\prime} 6.10^{\prime \prime N}$ | $86^{\circ} 24^{\prime} 38.30^{\prime \prime W}$ | CROWN CASTLE |
| 3 | 1291561 | $37^{\circ} 55^{\prime} 53.10^{\prime \prime} \mathrm{N}$ | $86^{\circ} 28^{\prime} 37.70^{\prime \prime} \mathrm{W}$ | AMERICAN TOWER |
| 4 | 1200734 | $37^{\circ} 54^{\prime} 35.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 20^{\prime} 47.00^{\prime \prime} \mathrm{W}$ | BIG RIVERS ELECTRIC CORPERATION |
| 5 | 1304239 | $37^{\circ} 54^{\prime} 7.50^{\prime N}$ | $86^{\circ} 31^{\prime} 56.20^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 6 | 1043896 | $37^{\circ} 52^{\prime} 17.80{ }^{\prime \prime} \mathrm{N}$ | 86¹6'3.50"W | SKYWAY TOWERS |
| 7 | TOWER | $37^{\circ} 51^{\prime} 29.00{ }^{\prime \prime} \mathrm{N}$ | $86^{\circ} 34^{\prime 21.00 ' W ~}$ | KENTUCKY EMERGENCY WARNING SYSTEM |
| 8 | 1050176 | $37^{\circ} 48^{\prime} 32.00$ "N | 86¹4'25.00"W | TELAVA WIRELESS, INC |
| 9 | 1215268 | $37^{\circ} 48^{\prime 2} 2.20^{\prime \prime N}$ | $86^{\circ} 28^{\prime 2} 22.40^{\prime \prime} \mathrm{W}$ | CROWN CASTLE SOUTH LLC |
| 10 | 1270783 | $37^{\circ} 48^{\prime} 8.30{ }^{\prime \prime N}$ | 86²0'0.20"W | SBA MONARCH TOWER III, LLC |
| 11 | 1043043 | $37^{\circ} 47^{\prime} 53.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 19^{\prime} 51.00^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 12 | 1225776 | $37^{\circ} 9^{\prime} 20.77{ }^{\prime \prime} \mathrm{N}$ | $84^{\circ} 6^{\prime} 22.9{ }^{\prime \prime} \mathrm{W}$ | TEXAS GAS TRANSMISSION, LLC |
| 13 | 1200816 | $37^{\circ} 46^{\prime} 57.80$ N | $86^{\circ} 36^{\prime 2} 26.30^{\prime \prime} \mathrm{W}$ | THE CROMWELL GROUP, INC |
| 14 | 1061965 | $37^{\circ} 46^{\prime} 51.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 27^{\prime} 42.00^{\prime \prime} \mathrm{W}$ | COUNTY OF BRECKENRIDGE |
| 15 | 1261014 | $37^{\circ} 46^{\prime} 45.50{ }^{\text {N }}$ | $86^{\circ} 26^{\prime} 56.50 \mathrm{lW}$ | BIG RIVERS ELECTRIC CORPERATION |
| 16 | 1200744 | $37^{\circ} 46^{\prime} 34.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 28^{\prime} 60.00^{\prime \prime} \mathrm{W}$ | BIG RIVERS ELECTRIC CORPERATION |
| 17 | 1042282 | $37^{\circ} 46^{\prime} 14.20^{\prime \prime} \mathrm{N}$ | 86²26'6.90"W | BRECKENRIDGE BROADCASTING CO INC |
| 18 | 1305582 | $37^{\circ} 45^{\prime} 52.70^{\prime \prime} \mathrm{N}$ | 86º²'17.90"W | TILLMAN INFRASTRUCTURE, LLC |
| 19 | 1315005 | $37^{\circ} 42^{\prime} 44.40$ " | 86³1'34.60"W | TVT I, LLC |
| 20 | 1050174 | $37^{\circ} 42^{\prime} 44.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 38^{\prime} 42.00^{\prime \prime} \mathrm{W}$ | TELAVA WIRELESS, INC |
| 21 | 1272916 | $37^{\circ} 42^{\prime} 39.30^{\prime \prime} \mathrm{N}$ | $86^{\circ} 31^{\prime} 34.60^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 22 | 1262107 | $37^{\circ} 41^{\prime} 44.80{ }^{\prime \prime} \mathrm{N}$ | $86^{\circ} 25^{\prime} 6.20^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 23 | 1025097 | $37^{\circ} 40^{\prime} 25.20^{\prime \prime} \mathrm{N}$ | 86²2'31.70"W | CROWN CASTLE SOUTH LLC |
| 24 | 1044834 | $37^{\circ} 39^{\prime 2} 21.00$ "N | $86^{\circ} 16^{\prime} 11.00^{\prime \prime} \mathrm{W}$ | KENTUCKY EMERGENCY WARNING SYSTEM |
| 25 | 1274759 | $37^{\circ} 38^{\prime} 36.30^{\prime \prime N}$ | 86²7'59.90"W | SBA TOWERS VI, LLC |
| 26 | 1043452 | $37^{\circ} 37^{\prime} 37.80{ }^{\prime \prime N}$ | 86¹9'2.00"W | TOWER ASSETS NEWCO IX, LLC |
| 27 | 1214128 | $37^{\circ} 36^{\prime} 6.20{ }^{\prime \prime} \mathrm{N}$ | $86^{\circ} 22^{\prime} 12.90^{\prime \prime} \mathrm{W}$ | BETHEL FELLOWSHIP, INC |
| 28 | 1268315 | $37^{\circ} 35^{\prime} 8.10^{\prime \prime} \mathrm{N}$ | 86²3'28.80"W | SBA MONARCH TOWERS III, LLC |
| NEW | TBD | $37^{\circ} 54^{\prime} 13.31^{\prime \prime} \mathrm{N}$ | $86^{\circ} 31^{\prime} 40.29^{\prime \prime} \mathrm{W}$ | TOWERCO |



COUNTY TOWER MAP












April 25, 2024


## Stephen Rambeau

Vice President of Engineering
TowerCo
5000 Valleystone Drive
Cary, NC 27519

Subject
TowerCo Designation

## Engineering Firm Designation

Site Data

## Foundation Design Calculations

Site Number: KY0110
Site Name: CK Stephensport COW RELO
JIRA Ticket: ENG-38860

Delta Oaks Group Project: STR24-20662-08
Delta Oaks Group Site Number: 17-00289
Hwy 2779, Hardinsburg, Breckinridge County, KY 40143
Latitude $37.9037^{\circ} \pm$; Longitude: -86.5279 ${ }^{\circ} \pm$ Elevation: $579 \mathrm{ft} \pm$, Topography Category 1;
Exposure Category "C"; Structure Class/Risk Category II;
195-ft Self-Supporting Pole Structure (Monopole)

Dear Stephen Rambeau,
To your request, we present our foundation design calculations. Our work is in conformance ANSI/TIA-222-G and 2018 Kentucky Building Code (2015 IBC) / ASCE 7-10 for:

- $\quad V_{\text {ult }}=115-\mathrm{mph} / \mathrm{V}_{\text {asd }}=89-\mathrm{mph}$ three-second gust basic wind speed [per Eqn. 16-33 of the 2015 IBC]
- 30-mph three-second gust basic wind speed with 3/4-in radial ice
- Earthquake design parameters and loading including:

$$
\circ \quad S_{s}=0.304 \mathrm{~g}, \mathrm{~S}_{1}=0.136 \mathrm{~g}
$$

- Seismic Design Category D

Delta Oaks Group appreciates the opportunity to be of service to TowerCo. Please do not hesitate to contact us if you have any questions or require any additional information.

Sincerely,


Michael L. Lassiter, SE, PE
VP | Chief Structural Engineer
KY PE License 24895

Attachments:
Foundation design calculations



Results Summary

- Soil:
- Soil: $\quad\left(\mathrm{r}_{\mathrm{q}^{\prime}}\right)$
result $_{\text {Soil }}:=\left(\begin{array}{c}\mathrm{r}^{\prime} \\ \mathrm{r}^{\prime} \\ \mathrm{r}^{\prime} \mathrm{TM}\end{array}\right)$


Structure - Pad.
result $_{\text {Pad_Top_Str }}:=\binom{r_{f_{-}}$top }{$r_{v_{-}}$top } result $_{\text {As_Max_Top }}:=$ Check $_{\text {As_max_top }}$ $\mathrm{r}_{\mathrm{f}}$ bot $\mathrm{r}_{\mathrm{v}}$ bot_br
$\mathrm{r}_{\mathrm{v}}$ bot_lway result As_Max_Bot $:=$ Check $_{\text {As_max_bot }}$ result_As_min_pad $:=$ Check $_{\text {As_min_pad }}$ -Structure - Pier. $\quad$ result ${ }_{\text {Pier }}$ Str_ Strength : $=\binom{{ }_{\mathrm{f}} \_$pier }{$\mathrm{r}_{\mathrm{v}}}$ result $_{\text {As_Min_Pier }}:=r_{\text {As_pier }}$
- Detailing - Pad \& Pier:
result Size $:=$ result
z. pad
result Size := result z.pad_MIN

$$
\text { result }_{\text {Flowable_Concrete }}:=r_{\text {conc_pier }}
$$

$$
\text { result }_{\text {As_TS_spacing }}:=\binom{\text { Check }_{\text {As_TS_spacing_top }}}{\text { Check }_{\text {As_TS_spacing_bot }}}
$$

KY0110_Pad \& Pier_SSPS_TIA-222-G-C-2009 - v20210330.xmcd
result Horiz_ld $:=\left(\begin{array}{l}\text { result } \\ \text { ld_horiz_top } \\ \text { result_ } \\ \text { ld_horiz_bot }\end{array}\right)$
result Vert $:=\left(\begin{array}{c}\text { result }_{\text {Lvert_ext }} \\ \text { result } \\ \text { lh }\end{array}\right)$

LPile for Windows(Beta), Version 2018-10.009
Analysis of Individual Piles and Drilled Shafts Subjected to Lateral Loading Using the p-y Method © 1985-2018 by Ensoft, Inc All Rights Reserved

This copy of LPile is being used by:
Delta Oaks Group
Raleigh, NC
Serial Number of Security Device: 563874136
This copy of LPile is licensed for exclusive use by:
Delta Oaks Group, Raleigh, NC
Use of this program by any entity other than Delta Oaks Group, Raleigh, NC is a violation of the software license agreement.

## Files Used for Analysis

Path to file locations:
$\backslash 2024$ Projects $\backslash 24-20662$ CK Stephensport COW RELO KY0110\STR\Additional Calculations\SSPS Pad and Pier Foundation\L-Pile\}
Name of input data file:
KY0110_Pier.lp10
Name of output report file:
KY0110_Pier.lp10
Name of plot output file:
KY0110_Pier.lp10
Name of runtime message file:
KY0110_Pier. $1 p 10$
$\qquad$

Date and Time of Analysis

Date: April 25, 2024 Time: 12:09:56
$\qquad$

## Problem Title

24-20662 CK Stephensport COW RELO KY0110
M Lassiter

Pier Flexure Capacity

Program Options and Settings

Computational Options:
Compute nonlinear bending properties of pile only
Engineering Units Used for Data Input and Computations:

- US Customary System Units (pounds, feet, inches)

Output Options:

- Output files use decimal points to denote decimal symbols.
- Print using wide report formats


## Pile Structural Properties and Geometry

| Number of pile sections defined | $=$ | 1 f |
| :--- | :--- | ---: |
| Total length of pile | $=$ | 4.250 ft |
| Depth of ground surface below top of pile | $=$ | 0.0000 ft |

Pile diameters used for $p-y$ curve computations are defined using 2 points.
p-y curves are computed using pile diameter values interpolated with depth over the length of the pile. A summary of values of pile diameter vs. depth follows.


Input Structural Properties for Pile Sections:

Pile Section No. 1:

```
Section 1 is a round drilled shaft, bored pile, or CIDH pile
\begin{tabular}{lll} 
Length of section & \(=\) & 4.250000 ft \\
Shaft Diameter & \(=\) & 102.000000 in \\
Shear capacity of section & \(=\) & 0.0000 lbs
\end{tabular}
```


## Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from input values
Number of Pile Sections Analyzed $=1$
Pile Section No. 1 :

Dimensions and Properties of Drilled Shaft (Bored Pile):

| Length of Section | $=$ | 4.250000 ft |
| :--- | :--- | ---: |
| Shaft Diameter | $=$ | 102.000000 in |
| Concrete Cover Thickness (to edge of long. rebar) | $=$ | 3.625000 in |
| Number of Reinforcing Bars | $=$ | 58 bars |
| Yield Stress of Reinforcing Bars | $=$ | $60000 . \mathrm{psi}$ |
| Modulus of Elasticity of Reinforcing Bars | $=$ | $29000000 . \mathrm{psi}$ |


| Gross Area of Shaft | $=$ | 8171. sq. in. |
| :---: | :---: | :---: |
| Total Area of Reinforcing Steel | - | $58.000000 \mathrm{sq}$. in. |
| Area Ratio of Steel Reinforcement |  | 0.71 percent |
| Edge-to-Edge Bar Spacing |  | 3.940593 in |
| Maximum Concrete Aggregate Size | $=$ | 0.750000 in |
| Ratio of Bar Spacing to Aggregate Size | $=$ | 5.25 |
| Offset of Center of Rebar Cage from Center of Pile | - | 0.0000 in |
| Axial Structural Capacities: |  |  |
| Nom. Axial Structural Capacity $=0.85 \mathrm{Fc}$ Ac + Fy As | = | 31065.160 kips |
| Tensile Load for Cracking of Concrete |  | -3568.445 kips |
| Nominal Axial Tensile Capacity | $=$ | -3480.000 kips |


| Bar Number | Bar Diam. inches | Bar Area sq. in. | $\begin{gathered} \mathrm{X} \\ \text { inches } \end{gathered}$ | $\begin{gathered} Y \\ \text { inches } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 1.128000 | 1.000000 | 46.811000 | 0.00000 |
| 2 | 1.128000 | 1.000000 | 46.536592 | 5.061159 |
| 3 | 1.128000 | 1.000000 | 45.716585 | 10.062981 |
| 4 | 1.128000 | 1.000000 | 44.360593 | 14.946824 |
| 5 | 1.128000 | 1.000000 | 42.484513 | 19.655429 |
| 6 | 1.128000 | 1.000000 | 40.110341 | 24.133592 |
| 7 | 1.128000 | 1.000000 | 37.265912 | 28.328810 |
| 8 | 1.128000 | 1.000000 | 33.984575 | 32.191899 |
| 9 | 1.128000 | 1.000000 | 30.304799 | 35.677568 |
| 10 | 1.128000 | 1.000000 | 26.269728 | 38.744950 |
| 11 | 1.128000 | 1.000000 | 21.926668 | 41.358082 |
| 12 | 1.128000 | 1.000000 | 17.326537 | 43.486329 |
| 13 | 1.128000 | 1.000000 | 12.523269 | 45.104739 |
| 14 | 1.128000 | 1.000000 | 7.573177 | 46.194336 |
| 15 | 1.128000 | 1.000000 | 2.534296 | 46.742348 |
| 16 | 1.128000 | 1.000000 | -2.534296 | 46.742348 |
| 17 | 1.128000 | 1.000000 | -7.573177 | 46.194336 |
| 18 | 1.128000 | 1.000000 | -12.523269 | 45.104739 |
| 19 | 1.128000 | 1.000000 | -17.326537 | 43.486329 |
| 20 | 1.128000 | 1.000000 | -21.926668 | 41.358082 |
| 21 | 1.128000 | 1.000000 | -26.269728 | 38.744950 |
| 22 | 1.128000 | 1.000000 | -30.304799 | 35.677568 |
| 23 | 1.128000 | 1.000000 | -33.984575 | 32.191899 |
| 24 | 1.128000 | 1.000000 | -37.265912 | 28.328810 |
| 25 | 1.128000 | 1.000000 | -40.110341 | 24.133592 |
| 26 | 1.128000 | 1.000000 | -42.484513 | 19.655429 |


|  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
| 27 | 1.128000 | 1.000000 | -44.360593 | 14.946824 |
| 28 | 1.128000 | 1.000000 | -45.716585 | 10.062981 |
| 29 | 1.128000 | 1.000000 | -46.536592 | 5.061159 |
| 30 | 1.128000 | 1.000000 | -46.811000 | 0.00000 |
| 31 | 1.128000 | 1.000000 | -46.536592 | -5.061159 |
| 32 | 1.128000 | 1.000000 | -45.716585 | -10.062981 |
| 33 | 1.128000 | 1.000000 | -44.360593 | -14.946824 |
| 34 | 1.128000 | 1.000000 | -42.484513 | -19.655429 |
| 35 | 1.128000 | 1.000000 | -40.110341 | -24.133592 |
| 36 | 1.128000 | 1.000000 | -37.265912 | -28.328810 |
| 37 | 1.128000 | 1.000000 | -33.984575 | -32.191899 |
| 38 | 1.128000 | 1.000000 | -30.304799 | -35.67568 |
| 39 | 1.128000 | 1.000000 | -26.269728 | -38.744950 |
| 40 | 1.128000 | 1.000000 | -21.926668 | -41.358082 |
| 41 | 1.128000 | 1.000000 | -17.326537 | -43.486329 |
| 42 | 1.128000 | 1.000000 | -12.523269 | -45.104739 |
| 43 | 1.128000 | 1.000000 | -7.573177 | -46.194336 |
| 44 | 1.128000 | 1.000000 | -2.534296 | -46.742348 |
| 45 | 1.128000 | 1.000000 | 2.534296 | -46.742348 |
| 46 | 1.128000 | 1.000000 | 7.573177 | -46.194336 |
| 47 | 1.128000 | 1.000000 | 12.523269 | -45.104739 |
| 48 | 1.128000 | 1.000000 | 17.326537 | -43.486329 |
| 49 | 1.128000 | 1.000000 | 21.926668 | -41.358082 |
| 50 | 1.128000 | 1.000000 | 26.269728 | -38.744950 |
| 51 | 1.128000 | 1.000000 | 30.304799 | -35.677568 |
| 52 | 1.128000 | 1.000000 | 33.984575 | -32.191899 |
| 53 | 1.128000 | 1.000000 | 37.265912 | -28.328810 |
| 54 | 1.128000 | 1.000000 | 40.110341 | -24.133592 |
| 55 | 1.128000 | 1.000000 | 42.484513 | -19.655429 |
| 56 | 1.128000 | 1.000000 | 44.360593 | -14.946824 |
| 57 | 1.128000 | 1.000000 | 45.716585 | -10.06281 |
| 58 | 1.128000 | 1.000000 | 46.536592 | -5.061159 |

NOTE: The positions of the above rebars were computed by LPile
Minimum spacing between any two bars not equal to zero $=3.941$ inches between bars 1 and 58.

Ratio of bar spacing to maximum aggregate size $=5.25$

Concrete Properties:

Compressive Strength of Concrete
$\begin{array}{lr}= & \text { 4000. psi } \\ = & 3604997 . \text { psi }\end{array}$
Modulus of Elasticity of Concrete
 $=0.001886$
$=\quad-0.0001154$
Maximum Coarse Aggregate Size
$=\quad-0.0001154$
$=0.750000 \mathrm{in}$

Input Axial Thrust Forces:

Number of Axial Thrust Force Values Determined from Input Data $=1$

| Number | Axial Thrust kips |
| :---: | :---: |
| 1 | 68.60 |

Definitions of Run Messages and Notes:
$\mathrm{C}=$ concrete in section has cracked in tension.
$Y=$ stress in reinforcing steel has reached yield stress.
$T=A C I 318$ criteria for tension-controlled section met, tensile strain in reinforcement exceeds 0.005 while simultaneously compressive strain in concrete more than 0.003 . See ACI 318, Section 10.3.4.
$z=$ depth of tensile zone in concrete section is less than 10 percent of section depth.
Bending Stiffness (EI) = Computed Bending Moment / Curvature.
Position of neutral axis is measured from edge of compression side of pile.
Compressive stresses and strains are positive in sign.
Tensile stresses and strains are negative in sign.

Axial Thrust Force $=\quad 68.600 \mathrm{kips}$

| Bending Curvature rad/in. | Bending Moment in-kip | Bending Stiffness kip-in2 | Depth to $N$ Axis in | Max Comp Strain in/in | Max Tens Strain in/in | Max Conc Stress ksi | Max Steel Stress ksi | $\begin{aligned} & \text { Run } \\ & \text { Msg } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3.12500 \mathrm{E}-07$ | 7514. | $2.40449 \mathrm{E}+10$ | 57.1032311 | 0.00001784 | -0.00001403 | 0.0746551 | 0.5128762 |  |
| $6.25000 \mathrm{E}-07$ | 14989. | $2.39822 \mathrm{E}+10$ | 54.0620589 | 0.00003379 | -0.00002996 | 0.1406928 | 0.9706311 |  |
| 9.37500E-07 | 22424. | $2.39188 \mathrm{E}+10$ | 53.0483994 | 0.00004973 | -0.00004589 | 0.2061705 | 1.4283877 |  |
| 0.00000125 | 29819. | $2.38552 \mathrm{E}+10$ | 52.5416093 | 0.00006568 | -0.00006182 | 0.2710882 | 1.8861458 |  |
| 0.00000156 | 37174. | $2.37916 \mathrm{E}+10$ | 52.2375659 | 0.00008162 | -0.00007775 | 0.3354458 | 2.3439053 |  |
| 0.00000188 | 44490. | $2.37279 \mathrm{E}+10$ | 52.0348952 | 0.00009757 | -0.00009368 | 0.3992434 | 2.8016662 |  |
| 0.00000219 | 51765. | $2.36642 \mathrm{E}+10$ | 51.8901521 | 0.0001135 | -0.0001096 | 0.4624810 | 3.2594284 |  |


| 0.00000250 | 51765. | $2.07061 \mathrm{E}+10$ | 25.6481413 | 0.00006412 | -0.0001909 | 0.2620978 | -5.4985348 | C |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.00000281 | 51765. | $1.84055 \mathrm{E}+10$ | 25.2902901 | 0.00007113 | -0.0002157 | 0.2901260 | -6.2150388 | c |
| 0.00000313 | 51765. | $1.65649 \mathrm{E}+10$ | 25.0053365 | 0.00007814 | -0.0002406 | 0.3180655 | -6.9314226 | C |
| 0.00000344 | 51765. | $1.50590 \mathrm{E}+10$ | 24.7629721 | 0.00008512 | -0.0002655 | 0.3457709 | -7.6487256 | c |
| 0.00000375 | 51765. | $1.38041 \mathrm{E}+10$ | 24.5615278 | 0.00009211 | -0.0002904 | 0.3733797 | -8.3659713 | C |
| 0.00000406 | 51765. | $1.27422 \mathrm{E}+10$ | 24.3921310 | 0.00009909 | -0.0003153 | 0.4009010 | -9.0830927 | c |
| 0.00000438 | 51765. | $1.18321 \mathrm{E}+10$ | 24.2479175 | 0.0001061 | -0.0003402 | 0.4283348 | -9.8000892 | C |
| 0.00000469 | 51765. | $1.10433 \mathrm{E}+10$ | 24.1238537 | 0.0001131 | -0.0003650 | 0.4556809 | -10.5169605 | C |
| 0.00000500 | 51765. | $1.03531 \mathrm{E}+10$ | 24.0161640 | 0.0001201 | -0.0003899 | 0.4829390 | -11.2337062 | C |
| 0.00000531 | 51765. | 9744069945. | 23.9195518 | 0.0001271 | -0.0004148 | 0.5100585 | -11.9506972 | c |
| 0.00000563 | 51765. | 9202732726. | 23.8324214 | 0.0001341 | -0.0004397 | 0.5370452 | -12.6678925 | C |
| 0.00000594 | 51765. | 8718378372. | 23.7552258 | 0.0001410 | -0.0004646 | 0.5639450 | -13.3849564 | C |
| 0.00000625 | 51765. | 8282459453. | 23.6864774 | 0.0001480 | -0.0004895 | 0.5907576 | -14.1018884 | c |
| 0.00000656 | 51765. | 7888056622. | 23.6249718 | 0.0001550 | -0.0005143 | 0.6174831 | -14.8186882 | c |
| 0.00000688 | 51765. | 7529508594. | 23.5697234 | 0.0001620 | -0.0005392 | 0.6441211 | -15.5353551 | C |
| 0.00000719 | 51765. | 7202138655. | 23.5199184 | 0.0001690 | -0.0005641 | 0.6706717 | -16.2518889 | C |
| 0.00000750 | 51765. | 6902049544. | 23.4748784 | 0.0001761 | -0.0005889 | 0.6971345 | -16.9682889 | C |
| 0.00000781 | 51765. | 6625967563. | 23.4340336 | 0.0001831 | -0.0006138 | 0.7235096 | -17.6845549 | C |
| 0.00000813 | 51765. | 6371122656. | 23.3969018 | 0.0001901 | -0.0006387 | 0.7497966 | -18.4006862 | C |
| 0.00000844 | 51765. | 6135155151. | 23.3630726 | 0.0001971 | -0.0006635 | 0.7759955 | -19.1166825 | C |
| 0.00000875 | 51765. | 5916042467. | 23.3321937 | 0.0002042 | -0.0006883 | 0.8021061 | -19.8325433 | C |
| 0.00000966 | 51765. | 5712041002. | 23.3039618 | 0.0002112 | -0.0007132 | 0.8281282 | -29.5482681 | c |
| 0.00000938 | 51765. | 5521639636. | 23.2781140 | 0.0002182 | -0.0007380 | 0.8540617 | -21.2638565 | C |
| 0.00000969 | 51765. | 5343522228. | 23.2544211 | 0.0002253 | -0.0007628 | 0.8799065 | -21.9793079 | C |
| 0.00001000 | 51765. | 5176537158. | 23.2326829 | 0.0002323 | -0.0007877 | 0.9056623 | -22.6946219 | C |
| 0.00001031 | 51765. | 5019672396. | 23.2127232 | 0.0002394 | -0.0008125 | 0.9313290 | -23.4097983 | C |
| 0.00001063 | 51765. | 4872034973. | 23.1943867 | 0.0002464 | -0.0008373 | 0.9569066 | -24.1248360 | C |
| 0.00001094 | 51765. | 4732833973. | 23.1775358 | 0.0002535 | -0.0008621 | 0.9823947 | -24.8397349 | C |
| 0.00001125 | 51765. | 4601366363. | 23.1620481 | 0.0002606 | -0.0008869 | 1.0077932 | -25.5544945 | C |
| 0.00001156 | 51765. | 4477005110. | 23.1478147 | 0.0002676 | -0.0009117 | 1.0331020 | -26.2691141 | C |
| 0.00001188 | 51765. | 4359189186. | 23.1347379 | 0.0002747 | -0.0009365 | 1.0583210 | -26.9835935 | C |
| 0.00001219 | 51765. | 4247415104. | 23.1227302 | 0.0002818 | -0.0009613 | 1.0834498 | -27.6979320 | C |
| 0.00001281 | 51765. | 4040224124. | 23.1016145 | 0.0002960 | -0.0010109 | 1.1334368 | -29.1261845 | C |
| 0.00001344 | 53539. | 3984329317. | 23.0839243 | 0.0003102 | -0.0010604 | 1.1830615 | -30.5538680 | C |
| 0.00001406 | 55914. | 3976091564. | 23.0692129 | 0.0003244 | -0.0011100 | 1.2323227 | -31.9809775 | C |
| 0.00001469 | 58286. | 3968405187. | 23.0571099 | 0.0003387 | -0.0011595 | 1.2812191 | -33.4075093 | C |
| 0.00001531 | 60656. | 3961201769. | 23.0473053 | 0.0003529 | -0.0012090 | 1.3297492 | -34.8334592 | C |
| 0.00001594 | 63024. | 3954423613. | 23.0395381 | 0.0003672 | -0.0012584 | 1.3779116 | -36.2588229 | C |
| 0.00001656 | 65389. | 3948021721. | 23.0335866 | 0.0003815 | -0.0013079 | 1.4257051 | -37.6835961 | C |
| 0.00001719 | 67752. | 3941954211. | 23.0292616 | 0.0003958 | -0.0013573 | 1.4731281 | -39.1077743 |  |
| 0.00001781 | 70113. | 3936185069. | 23.0264005 | 0.0004102 | -0.0014067 | 1.5201793 | -40.5313531 | c |
| 0.00001844 | 72472. | 3930683155. | 23.0248628 | 0.0004245 | -0.0014561 | 1.5668571 | -41.9543280 | C |
| 0.00001906 | 74828. | 3925421402. | 23.0245268 | 0.0004389 | -0.0015055 | 1.6131602 | -43.3766943 |  |
| 0.00001969 | 77182. | 3920376172. | 23.0252861 | 0.0004533 | -0.0015548 | 1.6590871 | -44.7984476 |  |
| 0.00002031 | 79534. | 3915526725. | 23.0270475 | 0.0004677 | -0.0016041 | 1.7046363 | -46.2195829 | C |
| 0.00002094 | 81884. | 3910854789. | 23.0297293 | 0.0004822 | -0.0016534 | 1.7498063 | -47.6400956 | C |
| 0.00002156 | 84231. | 3906344202. | 23.0332591 | 0.0004967 | -0.0017027 | 1.7945956 | -49.0599808 |  |


| 0.00002219 | 86575. | 3901980612. | 23.0375729 | 0.0005111 | -0.0017520 | 1.8390026 | -50.4792335 | C |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.00002281 | 88917. | 3897751231. | 23.0426139 | 0.0005257 | -0.0018012 | 1.8830257 | -51.8978489 | C |
| 0.00002344 | 91257. | 3893644627. | 23.0483312 | 0.0005402 | -0.0018504 | 1.9266635 | -53.3158218 | C |
| 0.00002406 | 93595. | 3889650546. | 23.0546795 | 0.0005548 | -0.0018996 | 1.9699143 | -54.7331472 | C |
| 0.00002469 | 95930. | 3885759764. | 23.0616182 | 0.0005693 | -0.0019488 | 2.0127765 | -56.1498197 | C |
| 0.00002531 | 98262. | 3881963958. | 23.0691107 | 0.0005839 | -0.0019979 | 2.0552484 | -57.5658342 | c |
| 0.00002594 | 100592. | 3878255600. | 23.0771241 | 0.0005986 | -0.0020471 | 2.0973285 | -58.9811853 | C |
| 0.00002656 | 102920. | 3874627860. | 23.0856288 | 0.0006132 | -0.0020962 | 2.1390151 | -60.0000000 | CY |
| 0.00002719 | 105245. | 3871074528. | 23.0945978 | 0.0006279 | -0.0021452 | 2.1803065 | -60.0000000 | CY |
| 0.00002781 | 107533. | 3866354058. | 23.1015870 | 0.0006425 | -0.0021944 | 2.2210106 | -60.0000000 | CY |
| 0.00002844 | 109439. | 3848390801. | 23.0824515 | 0.0006564 | -0.0022442 | 2.2592007 | -60.0000000 | CY |
| 0.00002906 | 111141. | 3824212566. | 23.0507627 | 0.0006699 | -0.0022945 | 2.2959005 | -60.0000000 | CY |
| 0.00002969 | 112658. | 3794792923. | 23.0081066 | 0.0006831 | -0.0023451 | 2.3312090 | -60.0000000 | CY |
| 0.00003031 | 114037. | 3762042136. | 22.9581055 | 0.0006959 | -0.0023960 | 2.3653997 | -60.0000000 | CY |
| 0.00003094 | 115337. | 3728074939. | 22.9026325 | 0.0007086 | -0.0024471 | 2.3986146 | -60.0000000 | CY |
| 0.00003156 | 116524. | 3691842010. | 22.8409551 | 0.0007209 | -0.0024985 | 2.4307843 | -60.0000000 | CY |
| 0.00003219 | 117666. | 3655637665. | 22.7789028 | 0.0007332 | -0.0025499 | 2.4623931 | -60.0000000 | CY |
| 0.00003281 | 118709. | 3617792936. | 22.7122555 | 0.0007452 | -0.0026016 | 2.4930860 | -60.0000000 | CY |
| 0.00003344 | 119694. | 3579625663. | 22.6442253 | 0.0007572 | -0.0026535 | 2.5231355 | -60.0000000 | CY |
| 0.00003406 | 120672. | 3542659238. | 22.5786392 | 0.0007691 | -0.0027053 | 2.5528779 | -60.0000000 | CY |
| 0.00003469 | 121527. | 3503489470. | 22.5065387 | 0.0007807 | -0.0027574 | 2.5815401 | -60.0000000 | CY |
| 0.00003531 | 122359. | 3465035589. | 22.4356317 | 0.0007923 | -0.0028096 | 2.6097957 | -60.0000000 | CY |
| 0.00003594 | 123186. | 3427779185. | 22.3672090 | 0.0008038 | -0.0028618 | 2.6377685 | -60.0000000 | CY |
| 0.00003656 | 123966. | 3390520956. | 22.2979489 | 0.0008153 | -0.0029141 | 2.6651726 | -60.0000000 | CY |
| 0.00003719 | 124660. | 3352202213. | 22.2248298 | 0.0008265 | -0.0029666 | 2.6917402 | -60.0000000 | CY |
| 0.00003969 | 127293. | 3207391896. | 21.9478303 | 0.0008711 | -0.0031771 | 2.7946422 | -60.0000000 | CY |
| 0.00004219 | 129537. | 3070499038. | 21.6644696 | 0.0009140 | -0.0033892 | 2.8896384 | -60.0000000 | CY |
| 0.00004469 | 131391. | 2940229367. | 21.3854370 | 0.0009557 | -0.0036025 | 2.9781151 | -60.0000000 | CY |
| 0.00004719 | 133088. | 2820399181. | 21.1269858 | 0.0009969 | -0.0038162 | 3.0628484 | -60.0000000 | CY |
| 0.00004969 | 134546. | 2707852471. | 20.8773346 | 0.0010373 | -0.0040308 | 3.1407056 | -60.0000000 | CY |
| 0.00005219 | 135874. | 2603576693. | 20.6302700 | 0.0010766 | -0.0042465 | 3.2138269 | -60.0800000 | CY |
| 0.00005469 | 137003. | 2505190604. | 20.3916766 | 0.0011152 | -0.0044630 | 3.2823108 | -60.0000000 | Cr |
| 0.00005719 | 138109. | 2415021948. | 20.1748983 | 0.0011538 | -0.0046794 | 3.3477680 | -60.0000000 | CY |
| 0.00005969 | 139040. | 2329466907. | 19.9633838 | 0.0011916 | -0.0048966 | 3.4088414 | -60.0000000 | CY |
| 0.00006219 | 139896. | 2249580675. | 19.7557044 | 0.0012286 | -0.0051146 | 3.4656442 | -60.0000000 | Cr |
| 0.00006469 | 140739. | 2175670304. | 19.5604193 | 0.0012653 | -0.0053328 | 3.5192306 | -60.0000000 | CY |
| 0.00006719 | 141458. | 2105415072. | 19.3698476 | 0.0013014 | -0.0055517 | 3.5690684 | -60.0000000 | CY |
| 0.00006969 | 142098. | 2039076931. | 19.1875412 | 0.0013371 | -0.0057710 | 3.6156845 | -60.0000000 | CY |
| 0.00007219 | 142735. | 1977274846. | 19.0195943 | 0.0013730 | -0.0059901 | 3.6597875 | -60.0000000 | CY |
| 0.00007469 | 143366. | 1919543477. | 18.8640937 | 0.0014089 | -0.0062092 | 3.7013076 | -60.0000000 | CY |
| 0.00007719 | 143904. | 1864347140. | 18.6998348 | 0.0014434 | -0.0064297 | 3.7385530 | -60.0000000 | CY |
| 0.00007969 | 144368. | 1811677902. | 18.5396397 | 0.0014774 | -0.0066507 | 3.7728164 | -60.0000000 | Cr |
| 0.00008219 | 144821. | 1762081484. | 18.3898344 | 0.0015114 | -0.0068717 | 3.8047240 | -60.0000000 | CY |
| 0.00008469 | 145271. | 1715372744. | 18.2502805 | 0.0015456 | -0.0070926 | 3.8343210 | -60.0000000 | Cr |
| 0.00008719 | 145717. | 1671302575. | 18.1201138 | 0.0015798 | -0.0073133 | 3.8615823 | -60.0000000 | Cr |
| 0.00008969 | 146136. | 1629393616. | 17.9959307 | 0.0016140 | -0.0075341 | 3.8863132 | -60.0000000 |  |
| 0.00009219 | 146503. | 1589183008. | 17.8742485 | 0.0016478 | -0.0077553 | 3.9883617 | -60.0000000 |  |


| 0.00009469 | 146817. | 1550539635. | 17.7461685 | 0.0016803 | -0.0079778 | 3.9273434 | -60.0000000 | CY |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.00009719 | 147123. | 1513803944. | 17.6232152 | 0.0017128 | -0.0082004 | 3.9440533 | -60.0000000 | CY |
| 0.00009969 | 147426. | 1478882971. | 17.5075844 | 0.0017453 | -0.0084228 | 3.9586326 | -60.0000000 | CY |
| 0.0001022 | 147727. | 1445643038. | 17.3987540 | 0.0017779 | -0.0086452 | 3.9710573 | -60.0000000 | CY |
| 0.0001047 | 148024. | 1413963225. | 17.2962521 | 0.0018107 | -0.0088674 | 3.9813034 | -60.0000000 | CY |
| 0.0001072 | 148319. | 1383733882. | 17.1996515 | 0.0018436 | -0.0096895 | 3.9893460 | -60.0000000 | CY |
| 0.0001097 | 148580. | 1354573104. | 17.1045023 | 0.0018762 | -0.0093120 | 3.9950938 | -60.0000000 | CY |
| 0.0001122 | 148801. | 1326358706. | 17.0099143 | 0.0019083 | -0.0095348 | 3.9986081 | -60.0000000 | CY |
| 0.0001147 | 149015. | 1299312795. | 16.9198943 | 0.0019405 | -0.0097576 | 3.9999796 | -60.0000000 | CY |
| 0.0001172 | 149220. | 1273345104. | 16.8343971 | 0.0019728 | -0.0099803 | 3.9916150 | -60.0000000 | CY |
| 0.0001197 | 149410. | 1248331587. | 16.7437140 | 0.0020040 | -0.0102041 | 3.9951945 | -60.0000000 | CY |
| 0.0001222 | 149596. | 1224319080. | 16.6570875 | 0.0020353 | -0.0104278 | 3.9983826 | -60.0000000 | CY |
| 0.0001247 | 149781. | 1201253014. | 16.5748073 | 0.0020667 | -0.0106515 | 3.9998791 | -60.0000000 | CY |
| 0.0001272 | 149962. | 1179066097. | 16.4970259 | 0.0020982 | -0.0108749 | 3.9945611 | -60.0000000 | CY |
| 0.0001297 | 150141. | 1157714468. | 16.4232392 | 0.0021299 | -0.0110982 | 3.9914741 | -60.0000000 | CY |
| 0.0001322 | 150314. | 1137128994. | 16.3523919 | 0.0021616 | -0.0113215 | 3.9957109 | 60.0000000 | CY |
| 0.0001347 | 150478. | 1117240984. | 16.2837865 | 0.0021932 | -0.0115449 | 3.9985021 | 60.0000000 | CY |
| 0.0001372 | 150641. | 1098065531. | 16.2183974 | 0.0022250 | -0.0117682 | 3.9998605 | 60.0000000 | CY |
| 0.0001522 | 151359. | 994556544. | 15.8553649 | 0.0024130 | -0.0131101 | 3.9996905 | 60.0000000 | CY |
| 0.0001672 | 151960. | 908921731. | 15.5370249 | 0.0025976 | -0.0144555 | 3.9964662 | 60.0000000 | CY |
| 0.0001822 | 152459. | 836824062. | 15.2731273 | 0.0027826 | -0.0158006 | 3.9822170 | 60.0000000 | CY |
| 0.0001972 | 152806. | 774925314. | 15.0421532 | 0.0029661 | -0.0171470 | 3.9992184 | 60.0000000 | CY |
| 0.0002122 | 153041. | 721253271. | 14.8787176 | 0.0031571 | -0.0184860 | 3.9792076 | 60.0000000 | CYT |
| 0.0002272 | 153246. | 674536182. | 14.7382187 | 0.0033483 | -0.0198248 | 3.9978052 | 60.0000000 | CYT |
| 0.0002422 | 153383. | 633324158. | 14.6250858 | 0.0035420 | -0.0211611 | 3.9843116 | 60.0000000 | CYT |
| 0.0002572 | 153464. | 596702365. | 14.5197097 | 0.0037343 | -0.0224988 | 3.9839546 | 60.0000000 | CYt |
| 0.0002722 | 153464. | 563818653. | 14.5826911 | 0.0039692 | -0.0237939 | 3.9997740 | 60.0000000 | CYT |

Summary of Results for Nominal (Unfactored) Moment Capacity for Section 1

Moment values interpolated at maximum compressive strain $=0.003$ or maximum developed moment if pile fails at smaller strains.

| Load No. | Axial Thrust kips | Nominal Mom. Cap. in-kip | Max. Comp. Strain |
| :---: | :---: | :---: | :---: |
| 1 | 68.600 | 152847.336 | 0.00300000 |

Note that the values of moment capacity in the table above are not
factored by a strength reduction factor (phi-factor).
In ACI 318, the value of the strength reduction factor depends on whether
the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.70).

The above values should be multiplied by the appropriate strength reduction
factor to compute ultimate moment capacity according to ACI 318, Section
9.3.2.2 or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

| Axial | Resist. <br> Factor <br> Load <br> No. | Nominal <br> Mor Moment Cap <br> in-kips | Ult. (Fac) <br> Ax. Thrust <br> kips | Ult. (Fac) <br> Moment Cap <br> in-kips | Bend. Stiff. <br> at Ult Mom <br> kip-in^2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -2 | -2.65 | 152847. | 44.590000 | 99351. | $3.8802 \mathrm{E}+09$ |

The analysis ended normally.

| TowerCo <br> 5000 VALLEYSTONE DR WWW.TOWERCO.COM CARY, NC 27519 OFFICE: (919) 653-5700 |  |  |
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|  |  |  |
|  |  |  |
| SITE NAME: |  |  |
| SITE ADDRESS: <br> HWY 2779 <br> HARDINSBURG, KY 40143 |  |  |
|  |  |  |
| SITE ID: |  |  |
| KY0110 |  |  |
| SHEET TITLE |  |  |
| title sheet |  |  |
| SHEET NUMBER |  |  |







> | 1 | FOUNDATION SECTION DETAIL |
| :---: | :--- |
| F-2 | SCALE: n.t.S. |




> $\overline{\text { TIVLGQ NOILOES NOILVGNOOA }}$| SIn: |
| :---: |




| FCC REGISTERED SITES (LAUREL COUNTY) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| TOWER | ASR | LATITUDE | LONGITUDE | TOWER OWNER |
| 1 | 1305108 | $38^{\circ} 1$ '12.90"N | 86²9'39.90"W | VERIZON WIRELESS |
| 2 | 1043429 | $37^{\circ} 57^{\prime} 6.10^{\prime \prime N}$ | $86^{\circ} 24^{\prime} 38.30^{\prime \prime W}$ | CROWN CASTLE |
| 3 | 1291561 | $37^{\circ} 55^{\prime} 53.10^{\prime \prime} \mathrm{N}$ | $86^{\circ} 28^{\prime} 37.70^{\prime \prime} \mathrm{W}$ | AMERICAN TOWER |
| 4 | 1200734 | $37^{\circ} 54^{\prime} 35.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 20^{\prime} 47.00^{\prime \prime} \mathrm{W}$ | BIG RIVERS ELECTRIC CORPERATION |
| 5 | 1304239 | $37^{\circ} 54^{\prime} 7.50^{\prime N}$ | $86^{\circ} 31^{\prime} 56.20^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 6 | 1043896 | $37^{\circ} 52^{\prime} 17.80{ }^{\prime \prime} \mathrm{N}$ | 86¹6'3.50"W | SKYWAY TOWERS |
| 7 | TOWER | $37^{\circ} 51^{\prime} 29.00{ }^{\prime \prime} \mathrm{N}$ | $86^{\circ} 34^{\prime 21.00 ' W ~}$ | KENTUCKY EMERGENCY WARNING SYSTEM |
| 8 | 1050176 | $37^{\circ} 48^{\prime} 32.00$ "N | 86¹4'25.00"W | TELAVA WIRELESS, INC |
| 9 | 1215268 | $37^{\circ} 48^{\prime 2} 2.20^{\prime \prime N}$ | $86^{\circ} 28^{\prime 2} 22.40^{\prime \prime} \mathrm{W}$ | CROWN CASTLE SOUTH LLC |
| 10 | 1270783 | $37^{\circ} 48^{\prime} 8.30{ }^{\prime \prime N}$ | 86²0'0.20"W | SBA MONARCH TOWER III, LLC |
| 11 | 1043043 | $37^{\circ} 47^{\prime} 53.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 19^{\prime} 51.00^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 12 | 1225776 | $37^{\circ} 9^{\prime} 20.77{ }^{\prime \prime} \mathrm{N}$ | $84^{\circ} 6^{\prime} 22.9{ }^{\prime \prime} \mathrm{W}$ | TEXAS GAS TRANSMISSION, LLC |
| 13 | 1200816 | $37^{\circ} 46^{\prime} 57.80$ N | $86^{\circ} 36^{\prime 2} 26.30^{\prime \prime} \mathrm{W}$ | THE CROMWELL GROUP, INC |
| 14 | 1061965 | $37^{\circ} 46^{\prime} 51.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 27^{\prime} 42.00^{\prime \prime} \mathrm{W}$ | COUNTY OF BRECKENRIDGE |
| 15 | 1261014 | $37^{\circ} 46^{\prime} 45.50{ }^{\text {N }}$ | $86^{\circ} 26^{\prime} 56.50 \mathrm{lW}$ | BIG RIVERS ELECTRIC CORPERATION |
| 16 | 1200744 | $37^{\circ} 46^{\prime} 34.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 28^{\prime} 60.00^{\prime \prime} \mathrm{W}$ | BIG RIVERS ELECTRIC CORPERATION |
| 17 | 1042282 | $37^{\circ} 46^{\prime} 14.20^{\prime \prime} \mathrm{N}$ | 86²26'6.90"W | BRECKENRIDGE BROADCASTING CO INC |
| 18 | 1305582 | $37^{\circ} 45^{\prime} 52.70^{\prime \prime} \mathrm{N}$ | 86º²'17.90"W | TILLMAN INFRASTRUCTURE, LLC |
| 19 | 1315005 | $37^{\circ} 42^{\prime} 44.40$ " | 86³1'34.60"W | TVT I, LLC |
| 20 | 1050174 | $37^{\circ} 42^{\prime} 44.00^{\prime \prime} \mathrm{N}$ | $86^{\circ} 38^{\prime} 42.00^{\prime \prime} \mathrm{W}$ | TELAVA WIRELESS, INC |
| 21 | 1272916 | $37^{\circ} 42^{\prime} 39.30^{\prime \prime} \mathrm{N}$ | $86^{\circ} 31^{\prime} 34.60^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 22 | 1262107 | $37^{\circ} 41^{\prime} 44.80{ }^{\prime \prime} \mathrm{N}$ | $86^{\circ} 25^{\prime} 6.20^{\prime \prime} \mathrm{W}$ | VERIZON WIRELESS |
| 23 | 1025097 | $37^{\circ} 40^{\prime} 25.20^{\prime \prime} \mathrm{N}$ | 86²2'31.70"W | CROWN CASTLE SOUTH LLC |
| 24 | 1044834 | $37^{\circ} 39^{\prime 2} 21.00$ "N | $86^{\circ} 16^{\prime} 11.00^{\prime \prime} \mathrm{W}$ | KENTUCKY EMERGENCY WARNING SYSTEM |
| 25 | 1274759 | $37^{\circ} 38^{\prime} 36.30^{\prime \prime N}$ | 86²7'59.90"W | SBA TOWERS VI, LLC |
| 26 | 1043452 | $37^{\circ} 37^{\prime} 37.80{ }^{\prime \prime N}$ | 86¹9'2.00"W | TOWER ASSETS NEWCO IX, LLC |
| 27 | 1214128 | $37^{\circ} 36^{\prime} 6.20{ }^{\prime \prime} \mathrm{N}$ | $86^{\circ} 22^{\prime} 12.90^{\prime \prime} \mathrm{W}$ | BETHEL FELLOWSHIP, INC |
| 28 | 1268315 | $37^{\circ} 35^{\prime} 8.10^{\prime \prime} \mathrm{N}$ | 86²3'28.80"W | SBA MONARCH TOWERS III, LLC |
| NEW | TBD | $37^{\circ} 54^{\prime} 13.31^{\prime \prime} \mathrm{N}$ | $86^{\circ} 31^{\prime} 40.29^{\prime \prime} \mathrm{W}$ | TOWERCO |



COUNTY TOWER MAP

The FAA is currently experiencing delays in processing off-airport aeronautical studies. These delays
Federal Aviation are currently resulting in an approximate 15 additional days in processing time. The FAA will continue
Administration to work aeronautical studies on a first come, first served basis. Please take this possible delay into
consideration when determining when to submit your case. If your submitted aeronautical study requires priority, please contact the OEG Specialist for your state with the rationale for your request and it will be reviewed for escalation. The issue causing these delays is actively being mitigated and is expected to be resolved around August.
Archive Search Results Form 7460-1 for ASN 2023-ASO-28445-OE


Previous Search Next

Result
$\qquad$

Mail Processing Center
Federal Aviation Administration

Issued Date: 11/21/2023

Henry Byrne
TowerCo 2013 LLC
5000 Valley Stone Drive
Suite 200
Cary, NC 27519

## ** 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 KY0110 CK Stephensport COW RELO |
| :--- | :--- |
| Location: | Hardinsburg, KY |
| Latitude: | $37-54-13.31 \mathrm{~N}$ NAD 83 |
| Longitude: | $86-31-40.29 \mathrm{~W}$ |
| Heights: | 579 feet site elevation (SE) |
|  | 199 feet above ground level (AGL) |
|  | 778 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:

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

This determination expires on $05 / 21 / 2025$ 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.

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, 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 (817) 222-5928, or chris.smith@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASO-28445OE.

Signature Control No: 600360543-605236788
Chris Smith
Specialist
Attachment(s)
Frequency Data
Map(s)
cc: FCC

| LOW <br> FREQUENCY | HIGH <br> FREQUENCY | FREQUENCY <br> UNIT | ERP | ERP |
| :---: | :---: | :---: | :---: | :---: |
| UNIT |  |  |  |  |

TOPO Map for ASN 2023-ASO-28445-OE


Page 4 of 5


| KENTUCKY TRANSPORTATION CABINET TC 56-50 <br>  Rev. $07 / 2010$ <br> Page 2 of 2  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| APPLICANT (name) TowerCo, LLC |  | $\begin{aligned} & \hline \text { PHONE } \\ & 919-272-7766 \end{aligned}$ | FAX | KY AERONAUTICAL STUDY \# |  |
| ADDRESS (street) <br> 5000 Valleystone Dr., Suite 200 |  | $\begin{array}{\|l\|l\|} \hline \text { CITY } \\ \text { Cary } \end{array}$ |  | STATE ZIP <br> NC 27519 |  |
| APPLICANT'S REPRESENTATIVE (name) Wireless Applications Corporation |  | $\begin{array}{\|l\|} \hline \text { PHONE } \\ 425-643-5000 \\ \hline \end{array}$ | FAX |  |  |
| ADDRESS (street) <br> 111 108 $^{\text {th }}$ Ave NE, Suite 160 |  | CITY Bellevue |  | STATE ZIP <br> WA 98004 |  |
| APPLICATION FOR $\square$ New ConDURATION $\quad \square$ Permanent $\quad \square$TYPE $\square$ Crane $\quad \square$ BuildingQ Antenna Tower$\square$ Power Line$\square$ LandfillWater TankLather |  | $\square$ Alteration $\quad \square$ Existing |  | WORK SCHEDULE <br> Start End |  |
|  |  | MARKING/PAINTING/LIGHTING PREFERRED$\square$ Red Lights \& Paint $\square$ White- medium intensity $\square$ White- high intensity$\square$ Dual- red \& medium intensity white $\square$ Dual- red \& high intensity whiteOther None |  |  |  |
| LATITUDE$37^{\circ} 54^{\prime} 13.31^{\prime \prime}$ |  | LONGITUDE$086^{\circ} 31^{\prime} 40.29^{\prime \prime}$ |  | DATUM $\boxtimes$ NAD83 $\square$ NAD27$\square$ Other |  |
| NEAREST KENTUCKY City Hardinsburg County Breckenridge |  | NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT 193: Breckenridge |  |  |  |
| SITE ELEVATION (AMSL, feet)579 |  | TOTAL STRUCTURE HEIGHT (AGL, feet) 199 |  | CURRENT (FAA aeronautical study \#)2023-ASO-28455-OE |  |
| OVERALL HEIGHT (site elevation plus total structure height, feet) 778 |  |  |  | PREVIOUS (FAA aeronautical study \#) |  |
| DISTANCE (from nearest Kentucky public use or Military airport to structure) 8.035 nm |  |  |  | PREVIOUS (KY aeronautical study \#) |  |
| DIRECTION (from nearest Kentucky public use or Military airport to structure) 150.07 degrees |  |  |  |  |  |
| DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.) <br> 6360 Hwy 2779, Breckenridge County, Hardinsburg KY, 40143 |  |  |  |  |  |
| DESCRIPTION OF PROPOSAL <br> Proposed site is a 199ft AGL SSL tower, including all top-mounted appurtenances. |  |  |  |  |  |
| FAA Form 7460-1 (Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?) Yes, when? 09/27/2023 |  |  |  |  |  |
| CERTIFICATION (I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.) <br> PENALITIES (Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.) |  |  |  |  |  |
| NAME <br> Ronald Lageson, Jr | TITLE Manager | SIGNATURE |  | DATE <br> 5/31/2024 |  |
| COMMISSION ACTION |  | $\square$ Chairperson, KAZCAdministrator, KAZC |  |  |  |
| $\square$ Approved $\square$ Disapproved | SIGNATURE | DATE |  |  |  |

# SUPPLEMENTAL GEOTECHNICAL REPORT 

April 16, 2024
Prepared For:
TowerCo

## H Tower Co

## CK Stephensport COW RELO

KYO110
Proposed 195-Foot Self-Supporting Tower
Kentucky State Hwy 2779, Stephensport (Breckinridge County), Kentucky 40170 Latitude N $37054^{\prime} 13.31^{\prime \prime}$ Longitude W $86 \circ 31^{\prime} 40.29^{\prime \prime}$

Delta Oaks Group Project GEO24-20662-05
Revision 0
geotech@deltaoaksgroup.com

Performed By:
Sarah Kuseen

Sarah C. Russet, P.E.

Reviewed By:


Joseph V. Borrelli, Jr., P.E.


## INTRODUCTION

This supplemental geotechnical report has been completed for the proposed 195 -foot selfsupporting tower located at Kentucky State Hwy 2779 in Stephensport (Breckinridge County), Kentucky. The purpose of this interpretation was to provide engineering recommendations and subsurface condition data at the proposed tower location. A geotechnical engineering interpretation of the collected information by Engineered Tower Solutions was completed and utilized to suggest design parameters regarding the adequacy of the structure's foundation capacity under various loading conditions. This report provides the geologic material identification and design parameter recommendations for use in the analysis of the telecommunication facility's foundation.

## SITE CONDITION SUMMARY

The proposed tower and compound are located in an open field exhibiting a generally flat topography across the tower compound and subject property.

## REFERENCES

- Zoning Drawings, prepared by TeleCAD Wireless, dated October 5, 2023
- Geotechnical Report, prepared by Engineered Tower Solutions, dated January 23, 2024
- TIA Standard (TIA-222-G), dated August 2005


## SUBSURFACE FIELD INVESTIGATION SUMMARY

The subsurface field investigation was conducted through the advancement of one mechanical soil test boring by Engineered Tower Solutions to the termination depth of 29.0 feet bgs. The Engineered Tower Solutions report states that samples were obtained in accordance with ASTM D 1586 and D2113. A detailed breakdown of the material encountered in the Engineered Tower Solutions subsurface field investigation can be found in the boring log presented in the Appendix of this report.

A Engineered Tower Solutions boring plan portraying the spatial location of the boring in relation to the immediate surrounding area can be found in the Appendix.


## SUBSURFACE CONDITION SUMMARY

The following provides a general overview of the site's subsurface conditions based on the data obtained in the attached boring log provided in the Engineered Tower Solutions geotechnical report.

FILL
Fill material was not encountered during the Engineered Tower Solutions subsurface field investigation.

## SOIL

The residual soil encountered in the Engineered Tower Solutions subsurface field investigation began at the existing ground surface in the boring and consisted of sandy lean clay underlain by partially weathered rock. The materials ranged from a medium stiff to hard consistency.

It appears that auger advancement refusal was encountered during the Engineered Tower Solutions subsurface field investigation at a depth of 19.0 feet bgs.

ROCK
Bedrock was encountered during the Engineered Tower Solutions subsurface investigation at a depth of 19.0 feet bgs. The rock can be described as highly weathered shale.

SUBSURFACE WATER
At the time of drilling, subsurface water was encountered during the Engineered Tower Solutions subsurface investigation at a depth of 5.0 feet bgs. However, subsurface water elevations can fluctuate throughout the year due to variations in climate, hydraulic parameters, nearby construction activity and other factors.

FROST PENETRATION
The frost penetration depth for Breckinridge County, Kentucky is 20 inches ( 1.7 feet).

DELTA OAKS GROUP


## FOUNDATION DESIGN SUMMARY

In consideration of the provided tower parameters and the determined soil characteristics, Delta Oaks Group recommends utilizing a shallow foundation or drilled shaft foundations for the proposed structure. The strength parameters presented in the following sections can be utilized for design of the foundation.

GENERAL SUBSURFACE STRENGTH PARAMETERS

B-1

| $0.0-3.0$ | $C L$ | 110 | 0 | 400 |
| :---: | :---: | :---: | :---: | :---: |
| $3.0-6.0$ | CL | $115 / 53$ | 0 | 600 |
| $6.0-12.0$ | CL | $120 / 58$ | 0 | 900 |
| $12.0-17.0$ | CL | $120 / 58$ | 0 | 2,300 |
| $17.0-19.0$ | Partially <br> Weathered Rock | $130 / 68$ | 140 | 0 |
| $19.0-29.0$ | Shale |  | 4,000 |  |

- The buoyant unit weight of soil should be utilized below a depth of 5.0 feet bgs.
- The unit weight provided assumes overburden soil was compacted to a minimum of $95 \%$ of the maximum dry density as obtained by the standard Proctor method (ASTM D 698) and maintained a moisture content within 3 percent of optimum.
- The values provided for phi angle and cohesion should be considered ultimate.

SUBSURFACE STRENGTH PARAMETERS - SHALLOW FOUNDATION

| Boring | tons ffe | (fee | Nef Ultimate Beari (osit) |
| :---: | :---: | :---: | :---: |
| B-1 | $5.0 \times 5.0$ | 3.0 | 2,760 |
|  |  | 4.0 | 4,290 |
|  |  | 5.0 | 4,440 |
|  |  | 6.0 | 4,590 |
|  | $10.0 \times 10.0$ | 3.0 | 2,620 |
|  |  | 4.0 | 4,000 |
|  |  | 5.0 | 4,070 |
|  |  | 6.0 | 4,140 |
|  | $15.0 \times 15.0$ | 3.0 | 2,570 |
|  |  | 4.0 | 3,900 |
|  |  | 5.0 | 3,950 |
|  |  | 6.0 | 4,000 |
|  | $20.0 \times 20.0$ | 3.0 | 2,540 |
|  |  | 4.0 | 3,850 |
|  |  | 5.0 | 3,890 |
|  |  | 6.0 | 3,920 |
|  | $25.0 \times 25.0$ | 3.0 | 2,530 |
|  |  | 4.0 | 3,820 |
|  |  | 5.0 | 3,850 |
|  |  | 6.0 | 3,880 |

- Delta Oaks Group recommends the foundation bear a minimum of 3.0 feet bgs.
- A sliding friction factor of 0.35 can be utilized along the base of the proposed foundation.
- An Ultimate Passive Pressure Table with a reduction due to frost penetration to a depth of 1.7 feet bgs is presented on the following page.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the analysis of the foundation.

ULTIMATE PASSIVE PRESSURE VS. DEPTH - TOWER FOUNDATION

| Top | 0.0 | 110 | 0 | 400 | 0.00 | 1.00 | 400.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bottom | 1.7 | 110 | 0 | 400 | 187.00 | 1.00 | 493.50 |
| Top | 1.7 | 110 | 0 | 400 | 187.00 | 1.00 | 987.00 |
| Bottom | 3.0 | 110 | 0 | 400 | 330.00 | 1.00 | 1130.00 |
| Top | 3.0 | 115 | 0 | 600 | 330.00 | 1.00 | 1530.00 |
| Bottom | 5.0 | 115 | 0 | 600 | 560.00 | 1.00 | 1760.00 |
| Top | 5.0 | 120 | 0 | 900 | 560.00 | 1.00 | 2360.00 |
| Bottom | 6.0 | 120 | 0 | 900 | 617.60 | 1.00 | 2417.60 |
| Top | 6.0 | 120 | 0 | 900 | 617.60 | 1.00 | 2417.60 |
| Bottom | 10.0 | 120 | 0 | 900 | 848.00 | 1.00 | 2648.00 |

SUBSURFACE STRENGTH PARAMETERS - DRILLED SHAFT FOUNDATION

| Boring | Depith (bgs) | Net Ultimate Bearing Capacity (psif) | Ulitimake Skin Friction Compression (psi) | Ultimate Skin Friction Upilif (psi) |
| :---: | :---: | :---: | :---: | :---: |
| B-1 | 0.0-3.0 | -- | -- | -- |
|  | 3.0-6.0 | 7,570 | 320 | 320 |
|  | 6.0-9.0 | 14,020 | 490 | 490 |
|  | 9.0-12.0 | 21,720 | 490 | 490 |
|  | 12.0-17.0 | 31,920 | 1,260 | 1,260 |
|  | 17.0-19.0 | 39,050 | 2,040 | 2,040 |
|  | 19.0-29.0 | 38,950 | 2,190 | 2,190 |

- The top 3.0 feet of soil should be ignored due to the frost penetration and the potential soil disturbance during construction.
- The values presented assume the concrete is cast-in-place against earth walls and any casing utilized during construction of the foundation was removed.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the analysis of the foundation.


## CONSTRUCTION

## SITE DEVELOPMENT

The proposed access road and tower compound should be evaluated by a Geotechnical Engineer, or their representative, after the removal or "cutting" of the areas to design elevation but prior to the placement of any structural fill material to verify the presence of unsuitable or weak material. Unsuitable or weak materials should be undercut to a suitable base material as determined by a Geotechnical Engineer, or their representative. Backfill of any undercut area(s) should be conducted in accordance with the recommendations provided in the STRUCTURAL FILL PLACEMENT section of this report.

Excavations should be sloped or shored in accordance and compliance with OSHA 29 CFR Part 1926, Excavation Trench Safety Standards as well as any additional local, state and federal regulations.

## STRUCTURAL FILL PLACEMENT

Structural fill materials should be verified, prior to utilization, to have a minimum unit weight of 110 pcf (pounds per cubic foot) when compacted to a minimum of $95 \%$ of its maximum dry density and within plus or minus 3 percentage points of optimum moisture. Materials utilized should not contain more than 5 percent by weight of organic matter, waste, debris or any otherwise deleterious materials. The Liquid Limit should be no greater than 40 with a Plasticity Index no greater than 20. Structural fill material should contain a maximum particle size of 4 inches with 20 percent or less of the material having a particle size between 2 and 4 inches. Backfill should be placed in thin horizontal lifts not to exceed 8 inches (loose) in large grading areas and 4 inches (loose) where small handheld or walk-behind compaction equipment will be utilized. The potential suitability of on-site materials to be utilized as fill should be evaluated by a Geotechnical Engineer, or their representative just prior to construction.

During construction structural fill placement should be monitored and tested. This should include at minimum, visual observation as well as a sufficient amount of in-place field density tests by a Geotechnical Engineer, or their representative. Materials should be compacted to a minimum of $95 \%$ of the maximum dry density as determined by ASTM D 698 (standard Proctor method). Moisture contents should be maintained to within plus or minus 3 percentage points of the optimum moisture content.

## SHALLOW FOUNDATIONS

Foundation excavation(s) should be evaluated by a Geotechnical Engineer, or their representative, prior to reinforcing steel and concrete placement. This evaluation should include visual observation to verify a level bearing surface; vertical side-walls with no protrusions, sloughing or caving; and the exposed bearing surface is free of deleterious material, loose soil and standing water. Excavation dimensions should be verified and testing performed on the exposed bearing surface to verify compliance with design recommendations. Bearing testing should be conducted in accordance with ASTM STP399 (Dynamic Cone Penetrometer). A 6-inch layer of compacted crushed stone should be installed prior to reinforcing steel and concrete placement. If subsurface water is encountered during excavation dewatering methods such as sump pumps or well points may be required.

## DRILLED SHAFT FOUNDATIONS

Drilled shaft foundations (caissons) are typically installed utilizing an earth auger to reach the design depth of the foundation. Specialized roller bits or core bits can be utilized to penetrate boulders or rock. The equipment utilized should have cutting teeth to result in an excavation with little or no soil smeared or caked on the excavation sides with spiral-like corrugated walls. The drilled shaft design diameter should be maintained throughout the excavation with a plumbness tolerance of 2 percent of the length and an eccentricity tolerance of 3 inches from plan location. A removable steel casing can be installed in the shaft to prevent caving of the excavation sides due to soil relaxation. Upon completion of the drilling and casing placement, loose soils and subsurface water greater than 3-inches in depth should be removed from the bottom of the excavation for the "dry" installation method. The drilled shaft installation should be evaluated by a Geotechnical Engineer, or their representative, to verify suitable end bearing conditions, design diameter and bottom cleanliness. The evaluation should be conducted immediately prior to as well as during concrete placement operations.

The drilled shaft should be concreted as soon as reasonably practical after excavation to reduce the deterioration of the supporting soils to prevent potential caving and water intrusion. A concrete mix design with a slump of 6 to 8 inches employed in conjunction with the design concrete compressive strength should be utilized for placement. Super plasticizer may be required to obtain the recommended slump range. During placement, the concrete may fall freely through the open area in the reinforcing steel cage provided it does not strike the reinforcing steel and/or the casing prior to reaching the bottom of the excavation. The removable steel casing should be extracted as concrete is placed. During steel casing removal a head of concrete should be maintained above the bottom of the casing to prevent soil and water intrusion into the concrete below the bottom of the casing.

If subsurface water is anticipated and/or weak soil layers are encountered drilled shafts are typically installed utilizing the "wet" method by excavating beneath a drilling mud slurry. The drilling mud slurry is added to the drilled shaft excavation after groundwater has been encountered and/or the sides of the excavation are observed to be caving or sloughing. Additional inspection by a Geotechnical Engineer, or their representative, during the "wet" method should consist of verifying maintenance of sufficient slurry head, monitoring the specific gravity, pH and sand content of the drilling slurry, and monitoring any changes in the depth of the excavation between initial approval and just prior to concreting.

Concrete placement utilizing the "wet" method is conducted through a tremie pipe at the bottom of the excavation with the drilling mud slurry level maintained at a minimum of 5 feet or one shaft diameter, whichever is greater, above the ground water elevation. The bottom of the tremie should be set one tremie pipe diameter above the excavation. A closure flap at the bottom of the tremie or a sliding plug introduced into the tremie before the concrete is recommended to reduce the potential contamination of the concrete by the drilling mud slurry. The bottom of the tremie must be maintained in the concrete during placement. Additional concrete should be placed through the tremie causing the slurry to overflow from the excavation in order to reduce the potential for the development of "slurry pockets" remaining in the drilled shaft.

## QUALIFICATIONS

The design parameters and conclusions provided in this report have been determined in accordance with generally accepted geotechnical engineering practices and are considered applicable to a rational degree of engineering certainty based on the data available at the time of report preparation and our practice in this geographic region. All recommendations and supporting calculations were prepared based on the data available at the time of report preparation and knowledge of typical geotechnical parameters in the applicable geographic region.

The subsurface conditions used in the determination of the design recommendations contained in this report are based on interpretation of subsurface data obtained at specific boring locations. Irrespective of the thoroughness of the subsurface investigation, the potential exists that conditions between borings will differ from those at the specific boring locations, that conditions are not as anticipated during the original analysis, or that the construction process has altered the soil conditions. That potential is significantly increased in locations where proposed fill materials are encountered. Additionally, the nature and extent of these variations may not be evident until the commencement of construction. Therefore, a geotechnical engineer, or their representative, should observe construction practices to confirm that the site conditions do not differ from those conditions anticipated in design. If such variations are encountered, Delta Oaks Group should be contacted immediately in order to provide revisions and/or additional site exploration as necessary. No warranty, expressed or implied, is presented.

Delta Oaks Group appreciates the opportunity to be of service for this Supplemental Geotechnical Report. Please do not hesitate to contact Delta Oaks Group with any questions or should you require additional service on this project.

## DELTA OAKS GROUP



## APPENDIX



## DIRECTIONS TO SITE

DIRECTIONS FROM BRECKENRIDGE COUNTY COURTHOUSE:
HEAD NORTH ON KY-259 N / S MAIN ST TOWARD 2ND ST., CONTINUE TO FOLLOW KY-259 N 3.8 MI , TURN LEFT ONTO HWY 2779/NEW BETHEL RD, 6.7 MI, DESTINATION WILL BE ON THE LEFT.

PREPARED BY CLARK, QUINN, MOSES, SCOTT \& GRAHN, LP, 317-637-1321

# Prepared by Jason Catalini 

And after recording return to:
TowerCo 2013 LLC
5000 Valleystone Drive, Suite 200
Cary, NC 27519
919-653-5700


## MEMORANDUM OF LEASE

This Memorandum of Lease is entered into on this 215 day of Auqust_, 2023, by and between COREY M. BIDDLE and LISA A. BIDDLE, husband and wife, having a mailing address of 6070 Haysville Rd, Guston, KY 40142 (hereinafter referred to as "Lessor") and TOWERCO 2013 LLC, a Delaware limited liability company having a mailing address of 5000 Valleystone Drive, Suite 200, Cary, North Carolina 27519 (hereinafter referred to as "Lessee").

1. Lessor and Lessee entered into that certain Ground Lease Agreement dated the $\frac{\partial 1}{}$ day of August, 2023 (the "Lease") for certain real property and easements as described in Exhibit B attached hereto (collectively, the "Premises"), which are a portion of that certain parcel of real property located in Cloverport, County of Breckinridge, State of Kentucky, described in Exhibit A attached hereto (the "Land").
2. The Lease shall have an initial term of five (5) years, with fifteen (15) additional five (5) year renewal terms.
3. 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 or the addition of any terms in this Memorandum which are not contained in the Lease, the Lease shall control. The terms of the Lease are hereby incorporated by reference.
4. Upon written notice to Lessee, Lessor is permitted to transfer the Lease only in connection with the sale of the Land and only on the following conditions: (a) the acquiring party must and will assume in writing all of the rights and obligations of Lessor under this Lease on and after the date of purchase of the Land and (b) Lessor must retain no rights or obligations under the Lease after the date of sale of the Land (a "Lessor Permitted Assignment"). Other than a Lessor Permitted Assignment, Lessor is prohibited from assigning, selling or otherwise transferring the Lease in whole or in part and Lessor is prohibited from granting any third party an easement or other real property interest in the Premises.
5. Pursuant to the Lease, Lessee has a right of first refusal to meet any bona fide offers for (i) any sale or transfers of the Land, and any (ii) grant from Lessor to a third party by easement or other legal instrument of an interest in and to any portion of the Land, the Premises or the Lease for any purpose relating to operating and maintaining communications facilities or the management thereof, with or without an assignment of the Lease to such third party, including but not limited to assignments of any right to the rent or rental stream associated with the Lease.

## [REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have executed this Memorandum under seal as of the dates set forth in the respective acknowledgements.

## LESSOR:

COREY M. BIDDLE and LISA A. BIIDDLE, husband and wife
By:


Name: Corey M. Biddle
Title: Owner
Date:


By:


Name: Lisa A. Biddle
Title: Owner
Date:


## LESSOR ACKNOWLEDGEMENT:

## STATE OF KENTUCKY ) county of Meade )

Before me, Elizabeth Arnold the undersigned, a Notary Public for the State, personally appeared Corey M. Biddle, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument.

Notary Public
Print Name $\qquad$ Elizabeth Arnold \#63595)
Title (and Rank): Notary Public
My commission expires: $\qquad$ (seal)
STATE OF KENTUCKY
COUNTY OF
Beforeme, Elizabeth Arnold the undersigned, a Notary Public for the State, personally appeared Lisa A. Biddle, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument.


Notary Public Elizabeth Arnold
Print Name 635951
Title (and Rank): Notary Public
My commission expires: $\qquad$ (seal)

## LESSEE:

TOWERCO 2013 LLC, a Delaware limited liability company

By:


Name: Mike Smith
Title: CFO
Date:
$8 / 21 / 23$

## LESSEE ACKNOWLEDGEMENT:

STATE OF NORTH CAROLINA )
COUNTY OF WAKE
Before me, Jill E. Harvey, the undersigned, a Notary Public for the State, personally appeared Mike Smith who is the CFO of TowerCo 2013 LLC, a Delaware limited liability company, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the entity upon behalf of which he acted, executed the instrument.

WITNESS my hand and official seal, this $\square$ Ql ${ }^{5 t}$ day of $\qquad$ , 2023.


## EXHIBIT A

 DESCRIPTION OF LANDThe Land is described and/or depicted as follows:

Be ng Parcel t20 ( 6.730 acres), as shown on plat of STANLEY WILLIAMS FARM DIVISION. Section 1, recorded in Plat Cabinet B, SIde 87, in Breckinridge Counly Clerk's Office.

EEING a part of the same property conveyed to Timothy L. Hart and Jernifer L. Hart. husband and wife. by deed from Earl M. Davis, Sr and Nancy E Davis, husband and wife executed on August 4, 2006 and recorded in Deed Book 317. page 564, Breckinnidge County Clerk's Office.

## EXHIBIT B

## DESCRIPTION OR DEPICTION OF PREMISES

An approximately $100^{\prime} \times 100^{\prime}(10,000)$ square foot tract of land, together with easements for ingress, egress and utilities described or depicted as follows. Exact legal description to be determined by survey.
(see attached)

Note: At Lessee's option, Lessee may replace this Exhibit with an exhibit setting forth the legal description of the Premises, or an as-built drawing depicting the site. Any visual or textual representation of the Improvements (as defined in the Lease) and facilities is illustrative only, and does not limit the rights of Lessee as provided for in the Lease. Without limiting the generality of the foregoing:

1. The Premises may be setback from the boundaries of Lessor's property as required by the applicable governmental authorities.
2. The access road's width may be modified as required by governmental authorities, including police and fire departments.
3. The locations of any access and utility easements are illustrative only. Actual locations may be determined by Lessee and/or the servicing utility company in compliance with local laws and regulations.


Notification Listing with PVA Screenshots


Parcel \# 414-12A
PEVELER WILLIAM DWIGHT \& DANA M
2919 LAURA LYNN LN NEWBURGH, IN 47630-8931


Parcel \# 41-12F-2
POYNTER JUSTIN TERRY
PO BOX 51
STEPHENSPORT, KY 40170-0051
©qPublicnet" Breckinridge County, KY PVA


Elmprovement Information
ESale Information

| Sale Date $=$ | Sale Price : | Sale Tipe * | Book-Page * | Grantee $*$ | Gramor $=$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2/14/2020 | \$62000 | mutiole Properties | 425.341 | POYNTER JUSTINTERRY | boges gartig theimajo |



Parcel \# 41-3J-1
BIDDLE COREY M
6070 HAYESVILLE RD
GUSTON, KY 40142



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

May 3, 2024

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

Cello Partnership, d/b/a Verizon Wireless and TowerCo are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on the east side of HWY 2779, south of KY 144, Stephensport, KY 40170 (North Latitude: ( $37^{\circ}$ $54 ’ 13.31^{\prime \prime}$, West Longitude $86^{\circ} 31^{\prime} 40.29^{\prime \prime}$ ). The proposed facility will include a 195 -foot tall antenna tower, plus a 4 -foot lightning arrestor and related ground facilities. Site name is Stephensport. It should be noted that this tower will replace the existing temporary tower located on the north side of River View Drive, west of HWY 2779.

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 2024-00134 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



BIDDLE COREY \＆LISA A
6070 HAYSVILLE RD
GUSTON，KY 40142


US POSTAGE MIPITNEY BOWES
4
ZIP 46204
02 7H
0006035028
$\$ 008.69^{\circ}$
MAY 032024


PULLEN C P HEIRS
\％JAMES T \＆SHEILA PULLEN
99 BLACKLICK CHURCH LN
FALLS OF ROUGH，KY 40119


PEVELER WILLIAM DWIGHT
\＆DANA M
2919 LAURA LYNN LN
NEWBURGH，IN 47630－8931


POYNTER JUSTIN TERRY PO BOX 51 STEPHENSPORT, KY 40170-0051

CARMAN ROBERT D
6201 HWY 2779
HARDINSBURG, KY 40143

BIDDLE COREY M
6070 HAYESVILLE RD
GUSTON, KY 40142



HUTCHISON ABBIE ANN
12204 N HWY 259
HARDINSBURG, KY 40143


ALERT: SEVERE WEATHER IN THE SOUTH, SOUTHEAST, CENTRAL, NORTHERN MID-ATLANTI...

## 70120470000180484279

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

## Latest Update

Your item arrived at our INDIANAPOLIS IN DISTRIBUTION CENTER origin facility on May 25, 2024 at 5:25 pm . The item is currently in transit to the destination.

Get More Out of USPS Tracking:
USPS Tracking Plus ${ }^{\circledR}$
In Transit from Origin Processing
Arrived at USPS Regional Origin Facility
INDIANAPOLIS IN DISTRIBUTION CENTER
May $25,2024,5: 25 \mathrm{pm}$

Unclaimed/Being Returned to Sender
IRVINGTON, KY 40146
May 21, 2024, 1:18 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® ${ }^{\circledR}$

Product Information

See Less $\boldsymbol{\wedge}$

Track Another Package
Enter tracking or barcode numbers

## Need More Help?

Contact USPS Tracking support for further assistance.

FAQs

ALERT: SEVERE WEATHER IN THE SOUTH, SOUTHEAST, CENTRAL, NORTHERN MID-ATLANTI...

## 70120470000180484323

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

## Latest Update

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

## Get More Out of USPS Tracking:

USPS Tracking Plus ${ }^{\circledR}$

## Moving Through Network <br> In Transit to Next Facility

May 27, 2024

Unclaimed/Being Returned to Sender
IRVINGTON, KY 40146
May 21, 2024, 1:18 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® ${ }^{\circledR}$

## See Less $\boldsymbol{\wedge}$

## Track Another Package

Enter tracking or barcode numbers

## Need More Help?

Contact USPS Tracking support for further assistance.

## FAQs

ALERT: SEVERE WEATHER IN THE SOUTH, SOUTHEAST, CENTRAL, NORTHERN MID-ATLANTI...
Tracking Number:
70120470000180484316
Copy Add to Informed Delivery (https://informeddelivery.usps.com/)

## Latest Update

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

## Get More Out of USPS Tracking:

USPS Tracking Plus ${ }^{\circledR}$

## Moving Through Network

In Transit to Next Facility
May 27, 2024

Unclaimed/Being Returned to Sender
HARDINSBURG, KY 40143
May 21, 2024, 7:56 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® ${ }^{\circledR}$

## See Less $\boldsymbol{\wedge}$

## Track Another Package

Enter tracking or barcode numbers

## Need More Help?

Contact USPS Tracking support for further assistance.

## FAQs

ALERT: SEVERE WEATHER IN THE SOUTH, SOUTHEAST, CENTRAL, NORTHERN MID-ATLANTI...

## Latest Update

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

## Get More Out of USPS Tracking:

USPS Tracking Plus ${ }^{\circledR}$

## Moving Through Network

In Transit to Next Facility
May 27, 2024

Unclaimed/Being Returned to Sender
HARDINSBURG, KY 40143
May 21, 2024, 7:56 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® ${ }^{\circledR}$

## See Less $\boldsymbol{\wedge}$

## 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

May 3, 2024
Via Certified Mail, Return Receipt Requested 70120470000180484262

Maurice Lucas, Judge Executive
Breckinridge County
PO Box 227
208 South Main Street
Hardinsburg, KY 40143
RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2024-00134
Site Name: Stephensport
Dear Judge Lucas:
Cellco Partnership, d/b/a Verizon Wireless and TowerCo are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on on the east side of HWY 2779, south of KY 144, Stephensport, KY 40170 (North Latitude: ( $37^{\circ} 54^{\prime} 13.31$ ", West Longitude $86^{\circ} 31^{\prime} 40.29^{\prime \prime}$ ). The proposed facility will include a 195 -foot tall antenna tower, plus a 4 -foot lightning arrestor and related ground facilities. Site name is Stephensport. It should be noted that this tower will replace the existing temporary tower located on the north side of River View Drive, west of HWY 2779.

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 202400134 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


RLB/mnw
Enclosures

## Location Map




Maurice Lucas, Judge txecutive
Breckinridge County
PO Box 227
208 South Main Street
Hardinsburg, KY 40143


## SITE NAME: STEPHENSPORT 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.

Tower Ventures 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 2024-00134 in your correspondence.

Tower Ventures 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 2024-00134 in your correspondence.

ClarkQuinn

VIA EMAIL: classifiedsthn@bbtel.com
Land Use Consultant
The Herald News
P.O. Box 31
*Also admitted in Montana
Hardinsburg, KY 40143

RE: Legal Notice Advertisement
Site Name: Stephensport
To Whom It May Concern,
Please publish the following legal notice advertisement in the next available edition of The Herald News Publication:

## 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 the east side of HWY 2779, south of KY 144, Stephensport, KY 40170 (North Latitude: ( $37^{\circ} 54^{\prime} 13.31 "$, West Longitude $86^{\circ} 31^{\prime} 40.29^{\prime \prime}$ ). The proposed facility will include a 195 -foot-tall antenna tower, plus a 4-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 2024-00134 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,

Elizabeth Bentz Williams, AICP


Radio Frequency Design Search Area


## verizon ${ }^{\checkmark}$

January 30, 2024

RE: Proposed Cellco Partnership d/b/a Verizon Wireless Communications<br>Facility Site Name: CK Stephensport COW RELO<br>Type of Tower: 199 ft . Monopole<br>Location: Intersection of Hwy 2779 and 144, Hardinsburg, KY 40143

To Whom It May Concern:

As a radio frequency engineer for Verizon Wireless, I am providing this letter to state the need for a Verizon Wireless site called,CK Stephensport COW REL.O.

The CK Stephensport COW RELO site is proposed with the below objectives:

1. To improve cellular service to the residents and business in Stephensport
2. To improve service along Route 144.
3. To offload existing traffic of existing Verizon sites in this area.

Currently the area is experiencing poor service along Route 144 and in and around the city of the city of Stephensport. There is a high demand for wireless high-speed data and phone service in this aera. This tower is needed to provide all Verizon customers in the area with the best experience on their wireless devices.

Raw Land - Design plans for a new tower would provide overall tower height of $199^{\prime}$ with a Verizon Wireless Centerline of $190^{\prime}$. The new structure height was decided upon to best cover the residents and business in and around Stephensport, Route 144, and to offload traffic from the nearby existing Verizon sites. If we are limited to building a structure less than the proposed height, another tower would be needed in the vicinity in the near future. In addition, building a structure that is too short can cause existing taller sites to cover over the proposed site and building a site that is too tall can cause the proposed site to shoot over existing sites. Both situations create a poor experience from a user perspective. The new structure is proposed to be placed near the center of the problem area. The new tower design solves the stated objectives.

Verizon Wireless cares about the communities as well as the environment and prefers to collocate on existing structures when available. Verizon Wireless is currently collocated on some existing structures in the area. We prefer collocation due to reduced construction costs, faster deployment, and environment protection. However, Verizon Wireless was unable to find a suitable structure within the center of demand area to collocate the proposed site.

## verizon ${ }^{\sqrt{2}}$

Verizon Wireless design engineers establish search area criteria in order to effectively meet coverage objectives as well as offload existing Verizon cell sites. When met, the criterion also reduces the need for a new site to cover the area in the immediate future. Each cellular site covers a limited area, depending on site configuration and the surrounding terrain. Cell sites are built in an interconnected network; which means each cell site must be located so that their respective coverage areas are contiguous. This provides uninterrupted communications throughout the coverage area.

Since collocation is generally the most cost-effective means for prompt deployment of new facilities, Verizon Wireless makes every effort to investigate the feasibility for using existing towers or other tall structures for collocation when designing a new site or system expansion. However, collocation on an existing tower or tall structure is not always feasible due to location of existing cell sites. Cell sites are placed in a way so they provide smooth hand off to each other and are placed at some distance from each other to eliminate too much overlap. Too much overlap may result in a waste of resources and raise a system capacity overload concern.
This cell site has been designed, and shall 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.

Sincerely,

Steven Belcher
Sr RF Engineer
Verizon Wireless
$1 / 30 / 24$

## Tina bricole Wheeler

 notary publicNINA NICOLE WHEELER Notary Public Commonwealth of Kentucky Commission Number KYNP39122 My Commission Expires Nov 1, 2025

## verizon ${ }$

January 30, 2024

## RE: Zoning Plots

Site Name: CK Stephensport Cow Relo

To Whom It May Concern:

This map is not a guarantee of coverage and may contain areas with no service. This map reflects a depiction of predicted and approximate wireless coverage of the network and is intended to provide a relative comparison of coverage. The depictions of coverage do not guarantee service availability as there are many factors that can influence coverage and service availability. These factors vary from location to location and change over time. The coverage areas may include locations with limited or no coverage. Even within a coverage area shown, there are many factors, including but not limited to, usage volumes, outages, customer's equipment, terrain, proximity to buildings, foliage, and weather that may impact service.

Sincerely,


Steven Belcher
Sr RF Engineer
Verizon Wireless

Coverage - With proposed site CK Stephensport Cow Relo


# Exhibit T List and Identity and Qualifications of Professionals 

Stephen E. Hunt<br>Professional Engineer<br>Kentucky License 25003<br>Telecad Wireless<br>1961 Northpoint Blvd.<br>Suite 130<br>Hixson, TN 3734<br>F. V. Neeley<br>Professional Land Surveyor<br>Kentucky License 3094<br>Sharondale Surveying<br>161 Martin Road<br>Bon Aqua, TN 37025<br>Joseph V Borrelli<br>Professional Engineer<br>Kentucky License 30809<br>Delta Oaks Group Project<br>4904 Professional Court, Second Floor<br>Raleigh, NC 27609<br>Michael L. Lassiter<br>Professional Engineer<br>Kentucky License 24895<br>Delta Oaks Group<br>4904 Professional Court, Second Floor<br>Raleigh, NC 27609<br>Larry Rhoads<br>Construction Manager<br>Verizon Wireless<br>2421 Holloway Road<br>Louisville, KY 40299<br>Steven Belcher<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, d/b/a Verizon Wireless do hereby certify that as the person supervising the preparation of this application and 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.


Russell L. Brown
Attorney, for Cellco Partnership, d/b/a Verizon Wireless
STATE OF INDIANA, COUNTY OF MARION, SS:
Subscribed and sworn to before me this $31^{\text {st }}$ day of May, 2024.


My County of Residence: Marion
Commission \#: 0639620

