## COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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THE APPLICATION OF
NEW CINGULAR WIRELESS PCS, LLC, )
A DELAWARE LIMITED LIABILITY COMPANY, )
D/B/A AT&T MOBILITY
AND UNITI TOWERS LLC, A DELAWARE
LIMITED LIABILITY COMPANY
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY TO CONSTRUCT
A WIRELESS COMMUNICATIONS FACILITY
IN THE COMMONWEALTH OF KENTUCKY
IN THE COUNTY OF BATH)
) CASE NO.: 2021-00092
)

SITE NAME: SHARPSBURG

\section*{APPLICATION FOR}

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR CONSTRUCTION OF A WIRELESS COMMUNICATIONS FACILITY

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Uniti Towers LLC, a Delaware limited liability company ("Applicants"), by counsel, pursuant to (i) KRS \(\S \S 278.020,278.040,278.650,278.665\), 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 Applicants with wireless communications services.

In support of this Application, Applicants respectfully provide and state the following
information:
1. The complete names and addresses of the Applicants are: New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility, having an address of Meidinger Tower, 462 S. \(4^{\text {th }}\) Street, Suite 2400, Louisville, Kentucky 40202 and Uniti Towers LLC, a Delaware limited liability company having an address of 10802 Executive Center Drive, Benton Building, Suite 300, Little Rock, Arkansas 72211.
2. 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 Applicants submit this application to the PSC for a certificate of public convenience and necessity pursuant to KRS §§ 278.020(1), 278.040, 278.650, 278.665, and other statutory authority.
3. AT\&T Mobility is a limited liability company organized in the State of Delaware on October 20, 1994. Uniti Towers is a limited liability company organized in the State of Delaware on December 2, 2015.
4. Applicants attest that they are in good standing in the state in which they are organized and further state that they are authorized to transact business in Kentucky.
5. The Certificates of Authority filed with the Kentucky Secretary of State for both Applicants are attached as part of Exhibit A pursuant to 807 KAR 5:001: Section 14(3).
6. AT\&T Mobility operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. Copies of AT\&T Mobility's FCC licenses to provide wireless services are attached to this Application or described as part of Exhibit A, and the facility will be constructed and operated in
accordance with applicable FCC regulations.
7. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve AT\&T Mobility's services to an area currently not served or not adequately served by AT\&T Mobility by increasing coverage or capacity and thereby enhancing the public's access to innovative and competitive wireless communications services. The WCF will provide a necessary link in AT\&T Mobility's communications network that is designed to meet the increasing demands for wireless services in Kentucky's wireless communications service area. The WCF is an integral link in AT\&T Mobility's network design that must be in place to provide adequate coverage to the service area.
8. To address the above-described service needs, Applicants propose to construct a WCF at 635 Ramey Road, Sharpsburg, KY 40374 (E-911) / 695 Ramey Road, Sharpsburg, KY 40374 (PARCEL) ( \(38^{\circ} 12^{\prime} 39.34^{\prime \prime}\) North latitude, \(83^{\circ} 56^{\prime} 02.64\) " West longitude), 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 Danny and Vonda Harmon pursuant to a deed recorded at Deed Book 212, Page 526 in the office of the County Clerk. The proposed WCF will consist of a 255 -foot tall tower, with an approximately 12 -foot tall lightning arrestor attached at the top, for a total height of 267feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of AT\&T Mobility's radio electronics equipment and appurtenant equipment. The Applicants' 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 B and

\section*{Exhibit C.}
9. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete is attached as Exhibit D.
10. 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 AT\&T Mobility's antennas has also been included as part of Exhibit B.
11. 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 C.
12. Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and have 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 AT\&T Mobility's antennas on an existing structure. When suitable towers or structures exist, AT\&T Mobility attempts to co-locate on existing structures such as communications towers or other structures capable of supporting AT\&T Mobility's facilities; however, no other suitable or available colocation site was found to be located in the vicinity of the site.
13. A copy of the Determination of No Hazard to Air Navigation issued by the Federal Aviation Administration ("FAA") is attached as Exhibit E.
14. A copy of the approval issued by the Kentucky Airport Zoning Commission ("KAZC") is attached as Exhibit F.
15. A geotechnical engineering firm has performed soil boring(s) and subsequent geotechnical engineering studies at the WCF site. A copy of the geotechnical engineering report, signed and sealed by a professional engineer registered in the Commonwealth of Kentucky, is attached as Exhibit G. The name and address of the geotechnical engineering firm and the professional engineer registered in the Commonwealth of Kentucky who supervised the examination of this WCF site are included as part of this exhibit.
16. Clear directions to the proposed WCF site from the County seat are attached as Exhibit H . The name and telephone number of the preparer of Exhibit H are included as part of this exhibit.
17. Uniti Towers LLC, pursuant to a written agreement, has acquired the right to use the WCF site and associated property rights. A copy of the agreements or abbreviated agreements recorded with the County Clerk are attached as Exhibit I.
18. 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 \(\mathbf{C}\) 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.
19. The Construction Manager for the proposed facility is Jeremy Culpepper and the identity and qualifications of each person directly responsible for design and
construction of the proposed tower are contained in Exhibits B \& C.
20. As noted on the Survey attached as part of Exhibit B, the surveyor has determined that the site is not within any flood hazard area.
21. Exhibit B 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 (according to the records maintained by the County Property Valuation Administrator). 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 is illustrated in Exhibit B.
22. Applicants have notified 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 has been informed of his or her right to request intervention. A list of the notified property owners and a copy of the form of the notice sent by certified mail to each landowner are attached as Exhibit J and Exhibit K, respectively.
23. 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 is attached as Exhibit L.
24. 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 M. 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 part of Exhibit M.
25. The general area where the proposed facility is to be located is rural in character.
26. The process that was used by AT\&T Mobility'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. AT\&T Mobility'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 Applicants when searching for sites for its antennas that would provide the coverage deemed necessary by AT\&T Mobility. 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 \(\mathbf{N}\).
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.
28. All Exhibits to this Application are hereby incorporated by reference as if fully set out as part of the Application.
29. All responses and requests associated with this Application may be directed to:

David A. Pike Pike Legal Group, PLLC
1578 Highway 44 East, Suite 6
P. O. Box 369

Shepherdsville, KY 40165-0369
Telephone: (502) 955-4400
Telefax: (502) 543-4410
Email: dpike@pikelegal.com

WHEREFORE, Applicants respectfully request that the PSC accept the foregoing Application for filing, and having met the requirements of KRS §§ 278.020(1), 278.650, and 278.665 and all applicable rules and regulations of the PSC, grant a Certificate of Public Convenience and Necessity to construct and operate the WCF at the location set forth herein.

Respectfully submitted,
David A. Pike
Pike Legal Group, PLLC
1578 Highway 44 East, Suite 6
\begin{tabular}{l} 
P. O. Box 369 \\
Shepherdsville, KY 40165-0369 \\
Telephone: \\
(502) \(955-4400\) \\
Telefax: \\
Email: dpike@pikelegal.com \\
Attorney for Applicants
\end{tabular}

\section*{LIST OF EXHIBITS}

A - Certificate of Authority \& FCC License Documentation
B - Site Development Plan:
500' Vicinity Map
Legal Descriptions
Flood Plain Certification
Site Plan
Vertical Tower Profile
C - Tower and Foundation Design
D - Competing Utilities, Corporations, or Persons List
E - FAA
F - Kentucky Airport Zoning Commission
G - Geotechnical Report
H - Directions to WCF Site
I - Copy of Real Estate Agreement
J - Notification Listing
K - Copy of Property Owner Notification
L - Copy of County Judge/Executive Notice
M - Copy of Posted Notices and Newspaper Notice Advertisement
N - Copy of Radio Frequency Design Search Area

\section*{EXHIBIT A}

CERTIFICATE OF AUTHORITY \& FCC LICENSE DOCUMENTATION

\title{
Commonwealth of Kentucky Alison Lundergan Grimes, Secretary of State
}

Alison Lundergan Grimes Secretary of State P. O. Box 718

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

\section*{Certificate of Authorization}

I, Alison Lundergan Grimes, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

\section*{NEW CINGULAR WIRELESS PCS, LLC}
, 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 October 14, 1999.

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 \(28^{\text {th }}\) day of May, 2019, in the \(227^{\text {th }}\) year of the Commonwealth.


Alison Lundergan Grimes
Secretary of State
Commonwealth of Kentucky
216299/0481848
\begin{tabular}{|lr|}
\hline 0972004.06 & mstratton \\
Alison Lundergan Grimes & ADD \\
Kentucky Secretary of State \\
Received and filed: \\
1/3/2017 3:10 PM & \\
Fee Receipt: \(\$ 90.00\) \\
\hline
\end{tabular}

\section*{Alison Lundergan Grimes, Secretary of State}

8. The names and business addresses of the entity's representatives (secretary, officers and directors, managers, tristees or general partners):
\begin{tabular}{|c|c|c|c|c|}
\hline Daniel L. Heard &  & Little Rock & AR & 72211 \\
\hline Name & Streat or P.O. Box & City & State & Zip Code \\
\hline Kenneth Gunderman &  & Little Rock & AR & 72211 \\
\hline Name & Streat or P.a. Eiox & city & State & \(\overline{\mathrm{zp}}\) Codo \\
\hline Mark A. Wallace &  & Little Rock & AR & 72211 \\
\hline Name & Streat or P.O. BOx & city & State & 2 LP Code \\
\hline
\end{tabular}
9. If a protessional service corporallon, aft the individuad aharehodidert, not less than one half ( \(1 / 2\) ) of the directors, and all of the omears othar then the secretary and treasurer are licensed in one or more atoras or terthories of itha Uniliod Slates or Distifet of Columbis to render a profeszional service deacribed in the statement of purposen of tho copporation.
10. I certify that, as of the date of filing this application, the above-named entlly validly exists under the laws of the jurisdiction of its formation.
14. If a limited partnership, it elects to be a limited liability limited partnership. Check the box If appilcable:
12. If a limited llability company, check box if manager-managed: \(\square\)
13. This application will be effective upon fling, unless a delayed effective date and/or time is provided.

1. C T Corporation System

(00/15)

\section*{Delaware}

The First State

I, JEFEREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAFARE, DO HEREBY CERTTIFY "UNTTI TOPEERS LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELANARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO EAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE THIRTIETH DAY OF DECMABER, A.D. 2016.

AND I DO HEREBY FURTHER CBRTIEY THAT THE ANNUAL TAXES HAVE BEEEN PAID TO DATE.

58966408300
SR\# 20167345793
You may verify this certificate online at corp.delaware.gov/authver.shtml


Authentication: 203613650
Date: 12-30-16

\section*{REFERENCE COPY}

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.

\section*{Federal Communications Commission Wireless Telecommunications Bureau RADIO STATION AUTHORIZATION}

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

\author{
ATTN: CECIL J MATHEW \\ NEW CINGULAR WIRELESS PCS, LLC \\ 208 S AKARD ST., RM 1015 \\ DALLAS, TX 75202
}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
KNKN956
\end{tabular} & File Number \\
\hline \multicolumn{2}{|c|}{\begin{tabular}{c} 
Radio Service \\
CL - Cellular
\end{tabular}} \\
\hline \begin{tabular}{c} 
Market Numer \\
CMA450
\end{tabular} & \begin{tabular}{c} 
Channel Block \\
B
\end{tabular} \\
\hline \multicolumn{2}{|c|}{ Sub-Market Designator } \\
0
\end{tabular}

FCC Registration Number (FRN): 0003291192
4x \(\quad\)\begin{tabular}{c} 
Sub-Market Designator \\
0
\end{tabular}
\begin{tabular}{|l|l|}
\hline Market Name & \\
Kentucky 8 - Mason & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline \begin{tabular}{c} 
Grant Date \\
\(08-30-2011\)
\end{tabular} & \begin{tabular}{c} 
Effective Date \\
\(08-31-2018\)
\end{tabular} & \begin{tabular}{c} 
Expiration Date \\
\(10-01-2021\)
\end{tabular} & Five Yr Build-Out Date & Print Date \\
\hline
\end{tabular}

Site Information:
\begin{tabular}{|c|c|c|c|c|c|}
\hline Location & Latitude & Longitude & Ground Elevation (meters) & Structure Hgt to Tip (meters) & Antenna Structure Registration No. \\
\hline 1 & 38-06-01.6 N & 083-56-44.2 W & 307.8 - & 126.5 & 1059771 \\
\hline \multicolumn{6}{|l|}{Address: 3003 Maysville Road (76290)} \\
\hline City: MT & STERLING & County: MONTGOMERY & State: KY Constr & ction Deadline: & \\
\hline
\end{tabular}

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 135.500 & 127.300 & 143.700 & 142.100 & 122.700 & 113.300 & 130.600 & 136.100 \\
\hline Transmitting ERP (watts) & 154.900 & 65.100 & 5.300 & 0.700 & 0.309 & 0.400 & 10.100 & 78.000 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 135.500 & 127.300 & 143.700 & 142.100 & 122.700 & 113.300 & 130.600 & 136.100 \\
\hline Transmitting ERP (watts) Antenna: 3 & 0.500 & 7.000 & 36.900 & 44.000 & 12.100 & 0.900 & 0.100 & 0.100 \\
\hline Maximum Transmitting ERP in Watts: Azimuth(from true north) & 140.820 & & & & & & & \\
\hline Antenna Height AAT (meters) & 135.500 & \({ }_{127.300}\) & & & 180 & & & \\
\hline Transmitting ERP (watts) & 24.700 & 18.300 & 22.700 & 33.500 & 103.700 & 99.000 & 130.600
12600 & 136.100
69.600 \\
\hline
\end{tabular}

\section*{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. \(\$ 606\).


Call Sign: KNKN956
\begin{tabular}{llll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} \\
5 & \(38-41-03.8 \mathrm{~N}\)
\end{tabular}

Print Date:
Structure Hgt to Tip
(meters)
127.1

\section*{Antenna Structure Registration No. 1043359}

Address: 275 SOUTH BLUE GRASS ROAD (76297)
City: Brooksville County: BRACKEN State: KY Construction Deadline: 12-30-2014
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 169.000 & 167.500 & 126.700 & 147.100 & 165.400 & 152.500 & 139.700 & 174.500 \\
\hline Transmitting ERP (watts) & 133.400 & 148.800 & 43.700 & 24.400 & 0.300 & 9.100 & 50.100 & 148.800 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 169.000 & 167.500 & 126.700 & 147.100 & 165.400 & 152.500 & 139.700 & 174.500 \\
\hline Transmitting ERP (watts) Antenna: 3 & 12.200 & 80.800 & 162.200 & 168.800 & 105.900 & 30.400 & 22.400 & 8.400 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 169.000 & 167.500 & 126.700 & 147.100 & 165.400 & 152.500 & 139.700 & 174.500 \\
\hline Transmitting ERP (watts) & 23.200 & 9.000 & 12.000 & 26.500 & 118.900 & 157.600 & 177.800 & 68.800 \\
\hline
\end{tabular}
\begin{tabular}{lllcl} 
Location Latitude & Longitude & \begin{tabular}{c} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
6 & \(38-35-58.3 \mathrm{~N}\) & \(083-10-00.7 \mathrm{~W}\) & 319.7 & 61.0
\end{tabular}

Address: 803 HIGHWAY 546 STATE ROUTE 10 (76299)
City: GARRISON County: LEWIS State: KY Construction Deadline: 12-30-2014
Antenna: 1

\begin{tabular}{llllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
10 & \(38-01-26.0 \mathrm{~N}\) & \(083-57-08.0 \mathrm{~W}\) & 317.9 & 68.6 & 1042213
\end{tabular}

Address: 2122 Levee Road (76302)
City: MT. STERLING County: MONTGOMERY State: KY Construction Deadline; 12-30-2014

\section*{Antenna: 1}

Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 0
Antenna Height AAT (meters)
Transmitting ERP (watts)
\begin{tabular}{llllllll}
\(\mathbf{0}\) & \(\mathbf{4 5}\) & \(\mathbf{9 0}\) & \(\mathbf{1 3 5}\) & \(\mathbf{1 8 0}\) & \(\mathbf{2 2 5}\) & \(\mathbf{2 7 0}\) & \(\mathbf{3 1 5}\) \\
92.500 & 100.200 & 119.400 & 105.700 & 123.200 & 97.900 & 77.600 & 85.000 \\
8.100 & 22.900 & 20.100 & 3.800 & 0.300 & \(\mathbf{0 . 1 0 0}\) & 0.100 & 0.800
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Call Sign: KNKN956 & \multicolumn{3}{|c|}{File Number:} & \multicolumn{5}{|c|}{Print Date:} \\
\hline Location Latitude & Longitude & & \multicolumn{2}{|l|}{Ground Elevation (meters)} & \multicolumn{2}{|l|}{Structure Hgt to Tip (meters)} & \multicolumn{2}{|l|}{Antenna Structure Registration No.} \\
\hline 10 38-01-26.0 N & 083-57-08.0 W & & 7.9 & & & & 1042213 & \\
\hline \multicolumn{9}{|l|}{Address: 2122 Levee Road (76302)} \\
\hline City: MT. STERLNG Cou & nty: MONTGOM & RY S & te: KY & Construct & Deadli & : 12-30- & 2014 & \\
\hline \multicolumn{9}{|l|}{Antenna: 2} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 5 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 92.500 & 100.200 & 119.400 & 105.700 & 123.200 & 97.900 & 77.600 & 85.000 \\
\hline Transmitting ERP (watts) Antenna: 3 & \[
0.100
\] & 0.200 & 1.800 & 14.400 & 23.200 & 14.400 & 1.500 & 0.100 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & & 100.200 & \[
119.400
\] & \[
105.700
\] & \[
123.200
\] & \[
97.900
\] & 77.600 & 85.000 \\
\hline Transmitting ERP (watts) & - \(\quad 175.400\) & 50.300 & \[
37.100
\] & \[
13.900
\] & 20.100 & 133.800 & 268.500 & 279.600 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Location & Latitude & & Longitude & & Ground Elevation (meters) & Structure Hgt to Tip (meters) & Antenna Structure Registration No. \\
\hline 11 & \multicolumn{2}{|l|}{38-14-43.5 N} & \multicolumn{2}{|l|}{083-25-18.5 W} & 405.1 & 113.1 & 1042211 \\
\hline \multicolumn{8}{|l|}{Address: 4950 HIGHWAY 799 (76304)} \\
\hline City: MO & REHEAD & & ROWAN & Stat & Construction Dea & dline: 12-30-2014 & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Call Sign: KNKN956 & \multicolumn{3}{|c|}{File Number:} & \multicolumn{5}{|c|}{Print Date:} \\
\hline Location Latitude & Longitude & \multicolumn{3}{|r|}{Ground Elevation (meters)} & \multicolumn{2}{|l|}{Structure Hgt to Tip (meters)} & \multicolumn{2}{|l|}{Antenna Structure Registration No.} \\
\hline 13 38-32-02.2 N & 084-01-42.7 W & & & & & & 1248707 & \\
\hline \multicolumn{9}{|l|}{Address: ROUTE 2 BOX 357A (76309)} \\
\hline City: MT. OLIVET County & ROBERTSON & State: K & Cons & uction D & dline: 12 & -2014 & & \\
\hline \multicolumn{9}{|l|}{Antenna: 2} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 3\% 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 133.400 & 137.900 & 100.500 & 124.900 & 146.500 & 140.100 & 149.500 & 140.700 \\
\hline Transmitting ERP (watts) & 1.400 & 30.900 & 155.600 & 213.600 & 45.400 & 4.800 & 1.700 & 0.600 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 133.400 & 137.900 & 100.500 & 124.900 & 146.500 & 140.100 & 149.500 & 140.700 \\
\hline Transmitting ERP (watts) & 2.700 & 0.427 & 1.000 & 4.500 & 61.200 & 213.600 & 155.600 & 21.400 \\
\hline
\end{tabular}
\begin{tabular}{llllll} 
Location Latitude & Longitude & & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
14 & \(38-41-05.5 \mathrm{~N}\) & \(083-50-24.3 \mathrm{~W}\) & 281.3 & 142.0 & 1234091
\end{tabular}

Address: 3530 TUCKAHOE ROAD (76310)
City: Maysville County: MASON State: KY Construction Deadline: 12-30-2014

\begin{tabular}{|c|c|c|c|c|c|}
\hline Location & Latitude & Longitude & Ground Elevation (meters) & Structure Hgt to Tip (meters) & Antenna Structure Registration No. \\
\hline 16 & \(37-56-51.0 \mathrm{~N}\) & 083-36-24.0 W & 391.7 & 86.6 & 1042227 \\
\hline Address: & 1158 COUNT & ROAD (84346) & & & \\
\hline \multicolumn{6}{|l|}{City: FRENCHBURG County: MENIFEE} \\
\hline
\end{tabular}

\section*{Antenna: 1}

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north) 0
Antenna Height AAT (meters)
Transmitting ERP (watts)
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline 174.000 & 196.600 & 135.600 & 116.700 & 129.500 & 143.100 & 146.500 & 161.000 \\
\hline 205.100 & 86.100 & 7.000 & 0.900 & 0.410 & 0.500 & 13.400 & 103.300 \\
\hline & & & & &  &  & \[
4
\] \\
\hline
\end{tabular}

\section*{Call Sign: KNKN956}

\(16 \quad 37-56-51.0 \mathrm{~N}\)
Address: 1158 COUNTY PARK ROAD (84346)
City: FRENCHBURG County: MENIFEE State: KY Construction Deadline: 12-30-2014

\begin{tabular}{lllll} 
Location Latitude & Longitude & & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} \\
17 & \(38-43-27.3 \mathrm{~N}\) & \(083-59-05.2 \mathrm{~W}\) & 284.7 & 60.7
\end{tabular} \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular}

Address: 1910 Dutch Road Ridge (101049)
City: Augusta County: BRACKEN State: KY Construction Deadline: 12-30-2014

Antenna: 1
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 96.600 & 122.500 & 103.100 & 51.900 & 67.800 & 65.600 & 79.900 & 97.600 \\
\hline Transmitting ERP (watts) & 178.200 & 74.900 & 6.100 & 0.800 & 0.400 & 0.400 & 11.700 & 89.800 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & , & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 96.600 & 122.500 & 103.100 & 51.900 & 67.800 & 65.600 & 79.900 & 97.600 \\
\hline Transmitting ERP (watts) & 2.400 & 24.800 & 132.900 & 166.600 & 35.100 & 3.200 & 0.400 & 0.600 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 96.600 & 122.500 & 103.100 & 51.900 & 67.800 & 65.600 & 79.900 & 97.600 \\
\hline Transmitting ERP (watts) & 1.700 & 0.333 & 0.333 & 6.000 & 49.500 & 166.600 & 126.600 & 13.700 \\
\hline
\end{tabular}
\begin{tabular}{lllllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
22 & \(38-34-35.7 \mathrm{~N}\) & \(083-26-23.4 \mathrm{~W}\) & 321.0 & 119.5 & 1206373
\end{tabular}

Address: Off of SR \# 10 (76295)
City: Charters County: LEWIS State: KY Construction Deadline:

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820
Azimuth(from true north) 0
Antenna Height AAT (meters) - 209.500
Transmitting ERP (watts)
\begin{tabular}{llllllll}
\(\mathbf{0}\) & \(\mathbf{4 5}\) & \(\mathbf{9 0}\) & \(\mathbf{1 3 5}\) & \(\mathbf{1 8 0}\) & \(\mathbf{2 2 5}\) & \(\mathbf{2 7 0}\) & \(\mathbf{3 1 5}\) \\
209.500 & 182.600 & 156.500 & 135.100 & 112.200 & 142.700 & 191.390 & 173.300 \\
152.800 & 137.700 & 121.300 & 47.800 & 53.000 & 18.200 & 23.100 & 109.400
\end{tabular}

\section*{Call Sign: KNKN956}

File Number:
Print Date:

\begin{tabular}{llllll}
\hline Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
23 & \(38-03-34.6 \mathrm{~N}\) & \(083-30-18.6 \mathrm{~W}\) & \(\mathbf{3 6 7 . 9}\) & 59.1 &
\end{tabular}

Address: 148 Dogwood Lane (76303)
City: Salt Lick County: BATH State: KY Construction Deadline:

\section*{Antenna: 1}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 164.600 & 119.200 & 127.400 & 129.100 & 131.900 & 91.500 & 141.700 & 180.300 \\
\hline Transmitting ERP (watts) & 86.100 & 142.900 & 53.100 & 37.600 & 0.300 & 18.800 & 66.800 & 133.400 \\
\hline Antenna: 2 & 86.100 & 142.90 & 53.100 & 37.60 & 0.300 & 18.800 & 66.800 & 133.400 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 164.600 & 119.200 & 127.400 & 129.100 & 131.900 & 91.500 & 141.700 & 180.300 \\
\hline Transmitting ERP (watts) & 18.000 & 119.500 & 239.900 & 249.700 & 156.700 & 44.900 & 33.100 & 12.400 \\
\hline \multicolumn{9}{|l|}{Antenna: 3 ,} \\
\hline Maximum Transmitting ERP in Watts: & 140.820 & & & & & & & \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 164.600 & 119.200 & 127.400 & 129.100 & 131.900 & 91.500 & 141.700 & 180.300 \\
\hline Transmitting ERP (watts) & 34.300 & 13.300 & 17.800 & 39.100 & 175.800 & 233.100 & 263.000 & 101.700 \\
\hline
\end{tabular}
\begin{tabular}{lllllll} 
Location Latitude & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
24 & \(37-57-38.2 \mathrm{~N}\) & \(083-46-12.6 \mathrm{~W}\) & 382.2 & 77.1 & 1252133
\end{tabular}

Address: 377 WHISPERING PINE (85240)
City: MEANS County: MENIFEE State: KY Construction Deadline:

\section*{Antenna: 1}

Maximum Transmitting ERP in Watts: 140.820
Antenna Height AAT (meters)
Transmitting ERP (watts)
\begin{tabular}{llllllll}
\(\mathbf{0}\) & \(\mathbf{4 5}\) & \(\mathbf{9 0}\) & \(\mathbf{1 3 5}\) & \(\mathbf{1 8 0}\) & \(\mathbf{2 2 5}\) & \(\mathbf{2 7 0}\) & \(\mathbf{3 1 5}\) \\
193.100 & 167.300 & 141.100 & 121.100 & 166.700 & 178.600 & 195.900 & 185.900 \\
205.100 & 86.100 & 7.000 & 0.900 & 0.410 & 0.500 & 13.400 & 103.300
\end{tabular}

Call Sign: KNKN956
\begin{tabular}{llll} 
Location Latitude, \\
24 & \(37-57-38.2 \mathrm{~N}\) & Longitude & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} \\
\hline
\end{tabular}

Print Date:
\begin{tabular}{ll}
\begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
77.1 & 1252133
\end{tabular}
Address: 377 WHISPERING PINE (85240)
City: MEANS County: MENIFEE State: KY Construction Deadline:

\begin{tabular}{llllll} 
Location Latitude & Longitude & & \begin{tabular}{l} 
Ground Elevation \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Structure Hgt to Tip \\
(meters)
\end{tabular} & \begin{tabular}{l} 
Antenna Structure \\
Registration No.
\end{tabular} \\
25 & \(37-55-42.0 \mathrm{~N}\) & \(083-32-46.4 \mathrm{~W}\) & 394.7 & 105.2 & 1252134
\end{tabular}
Address: MORT BOTTS ROAD (85243)
City: DENNISON County: MENIFEE State: KY Construction Deadline:
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{Antenna: 1} \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 189.900 & 177.500 & 189.000 & 179.800 & 166.900 & 162.500 & 146.700 & 200.500 \\
\hline Transmitting ERP (watts) & 310.500 & 126.400 & 6.600 & 1.300 & 0.621 & 1.100 & 20.100 & 166.600 \\
\hline Antenna: 2 & & & & & & & & \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 189.900 & 177.500 & 189.000 & 179.800 & 166.900 & 162.500 & 146.700 & 200.500 \\
\hline Transmitting ERP (watts) & 0.600 & 8.100 & 42.500 & 50.700 & 14.000 & 1.100 & 0.200 & 0.101 \\
\hline \multicolumn{9}{|l|}{Maximum Transmitting ERP in Watts: 140.820} \\
\hline Azimuth(from true north) & 0 & 45 & 90 & 135 & 180 & 225 & 270 & 315 \\
\hline Antenna Height AAT (meters) & 189.900 & 177.500 & 189.000 & 179.800 & 166.900 & 162.500 & 146.700 & 200.500 \\
\hline Transmitting ERP (watts) & 1.700 & 0.334 & 0.334 & 6.000 & 49.700 & 167.000 & 126.900 & 13.700 \\
\hline
\end{tabular}

\section*{Control Points:}

Control Pt. No. 1
Address: 2601 Palumbo Drive
City: Lexington County: State: KY Telephone Number: (606)269-1050

File Number:

\section*{Print Date:}

\section*{Waivers/Conditions:}

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT\&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT\&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

REFERENCE COPY
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.

\section*{Federal Communications Commission}

\section*{RADIO STATION AUTHORIZATION}

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J. MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1016
DALLAS, TX 75202
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
KNLF251
\end{tabular} & File Number \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
CW - PCS Broadband \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date 06-02-2015 & Effective Date
\[
12-07-2020
\] & Expiration Date 06-23-2025 & Print Date \\
\hline Market Number MTA026 &  & & Sub-Market Designator 15 \\
\hline \multicolumn{4}{|c|}{\begin{tabular}{l}
Market Name \\
Louisville-Lexington-Evansvill
\end{tabular}} \\
\hline 1st Build-out Date
06-23-2000 & \[
\begin{gathered}
\text { 2nd Build-out Date } \\
06-23-2005
\end{gathered}
\] & 3rd Build-out Date & 4th Build-out Date \\
\hline
\end{tabular}

\section*{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.

\section*{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 \(\$ 706\) of the Communications Act of 1934, as amended. See 47 U.S.C. \(\S 606\).

This license may not authorize operation throughout the entire geographic area or spectrum identified on the higdcopy fersion. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum anduatket 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.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC
Call Sign: KNLF251
File Number:
Print Date:

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).

Spectrum Lease Associated with this License. See Spectrum Leasing Arrangement Letter dated 12/06/2004 and File \# 0001918512.

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT\&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT\&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).


FCC 601-MB

\section*{Call Sign: KNLF251}

File Number:

\(700 \mathbf{M H z}\) Relicensed Area Information:


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\section*{Federal Communications Commission}

\section*{Wireless Telecommunications Bureau}

\section*{RADIO STATION AUTHORIZATION}

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202
\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WPOI255
\end{tabular} & File Number \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
CW - PCS Broadband \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192

\begin{tabular}{|c|c|c|c|}
\hline 1st Build-out Date \\
\(06-23-2000\)
\end{tabular}\(\quad\)\begin{tabular}{c} 
2nd Build-out Date \\
\(06-23-2005\)
\end{tabular}\(\quad\)\begin{tabular}{c} 
3rd Build-out Date
\end{tabular}\(\quad\) 4th Build-out Date

\section*{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.

\section*{Conditions:}

Pursuant to \(\S 309\) (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 tight 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. \(\S 606\).

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardeopysersion. 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.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOI255
File Number:

\section*{Print Date:}

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).

Spectrum Lease Associated with this License. See Spectrum Leasing Arrangement Letter dated 12/06/2004 and File \# 0001918558.

The Spectrum Leasing Arrangement, which became effective upon approval of application file number 0001918558 , was terminated on \(04 / 14 / 2005\). See file number 0002135370 .

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT\&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT\&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).


\section*{Call Sign: WPOI255}

700 MHz Relicensed Area Information:

Market

Print Date:

\section*{Print}

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.

\section*{Federal Communications Commission}

\section*{Wireless Telecommunications Bureau}

\section*{RADIO STATION AUTHORIZATION}

\begin{tabular}{|c|c|}
\hline \begin{tabular}{c} 
Call Sign \\
WQGD755
\end{tabular} & File Number \\
\hline \multicolumn{2}{|c|}{ Radio Service } \\
AW - AWS (1710-1755 MHz and \\
\(2110-2155 \mathrm{MHz})\) \\
\hline
\end{tabular}

FCC Registration Number (FRN): 0003291192
\begin{tabular}{|c|c|c|c|}
\hline Grant Date
\[
12-18-2006
\] & Effective Date 08-31-2018 & Expiration Date 12-18-2021 & Print Date \\
\hline Market Number BEA047 &  & & Sub-Market Designator 9 \\
\hline \multicolumn{4}{|c|}{\begin{tabular}{l}
Market Name \\
Lexington, KY-TN-VA-WV
\end{tabular}} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline 1st Build-out Date & 2nd Build-out Date 3rd Build-out Date \(^{\text {4th Build-out Date }}\) \\
\hline
\end{tabular}

\section*{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.

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.

\section*{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 herenn. 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 hardcopylyersion. 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.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD755


File Number:
Print Date:

\section*{700 MHz Relicensed Area Information:}

Market *arket Name
Buildout Notification
Status


\section*{EXHIBIT B}

\section*{SITE DEVELOPMENT PLAN:}

500' VICINITY MAP
LEGAL DESCRIPTIONS
FLOOD PLAIN CERTIFICATION
SITE PLAN
VERTICAL TOWER PROFILE




\section*{LEASE AREA}

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN BATH COUNTY，KENTUCKY NORTH OF THE TOWN OF SHARPSBURG，AND BEING A PART OF THE LANDS OF DANNY HARMON \＆VONDA HARMON AS RECORDED IN DEED
BOOK 212，PAGE 526，BATH COUNTY RECORDS，AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS：

O FIND THE POINT OF BEGINNING，COMMENCE AT A CAPPED IRON PIN（INSCRIBED＂D ROBERTS PLS 3040＂） OUND ON THE WEST RIGHT－OF－WAY LINE OO RAMEY ROAD，SAID PIN HAVING A EENTUCKG GRID NORTH，NADB3， SINGLE ZONE VALUE OF N：3969955．5343 E：5444446．9674；THENCE LEAYING SAID RIGGT．OF－WAY LINE RUNNING
ALONG ATIE LINE，SOUTH O4551＇ 40 ＇WEST，291．30 FEET TO POINT ON THE WEST RIGHT－OF－WAY LINE OF RAMEY ROAD HAVING A KENTUCKY GRID NORTH，NAD83，SIIGGLLE ZONE VALUE OF N： 3969665.4183 E： 5444471.6209 ； HENCE LEAVNG SADD RIGHTTOF－WAY LINE，NORTH 8000＇54＂WEST， 94.05 FEET TO A POINT；THENCE，NORTH SOUTH \(85^{\circ} 35^{\prime} 56^{\prime}\) ．WEST， 51.58 FEET TO A＇POINT；THENCE，NORTH \(80^{\circ} 40^{\circ} 07^{\prime}\)＇WEST， 41.28 FEET TO A POINT；

 141.51 FEET TO A POINT；THENCE，SOUTH 83¹0．07＂WEST， 333.41 FEET TO A POINT；THENCE，SOUTH
\(02^{\circ} 0^{\circ} 188^{\circ}\) WEST， 125.05 FEET TO A POINT ON THE LEASE AREA LINE；THENCE ALONG SADD LEASE AREA LINE
 WEST， 100.00 FEET TO A AOONT；THENCE，NORTH 89928 \(8^{\circ} 33^{\circ}\) WEST， 100.00 FEET TO A POINT；THENCE，NORTH \(00^{2} 31^{2} 22^{2}\) EAST， 100.0
POINT OF BEGINNING．
BEARINGS ARE BASED ON KENTUCKY GRID NORTH，NAD83，SINGLE ZONE．
SAD TRACT CONTANS 0.2296 ACRES（ 10,000 SQUARE FEET），MORE OR LESS

\section*{30＇INGRESS－EGRESS \＆UTIUITY EASEMENT}

TOGETHER WTH A 30FOOT WIDE INGRESSEGRESS AND UTLITY EASEMENT（15 FEET EACH SIDE OF CENTERLINE） LTING AND BEING IN BATH COUNTYY KEETUCKY NORTH OF THE TOON OF SHARPSBUUG，AND BEING A PART OF THE LANDS OF DANNY HARMON \＆VONDA HARMON AS RECORDED IN DEED BOOK 212，PAGE 52 ，

TO FIND THE POINT OF BEGINNING，COMMENCE AT A CAPPED IRON PIN IINSCRIBED＂D ROBERTS PLS 3040＂） SINGLE ZONE VALUE OF N： 39699955.5343 E： 54444466.9674 ；THENCE LEAVNG SAID RIGHT－OF－WAY LINE RUNNING
 3969665．4183 E： 5444471.6209 ；THENCE LEAVING SADD RIGGT－OF－WAY LINE，，NORTH \(80^{\circ} 00^{\circ} 54\)＇WEST， 94.05
 226．63 FEET TO A POINT；THENCE，SOUTH \(85^{\circ} 35^{\circ} 56^{\circ}\)＂WEST， 51.58 FEET TO A POINT；THENCE，NORTH \(80^{\circ} 40^{\circ}{ }^{\circ}\) \(81^{\circ}{ }^{\circ} 7^{14} 11{ }^{\circ}{ }^{\circ}\) WEST， 45.73 FEET TO APOINT；THENCE，SOUTH \(89^{\circ}{ }^{\circ} 0^{\circ} 0^{\circ} 3^{3}\) WEST， 123.48 FEET TO A POINT；THENCE，
 THENCE，SEUTH \(85^{\circ} 044^{\circ} 36^{\circ}\) WEST， 141.51 FEET TO A POINT；THENCE，SOUTH \(83^{\circ} 100^{\circ} 0^{\circ} 7^{\circ}\) WEST，
POINT；THENCE，SOUTH \(02^{\circ} 50^{\circ} 18^{\circ}\) WEST， 125.05 FEET TO A PONT ON THE LEASE AREA LNE．
bearing are based on kentucky grid north，nadz3，single zone．

\section*{PARENT PARCEI}
（PER ORDER NO．： 305481 76）
PROPERTY LOCATED IN BATH COUNTY，KENTUCKY
ALL THAT CERTAIN REAL ESTATE LYING AND BEING IN BATH COUNTY，KENTUCKY NORTH OF THE TOWN OF SHARPSBURG AND LYING ALONG

BEGINNING UPON THE CENTER OF THE PIKE A CORNER TO THE TRACT CONVEYED TO J．E．RAMEY；THENCE WTH THE PIKE DMIDING

 HANS TO APOINT UPON THE CENTER OA THE PIKE LEADING RROM SHARPSBURG TO EAST UNON URATLIFF PIKE）THENCE N8 \(81 / 4\) E

 C．HALL＇S LINE，A CORNER TO RAMEY TRACT，THENCE WITHT THE LINE OF FAME S 86 E 35.38 CHAINS TO THE BEGINNING，
CONTAINING ONE HUNDRED AND FITTYSI（156）ACRES AND TWO（2）POLES．

THERE IS EXCLUDED AND NOT HEREBY CONVEYED THAT CERTAIN TRACT OF LAND CONTANING 46 ACRES，MORE OR LESS，
CONEEYED FEBRUARY 27， 1961 FROM ARNOLD GOODPASTER AND GENEVA GOODPASTER，HIS WIFE，TO MRS．FANNIE BROWN，of CONVEYED FEBRUARY 27， 1961 RROM ARNOLD GOODPASTER AND GENEVA GOODPAST
RECORD AT DEED BOOK 119，PAGE 39，AT THE OFFICE OF THE BATH COUNTY CLERK．

THERE IS ALSO EXCLUDED AND NOT HEREBY CONVEYED THAT CERTAIN TRACT OF LAND CONVEYED JANUARY 27,2006 FROM
LESLIE RICHARDSON SMITH，AS EXECUTRIX OF THE ESTATE OF ARNOLD GOODPASTER，AS SET OUT I I ARTCLE VIII OF THE LAST IIL AND TESTAMENT OF ARNOLD GOODPASTER TO KATHPY WHITE AND HOMER WHITE，WIFE AND HUSBAND，OF RECORD AT DEED BOOK 212，PAGE 23，AT THE OFFICE OF THE BATH COUNTY CLERK AND DESCRIBED AS FOLOWS：
CERTAIN TRACT OR PARCEL OF LAND LOCATED IN BATH COUNTY，KENTUCKY ON RAMEY ROAD APPROXIMATELY \(3 / 4+\)／－MLES位
COMMENCING AT A STEEL PIN SET IN THE RIGHT OF WAY OF RAMEY ROAD，SAID PIN BEING APPROXIMATELY 795．0＇FROM THE ORTH PROPERTY LINE OF THE PARENT TRACT（D．B．119，PAGE 44）；THENCE WTH A NEW DVISION SOUTH 833 DEGREES 50
 24．34 EEET TO A STEEL PIN SET，IN THE RIGHT OF WAY OF RAMEY ROAD：THENCE WITH SAID RIGHT OF WAY NORTH 7 DEGREES 19 CRE，MORE OR LESS．

THE ABOVE DESCRIBED PROPERTY WAS SURVEYED BY ROBERTS SURVEYING，INC．ON JANUARY 16，2006．THIS IS A CLASS A URVEY AND ALL PINS SET ARE \(1 /{ }^{2} \times \times 18^{\prime}\)＇REBAR WTH ID CAP STAMPED D．ROBERTS PLS \＃3040．AND BEING THE SAME PROPERTY DATED MARCH 29， 2006 AND RECORDED MARCH 29， 2006 IN DEED BOOK 212，PAGE 526.
TAX PARCEL No．004－00－00－006．00
\begin{tabular}{|c|c|}
\hline \multicolumn{2}{|l|}{} \\
\hline \multirow[t]{3}{*}{} & G．DARRELL \\
\hline & TAYLOR \\
\hline & 417 \\
\hline \multicolumn{2}{|r|}{LICENSED} \\
\hline \multicolumn{2}{|l|}{渗 PROFESSIONAL} \\
\hline & Surnurn \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline & & \\
\hline NO． & DATE & REVSION \\
\hline 1 & \(5 / 28 / 2020\) & UULUTIN NOTE \\
\hline 2 & \(6 / 23 / 2020\) & E9911 ADDRESS \\
\hline & & \\
\hline & & \\
\hline
\end{tabular}
\(\stackrel{\square}{-}\)
守
シig o



SHARPSBURG KY
SITE NO
KYLEX2050
BATH COUNTY KENTUCCY
NORTH OF THE TOWNO SHARPSURG





CALL KENTUCKY ONE CALL
(800) 752-6007

ALL 3 WORKING DAYS BEFORE YOU DIG!
\begin{tabular}{||c||}
\hline ENLARGED \\
COMPOUND \\
LAYEETNUMBER: \\
\hline \hline-3 \\
\hline C-3 \\
\hline
\end{tabular}


\section*{EXHIBIT C}

TOWER AND FOUNDATION DESIGN

July 20, 2020

Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615

Frankfort, KY 40602-0615

RE: Site Name - Sharpsburg Relo
Proposed Cell Tower
38.2109280 North Latitude, 83.9340670 West Longitude

Dear Commissioners:
The Construction Manager for the proposed new communications facility will be Jeremy Culpepper. His contact information is (985) 707-6175 or Jeremy.Culpepper@uniti.com.
Jeremy has been in the industry completing civil construction and constructing towers since 1998. He has worked at Uniti Towers LLC since 2018 completing project and construction management on new site build projects.

Thank you,
Jeremy Culpepper \({ }^{\text {Digtalla signed by yeremy yuluepper }}\)
Jeremy Culpeper
Construction Manager - Tennessee/Kentucky Market
Uniti Towers LLC
(985) 707-6175






\section*{SST Unit Base Foundation}

Project \#: 147974.001
Site Name: Sharpsburg
Site \#: 8843
TIA-222 Revision \(\qquad\)
\begin{tabular}{|r|c|}
\hline Top \& Bot. Pad Rein. Different?: & \(\square\) \\
\hline Tower Centroid Offset?: & \(\square\) \\
\hline Block Foundation?: & \(\square\) \\
\hline Rectangular Pad?: & \(\square\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline \multicolumn{3}{|l|}{Superstructure Analysis Reactions} \\
\hline Global Moment, M: & 10178.35 & ft-kips \\
\hline Global Axial, P: & 77.57 & kips \\
\hline Global Shear, \(\mathbf{V}\) : & 65.93 & kips \\
\hline Leg Compression, \(\mathbf{P}_{\text {comp }}\) : & 515.08 & kips \\
\hline Leg Comp. Shear, \(\mathbf{V}_{\text {u comp }}\) : & 38.74 & kips \\
\hline Leg Uplift, Pupilit & 446.5 & kips \\
\hline Leg Uplift. Shear, \(\mathbf{V}_{\text {u_upilit }}\) & 35.46 & kips \\
\hline Tower Height. H : & 255 & ft \\
\hline Base Face Width, BW: & 24 & ft \\
\hline BP Dist. Above Fdn, bp \({ }_{\text {disst }}\) & 3 & in \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline \multicolumn{5}{|c|}{Foundation Analysis Checks} \\
\hline & Capacity & Demand & Rating & Check \\
\hline Lateral (Sliding) (kips) & 393.80 & 65.93 & 16.7\% & Pass \\
\hline Bearing Pressure (ksf) & 7.81 & 5.05 & 64.7\% & Pass \\
\hline Overturning (kip \({ }^{\text {ft) }}\) & 11476.57 & 10882.28 & 94.8\% & Pass \\
\hline Pier Flexure (Comp.) (kip*ft) & 1230.40 & 164.65 & 13.4\% & Pass \\
\hline Pier Flexure (Tension) (kip*ft) & 185.57 & 150.71 & 81.2\% & Pass \\
\hline Pier Compression (kip) & 6123.66 & 522.44 & 8.5\% & Pass \\
\hline Pad Flexure (kip*f) & 3386.84 & 2621.43 & 77.4\% & Pass \\
\hline Pad Shear - 1-way (kips) & 812.67 & 455.25 & 56.0\% & Pass \\
\hline Pad Shear - Comp 2-way (ksi) & 0.190 & 0.118 & 62.2\% & Pass \\
\hline Flexural 2-way (Comp) (kip*f) & 1676.79 & 98.79 & 5.9\% & Pass \\
\hline Pad Shear - Tension 2-way (ksi) & 0.190 & 0.119 & 62.5\% & Pass \\
\hline Flexural 2-way (Tension) (kip*ft) & 1676.79 & 90.42 & 5.4\% & Pass \\
\hline
\end{tabular}
\begin{tabular}{|r|r|}
\hline Soil Rating: & \(94.8 \%\) \\
\cline { 2 - 2 } Structural Rating: & \(81.2 \%\) \\
\hline
\end{tabular}
\begin{tabular}{|r|c|l|}
\hline \multicolumn{3}{|c|}{ Material Properties } \\
\hline Rebar Grade, Fy: & 60 & ksi \\
\hline Concrete Compressive Strength, F'c: & 4 & ksi \\
\hline Dry Concrete Density, סc: & 150 & pcf \\
\hline
\end{tabular}
\begin{tabular}{|r|c|l|}
\hline \multicolumn{4}{|c|}{ Soil Properties } & \\
\hline Total Soil Unit Weight, \(\mathbf{y}\) & 110 & pcf \\
\hline Ultimate Net Bearing, Qnet: & 9.750 & ksf \\
\hline Cohesion, \(\mathbf{C u}\) & 1.500 & ksf \\
\hline Friction Angle, \(\boldsymbol{\phi}\) & & degrees \\
\hline SPT Blow Count, \(\mathbf{N}_{\text {blows }}\) & & \\
\hline Base Friction, \(\boldsymbol{\mu}\) & 0.3 & \\
\hline Neglected Depth, \(\mathbf{N}\) & 2.5 & ft \\
\hline Foundation Bearing on Rock? & No & \\
\hline Groundwater Depth, \(\mathbf{g w}:\) & \(\mathrm{N} / \mathrm{A}\) & ft \\
\hline
\end{tabular}


\section*{Tower Input Data}

The main tower is a \(3 x\) free standing tower with an overall height of 255.000 ft above the ground line.
The base of the tower is set at an elevation of 0.000 ft above the ground line.
The face width of the tower is 4.875 ft at the top and 24.000 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:
Tower is located in Bath County, Kentucky.
Tower base elevation above sea level: 993.000 ft .
Basic wind speed of 106 mph .
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft .
Nominal ice thickness of 1.500 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf .
A wind speed of 30 mph is used in combination with ice.
Temperature drop of \(50.000^{\circ} \mathrm{F}\).
Deflections calculated using a wind speed of 60 mph .
Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1 .
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

\section*{Options}

\footnotetext{
Consider Moments - Legs
Consider Moments - Horizontals
Consider Moments - Diagonals
Use Moment Magnification
\(\sqrt{ }\) Use Code Stress Ratios
\(\sqrt{ }\) Use Code Safety Factors - Guys
Escalate Ice
Always Use Max Kz
Use Special Wind Profile
\(\sqrt{ }\) Include Bolts In Member Capacity
\(\sqrt{ }\) Leg Bolts Are At Top Of Section
\(\sqrt{ }\) Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric

Distribute Leg Loads As Uniform Assume Legs Pinned
\(\sqrt{ }\) Assume Rigid Index Plate
\(\sqrt{ }\) Use Clear Spans For Wind Area
\(\sqrt{ }\) Use Clear Spans For KL/r Retension Guys To Initial Tension
\(\sqrt{ }\) Bypass Mast Stability Checks
\(\sqrt{ }\) Use Azimuth Dish Coefficients
\(\sqrt{ }\) Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination
\(\checkmark\) Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs
}

Use ASCE 10 X-Brace Ly Rules
\(\sqrt{ }\) Calculate Redundant Bracing Forces lgnore Redundant Members in FEA
\(\sqrt{ }\) SR Leg Bolts Resist Compression
All Leg Panels Have Same Allowable
Offset Girt At Foundation
\(\sqrt{ }\) Consider Feed Line Torque
\(\sqrt{ }\) Include Angle Block Shear Check
Use TIA-222-H Bracing Resist. Exemption
Use TIA-222-H Tension Splice Exemption Poles
Include Shear-Torsion Interaction
Always Use Sub-Critical Flow Use Top Mounted Sockets
Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|l|}{Job ATS \# 8843 - Sharpsburg (Site\# KYLEX2050)} & \[
\text { Page } 2 \text { of } 33
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S. Boulder Ave, Ste 300
\end{tabular} & Project & 255' SST/38.210928, -83.934067 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 13:35:10 02/18/21 }
\end{array}
\] \\
\hline \begin{tabular}{l}
Tulsa, OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni(Uniti) Towers & \begin{tabular}{l}
Designed by \\
T. Cheriyan
\end{tabular} \\
\hline
\end{tabular}


Triangular Tower

\section*{Tower Section Geometry}
\begin{tabular}{ccccc}
\begin{tabular}{c} 
Tower \\
Section
\end{tabular} & \begin{tabular}{c} 
Tower \\
Elevation
\end{tabular} & \begin{tabular}{c} 
Assembly \\
Database
\end{tabular} & \begin{tabular}{c} 
Sesction \\
Width
\end{tabular} & \begin{tabular}{c} 
Number \\
of
\end{tabular} \\
\hline T1 & \(255.000-240.000\) & & & \begin{tabular}{c} 
Section \\
Length
\end{tabular} \\
T2 & \(240.000-220.000\) & & 4.875 & Sections
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{cccccccc}
\begin{tabular}{c} 
Tower \\
Section
\end{tabular} & \begin{tabular}{c} 
Tower \\
Elevation
\end{tabular} & \begin{tabular}{c} 
Diagonal \\
Spacing
\end{tabular} & \begin{tabular}{c} 
Bracing \\
Type
\end{tabular} & Kas & Kas & Hace & Horizontals
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Tower Section & \begin{tabular}{l}
Tower Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{l}
Diagonal Spacing \\
\(f t\)
\end{tabular} & Bracing Type & Has \(K\) Brace End Panels & \begin{tabular}{l}
Has \\
Horizontals
\end{tabular} & Top Girt Offset in & Bottom Girt Offset in \\
\hline T3 & 220.000-200.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T4 & 200.000-180.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T5 & 180.000-160.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T6 & 160.000-140.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T7 & 140.000-120.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T8 & 120.000-100.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T9 & 100.000-80.000 & 4.750 & X Brace & No & No & 6.000 & 6.000 \\
\hline T10 & 80.000-60.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline T11 & 60.000-40.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline T12 & 40.000-20.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline T13 & 20.000-0.000 & 4.750 & Double K & No & Yes & 6.000 & 6.000 \\
\hline
\end{tabular}

\section*{Tower Section Geometry (cont'd)}
\begin{tabular}{ccccccc}
\begin{tabular}{c} 
Tower \\
Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{c} 
Leg \\
Type
\end{tabular} & \begin{tabular}{c} 
Leg \\
Tl
\end{tabular} & Solid Round
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Tower Elevation \(f t\) & Top Girt Type & Top Girt Size & Top Girt Grade & Bottom Girt Type & Bottom Girt Size & Bottom Girt Grade \\
\hline \[
\begin{gathered}
\mathrm{Ti} \\
255,000-240,000
\end{gathered}
\] & Equal Angle & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] & Solid Round & & \[
\begin{aligned}
& \text { A529-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] \\
\hline
\end{tabular}


Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation \\
\(f t\)
\end{tabular} & No. of Mid Girts & Mid Girt Type & Mid Girt Size & Mid Girt Grade & Horizontal Type & Horizontal Size & Horizontal Grade \\
\hline \[
\begin{gathered}
\text { T10 } \\
80.000-60.000
\end{gathered}
\] & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & 2L1 3/4x1 3/4×3/16x3/8 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 11 \\
60.000-40.000
\end{gathered}
\] & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 12 \\
40.000-20.000
\end{gathered}
\] & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline T13 20.000-0.000 & None & Flat Bar & & \[
\begin{gathered}
\mathrm{A} 36 \\
(36 \mathrm{ksi})
\end{gathered}
\] & Double Angle & 2L2 1/2x2 1/2×3/16x3/8 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation \\
\(f t\)
\end{tabular} & Secondary Horizontal Type & Secondary Horizontal Size & Secondary Horizontal Grade & Inner Bracing Type & Inner Bracing Size & Inner Bracing Grade \\
\hline \[
\begin{gathered}
\text { T10 } \\
80.000-60.000
\end{gathered}
\] & Solid Round & & \[
\begin{aligned}
& \text { A572-50 } \\
& (50 \mathrm{ksi})
\end{aligned}
\] & Single Angle & LI 3/4x13/4×3/16 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 11 \\
60.000-40.000
\end{gathered}
\] & Solid Round & & \[
\begin{gathered}
\text { A572-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Single Angle & LI 3/4x13/4×3/16 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline \[
\begin{gathered}
\mathrm{T} 12 \\
40.000-20.000
\end{gathered}
\] & Solid Round & & \[
\begin{gathered}
\text { A572-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & Single Angle & L1 3/4x13/4x3/16 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline T13 20.000-0.000 & Solid Round & & \begin{tabular}{l}
A572-50 \\
( 50 ksi )
\end{tabular} & Single Angle & L1 3/4x13/4x \(/ 16\) & \[
\begin{gathered}
\mathrm{A} 36 \mathrm{M}-50 \\
(50 \mathrm{ksi})
\end{gathered}
\] \\
\hline
\end{tabular}

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{l}
Gusset \\
Area (per face) \\
\(f t^{2}\)
\end{tabular} & \begin{tabular}{l}
Gusset Thickness \\
in
\end{tabular} & Gusset Grade & Adjust. Factor \(A_{f}\) & Adjust. Factor \(A_{r}\) & Weight Mult. & Double Angle Stitch Bolt Spacing Diagonals in & Double Angle Stitch Bolt Spacing Horizontals in & Double Angle Stitch Bolt Spacing Redundants in \\
\hline \[
\begin{gathered}
\mathrm{Tl} \\
255.000-240.0 \\
00
\end{gathered}
\] & 0.000 & 0.375 & \[
\begin{aligned}
& \mathrm{A} 36 \mathrm{M}-50 \\
& (50 \mathrm{ksi})
\end{aligned}
\] & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline \[
\begin{gathered}
\mathrm{T} 2 \\
240.000-2200 \\
00
\end{gathered}
\] & 0.000 & 0.375 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline \[
\begin{gathered}
\text { T3 } \\
220.000-200.0 \\
00
\end{gathered}
\] & 0.000 & 0.375 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline \[
\begin{gathered}
\mathrm{T} 4 \\
200.000-180.0 \\
00
\end{gathered}
\] & 0.000 & 0.375 & \[
\begin{gathered}
\text { A36M-50 } \\
(50 \mathrm{ksi})
\end{gathered}
\] & 1 & 1 & 1 & 36.000 & 36.000 & 36.000 \\
\hline
\end{tabular}



\section*{Tower Section Geometry (cont'd)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{\begin{tabular}{l}
Tower \\
Elevation
\end{tabular}} & \multicolumn{10}{|c|}{K Factors \({ }^{\text {I }}\)} \\
\hline & Calc & Calc & \multirow[t]{4}{*}{Legs} & \(X\) & \(K\) & Single & \multirow[t]{2}{*}{Girts} & \multirow[t]{2}{*}{Horiz.} & \multirow[t]{2}{*}{Sec. Horiz.} & \multirow[t]{2}{*}{\begin{tabular}{l}
Inner \\
Brace
\end{tabular}} \\
\hline & K & K & & Brace & Brace & Diags & & & & \\
\hline & Single & Solid & & Diags & Diags & & & & & \\
\hline & Angles & Rounds & & \(X\) & \(X\) & X & X & \(X\) & \(X\) & \(X\) \\
\hline \(f t\) & & & & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) \\
\hline T1 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 255.000-240.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T2 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 240.000-220.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T3 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 220.000-200.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T4 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 200.000-180.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T5 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 180.000-160.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline \[
00
\] & & & & & & & & & & \\
\hline T6 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 160.000-140.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T7 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 140.000-120.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 00 & & & & & & & & & & \\
\hline T8 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 120.000-100.0 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{3}{*}{\begin{tabular}{l}
Tower \\
Elevation
\end{tabular}} & \multirow[b]{4}{*}{\begin{tabular}{l}
Calc K \\
Single \\
Angles
\end{tabular}} & \multirow[b]{4}{*}{\begin{tabular}{l}
Calc K \\
Solid \\
Rounds
\end{tabular}} & \multirow[b]{2}{*}{Legs} & \multirow[b]{2}{*}{\begin{tabular}{l}
X \\
Brace
\end{tabular}} & \multirow[b]{2}{*}{\[
\begin{gathered}
K \\
\text { Brace }
\end{gathered}
\]} & \multicolumn{2}{|c|}{K Factors \({ }^{\text {I }}\)} & \multirow[b]{2}{*}{Horiz.} & \multirow[b]{2}{*}{Sec Horiz.} & \multirow[b]{2}{*}{\begin{tabular}{l}
Inner \\
Brace
\end{tabular}} \\
\hline & & & & & & \begin{tabular}{l}
Single \\
Diags
\end{tabular} & Girts & & & \\
\hline & & & & Diags & Diags & & & & & \\
\hline & & & & \(X\) & X & \(X\) & \(X\) & \(X\) & \(X\) & \(X\) \\
\hline \(f t\) & & & & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) & \(Y\) \\
\hline \multicolumn{11}{|l|}{00} \\
\hline T9 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 100.000-80.00 & & & & I & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline \multicolumn{11}{|l|}{0} \\
\hline T10 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 80.000-60.000 & & & & 1 & 1 & 1 & 1 & 1 & , & 1 \\
\hline T11 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 60.000-40.000 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline T12 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & , & 1 \\
\hline 40.000-20.000 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline T13 & No & No & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline 20.000-0.000 & & & & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\hline
\end{tabular}
\({ }^{\text {I Note: }}\) K factors are applied to member segment lengths. K-braces without inner supporting members will have the \(K\) factor in the out-of-plane direction applied to the overall length.

Tower Section Geometry (cont'd)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Tower & Leg & & \multicolumn{2}{|l|}{Diagonal} & \multicolumn{2}{|l|}{Top Girt} & \multicolumn{2}{|l|}{Bottom Girt} & \multicolumn{2}{|r|}{Mid Girt} & \multicolumn{2}{|l|}{Long Horizontal} & \multicolumn{2}{|l|}{Short Horizontal} \\
\hline & Net Width Deduct in & \(U\) & Net Width Deduct in & & Net Width Deduct in & & Net Width Deduct in & \(U\) & \begin{tabular}{l}
Net \\
Width \\
Deduct \\
in
\end{tabular} & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) \\
\hline \[
\begin{gathered}
\mathrm{T} 1 \\
255.000-240.0 \\
00
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\mathrm{T} 2 \\
240.000-220.0 \\
00
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline T3 & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
220.000-200.0 \\
00 \\
\mathrm{~T} 4
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
200.000-1800 \\
00
\end{gathered}
\] & & & & & & & & & & & 0.00 & 0.7 & 0. & . \\
\hline T5 & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
180.000-160.0 \\
00 \\
\mathrm{~T} 6
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
160.000-140.0 \\
00
\end{gathered}
\] & & & & & & & & & & & 0.00 & & 0.00 & 0.75 \\
\hline \(\frac{\text { T7 }}{140.000-120.0}\) & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{aligned}
& 00 \\
& \mathrm{~T} 8
\end{aligned}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
120.000-100.0 \\
00 \\
\text { T9 }
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
100.000-80.00 \\
0
\end{gathered}
\] & & & : & & & & & & & & & & & \\
\hline T10
\(80.000-60.000\) & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|r|}{ATS \# 8843 - Sharpsburg (Site\# KYLEX2050)} & \[
\text { Page } 7 \text { of } 33
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S. Boulder Ave, Ste 300
\end{tabular} & Project & 255' SST/38.210928, -83.934067 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 13:35:10 02/18/21 }
\end{array}
\] \\
\hline Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 & Client & Harmoni(Uniti) Towers & Designed by T. Cheriyan \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Tower & \multicolumn{2}{|l|}{Leg} & \multicolumn{2}{|l|}{Diagonal} & \multicolumn{2}{|l|}{Top Girt} & \multicolumn{2}{|l|}{Bottom Girt} & \multicolumn{2}{|r|}{Mid Girt} & \multicolumn{2}{|l|}{Long Horizontal} & \multicolumn{2}{|l|}{Short Horizontal} \\
\hline & Net Width Deduct in & \(U\) & Net Width Deduct in & & Net Width Deduct in & & \begin{tabular}{l}
Net \\
Width \\
Deduct \\
in
\end{tabular} & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) & Net Width Deduct in & \(U\) \\
\hline \[
\begin{gathered}
\mathrm{Tl1} \\
60.000-40.000
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \begin{tabular}{l}
T12 \\
40.000-20.000
\end{tabular} & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline \[
\begin{gathered}
\mathrm{T} 13 \\
20.000-0.000
\end{gathered}
\] & 0.000 & 1 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 & 0.000 & 0.75 \\
\hline
\end{tabular}

\section*{Tower Section Geometry (cont'd)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{Tower Elevation \(f t\)} & \multirow[t]{3}{*}{\begin{tabular}{l}
Leg \\
Connection Type
\end{tabular}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Leg}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Diagonal}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Top Girt}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Bottom Girt}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Mid Girt}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Long Horizontal}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Short Horizontal}} \\
\hline & & & & & & & & & & & & & & & \\
\hline & & Bolt Size in & No. & Bolt Size
in & No. & Bolt Size in & & Bolt Size in & No. & Bolt Size in & No. & Bolt Size in & No. & Bolt Size in & No. \\
\hline T1 & \multirow[t]{2}{*}{Flange} & 0.000 & 0 & 0.625 & 1 & 0.625 & 1 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline \[
\begin{gathered}
255.000-240.0 \\
00
\end{gathered}
\] & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline T2 & \multirow[t]{3}{*}{Flange} & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 240.000-220.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T3 & \multirow[t]{3}{*}{Flange} & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 220.000-200.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T4 & \multirow[t]{3}{*}{Flange} & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 200.000-180.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T5 & \multirow[t]{3}{*}{Flange} & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 180.000-160.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T6 & \multirow[t]{3}{*}{Flange} & 0.750 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 160.000-140.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T7 & \multirow[t]{3}{*}{Flange} & 1.000 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 140.000-120.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00 & & & & & & & & & & & & & & & \\
\hline T8 & \multirow[t]{3}{*}{Flange} & 1.000 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.000 & 0 & 0.625 & 0 \\
\hline 120.000-100.0 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline 00
T9 & & & & & 1 & & & & & & & & & & \\
\hline 100.000-80.00 & \multirow[t]{2}{*}{Flange} & 1.000
A 325 N & 6 & 0.625
A325X & 1 & 0.000
A 325 X & 0 & 0.000
A 325 N & 0 & 0.625
A 325 N & 0 & 0.000
A325X & 0 & \[
\begin{gathered}
0.625 \\
\text { A325N }
\end{gathered}
\] & 0 \\
\hline 0 & & A325N & & A325X & & A325 & & A325 & & A325N & & & & A325N & \\
\hline T10 & \multirow[t]{2}{*}{Flange} & 1.000 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 80.000-60.000 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline T11 & \multirow[t]{2}{*}{Flange} & 1.250 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 60.000-40.000 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline T12 & \multirow[t]{2}{*}{Flange} & 1.250 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 40.000-20.000 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline T13 & \multirow[t]{2}{*}{Flange} & 1.250 & 6 & 0.625 & 1 & 0.000 & 0 & 0.000 & 0 & 0.625 & 0 & 0.625 & 1 & 0.625 & 0 \\
\hline 20.000-0.000 & & A325N & & A325X & & A325X & & A325N & & A325N & & A325X & & A325N & \\
\hline
\end{tabular}


\section*{Feed Line/Linear Appurtenances - Entered As Round Or Flat}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & \begin{tabular}{l}
Allow \\
Shield
\end{tabular} & Exclude From Torque Calculation & Component Type & \begin{tabular}{l}
Placement \\
\(f t\)
\end{tabular} & Face Offset in & Lateral Offset (Frac FW) & \# & \[
\begin{gathered}
\# \\
\text { Per } \\
\text { Row }
\end{gathered}
\] & Clear Spacing in & Width or Diameter in & \begin{tabular}{l}
Perimeter \\
in
\end{tabular} & \begin{tabular}{l}
Weight \\
\(k l f\)
\end{tabular} \\
\hline \[
\begin{aligned}
& 1.625^{\prime \prime} \text { coax } \\
& \text { (Carrier 1) }
\end{aligned}
\] & C & No & No & Ar (CaAa) & \[
\begin{gathered}
250.000- \\
10.000
\end{gathered}
\] & 0.000 & 0 & 9 & 5 & 0.750 & 1.980 & & 0.001 \\
\hline 1.5" Hybrid (Carrier 1) ** & C & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
250.000 \\
10.000
\end{gathered}
\] & 0.000 & -0.25 & 6 & 3 & 0.750 & 1.500 & & 0.001 \\
\hline \[
1.625^{\prime \prime} \text { coax }
\]
(Carrier 2) & B & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
238.000- \\
10.000
\end{gathered}
\] & 0.000 & 0 & 9 & 5 & 0.750 & 1.980 & & 0.001 \\
\hline 1.5" Hybrid (Carrier 2) & B & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
238.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.25 & 6 & 3 & 0.750 & 1.500 & & 0.001 \\
\hline \[
\begin{aligned}
& 1.625^{\prime \prime} \text { coax } \\
& \text { (Carrier } 3 \text { ) }
\end{aligned}
\] & A & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
226.000- \\
10.000
\end{gathered}
\] & 0.000 & 0 & 9 & 5 & 0.750 & 1.980 & & 0.001 \\
\hline 1.5" Hybrid (Carrier 3) ** & A & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
226.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.25 & 6 & 3 & 0.750 & 1.500 & & 0.001 \\
\hline \[
\begin{aligned}
& 1.625^{\prime \prime} \text { coax } \\
& \text { (Carrier } 4 \text { ) }
\end{aligned}
\] & C & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{array}{r}
214.000- \\
10.000
\end{array}
\] & 0.000 & 0.35 & 2 & 1 & 0.750 & 1.980 & & 0.001 \\
\hline \[
\begin{aligned}
& 1.625^{\prime \prime} \text { coax } \\
& \text { (Carrier } 5 \text { ) }
\end{aligned}
\] & C & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
202.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.4 & 2 & 1 & 0.750 & 1.980 & & 0.001 \\
\hline Safety Line
\[
3 / 8
\] & A & No & No & \(\mathrm{Ar}(\mathrm{CaAa})\) & \[
\begin{gathered}
255.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.45 & 1 & 1 & 0.375 & 0.375 & & 0.000 \\
\hline Strobe Cable
\(* *\) & A & No & No & Ar (CaAa) & \[
\begin{gathered}
255.000- \\
10.000
\end{gathered}
\] & 0.000 & -0.45 & 1 & 1 & 1.250 & 1.250 & & 0.001 \\
\hline Feedline Ladder (Af) & C & No & No & Af(CaAa) & \[
\begin{gathered}
250.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.3 & 1 & 1 & 3.000 & 0.250 & & 0.008 \\
\hline Feedline Ladder (Af) & B & No & No & Af(CaAa) & \[
\begin{gathered}
238.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.3 & 1 & 1 & 3.000 & 0.250 & & 0.008 \\
\hline Feedline Ladder (Af) ** & A & No & No & Af(CaAa) & \[
\begin{gathered}
226.000- \\
10.000
\end{gathered}
\] & 0.000 & 0.3 & 1 & 1 & 3.000 & 0.250 & & 0.008 \\
\hline
\end{tabular}

Feed Line/Linear Appurtenances - Entered As Area
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Description & \begin{tabular}{l}
Face \\
or \\
Leg
\end{tabular} & Allow Shield & \begin{tabular}{l}
Exclude \\
From \\
Torque Calculation
\end{tabular} & Component Type & \begin{tabular}{l}
Placement \\
\(f t\)
\end{tabular} & Total Number & \[
\begin{aligned}
& C_{A} A_{A} \\
& f t^{2} / f t
\end{aligned}
\] & Weight \(k l f\) \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Tower Section & Tower Elevation \(f t\) & Face & \(A_{R}\)

\(f t^{2}\) & \(A_{F}\)
\(f t^{2}\) & \[
\begin{aligned}
& C_{A} A_{A} \\
& \text { In Face }
\end{aligned}
\]
\[
f t^{2}
\] & \[
\begin{gathered}
C_{A} A_{A} \\
\text { Out Face } \\
f t^{2}
\end{gathered}
\] & Weight K \\
\hline \multirow[t]{3}{*}{Tl} & \multirow[t]{3}{*}{255.000-240.000} & A & 0.000 & 0.000 & 2.438 & 0.000 & 0.014 \\
\hline & & B & 0.000 & 0.000 & 0.000 & 0.000 & 0.000 \\
\hline & & C & 0.000 & 0.000 & 27.237 & 0.000 & 0.205 \\
\hline \multirow[t]{3}{*}{T2} & \multirow[t]{3}{*}{240.000-220.000} & A & 0.000 & 0.000 & 19.592 & 0.000 & 0.142 \\
\hline & & B & 0.000 & 0.000 & 49.026 & 0.000 & 0.369 \\
\hline & & C & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline \multirow[t]{3}{*}{T3} & \multirow[t]{3}{*}{220.000-200.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 60.809 & 0.000 & 0.433 \\
\hline \multirow[t]{3}{*}{T4} & \multirow[t]{3}{*}{200.000-180.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T5} & \multirow[t]{3}{*}{180.000-160.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T6} & \multirow[t]{3}{*}{160.000-140.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T7} & \multirow[t]{3}{*}{140.000-120.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T8} & \multirow[t]{3}{*}{120.000-100.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T9} & \multirow[t]{3}{*}{100.000-80.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T10} & \multirow[t]{3}{*}{80.000-60.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T11} & \multirow[t]{3}{*}{60.000-40.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T12} & \multirow[t]{3}{*}{40.000-20.000} & A & 0.000 & 0.000 & 57.723 & 0.000 & 0.429 \\
\hline & & B & 0.000 & 0.000 & 54.473 & 0.000 & 0.410 \\
\hline & & C & 0.000 & 0.000 & 70.313 & 0.000 & 0.468 \\
\hline \multirow[t]{3}{*}{T13} & \multirow[t]{3}{*}{20.000-0.000} & A & 0.000 & 0.000 & 28.862 & 0.000 & 0.214 \\
\hline & & B & 0.000 & 0.000 & 27.237 & 0.000 & 0.205 \\
\hline & & C & 0.000 & 0.000 & 35.157 & 0.000 & 0.234 \\
\hline
\end{tabular}

Feed Line/Linear Appurtenances Section Areas - With Ice
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Tower Section & Tower Elevation ft & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] &  & \(A_{R}\)

\(f t^{2}\) & \begin{tabular}{l}
\(A_{F}\) \\
\(f t^{2}\)
\end{tabular} & \(C_{A} A_{A}\) In Face \(f t^{2}\) & \begin{tabular}{l}
\[
C_{A} A_{A}
\] \\
Out Face
\[
{f t^{2}}^{2}
\]
\end{tabular} & Weight
\(K\) \\
\hline \multirow[t]{3}{*}{T1} & \multirow[t]{3}{*}{255.000-240.000} & A & \multirow[t]{3}{*}{1.835} & 0.000 & 0.000 & 13.447 & 0.000 & 0.192 \\
\hline & & B & & 0.000 & 0.000 & 0.000 & 0.000 & 0.000 \\
\hline & & C & & 0.000 & 0.000 & 42.532 & 0.000 & 0872 \\
\hline \multirow[t]{3}{*}{T2} & \multirow[t]{3}{*}{240.000-220.000} & A & \multirow[t]{3}{*}{1.821} & 0.000 & 0.000 & 43.269 & 0.000 & 0.773 \\
\hline & & B & & 0.000 & 0.000 & 76.343 & 0.000 & 1.561 \\
\hline & & C & & 0.000 & 0.000 & 84.826 & 0.000 & 1.735 \\
\hline \multirow[t]{3}{*}{T3} & \multirow[t]{3}{*}{220.000-200.000} & A & \multirow[t]{3}{*}{1.805} & 0.000 & 0.000 & 102.223 & 0.000 & 1.972 \\
\hline & & B & & 0.000 & 0.000 & 84.533 & 0.000 & 1.723 \\
\hline & & C & & 0.000 & 0.000 & 104.580 & 0.000 & 2.013 \\
\hline \multirow[t]{3}{*}{T4} & \multirow[t]{3}{*}{200.000-180.000} & A & \multirow[t]{3}{*}{1.787} & 0.000 & 0.000 & 101.761 & 0.000 & 1.956 \\
\hline & & B & & 0.000 & 0.000 & 84.215 & 0.000 & 1.710 \\
\hline & & C & & 0.000 & 0.000 & 134.082 & 0.000 & 2.426 \\
\hline T5 & 180.000-160.000 & A & 1.767 & 0.000 & 0.000 & 101.252 & 0.000 & 1.938 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Tower Section & Tower Elevation \(f t\) & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & Ice
Thickness
in & \(A_{R}\)

\(f t^{2}\) & \(A_{F}\)
\(f t^{2}\) & \(C_{A} A_{A}\) In Face \(f t^{2}\) & \begin{tabular}{l}
\(C_{A} A_{A}\) \\
Out Face \\
\(\mathrm{ft}^{2}\)
\end{tabular} & Weight
\(K\) \\
\hline \multirow{4}{*}{T6} & \multirow{4}{*}{160.000-140.000} & B & \multirow{4}{*}{1.745} & 0.000 & 0.000 & 83.865 & 0.000 & 1.696 \\
\hline & & C & & 0.000 & 0.000 & 133.458 & 0.000 & 2.401 \\
\hline & & A & & 0.000 & 0.000 & 100.687 & 0.000 & 1.918 \\
\hline & & B & & 0.000 & 0.000 & 83.475 & 0.000 & 1.681 \\
\hline \multirow{3}{*}{T7} & \multirow{3}{*}{140.000-120.000} & C & \multirow{3}{*}{1.720} & 0.000 & 0.000 & 132.763 & 0.000 & 2.374 \\
\hline & & A & & 0.000 & 0.000 & 100.049 & 0.000 & 1895 \\
\hline & & B & & 0.000 & 0.000 & 83.036 & 0.000 & 1.664 \\
\hline \multirow{3}{*}{T8} & \multirow{3}{*}{120.000-100.000} & C & \multirow{3}{*}{1.692} & 0.000 & 0.000 & 131.980 & 0.000 & 2.344 \\
\hline & & A & & 0.000 & 0.000 & 99.316 & 0.000 & 1869 \\
\hline & & B & & 0.000 & 0.000 & 82.531 & 0.000 & 1.644 \\
\hline \multirow{3}{*}{T9} & \multirow{3}{*}{100.000-80.000} & C & \multirow{3}{*}{1.658} & 0.000 & 0.000 & 131.080 & 0.000 & 2.309 \\
\hline & & A & & 0.000 & 0.000 & 98.452 & 0.000 & 1839 \\
\hline & & B & & 0.000 & 0.000 & 81.936 & 0.000 & 1.621 \\
\hline \multirow{3}{*}{T10} & \multirow{3}{*}{80.000-60.000} & C & \multirow{3}{*}{1.617} & 0.000 & 0.000 & 130.019 & 0.000 & 2.268 \\
\hline & & A & & 0.000 & 0.000 & 97.395 & 0.000 & 1.803 \\
\hline & & B & & 0.000 & 0.000 & 81.207 & 0.000 & 1.592 \\
\hline \multirow{3}{*}{T11} & \multirow{3}{*}{60.000-40.000} & C & \multirow{3}{*}{1.564} & 0.000 & 0.000 & 128.721 & 0.000 & 2.219 \\
\hline & & A & & 0.000 & 0.000 & 96.020 & 0.000 & 1.756 \\
\hline & & B & & 0.000 & 0.000 & 80.261 & 0.000 & 1.556 \\
\hline \multirow{3}{*}{T12} & \multirow{3}{*}{40.000-20.000} & C & \multirow{3}{*}{1.486} & 0.000 & 0.000 & 127.033 & 0.000 & 2.155 \\
\hline & & A & & 0.000 & 0.000 & 94.020 & 0.000 & 1.689 \\
\hline & & B & & 0.000 & 0.000 & 78.884 & 0.000 & 1.504 \\
\hline \multirow{4}{*}{T13} & \multirow{4}{*}{20.000-0.000} & C & \multirow{4}{*}{1.331} & 0.000 & 0.000 & 124.579 & 0.000 & 2.065 \\
\hline & & A & & 0.000 & 0.000 & 45.026 & 0.000 & 0.781 \\
\hline & & B & & 0.000 & 0.000 & 38.076 & 0.000 & 0.702 \\
\hline & & C & & 0.000 & 0.000 & 59.857 & 0.000 & 0.946 \\
\hline
\end{tabular}

Feed Line Center of Pressure
\begin{tabular}{cccccc} 
Section & Elevation & \(C P_{X}\) & \(C P_{Z}\) & \begin{tabular}{c}
\(C P_{X}\) \\
Ice
\end{tabular} & \begin{tabular}{c}
\(C P_{Z}\) \\
Ice
\end{tabular} \\
& & ft & in & in & in \\
in & & \\
T1 & \(255.000-240.000\) & 0.856 & 4.712 & -0.907 & 3.502 \\
T2 & \(240.000-220.000\) & 2.937 & -1.564 & 1.665 & -0.522 \\
T3 & \(220.000-200.000\) & -0.798 & -2.030 & -2.227 & -0.743 \\
T4 & \(200.000-180.000\) & -1.976 & -0.496 & -4.177 & 1.423 \\
T5 & \(180.000-160.000\) & -2.151 & -0.538 & -4.572 & 1.547 \\
T6 & \(160.000-140.000\) & -2.305 & -0.575 & -4.922 & 1.658 \\
T7 & \(140.000-120.000\) & -2.274 & -0.572 & -5.057 & 1.707 \\
T8 & \(120.000-100.000\) & -2.393 & -0.602 & -5.320 & 1.793 \\
T9 & \(100.000-80.000\) & -2.488 & -0.626 & -5.536 & 1865 \\
T10 & \(80.000-60.000\) & -3.197 & -0.786 & -6.566 & 2.178 \\
T11 & \(60.000-40.000\) & -3.303 & -0.814 & -6.761 & 2.245 \\
T12 & \(40.000-20.000\) & -3.418 & -0.843 & -6.910 & 2.298 \\
T13 & \(20.000-0.000\) & -1956 & -0.501 & -4.075 & 1403 \\
\hline
\end{tabular}

\section*{Shielding Factor Ka}
\begin{tabular}{|r|c|r|r|r|r|}
\hline \begin{tabular}{c} 
Tower \\
Section
\end{tabular} & \begin{tabular}{c} 
Feed Line \\
Record No.
\end{tabular} & Description & \begin{tabular}{c} 
Feed Line \\
Segment Elev.
\end{tabular} & \begin{tabular}{c}
\(K_{a}\) \\
No Ice
\end{tabular} & \begin{tabular}{c}
\(K_{a}\) \\
Ice
\end{tabular} \\
\hline Tl & & \(1.625^{\prime \prime}\) coax & 240.00 & 0.6000 & 0.6000
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline Tower Section & Feed Line Record No. & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{a} \\
\text { No Ice }
\end{gathered}
\] & \[
\begin{aligned}
& K_{a} \\
& \text { Ice } \\
& \hline
\end{aligned}
\] \\
\hline & & & 250.00 & & \\
\hline T1 & 2 & 1.5" Hybrid & \(240.00-\)
250.00 & 0.6000 & 0.6000 \\
\hline T1 & 14 & Safety Line 3/8 & 240.00 - & 0.6000 & 0.6000 \\
\hline & & & 255.00 & & \\
\hline T1 & 15 & Strobe Cable & \(240.00-\)
255.00 & 0.6000 & 0.6000 \\
\hline T1 & 17 & Feedline Ladder (Af) & 240.00 - & 0.6000 & 0.6000 \\
\hline & & & 250.00 & & \\
\hline T2 & 1 & \(1.625^{\prime \prime}\) coax & \(220.00-\) & 0.6000 & 0.6000 \\
\hline T2 & 2 & 1.5" Hybrid & 240.00 & 0.6000 & 0.6000 \\
\hline & & & 240.00 & & \\
\hline T2 & 4 & \(1.625^{\prime \prime}\) coax & 220.00 - & 0.6000 & 0.6000 \\
\hline & & & 238.00 & & \\
\hline T2 & 5 & 1.5" Hybrid & 220.00 - & 0.6000 & 0.6000 \\
\hline & & & 238.00 & & \\
\hline T2 & 7 & \(1.625^{\prime \prime}\) coax & 220.00 - & 0.6000 & 0.6000 \\
\hline & & & 226.00 & & \\
\hline T2 & 8 & 1.5" Hybrid & 220.00 - & 0.6000 & 0.6000 \\
\hline & & & 226.00 & & \\
\hline T2 & 14 & Safety Line 3/8 & 220.00 - & 0.6000 & 0.6000 \\
\hline & & & 240.00 & & \\
\hline T2 & 15 & Strobe Cable & \(220.00-\) & 0.6000 & 0.6000 \\
\hline T2 & 17 & Feedline Ladder (Af) & 240.00 & 0.6000 & 0.6000 \\
\hline & & Feedine Ladder (A) & 240.00 & & \\
\hline T2 & 18 & Feedline Ladder (Af) & \(220.00-\) & 0.6000 & 0.6000 \\
\hline & & & 238.00 & & \\
\hline T2 & 19 & Feedline Ladder (Af) & 220.00 - & 0.6000 & 0.6000 \\
\hline & & & 226.00 & & \\
\hline T3 & 1 & 1.625" coax & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 2 & 1.5 " Hybrid & 200.00 - & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 4 & \(1.625^{\prime \prime}\) coax & \(200.00-\) & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 5 & \(1.5{ }^{\prime \prime}\) Hybrid & 200.00 - & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 7 & \(1.625^{\prime \prime}\) coax & \(200.00-\) & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 8 & 1.5" Hybrid & \(200.00-\)
220.00 & 0.6000 & 0.6000 \\
\hline T3 & 10 & 1.625" coax & 220.00 & 0.6000 & 0.6000 \\
\hline & & & 214.00 & & \\
\hline T3 & 12 & \(1.625^{\prime \prime}\) coax & 200.00 - & 0.6000 & 0.6000 \\
\hline & & & 202.00 & & \\
\hline T3 & 14 & Safety Line 3/8 & 200.00 - & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 15 & Strobe Cable & \(200.00-\) & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 17 & Feedline Ladder (Af) & \(200.00-\) & 0.6000 & 0.6000 \\
\hline T3 & 18 & Feedline Ladder (Af) & 200.00 - & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T3 & 19 & Feedline Ladder (Af) & \(200.00-\) & 0.6000 & 0.6000 \\
\hline & & & 220.00 & & \\
\hline T4 & 1 & 1.625" coax & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 2 & 1.5" Hybrid & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 4 & \(1.625^{\prime \prime}\) coax & \(180.00-\) & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline Tower Section & Feed Line Record No. & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{a} \\
\text { No Ice } \\
\hline
\end{gathered}
\] & \[
\begin{aligned}
& K_{a} \\
& \text { Ice } \\
& \hline
\end{aligned}
\] \\
\hline & & & 200.00 & & \\
\hline T4 & 5 & 1.5" Hybrid & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 7 & \(1.625^{\prime \prime}\) coax & 180.00- & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 8 & 1.5" Hybrid & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 10 & 1.625" coax & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 12 & 1.625" coax & 180.00- & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 14 & Safety Line 3/8 & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 15 & Strobe Cable & \(180.00-\)
200.00 & 0.6000 & 0.6000 \\
\hline T4 & 17 & Feedline Ladder (Af) & 180.00 - & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 18 & Feedline Ladder (Af) & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T4 & 19 & Feedline Ladder (Af) & \(180.00-\) & 0.6000 & 0.6000 \\
\hline & & & 200.00 & & \\
\hline T5 & 1 & \(1.625^{\prime \prime}\) coax & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 2 & 1.5" Hybrid & 160.00- & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 4 & \(1.625{ }^{\prime \prime}\) coax & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 5 & 1.5" Hybrid & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 7 & 1.625" coax & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 8 & 1.5" Hybrid & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 10 & \(1.625^{\prime \prime}\) coax & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 12 & \(1.625^{\prime \prime}\) coax & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 14 & Safety Line 3/8 & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 15 & Strobe Cable & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 17 & Feedline Ladder (Af) & \(160.00-\) & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T5 & 18 & Feedline Ladder (Af) & \(160.00-\)
180.00 & 0.6000 & 0.6000 \\
\hline T5 & 19 & Feedline Ladder (Af) & 160.00- & 0.6000 & 0.6000 \\
\hline & & & 180.00 & & \\
\hline T6 & 1 & \(1.625^{\prime \prime}\) coax & \(140.00-\) & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 2 & 1.5" Hybrid & \(140.00-\) & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 4 & 1.625" coax & \(140.00-\) & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 5 & 1.5" Hybrid & \(140.00-\) & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 7 & 1.625" coax & \(140.00-\) & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 8 & 1.5" Hybrid & 140.00- & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 10 & \(1.625^{\prime \prime}\) coax & \(140.00-\) & 0.6000 & 0.6000 \\
\hline & & & 160.00 & & \\
\hline T6 & 12 & 1.625" coax & \(140.00-\) & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline \begin{tabular}{l}
Tower \\
Section
\end{tabular} & Feed Line Record No. & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{a} \\
\text { No Ice }
\end{gathered}
\] & \[
\begin{gathered}
K_{a} \\
I c e \\
\hline
\end{gathered}
\] \\
\hline & & & 160.00 & & \\
\hline T6 & 14 & Safety Line 3/8 & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 15 & Strobe Cable & \(140.00-\)
16000 & 0.6000 & 0.6000 \\
\hline T6 & 17 & Feedline Ladder (Af) & \[
\begin{array}{r}
140.00- \\
160.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T6 & 18 & Feedline Ladder (Af) & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T6 & 19 & Feedline Ladder (Af) & \(140.00-\)
160.00 & 0.6000 & 0.6000 \\
\hline T7 & 1 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 2 & 1.5" Hybrid & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 4 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 5 & 1.5" Hybrid & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 7 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 8 & 1.5" Hybrid & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 10 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 12 & \(1.625^{\prime \prime}\) coax & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 14 & Safety Line 3/8 & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 15 & Strobe Cable & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 17 & Feedline Ladder (Af) & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 18 & Feedline Ladder (Af) & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T7 & 19 & Feedline Ladder (Af) & \(120.00-\)
140.00 & 0.6000 & 0.6000 \\
\hline T8 & 1 & \(1.625^{\prime \prime}\) coax & \[
\begin{array}{r}
100.00- \\
120.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T8 & 2 & 1.5" Hybrid & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 4 & \(1625^{\prime \prime}\) coax & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 5 & 1.5" Hybrid & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 7 & \(1.625^{\prime \prime}\) coax & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 8 & 1.5" Hybrid & 100.00
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 10 & 1.625" coax & \(100.00-\)
120.00 & 06000 & 0.6000 \\
\hline T8 & 12 & \(1.625^{\prime \prime}\) coax & \[
\begin{array}{r}
100.00- \\
120.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T8 & 14 & Safety Line 3/8 & \[
\begin{array}{r}
100.00- \\
120.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T8 & 15 & Strobe Cable & \[
\begin{array}{r}
100.00- \\
120.00
\end{array}
\] & 0.6000 & 0.6000 \\
\hline T8 & 17 & Feedline Ladder (Af) & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 18 & Feedline Ladder (Af) & \(100.00-\)
120.00 & 0.6000 & 0.6000 \\
\hline T8 & 19 & Feedline Ladder (Af) & \(100.00-1\) & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline Tower Section & Feed Line Record No & Description & Feed Line Segment Elev. & \[
\begin{gathered}
K_{a} \\
\text { No Ice } \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
K_{a} \\
I c e \\
\hline
\end{gathered}
\] \\
\hline & & & 12000 & & \\
\hline T9 & 1 & \(1.625^{\prime \prime}\) coax & \(80.00-100.00\) & 0.6000 & 0.6000 \\
\hline T9 & 2 & 1.5" Hybrid & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 4 & 1.625" coax & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 5 & 1.5" Hybrid & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 7 & \(1.625^{\prime \prime}\) coax & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 8 & 1.5" Hybrid & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 10 & \(1.625^{\prime \prime}\) coax & \(80.00-100.00\) & 0.6000 & 0.6000 \\
\hline T9 & 12 & \(1.625^{\prime \prime}\) coax & \(80.00-100.00\) & 0.6000 & 0.6000 \\
\hline T9 & 14 & Safety Line 3/8 & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 15 & Strobe Cable & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 17 & Feedline Ladder (Af) & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T9 & 18 & Feedline Ladder (Af) & \(80.00-100.00\) & 0.6000 & 0.6000 \\
\hline T9 & 19 & Feedline Ladder (Af) & 80.00-100.00 & 0.6000 & 0.6000 \\
\hline T10 & 1 & 1.625" coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 2 & 1.5" Hybrid & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 4 & 1.625" coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 5 & 1.5" Hybrid & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 7 & 1.625" coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 8 & 1.5" Hybrid & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 10 & 1.625" coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 12 & 1.625" coax & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 14 & Safety Line 3/8 & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 15 & Strobe Cable & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 17 & Feedline Ladder (Af) & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 18 & Feedline Ladder (Af) & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T10 & 19 & Feedline Ladder (Af) & 60.00-80.00 & 0.6000 & 0.6000 \\
\hline T11 & 1 & 1.625" coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 2 & 1.5" Hybrid & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 4 & 1.625" coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 5 & 1.5" Hybrid & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 7 & 1.625" coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 8 & 1.5" Hybrid & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 10 & \(1.625^{\prime \prime}\) coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 12 & 1.625" coax & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 14 & Safety Line 3/8 & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 15 & Strobe Cable & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 17 & Feedline Ladder (Af) & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 18 & Feedline Ladder (Af) & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T11 & 19 & Feedline Ladder (Af) & 40.00-60.00 & 0.6000 & 0.6000 \\
\hline T12 & 1 & \(1.625^{\prime \prime}\) coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 2 & 1.5" Hybrid & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 4 & 1.625" coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 5 & 1.5" Hybrid & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 7 & \(1.625^{\prime \prime}\) coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 8 & 1.5" Hybrid & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 10 & \(1.625^{\prime \prime}\) coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 12 & \(1.625^{\prime \prime}\) coax & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 14 & Safety Line 3/8 & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 15 & Strobe Cable & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 17 & Feedline Ladder (Af) & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 18 & Feedline Ladder (Af) & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T12 & 19 & Feedline Ladder (Af) & 20.00-40.00 & 0.6000 & 0.6000 \\
\hline T13 & 1 & \(1.625^{\prime \prime}\) coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 2 & 1.5" Hybrid & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 4 & 1.625" coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 5 & 1.5" Hybrid & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 7 & 1.625" coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 8 & 1.5" Hybrid & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 10 & 1.625" coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 12 & \(1.625^{\prime \prime}\) coax & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline T13 & 14 & Safety Line 3/8 & 10.00-20.00 & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\begin{tabular}{|r|r|r|r|r|r|}
\hline \begin{tabular}{c} 
Tower \\
Section
\end{tabular} & \begin{tabular}{c} 
Feed Line \\
Record No
\end{tabular} & Description & \begin{tabular}{c} 
Feed Line \\
Segment Elev.
\end{tabular} & \begin{tabular}{c}
\(K_{a}\) \\
No Ice
\end{tabular} & \begin{tabular}{c}
\(K_{a}\) \\
Ice
\end{tabular} \\
\hline T 13 & 15 & Strobe Cable & \(10.00-20.00\) & 0.6000 & 0.6000 \\
T 13 & 17 & Feedline Ladder (Af) & \(10000-20.00\) & 0.6000 & 0.6000 \\
T 13 & 18 & Feedline Ladder (Af) & \(10.00-20.00\) & 0.6000 & 0.6000 \\
T 13 & 19 & Feedline Ladder (Af) & \(10.00-20.00\) & 0.6000 & 0.6000 \\
\hline
\end{tabular}

\section*{Discrete Tower Loads}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & \begin{tabular}{l}
Offset \\
Type
\end{tabular} & \begin{tabular}{l}
Offsets: \\
Horz \\
Lateral \\
Vert \\
\(f t\) \\
\(f t\) \\
\(f t\)
\end{tabular} & \begin{tabular}{l}
Azimuth Adjustment \\
-
\end{tabular} & Placement & & \(C_{A} A_{A}\) Front
\[
f t^{2}
\] & \begin{tabular}{l}
\(C_{A} A_{A}\) \\
Side \\
\(f t^{2}\)
\end{tabular} & Weight \\
\hline \multirow[t]{4}{*}{Lightning Rod 1"x10'} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & 0.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{255.000} & No Ice & 1.000 & 1.000 & 0.040 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.017 & 2.017 & 0.049 \\
\hline & & & \multirow[t]{2}{*}{5.000} & & & \(1{ }^{1 /}\) Ice & 3.050 & 3.050 & 0.065 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 5.148 & 5.148 & 0.116 \\
\hline \multirow[t]{4}{*}{Top Beacon} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 0.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{255.000} & No Ice & 2.700 & 2.700 & 0.050 \\
\hline & & & 0.000 & & & \(1 / 2^{\prime \prime}\) Ice & 3.100 & 3.100 & 0.070 \\
\hline & & & \multirow[t]{2}{*}{1.000} & & & \(1^{\prime \prime}\) Ice & 3.500 & 3.500 & 0.090 \\
\hline & & & & & & 2 Ice & 4.300 & 4.300 & 0.130 \\
\hline \multicolumn{10}{|l|}{**} \\
\hline Sector \(1(\mathrm{CaAa}=13333.33\) & \multirow[t]{4}{*}{A} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{250.000} & No Ice & 92.600 & 62.040 & 0.700 \\
\hline Sq.in) No Ice & & & 0.000 & & & 1/2" Ice & 115.750 & 77.550 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 1)} & & & \multirow[t]{2}{*}{0.000} & & & 1 Ice & 138.900 & 93.060 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 185.200 & 124.080 & 3.500 \\
\hline Sector2(CaAa=13333.33 & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{250.000} & No Ice & 92.600 & 62.040 & 0.700 \\
\hline Sq.in)No Ice & & & 0.000 & & & 1/2" Ice & 115.750 & 77.550 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 1)} & & & 0000 & & & \(1^{\prime \prime}\) Ice & 138.900 & 93.060 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 185.200 & 124.080 & 3.500 \\
\hline Sector 3 ( \(\mathrm{CaAa}=13333.33\) & \multirow[t]{5}{*}{C} & \multirow[t]{4}{*}{From Leg} & 4000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{250.000} & No Ice & 92.600 & 62.040 & 0.700 \\
\hline Sq.in) No Ice & & & 0.000 & & & 1/2" Ice & 115.750 & 77.550 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 1)} & & & 0.000 & & & 1 Ice & 138.900 & 93.060 & 2.100 \\
\hline & & & & & & 2 " Ice & 185.200 & 124.080 & 3.500 \\
\hline ** & & & & & & & & & \\
\hline Sector \(1(\mathrm{CaAa}=10000\) & \multirow[t]{4}{*}{A} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{238.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline Sq.in)No Ice & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 2)} & & & 0.000 & & & 1 Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & 2" Ice & 138.880 & 93.050 & 3.500 \\
\hline Sector \(2(\mathrm{CaAa}=10000\) & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{238.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline Sq.in) No Ice & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 2)} & & & 0.000 & & & 1" Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & 2" Ice & 138.880 & 93050 & 3.500 \\
\hline Sector3(CaAa=10000 & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{238.000} & No Ice & 69.440 & 46525 & 0.700 \\
\hline Sq.in)No Ice & & & 0.000 & & & 1/2" Ice & 86.800 & 58.156 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 2)} & & & 0.000 & & & 1 I' Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & 2" Ice & 138.880 & 93.050 & 3.500 \\
\hline Sector \(1(\mathrm{CaAa}=10000\) & \multirow[t]{4}{*}{A} & \multirow[t]{4}{*}{From Leg} & 4.000 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{226.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline Sq.in)No Ice & & & 0.000 & & & \(1 / 2^{\prime \prime}\) Ice & 86.800 & 58.156 & 1.400 \\
\hline \multirow[t]{2}{*}{(Carrier 3)} & & & 0.000 & & & 1 I' Ice & 104.160 & 69787 & 2.100 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 138.880 & 93.050 & 3.500 \\
\hline Sector2( \(\mathrm{CaAa}=10000\) & \multirow[t]{2}{*}{B} & \multirow[t]{2}{*}{From Leg} & 4.000 & \multirow[t]{2}{*}{0.000} & \multirow[t]{2}{*}{226.000} & No Ice & 69.440 & 46.525 & 0.700 \\
\hline Sq. in)No Ice & & & 0.000 & & & \(1 / 2^{\text {H }}\) Ice & 86.800 & 58.156 & 1.400 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & Offset Type & \begin{tabular}{l}
Offsets: \\
Horz \\
Lateral \\
Vert \\
ft \\
\(f t\) \\
\(f t\)
\end{tabular} & \begin{tabular}{l}
Azimuth Adjustment \\
。
\end{tabular} & Placement & & \(C_{A} A_{A}\) Front \(f t^{2}\) & \begin{tabular}{l}
\(C_{A} A_{A}\) \\
Side \\
\(f t^{2}\)
\end{tabular} & Weight

K \\
\hline \multirow[t]{2}{*}{(Carrier 3)} & \multirow{6}{*}{C} & \multirow{6}{*}{From Leg} & \multirow[t]{2}{*}{0.000} & \multirow{6}{*}{0.000} & \multirow{6}{*}{226.000} & 1" Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & 2" Ice & 138.880 & 93.050 & 3.500 \\
\hline Sector \(3(\mathrm{CaAa}=10000\) & & & 4.000 & & & No Ice & 69.440 & 46.525 & 0.700 \\
\hline \multirow[t]{3}{*}{Sq.in)No Ice
(Carrier 3)} & & & 0.000 & & & \(1 / 2^{\prime \prime}\) Ice & 86800 & 58.156 & 1.400 \\
\hline & & & 0.000 & & & 1" Ice & 104.160 & 69.787 & 2.100 \\
\hline & & & & & & 2 " Ice & 138.880 & 93.050 & 3.500 \\
\hline ** & \multirow{5}{*}{C} & \multirow{5}{*}{From Leg} & & \multirow{5}{*}{0.000} & \multirow{5}{*}{214.000} & & & & \\
\hline \multirow[t]{4}{*}{4 1/2" OD Dish Mount (Carrier 4)} & & & 0.500 & & & No Ice & 1.615 & 1.615 & 0.057 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & 0.000 & & & \(1{ }^{1 \prime}\) Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 3241 & 3.241 & 0.148 \\
\hline \multirow[t]{4}{*}{4 1/2" OD Dish Mount (Carrier 4)} & \multirow[t]{5}{*}{B} & \multirow[t]{5}{*}{From Leg} & 0.500 & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{214.000} & No Ice & 1615 & 1.615 & 0.057 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & 0.000 & & & 1 Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & 2 " Ice & 3.241 & 3.241 & 0.148 \\
\hline ** & & & & & & & & & \\
\hline \multirow[t]{4}{*}{\(41 / 2^{\prime \prime}\) OD Dish Mount (Carrier 5)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{From Leg} & & \multirow[t]{4}{*}{0.000} & \multirow[t]{4}{*}{202.000} & & 1.615 & 1.615 & 0.057 \\
\hline & & & 0.000 & & & \[
1 / 2^{\prime \prime} \text { Ice }
\] & 2.207 & 2.207 & 0.074 \\
\hline & & & 0.000 & & & 1" Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 3241 & 3.241 & 0.148 \\
\hline \multirow[t]{4}{*}{4 1/2" OD Dish Mount (Carrier 5)} & \multirow[t]{5}{*}{B} & \multirow[t]{5}{*}{From Leg} & 0.500 & \multirow[t]{5}{*}{0.000} & \multirow[t]{5}{*}{202.000} & No Ice & 1.615 & 1.615 & 0.057 \\
\hline & & & 0.000 & & & 1/2" Ice & 2.207 & 2.207 & 0.074 \\
\hline & & & 0.000 & & & 1" Ice & 2.543 & 2.543 & 0.094 \\
\hline & & & & & & \(2^{\prime \prime}\) Ice & 3.241 & 3.241 & 0.148 \\
\hline ** & & & & & & & & & \\
\hline
\end{tabular}

\section*{Dishes}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Description & \[
\begin{gathered}
\text { Face } \\
\text { or } \\
\text { Leg }
\end{gathered}
\] & Dish Type & \begin{tabular}{l}
Offset \\
Type
\end{tabular} & Offsets: Horz Lateral Vert \(f t\) & Azimuth Adjustment & \begin{tabular}{l}
\(3 d B\) \\
Beam \\
Width \\
-
\end{tabular} & Elevation & Outside Diameter
\(\qquad\) & & \begin{tabular}{l}
Aperture \\
Area
\end{tabular} & Weight \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 4)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{From Leg} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{214.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.140 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.290 \\
\hline & & & & 0.000 & & & & & \(1^{\prime \prime}\) Ice & 29.830 & 0.440 \\
\hline & & & & & & & & & \(2^{\prime \prime}\) Ice & 31.390 & 0.740 \\
\hline \multirow[t]{4}{*}{\(6^{6}\) MW Dish (Carrier 4)} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{\begin{tabular}{l}
From \\
Leg
\end{tabular}} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{214.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.140 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.290 \\
\hline & & & & \multirow[t]{3}{*}{0.000} & & & & & \(1{ }^{1 /}\) Ice & 29.830 & 0.440 \\
\hline & & & & & & & & & 2 " Ice & 31.390 & 0.740 \\
\hline \multicolumn{11}{|l|}{**} & \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 5)} & \multirow[t]{4}{*}{C} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{From Leg} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{202.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.140 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.290 \\
\hline & & & & 0.000 & & & & & \(1^{\prime \prime}\) Ice & 29.830 & 0.440 \\
\hline & & & & & & & & & \(2^{\prime \prime}\) Ice & 31.390 & 0.740 \\
\hline \multirow[t]{4}{*}{6' MW Dish (Carrier 5)} & \multirow[t]{4}{*}{B} & \multirow[t]{4}{*}{Paraboloid w/o Radome} & \multirow[t]{4}{*}{From Leg} & 1.000 & \multirow[t]{4}{*}{0.000} & & \multirow[t]{4}{*}{202.000} & \multirow[t]{4}{*}{6.000} & No Ice & 28.270 & 0.140 \\
\hline & & & & 0.000 & & & & & 1/2" Ice & 29.050 & 0.290 \\
\hline & & & & 0.000 & & & & & 1" Ice & 29.830 & 0.440 \\
\hline & & & & & & & & & 2" Ice & 31.390 & 0.740 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|l|}{Job ATS \# 8843-Sharpsburg (Site\# KYLEX2050)} & \[
\begin{array}{|ll}
\hline \text { Page } & \\
& 17 \text { of } 33
\end{array}
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S. Boulder Ave, Ste 300
\end{tabular} & \multicolumn{2}{|l|}{255' SST/38.210928, -83.934067} & Date
\[
13: 35: 1002 / 18 / 21
\] \\
\hline \begin{tabular}{l}
Tulsa, OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & \multicolumn{2}{|l|}{Client Harmoni(Uniti) Towers} & \begin{tabular}{l}
Designed by \\
T. Cheriyan
\end{tabular} \\
\hline
\end{tabular}

\section*{Load Combinations}
\begin{tabular}{|c|c|}
\hline Comb. No. & Description \\
\hline 1 & Dead Only \\
\hline 2 & 1.2 Dead+1.0 Wind 0 deg - No Ice \\
\hline 3 & \(0.9 \mathrm{Dead}+1.0\) Wind 0 deg - No Ice \\
\hline 4 & 1.2 Dead+1.0 Wind 30 deg - No Ice \\
\hline 5 & 0.9 Dead+1.0 Wind 30 deg - No Ice \\
\hline 6 & 1.2 Dead+1.0 Wind 60 deg - No Ice \\
\hline 7 & 0.9 Dead+1.0 Wind 60 deg - No Ice \\
\hline 8 & 1.2 Dead+1.0 Wind 90 deg - No Ice \\
\hline 9 & 0.9 Dead+1.0 Wind 90 deg - No Ice \\
\hline 10 & 1.2 Dead+1.0 Wind 120 deg - No Ice \\
\hline 11 & 0.9 Dead+1.0 Wind 120 deg - No Ice \\
\hline 12 & 1.2 Dead+1.0 Wind 150 deg - No Ice \\
\hline 13 & 0.9 Dead+1.0 Wind 150 deg - No Ice \\
\hline 14 & 1.2 Dead+1.0 Wind 180 deg - No Ice \\
\hline 15 & 0.9 Dead+1.0 Wind 180 deg - No Ice \\
\hline 16 & 1.2 Dead+1.0 Wind 210 deg - No Ice \\
\hline 17 & 0.9 Dead+1.0 Wind 210 deg - No Ice \\
\hline 18 & 1.2 Dead+1.0 Wind 240 deg - No Ice \\
\hline 19 & 0.9 Dead+1.0 Wind 240 deg - No Ice \\
\hline 20 & 1.2 Dead+1.0 Wind 270 deg - No Ice \\
\hline 21 & 0.9 Dead+1.0 Wind 270 deg - No Ice \\
\hline 22 & 1.2 Dead+1.0 Wind 300 deg - No Ice \\
\hline 23 & 0.9 Dead+1.0 Wind 300 deg - No Ice \\
\hline 24 & 1.2 Dead+1.0 Wind 330 deg - No Ice \\
\hline 25 & 0.9 Dead+1.0 Wind 330 deg - No Ice \\
\hline 26 & 1.2 Dead+1.0 Ice+1.0 Temp \\
\hline 27 & 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp \\
\hline 28 & 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp \\
\hline 29 & 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp \\
\hline 30 & 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp \\
\hline 31 & 1.2 Dead+1.0 Wind \(120 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 32 & 1.2 Dead+1.0 Wind \(150 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 33 & 1.2 Dead+1.0 Wind \(180 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 34 & 1.2 Dead+1.0 Wind \(210 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 35 & 1.2 Dead+1.0 Wind \(240 \mathrm{deg}+1.0\) Ice +10 Temp \\
\hline 36 & 1.2 Dead+1.0 Wind \(270 \mathrm{deg}+1.0 \mathrm{Ice}+1.0 \mathrm{Temp}\) \\
\hline 37 & 1.2 Dead+1.0 Wind \(300 \mathrm{deg}+1.0\) Ice+ 1.0 Temp \\
\hline 38 & 1.2 Dead+1.0 Wind \(330 \mathrm{deg}+1.0\) Ice+1.0 Temp \\
\hline 39 & Dead+Wind 0 deg - Service \\
\hline 40 & Dead+Wind 30 deg - Service \\
\hline 41 & Dead+Wind 60 deg - Service \\
\hline 42 & Dead+Wind 90 deg - Service \\
\hline 43 & Dead+Wind 120 deg - Service \\
\hline 44 & Dead+Wind 150 deg - Service \\
\hline 45 & Dead+Wind 180 deg - Service \\
\hline 46 & Dead+Wind 210 deg - Service \\
\hline 47 & Dead+Wind 240 deg - Service \\
\hline 48 & Dead+Wind 270 deg - Service \\
\hline 49 & Dead+Wind 300 deg - Service \\
\hline 50 & Dead+Wind 330 deg - Service \\
\hline
\end{tabular}

\section*{Maximum Member Forces}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation \(f t\) & Component Type & Condition & Gov. Load Comb. & \begin{tabular}{c} 
Axial \\
\(K\) \\
\hline
\end{tabular} & Major Axis Moment kip-ft & Minor Axis Moment kip-ft \\
\hline \multirow[t]{18}{*}{T1} & \multirow[t]{18}{*}{255-240} & \multirow[t]{6}{*}{Leg} & Max Tension & 15 & 12.213 & 0.624 & -0.006 \\
\hline & & & Max. Compression & 2 & -14.208 & 0.559 & -0.004 \\
\hline & & & Max. Mx & 2 & -14.207 & -0.667 & 0.007 \\
\hline & & & Max. My & 4 & -1.253 & -0.031 & -0.563 \\
\hline & & & Max. Vy & 2 & -2.450 & 0.559 & -0.004 \\
\hline & & & Max. Vx & 24 & -1.901 & -0.005 & 0.147 \\
\hline & & \multirow[t]{6}{*}{Diagonal} & Max Tension & 2 & 3.186 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 2 & -3.207 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 2 & -1.037 & 0.019 & -0.001 \\
\hline & & & Max. My & 8 & -2.694 & -0.001 & -0.009 \\
\hline & & & Max. Vy & 35 & 0.023 & 0.018 & -0.002 \\
\hline & & & Max. Vx & 8 & 0.003 & 0.000 & 0.000 \\
\hline & & \multirow[t]{6}{*}{Top Girt} & Max Tension & 23 & 0.123 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 21 & -0.202 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 26 & -0.022 & -0.037 & 0.000 \\
\hline & & & Max My & 38 & -0.028 & 0.000 & 0.001 \\
\hline & & & Max. Vy & 26 & 0.030 & 0.000 & 0.000 \\
\hline & & & Max. Vx & 38 & 0.001 & 0.000 & 0.000 \\
\hline \multirow[t]{12}{*}{T2} & \multirow[t]{12}{*}{240-220} & \multirow[t]{6}{*}{Leg} & Max Tension & 15 & 49.602 & 2.131 & -0.017 \\
\hline & & & Max Compression & 2 & -56.101 & 1.194 & -0.017 \\
\hline & & & Max Mx & 2 & -56.096 & -2.651 & 0.024 \\
\hline & & & Max My & 4 & -1.266 & -0.078 & -1.469 \\
\hline & & & Max. Vy & 2 & -7.685 & 1.194 & -0.017 \\
\hline & & & Max. Vx & 4 & 3.303 & -0.058 & -0.682 \\
\hline & & \multirow[t]{6}{*}{Diagonal} & Max Tension & 12 & 6.768 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 20 & -6.176 & 0.000 & 0.000 \\
\hline & & & Max Mx & 2 & -1.010 & 0.039 & -0.002 \\
\hline & & & Max. My & 20 & -6.153 & -0.008 & 0.037 \\
\hline & & & Max. Vy & 35 & 0.029 & 0.027 & -0.003 \\
\hline & & & Max. Vx & 20 & -0.009 & 0.000 & 0.000 \\
\hline \multirow[t]{12}{*}{T3} & \multirow[t]{12}{*}{220-200} & \multirow[t]{6}{*}{Leg} & Max Tension & 15 & 93.445 & 2.839 & -0.017 \\
\hline & & & Max. Compression & 2 & -104.349 & 1.058 & -0.003 \\
\hline & & & Max Mx & 2 & -56.121 & 5.001 & -0.056 \\
\hline & & & Max My & 4 & -3.877 & -0.089 & -2.335 \\
\hline & & & Max. Vy & 2 & -9.966 & 1.058 & -0.003 \\
\hline & & & Max. Vx & 4 & 4.401 & 0.087 & -0.717 \\
\hline & & \multirow[t]{6}{*}{Diagonal} & Max Tension & 20 & 8.114 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 20 & -7.188 & 0.000 & 0.000 \\
\hline & & & Max Mx & 28 & 0.419 & 0.038 & 0.003 \\
\hline & & & Max My & 20 & -7.147 & -0.006 & 0.020 \\
\hline & & & Max. Vy & 28 & 0.037 & 0.038 & 0.003 \\
\hline & & & Max. Vx & 20 & -0.004 & 0.000 & 0.000 \\
\hline \multirow[t]{12}{*}{T4} & \multirow[t]{12}{*}{200-180} & \multirow[t]{6}{*}{Leg} & Max Tension & 7 & 138.045 & 3.416 & 0.166 \\
\hline & & & Max. Compression & 2 & -152.532 & 0.875 & 0.002 \\
\hline & & & Max Mx & 2 & -104.368 & 6.005 & -0.027 \\
\hline & & & Max. My & 4 & -6.900 & 0.356 & -2.919 \\
\hline & & & Max. Vy & 2 & -10.561 & 0.875 & 0.002 \\
\hline & & & Max. Vx & 24 & -4.510 & 0.027 & 0.392 \\
\hline & & \multirow[t]{6}{*}{Diagonal} & & 8 & 8.646 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 20 & -9.076 & 0.000 & 0.000 \\
\hline & & & Max Mx & 37 & 1.154 & 0.059 & -0.005 \\
\hline & & & Max My & 20 & -9.016 & -0.007 & 0.024 \\
\hline & & & Max. Vy & 32 & 0.050 & 0.058 & 0.005 \\
\hline & & & Max. Vx & 20 & -0.005 & 0.000 & 0.000 \\
\hline \multirow[t]{7}{*}{T5} & \multirow[t]{7}{*}{180-160} & \multirow[t]{6}{*}{Leg} & Max Tension & 7 & 178.511 & 3.740 & 0.145 \\
\hline & & & Max. Compression & 2 & -196.839 & 0.902 & 0.005 \\
\hline & & & Max. Mx & 2 & -152.551 & 6.129 & 0.004 \\
\hline & & & Max. My & 24 & -11.281 & 0.240 & 2.650 \\
\hline & & & Max. Vy & 18 & -11.503 & 0.904 & 0.031 \\
\hline & & & Max. Vx & 24 & -4.643 & 0.028 & 0.396 \\
\hline & & Diagonal & Max Tension & 8 & 8.874 & 0.000 & 0.000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Section No. & \[
\begin{gathered}
\text { Elevation } \\
f t
\end{gathered}
\] & Component Type & Condition & \begin{tabular}{l}
Gov. \\
Load \\
Comb.
\end{tabular} & Axial

\(K\) & Major Axis Moment kip-ft & Minor Axis Moment kip-ft \\
\hline \multirow{11}{*}{T6} & \multirow{11}{*}{160-140} & \multirow{10}{*}{Leg} & Max Compression & 8 & -9.017 & 0.000 & 0.000 \\
\hline & & & Max. Mx & 32 & 0.406 & 0.073 & 0.007 \\
\hline & & & Max. My & 8 & -8.942 & -0.004 & -0.020 \\
\hline & & & Max. Vy & 32 & 0.057 & 0.073 & 0.007 \\
\hline & & & Max. Vx & 8 & 0.004 & 0.000 & 0.000 \\
\hline & & & Max Tension & 7 & 216.318 & 4.052 & 0.125 \\
\hline & & & Max Compression & 18 & -238.879 & 0.982 & 0.038 \\
\hline & & & Max. Mx & 18 & -196.559 & 6.631 & 0.288 \\
\hline & & & Max My & 24 & -14.921 & 0.218 & 2.721 \\
\hline & & & Max. Vy & 18 & -12.435 & 0.982 & 0.038 \\
\hline & & \multirow{3}{*}{Diagonal} & Max. Vx & 24 & -4.875 & 0.025 & 0.517 \\
\hline \multirow{12}{*}{T7} & \multirow{12}{*}{140-120} & & Max Tension & 8 & 9.216 & 0.000 & 0.000 \\
\hline & & & Max Compression & 8 & -9.283 & 0.000 & 0.000 \\
\hline & & \multirow{9}{*}{Leg} & Max Mx & 32 & 0.424 & 0.090 & 0.008 \\
\hline & & & Max. My & 22 & -7.983 & 0.016 & 0.016 \\
\hline & & & Max. Vy & 32 & 0.063 & 0.090 & 0.008 \\
\hline & & & Max Vx & 22 & -0.003 & 0.000 & 0.000 \\
\hline & & & Max Tension & 7 & 252.629 & 5.109 & 0.132 \\
\hline & & & Max Compression & 18 & -280.423 & 0.153 & 0.007 \\
\hline & & & Max. Mx & 18 & -238.903 & 7.175 & 0.255 \\
\hline & & & Max. My & 24 & -18.190 & 0.205 & 2.957 \\
\hline & & & Max. Vy & 18 & -13.683 & 0.153 & 0.007 \\
\hline & & \multirow{3}{*}{Diagonal} & Max. Vx & 24 & -5.255 & 0.003 & 0.152 \\
\hline \multirow{12}{*}{T8} & \multirow{12}{*}{120-100} & & Max Tension & 8 & 10.026 & 0.000 & 0.000 \\
\hline & & & Max Compression & 8 & -9.767 & 0.000 & 0.000 \\
\hline & & \multirow{9}{*}{Leg} & Max. Mx & 32 & 0.441 & 0.123 & 0.011 \\
\hline & & & Max. My & 22 & -9.031 & 0.026 & 0.018 \\
\hline & & & Max Vy & 32 & 0.079 & 0.123 & 0.011 \\
\hline & & & Max. Vx & 38 & 0.003 & 0.000 & 0.000 \\
\hline & & & Max Tension & 7 & 287.796 & 4.742 & 0.098 \\
\hline & & & Max. Compression & 18 & -321.189 & 1.185 & 0.039 \\
\hline & & & Max. Mx & 18 & -280.445 & 6.995 & 0.198 \\
\hline & & & Max. My & 24 & -21.343 & 0.172 & 2.784 \\
\hline & & & Max. Vy & 18 & -14.974 & 1.185 & 0.039 \\
\hline & & \multirow{3}{*}{Diagonal} & Max. Vx & 24 & -5.658 & 0.024 & 0.673 \\
\hline \multirow{12}{*}{T9} & \multirow{12}{*}{100-80} & & Max Tension & 8 & 10.502 & 0.000 & 0.000 \\
\hline & & & Max Compression & 8 & -10.287 & 0.000 & 0.000 \\
\hline & & \multirow{9}{*}{Leg} & Max Mx & 38 & 0.532 & 0.144 & -0.013 \\
\hline & & & Max. My & 22 & -9.493 & 0.033 & 0.018 \\
\hline & & & Max. Vy & 38 & 0.086 & 0.144 & -0.013 \\
\hline & & & Max. Vx & 38 & 0.003 & 0.000 & 0.000 \\
\hline & & & Max Tension & \[
7
\] & \[
322.178
\] & 5.247 & 0.087 \\
\hline & & & Max Compression & 18 & -362.104 & 0.901 & 0.053 \\
\hline & & & Max. Mx & 18 & -321.217 & 8.641 & 0.207 \\
\hline & & & Max. My & 24 & -24.284 & 0.185 & 3.505 \\
\hline & & & Max Vy & 18 & -15.654 & 0.901 & 0.053 \\
\hline & & \multirow{3}{*}{Diagonal} & Max. Vx & 24 & -6.416 & -0.007 & 1.083 \\
\hline \multirow{14}{*}{T10} & \multirow{14}{*}{80-60} & & Max Tension & 10 & 11.258 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 8 & -11.238 & 0.000 & 0.000 \\
\hline & & \multirow{9}{*}{Leg} & Max. Mx & 35 & 1.100 & 0.184 & 0.016 \\
\hline & & & Max. My & 22 & -10.341 & 0.058 & 0.023 \\
\hline & & & Max. Vy & 36 & 0.099 & 0.173 & 0.017 \\
\hline & & & Max. Vx & 38 & 0.004 & 0.000 & 0.000 \\
\hline & & & & 7 & 355.693 & 6.747 & 0.098 \\
\hline & & & Max Compression & 18 & -402.497 & -0.514 & 0.020 \\
\hline & & & Max. Mx & 18 & -402.470 & -8.738 & -0.118 \\
\hline & & & Max. My & 24 & -27.429 & 0.174 & 4.293 \\
\hline & & & Max. Vy & 18 & -16.436 & -0.514 & 0.020 \\
\hline & & \multirow{3}{*}{Diagonal} & Max. Vx & 24 & -6.543 & -0.030 & 0.441 \\
\hline & & & Max Tension & 9 & 12.679 & 0.000 & 0.000 \\
\hline & & & Max. Compression & 10 & -13.138 & 0.000 & 0.000 \\
\hline
\end{tabular}



\begin{tabular}{cccccccc}
\begin{tabular}{c} 
Section \\
No.
\end{tabular} \begin{tabular}{c} 
Elevation \\
\(f t\)
\end{tabular} & \begin{tabular}{c} 
Component \\
Type
\end{tabular} & Condition & \begin{tabular}{c} 
Gov. \\
Load
\end{tabular} & \begin{tabular}{c} 
Axial
\end{tabular} & \begin{tabular}{c} 
Major Axis \\
Moment \\
kip-ft
\end{tabular} & \begin{tabular}{c} 
Minor Axis \\
Moment \\
kip-ft
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline & \multicolumn{5}{|c|}{Maximum Reactions} \\
\hline Location & Condition & \begin{tabular}{l}
Gov. \\
Load \\
Comb.
\end{tabular} & Vertical
\[
K
\] & \[
\begin{gathered}
\text { Horizontal, } X \\
K
\end{gathered}
\] & \[
\begin{gathered}
\text { Horizontal. Z } \\
K
\end{gathered}
\] \\
\hline Leg C & Max. Vert & 18 & 515.075 & 33.631 & -19.238 \\
\hline & Max. \(\mathrm{H}_{\mathrm{x}}\) & 18 & 515.075 & 33.631 & -19.238 \\
\hline & Max. \(\mathrm{H}_{2}\) & 5 & -389.161 & -25.595 & 17.631 \\
\hline & Min Vert & 7 & -446.502 & -30.795 & 17.573 \\
\hline & Min \(\mathrm{H}_{\mathrm{s}}\) & 7 & -446.502 & -30.795 & 17.573 \\
\hline & Min. \(\mathrm{H}_{2}\) & 18 & 515.075 & 33.631 & -19.238 \\
\hline Leg B & Max. Vert & 10 & 512.299 & -33.753 & -18.758 \\
\hline & Max. \(\mathrm{H}_{\mathrm{x}}\) & 23 & -444.472 & 30.947 & 17.044 \\
\hline & Max. \(\mathrm{H}_{\mathbf{z}}\) & 25 & -387.425 & 25.776 & 17.052 \\
\hline & Min Vert & 23 & -444.472 & 30.947 & 17.044 \\
\hline & Min \(\mathrm{H}_{\mathrm{x}}\) & 10 & 512.299 & -33.753 & -18.758 \\
\hline & Min \(\mathrm{H}_{2}\) & 10 & 512.299 & -33.753 & -18.758 \\
\hline Leg A & Max. Vert & 2 & 511.524 & -0.178 & 38.377 \\
\hline & Max. \(\mathrm{H}_{\mathrm{x}}\) & 21 & 31.871 & 5.439 & 1.553 \\
\hline & Max. \(\mathrm{H}_{\mathrm{z}}\) & 2 & 511.524 & -0.178 & 38.377 \\
\hline & Min. Vert & 15 & -428.986 & 0.195 & -34.111 \\
\hline & Min. \(\mathrm{H}_{\mathrm{x}}\) & 9 & 31.871 & -5.444 & 1.554 \\
\hline & Min. \(\mathrm{H}_{\iota}\) & 15 & -428.986 & 0.195 & -34.111 \\
\hline
\end{tabular}

\section*{Tower Mast Reaction Summary}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|r|}{ATS \# 8843 - Sharpsburg (Site\# KYLEX2050)} & \[
\begin{aligned}
& \text { Page } 22 \text { of } 33 \\
& \hline
\end{aligned}
\] \\
\hline B+T Group 1717 S. Boulder Ave, Ste 300 & Project & 255' SST/38.210928, -83.934067 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 13:35:10 02/18/21 } \\
\hline
\end{array}
\] \\
\hline \begin{tabular}{l}
Tulsa, OK 74119 \\
Phone: (918) 587-4630 \\
FAX: (918) 295-0265
\end{tabular} & Client & Harmoni(Uniti) Towers & \[
\begin{array}{|l|}
\hline \text { Designed by } \\
\text { T. Cheriyan } \\
\hline
\end{array}
\] \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Load Combination & \begin{tabular}{l}
Vertical \\
K
\end{tabular} & \begin{tabular}{l}
Shear \(_{x}\) \\
\(K\)
\end{tabular} & \begin{tabular}{l}
Shear \(=\) \\
K
\end{tabular} & Overturning Moment, \(M_{x}\) \(k i p-f t\) & Overturning Moment, \(M\) : kip-ft & \begin{tabular}{l}
Torque \\
kip-ft
\end{tabular} \\
\hline Dead Only & 64.645 & -0.000 & 0.000 & 6.040 & 4.212 & 0.000 \\
\hline 1.2 Dead+1.0 Wind 0 deg - No & 77.574 & 0.000 & -65.194 & -10094.388 & 5.105 & -7.800 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 0.9 Dead+1.0 Wind 0 deg - No & 58.180 & 0.000 & -65.191 & -10076.476 & 3.828 & -7.790 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 1.2 Dead+1.0 Wind 30 deg - No & 77.574 & 32.161 & -52.973 & -8220.275 & -5076.190 & 13.808 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 0.9 Dead+1.0 Wind 30 deg - No & 58.180 & 32.160 & -52.971 & -8206.026 & -5067.553 & 13.803 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 1.2 Dead+1.0 Wind 60 deg - No & 77.574 & 53.727 & -30.696 & -4795.911 & -8432.096 & 6.483 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 0.9 Dead+1.0 Wind 60 deg - No & 58.180 & 53.726 & -30.695 & -4788.399 & -8416.906 & 6.464 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 1.2 Dead+1.0 Wind 90 deg - No & 77.574 & 62.776 & -1.265 & -257.990 & -9785.331 & 2.549 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 0.9 Dead+1.0 Wind 90 deg - No & 58.180 & 62.774 & -1.266 & -259.351 & -9767.497 & 2.520 \\
\hline \multicolumn{7}{|l|}{Ice} \\
\hline 1.2 Dead+1.0 Wind 120 deg - & 77.574 & 57.981 & 30.951 & 4665.936 & -8980.703 & 23.190 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 120 deg - & 58.180 & 57.979 & 30.949 & 4655.074 & -8964.444 & 23.160 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 150 deg - & 77.574 & 30.535 & 52.766 & 8187.606 & -4732.452 & 31.471 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 150 deg - & 58.180 & 30.534 & 52.764 & 8169.837 & -4724.425 & 31.451 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 180 deg - & 77.574 & 0.000 & 59.656 & 9339.458 & 5.101 & 7.799 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 180 deg - & 58.180 & 0.000 & 59.654 & 9319.389 & 3825 & 7.790 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 210 deg - & 77.574 & -30.641 & 52.950 & 8230.375 & 4767.391 & -8.164 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 210 deg - & 58.180 & -30.640 & 52.949 & 8212.509 & 4756.754 & -8.161 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 240 deg - & 77.574 & -58.163 & 31.056 & 4690.317 & 9033.252 & -2.087 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 240 deg - & 58.180 & -58.161 & 31.055 & 4679.399 & 9014.342 & -2.066 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 270 deg - & 77.574 & -62.776 & -1.265 & -257.992 & 9795.497 & -2.551 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 270 deg - & 58.180 & -62.774 & -1.266 & -259.352 & 9775.110 & -2.522 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 300 deg - & 77.574 & -53.545 & -30.591 & -4771.397 & 8399.951 & -27.588 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 300 deg - & 58.180 & -53.543 & -30.590 & -4763.940 & 8382.302 & -27.560 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 1.2 Dead+1.0 Wind 330 deg - & 77.574 & -32.055 & -52.788 & -8177.434 & 5061708 & -37.115 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline 0.9 Dead+1.0 Wind 330 deg - & 58.180 & -32.054 & -52.786 & -8163.283 & 5050571 & -37.094 \\
\hline \multicolumn{7}{|l|}{No Ice} \\
\hline \(1.2 \mathrm{Dead}+1.0 \mathrm{Ice}+1.0 \mathrm{Temp}\) & 213.165 & 0.001 & -0.001 & 42.097 & 47.676 & -0.001 \\
\hline 1.2 Dead+1.0 Wind 0 deg+1.0 & 213.165 & 0.000 & -8.891 & -1398.659 & 48.131 & -2.476 \\
\hline \multicolumn{7}{|l|}{Ice+1.0 Temp} \\
\hline 1.2 Dead+1.0 Wind \(30 \mathrm{deg}+1.0\) & 213.165 & 4.437 & -7.444 & -1165.435 & -679.037 & -0.089 \\
\hline \multicolumn{7}{|l|}{Ice +1.0 Temp} \\
\hline 1.2 Dead+1.0 Wind \(60 \mathrm{deg}+1.0\) & 213.165 & 7.576 & -4.345 & -664.331 & -1186.880 & 0.319 \\
\hline \multicolumn{7}{|l|}{Ice+1.0 Temp} \\
\hline 1.2 Dead+1.0 Wind 90 deg+1.0 & 213.165 & 8.830 & -0.111 & 18.791 & -1384.207 & 1.349 \\
\hline \multicolumn{7}{|l|}{Ice +1.0 Temp} \\
\hline 1.2 Dead+1.0 Wind 120 & 213.165 & 7.875 & 4.324 & 731.004 & -1226 554 & 3.728 \\
\hline deg+1.0 Ice+1.0 Temp & & & & & & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Load Combination & \begin{tabular}{l}
Vertical \\
K
\end{tabular} & \begin{tabular}{l}
Shear \({ }_{x}\) \\
\(K\)
\end{tabular} & \begin{tabular}{l}
Shear \\
K
\end{tabular} & Overturning Moment, \(M_{x}\) kip-ft & Overturning Moment. \(M_{z}\) kip-ft & \begin{tabular}{l}
Torque \\
kip-ft
\end{tabular} \\
\hline 1.2 Dead+1.0 Wind 150 & 213.165 & 4.294 & 7.427 & 1246.728 & -648.413 & 4.462 \\
\hline deg+1.0 Ice+1.0 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind 180 & 213.165 & 0.000 & 8.492 & 1426.265 & 48.124 & 2.474 \\
\hline deg+1.0 Ice +1.0 Temp & & & & & & \\
\hline 1.2 Dead +1.0 Wind 210 & 213.165 & -4.303 & 7.442 & 1250.225 & 746.685 & 0.588 \\
\hline deg+1.0 Ice +1.0 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind 240 & 213.165 & -7.890 & 4.333 & 733.021 & 1326.309 & 0.066 \\
\hline deg+1.0 Ice+1.0 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind 270 & 213.165 & -8.830 & -0.111 & 18.786 & 1480.462 & -1.351 \\
\hline deg+1.0 Ice+1.0 Temp & & & & & & \\
\hline 1.2 Dead+1.0 Wind 300 & 213.165 & -7.561 & -4.337 & -662.315 & 1279.642 & -4.116 \\
\hline deg+1.0 Ice +1.0 Temp & & & & & & \\
\hline 1.2 Dead +1.0 Wind 330 & 213.165 & -4.428 & -7.429 & -1161.938 & 773.282 & -4.961 \\
\hline deg+1.0 Ice +1.0 Temp & & & & & & \\
\hline Dead+Wind 0 deg - Service & 64.645 & 0.000 & -20.887 & -3226.402 & 4.235 & -2.497 \\
\hline Dead+Wind 30 deg - Service & 64.645 & 10.304 & -16.972 & -2626.714 & -1621.680 & 4.445 \\
\hline Dead+Wind 60 deg - Service & 64.645 & 17.213 & -9.835 & -1530.940 & -2695.581 & 2.073 \\
\hline Dead+Wind 90 deg - Service & 64.645 & 20.113 & -0.405 & -78.811 & -3128.639 & 0.787 \\
\hline Dead+Wind 120 deg - Service & 64.645 & 18.576 & 9.916 & 1496.803 & -2871.199 & 7.420 \\
\hline Dead+Wind 150 deg - Service & 64.645 & 9.783 & 16905 & 2623.699 & -1511.787 & 10.102 \\
\hline Dead+Wind 180 deg - Service & 64.645 & 0.000 & 19.113 & 2992.289 & 4.234 & 2.497 \\
\hline Dead+Wind 210 deg - Service & 64.645 & -9.817 & 16.964 & 2637.393 & 1528.165 & -2.638 \\
\hline Dead+Wind 240 deg - Service & 64.645 & -18.635 & 9.950 & 1504.619 & 2893.218 & -0.660 \\
\hline Dead+Wind 270 deg - Service & 64.645 & -20.113 & -0.405 & -78.811 & 3137.103 & -0.788 \\
\hline Dead+Wind 300 deg - Service & 64.645 & -17.155 & -9.801 & -1523.109 & 2690.499 & -8.834 \\
\hline Dead+Wind 330 deg - Service & 64.645 & -10.270 & -16.913 & -2613.014 & 1622.246 & -11.911 \\
\hline
\end{tabular}

\section*{Solution Summary}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{3}{|c|}{Sum of Applied Forces} & \multicolumn{3}{|c|}{Sum of Reactions} & \multirow[b]{2}{*}{\% Error} \\
\hline Load & PX & PY & \(P Z\) & PX & PY & \(P Z\) & \\
\hline Comb & \(K\) & \(K\) & K & \(K\) & K & \(K\) & \\
\hline 1 & 0.000 & -64.645 & 0.000 & 0.000 & 64.645 & -0.000 & 0.000\% \\
\hline 2 & 0.000 & -77.574 & -65.197 & -0.000 & 77.574 & 65.194 & 0.003\% \\
\hline 3 & 0.000 & -58.180 & -65.197 & -0.000 & 58.180 & 65.191 & 0.007\% \\
\hline 4 & 32.162 & -77.574 & -52.975 & -32.161 & 77.574 & 52.973 & 0.003\% \\
\hline 5 & 32.162 & -58.180 & -52.975 & -32.160 & 58.180 & 52.971 & 0.006\% \\
\hline 6 & 53.730 & -77.574 & -30.697 & -53.727 & 77.574 & 30.696 & 0.003\% \\
\hline 7 & 53.730 & -58.180 & -30.697 & -53.726 & 58.180 & 30.695 & 0.005\% \\
\hline 8 & 62.779 & -77.574 & -1.265 & -62.776 & 77.574 & 1.265 & 0.003\% \\
\hline 9 & 62.779 & -58.180 & -1.265 & -62.774 & 58.180 & 1.266 & 0.006\% \\
\hline 10 & 57.984 & -77.574 & 30.952 & -57.981 & 77.574 & -30.951 & 0.003\% \\
\hline 11 & 57.984 & -58.180 & 30.952 & -57.979 & 58.180 & -30.949 & 0.007\% \\
\hline 12 & 30.537 & -77.574 & 52.768 & -30.535 & 77.574 & -52.766 & 0.003\% \\
\hline 13 & 30.537 & -58.180 & 52.768 & -30.534 & 58.180 & -52.764 & 0.006\% \\
\hline 14 & 0.000 & -77.574 & 59.659 & -0.000 & 77.574 & -59.656 & 0.003\% \\
\hline 15 & 0.000 & -58.180 & 59.659 & -0.000 & 58.180 & -59.654 & 0.005\% \\
\hline 16 & -30.643 & -77.574 & 52.953 & 30.641 & 77.574 & -52.950 & 0.003\% \\
\hline 17 & -30.643 & -58.180 & 52.953 & 30.640 & 58.180 & -52.949 & 0.006\% \\
\hline 18 & -58.166 & -77.574 & 31.057 & 58.163 & 77.574 & -31.056 & 0.003\% \\
\hline 19 & -58.166 & -58.180 & 31.057 & 58.161 & 58.180 & -31.055 & 0.007\% \\
\hline 20 & -62.779 & -77.574 & -1.265 & 62.776 & 77.574 & 1.265 & 0.003\% \\
\hline 21 & -62.779 & -58.180 & -1.265 & 62.774 & 58.180 & 1.266 & 0.006\% \\
\hline 22 & -53.547 & -77.574 & -30.592 & 53.545 & 77.574 & 30.591 & 0.003\% \\
\hline 23 & -53.547 & -58.180 & -30.592 & 53.543 & 58.180 & 30.590 & 0.005\% \\
\hline 24 & -32.056 & -77.574 & -52.791 & 32.055 & 77.574 & 52.788 & 0.003\% \\
\hline 25 & -32.056 & -58.180 & -52.791 & 32.054 & 58.180 & 52.786 & 0.006\% \\
\hline 26 & 0.000 & -213.165 & 0.000 & -0.001 & 213.165 & 0.001 & 0.001\% \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline tnxTower & \multicolumn{2}{|r|}{ATS \# 8843 - Sharpsburg (Site\# KYLEX2050)} & \[
\text { Page } 24 \text { of } 33
\] \\
\hline \begin{tabular}{l}
B+T Group \\
1717 S. Boulder Ave, Ste 300
\end{tabular} & Project & 255' SST/38.210928, -83.934067 & \[
\begin{array}{|l|}
\hline \text { Date } \\
\text { 13:35:10 02/18/21 }
\end{array}
\] \\
\hline Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 & Client & Harmoni(Uniti) Towers & Designed by T. Cheriyan \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{3}{|c|}{Sum of Applied Forces} & \multicolumn{3}{|c|}{Sum of Reactions} & \multirow[b]{2}{*}{\% Error} \\
\hline Load & \(P X\) & PY & PZ & PX & PY & PZ & \\
\hline Comb. & \(K\) & \(K\) & \(K\) & \(K\) & \(K\) & \(K\) & \\
\hline 27 & 0.000 & -213.165 & -8.892 & -0.000 & 213.165 & 8.891 & 0.000\% \\
\hline 28 & 4.437 & -213.165 & -7.445 & -4 437 & 213.165 & 7.444 & 0.000\% \\
\hline 29 & 7.576 & -213.165 & -4.346 & -7.576 & 213.165 & 4.345 & 0.000\% \\
\hline 30 & 8.830 & -213.165 & -0.111 & -8.830 & 213.165 & 0.111 & 0.000\% \\
\hline 31 & 7.875 & -213.165 & 4.325 & -7.875 & 213.165 & -4.324 & 0.000\% \\
\hline 32 & 4.295 & -213.165 & 7.428 & -4.294 & 213.165 & -7.427 & 0.000\% \\
\hline 33 & 0.000 & -213.165 & 8.493 & -0.000 & 213.165 & -8.492 & 0.000\% \\
\hline 34 & -4.303 & -213.165 & 7.443 & 4.303 & 213.165 & -7.442 & 0.000\% \\
\hline 35 & -7.890 & -213.165 & 4.333 & 7.890 & 213.165 & -4.333 & 0.000\% \\
\hline 36 & -8.830 & -213.165 & -0.111 & 8.830 & 213.165 & 0.111 & 0.000\% \\
\hline 37 & -7.562 & -213.165 & -4.337 & 7.561 & 213.165 & 4.337 & 0.000\% \\
\hline 38 & -4.429 & -213.165 & -7.430 & 4.428 & 213.165 & 7.429 & 0.000\% \\
\hline 39 & 0.000 & -64.645 & -20.889 & -0.000 & 64.645 & 20.887 & 0.003\% \\
\hline 40 & 10.305 & -64.645 & -16.973 & -10.304 & 64.645 & 16.972 & 0.003\% \\
\hline 41 & 17.215 & -64.645 & -9.835 & -17.213 & 64.645 & 9.835 & 0.002\% \\
\hline 42 & 20.114 & -64.645 & -0.405 & -20.113 & 64.645 & 0.405 & 0.003\% \\
\hline 43 & 18.578 & -64.645 & 9.917 & -18.576 & 64.645 & -9.916 & 0.003\% \\
\hline 44 & 9.784 & -64.645 & 16.907 & -9.783 & 64.645 & -16.905 & 0.002\% \\
\hline 45 & 0.000 & -64.645 & 19.115 & -0.000 & 64.645 & -19.113 & 0.002\% \\
\hline 46 & -9.818 & -64.645 & 16.966 & 9.817 & 64.645 & -16.964 & 0.003\% \\
\hline 47 & -18.636 & -64.645 & 9.951 & 18.635 & 64.645 & -9.950 & 0.003\% \\
\hline 48 & -20.114 & -64.645 & -0.405 & 20.113 & 64.645 & 0.405 & 0.003\% \\
\hline 49 & -17.156 & -64.645 & -9.802 & 17.155 & 64.645 & 9.801 & 0.002\% \\
\hline 50 & -10.271 & -64.645 & -16.914 & 10.270 & 64.645 & 16.913 & 0.003\% \\
\hline
\end{tabular}

\section*{Non-Linear Convergence Results}
\begin{tabular}{|c|c|c|c|c|}
\hline Load Combination & Converged? & Number of Cucles & Displacement Tolerance & Force Tolerance \\
\hline 1 & Yes & 6 & 0.00000001 & 0.00000001 \\
\hline 2 & Yes & 13 & 0.00004057 & 0.00009052 \\
\hline 3 & Yes & 12 & 0.00007014 & 0.00014968 \\
\hline 4 & Yes & 13 & 0.00003705 & 0.00008297 \\
\hline 5 & Yes & 12 & 0.00006262 & 0.00013409 \\
\hline 6 & Yes & 13 & 0.00003410 & 0.00007662 \\
\hline 7 & Yes & 12 & 0.00005619 & 0.00012071 \\
\hline 8 & Yes & 13 & 0.00003712 & 0.00008307 \\
\hline 9 & Yes & 12 & 0.00006277 & 0.00013432 \\
\hline 10 & Yes & 13 & 0.00004049 & 0.00009027 \\
\hline 11 & Yes & 12 & 0.00006998 & 0.00014923 \\
\hline 12 & Yes & 13 & 0.00003732 & 0.00008353 \\
\hline 13 & Yes & 12 & 0.00006319 & 0.00013526 \\
\hline 14 & Yes & 13 & 0.00003419 & 0.00007685 \\
\hline 15 & Yes & 12 & 0.00005636 & 0.00012114 \\
\hline 16 & Yes & 13 & 0.00003734 & 0.00008360 \\
\hline 17 & Yes & 12 & 0.00006325 & 0.00013540 \\
\hline 18 & Yes & 13 & 0.00004052 & 0.00009035 \\
\hline 19 & Yes & 12 & 0.00007005 & 0.00014938 \\
\hline 20 & Yes & 13 & 0.00003711 & 0.00008305 \\
\hline 21 & Yes & 12 & 0.00006277 & 0.00013430 \\
\hline 22 & Yes & 13 & 0.00003412 & 0.00007663 \\
\hline 23 & Yes & 12 & 0.00005622 & 0.00012074 \\
\hline 24 & Yes & 13 & 0.00003703 & 0.00008290 \\
\hline 25 & Yes & 12 & 0.00006257 & 0.00013395 \\
\hline 26 & Yes & 9 & 0.00000001 & 0.00012058 \\
\hline 27 & Yes & 14 & 0.00000001 & 0.00008358 \\
\hline
\end{tabular}

\begin{tabular}{lllll}
28 & Yes & 14 & 0.00000001 & 0.00008162 \\
29 & Yes & 14 & 0.00000001 & 0.00008211 \\
30 & Yes & 14 & 0.00000001 & 0.00008367 \\
31 & Yes & 14 & 0.00000001 & 0.00008624 \\
32 & Yes & 14 & 0.00000001 & 0.00008519 \\
33 & Yes & 14 & 0.00000001 & 0.00008585 \\
34 & Yes & 14 & 0.00000001 & 0.00008688 \\
35 & Yes & 14 & 0.00000001 & 0.00008867 \\
36 & Yes & 14 & 0.00000001 & 0.00008682 \\
37 & Yes & 14 & 0.00000001 & 0.00008488 \\
38 & Yes & 14 & 0.00000001 & 0.00008321 \\
39 & Yes & 12 & 0.00000001 & 0.00014912 \\
40 & Yes & 12 & 0.00000001 & 0.00014423 \\
41 & Yes & 12 & 0.00000001 & 0.00014027 \\
42 & Yes & 12 & 0.00000001 & 0.00014424 \\
43 & Yes & 12 & 0.00000001 & 0.00014887 \\
44 & Yes & 12 & 0.00000001 & 0.00014457 \\
45 & Yes & 12 & 0.00000001 & 0.00014048 \\
46 & Yes & 12 & 0.00000001 & 0.00014463 \\
47 & Yes & 12 & 0.00000001 & 0.00014892 \\
48 & Yes & 12 & 0.00000001 & 0.00014420 \\
49 & Yes & 12 & 0.00000001 & 0.00014021 \\
50 & & 12 & 0.00000001 & 0.00014414 \\
\hline
\end{tabular}

\section*{Maximum Tower Deflections - Service Wind}
\(\left.\begin{array}{cccccc}\text { Section } & \text { Elevation } & \begin{array}{c}\text { Horz. } \\ \text { Deflection } \\ \text { in }\end{array} & \begin{array}{c}\text { Gov. } \\ \text { Load }\end{array} & \text { Tilt }\end{array}\right]\)

\section*{Critical Deflections and Radius of Curvature - Service Wind}
\begin{tabular}{cccccc} 
Elevation & Appurtenance & \begin{tabular}{c} 
Gov. \\
Load
\end{tabular} & Deflection & Tilt & Twist
\end{tabular}


\section*{Maximum Tower Deflections - Design Wind}
\(\left.\begin{array}{cccccc}\begin{array}{c}\text { Section } \\ \text { No. }\end{array} & \text { Elevation } & \begin{array}{c}\text { Horz } \\ \text { Deflection }\end{array} & \begin{array}{c}\text { Gov. } \\ \text { Load }\end{array} & \text { Tilt }\end{array}\right]\)

\section*{Critical Deflections and Radius of Curvature - Design Wind}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Elevation
\(f t\) & Appurtenance & \begin{tabular}{l}
Gov. \\
Load \\
Comb.
\end{tabular} & Deflection
in & Tilt & Twist & Radius of Curvature \(f t\) \\
\hline 255.000 & Lightning Rod 1" \(\times 10^{\prime}\) & 18 & 40.477 & 1.351 & 0.234 & 110767 \\
\hline 250.000 & \[
\begin{gathered}
\text { Sector } 1(\mathrm{CaAa}=13333.33 \mathrm{Sq.in}) \text { No } \\
\text { Ice }
\end{gathered}
\] & 18 & 39.041 & 1.350 & 0.233 & 110767 \\
\hline 238.000 & Sector \(1(\mathrm{CaAa}=10000 \mathrm{Sq} . \mathrm{in}) \mathrm{No}\) Ice & 18 & 35.580 & 1.333 & 0.232 & 70944 \\
\hline 226.000 & Sectorl(CaAa=10000 Sq.in)No Ice & 18 & 32.107 & 1.285 & 0.230 & 17515 \\
\hline 214.000 & \(6^{\prime}\) MW Dish & 18 & 28.724 & 1.223 & 0.222 & 9839 \\
\hline 202.000 & 6' MW Dish & 18 & 25.508 & 1.156 & 0.208 & 8241 \\
\hline
\end{tabular}

\section*{Bolt Design Data}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation
ft & Component Type & Bolt Grade & Bolt Size in & Number Of Bolts & Maximum Load per Bolt K & Allowable Load per Bolt K & \begin{tabular}{c}
\begin{tabular}{c} 
Ratio \\
Load
\end{tabular} \\
\hline Allowable
\end{tabular} & Allowable Ratio & Criteria \\
\hline \multirow[t]{2}{*}{T1} & \multirow[t]{2}{*}{255} & Diagonal & A325X & 0.625 & 1 & 3.186 & 9.598 & 0.332 & 1 & Member Block Shear \\
\hline & & Top Girt & A325X & 0.625 & 1 & 0.202 & 14.625 & 0.014 & 1 & Member Bearing \\
\hline \multirow[t]{2}{*}{T2} & \multirow[t]{2}{*}{240} & Leg & A 325 N & 0.750 & 6 & 2.034 & 30.101 & 0.068 & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 6.768 & 9.598 & 0.705 & 1 & Member Block Shear \\
\hline \multirow[t]{2}{*}{T3} & \multirow[t]{2}{*}{220} & Leg & A 325 N & 0.750 & 6 & 8.265 & 30.101 & 0.275 & 1 & Bolt Tension \\
\hline & & Diagonal & A325X & 0.625 & 1 & 8.114 & 10.740 & 0.755 & 1 & Member Block Shear \\
\hline T4 & 200 & Leg & A325N & 0.750 & 6 & 15.572 & 30.101 & 0.517 & 1 & Bolt Tension \\
\hline
\end{tabular}



\section*{Compression Checks}

\section*{Leg Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation & Size & & \(L_{u}\) & K/r & & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u}
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & \(K\) & K & \(\phi P_{n}\) \\
\hline T1 & 255-240 & \(13 / 4\) & 15.014 & 4.671 & \[
\begin{gathered}
128.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 2.405 & -11.785 & 33.103 & \[
0.356^{1}
\] \\
\hline T2 & 240-220 & 2 & 20.019 & 4.754 & 114.1 & 3.142 & -50.394 & 54.509 & \(0.925^{1}\) \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & \multirow[t]{2}{*}{Size} & \(L\) & \(L_{u}\) & \multirow[t]{2}{*}{\(K l / r\)} & \[
A
\] & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & K & K & \(\phi P_{n}\) \\
\hline & & & & & \(\mathrm{K}=1.00\) & & & & 7 \\
\hline T3 & 220-200 & \(21 / 2\) & 20.019 & 4.754 & \[
\begin{gathered}
91.3 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 4.909 & -98.459 & 120.108 & \[
0.820^{1}
\] \\
\hline T4 & 200-180 & 23/4 & 20.019 & 4.754 & \[
\begin{gathered}
83.0 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 5.940 & -146.809 & 161.540 & \[
0.909^{1}
\] \\
\hline T5 & 180-160 & 3 & 20.019 & 4.754 & \[
\begin{gathered}
76.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 7.069 & -191.265 & 208.347 & \[
\begin{gathered}
0.918^{1} \\
8
\end{gathered}
\] \\
\hline T6 & 160-140 & \(31 / 4\) & 20.019 & 4.754 & \[
\begin{gathered}
70.2 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 8.296 & -233.372 & 260.312 & \[
0.897^{1}
\] \\
\hline T7 & 140-120 & \(31 / 2\) & 20.019 & 4.754 & \[
\begin{gathered}
65.2 \\
K=1.00
\end{gathered}
\] & 9.621 & -274.796 & 317.273 & \[
{ }^{0.866^{1}}
\] \\
\hline T8 & 120-100 & \(31 / 2\) & 20.019 & 4.754 & \[
\begin{gathered}
65.2 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 9.621 & -315.631 & 317.273 & \[
0.995^{1}
\] \\
\hline T9 & 100-80 & \(33 / 4\) & 20.019 & 4.754 & \[
\begin{gathered}
60.9 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 11.045 & -356.586 & 379.106 & \[
{ }^{0.941^{1}}
\] \\
\hline T10 & 80-60 & 4 & 20.019 & 4.754 & \[
\begin{gathered}
57.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 12.566 & -392.060 & 445.717 & \[
0.880^{\prime}
\] \\
\hline T11 & \(60-40\) & 4 & 20.019 & 4.754 & \[
\begin{gathered}
57.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 12.566 & -431.258 & 445.717 & \[
\begin{gathered}
0.968^{\prime} \\
\end{gathered}
\] \\
\hline T12 & 40-20 & \(41 / 4\) & 20.019 & 4.754 & \[
\begin{gathered}
53.7 \\
K=1.00
\end{gathered}
\] & 14.186 & -469 379 & 517.034 & \[
0.908^{1}
\] \\
\hline T13 & 20-0 & \(41 / 4\) & 20.019 & 4.754 & \[
\begin{gathered}
53.7 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 14.186 & -506.228 & 517.034 & \[
0^{0.979}
\] \\
\hline
\end{tabular}
\({ }^{1} P_{n} / \phi P_{n}\) controls

\section*{Diagonal Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation & Size & \[
L
\] & \[
L_{x}
\] & \(K l / r\) & \[
A
\] & \(P_{u}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(\mathrm{in}^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline T1 & 255-240 & L1 3/4×1 3/4x3/16 & 7.166 & 3605 & \[
\begin{gathered}
125.9 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -3.208 & 11.206 & \[
0.286^{1}
\] \\
\hline T2 & 240-220 & L1 3/4x1 3/4×3/16 & 8.697 & 4.355 & \[
\begin{gathered}
152.2 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -6.176 & 7.677 & \[
0.805^{1}
\] \\
\hline T3 & 220-200 & L \(2 \times 2 \times 3 / 16\) & 9.987 & 4.976 & \[
\begin{gathered}
151.6 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.715 & -7.188 & 8.909 & \[
0.807^{\prime}
\] \\
\hline T4 & 200-180 & L2 1/2x2 1/2x3/16 & 11.329 & 5.636 & \[
\begin{gathered}
136.6 \\
K=1.00
\end{gathered}
\] & 0.902 & -8.046 & 13.828 & \[
0.582^{\prime}
\] \\
\hline T5 & 180-160 & L2 1/2x2 1/2x \({ }^{\text {/ }} 16\) & 12.706 & 6.314 & \[
\begin{gathered}
153.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.902 & -8.386 & 11.018 & \[
0.761
\] \\
\hline T6 & 160-140 & L2 1/2x2 1/2x \({ }^{\text {/ }} 16\) & 14.108 & 7.005 & \[
\begin{gathered}
169.8 \\
K=1.00
\end{gathered}
\] & 0.902 & -8.863 & 8.952 &  \\
\hline T7 & 140-120 & L3 3 3 \(3 / 16\) & 15.529 & 7.705 & \[
\begin{gathered}
155.1 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.090 & -9.617 & 12.964 &  \\
\hline T8 & 120-100 & L3 \(\times 3 \times 3 / 16\) & 16.963 & 8.422 & \[
\begin{gathered}
169.6 \\
K=1.00
\end{gathered}
\] & 1.090 & -10.153 & 10.849 & \[
0.936^{1}
\] \\
\hline T9 & 100-80 & L3×3x1/4 & 18.408 & 9.134 & \[
\begin{gathered}
185.2 \\
K=1.00
\end{gathered}
\] & 1.440 & -10.904 & 12.022 & \[
c^{0.907^{1}}
\] \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & Size & \(L\) & \[
\overline{L_{u}}
\] & \(K l / r\) & \[
A
\] & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & K & K & \(\phi P_{n}\) \\
\hline T10 & 80-60 & 2L2 \(1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & 10.829 & 10.644 & \[
\begin{gathered}
168.4 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.800 & -12.474 & 17.598 & \[
0.709^{1}
\] \\
\hline T11 & 60-40 & \[
\begin{aligned}
& \text { 2L'a' }>60.948 \text { in }-246 \\
& 2 \mathrm{~L} 21 / 2 \times 2 \mathrm{l} 2 \times 3 / 16 \times 3 / 8
\end{aligned}
\] & 11.508 & 11.325 & \[
\begin{gathered}
179.2 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.800 & -12.715 & 15.610 & \[
0.815^{1}
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
2 L^{\prime} a^{\prime}>64.848 \text { in }-285 \\
2 L 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 12.195 & 12.003 & \[
\begin{gathered}
189.9 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.800 & -13.195 & 13.944 & \[
0^{0.946^{1}}
\] \\
\hline T13 & 20-0 & \[
\begin{gathered}
2 L^{\prime} a^{\prime}>68.729 \text { in }-324 \\
2 L 3 \times 3 \times 3 / 16 \times 3 / 8 \\
2 L^{\prime} a^{\prime}>72.539 \text { in }-363
\end{gathered}
\] & 12.889 & 12.698 & \[
\begin{gathered}
168.9 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 2.180 & -13.355 & 20.815 & \[
c^{0.642^{\prime}}
\] \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Horizontal Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & Size & \(L\) & \(L_{\text {w }}\) & Kl/r & \(A\) & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & K & \(K\) & \(\phi P_{n}\) \\
\hline T10 & 80-60 & \(2 \mathrm{LI} \mathrm{3/4} \mathrm{\times 13/4} \mathrm{\times 3/16} \mathrm{\times 3/8}\) & 19.106 & 9.386 & \[
\begin{gathered}
209.8 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.242 & -6.795 & 8.079 &  \\
\hline T11 & 60-40 & \[
\begin{gathered}
2 L^{\prime} \mathrm{a} \text { > }>54.035 \text { in }-244 \\
2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 20.606 & 10.136 & \[
\begin{gathered}
198.3 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.430 & -7.475 & 10.268 & \[
0.728^{1}
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
2 L^{\prime} \mathrm{a}^{\prime}>58.256 \text { in }-283 \\
2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 22.106 & 10.876 & \[
\begin{gathered}
212.8 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.430 & -8.136 & 8.936 & \[
\begin{gathered}
0.910^{1} \\
\end{gathered}
\] \\
\hline \multirow[t]{2}{*}{T13} & 20-0 & \[
\begin{gathered}
2 L^{\prime} \mathrm{a}^{\prime}>62.506 \text { in }-322 \\
2 \mathrm{~L} 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 23.606 & 11.626 & \[
\begin{gathered}
183.9 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 1.800 & -8.774 & 14.835 &  \\
\hline & & \(2 L^{\prime} \mathrm{a}^{\prime}>66.573\) in -361 & & & & & & & \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Top Girt Design Data (Compression)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation & Size & \(L\) & \(L_{u}\) & Kl/r & A & \(P_{u}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(\mathrm{in}^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline TI & 255-240 & L1 3/4x1 3/4x3/16 & 4.913 & 4.767 & \[
\begin{gathered}
166.5 \\
K=1.00
\end{gathered}
\] & 0.621 & -0.202 & 6.409 & \({ }^{0.032}\) \\
\hline
\end{tabular}

\footnotetext{
\({ }^{1} P_{u} / \phi P_{n}\) controls
}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{10}{|c|}{Inner Bracing Design Data (Compression)} \\
\hline Section No. & Elevation & Size & \(L\) & \(L_{*}\) & \(K / r\) & & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u}
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline T10 & 80-60 & L1 3/4×13/4×3/16 & 9.553 & 9.553 & \[
\begin{gathered}
333.8 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0.010 & 1596 & \[
0.006^{1}
\] \\
\hline T11 & 60-40 & \[
\begin{gathered}
\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-253 \\
\mathrm{~L} 13 / 4 \times 13 / 4 \times 3 / 16
\end{gathered}
\] & 10.303 & 10.303 & \[
\begin{gathered}
360.0 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0.011 & 1.372 & \[
\stackrel{0}{2}^{0.008}
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-292 \\
\mathrm{~L} 13 / 4 \times 13 / 4 \times 3 / 16
\end{gathered}
\] & 11.053 & 11.053 & \[
\begin{gathered}
386.2 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0.011 & 1.192 & \[
0.009
\] \\
\hline T13 & 20-0 & \[
\begin{gathered}
\mathrm{KL} / \mathrm{R}>250(\mathrm{C})-331 \\
\text { L1 } 3 / 4 \times 13 / 4 \times 3 / 16
\end{gathered}
\] & 11.803 & 11.803 & \[
\begin{gathered}
412.4 \\
\mathrm{~K}=1.00
\end{gathered}
\] & 0.621 & -0.012 & 1.045 &  \\
\hline & & KL/R > 250 (C) - 372 & & & & & & & \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Tension Checks}

\section*{Leg Design Data (Tension)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & Size & \(L\) & \(L_{u}\) & Kl/r & \[
A
\] & \(P_{u}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(\mathrm{in}^{2}\) & K & K & \(\phi P_{n}\) \\
\hline T1 & 255-240 & 13/4 & 15.014 & 0.500 & 13.7 & 2.405 & 12.213 & 108.238 & \[
\begin{gathered}
0.113^{1} \\
7
\end{gathered}
\] \\
\hline T2 & 240-220 & 2 & 20.019 & 0.500 & 12.0 & 3.142 & 49.602 & 141.372 & \(0.351^{1}\) \\
\hline T3 & 220-200 & \(21 / 2\) & 20.019 & 0.500 & 9.6 & 4.909 & 93.445 & 220.893 & \[
0.423^{1}
\] \\
\hline T4 & 200-180 & \(23 / 4\) & 20.019 & 0.500 & 8.7 & 5.940 & 138.045 & 267.281 & \[
0.516^{1}
\] \\
\hline T5 & 180-160 & 3 & 20.019 & 0.500 & 8.0 & 7.069 & 178.511 & 318.086 & \[
0.561^{\prime}
\] \\
\hline T6 & 160-140 & \(31 / 4\) & 20.019 & 0.500 & 7.4 & 8.296 & 216.318 & 373.310 & \[
0.579^{1}
\] \\
\hline T7 & 140-120 & \(31 / 2\) & 20.019 & 0.500 & 6.9 & 9.621 & 252.629 & 432.951 & \[
0.584^{1}
\] \\
\hline T8 & 120-100 & \(31 / 2\) & 20.019 & 0.500 & 6.9 & 9.621 & 287.796 & 432.951 & \begin{tabular}{l}
\[
0.665^{1}
\] \\
\(V\)
\end{tabular} \\
\hline T9 & 100-80 & \(33 / 4\) & 20.019 & 0.500 & 6.4 & 11.045 & 322.178 & 497.010 & \[
0.648
\] \\
\hline T10 & 80-60 & 4 & 20.019 & 0.500 & 6.0 & 12.566 & 355.693 & 565.487 & \[
0^{1}
\] \\
\hline T11 & 60-40 & 4 & 20.019 & 0.500 & 6.0 & 12.566 & 387.667 & 565.487 & \[
0.686^{1}
\] \\
\hline T12 & 40-20 & \(41 / 4\) & 20.019 & 0.500 & 5.7 & 14.186 & 418.458 & 638.381 & \[
0.655^{1}
\] \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Section No.} & Elevation & Size & \(L\) & \(L_{u}\) & \(K 1 / r\) & \[
\bar{A}
\] & \(P_{\text {u }}\) & \(\phi P_{n}\) & Ratio \(P_{u}\) \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & K & \(K\) & \(\phi P_{n}\) \\
\hline T13 & 20-0 & \(41 / 4\) & 20.019 & 0.500 & 5.7 & 14.186 & 447.699 & 638.381 & \[
0.701^{1}
\] \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{10}{|c|}{Diagonal Design Data (Tension)} \\
\hline Section No. & Elevation & Size & \(L\) & \(L_{u}\) & Kl/r & \[
A
\] & \(P_{\text {u }}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u}
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(\mathrm{in}^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline T1 & 255-240 & L1 3/4x13/4x3/16 & 7.435 & 3.736 & 83.5 & 0.360 & 3.186 & 17.567 & \[
0.181
\] \\
\hline T2 & 240-220 & L1 3/4×1 3/4x \(3 / 16\) & 8697 & 4355 & 97.3 & 0.360 & 6.768 & 17.567 & \[
{ }^{0.385^{1}}
\] \\
\hline T3 & 220-200 & L2x2x3/16 & 9.987 & 4.976 & 96.8 & 0.431 & 8.114 & 21.001 & \[
{ }^{0.386^{1}}
\] \\
\hline T4 & 200-180 & L2 1/2×2 1/2x3/16 & 11.329 & 5.636 & 86.9 & 0.571 & 8.646 & 27.838 & \[
0.311^{1}
\] \\
\hline T5 & 180-160 & L2 1/2×2 \(1 / 2 \times 3 / 16\) & 12.706 & 6.314 & 97.4 & 0.571 & 8.874 & 27.838 & \[
0.319^{1}
\] \\
\hline T6 & 160-140 & L2 1/2x2 1/2x3/16 & 14.108 & 7.005 & 108.0 & 0.571 & 9.216 & 27.838 & \[
\begin{gathered}
0.331 \\
\%
\end{gathered}
\] \\
\hline T7 & 140-120 & L3 3 3x 3/16 & 15.529 & 7.705 & 98.5 & 0.712 & 10.026 & 34.712 & \[
0.289^{1}
\] \\
\hline T8 & 120-100 & L3 \(\times 3 \times 3 / 16\) & 16.963 & 8.422 & 107.6 & 0.712 & 10.502 & 34.712 & \[
0.303^{1}
\] \\
\hline T9 & 100-80 & L3 \(3 \times 3 \times 1 / 4\) & 18.408 & 9.134 & 117.9 & 0.939 & 11.258 & 45.794 & \[
0.246^{1}
\] \\
\hline T10 & 80-60 & \(2 \mathrm{~L} 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & 10.829 & 10.644 & 164.2 & 1.139 & 12.679 & 55.529 & \[
0.228^{1}
\] \\
\hline T11 & 60-40 & \[
\begin{gathered}
2 L^{\prime} \mathrm{a}^{\prime}>60.948 \text { in }-245 \\
2 \mathrm{~L} 21 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 11.508 & 11.325 & 174.7 & 1.139 & 12.811 & 55.529 & \[
0.231^{1}
\] \\
\hline T12 & 40-20 & \[
\begin{gathered}
2 L^{\prime} a^{\prime}>64.848 \text { in }-284 \\
\text { 2L2 } 1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 12.195 & 12.003 & 185.1 & 1.139 & 13.146 & 55.529 & \[
0.237^{1}
\] \\
\hline T13 & 20-0 & \[
\begin{gathered}
2 \mathrm{~L}^{\prime} \mathrm{a}^{\prime}>68.729 \text { in }-323 \\
2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8
\end{gathered}
\] & 12.889 & 12.698 & 162.3 & 1.424 & 13.198 & 69.423 & \[
0.190^{1}
\] \\
\hline & & \(2 L^{\prime} \mathrm{a}^{\prime}>72.539\) in - 362 & & & & & & & \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls


Horizontal Design Data (Tension)

\({ }^{1} P_{u} / \phi P_{n}\) controls

Top Girt Design Data (Tension)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation & Size & \(L\) & \(L_{u}\) & Kl/r & A & \(P_{u}\) & \(\phi P_{n}\) & \[
\begin{gathered}
\text { Ratio } \\
P_{u} \\
\hline
\end{gathered}
\] \\
\hline & \(f t\) & & \(f t\) & \(f t\) & & \(i n^{2}\) & \(K\) & \(K\) & \(\phi P_{n}\) \\
\hline T1 & 255-240 & Ll \(3 / 4 \times 13 / 4 \times 3 / 16\) & 4.913 & 4.767 & 106.5 & 0.360 & 0.123 & 17.567 & \({ }^{0.007}\) \\
\hline
\end{tabular}
\({ }^{1} P_{u} / \phi P_{n}\) controls

\section*{Section Capacity Table}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Section No. & \[
\begin{gathered}
\text { Elevation } \\
f i
\end{gathered}
\] & Component Type & Size & Critical Element & \[
\begin{aligned}
& P \\
& K
\end{aligned}
\] & \[
\begin{gathered}
\sigma P_{\text {allow }} \\
K
\end{gathered}
\] & \begin{tabular}{l}
\(\%\) \\
Capacity
\end{tabular} & \[
\begin{aligned}
& \text { Pass } \\
& \text { Fail }
\end{aligned}
\] \\
\hline T1 & 255-240 & Leg & \(13 / 4\) & 3 & -11.785 & 33.103 & 35.6 & Pass \\
\hline T2 & 240-220 & Leg & 2 & 27 & -50.394 & 54.509 & 92.5 & Pass \\
\hline T3 & 220-200 & Leg & \(21 / 2\) & 54 & -98.459 & 120.108 & 82.0 & Pass \\
\hline T4 & 200-180 & Leg & \(23 / 4\) & 81 & -146.809 & 161.540 & 90.9 & Pass \\
\hline T5 & 180-160 & Leg & 3 & 108 & -191.265 & 208.347 & 91.8 & Pass \\
\hline \multirow[t]{2}{*}{T6} & 160-140 & Leg & \(31 / 4\) & 135 & -233.372 & 260.312 & 89.7 & Pass \\
\hline & & & & & & & 98.8 (b) & \\
\hline T7 & 140-120 & Leg & \(31 / 2\) & 160 & -274.796 & 317.273 & 86.6 & Pass \\
\hline T8 & 120-100 & Leg & \(31 / 2\) & 187 & -315.631 & 317.273 & 99.5 & Pass \\
\hline T9 & 100-80 & Leg & \(33 / 4\) & 214 & -356.586 & 379.106 & 94.1 & Pass \\
\hline \multirow[t]{2}{*}{T10} & 80-60 & Leg & 4 & 241 & -392.060 & 445.717 & 88.0 & Pass \\
\hline & & & & & & & 98.5 (b) & \\
\hline T11 & 60-40 & Leg & 4 & 280 & -431.258 & 445.717 & 96.8 & Pass \\
\hline T12 & 40-20 & Leg & \(41 / 4\) & 319 & -469 379 & 517.034 & 90.8 & Pass \\
\hline T13 & 20-0 & Leg & \(41 / 4\) & 358 & -506.228 & 517.034 & 97.9 & Pass \\
\hline \multirow[t]{2}{*}{T1} & 255-240 & Diagonal & LI 3/4×13/4×3/16 & 16 & -3.208 & 11.206 & 28.6 & Pass \\
\hline & & & & & & & 33.2 (b) & \\
\hline T2 & 240-220 & Diagonal & L1 3/4xl 3/4×3/16 & 28 & -6.176 & 7.677 & 80.5 & Pass \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Section No. & Elevation \(f t\) & Component Type & Size & Critical Element & \[
\begin{aligned}
& P \\
& K
\end{aligned}
\] & \[
\begin{gathered}
\sigma P_{\text {allow }} \\
K
\end{gathered}
\] & \begin{tabular}{l}
\[
\%
\] \\
Capacity
\end{tabular} & \[
\begin{aligned}
& \text { Pass } \\
& \text { Fail }
\end{aligned}
\] \\
\hline T3 & 220-200 & Diagonal & L2 \(2 \times 3 / 16\) & 55 & -7.188 & 8.909 & 80.7 & Pass \\
\hline T4 & 200-180 & Diagonal & L2 \(1 / 2 \times 21 / 2 \times 3 / 16\) & 83 & -8.046 & 13.828 & \[
\begin{gathered}
58.2 \\
66.4(\mathrm{~b})
\end{gathered}
\] & Pass \\
\hline T5 & 180-160 & Diagonal & L2 \(1 / 2 \times 21 / 2 \times 3 / 16\) & 110 & -8.386 & 11.018 & 76.1 & Pass \\
\hline T6 & 160-140 & Diagonal & L2 \(1 / 2 \times 21 / 2 \times 3 / 16\) & 137 & -8.863 & 8.952 & 99.0 & Pass \\
\hline T7 & 140-120 & Diagonal & L \(3 \times 3 \times 3 / 16\) & 164 & -9.617 & 12.964 & 74.2 & Pass \\
\hline T8 & 120-100 & Diagonal & L \(3 \times 3 \times 3 / 16\) & 191 & -10.153 & 10.849 & 93.6 & Pass \\
\hline T9 & 100-80 & Diagonal & L \(3 \times 3 \times 1 / 4\) & 218 & -10.904 & 12.022 & 90.7 & Pass \\
\hline T10 & 80-60 & Diagonal & 2L2 1/2×2 1/2×3/16×3/8 & 246 & -12.474 & 17.598 & 70.9 & Pass \\
\hline T11 & 60-40 & Diagonal & 2L2 \(1 / 2 \times 21 / 2 \times 3 / 16 \times 3 / 8\) & 285 & -12.715 & 15.610 & 81.5 & Pass \\
\hline T12 & 40-20 & Diagonal & 2L2 1/2×2 1/2×3/16x3/8 & 324 & -13.195 & 13.944 & 94.6 & Pass \\
\hline T13 & 20-0 & Diagonal & \(2 \mathrm{~L} 3 \times 3 \times 3 / 16 \times 3 / 8\) & 363 & -13.355 & 20.815 & 64.2 & Pass \\
\hline T10 & 80-60 & Horizontal & 2LI 3/4x1 3/4×3/16x3/8 & 244 & -6.795 & 8.079 & 84.1 & Pass \\
\hline T11 & 60-40 & Horizontal & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & 283 & -7.475 & 10.268 & 72.8 & Pass \\
\hline T12 & 40-20 & Horizontal & \(2 \mathrm{~L} 2 \times 2 \times 3 / 16 \times 3 / 8\) & 322 & -8.136 & 8.936 & 91.0 & Pass \\
\hline T13 & 20-0 & Horizontal & 2L2 1/2x2 1/2x3/16x3/8 & 361 & -8.774 & 14.835 & 59.1 & Pass \\
\hline T1 & 255-240 & Top Girt & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 5 & -0.202 & 6.409 & 3.2 & Pass \\
\hline T10 & 80-60 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 253 & -0.010 & 1.596 & 0.6 & Pass \\
\hline T11 & 60-40 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 292 & -0.011 & 1.372 & 0.8 & Pass \\
\hline T12 & 40-20 & Inner Bracing & L1 \(3 / 4 \times 13 / 4 \times 3 / 16\) & 331 & -0.011 & 1.192 & 0.9 & Pass \\
\hline \multirow[t]{9}{*}{T13} & 20-0 & Inner Bracing & L1 3/4x1 3/4x \(3 / 16\) & 372 & -0.012 & 1.045 & 1.1 & Pass \\
\hline & & & & & & & Summary & \\
\hline & & & & & & Leg (T8) & 99.5 & Pass \\
\hline & & & & & & Diagonal (T6) & 99.0 & Pass \\
\hline & & & & & & Horizontal (T12) & 91.0 & Pass \\
\hline & & & & & & \begin{tabular}{l}
Top Girt \\
(T1)
\end{tabular} & 3.2 & Pass \\
\hline & & & & & & \begin{tabular}{l}
Inner \\
Bracing \\
(T13)
\end{tabular} & 1.1 & Pass \\
\hline & & & & & & Bolt Checks & 98.8 & Pass \\
\hline & & & & & & RATING = & 99.5 & Pass \\
\hline
\end{tabular}

\section*{EXHIBIT D}

COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

\section*{KY Public Service Commission}

\section*{Master Utility Search}
- Search for the utility of interest by using any single or combination of criteria.
- Enter Partial names to return the closest match for Utility Name and Address/City/Contact entries.

Utility ID Utility Name

Address/City/Contact Utility Type
Status
\(\checkmark\) Active \(\checkmark\)
\(\square\) ,
 .
\begin{tabular}{|l|l|l|l|l|l|l|}
\hline & Utility & Utility Name & Utility & Class & City & State \\
\hline View & 4111300 & 2600 Hz , Inc. dba ZSWITCH & Cellular D & San Francisco CA \\
\hline View & 4108300 & Air Voice Wireless, LLC & Cellular B & \begin{tabular}{l} 
Bloomfield \\
Hill
\end{tabular} & MI \\
\hline View & 4110650 & \begin{tabular}{l} 
Alliant Technologies of KY, \\
L.L.C.
\end{tabular} & Cellular D & Morristown & NJ \\
\hline View & 4111900 & ALLNETAIR, INC. & Cellular C & \begin{tabular}{l} 
West Palm \\
Beach
\end{tabular} & FL \\
\hline View & 44451184 & \begin{tabular}{l} 
Alltel Corporation d/b/a Verizon \\
Wireless
\end{tabular} & Cellular A & Lisle & IL \\
\hline View & 4110850 & AltaWorx, LLC & Cellular D & Fairhope & AL \\
\hline View & 4107800 & \begin{tabular}{l} 
American Broadband and \\
Telecommunications Company
\end{tabular} & Cellular D & Toledo & OH \\
\hline View & 4108650 & \begin{tabular}{l} 
AmeriMex Communications \\
Corp.
\end{tabular} & Cellular D & Dunedin & FL \\
\hline View & 4105100 & \begin{tabular}{l} 
AmeriVision Communications, \\
Inc. d/b/a Affinity 4
\end{tabular} & Cellular D & \begin{tabular}{l} 
Virginia \\
Beach
\end{tabular} & VA \\
\hline View & 4110700 & \begin{tabular}{l} 
Andrew David Balholm dba \\
Norcell
\end{tabular} & Cellular D & Buford & GA \\
\hline View & 4105700 & Assurance Wireless USA, L.P. & Cellular A & Atlanta & GA \\
\hline View & 4108600 & \begin{tabular}{ll} 
BCN Telecom, Inc.
\end{tabular} & Cellular D & Morristown & NJ \\
\hline View & 4106000 & \begin{tabular}{l} 
Best Buy Health, Inc. d/b/a \\
GreatCall d/b/a Jitterbug
\end{tabular} & Cellular A & San Diego & CA \\
\hline View & 4110550 & \begin{tabular}{l} 
Blue Casa Mobile, LLC
\end{tabular} & Cellular D & \begin{tabular}{l} 
Santa \\
Barbara
\end{tabular} & CA \\
\hline View & 4111050 & BlueBird Communications, LLC & Cellular D & New York & NY \\
\hline View & 4202300 & Bluegrass Wireless, LLC & Cellular A & Elizabethtown KY \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline View & 4107600 & Boomerang Wireless, LLC & Cellular & D & Hiawatha & IA \\
\hline View & 4105500 & BullsEye Telecom, Inc. & Cellular & D & Southfield & MI \\
\hline View & 4100700 & Cellco Partnership dba Verizon Wireless & Cellular & A & Basking Ridge & NJ \\
\hline View & 4106600 & Cintex Wireless, LLC & Cellular & D & Houston & TX \\
\hline View & 4111150 & Comcast OTR1, LLC & Cellular & C & Phoeniexville & PA \\
\hline View & 4101900 & Consumer Cellular, Incorporated & Cellular & A & Portland & OR \\
\hline View & 4106400 & Credo Mobile, Inc. & Cellular & A & San Francisco & CA \\
\hline View & 4108850 & Cricket Wireless, LLC & Cellular & A & San Antonio & TX \\
\hline View & 4111500 & CSC Wireless, LLC d/b/a Altice Wireless & Cellular & D & Long Island City & NY \\
\hline View & 10640 & Cumberland Cellular Partnership & Cellular & A & Elizabethtown & KY \\
\hline View & 4111650 & DataBytes, Inc. & Cellular & D & Rogers & AR \\
\hline View & 4112000 & DISH Wireless L.L.C. & Cellular & C & Englewood & CO \\
\hline View & 4111200 & Dynalink Communications, Inc. & Cellular & C & Brooklyn & NY \\
\hline View & 4111800 & Earthlink, LLC & Cellular & C & Atlanta & GA \\
\hline View & 4101000 & East Kentucky Network, LLC dba Appalachian Wireless & Cellular & A & Ivel & KY \\
\hline View & 4002300 & Easy Telephone Service Company dba Easy Wireless & Cellular & D & Ocala & FL \\
\hline View & 4109500 & Enhanced Communications Group, LLC & Cellular & D & Bartlesville & OK \\
\hline View & 4110450 & Excellus Communications, LLC & Cellular & D & Chattanooga & TN \\
\hline View & 4105900 & Flash Wireless, LLC & Cellular & C & Concord & NC \\
\hline View & 4104800 & France Telecom Corporate Solutions L.L.C. & Cellular & D & Herndon & VA \\
\hline View & 4111750 & Gabb Wireless, Inc. & Cellular & D & Provo & UT \\
\hline View & 4109350 & Global Connection Inc. of America & Cellular & D & Norcross & GA \\
\hline View & 4102200 & Globalstar USA, LLC & Cellular & B & Covington & LA \\
\hline View & 4112050 & GLOTELL US, Corp. & Cellular & C & Hallandale & FL \\
\hline View & 4109600 & Google North America Inc. & Cellular & A & Mountain View & CA \\
\hline View & 33350363 & Granite Telecommunications, LLC & Cellular & D & Quincy & MA \\
\hline View & 10630 & GTE Wireless of the Midwest dba Verizon Wireless & Cellular & A & Basking Ridge & NJ \\
\hline View & 4111350 & HELLO MOBILE TELECOM LLC & Cellular & D & Dania Beach & FL \\
\hline View & 4103100 & i-Wireless, LLC & Cellular & B & Newport & KY \\
\hline View & 4109800 & IM Telecom, LLC d/b/a Infiniti Mobile & Cellular & D & Dallas & TX \\
\hline View & 4111950 & J Rhodes Enterprises LLC & Cellular & C & Gulf Breeze & FL \\
\hline View & 22215360 & KDDI America, Inc. & Cellular & D & Staten Island & NY \\
\hline View & 10872 & Kentucky RSA \#1 Partnership & Cellular & A & Basking Ridge & NJ \\
\hline View & 10680 & Kentucky RSA \#3 Cellular General & Cellular & A & Elizabethtown & KY \\
\hline & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline View & 10681 & Kentucky RSA \#4 Cellular General & ular & & & \\
\hline View & 4109550 & Kynect Communications, LLC & Cellutar & D & Dallas & TX \\
\hline View & 4112200 & Lexvor Inc. & Cellular & C & Irvine & CA \\
\hline View & 4111250 & Liberty Mobile Wireless, LLC & Cellular & D & Sunny Isles Beach & FL \\
\hline View & 4111400 & Locus Telecommunications, LLC & Cellular & A & Fort Lee & NJ \\
\hline View & 4107300 & Lycamobile USA, Inc. & Cellular & D & Newark & NJ \\
\hline View & 4108800 & MetroPCS Michigan, LLC & Cellular & A & Bellevue & WA \\
\hline View & 4111700 & Mint Mobile, LLC & Cellular & D & Costa Mesa & CA \\
\hline View & 4109650 & Mitel Cloud Services, Inc. & Cellular & D & Mesa & AZ \\
\hline View & 4111850 & Mobi, Inc. & Cellular & C & Honolulu & HI \\
\hline View & 4202400 & New Cingular Wireless PCS, LLC dba AT\&T Mobility, PCS & Cellular & A & San Antonio & TX \\
\hline View & 4000800 & Nextel West Corporation & Cellular & D & Overland Park & KS \\
\hline View & 4001300 & NPCR, Inc. dba Nextel Partners & Cellular & D & Overland Park & KS \\
\hline View & 4001800 & OnStar, LLC & Cellular & A & Detroit & MI \\
\hline View & 4110750 & Onvoy Spectr & Cellular & D & Chicago & IL \\
\hline View & 4109050 & Patriot Mobile LLC & Cellular & D & Irving & TX \\
\hline View & 4110250 & Plintron Technologies USA LLC & Cellular & D & Bellevue & WA \\
\hline View & 33351182 & PNG Telecommunications, Inc. dba PowerNet Global Communications & Cellular & D & Cincinnati & OH \\
\hline View & 4107700 & Puretalk Holdings, LLC & Cellular & A & Covington & GA \\
\hline View & 4106700 & Q Link Wireless, LLC & Cellular & A & Dania & FL \\
\hline View & 4108700 & Ready Wireless, LLC & Cellular & C & Hiawatha & IA \\
\hline View & 4110500 & Republic Wireless, Inc. & Cellular & A & Raleigh & NC \\
\hline View & 4106200 & Rural Cellular Corporation & Cellular & A & Basking Ridge & NJ \\
\hline View & 4108550 & Sage Telecom Communications, LLC dba TruConnect & Cellular & D & Los Angeles & CA \\
\hline View & 4109150 & SelecTel, Inc. d/b/a SelecTel Wireless & Cellular & D & Fremont & NE \\
\hline View & 4110150 & Spectrotel of the South LLC dba Touch Base Communications & Cellular & D & Neptune & NJ \\
\hline View & 4111450 & Spectrum Mobile, LLC & Cellular & A & St. Louis & MO \\
\hline View & 4200100 & Sprint Spectrum, L.P. & Cellular & A & Atlanta & GA \\
\hline View & 4200500 & SprintCom, Inc. & Cellular & A & Atlanta & GA \\
\hline View & 4111600 & STX Group LLC dba Twigby & Cellular & D & Murfreesboro & TN \\
\hline View & 4110200 & T C Telephone LLC d/b/a Horizon Cellular & Cellular & D & Red Bluff & CA \\
\hline View & 4202200 & T-Mobile Central, LLC dba TMobile & Cellular & A & Bellevue & WA \\
\hline View & 4002500 & TAG Mobile, LLC & Cellular & D & Plano & TX \\
\hline View & 4109700 & Telecom Management, Inc. dba Pioneer Telephone & Cellular & D & Portland & ME \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|l|}
\hline View & 4107200 & Telefonica USA, Inc. & Cellular D & Miami & FL \\
\hline \hline View & 4112100 & Tello LLC & Cellular C & Atlanta & GA \\
\hline View & 4108900 & Telrite Corporation & Cellular D & Covington & GA \\
\hline View & 4108450 & Tempo Telecom, LLC & Cellular B & Atlanta & GA \\
\hline View & 4109000 & Ting, Inc. & Cellular A & Toronto & ON \\
\hline View & 4110400 & Torch Wireless Corp. & Cellular D & Jacksonville & FL \\
\hline View & 4103300 & \begin{tabular}{l} 
Touchtone Communications, \\
Inc.
\end{tabular} & Cellular D & Whippany & NJ \\
\hline View & 4104200 & TracFone Wireless, Inc. & Cellular D & Miami & FL \\
\hline View & 4002000 & Truphone, Inc. & Cellular D & Durham & NC \\
\hline View & 4110300 & UVNV, Inc. d/b/a Mint Mobile & Cellular D & Costa Mesa & CA \\
\hline View & 4110800 & Visible Service LLC & Cellular D & Basking & NJ \\
\hline View & 4106500 & WiMacTel, Inc. & Cellular D & Palo Alto & CA \\
\hline View & 4110950 & Wing Tel Inc. & Cellular & D & New York
\end{tabular} NY \begin{tabular}{|c|c|c|}
\hline View & 4112150 & Zefcom, LLC
\end{tabular}

\section*{EXHIBIT E}

FAA

Mail Processing Center

Issued Date: 05/26/2020

Kristy Hurst
B+T Group Holdings, Inc.
1717 S. Boulder Ave.
Suite 300
Tulsa, OK 74119
** 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:
\begin{tabular}{ll} 
Structure: & Antenna Tower KYLEX2050 (Sharpsburg) \\
Location: & Sharspsburg, KY \\
Latitude: & \(38-12-39.34 \mathrm{~N}\) NAD 83 \\
Longitude: & \(83-56-02.64 \mathrm{~W}\) \\
Heights: & \begin{tabular}{l}
989 feet site elevation (SE) \\
\\
\end{tabular} \\
& 267 feet above ground level (AGL) \\
& 1256 feet above mean sea level (AMSL)
\end{tabular}

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

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

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

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

At least 10 days prior to start of construction (7460-2, Part 1)
\(\qquad\) Within 5 days after the construction reaches its greatest height (7460-2, Part 2)
This determination expires on \(11 / 26 / 2021\) unless:
(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
 (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.

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-ASO-13881-OE.

Signature Control No: 439686466-441081347
( DNE )
Stephanie Kimmel
Specialist

Attachment(s)
Case Description
Frequency Data
Map(s)
cc: FCC

267-foot overall height self-supporting lattice telecommunications structure
\begin{tabular}{|c|c|c|c|c|}
\hline \begin{tabular}{l}
LOW \\
FREQUENCY
\end{tabular} & \begin{tabular}{l}
HIGH \\
FREQUENCY
\end{tabular} & FREQUENCY UNIT & ERP & \[
\begin{aligned}
& \text { ERP } \\
& \text { UNIT }
\end{aligned}
\] \\
\hline 6 & 7 & GHz & 55 & dBW \\
\hline 6 & 7 & GHz & 42 & dBW \\
\hline 10 & 11.7 & GHz & 55 & dBW \\
\hline 10 & 11.7 & GHz & 42 & dBW \\
\hline 17.7 & 19.7 & GHz & 55 & dBW \\
\hline 17.7 & 19.7 & GHz & 42 & dBW \\
\hline 21.2 & 23.6 & GHz & 55 & dBW \\
\hline 21.2 & 23.6 & GHz & 42 & dBW \\
\hline 614 & 698 & MHz & 1000 & W \\
\hline 614 & 698 & MHz & 2000 & W \\
\hline 698 & 806 & MHz & 1000 & W \\
\hline 806 & 901 & MHz & 500 & W \\
\hline 806 & 824 & MHz & 500 & W \\
\hline 824 & 849 & MHz & 500 & W \\
\hline 851 & 866 & MHz & 500 & W \\
\hline 869 & 894 & MHz & 500 & W \\
\hline 896 & 901 & MHz & 500 & W \\
\hline 901 & 902 & MHz & 7 & W \\
\hline 929 & 932 & MHz & 3500 & W \\
\hline 930 & 931 & MHz & 3500 & W \\
\hline 931 & 932 & MHz & 3500 & W \\
\hline 932 & 932.5 & MHz & 17 & dBW \\
\hline 935 & 940 & MHz & 1000 & W \\
\hline 940 & 941 & MHz & 3500 & W \\
\hline 1670 & 1675 & MHz & 500 & W \\
\hline 1710 & 1755 & MHz & 500 & W \\
\hline 1850 & 1910 & MHz & 1640 & W \\
\hline 1850 & 1990 & MHz & 1640 & W \\
\hline 1930 & 1990 & MHz & 1640 & W \\
\hline 1990 & 2025 & MHz & 500 & W \\
\hline 2110 & 2200 & MHz & 500 & W \\
\hline 2305 & 2360 & MHz & 2000 & W \\
\hline 2305 & 2310 & MHz & 2000 & W \\
\hline 2345 & 2360 & MHz & 2000 & W \\
\hline 2496 & 2690 & MHz & 500 & W \\
\hline
\end{tabular}



Page 6 of 6

EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION

\title{
KENTUCKY AIRPORT ZONING COMMISSION
}

ANDY BESHEAR
Governor

\title{
Office of Audits, 200 Mero Street, 4th floor
}

\section*{APPROVAL OF APPLICATION}

\section*{August 13, 2020}

\section*{APPLICANT}

Uniti Towers
B\&T Group - Patricia Parr
10802 Executive Center Dr. Ste 300
Little Rock, AR 72211

SUBJECT: AS-BATH-IOB-2020-106
```

STRUCTURE: Antenna Tower
LOCATION: Sharpsburg, KY
COORDINATES: }\quad3\mp@subsup{8}{}{\circ}1\mp@subsup{2}{}{\prime}39.34"N/ N3o 56' 2.64" W
HEIGHT: 267' AGL/1256' AMSL

```

The Kentucky Airport Zoning Commission has approved your application for a permit to construct \(267^{\prime}\) AGL/1256' AMSL Antenna Tower near Sharpsburg, KY \(38^{\circ} 12^{\prime} 39.34^{\prime \prime} \mathrm{N} / 83^{\circ} 56^{\prime} 2.64^{\prime \prime} \mathrm{W}\).

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

Dual - Red \& Medium Intensity White Obstruction Lighting Required

\author{
RandallS. Royer
}

Randall S. Royer, Executive Director
Office of Audits
Acting Administrator
Randall.Royer@ky.gov
Jason.Salazar-Munoz@ky.gov

An Equal Opportunity Employer M/F/D

EXHIBIT G
GEOTECHNICAL REPORT


\title{
GEOTECHNICAL INVESTIGATION REPORT
}

February 6, 2021
Prepared For:
B+T Group


Sharpsburg
KYLEX2050
Proposed 255-Foot Self-Supporting Tower with a 12' Lightning Arrestor
635 Ramey Road, Sharpsburg (Bath County), Kentucky 40374
Latitude N \(38^{\circ} 12^{\prime} 39.3^{\prime \prime}\) Longitude W \(83^{\circ} 56^{\prime} 02.6^{\prime \prime}\)
Delta Oaks Group Project GEO21-08056-08
Revision 0
geotech@deltaoaksgroup.com


Justin Brosseau, E.I.


\section*{INTRODUCTION}

This geotechnical investigation report has been completed for the proposed 255-Foot SelfSupporting Tower with a 12' Lightning Arrestor located at 635 Ramey Road in Sharpsburg (Bath County), Kentucky. The purpose of this investigation was to provide engineering recommendations and subsurface condition data at the proposed tower location. A geotechnical engineering interpretation of the collected information was completed and utilized to suggest design parameters regarding the adequacy of the structure's proposed foundation capacity under various loading conditions. This report provides the scope of the geotechnical investigation; geologic material identification; results of the geotechnical laboratory testing; and design parameter recommendations for use in the design of the telecommunication facility's foundation and site development.

\section*{SITE CONDITION SUMMARY}

The proposed tower and compound are located on a grassy hill exhibiting a gradually sloping topography from the east to west across the tower compound and subject property.

\section*{REFERENCES}
- Survey Drawings, prepared by Point to Point Land Surveyors, dated January 13, 2020
- TIA Standard (TIA-222-G), dated August 2005

\section*{SUBSURFACE FIELD INVESTIGATION SUMMARY}

The subsurface field investigation was conducted through the advancement of one mechanical soil test boring to the auger refusal depth of 11.4 feet bgs. Samples were obtained at selected intervals in accordance with ASTM D 1586. The sampling was conducted at the staked centerline of the proposed tower. Upon encountering auger refusal 5.0 feet of rock coring was conducted in accordance with ASTM D 2113 . Soil and rock samples were transported to our laboratory and classified by a geotechnical engineer in accordance with ASTM D 2487. A detailed breakdown of the material encountered in our subsurface field investigation can be found in the boring log presented in the Appendix of this report.

A boring plan portraying the spatial location of the boring in relation to the proposed tower, tower compound and immediate surrounding area can be found in the Appendix.

\footnotetext{
Delta Oaks Group Project GEO21-08056-08
4904 Professional Court - Second Floor • Raleigh • NC • 27609
919-342•8247
www.deltaoaksgroup.com
Page 2 of 14
}

\section*{SUBSURFACE CONDITION SUMMARY}

The following provides a general overview of the site's subsurface conditions based on the data obtained during our field investigation.

\section*{FILL}

Topsoil was encountered during the subsurface field investigation from the existing ground surface to a depth of 0.5 feet bgs.

\section*{SOIL}

The residual soil encountered in the subsurface field investigation began at a depth of 0.5 feet bgs in the boring and consisted of lean clay. The materials ranged from a stiff to very stiff cohesion.

Auger advancement refusal was encountered during the subsurface field investigation at a depth of 11.4 feet bgs.

ROCK
Rock was encountered during the subsurface investigation at a depth of 11.4 feet bgs. The rock can be described as intensely fractured, highly weathered, moderately soft to moderately hard limestone.

\section*{SUBSURFACE WATER}

At the time of drilling, subsurface water was not encountered during the subsurface investigation. However, subsurface water elevations can fluctuate throughout the year due to variations in climate, hydraulic parameters, nearby construction activity and other factors.

\section*{FROST PENETRATION}

The frost penetration depth for Bath County, Kentucky is 30 inches ( 2.5 feet).

CORROSIVITY
Soil resistivity was performed in accordance with ASTM G 187 with a test result of 5,830 ohmscm.

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

GENERAL SUBSURFACE STRENGTH PARAMETERS
\begin{tabular}{|c|c|c|c|c|c|}
\hline Boring & Depth (bgs) & USCS & Moisf/Buoyant Unit Weight (pcf) & \begin{tabular}{l}
Phi Angle \\
(degrees)
\end{tabular} & Cohesion (pst) \\
\hline \multirow{5}{*}{B-1} & 0.0-0.5 & CL & 105 & 0 & 0 \\
\hline & 0.5-6.0 & CL & 110 & 0 & 1,500 \\
\hline & \(6.0-8.5\) & CL & 120 & 0 & 2,500 \\
\hline & \(8.5-11.4\) & CL & 110 & 0 & 1.500 \\
\hline & \(11.4-16.4\) & LIMESTONE & 135 & 42 & 0 \\
\hline
\end{tabular}
- 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
\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{4}{|c|}{SUBSURFACE STRENGTH PARAMEIERS - SHALLOW FOUNDATION} \\
\hline Boring & Dimensions (feet) & Depth (feet bgs) & Net Ulitimate Bearing Capacity (pst) \\
\hline \multirow{20}{*}{B-1} & \multirow{4}{*}{\(5.0 \times 5.0\)} & 3.0 & 10,360 \\
\hline & & 4.0 & 10,730 \\
\hline & & 5.0 & 11,100 \\
\hline & & 6.0 & 14,150 \\
\hline & \multirow{4}{*}{\(10.0 \times 10.0\)} & 3.0 & 9.810 \\
\hline & & 4.0 & 9.990 \\
\hline & & 5.0 & 10,180 \\
\hline & & 6.0 & 11.700 \\
\hline & \multirow{4}{*}{\(15.0 \times 15.0\)} & 3.0 & 9,620 \\
\hline & & 4.0 & 9,750 \\
\hline & & 5.0 & 9,870 \\
\hline & & 6.0 & 10,880 \\
\hline & \multirow{4}{*}{\(20.0 \times 20.0\)} & 3.0 & 9,530 \\
\hline & & 4.0 & 9.620 \\
\hline & & 5.0 & 9.710 \\
\hline & & 6.0 & 10,470 \\
\hline & \multirow{4}{*}{\(25.0 \times 25.0\)} & 3.0 & 9,470 \\
\hline & & 4.0 & 9,550 \\
\hline & & 5.0 & 9,620 \\
\hline & & 6.0 & 10,230 \\
\hline
\end{tabular}
- Delta Oaks Group recommends the foundation bear a minimum of 3.0 feet bgs.
- A sliding friction factor of 0.30 can be utilized along the base of the proposed foundation.
- The bearing capacity can be increased by \(1 / 3\) for transient loading.
- An Ultimate Passive Pressure Table with a reduction due to frost penetration to a depth of 2.5 feet bgs is presented on the following page.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the design of the foundation.

ULTIMATE PASSIVE PRESSURE VS. DEPTH - TOWER FOUNDATION
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \multicolumn{2}{|c|}{ Soll Layers (feet) } & \begin{tabular}{c} 
Moist Unit \\
Weight
\end{tabular} & Phi Angle & Cohesion & PV & KP & Ph \\
\hline Top & 0.0 & 105 & 0 & 0.00 & 0.00 & 1.00 & 0.00 \\
\hline Bottom & 0.5 & 105 & 0 & 0.00 & 52.50 & 1.00 & 26.25 \\
\hline Top & 0.5 & 110 & 0 & 1500.00 & 52.50 & 1.00 & 1526.25 \\
\hline Bottom & 2.5 & 110 & 0 & 1500.00 & 272.50 & 1.00 & 1636.25 \\
\hline Top & 2.5 & 110 & 0 & 1500.00 & 272.50 & 1.00 & 3272.50 \\
\hline Bottom & 6.0 & 110 & 0 & 1500.00 & 657.50 & 1.00 & 3657.50 \\
\hline Top & 6.0 & 120 & 0 & 2500.00 & 657.50 & 1.00 & 5657.50 \\
\hline Bottom & 8.5 & 120 & 0 & 2500.00 & 957.50 & 1.00 & 5957.50 \\
\hline Top & 8.5 & 110 & 0 & 1500.00 & 957.50 & 1.00 & 3957.50 \\
\hline Bottom & 10.0 & 110 & 0 & 1500.00 & 1122.50 & 1.00 & 4122.50 \\
\hline
\end{tabular}

SUBSURFACE STRENGTH PARAMETERS - DRILLED SHAFT FOUNDATION
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow{4}{*}{ Boring } & Depth (bgs) & \begin{tabular}{c} 
Net Ulimate \\
Bearing Capacity \\
(psf)
\end{tabular} & \begin{tabular}{c} 
Ulimate Skin Friction - \\
Compression (psf)
\end{tabular} & \begin{tabular}{c} 
Ultimate Skin Friction - \\
Uplift (psf)
\end{tabular} \\
\hline \multirow{5}{*}{ B-1 } & \(0.0-3.0\) & - & - & - \\
\cline { 2 - 5 } & \(3.0-4.0\) & 5.400 & 820 & 820 \\
\cline { 2 - 5 } & \(4.0-6.0\) & 7.150 & 820 & 820 \\
\cline { 2 - 5 } & \(6.0-9.0\) & 17.400 & 130 & 130 \\
\cline { 2 - 5 } & \(9.0-11.0\) & 28.240 & 820 & 820 \\
\cline { 2 - 5 } & \(11.0-16.4\) & 32.180 & 720 & 540 \\
\hline
\end{tabular}
- The top 3.0 feet of soil should be ignored due to the frost penetration and the potential soil disturbance during construction.
- The bearing capacity can be increased by \(1 / 3\) for transient loading.
- 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 design of the foundation.

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SUBSURFACE STRENGTH PARAMETERS - SUPPORT STRUCTURE FOUNDATION
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow{3}{*}{ Boring } & Depth (bgs) & \begin{tabular}{c} 
Net Ultimate \\
Bearing Capacity \\
(psf)
\end{tabular} & \begin{tabular}{c} 
Minimum Design Footing \\
Width ( f )
\end{tabular} & \begin{tabular}{c} 
Modulus of Subgrade \\
Reaction (pci)
\end{tabular} \\
\hline \multirow{4}{*}{ B-1 } & 2.0 & 9,340 & & \\
\cline { 2 - 3 } & 3.0 & 10,120 & & 3 \\
\cline { 2 - 3 } & 4.0 & 10,900 & 2.0 & 300 \\
\cline { 2 - 3 } & 5.0 & 11,680 & & \\
\hline
\end{tabular}
- Delta Oaks Group recommends utilizing a slab on grade in conjunction with continuous perimeter footings that bear on residual soil or properly compacted structural fill placed in accordance with the recommendations provided in the CONSTRUCTION section of this report.
- The slab on grade should be properly reinforced to prevent concrete cracking and shrinkage.
- The foundation should bear a minimum of 2.0 feet bgs.
- A sliding friction factor of 0.30 can be utilized along the base of the proposed foundation.
- An Ullimate Passive Pressure Table is presented on the following page. An appropriate reduction should be considered in accordance with local building code frost penetration depth.
- Delta Oaks Group recommends an appropriate factor of safety be utilized for the design of the foundation.
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{8}{|c|}{ ULTIMATE PASSIVE PRESSURE VS. DEPTH - SUPPORT STRUCTURE FOUNDATION } \\
\hline Soll Layers (feet) & \begin{tabular}{c} 
Moist Unit \\
Weight
\end{tabular} & Phi Angle & Cohesion & PV & KP & Ph \\
\hline Top & 0.0 & 105 & 0 & 0.00 & 0.00 & 1.00 & 0.00 \\
\hline Bottom & 0.5 & 105 & 0 & 0.00 & 52.50 & 1.00 & 26.25 \\
\hline Top & 0.5 & 110 & 0 & 1500.00 & 52.50 & 1.00 & 1526.25 \\
\hline Bottom & 2.5 & 110 & 0 & 1500.00 & 272.50 & 1.00 & 1636.25 \\
\hline Top & 2.5 & 110 & 0 & 1500.00 & 272.50 & 1.00 & 3272.50 \\
\hline Bottom & 6.0 & 110 & 0 & 1500.00 & 657.50 & 1.00 & 3657.50 \\
\hline Top & 6.0 & 120 & 0 & 2500.00 & 657.50 & 1.00 & 5657.50 \\
\hline Bottom & 8.5 & 120 & 0 & 2500.00 & 957.50 & 1.00 & 5957.50 \\
\hline Top & 8.5 & 110 & 0 & 1500.00 & 957.50 & 1.00 & 3957.50 \\
\hline Bottom & 10.0 & 110 & 0 & 1500.00 & 1122.50 & 1.00 & 4122.50 \\
\hline
\end{tabular}

\section*{CONSTRUCTION}

\section*{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.

\section*{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.

\section*{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.

\footnotetext{
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\section*{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.

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\section*{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 existing 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

Samples obtained during our subsurface field investigation will be retained by Delta Oaks Group for a period of 30 days unless otherwise instructed by B+T Group. No warranty, expressed or implied, is presented.

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

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\section*{APPENDIX}

\section*{DELTA OAKS GROUP}


BORING PLAN



\section*{EXHIBIT H} DIRECTIONS TO WCF SITE

\section*{Driving Directions to Proposed Tower Site}
1. Beginning at the Bath County Judge Executive's Office, located at 19 E. Main Street Owingsville, KY 40360, head east (toward N. Court Street / Johnstan Street) on E. Main Street and travel approximately 0.1 miles.
2. Turn left onto Suddith Street and travel approximately 0.2 miles.
3. Follow Suddith Street as it turns right and becomes E. High Street and travel approximately 0.1 miles.
4. Turn left onto \(\mathrm{KY}-36 \mathrm{~W}\) and travel approximately 10.9 miles.
5. Turn left onto KY-11 and travel approximately 0.5 miles.
6. Turn right onto Ramey Road and travel approximately 0.6 miles.
7. The site is located on the left at 695 Ramey Road, Sharpsburg, KY 40374. The site address is: 635 Ramey Road, Sharpsburg, KY 40374.
8. The site coordinates are:
a. North 38 deg 12 min 39.34 sec
b. West 83 deg 56 min 02.64 sec


Prepared by:
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Pike Legal Group
1578 Highway 44 East, Suite 6
P.O. Box 396

Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293

\section*{EXHIBIT I}

COPY OF REAL ESTATE AGREEMENT

\section*{OPTION AND LEASE AGREEMENT}

THIS OPTION AND LEASE AGREEMENT ("Agreement"), dated as of the latter of the signature dates below (the "Effective Date"), is entered into by Danny Harmon and Vonda Harmon, husband and wife, having a mailing address of 695 Ramey Rd Sharpsburg, KY 40374, ("Landlord") and Uniti Towers LLC, a Delaware limited liability company having a mailing address of 10802 Executive Center Drive, Benton Building, Suite 300, Little Rock AR 72211 ("Tenant").

\section*{BACKGROUND}

Landlord owns or controls that certain plot, parcel or tract of land, as described on Exhibit 1, together with all rights and privileges arising in connection therewith, located near 695 Ramey Road, in the City/Town of Sharpsburg, County of Bath, State of Kentucky (collectively, the "Property"). Landlord desires to grant to Tenant the right to use a portion of the Property in accordance with this Agreement.

The parties agree as follows:

\section*{1. OPTION TOLEASE.}
(a) Landlord grants to Tenant an exclusive option (the "Option") to lease a certain portion of the Property containing approximately 10,000 square feet including the air space above such ground space, as described on attached Exhibit 1, (the "Premises"), for the placement of a Communication Facility.
(b) During the Option Term, and during the Term, Tenant and its agents, engineers, surveyors and other representatives will have the right to enter upon the Property to inspect, examine, conduct soil borings, drainage testing, material sampling, radio frequency testing and other geological or engineering tests or studies of the Property (collectively, the "Tests"), to apply for and obtain licenses, permits, approvals, or other relief required of or deemed necessary or appropriate at Tenant's sole discretion for its use of the Premises and include, without limitation, applications for zoning variances, zoning ordinances, amendments, special use permits, and construction permits (collectively, the "Government Approvals"), initiate the ordering and/or scheduling of necessary utilities, and otherwise to do those things on or off the Property that, in the opinion of Tenant, are necessary in Tenant's sole discretion to determine the physical condition of the Property, the environmental history of the Property, Landlord's title to the Property and the feasibility or suitability of the Property for Tenant's Permitted Use, all at Tenant's expense. Tenant will not be liable to Landlord or any third party on account of any pre-existing defect or condition on or with respect to the Property, whether or not such defect or condition is disclosed by Tenant's inspection. Tenant will restore the Property to its condition as it existed at the commencement of the Option Term, reasonable wear and tear and loss by casualty or other causes beyond Tenant's control excepted.
(c) In consideration of Landlord granting Tenant the Option, Tenant agrees to pay Landlord the sum of Effective Date. The Option may be exercised during an initial term of one (1) year commencing on the Effective Date (the "Initial Option Term") which term may be renewed by Tenant for an additional one (1) year (the "Renewal Option Term") upon written notification to Landlord and the payment of an additional
no later than five (5) days prior to the expiration date of the Initial Option Term. The Initial Option Term and any Renewal Option Term are collectively referred to as the "Option Term."
(d) The Option may be sold, assigned or transferred at any time by Tenant without the written consent of Landlord. Upon notification to Landiord of such sale, assignment, or transfer, Tenant shall immediately be released from any and all liability under this Agreement, including the payment of any rental or other sums due, without any further action.
(e) During the Option Term, Tenant may exercise the Option by notifying Landlord in writing. If Tenant exercises the Option, then Landlord leases the Premises to Tenant subject to the terms and conditions of this Agreement. If Tenant does not exercise the Option during the Initial Option Term or any extension thereof, this Agreement will terminate, and the parties will have no further liability to each other.
(f) If during the Option Term, or during the Term if the Option is exercised, Landlord decides to subdivide, sell, or change the status of the zoning of the Premises, Property or any of Landiord's contiguous, adjoining or surrounding property (the "Surrounding Property,") or in the event of a threatened foreclosure, Landlord shall immediately notify Tenant in writing. Landlord agrees that during the Option Term, or during the Term if the Option is exercised, Landlord shall not initiate or consent to any change in the zoning of the Premises, Property or Surrounding Property or impose or consent to any other use or restriction that would prevent or limit Tenant from using the Premises for the Permitted Use. Any and all terms and conditions of this Agreement that by their sense and context are intended to be applicable during the Option Term shall be so applicable.
2. PERMITTED USE. Tenant may use the Premises for the transmission and reception of communications signals and the installation, construction, maintenance, operation, repair, replacement and upgrade of communications fixtures and related equipment, cables, accessories and improvements, which may include a suitable support structure ("Structure"), associated antennas, equipment shelters or cabinets and fencing and any other items necessary to the successful and secure use of the Premises (collectively, the "Communication Facility"), as well as the right to test, survey and review title on the Property; Tenant further has the right but not the obligation to add, modify and/or replace equipment in order to be in compliance with any current or future federal, state or local mandated application, including, but not limited to, emergency 911 communication services, at no additional cost to Tenant or Landlord (collectively, the "Permitted Use"). Landlord and Tenant agree that any portion of the Communication Facility that may be conceptually described on Exhibit 1 will not be deemed to limit Tenant's Permitted Use. If Exhibit 1 includes drawings of the initial installation of the Communication Facility, Landlord's execution of this Agreement will signify Landlord's approval of Exhibit 1. For a period of ninety (90) days following the start of construction, Landlord grants Tenant, its subtenants, licensees and sublicensees, the right to use such portions of the Surrounding Property as may reasonably be required during construction and installation of the Communication Facility. Tenant has the right to install and operate transmission cables from the equipment shelter or cabinet to the antennas, electric lines from the main feed to the equipment shelter or cabinet and communication lines from the Property's main entry point to the equipment shelter or cabinet, install a generator and to make other improvements, alterations, upgrades or additions appropriate for Tenant's Permitted Use including the right to construct a fence around the Premises or equipment, install warning signs to make individuals aware of risks, install protective barriers, install any other control measures reasonably required by Tenant's safety procedures or applicable law, and undertake any other appropriate means to secure the Premises or equipment at Tenant's expense. Tenant has the right to modify, supplement, replace, upgrade, expand the Communication Facility (including, for example, increasing the number of antennas or adding microwave dishes) or relocate the Communication Facility within the Premises at any time during the Term. Tenant will be allowed to make such alterations to the Property in order to ensure that the Communication Facility complies with all applicable federal, state or local laws, rules or regulations. In the event Tenant desires to modify or upgrade the Communication Facility, in a manner that requires an additional portion of the Property (the "Additional Premises") for such modification or upgrade, Landlord agrees to lease to Tenant the Additional Premises, upon the same terms and conditions set forth herein, except that the Rent shall increase, in conjunction with the lease of the Additional Premises by the amount equivalent to the then-current per square foot rental rate charged by Landlord to Tenant times the square footage of the Additional Premises. Landiord agrees to take such actions and enter into and deliver to Tenant such documents as Tenant reasonably requests in order to effect and memorialize the lease of the Additional Premises to Tenant.

\section*{3. TERM.}
(a) The initial lease term will be five (5) years (the "Initial Term"), commencing on the effective date of written notification by Tenant to Landlord of Tenant's exercise of the Option (the "Term Commencement Date"). The Initial Term will terminate on the fifth ( \(5^{\text {b }}\) ) anniversary of the Term Commencement Date.
(b) This Agreement will automatically renew for seventeen (17) additional five (5) year term(s) (each additional five (5) year term shall be defined as an "Extension Term"), upon the same terms and
conditions set forth herein unless Tenant notifies Landlord in writing of Tenant's intention not to renew this Agreement at least sixty (60) days prior to the expiration of the Initial Term or then-existing Extension Term.
(c) Unless (i) Landlord or Tenant notifies the other in writing of its intention to terminate this Agreement at least six (6) months prior to the expiration of the final Extension Term, or (ii) the Agreement is terminated as otherwise permitted by this Agreement prior to the end of the final Extension Term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of one (1) year, and for annual terms thereafter ("Annual Term") until terminated by either party by giving to the other party written notice of its intention to so terminate at least six (6) months prior to the end of any such Annual Term. Monthly rent during such Annual Terms

If Tenant remains in possession of the Premises after the termination of this Agreement, then Tenant will be deemed to be occupying the Premises on a month-to-month basis (the "Holdover Term"), subject to the terms and conditions of this Agreement.
(d) The Initial Term, any Extension Terms, any Annual Terms and any Holdover Term are collectively referred to as the "Term".

\section*{4. RENT.}
(a) Commencing on the first day of the month following the date that Tenant commences construction (the "Rent Commencement Date"), Tenant will pay Landlord on or before the fifth ( \(5^{\mathrm{L}}\) ) day of each calendar month in advance, (the "Rent"), at the address set forth above. In any partial month occurring after the Rent Commencement Date, Rent will be prorated. The initial Rent payment will be forwarded by Tenant to Landlord within forty-five (45) days after the Rent Commencement Date.
(b) In year two (2) of the Initial Term, and each year thereafter, including throughout any Extension Terms exercised, the monthly Rent will
In effective the first day of the month in which the anniversary of the Term Commencement Date occurs
(c) All charges payable under this Agreement such as utilities and taxes shall be billed by Landlord within one (1) year from the end of the calendar year in which the charges were incurred; any charges beyond such period shall not be billed by Landlord, and shall not be payable by Tenant. The foregoing shall not apply to monthly Rent which is due and payable without a requirement that it be billed by Landlord. The provisions of this subsection shall survive the termination or expiration of this Agreement.

\section*{5. APPROVALS.}
(a) Landlord agrees that Tenant's ability to use the Premises is contingent upon the suitability of the Premises and Property for the Permitted Use and Tenant's ability to obtain and maintain all Government Approvals. Landlord authorizes Tenant to prepare, execute and file all required applications to obtain Government Approvals for the Permitted Use and agrees to reasonably assist Tenant with such applications and with obtaining and maintaining the Government Approvals.
(b) Tenant has the right to obtain a title report or commitment for a leasehold title policy from a title insurance company of its choice and to have the Property surveyed by a surveyor of its choice.
(c) Tenant may also perform and obtain, at Tenant's sole cost and expense, soil borings, percolation tests, engineering procedures, environmental investigation or other tests or reports on, over, and under the Property, necessary to determine if Tenant's use of the Premises will be compatible with Tenant's engineering specifications, system, design, operations or Government Approvals.
6. TERMINATION. This Agreement may be terminated, without penalty or further liability, as follows:
(a) by either party on thirty (30) days prior written notice, if the other party remains in default under Section 15 of this Agreement after the applicable cure periods;
(b) by Tenant upon written notice to Landlord, if Tenant is unable to obtain, or maintain, any required approval(s) or the issuance of a license or permit by any agency, board, court or other governmental authority necessary for the construction or operation of the Communication Facility as now or hereafter intended by Tenant; or if Tenant determines, in its sole discretion that the cost of or delay in obtaining or retaining the same is commercially unreasonable;
(c) by Tenant, upon written notice to Landlord, if Tenant determines, in its sole discretion, due to the title report results or survey results, that the condition of the Premises is unsatisfactory for its intended uses;
(d) by Tenant upon written notice to Landlord for any reason or no reason, at any time prior to commencement of construction by Tenant; or
(e) by Tenant upon sixty (60) days' prior written notice to Landlord for any reason or no reason, so long as Tenant provided, however, that no such termination fee will be payable on account of the termination of this Agreement by Tenant under any termination provision contained in any other Section of this Agreement, including the following: Section 5 Approvals, Section 6(a) Termination, Section 6(b) Termination, Section 6(c) Termination, Section 6(d) Termination, Section 11(d) Environmental, Section 18 Condemnation or Section 19 Casualty.
7. INSURANCE. During the Option Term and throughout the Term, Tenant will purchase and maintain in full force and effect such general liability policy as Tenant may deem necessary. Said policy of general liability insurance will at a minimum provide a combined single limit of
Notwithstanding the foregoing, Tenant shall have the right to self-insure such general liability coverage.

\section*{8. INTERFERENCE.}
(a) Prior to or concurrent with the execution of this Agreement, Landlord has provided or will provide Tenant with a list of radio frequency user(s) and frequencies used on the Property as of the Effective Date. Tenant warrants that its use of the Premises will not interfere with those existing radio frequency uses on the Property, as long as the existing radio frequency user(s) operate and continue to operate within their respective frequencies and in accordance with all applicable laws and regulations.
(b) Landlord will not grant, after the Effective Date, a lease, license or any other right to any third party, if the exercise of such grant may in any way adversely affect or interfere with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will notify Tenant in writing prior to granting any third party the right to install and operate communications equipment on the Property.
(c) Landlord will not, nor will Landlord permit its employees, tenants, licensees, invitees, agents or independent contractors to interfere in any way with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will cause such interference to cease within twenty-four (24) hours after receipt of notice of interference from Tenant. In the event any such interference does not cease within the aforementioned cure period, Landlord shall cease all operations which are suspected of causing interference (except for intermittent testing to determine the cause of such interference) until the interference has been corrected.
(d) For the purposes of this Agreement, "interference" may include, but is not limited to, any use on the Property or Surrounding Property that causes electronic or physical obstruction with, or degradation of, the communications signals from the Communication Facility.

\section*{9. INDEMNIFICATION.}
(a) Tenant agrees to indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or liability, costs or expenses in connection with a third party claim (including reasonable attorneys' fees and court costs) arising directly from the installation, use, maintenance, repair or removal of the Communication Facility or Tenant's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Landlord, its employees, invitees, agents or independent contractors.
(b) Landlord agrees to indemnify, defend and hold Tenant harmless from and against any and all injury, loss, damage or liability, costs or expenses in connection with a third party claim (including reasonable attorneys' fees and court costs) arising directly from the actions or failure to act of Landlord, its employees, invitees agents or independent contractors, or Landlord's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Tenant, its employees, agents or independent contractors.
(c) The indemnified party: (i) shall promptly provide the indemnifying party with written notice of any claim, demand, lawsuit, or the like for which it seeks indemnification pursuant to this Section and provide the indemnifying party with copies of any demands, notices, summonses, or legal papers received in connection with such claim, demand, lawsuit, or the like; (ii) shall not settle any such claim, demand, lawsuit, or the like without the prior written consent of the indemnifying party; and (iii) shall fully cooperate with the indemnifying party in the defense of the claim, demand, lawsuit, or the like. A delay in notice shall not relieve the indemnifying party of its indemnity obligation, except (1) to the extent the indemnifying party can show it was prejudiced by the delay; and (2) the indemnifying party shall not be liable for any settlement or litigation expenses incurred before the time when notice is given.

\section*{10. WARRANTIES.}
(a) Each of Tenant and Landlord (to the extent not a natural person) acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority or capacity, as applicable, to enter into this Agreement and bind itself hereto through the party or individual set forth as signatory for the party below.
(b) Landlord represents, warrants and agrees that: (i) Landlord solely owns the Property as a legal lot in fee simple, or controls the Property by lease or license; (ii) the Property is not and will not be encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Tenant's Permitted Use and enjoyment of the Premises under this Agreement; (iii) as long as Tenant is not in default then Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises without hindrance or ejection by any persons lawfully claiming under Landlord; (iv) Landlord's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on Landlord; and ( \(v\) ) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Landlord will provide promptly to Tenant a mutually agreeable subordination, non-disturbance and attornment agreement executed by Landlord and the holder of such security interest in the form attached hereto as Exhibit 10(b).

\section*{11. ENVIRONMENTAL.}
(a) Landlord represents and warrants, except as may be identified in Exhibit 11 attached to this Agreement, (i) the Property, as of the Effective Date, is free of hazardous substances, including asbestoscontaining materials and lead paint, and (ii) the Property has never been subject to any contamination or hazardous conditions resulting in any environmental investigation, inquiry or remediation. Landlord and Tenant agree that each will be responsible for compliance with any and all applicable governmental laws, rules, statutes, regulations, codes, ordinances, or principles of common law regulating or imposing standards of liability or standards of conduct with regard to protection of the environment or worker health and safety, as may now or at any time hereafter be in effect, to the extent such apply to that party's activity conducted in or on the Property.
(b) Landlord and Tenant agree to hold harmless and indemnify the other from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of the indemnifying party for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding ("Claims"), to the extent arising from that party's breach of its obligations or representations under Section 11(a). Landlord agrees to hold harmless and indemnify Tenant from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of Landlord for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any Claims, to the extent arising from subsurface or other contamination of the Property with hazardous substances prior to the Effective Date or from such contamination caused by the acts or omissions of Landlord during the Term. Tenant agrees to hold harmless and indemnify Landlord from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of Tenant for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any Claims, to the extent arising from hazardous substances brought onto the Property by Tenant.
(c) The indemnification provisions contained in this Section 11 specifically include reasonable costs, expenses and fees incurred in connection with any investigation of Property conditions or any clean-up,
remediation, removal or restoration work required by any governmental authority. The provisions of this Section 11 will survive the expiration or termination of this Agreement.
(d) In the event Tenant becomes aware of any hazardous materials on the Property, or any environmental, health or safety condition or matter relating to the Property, that, in Tenant's sole determination, renders the condition of the Premises or Property unsuitable for Tenant's use, or if Tenant believes that the leasing or continued leasing of the Premises would expose Tenant to undue risks of liability to a govemment agency or other third party, Tenant will have the right, in addition to any other rights it may have at law or in equity, to terminate this Agreement upon written notice to Landlord.
12. ACCESS. At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have twenty-four (24) hour per day, seven (7) day per week pedestrian and vehicular access ("Access") to and over the Property, from an open and improved public road to the Premises, for the installation, maintenance and operation of the Communication Facility and any utilities serving the Premises. As may be described more fully in Exhibit 1, Landlord grants to Tenant an easement for such Access and Landlord agrees to provide to Tenant such codes, keys and other instruments necessary for such Access at no additional cost to Tenant. Upon Tenant's request, Landlord will execute a separate recordable easement evidencing this right. Landlord shall execute a letter granting Tenant Access to the Property substantially in the form attached as Exhibit 12; upon Tenant's request, Landlord shall execute additional letters during the Term. Landlord acknowledges that in the event Tenant cannot obtain Access to the Premises, Tenant shall incur significant damage. If Landlord fails to provide the Access granted by this Section 12, such failure shall be a default under this Agreement. In connection with such default, in addition to any other rights or remedies available to Tenant under this Agreement or at law or equity, Landlord shall pay Tenant, as liquidated damages and not as a penalty, per day in consideration of Tenant's damages until Landlord cures such default. Landlord and Tenant agree that Tenant's damages in the event of a denial of Access are difficult, if not impossible, to ascertain, and the liquidated damages set forth above are a reasonable approximation of such damages.
13. REMOVAL/RESTORATION. All portions of the Communication Facility brought onto the Property by Tenant will be and remain Tenant's personal property and, at Tenant's option, may be removed by Tenant at any time during the Term. Landlord covenants and agrees that no part of the Communication Facility constructed, erected or placed on the Premises by Tenant will become, or be considered as being affixed to or a part of, the Property, it being the specific intention of Landlord that all improvements of every kind and nature constructed, erected or placed by Tenant on the Premises will be and remain the property of Tenant and may be removed by Tenant at any time during the Term. Within one hundred twenty (120) days after the termination of this Agreement, Tenant will remove all of Tenant's above-ground improvements and Tenant will, to the extent reasonable, restore the Premises to its condition at the commencement of this Agreement, reasonable wear and tear and loss by casualty or other causes beyond Tenant's control excepted. Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation, nor will Tenant be required to remove from the Premises or the Property any structural steel or any foundations or underground utilities.

\section*{14. MAINTENANCE/UTILITIES.}
(a) Tenant will keep and maintain the Premises in good condition, reasonable wear and tear and damage from the elements excepted. At Tenant's sole discretion, Tenant may, at its expense, construct and/or improve ingress/egress road from the public right-of-way to the Premises. Landlord will maintain and repair any damages caused by Landlord or Landlord's agents to the ingress/egress road thereto and all areas of the Premises where Tenant does not have exclusive control, in good and tenantable condition, subject to reasonable wear and tear and damage from the elements. Landlord will be responsible for maintenance of landscaping on the Property, including any landscaping installed by Tenant as a condition of this Agreement or any required permit.
(b) Reserved.
(c) Reserved.
(d) Tenant will have the right to install utilities, at Tenant's expense, and to improve present utilities on the Property and the Premises. Landlord hereby grants to any service company providing utility or similar services, including electric power and telecommunications, to Tenant an easement over the Property, from an open and improved public road to the Premises, and upon the Premises, for the purpose of constructing, operating and maintaining such lines, wires, circuits, and conduits, associated equipment cabinets and such appurtenances thereto, as such service companies may from time to time require in order to provide such services to the Premises. Upon Tenant's or service company's request, Landlord will execute a separate recordable easement evidencing this grant, at no cost to Tenant or the service company.

\section*{15. DEFAULT AND RIGHT TO CURE.}
(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) nonpayment of Rent if such Rent remains unpaid for more than thirty (30) days after written notice from Landlord of such failure to pay; or (ii) Tenant's failure to perform any other term or condition under this Agreement within forty-five (45) days after written notice from Landlord specifying the failure. No such failure, however, will be deemed to exist if Tenant has commenced to cure such default within such period and provided that such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Tenant. If Tenant remains in default beyond any applicable cure period, Landlord will have the right to exercise any and all rights and remedies available to it under law and equity.
(b) The following will be deemed a default by Landlord and a breach of this Agreement: (i) Landlord's failure to provide Access to the Premises as required by Section 12 within twenty-four (24) hours after written notice of such failure; (ii) Landlord's failure to cure an interference problem as required by Section 8 within twenty-four (24) hours after written notice of such failure; or (iii) Landlord's failure to perform any term, condition or breach of any warranty or covenant under this Agreement within forty-five (45) days after written notice from Tenant specifying the failure. No such failure, however, will be deemed to exist if Landlord has commenced to cure the default within such period and provided such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Landlord. If Landlord remains in default beyond any applicable cure period, Tenant will have: (i) the right to cure Landlord's default and to deduct the costs of such cure from any monies due to Landlord from Tenant, and (ii) any and all other rights available to it under law and equity.
16. ASSIGNMENT/SUBLEASE. Tenant will have the right to assign this Agreement or sublease the Premises and its rights herein, in whole or in part, without Landlord's consent. Upon notification to Landlord of such assignment, Tenant will be relieved of all future performance, liabilities and obligations under this Agreement to the extent of such assignment.
17. NOTICES. All notices, requests and demands hereunder will be given by first class certified or registered mail, retum receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties as follows:
\begin{tabular}{|c|c|}
\hline \multirow[t]{6}{*}{If to Tenant:} & Uniti Towers LLC \\
\hline & Attn: Real Estate \\
\hline & 10801 Executive Center Drive \\
\hline & Shannon Building, Suite 100 \\
\hline & Little Rock AR 72211 \\
\hline & 501.458.4724 \\
\hline \multirow[t]{4}{*}{CC:} & Uniti Towers LLC \\
\hline & ATTN: Keith Harvey, Deputy General Counsel 10802 Executive Center Drive \\
\hline & Benton Building, Suite 300 \\
\hline & Little Rock AR 72211 \\
\hline
\end{tabular}

Either party hereto may change the place for the giving of notice to it by thirty (30) days' prior written notice to the other party as provided herein.
18. CONDEMNATION. In the event Landlord receives notification of any condemnation proceedings affecting the Property, Landlord will provide notice of the proceeding to Tenant within twenty-four (24) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Tenant's sole determination, to render the Premises unsuitable for Tenant, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Tenant will include, where applicable, the value of its Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses. Tenant will be entitled to reimbursement for any prepaid Rent on a pro rata basis.
19. CASUALTY. Landlord will provide notice to Tenant of any casualty or other harm affecting the Property within twenty-four (24) hours of the casualty or other harm. If any part of the Communication Facility or Property is damaged by casualty or other harm as to render the Premises unsuitable, in Tenant's sole determination, then Tenant may terminate this Agreement by providing written notice to Landlord, which termination will be effective as of the date of such casualty or other harm. Upon such termination, Tenant will be entitled to collect all insurance proceeds payable to Tenant on account thereof and to be reimbursed for any prepaid Rent on a pro rata basis. Landlord agrees to permit Tenant to place temporary transmission and reception facilities on the Property, but only until such time as Tenant is able to activate a replacement transmission facility at another location; notwithstanding the termination of this Agreement, such temporary facilities will be governed by all of the terms and conditions of this Agreement, including Rent. If Landlord or Tenant undertakes to rebuild or restore the Premises and/or the Communication Facility, as applicable, Landlord agrees to permit Tenant to place temporary transmission and reception facilities on the Property at no additional Rent until the reconstruction of the Premises and/or the Communication Facility is completed. If Landlord determines not to rebuild or restore the Property, Landlord will notify Tenant of such determination within thirty (30) days after the casualty or other harm. If Landlord does not so notify Tenant and Tenant decides not to terminate under this Section, then Landlord will promptly rebuild or restore any portion of the Property interfering with or required for Tenant's Permitted Use of the Premises to substantially the same condition as existed before the casualty or other harm. Landlord agrees that the Rent shall be abated until the Property and/or the Premises are rebuilt or restored, unless Tenant places temporary transmission and reception facilities on the Property.
20. WAIVER OF LANDLORD'S LIENS. Landlord waives any and all lien rights it may have, statutory or otherwise, concerning the Communication Facility or any portion thereof. The Communication Facility shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law; Landlord consents to Tenant's right to remove all or any portion of the Communication Facility from time to time in Tenant's sole discretion and without Landlord's consent.21.
(a) Landlord shall be responsible for (i) all taxes and assessments levied upon the lands, improvements and other property of Landlord including any such taxes that may be calculated by a taxing authority using any method, including the income method (ii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with this Agreement and (iii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with a sale of the Property or assignment of Rent payments by Landlord. Tenant shall be
responsible for ( y ) any taxes and assessments attributable to and levied upon Tenant's leasehold improvements on the Premises if and as set forth in this Section 21 and ( \(z\) ) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with an assignment of this Agreement or sublease by Tenant. Nothing herein shall require Tenant to pay any inheritance, franchise, income, payroll, excise, privilege, rent, capital stock, stamp, documentary, estate or profit tax, or any tax of similar nature, that is or may be imposed upon Landlord.
(b) In the event Landlord receives a notice of assessment with respect to which taxes or assessments are imposed on Tenant's leasehold improvements on the Premises, Landlord shall provide Tenant with copies of each such notice immediately upon receipt, but in no event later than thirty (30) days after the date of such notice of assessment. If Landlord does not provide such notice or notices to Tenant in a timely manner and Tenant's rights with respect to such taxes are prejudiced by the delay, Landlord shall reimburse Tenant for any increased costs directly resulting from the delay and Landlord shall be responsible for payment of the tax or assessment set forth in the notice, and Landlord shall not have the right to reimbursement of such amount from Tenant. If Landlord provides a notice of assessment to Tenant within such time period and requests reimbursement from Tenant as set forth below, then Tenant shall reimburse Landlord for the tax or assessments identified on the notice of assessment on Tenant's leasehold improvements, which has been paid by Landlord. If Landlord seeks reimbursement from Tenant, Landlord shall, no later than thirty (30) days after Landlord's payment of the taxes or assessments for the assessed tax year, provide Tenant with written notice including evidence that Landlord has timely paid same, and Landlord shall provide to Tenant any other documentation reasonably requested by Tenant to allow Tenant to evaluate the payment and to reimburse Landlord.
(c) For any tax amount for which Tenant is responsible under this Agreement, Tenant shall have the right to contest, in good faith, the validity or the amount thereof using such administrative, appellate or other proceedings as may be appropriate in the jurisdiction, and may defer payment of such obligations, pay same under protest, or take such other steps as permitted by law. This right shall include the ability to institute any legal, regulatory or informal action in the name of Landlord, Tenant, or both, with respect to the valuation of the Premises. Landlord shall cooperate with respect to the commencement and prosecution of any such proceedings and will execute any documents required therefor. The expense of any such proceedings shall be borne by Tenant and any refunds or rebates secured as a result of Tenant's action shall belong to Tenant, to the extent the amounts were originally paid by Tenant. In the event Tenant notifies Landlord by the due date for assessment of Tenant's intent to contest the assessment, Landlord shall not pay the assessment pending conclusion of the contest, unless required by applicable law.
(d) Landlord shall not split or cause the tax parcel on which the Premises are located to be split, bifurcated, separated or divided without the prior written consent of Tenant.
(e) Tenant shall have the right but not the obligation to pay any taxes due by Landlord hereunder if Landlord fails to timely do so, in addition to any other rights or remedies of Tenant. In the event that Tenant exercises its rights under this Section 21(e) due to such Landlord default, Tenant shall have the right to deduct such tax amounts paid from any monies due to Landlord from Tenant as provided in Section 15(b), provided that Tenant may exercise such right without having provided to Landlord notice and the opportunity to cure per Section 15(b).
(f) Any tax-related notices shall be sent to Tenant in the manner set forth in Section 17. Promptly after the Effective Date of this Agreement, Landlord shall provide the Notice address set forth in Section 17 to the taxing authority for the authority's use in the event the authority needs to communicate with Tenant. In the event that Tenant's tax address changes by notice to Landlord, Landlord shall be required to provide Tenant's new tax address to the taxing authority or authorities.
(g) Notwithstanding anything to the contrary contained in this Section 21, Tenant shall have no obligation to reimburse any tax or assessment for which the Landlord is reimbursed or rebated by a third party.

\section*{22. SALE OF PROPERTY.}
(a) Landlord may sell the Property or a portion thereof to a third party, provided: (i) the sale is made subject to the terms of this Agreement; and (ii) if the sale does not include the assignment of Landlord's full interest in this Agreement, the purchaser must agree to perform, without requiring compensation from

Tenant or any subtenant, any obligation of Landlord under this Agreement, including Landlord's obligation to cooperate with Tenant as provided hereunder.
(b) If Landlord, at any time during the Term of this Agreement, decides to rezone or sell, subdivide or otherwise transfer all or any part of the Premises, or all or any part of the Property or Surrounding Property, to a purchaser other than Tenant, Landlord shall promptly notify Tenant in writing, and such rezoning, sale, subdivision or transfer shall be subject to this Agreement and Tenant's rights hereunder. In the event of a change in ownership, transfer or sale of the Property, within ten (10) days of such transfer, Landlord or its successor shall send the documents listed below in this Section 22(b) to Tenant. Until Tenant receives all such documents, Tenant's failure to make payments under this Agreement shall not be an event of default and Tenant reserves the right to hold payments due under this Agreement.
i. Old deed to Property
ii. New deed to Property
iii. Bill of Sale or Transfer
iv. Copy of current Tax Bill
v. New IRS Form W-9
vi. Completed and Signed Tenant Payment Direction Form
vii. Full contact information for new Landlord including phone number(s)
(c) Landlord agrees not to sell, lease or use any areas of the Property or Surrounding Property for the installation, operation or maintenance of other wireless communication facilities if such installation, operation or maintenance would interfere with Tenant's Permitted Use or communications equipment as determined by radio propagation tests performed by Tenant in its sole discretion. Landlord or Landlord's prospective purchaser shall reimburse Tenant for any costs and expenses of such testing. If the radio frequency propagation tests demonstrate levels of interference unacceptable to Tenant, Landlord shall be prohibited from selling, leasing or using any areas of the Property or the Surrounding Property for purposes of any installation, operation or maintenance of any other wireless communication facility or equipment.
(d) The provisions of this Section shall in no way limit or impair the obligations of Landlord under this Agreement, including interference and access obligations.
23. RIGHT OF FIRST REFUSAL. Notwithstanding the provisions contained in Section 22, if at any time after the Effective Date, Landlord receives a bona fide written offer from a third party seeking any sale, conveyance, assignment or transfer, whether in whole or in part, of any property interest in or related to the Premises, including without limitation any offer seeking an assignment or transfer of the Rent payments associated with this Agreement or an offer to purchase an easement with respect to the Premises ("Offer"), Landlord shall immediately furnish Tenant with a copy of the Offer. Tenant shall have the right within ninety ( 90 ) days after it receives such copy to match the financial terms of the Offer and agree in writing to match such terms of the Offer. Such writing shall be in the form of a contract substantially similar to the Offer, but Tenant may assign its rights to a third party. If Tenant chooses not to exercise this right or fails to provide written notice to Landlord within the ninety (90) day period, Landlord may sell, convey, assign or transfer such property interest in or related to the Premises pursuant to the Offer, subject to the terms of this Agreement. If Landlord attempts to sell, convey, assign or transfer such property interest in or related to the Premises without complying with this Section 23, the sale, conveyance, assignment or transfer shall be void. Tenant shall not be responsible for any failure to make payments under this Agreement and reserves the right to hold payments due under this Agreement until Landlord complies with this Section 23. Tenant's failure to exercise the right of first refusal shall not be deemed a waiver of the rights contained in this Section 23 with respect to any future proposed conveyances as described herein.

\section*{24. MISCELLANEOUS.}
(a) Amendment/Waiver. This Agreement cannot be amended, modified or revised unless done in writing and signed by Landlord and Tenant. No provision may be waived except in a writing signed by both parties. The failure by a party to enforce any provision of this Agreement or to require performance by the other
party will not be construed to be a waiver, or in any way affect the right of either party to enforce such provision thereafter.
(b) Memorandum. Contemporaneously with the execution of this Agreement, the parties will execute a recordable Memorandum of Lease substantially in the form attached as Exhibit 24b. Either party may record this Memorandum of Lease at any time during the Term, in its absolute discretion. Thereafter during the Term, either party will, at any time upon fifteen (15) business days' prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum of Lease.
(c) Limitation of Liability. Except for the indemnity obligations set forth in this Agreement, and otherwise notwithstanding anything to the contrary in this Agreement, Tenant and Landlord each waives any claims that each may have against the other with respect to consequential, incidental or special damages, however caused, based on any theory of liability.
(d) Compliance with Law. Tenant agrees to comply with all federal, state and local laws, orders, rules and regulations ("Laws") applicable to Tenant's use of the Communication Facility on the Property. Landlord agrees to comply with all Laws relating to Landlord's ownership and use of the Property and any improvements on the Property.
(e) Bind and Benefit. The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.
(f) Entire Agreement. This Agreement and the exhibits attached hereto, all being a part hereof, constitute the entire agreement of the parties hereto and will supersede all prior offers, negotiations and agreements with respect to the subject matter of this Agreement. Exhibits are numbered to correspond to the Section wherein they are first referenced. Except as otherwise stated in this Agreement, each party shall bear its own fees and expenses (including the fees and expenses of its agents, brokers, representatives, attorneys, and accountants) incurred in connection with the negotiation, drafting, execution and performance of this Agreement and the transactions it contemplates.
(g) Governing Law. This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.
(h) Interpretation. Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in the Agreement or as same may be duplicative, such consent will not be unreasonably withheld, conditioned or delayed; (iv) exhibits are an integral part of this Agreement and are incorporated by reference into this Agreement; (v) use of the terms "termination" or "expiration" are interchangeable; (vi) reference to a default will take into consideration any applicable notice, grace and cure periods; (vii) to the extent there is any issue with respect to any alleged, perceived or actual ambiguity in this Agreement, the ambiguity shall not be resolved on the basis of who drafted the Agreement; (viii) the singular use of words includes the plural where appropriate and (ix) if any provision of this Agreement is held invalid, illegal or unenforceable, the remaining provisions of this Agreement shall remain in full force if the overall purpose of the Agreement is not rendered impossible and the original purpose, intent or consideration is not materially impaired.
(i) Affiliates. All references to "Tenant" shall be deemed to include any Affiliate of Uniti Towers LlC using the Premises for any Permitted Use or otherwise exercising the rights of Tenant pursuant to this Agreement. "Affiliate" means with respect to a party to this Agreement, any person or entity that (directly or indirectly) controls, is controlled by, or under common control with, that party. "Control" of a person or entity means the power (directly or indirectly) to direct the management or policies of that person or entity, whether through the ownership of voting securities, by contract, by agency or otherwise.
(j) Survival. Any provisions of this Agreement relating to indemnification shall survive the termination or expiration hereof. In addition, any terms and conditions contained in this Agreement that by their sense and context are intended to survive the termination or expiration of this Agreement shall so survive.
(k) W-9. As a condition precedent to payment, Landlord agrees to provide Tenant with a completed IRS Form W-9, or its equivalent, upon execution of this Agreement and at such other times as may be reasonably requested by Tenant, including any change in Landlord's name or address.
(l) Execution/No Option. The submission of this Agreement to any party for examination or consideration does not constitute an offer, reservation of or option for the Premises based on the terms set forth herein. This Agreement will become effective as a binding Agreement only upon the handwritten legal execution, acknowledgment and delivery hereof by Landlord and Tenant. This Agreement may be executed in two (2) or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties. All parties need not sign the same counterpart.
(m) Attorneys' Fees. In the event that any dispute between the parties related to this Agreement should result in litigation, the prevailing party in such litigation shall be entitled to recover from the other party all reasonable fees and expenses of enforcing any right of the prevailing party, including reasonable attorneys' fees and expenses. Prevailing party means the party determined by the court to have most nearly prevailed even if such party did not prevail in all matters. This provision will not be construed to entitle any party other than Landlord, Tenant and their respective Affiliates to recover their fees and expenses.
(n) WAIVER OF JURY TRIAL. EACH PARTY, TO THE EXTENT PERMITTED BY LAW, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ITS RIGHT TO A TRIAL BY JURY IN ANY ACTION OR PROCEEDING UNDER ANY THEORY OF LIABILITY ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR THE TRANSACTIONS IT CONTEMPLATES.
(o) Incidental Fees. Unless specified in this Agreement, no unilateral fees or additional costs or expenses are to be applied by either party to the other party, including review of plans, structural analyses, consents, provision of documents or other communications between the parties.
(p) Further Acts. Upon request, Landiord will cause to be promptly and duly taken, executed, acknowledged and delivered all such further acts, documents, and assurances as Tenant may request from time to time in order to effectuate, carry out and perform all of the terms, provisions and conditions of this Agreement and all transactions and permitted use contemplated by this Agreement.
(q) Force Majeure. No party shall be liable or responsible to the other party, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such failure or delay is caused by or results from acts beyond the affected party's reasonable control, including, without limitation: (a) acts of God; (b) flood, fire, earthquake, or explosion; (c) war, invasion, hostilities (whether war is declared or not), terrorist threats or acts, riot, or other civil unrest; (d) government order or law; (e) embargoes, or blockades in effect on or after the date of this Agreement; (f) action by any governmental authority; (g) national or regional emergency; and (h) strikes, labor stoppages or slowdowns, or other industrial disturbances. The party suffering a force majeure event shall give writen notice to the other party, stating the period of time the occurrence is expected to continue and shall use diligent efforts to end the failure or delay and ensure the effects of such force majeure event are minimized.

\section*{[SIGNATURES APPEAR ON NEXT PAGE]}

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the last date written below.

\section*{"LANDLORD"}

"TENANT"

Uniti Towers LLC

[ACKNOWLEDGMENTS APPEAR ON NEXT PAGE]

TENANT ACKNOWLEDGMENT

STATE OF ARKANSAS
COUNTY OF PULASKI
 such was authorized to execute this instrument on behalf of the Tenant.


\section*{LANDLORD ACKNOWLEDGMENT}

STATE OF


BE IT REMEMBERED, that on this \(1^{9 n}\) day of \(\left.A \rho\right)\left.^{i}\right|_{\text {, }}, 2020\) before me, the subscriber, a person authorized to take oaths in the State of Lehlecly_, personally appeared Danny Harmon who, being duly sworn on his oath, deposed and made proof to my satisfaction that he is the person named in the within instrument; and I , having first made known to him the contents thereof, he did acknowledge that he signed, sealed and delivered the same as his voluntary act and deed for the purposes therein contained.

\section*{LANDLORD ACKNOWLEDGMENT}


BE IT REMEMBERED, that on this \(\mu^{\mu}\) day of \(A v i /\), 2020 before me, the subscriber, a person authorized to take oaths in the State of funhecky_, personally appeared Vonda Harmon who, being duly swom on her oath, deposed and made proof to my satisfaction that she is the person named in the within instrument; and I, having first made known to her the contents thereof, she did acknowledge that she signed, sealed and delivered the same as her voluntary act and deed for the purposes therein contained.


\section*{EXHIBIT 1}

\section*{DESCRIPTION OF PREMISES}

\section*{Page 1 of 5}
to the Option and Lease Agreement dated Hay 4 , 2020, by and between Danny Harmon and Vonda Harmon, a husband and wife, as Landlord, and Uhiti Towers LLC, a Delaware limited liability company, as Tenant.

\section*{The Property is legally described as follows:}

A certain tract or parcel of land located in Bath County, Kentucky on Ramey Road approximately \(3 / 4+/-\) miles north of Sharpsburg and described as follows

Commencing at a steel pin set in the right of way of Ramey Road, said pin being approximately \(795.0^{\prime}\) from the north property line of the parent tract (D.B. 119, Page 44); thence with a new division South 83 degrees 50 minutes 57 seconds West, a distance of 99.58 feet to a steel pin set; South 2 degrees 03 minutes 19 seconds West, a distance of 125.75 feet to a steel pin set, South 82 degrees 17 minutes 08 seconds East, a distance of 124.34 feet to a steel pin set, in the right of way of Ramey Road; thence with said right of way North 7 degrees 19 minutes 55 seconds West, a distance of 154.29 feet to the point of beginning; said described tract containing 0.35 acre, more or less.

The above described property was surveyed by Roberts Surveying, Inc. on January 16, 2006. This is a Class A survey and all pins set are \(1^{1 / 2} \times 18^{\prime \prime}\) rebar with ID cap stamped D. Roberts PLS \# 3040

AND BEING the same property conveyed to Danny Harmon and Vonda Harmon from Danny Harmon and Vonda Harmon by Deed of Conveyance dated March 29, 2006 and recorded March 29, 2006 in Deed Book 212, Page 526.

Tax Parcel No. 004-00-00-006.00
The Premises are described and/or depicted as follows:
LEASE AREA
All that tract or parcel of land lying and being in Bath County, Kentucky north of the Town of Sharpsburg, and being a part of the lands of Danny Harmon \& Vonda Harmon as recorded in Deed Book 212, Page 526, Bath County records, and being more particularly described as follows:

To find the point of beginning, COMMENCE at a capped iron pin (inscribed "D ROBERTS PLS 3040") found on the west right-of-way line of Ramey Road, said pin having a Kentucky Grid North, NAD83, Single Zone Value of N: 3969955.5343 E: 5444446.9674 ; thence leaving said right-of-way line running along a tie line, South \(04^{\circ} 51^{\prime} 40^{\prime \prime}\) West, 291.30 feet to point on the west right-of-way line of Ramey Road having a Kentucky Grid North, NAD83, Single Zone Value of N: 3969665.4183 E: 5444471.6209 ; thence leaving said right-of-way line, North \(80^{\circ} 00^{\prime} 54^{\prime \prime}\) West, 94.05 feet to a point; thence, North \(85^{\circ} 07^{\prime} 01^{\prime \prime}\) West, 127.62 feet to a point; thence, North \(68^{\circ} 52^{\prime} 56^{\prime \prime}\) West, 226.63 feet to a point; thence, South \(85^{\circ} 35^{\prime} 56^{\prime \prime}\) West, 51.58 feet to a point; thence, North \(80^{\circ} 40^{\prime} 07^{\prime \prime}\) West, 41.28 feet to a point; thence, North \(61^{\circ} 50^{\prime} 47^{\prime \prime}\) West, 42.33 feet to a point; thence, North \(81^{\circ} 47^{\prime} 18^{\prime \prime}\) West, 45.73 feet to a point; thence, South \(89^{\circ} 20^{\prime} 03^{\prime \prime}\) West, 123.48 feet to a point; thence, South \(85^{\circ} 48^{\prime} 54^{\prime \prime}\) West, 51.25 feet to a point; thence, North \(89^{\circ} 21^{\prime} 51^{\prime \prime}\) West, 252.80 feet to a point; thence, South \(85^{\circ} 04^{\prime} 36^{\prime \prime}\) West, 141.51 feet to a point; thence, South \(83^{\circ} 10^{\prime} 07^{\prime \prime}\) West, 333.41 feet to a point; thence, South \(02^{\circ} 50^{\prime} 18^{\prime \prime}\) West, 125.05 feet to a point on the Lease Area line; thence along said Lease area line, South \(89^{\circ} 28^{\prime} 38^{\prime \prime}\) East, 50.00 feet a point and the true POINT OF BEGINNING; Thence, South \(00^{\circ} 31^{\prime} 22^{\prime \prime}\) West, 100.00 feet to a point; Thence, North \(89^{\circ} 28^{\prime} 38^{\prime \prime}\) West, 100.00 feet to a point; Thence, North \(00^{\circ} 31^{\prime} 22^{\prime \prime}\) East, 100.00 feet to a point; Thence, South \(89^{\circ} 28^{\prime} 38^{\prime \prime}\) East, 100.00 feet to a point and the POINT OF BEGINNING.
Bearings are based on Kentucky Grid North, NAD83, Single Zone.
Said tract contains 0.2296 acres ( 10,000 square feet), more or less, as shown in a survey prepared for Uniti Towers, LLC \& Fidelity National Title Insurance Company by POINT TO POINT LAND SURVEYORS, INC. dated January 13, 2020.

30' INGRESS-EGRESS \& UTLLITY EASEMENT
Together with a 30 -foot wide Ingress-Egress and Utility Easement ( 15 feet each side of centerline) lying and being in Bath County, Kentucky north of the Town of Sharpsburg, and being a part of the lands of Danny Harmon \& Vonda Harmon as recorded in Deed Book 212, Page 526, Bath County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE at a capped iron pin (inscribed "D ROBERTS PLS 3040") found on the west right-of-way line of Ramey Road, said pin having a Kentucky Grid North, NAD83, Single Zone Value of N: 3969955.5343 E: 5444446.9674; thence leaving said right-of-way line running along a tie line, South \(04^{\circ} 51^{\prime \prime} 40^{\prime \prime}\) West, 291.30 feet to point on the west right-of-way line of Ramey Road and true POINT OF BEGINNING having a Kentucky Grid North, NAD83, Single Zone Value of \(\mathrm{N}: 3969665.4183 \mathrm{E}\) : 5444471.6209 ; Thence leaving said right-of-way line, North \(80^{\circ} 00^{\prime} 54^{\prime \prime}\) West, 94.05 feet to a point; Thence, North \(85^{\circ} 07{ }^{\prime} 01^{\prime \prime}\) West, 127.62 feet to a point; Thence, North \(68^{\circ} 52^{\prime} 56^{\prime \prime}\) West, 226.63 feet to a point; Thence, South \(85^{\circ} 35^{\prime} 56^{\prime \prime}\) West, 51.58 feet to a point; Thence, North \(80^{\circ} 40^{\prime} 07^{\prime \prime}\) West, 41.28 feet to a point; Thence, North \(61^{\circ} 50^{\prime} 47^{\prime \prime}\) West, 42.33 feet to a point; Thence, North \(81^{\circ} 47\) ' \(18^{\prime \prime}\) West, 45.73 feet to a point; Thence, South \(89^{\circ} 20^{\prime} 03^{\prime \prime}\) West, 123.48 feet to a point; Thence, South \(85^{\circ} 48^{\prime} 54^{\prime \prime}\) West, 51.25 feet to a point; Thence, North \(89^{\circ} 21^{\prime} 51^{\prime \prime}\) West, 252.80 feet to a point; Thence, South \(85^{\circ} 04^{\prime} 36^{\prime \prime}\) West, 141.51 feet to a point; Thence, South \(83^{\circ} 10^{\prime} 07^{\prime \prime}\) West, 333.41 feet to a point; Thence, South \(02^{\circ} 50^{\prime} 18^{\prime \prime}\) West, 125.05 feet to a point on the Lease Area line.

Bearings are based on Kentucky Grid North, NAD83, Single Zone.
As shown in a survey prepared for Uniti Towers, LLC \& Fidelity National Title Insurance Company by POINT TO POINT LAND SURVEYORS, INC. dated January 13, 2020.

\section*{Notes:}
1. THIS EXHIBIT MAY BE REPLACED BY A LAND SURVEY AND/OR CONSTRUCTION DRAWINGS OF THE PREMISES ONCE RECEIVED BY TENANT.
2. ANY SETBACK OF THE PREMISES FROM THE PROPERTY'S BOUNDARIES SHALL BE THE DISTANCE REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES.
3. WIDTH OF ACCESS ROAD SHALL BE THE WIDTH REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES, INCLUDING POLICE AND FIRE DEPARTMENTS.
4. THE TYPE, NUMBER AND MOUNTING POSITIONS AND LOCATIONS OF ANTENNAS AND TRANSMISSION LINES ARE ILLUSTRATIVE ONLY. ACTUAL TYPES, NUMBERS AND MOUNTING POSITIONS MAY VARY FROM WHAT IS SHOWN ABOVE.



\section*{LEGAL DESCRIPTION SHEET}

\section*{LEASE AREA}












\section*{}


\section*{30' INGRESS-EGRESS \& UTILITY EASEMENT}












\section*{PARENT PARCEL}
(PER ORDER NO.: 30548176)

 томf:
















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AND SURVEYOR
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\section*{Uniti}

SHARPSBURG KY
SITE NO. KMEX2050

 morex a vein ure munar 12,2020

\title{
Danny and Vonda Harmon \\ 695 Ramey Road \\ Sharpsburg, KY 40374 \\ Telephone: 606-748-1471
}

April 13, 2020
Building Staff / Security Staff
Landlord, Lessee, Licensee
Re: Authorized Access granted to UNITI Towers LLC
Dear Building and Security Staff,
Please be advised that we have signed a lease with UNITI Towers LLC permitting UNITI Towers LLC to install, operate and maintain telecommunications equipment at the property. The terms of the lease grant UNITI Towers LLC and its representatives, employees, agents and subcontractors ("representatives") 24 hour per day, 7 day per week access to the leased area.

To avoid impact on telephone service during the day, UNITI Towers LLC representatives may be seeking access to the property outside of normal business hours. UNITI Towers LLC representatives have been instructed to keep noise levels at a minimum during their visit.

Please_grant the bearer of a copy of this letter access to the property and to leased area. Thank


\section*{EXHIBIT J}

NOTIFICATION LISTING
HARMON DANNY \& VONDA
695 RAMEY RD
SHARPSBURG, KY 40374
RAMEY FRANCES C
224 WEST MAIN ST
MT STERLING, KY 40353
SWARTZ MOWING INC
P O BOX 124
OLYMPIA, KY 40358
WHITE HOMER \& KATHRYN
PO BOX 254
SHARPSBURG, KY 40374
LANE JAMES R
2144 RATLIFF RD
SHARPSBURG, KY 40374
SHARED TOWERS ACQUISITION 2010 DBA SHARED TOWERS ACQU
8051 CONGRESS AVE
BOCA RATON, FL 334871307
STAFFORD ERIC A
646 RATLIFF RD
SHARPSBURG, KY 40374
MYERS BEVERLY
694 RATLIFF RD
SHARPSBURG, KY 40374
GILVIN SETH \& BETTY
BOX 129
SHARPSBURG, KY 40374
JONES EDGAR
BOX 174
SHARPSBURG, KY 40374
GROSS HARVEY \& LEAH
1176 RATLIFF RD
SHARPSBURG, KY 40374
STEWART JAMES \& DONNA S
1396 RATLIFF RD
SHARPSBURG, KY 40374

ANDERSON TERRY R \& MINOR KAY 1475 RAMEY RD
SHARPSBURG, KY 40374
HARMON JEREMY
937 RAMEY RD
SHARPSBURG, KY 40374

EXHIBIT K
COPY OF PROPERTY OWNER NOTIFICATION

\title{
Notice of Proposed Construction of Wireless Communications Facility Site Name: Sharpsburg
}

Dear Landowner:
New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Uniti Towers LLC, a Delaware limited liability company have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 635 Ramey Road, Sharpsburg, KY 40374 (E-911) / 695 Ramey Road, Sharpsburg, KY 40374 (PARCEL) ( \(38^{\circ} 12^{\prime} 39.34^{\prime \prime}\) North latitude, \(83^{\circ} 56^{\prime} 02.64^{\prime \prime}\) West longitude). The proposed facility will include a 255 -foot tall tower, with an approximately 12 -foot tall lightning arrestor attached at the top, for a total height of 267 -feet, plus related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

This notice is being sent to you because the County Property Valuation Administrator's records indicate that you may own property that is within a 500' radius of the proposed tower site or contiguous to the property on which the tower is to be constructed. You have a right to submit testimony to the Kentucky Public Service Commission ("PSC"), either in writing or to request intervention in the PSC's proceedings on the application. You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2021-00092 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. AT\&T Mobility'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 toll free at (800) 516-4293 if you have any comments or questions about this proposal.

Sincerely,
David A. Pike
Attorney for Applicants
enclosures

\section*{Driving Directions to Proposed Tower Site}
1. Beginning at the Bath County Judge Executive's Office, located at 19 E . Main Street Owingsville, KY 40360, head east (toward N. Court Street / Johnstan Street) on E. Main Street and travel approximately 0.1 miles.
2. Turn left onto Suddith Street and travel approximately 0.2 miles.
3. Follow Suddith Street as it turns right and becomes E. High Street and travel approximately 0.1 miles.
4. Turn left onto \(\mathrm{KY}-36 \mathrm{~W}\) and travel approximately 10.9 miles.
5. Turn left onto KY-11 and travel approximately 0.5 miles.
6. Turn right onto Ramey Road and travel approximately 0.6 miles.
7. The site is located on the left at 695 Ramey Road, Sharpsburg, KY 40374. The site address is: 635 Ramey Road, Sharpsburg, KY 40374.
8. The site coordinates are:
a. North 38 deg 12 min 39.34 sec
b. West 83 deg 56 min 02.64 sec


Prepared by:
Chris Shouse
Pike Legal Group
1578 Highway 44 East, Suite 6
P.O. Box 396

Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293


\section*{EXHIBIT L}

COPY OF COUNTY JUDGE/EXECUTIVE NOTICE

\author{
Bobby C. Rogers \\ County Judge Executive \\ P.O. Box 39 \\ 19 E. Main Street \\ Owingsville, KY 40360
}

\section*{RE: Notice of Proposal to Construct Wireless Communications Facility Kentucky Public Service Commission Docket No. 2021-00092 Site Name: Sharpsburg}

Dear Judge/Executive:
New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Uniti Towers LLC, a Delaware limited liability company have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 635 Ramey Road, Sharpsburg, KY 40374 (E-911) / 695 Ramey Road, Sharpsburg, KY 40374 (PARCEL) ( \(38^{\circ} 12^{\prime} 39.34^{\prime \prime}\) North latitude, \(83^{\circ} 56^{\prime} 02.64^{\prime \prime}\) West longitude). The proposed facility will include a 255 -foot tall tower, with an approximately 12 -foot tall lightning arrestor attached at the top, for a total height of 267 -feet, plus related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2021-00092 in any correspondence sent in connection with this matter.

We have attached a map showing the site location for the proposed tower. AT\&T Mobility'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 with any comments or questions you may have.

Sincerely,
David A. Pike
Attorney for Applicants
enclosures

\section*{Driving Directions to Proposed Tower Site}
1. Beginning at the Bath County Judge Executive's Office, located at 19 E. Main Street Owingsville, KY 40360, head east (toward N. Court Street / Johnstan Street) on E. Main Street and travel approximately 0.1 miles.
2. Turn left onto Suddith Street and travel approximately 0.2 miles.
3. Follow Suddith Street as it turns right and becomes E. High Street and travel approximately 0.1 miles.
4. Turn left onto \(\mathrm{KY}-36 \mathrm{~W}\) and travel approximately 10.9 miles.
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6. Turn right onto Ramey Road and travel approximately 0.6 miles.
7. The site is located on the left at 695 Ramey Road, Sharpsburg, KY 40374. The site address is: 635 Ramey Road, Sharpsburg, KY 40374.
8. The site coordinates are:
a. North 38 deg 12 min 39.34 sec
b. West 83 deg 56 min 02.64 sec


Prepared by:
Chris Shouse
Pike Legal Group
1578 Highway 44 East, Suite 6
P.O. Box 396

Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293


\section*{EXHIBIT M}

COPY OF POSTED NOTICES AND NEWSPAPER NOTICE ADVERTISEMENT

\section*{SITE NAME: SHARPSBURG 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.

> New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Uniti Towers LLC, a Delaware limited liability company propose to construct a telecommunications tower on this site. If you have questions, please contact Pike Legal Group, PLLC, P.O. Box 369 , Shepherdsville, KY 40165; telephone: (800) \(516-4293\), or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615 , Frankfort, Kentucky 40602 . Please refer to docket number 2021-00092 in your correspondence.

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Uniti Towers LLC, a Delaware limited liability company propose to construct a telecommunications tower near this site. If you have questions, please contact Pike Legal Group, PLLC, P.O. Box 369, Shepherdsville, KY 40165; telephone: (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2021-00092 in your correspondence.

VIA TELEPHONE: (606) 674-9994
VIA EMAIL: cecil@kynewsgroup.com
Bath County News Outlook
81A Water Street
Owingsville, KY 40360
RE: Legal Notice Advertisement
Site Name: Sharpsburg
Dear Bath County News Outlook:
Please publish the following legal notice advertisement in the next edition of The Bath County News Outlook:

\section*{NOTICE}

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT\&T Mobility and Uniti Towers LLC, a Delaware limited liability company have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located on 635 Ramey Road, Sharpsburg, KY 40374 (E911) / 695 Ramey Road, Sharpsburg, KY 40374 (PARCEL) ( \(38^{\circ} 12\) ' \(39.34^{\prime \prime}\) North latitude, \(83^{\circ} 56^{\prime} 02.64\) " West longitude). 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 2021-00092 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 Pike Legal Group, PLLC, P. O. Box 369, Shepherdsville, KY 40165. Please call me at (800) 516-4293 if you have any questions. Thank you for your assistance.

Sincerely,
Chris Shouse
Pike Legal Group, PLLC

EXHIBIT N
COPY OF RADIO FREQUENCY DESIGN SEARCH AREA
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