COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF	)	
NEW CINGULAR WIRELESS PCS, LLC,	)	
A DELAWARE LIMITED LIABILITY COMPANY,	)	
D/B/A AT&T MOBILITY	)	
AND HARMONI TOWERS LLC, A DELAWARE	)	
LIMITED LIABILITY COMPANY	)	
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC	)	CASE NO.: 2022-00306
CONVENIENCE AND NECESSITY TO CONSTRUCT	)	
A WIRELESS COMMUNICATIONS FACILITY	)	
IN THE COMMONWEALTH OF KENTUCKY	)	
IN THE COUNTY OF MARSHALL	)	

SITE NAME: CALVERT CITY

* * * * * * *

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 Harmoni Towers LLC, a Delaware limited liability company ("Applicants"), by counsel, pursuant to (i) KRS §§ 278.020, 278.040, 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submit this Application requesting issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to construct, maintain, and operate a Wireless Communications Facility ("WCF") to serve the customers of the 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. 4th Street, Suite 2400, Louisville, Kentucky 40202 and Harmoni Towers LLC, a Delaware limited liability company having an address of 11101 Anderson Drive, Suite 200, Little Rock, Arkansas 72212.

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. Harmoni 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). Note that Harmoni Towers LLC was formerly organized as Uniti Towers LLC (see an Amended Certificate of Authority to change entity name dated March 22, 2021 attached as part of **Exhibit A**). The Certificates of Authority for Uniti Towers LLC along with the Amended Certificate of Authority for Harmoni Towers LLC are attached as part of **Exhibit A.**

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 Kentucky Hwy 95, Calvert City, KY 42029 (36° 59' 03.19" North latitude, 88° 21' 28.88" 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 Patricia S. Taylor and Lawrence J. Taylor, husband and wife, the Estate of Cecelia Solomon by Patricia Mae Taylor, Ancillary Executrix, John A. Harrington, Sr., a married man and Paula Harrington, his spouse and non-vested owner and Pamela F. Schott, a married woman and Michael Schott, her spouse and non-vested owner pursuant to a deed recorded at Deed Book 298, Page 217 in the office of the County Clerk. The

proposed WCF will consist of a 220-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 230-feet, plus related ground facilities. 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 **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 co-location site was found to be located in the vicinity of the site.[1]

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 Kentucky Airport Zoning Commission ("KAZC") approval for the proposed construction 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. Harmoni 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

[1] AT&T is currently co-located on an existing tower (FCC Antenna Structure Registration Number: 1222232) owned by SBA Properties, LLC (hereafter the "SBA Tower"). The SBA Tower is located in the vicinity where AT&T must place its communications facility in order to meet the coverage objectives for this project. However, SBA Properties, LLC utilizes a non-competitive and burdensome cost structure that is not economically sustainable because of high rental rates, annual rent increases, rental upcharges and other leasing adjustments each time AT&T needs to upgrade its equipment to keep pace with technological changes necessary to provide state of the art communication services to the area, so the SBA tower is no longer reasonably available for co-location.

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 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 Marshall Corbin 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. Copies of the certified green card receipts for each of the landowners who were provided notice are also included as part of **Exhibit J**.

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 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. There are no existing residential structures located within 500' of the proposed tower location.

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 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
P. O. Box 369
Shepherdsville, KY 40165-0369
Telephone: (502) 955-4400
Telefax: (502) 543-4410
Email: dpike@pikelegal.com
Attorney for Applicants

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 & Certified Green Card Receipts

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

EXHIBIT A
CERTIFICATE OF AUTHORITY & FCC LICENSE DOCUMENTATION

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

Certificate of Authorization

Authentication number: 216299
Visit https://app.sos.ky.gov/ftshow/certvalidate.aspx to authenticate this certificate.

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,

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 28th day of May, 2019, in the 227th year of the Commonwealth.

Alison Lundergan Grimes
Secretary of State
Commonwealth of Kentucky
216299/0481848

0972004.06 mstratton ADD

Alison Lundergan Grimes
Kentucky Secretary of State
Received and Filed:
1/3/2017 3:10 PM
Fee Receipt: $90.00

COMMONWEALTH OF KENTUCKY
ALISON LUNDERGAN GRIMES, SECRETARY OF STATE

Division of Business Filings Business Filings PO Box 718 Frankfort, KY 40602 (502) 564-3490 www.sos.ky.gov	Certificate of Authority (Foreign Business Entity)	FBE

Pursuant to the provisions of KRS 14A and KRS 271B, 273, 274,275, 362 and 386 the undersigned hereby applies for authority to transact business in Kentucky on behalf of the entity named below and, for that purpose, submits the following statements:

1. The entity is a : ☐ profit corporation (KRS 271B). ☐ nonprofit corporation (KRS 273). ☐ professional service corporation (KRS 274). ☐ business trust (KRS 386). ☑ limited liability company (KRS 275). ☐ professional limited liability company (KRS 275). ☐ limited partnership (KRS 362).

2. The name of the entity is Uniti Towers LLC
(The name must be identical to the name on record with the Secretary of State.)

3. The name of the entity to be used in Kentucky is (if applicable): _____
(Only provide if "real name" is unavailable for use; otherwise, leave blank.)

4. The state or country under whose law the entity is organized is Delaware

5. The date of organization is 12/2/2015 and the period of duration is _____
(If left blank, the period of duration is considered perpetual.)

6. The mailing address of the entity's principal office is

10802 Executive Center Drive, Benton Building, Suite 300	Little Rock	AR	72211
Street Address	City	State	Zip Code

7. The street address of the entity's registered office in Kentucky is

306 West Main Street - Suite 512	Frankfort	KY	40601
Street Address (No P.O. Box Numbers)	City	State	Zip Code

and the name of the registered agent at that office is C T Corporation System

8. The names and business addresses of the entity's representatives (secretary, officers and directors, managers, trustees or general partners):

Daniel L. Heard	10802 Executive Center Drive, Benton Building, Suite 300	Little Rock	AR	72211
Name	Street or P.O. Box	City	State	Zip Code
Kenneth Gunderman	10802 Executive Center Drive, Benton Building, Suite 300	Little Rock	AR	72211
Name	Street or P.O. Box	City	State	Zip Code
Mark A. Wallace	10802 Executive Center Drive, Benton Building, Suite 300	Little Rock	AR	72211
Name	Street or P.O. Box	City	State	Zip Code

9. If a professional service corporation, all the individual shareholders, not less than one half (1/2) of the directors, and all of the officers other than the secretary and treasurer are licensed in one or more states or territories of the United States or District of Columbia to render a professional service described in the statement of purposes of the corporation.

10. I certify that, as of the date of filing this application, the above-named entity validly exists under the laws of the jurisdiction of its formation.

11. If a limited partnership, it elects to be a limited liability limited partnership. Check the box if applicable: ☐

12. If a limited liability company, check box if manager-managed: ■

13. This application will be effective upon filing, unless a delayed effective date and/or time is provided.
The effective date or the delayed effective date cannot be prior to the date the application is filed. The date and/or time is _____
(Delayed effective date and/or time)

[signature]	Keith Harvey, VP - Deputy General Counsel	12/30/2016
Signature of Authorized Representative	Printed Name & Title	Date

I, C T Corporation System, consent to serve as the registered agent on behalf of the business entity.
Type/Print Name of Registered Agent

[signature]	Tristan Emrich	Assistant Secretary	12/30/2016
Signature of Registered Agent	Printed Name	Title	Date

(09/15)

0972004.06	vmiller AMD
Michael G. Adams **Kentucky Secretary of State** Received and Filed: 3/22/2021 12:28 PM Fee Receipt: $40.00	

COMMONWEALTH OF KENTUCKY
MICHAEL ADAMS, SECRETARY OF STATE

Division of Business Filings P.O. Box 718 Frankfort, KY 40602 (502) 564-3490 www.sos.ky.gov	**Amended Certificate of Authority** **(Foreign Business Entity)**	**FCA**

Pursuant to the provisions of KRS Chapter KRS 14A and 271B, 273, 274, 275, 362 or 386 the undersigned hereby applies for an amended certificate of authority on behalf of the entity named below and, for that purpose, submits the following statements:

1. The business entity is:
- [ ] profit corporation (KRS 271B)
- [ ] professional service corporation (KRS 274).
- [x] limited liability company (KRS 275).
- [ ] professional limited liability company (KRS 275
- [ ] limited cooperative association
- [ ] cooperative association
- [ ] nonprofit corporation (KRS 273).
- [ ] business trust (KRS 386).
- [ ] limited partnership (KRS 362).
- [ ] statutory trust (KRS 386)
- [ ] non-profit LLC (KRS 275).

2. The name of the company is: Uniti Towers LLC
(The name must be identical to the name on record with the Secretary of State.)

3. It is an entity organized and existing under the laws of the state or country of Delaware.

4. The entity received authority to transact business in Kentucky on 1/3/2017.

5. The entity has changed its **(check all that apply)**
- [x] Domicile name to Harmoni Towers LLC
- [x] Name to be used in Kentucky to Harmoni Towers LLC
- [ ] Jurisdiction of organization to
- [ ] Period of duration
- [ ] Form of organization
- [ ] Management type: [x] Member managed [ ] Manager managed

6. This application will be effective upon filing, unless a delayed effective date and/or time is provided. The effective date or the delayed effective date cannot be prior to the date the application is filed. The effective date is .

Please indicate the county in which your business operates:
County: Franklin

To complete the following, please shade the box completely.

Please indicate the size of your business:
- [ ] Small (Fewer than 50 employees)
- [x] Large (50 or more employees)

Please indicate whether any of the following make up more than fifty percent (50%) of your business ownership:
- [ ] Women-Owned
- [ ] Veteran Owned
- [ ] Minority Owned

Please indicate which of the following best describes your business:
- [ ] Agriculture
- [ ] Mining
- [ ] Services
- [ ] Construction
- [ ] Wholesale Trade
- [ ] Retail Trade
- [ ] Manufacturing
- [ ] Finance, Insurance, Real Estate
- [ ] Public Administration
- [x] Transportation, Communications, Electric, Gas, Sanitary Services
- [ ] Other

I declare under penalty of perjury under the laws of the state of Kentucky that the foregoing is true and correct.

Signature of Authorized Representative	Dara Hoey	In-House Counsel	2/25/21
	Printed Name	**Title**	**Date**

(1/20)

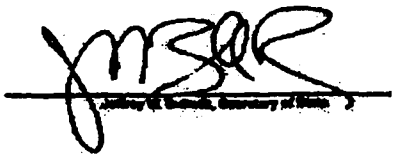
Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT THE SAID "UNITI TOWERS LLC", FILED A CERTIFICATE OF AMENDMENT, CHANGING ITS NAME TO "HARMONI TOWERS LLC" ON THE EIGHTEENTH DAY OF SEPTEMBER, A.D. 2020, AT 5:13 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID LIMITED LIABILITY COMPANY IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE NOT HAVING BEEN CANCELLED OR REVOKED SO FAR AS THE RECORDS OF THIS OFFICE SHOW AND IS DULY AUTHORIZED TO TRANSACT BUSINESS.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "HARMONI TOWERS LLC" WAS FORMED ON THE SECOND DAY OF DECEMBER, A.D. 2015.



5896640 8320
SR# 20210417869

Authentication: 202491953
Date: 02-11-21

You may verify this certificate online at corp.delaware.gov/authver.shtml

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 2100
DALLAS, TX 75202

Call Sign	File Number
KNKN830	0009619230
Radio Service CL - Cellular	
Market Numer CMA443	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003291192

Market Name
Kentucky 1 - Fulton

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
09-08-2021	09-08-2021	10-01-2031		09-08-2021

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	36-32-58.2 N	088-19-52.1 W	162.8	215.9	1044609

Address: SOUTH OF 521 MIDWAY ROAD (76098)
City: MURRAY **County:** CALLOWAY **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.300	98.100	103.900	91.600	77.400	92.600	89.800	92.800
Transmitting ERP (watts)	90.905	315.534	257.251	45.036	1.831	0.631	0.653	5.479

Antenna: 2

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.300	98.100	103.900	91.600	77.400	92.600	89.800	92.800
Transmitting ERP (watts)	0.189	0.181	2.710	24.477	46.412	26.231	3.140	0.165

Antenna: 3

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.300	98.100	103.900	91.600	77.400	92.600	89.800	92.800
Transmitting ERP (watts)	93.187	5.247	0.653	0.792	2.286	40.640	253.641	324.312

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

FCC 601-C
March 2018

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	36-40-48.5 N	088-59-38.9 W	125.6	97.5	1043413

Address: 368 US HIGHWAY 51 NORTH (76095)
City: Clinton **County:** HICKMAN **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.500	101.100	87.000	99.800	107.400	111.400	116.100	103.500
Transmitting ERP (watts)	46.473	43.365	8.875	2.867	0.271	1.698	13.116	39.622

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.500	101.100	87.000	99.800	107.400	111.400	116.100	103.500
Transmitting ERP (watts)	16.262	75.054	100.598	95.375	87.529	27.061	32.457	15.298

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.500	101.100	87.000	99.800	107.400	111.400	116.100	103.500
Transmitting ERP (watts)	26.123	10.219	13.943	31.412	138.549	180.577	193.913	76.304

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	36-45-30.7 N	088-10-11.4 W	156.1	96.3	1043411

Address: 771 Rudolph Road (76099)
City: Hardin **County:** MARSHALL **State:** KY **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.300	111.500	104.000	127.200	98.400	106.100	109.000	115.300
Transmitting ERP (watts)	138.810	181.853	201.332	78.257	26.754	10.412	13.921	31.435

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.300	111.500	104.000	127.200	98.400	106.100	109.000	115.300
Transmitting ERP (watts)	0.495	0.767	13.331	103.933	243.934	88.607	9.081	2.358

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.300	111.500	104.000	127.200	98.400	106.100	109.000	115.300
Transmitting ERP (watts)	121.085	34.811	25.322	9.647	14.734	94.724	185.217	194.265

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	36-57-02.0 N	089-04-57.4 W	139.6	35.1	

Address: 966 Westvaco Road (76102)
City: WICKLIFFE **County:** BALLARD **State:** KY **Construction Deadline:**

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	66.700	39.500	47.700	59.600	40.400	76.800	74.900	77.800
Transmitting ERP (watts)	208.387	279.525	57.987	6.279	2.348	0.861	2.044	43.197

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	66.700	39.500	47.700	59.600	40.400	76.800	74.900	77.800
Transmitting ERP (watts)	13.096	122.483	310.652	139.984	16.567	3.121	0.637	1.151

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	66.700	39.500	47.700	59.600	40.400	76.800	74.900	77.800
Transmitting ERP (watts)	1.083	3.141	55.641	235.301	265.480	45.044	5.015	1.649

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	36-31-12.4 N	088-50-41.5 W	144.2	122.2	1030665

Address: 550 Powell Road (76108)
City: FULTON **County:** HICKMAN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.600	50.500	50.000	62.400	74.100	82.600	70.400	68.900
Transmitting ERP (watts)	54.186	259.791	165.189	15.440	1.821	0.520	0.538	2.272

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.600	50.500	50.000	62.400	74.100	82.600	70.400	68.900
Transmitting ERP (watts)	37.483	3.445	0.681	0.543	0.696	23.278	173.429	255.845

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	36-38-43.9 N	088-28-32.2 W	171.9	129.8	1210819

Address: 1211 Bazzell Cemetery Road (76104)
City: Murray **County:** CALLOWAY **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	119.500	104.900	100.600	100.600	101.500	99.400	106.900	111.600
Transmitting ERP (watts)	90.670	314.927	257.500	45.061	1.817	0.634	0.658	5.547

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	36-38-43.9 N	088-28-32.2 W	171.9	129.8	1210819

Address: 1211 Bazzell Cemetery Road (76104)
City: Murray **County:** CALLOWAY **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	119.500	104.900	100.600	100.600	101.500	99.400	106.900	111.600
Transmitting ERP (watts)	0.367	0.330	5.484	55.361	112.914	58.679	6.523	0.289

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	119.500	104.900	100.600	100.600	101.500	99.400	106.900	111.600
Transmitting ERP (watts)	92.571	5.224	0.656	0.800	2.278	41.111	254.363	324.895

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	36-36-41.4 N	088-47-03.9 W	155.7	98.4	1215493

Address: 13111 State Route 45 South (76105)
City: Wingo **County:** GRAVES **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	113.900	104.300	100.500	100.100	118.200	120.600	142.500	118.400
Transmitting ERP (watts)	75.324	249.922	174.975	24.513	3.151	0.522	1.154	5.702

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	113.900	104.300	100.500	100.100	118.200	120.600	142.500	118.400
Transmitting ERP (watts)	0.327	2.041	16.058	48.846	56.920	53.682	10.688	3.498

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	113.900	104.300	100.500	100.100	118.200	120.600	142.500	118.400
Transmitting ERP (watts)	52.956	5.694	1.994	0.772	1.841	39.724	185.306	249.412

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-01-59.6 N	088-55-53.8 W	137.2	81.7	1061534

Address: HIGHWAY 358 SOUTH (76094)
City: LA CENTER **County:** BALLARD **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.800	81.800	70.500	81.800	84.100	79.400	91.200	97.100
Transmitting ERP (watts)	112.389	322.213	224.476	23.789	1.892	0.660	0.706	9.624

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	37-01-59.6 N	088-55-53.8 W	137.2	81.7	1061534

Address: HIGHWAY 358 SOUTH (76094)
City: LA CENTER **County:** BALLARD **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.800	81.800	70.500	81.800	84.100	79.400	91.200	97.100
Transmitting ERP (watts)	0.245	0.296	9.047	63.327	119.917	49.080	4.913	0.289

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.800	81.800	70.500	81.800	84.100	79.400	91.200	97.100
Transmitting ERP (watts)	61.077	6.560	2.321	0.892	2.139	46.212	218.148	287.895

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	37-02-00.0 N	088-22-10.0 W	105.5	106.7	1040303

Address: 641 GARY JOHNSON ROAD (76096)
City: CALVERT CITY **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.900	86.100	95.100	91.700	77.400	93.100	107.000	101.600
Transmitting ERP (watts)	19.290	27.291	31.707	11.704	2.348	0.517	1.589	4.904

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.900	86.100	95.100	91.700	77.400	93.100	107.000	101.600
Transmitting ERP (watts)	0.103	0.173	3.333	26.500	50.592	22.618	2.382	0.161

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.900	86.100	95.100	91.700	77.400	93.100	107.000	101.600
Transmitting ERP (watts)	51.334	5.515	1.916	0.726	1.742	37.531	178.683	239.865

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	36-52-41.6 N	088-12-19.4 W	132.3	94.5	1223751

Address: 3018 Barge Island Road (76116)
City: Benton **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	100.900	74.800	82.900	90.300	83.200	75.100	82.700	89.800
Transmitting ERP (watts)	64.257	218.461	153.987	21.410	2.758	0.447	1.004	4.863

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	36-52-41.6 N	088-12-19.4 W	132.3	94.5	1223751

Address: 3018 Barge Island Road (76116)
City: Benton **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	100.900	74.800	82.900	90.300	83.200	75.100	82.700	89.800
Transmitting ERP (watts)	0.516	0.812	13.931	109.389	254.428	92.990	9.535	2.468

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	100.900	74.800	82.900	90.300	83.200	75.100	82.700	89.800
Transmitting ERP (watts)	126.395	36.677	26.446	10.150	15.357	99.601	194.625	203.444

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
26	37-06-39.7 N	088-57-32.4 W	118.3	86.6	1244919

Address: 2967 BANDANA ROAD (76122)
City: LA CENTER **County:** BALLARD **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	98.000	96.700	81.000	73.300	74.700	89.200	104.100	92.500
Transmitting ERP (watts)	40.898	65.024	70.503	22.298	3.898	0.957	2.616	9.032

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	98.000	96.700	81.000	73.300	74.700	89.200	104.100	92.500
Transmitting ERP (watts)	0.519	25.920	110.565	221.603	140.992	214.122	87.608	63.085

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	98.000	96.700	81.000	73.300	74.700	89.200	104.100	92.500
Transmitting ERP (watts)	37.744	5.696	3.296	2.226	3.676	28.040	60.416	72.478

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	36-48-47.4 N	089-01-13.9 W	114.0	92.7	1244912

Address: 461 COUNTY ROAD 1235 (76123)
City: ARLINGTON **County:** CARLISLE **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.300	82.200	73.600	91.100	97.500	88.700	101.500	87.500
Transmitting ERP (watts)	106.670	236.325	87.322	9.136	2.326	0.497	0.777	13.791

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	36-48-47.4 N	089-01-13.9 W	114.0	92.7	1244912

Address: 461 COUNTY ROAD 1235 (76123)
City: ARLINGTON **County:** CARLISLE **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.300	82.200	73.600	91.100	97.500	88.700	101.500	87.500
Transmitting ERP (watts)	3.771	6.725	70.667	194.932	224.510	93.220	19.059	10.392

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.300	82.200	73.600	91.100	97.500	88.700	101.500	87.500
Transmitting ERP (watts)	17.405	2.960	0.738	2.081	7.101	31.894	50.141	56.076

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
28	36-32-49.7 N	088-09-16.0 W	128.6	77.7	1245399

Address: 10475 STATE ROAD 121 (76124)
City: NEW CONCORD **County:** CALLOWAY **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	65.300	82.000	68.100	72.000	52.100	54.800	45.900	46.700
Transmitting ERP (watts)	103.508	96.740	121.896	67.061	24.395	17.896	22.126	33.816

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	65.300	82.000	68.100	72.000	52.100	54.800	45.900	46.700
Transmitting ERP (watts)	0.291	1.775	14.241	42.943	50.803	47.977	9.728	3.207

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	65.300	82.000	68.100	72.000	52.100	54.800	45.900	46.700
Transmitting ERP (watts)	131.978	37.385	27.253	10.383	15.864	101.405	199.819	210.869

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	36-33-30.0 N	088-35-22.0 W	172.2	98.7	1041880

Address: 2539 State Rte 94E (100720)
City: Sedalia **County:** GRAVES **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	118.798	346.026	241.383	25.538	2.032	0.686	0.737	10.121

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	36-33-30.0 N	088-35-22.0 W	172.2	98.7	1041880

Address: 2539 State Rte 94E (100720)
City: Sedalia **County:** GRAVES **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	0.101	0.148	0.723	2.670	2.039	2.501	0.544	0.100

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	39.858	3.632	0.525	0.681	3.083	30.083	155.327	190.084

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	116.175	337.516	238.141	25.039	2.002	0.669	0.719	9.904

Antenna: 7
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	0.100	0.100	0.108	1.032	1.990	0.939	0.099	0.100

Antenna: 8
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	88.800	79.000	80.100	102.800	107.300	113.300	86.100	90.300
Transmitting ERP (watts)	39.129	3.555	0.510	0.662	3.020	29.428	154.053	187.149

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
30	36-38-26.2 N	088-16-00.1 W	165.8	90.8	1030663

Address: 1431 Van Cleave Road
City: MURRAY **County:** CALLOWAY **State:** KY **Construction Deadline:** 03-19-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	95.400	94.000	102.000	97.700	75.000	79.400	73.500	84.000
Transmitting ERP (watts)	99.973	347.694	284.408	49.684	2.009	0.693	0.722	6.047

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	95.400	94.000	102.000	97.700	75.000	79.400	73.500	84.000
Transmitting ERP (watts)	0.658	0.593	9.481	98.900	202.269	103.412	11.469	0.466

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	95.400	94.000	102.000	97.700	75.000	79.400	73.500	84.000
Transmitting ERP (watts)	102.904	5.789	0.721	0.870	2.492	44.530	280.630	358.642

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
31	37-01-59.2 N	088-32-46.3 W	104.9	60.7	

Address: 311 PUGH ROAD (82847)
City: PADUCAH **County:** MCCRACKEN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	56.200	65.400	62.700	44.400	60.400	47.900	41.900	64.900
Transmitting ERP (watts)	138.239	395.682	273.086	31.636	2.365	0.791	0.870	14.102

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	56.200	65.400	62.700	44.400	60.400	47.900	41.900	64.900
Transmitting ERP (watts)	0.870	0.945	31.495	230.326	421.829	159.645	11.045	1.137

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	56.200	65.400	62.700	44.400	60.400	47.900	41.900	64.900
Transmitting ERP (watts)	1.780	0.299	0.112	0.233	0.252	1.208	2.817	2.371

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
32	36-59-09.8 N	088-21-18.6 W	108.2	95.4	1222232

Address: 1285 US HIGHWAY 95 (93609)
City: CALVERT CITY **County:** MARSHALL **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.000	62.900	62.000	50.300	45.400	47.200	53.800	67.500
Transmitting ERP (watts)	114.888	331.792	230.236	24.563	1.953	0.671	0.707	9.579

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.000	62.900	62.000	50.300	45.400	47.200	53.800	67.500
Transmitting ERP (watts)	0.719	1.299	23.038	188.836	348.890	135.248	7.214	1.404

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.000	62.900	62.000	50.300	45.400	47.200	53.800	67.500
Transmitting ERP (watts)	38.772	3.498	0.494	0.647	2.930	29.401	150.126	182.816

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
33	37-03-27.6 N	088-39-35.9 W	126.5	56.4	1261390

Address: 4147 Alben Barkley Drive (99179)
City: Paducah **County:** MCCRACKEN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.600	77.100	83.500	78.100	49.200	54.800	60.700	73.700
Transmitting ERP (watts)	63.658	183.190	130.542	23.950	3.395	0.525	0.398	6.814

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.600	77.100	83.500	78.100	49.200	54.800	60.700	73.700
Transmitting ERP (watts)	0.323	0.908	12.412	76.128	155.305	62.287	7.839	1.323

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.600	77.100	83.500	78.100	49.200	54.800	60.700	73.700
Transmitting ERP (watts)	47.164	5.084	1.161	0.385	3.481	30.943	146.763	183.338

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
34	36-36-12.1 N	089-01-51.1 W	101.2	60.7	

Address: 5151 State Route 1529 (115776)
City: Clinton **County:** HICKMAN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	52.300	37.600	51.800	46.600	43.300	54.500	71.100	62.300
Transmitting ERP (watts)	278.250	103.782	10.449	2.715	0.593	0.966	15.867	122.648

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	52.300	37.600	51.800	46.600	43.300	54.500	71.100	62.300
Transmitting ERP (watts)	7.844	85.062	223.646	261.822	111.972	23.150	11.903	4.338

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	52.300	37.600	51.800	46.600	43.300	54.500	71.100	62.300
Transmitting ERP (watts)	30.528	12.489	16.284	37.081	166.124	217.556	229.754	89.752

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKN830 **File Number:** 0009619230 **Print Date:** 09-08-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	37-00-56.6 N	088-43-49.8 W	143.3	71.6	1261050

Address: 2136 Mayfield Metropolis Road (109666)

City: Paducah **County:** MCCRACKEN **State:** KY **Construction Deadline:** 10-17-2014

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.700	96.700	95.000	75.800	73.800	88.800	68.000	82.900
Transmitting ERP (watts)	156.876	63.244	5.131	0.692	0.325	0.405	10.985	82.231

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.700	96.700	95.000	75.800	73.800	88.800	68.000	82.900
Transmitting ERP (watts)	3.414	33.471	169.860	202.694	40.839	2.592	0.626	0.446

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820								
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.700	96.700	95.000	75.800	73.800	88.800	68.000	82.900
Transmitting ERP (watts)	1.525	0.525	0.550	7.646	91.503	257.113	180.615	19.227

Control Points:

Control Pt. No. 1

Address: 1650 Lyndon Farms Court

City: LOUISVILLE **County:** **State:** KY **Telephone Number:** (502)332-4700

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).

Federal Communications Commission

Wireless Telecommunications Bureau

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

Call Sign	File Number
KNLF251	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
06-02-2015	12-07-2020	06-23-2025	

Market Number	Channel Block	Sub-Market Designator
MTA026	A	15

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-23-2000	06-23-2005		

Waivers/Conditions:

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

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

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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

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).

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF251 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

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

Call Sign	File Number
KNLH653	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
04-11-2017	08-31-2018	04-28-2027	

Market Number	Channel Block	Sub-Market Designator
BTA339	F	0

Market Name
Paducah-Murray-Mayfield, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
04-28-2002			

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.

Grant conditioned upon consummation of the assignment of license to Banana Communications, LLC within 180 days of June 9, 2008, per Memorandum Opinion and Order, DA 08-1380, released June 9, 2008.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLH653 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD ST., ROOM 2100
DALLAS, TX 75202

Call Sign	File Number
WPSJ971	0009434416
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
04-29-2021	04-29-2021	05-29-2031	04-30-2021

Market Number	Channel Block	Sub-Market Designator
BTA339	C	1

Market Name
Paducah-Murray-Mayfield, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
05-29-2006			

Waivers/Conditions:

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

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPSJ971 **File Number:** 0009434416 **Print Date:** 04-30-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD STREET, RM 1016
DALLAS, TX 75202

Call Sign	File Number
WPSJ972	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
05-14-2021	04-15-2021	05-29-2031	06-08-2021

Market Number	Channel Block	Sub-Market Designator
BTA339	C	2

Market Name
Paducah-Murray-Mayfield, KY

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
05-29-2006			

Waivers/Conditions:

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

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPSJ972 **File Number:** **Print Date:** 06-08-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 2100
DALLAS, TX 75202

Call Sign	File Number
WQGD472	0009724413
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-21-2021	12-21-2021	12-18-2036	12-22-2021

Market Number	Channel Block	Sub-Market Designator
CMA443	A	0

Market Name
Kentucky 1 - Fulton

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

Waivers/Conditions:

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

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

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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

FCC 601-MB
August 2021

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD472 **File Number:** 0009724413 **Print Date:** 12-22-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 2100
DALLAS, TX 75202

Call Sign	File Number
WQGD545	0009724420
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-21-2021	12-21-2021	12-18-2036	12-22-2021

Market Number	Channel Block	Sub-Market Designator
CMA444	A	0

Market Name
Kentucky 2 - Union

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

Waivers/Conditions:

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

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

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD545 **File Number:** 0009724420 **Print Date:** 12-22-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: FCC GROUP
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST. RM 2100
DALLAS, TX 75202

Call Sign	File Number
WQGD758	0009724700
Radio Service	
AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-22-2021	12-22-2021	12-18-2036	12-23-2021

Market Number	Channel Block	Sub-Market Designator
BEA071	C	5

Market Name
Nashville, TN-KY

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

Waivers/Conditions:

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

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

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §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. § 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. §606.

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD758 **File Number:** 0009724700 **Print Date:** 12-23-2021

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

EXHIBIT B

SITE DEVELOPMENT PLAN:

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

FA NUMBER:15415630/ SITE ID: KYBGN2027
PACE #: N/A
PROJECT TRACKING #: _____
SITE NAME: CALVERT CITY

PROPERTY ADDRESS:
KENTUCKY HWY 95
CALVERT CITY, KY 42029
MARSHALL COUNTY

911 ADDRESS:

PROPOSED 220' SELF-SUPPORT TOWER

ZONING DRAWINGS

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
HARMONI TOWERS PROP:		
HARMONI TOWERS CONST. MGR.:		
INTERCONNECT:		
HARMONI TOWERS SITE DEV. MGR.:		
PROPERTY OWNER:		

STATUS CODE:

1		ACCEPTED: WITH OR NO COMMENTS, CONSTRUCTION MAY PROCEED
2		NOT ACCEPTED: RESOLVE COMMENTS AND RESUBMIT

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

PROJECT SUMMARY

SITE NAME:	CALVERT CITY
SITE NUMBER:	KYBGN2027
TAX MAP PROPERTY ID:	330000035000000
SITE ADDRESS:	KENTUCKY HWY 95 CALVERT CITY, KY 42029
911 ADDRESS:	– –
JURISDICTION:	MARSHALL COUNTY
TOWER OWNER:	HARMONI TOWERS 10802 EXECUTIVE CENTER DRIVE LITTLE ROCK, AR 72211
NAD83	
LATITUDE: LONGITUDE:	36.984219° N –88.358022° W
APPLICANT:	NEW CINGULAR WIRELESS, PCS, LLC, A DELAWARE LIMITED LIABILITY COMPANY d/b/a AT&T MOBILITY MEIDINGER TOWER 462 S/ 4th STREET, SUITE 2400 LOUISVILLE, KY 40202
CO-APPLICANT:	N/A
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

LOCATION MAP

NO SCALE

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
1-3	SURVEY
C-1.0	500' RADIUS & ADJOINER'S DRAWING
C-1.1	OVERALL ADJOINER'S DRAWING
C-2	OVERALL SITE LAYOUT
C-3	ENLARGED COMPOUND LAYOUT
C-4	TOWER ELEVATION

DESIGN INFORMATION

A&E FIRM: B+T GROUP
1717 S. BOULDER,
SUITE 300
TULSA, OK 74119
MIKE A. SPEEDIE, PE
(918) 587-4630

ELECTRIC PROVIDER: DTE POWER & INDUSTRIAL 734-302-4800

SURVEYOR: POINT TO POINT
100 GOVERNORS TRACE, STE #103
PEACHTREE CITY, GA 30269
PH. (678) 565-4440

TELCO PROVIDER: WINDSTREAM XXX-XXX-XXXX

DRIVING DIRECTIONS

(1) DEPART COUNTY JUDGE / EXECUTIVE [1101 MAIN ST, BENTON, KY 42025] ON W 11TH ST (WEST) 120 YDS
(2) TURN RIGHT (NORTH) ONTO OLIVE ST 0.5 MI
(3) TURN LEFT (WEST) ONTO KY-348 [W 5TH ST] 0.7 MI
(4) TURN LEFT (SOUTH-WEST) ONTO RAMP 0.1 MI JULIAN M. CARROLL PURCHASE PARKWAY NORTH
(5) BEAR RIGHT (NORTH) ONTO JULIAN M CARROLL PURCHASE PKWY 4.2 MI
(6) AT EXIT 47, BEAR RIGHT (EAST) ONTO RAMP 0.2 MI US-68 / US-641 / DRAFFENVILLE / AURORA
(7) ROAD NAME CHANGES TO LOCAL ROAD(S) 10 YDS
(8) TURN LEFT (NORTH-WEST) ONTO US-68 [US HIGHWAY 68 W] 1.7 MI
(9) TURN RIGHT (NORTH-EAST) ONTO KY-95 [US HIGHWAY 95] 2.7 MI
(10) TURN LEFT (WEST) ONTO LOCAL ROAD(S) 54 YDS
(11) ARRIVE 36.98422°N 88.35802°W

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING/DWELLING	IBC 2015
STRUCTURAL	IBC 2015
MECHANICAL	IMC 2015
ELECTRICAL	NEC 2017

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES:
- CONSTRUCT (1) NEW 220' SELF-SUPPORT TOWER
- CONSTRUCT FENCED GRAVEL UTILITY COMPOUND WITH LOCKING ACCESS GATE, 60' x 60' WITHIN 100' x 100' LEASE AREA.
- INSTALL (1) H-FRAME W/ UTILITY EQUIPMENT.
- INSTALL NEW POWER & TELCO UTILITY SERVICES.
- CONSTRUCT 12' WIDE GRAVEL ACCESS ROAD

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS
BEFORE YOU DIG!

B+T GRP

at&t mobility corp.

HARMONI TOWERS

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# _____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: G0144556.001.12
CHECKED BY: MAS

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
B	11/17/21	RMC	REVIEW
0	12/20/21	MAS	REVIEW
1	08/25/22	DLS	REVIEW

B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRADLEY
MILANOWSKI
25311
LICENSED
PROFESSIONAL ENGINEER
8/25/22

TITLE SHEET

SHEET NUMBER:
T-1

PARENT PARCEL

OWNER: PATRICIA S. TAYLOR, LAWRENCE J. TAYLOR,
CECELIA F. SOLOMAN, JOHN A. HARRINGTON SR. & PAMELA F. SIMMONS

SITE ADDRESS: KENTUCKY HWY 95, CALVERT CITY, KENTUCKY 42029

PARCEL ID: 330000035000000

AREA: 174.9 ACRES

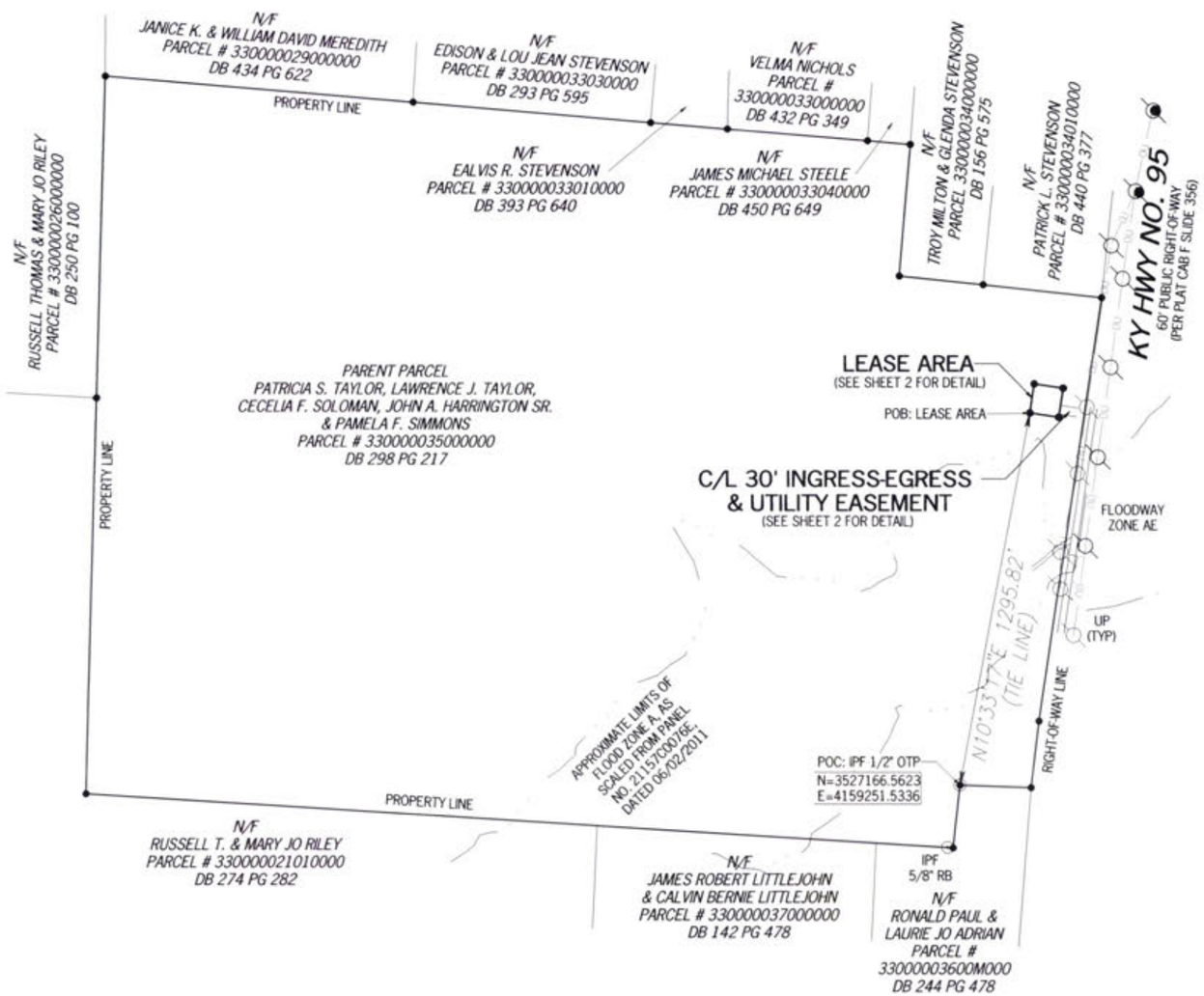
ALL ZONING INFORMATION SHOULD BE VERIFIED WITH THE PROPER ZONING OFFICIALS

REFERENCE: DEED BOOK 298 PAGE 217

GPS NOTES

THE FOLLOWING GPS STATISTICS UPON WHICH THIS SURVEY IS BASED HAVE BEEN PRODUCED AT THE 95% CONFIDENCE LEVEL:

POSITIONAL ACCURACY: 0.04 FEET (HORZ) 0.08 FEET (VERT)
TYPE OF EQUIPMENT: GEOMAX ZENITH35 PRO BASE AND ROVER, DUAL FREQUENCY
TYPE OF GPS FIELD PROCEDURE: ONLINE POSITION USER INTERFACE
DATES OF SURVEY: 01/11/2021
DATUM / EPOCH: NAD_83(2011)EPOCH:2010.0000)
PUBLISHED / FIXED CONTROL USE: N/A
GEOID MODEL: 18
COMBINED GRID FACTOR(S): 1.00001301 CENTERED ON THE GPS BASE POINT AS SHOWN HEREON.
CONVERGENCE ANGLE: -1.60128611°
BENCHMARKS USED: DK3316, DJ9554, DM4118, DL6890, DK7559, DJ9558, DJ9564, DN5838, DM3497



250 0 500 1,000
GRAPHIC SCALE IN FEET
SCALE: 1" = 500'

LEGEND

POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
IPF	IRON PIN FOUND
OTP	OPEN TOP PIPE
RB	REBAR
C/L	CENTERLINE
N/F	NOW OR FORMERLY
UP	UTILITY POLE
OU	OVERHEAD UTILITY
TYP	TYPICAL
EP	EDGE OF PAVEMENT
TBM	TEMPORARY BENCHMARK

VICINITY MAP

NOT TO SCALE

GENERAL NOTES

* THIS SPECIFIC PURPOSE SURVEY IS FOR THE LEASED PREMISES AND EASEMENTS ONLY. THIS SPECIFIC PURPOSE SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF HARMONI TOWERS AND EXCLUSIVELY FOR THE TRANSFERRAL OF THE LEASED PREMISES AND THE RIGHTS OF EASEMENT SHOWN HEREON AND SHALL NOT BE USED AS AN EXHIBIT OR EVIDENCE IN THE FEE SIMPLE TRANSFERRAL OF THE PARENT PARCEL NOR ANY PORTION OR PORTIONS THEREOF. BOUNDARY INFORMATION SHOWN HEREON HAS BEEN COMPILED FROM TAX MAPS AND DEED DESCRIPTIONS ONLY. NO BOUNDARY SURVEY OF THE PARENT PARCEL WAS PERFORMED.

THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

THE FIELD DATA UPON WHICH THIS SPECIFIC PURPOSE SURVEY IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 10,000+ FEET AND AN ANGULAR ERROR OF 5.0" PER ANGLE POINT AND WAS NOT ADJUSTED FOR CLOSURE.

EQUIPMENT USED FOR ANGULAR & LINEAR MEASUREMENTS: LEICA TPS 1200 ROBOTIC & GEOMAX ZENITH 35. [DATE OF LAST FIELD VISIT: 01/11/2021]

THE 1' CONTOURS AND SPOT ELEVATIONS SHOWN ON THIS SPECIFIC PURPOSE SURVEY ARE ADJUSTED TO NAVD 88 DATUM (COMPUTED USING GEOID18) AND HAVE A VERTICAL ACCURACY OF ± 0.5'. CONTOURS OUTSIDE THE IMMEDIATE SITE AREA ARE APPROXIMATE.

BEARINGS SHOWN ON THIS SPECIFIC PURPOSE SURVEY ARE BASED ON GRID NORTH (NAD 83) KENTUCKY SINGLE ZONE.

PER THE FEMA FLOODPLAIN MAPS, PORTIONS OF THE SITE ARE LOCATED IN AN AREA DESIGNATED AS ZONE A (AREA WITHOUT BASE FLOOD ELEVATION). COMMUNITY PANEL NO. : 21157C0076E DATED: 06/02/2011

NO WETLAND AREAS HAVE BEEN INVESTIGATED BY THIS SPECIFIC PURPOSE SURVEY.

ALL ZONING INFORMATION SHOULD BE VERIFIED WITH THE PROPER ZONING OFFICIALS.

ANY UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM ABOVE GROUND FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT ANY UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT ANY UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED ANY UNDERGROUND UTILITIES.

SURVEYOR'S CERTIFICATE

I, G. DARRELL TAYLOR, A KENTUCKY PROFESSIONAL LAND SURVEYOR, CERTIFY THAT THE INFORMATION SHOWN HEREON WAS COMPILED USING DATA FROM AN ACTUAL FIELD SURVEY MADE UNDER MY DIRECT SUPERVISION BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. THE UNADJUSTED PRECISION RATIO OF THE TRAVERSE EXCEEDED 1:10,000 AND WAS NOT ADJUSTED FOR CLOSURE. THIS SURVEY MEETS OR EXCEEDS THE **MINIMUM** STANDARDS FOR AN URBAN SURVEY AS ESTABLISHED BY THE STATE OF KENTUCKY, PER 201 KAR 18:150 AND IN EFFECT ON THE DATE OF THIS SURVEY.

G. DARRELL TAYLOR, PLS 4179 — 06/15/2021 DATE

SURVEY NOT VALID WITHOUT SHEETS 2 & 3 OF 3

811 Know what's **below.** **Call** before you dig.

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1	06/15/2021	ADDED TITLE - AJT
2	8/27/2021	REV. TITLE/UTIL. ESMT.
3	9/8/2021	ACCESS/UTIL ESMT.

* SPECIFIC PURPOSE SURVEY PREPARED BY:

POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com

SPECIFIC PURPOSE SURVEY PREPARED FOR:

HARMONI TOWERS

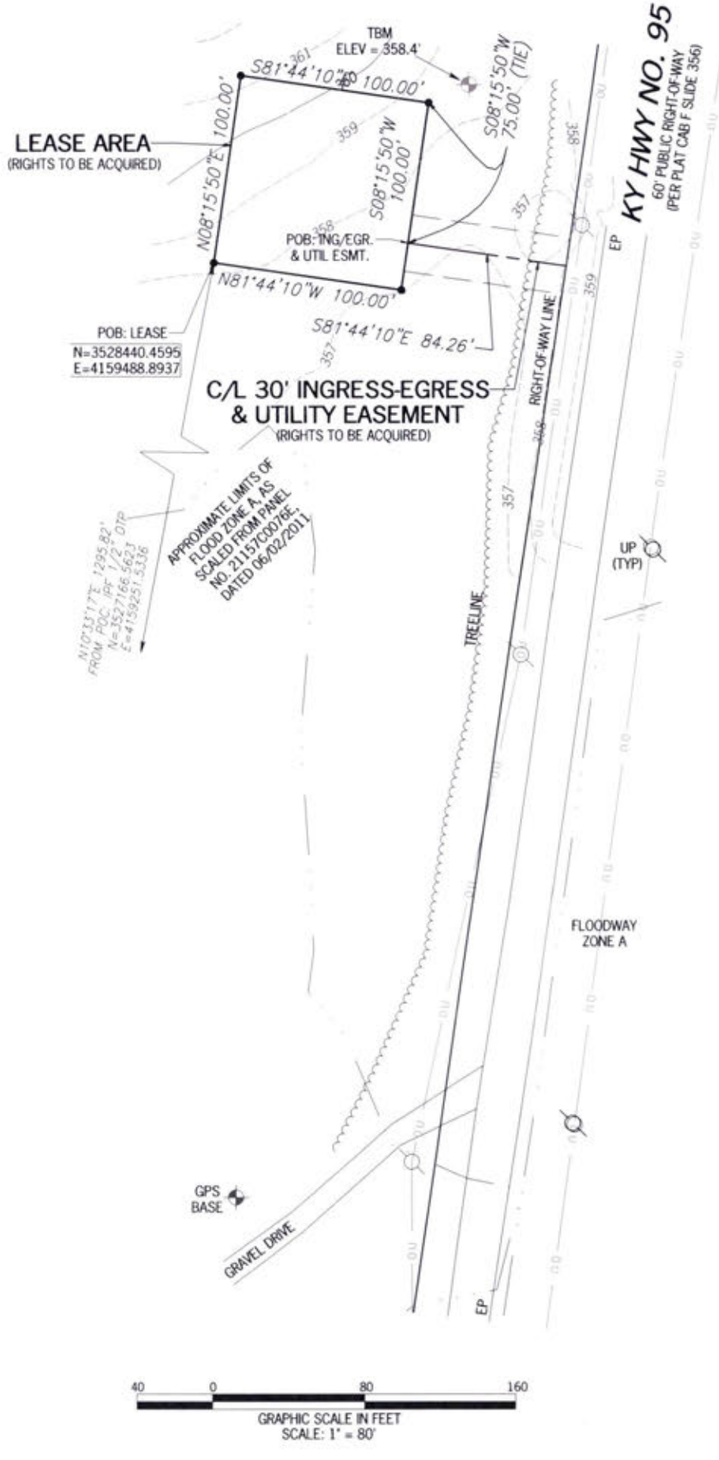
10801 EXECUTIVE CENTER DRIVE
SHANNON BLDG., STE 100
LITTLE ROCK, AR 72211

CALVERT CITY

SITE NO.
KYBGN2027
MARSHALL COUNTY,
KENTUCKY

DRAWN BY: AJT	SHEET: 1 OF 3
CHECKED BY: JKL	
APPROVED: D. MILLER	
DATE: JANUARY 25, 2021	
P2P JOB #: 202597KY	

E:\Dropbox (Point To Point)\P2P Current Jobs\2020\202597KY\Calvert City\202597KY.pro



SITE INFORMATION

LEASE AREA = 10,000 SQUARE FEET (0.2296 ACRES)

LATITUDE = 36°59'03.19" (NAD 83) (36.984219°)
LONGITUDE = -88°21'28.88" (NAD 83) (-88.358022°)
AT CENTER LEASE AREA

ELEVATION AT CENTER OF LEASE AREA = 358.7' A.M.S.L.

TITLE EXCEPTIONS

THIS SURVEY WAS COMPLETED WITH THE AID OF TITLE WORK PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, ISSUE DATE OF AUGUST 3, 2021, BEING ORDER NO. 35164096, FOR THE PARENT PARCEL, TO DETERMINE THE IMPACTS OF EXISTING TITLE EXCEPTIONS.

8. RIGHT OF WAY AGREEMENT IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND ASSIGNS SET FORTH IN INSTRUMENT RECORDED ON FEBRUARY 15, 1949 IN DEED BOOK 81, PAGE 581. [THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTIAN THE EXACT LOCATION THEREOF.]

9. GRANT OF TRANSMISSION LINE EASEMENT IN FAVOR OF THE UNITED STATES OF AMERICA SET FORTH IN INSTRUMENT RECORDED ON JANUARY 3, 1952 IN DEED BOOK 85, PAGE 455.[THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTIAN THE EXACT LOCATION THEREOF.]

10. RIGHT OF WAY IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION SET FORTH IN INSTRUMENT RECORDED ON FEBRUARY 18, 1964 IN DEED BOOK 113, PAGE 134. [THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTIAN THE EXACT LOCATION THEREOF.]

11. RIGHT OF WAY IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION SET FORTH IN INSTRUMENT RECORDED ON FEBRUARY 18, 1964 IN DEED BOOK 115, PAGE 127. [THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTIAN THE EXACT LOCATION THEREOF.]

12. RIGHT OF WAY IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION SET FORTH IN INSTRUMENT RECORDED ON MAY 12, 1966 IN DEED BOOK 122, PAGE 226. [THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTIAN THE EXACT LOCATION THEREOF.]

13. GRANT OF TRANSMISSION LINE EASEMENT IN FAVOR OF UNITED STATES OF AMERICA SET FORTH IN INSTRUMENT RECORDED ON OCTOBER 14, 1968 IN DEED BOOK 132, PAGE 545. [THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTIAN THE EXACT LOCATION THEREOF.]

14. EASEMENT IN FAVOR OF NORTH MARSHALL WATER DISTRICT SET FORTH IN INSTRUMENT RECORDED ON AUGUST 4, 2003 IN DEED BOOK 342, PAGE 594. [THIS ITEM IS APPLICBLE TO THE PARENT PARCEL AND IS BLANKET IN NATURE.]

LEGEND

POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
IPF	IRON PIN FOUND
OTP	OPEN TOP PIPE
RB	REBAR
C/L	CENTERLINE
N/F	NOW OR FORMERLY
UP	UTILITY POLE
OU	OVERHEAD UTILITY
TYP	TYPICAL
EP	EDGE OF PAVEMENT
TBM	TEMPORARY BENCHMARK

SURVEY NOT VALID WITHOUT SHEETS 1 & 3 OF 3

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
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2	8/27/2021	REV. TITLE/UTIL. ESMT.
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SPECIFIC PURPOSE SURVEY PREPARED FOR:

HARMONI TOWERS
10801 EXECUTIVE CENTER DRIVE
SHANNON BLDG., STE 100
LITTLE ROCK, AR 72211

CALVERT CITY

SITE NO. KYBGN2027
MARSHALL COUNTY, KENTUCKY

DRAWN BY: AJT	SHEET: 2
CHECKED BY: JKL	
APPROVED: D. MILLER	
DATE: JANUARY 25, 2021	
P2P JOB #: 202597KY	OF 3

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LEGAL DESCRIPTION SHEET

PARENT PARCEL

(PER ORDER NO. 33544641)

A 176.88-ACRE TRACT OF LAND AS SURVEYED BY GAMMEL, TRAVIS AND WILLIAMS OF BENTON, KENTUCKY IN MAY, 1981, AND GENERALLY LOCATED SOUTH OF CALVERT CITY, KENTUCKY, APPROXIMATELY 0.4 MILES SOUTH OF INTERSTATE 24 AND ON THE WEST SIDE OF HIGHWAY 95, AND MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE NORTHEAST CORNER OF THE PROPERTY HEREIN CONVEYED, SAID CORNER BEING A 1/2" RE-BAR IRON PIN SET IN THE WEST RIGHT-OF-WAY OF HIGHWAY 95 (30 FEET WEST OF THE CENTERLINE), 60.38 FEET ON A BEARING OF NORTH 89° 52' 39" WEST FROM AN EXISTING 1/2" RE-BAR IRON PIN SET AT THE NORTHWEST CORNER OF A 66.28 ACRE TRACT AND 1.75 FEET EAST OF A FENCE CORNER POST, SAID IRON PIN ALSO BEING THE SOUTHEAST CORNER OF TROY MILTON STEVENSON PROPERTY AS DESCRIBED IN DEED BOOK 156, PAGE 575; THENCE, ALONG THE WEST RIGHT-OF-WAY OF HIGHWAY 95 AND WHEN PROJECTED ON STRAIGHT LINES: SOUTH 5° 15' 47" WEST -1,464.77 FEET TO A POINT; SOUTH 3° 54' 15" WEST -229.20 FEET TO AN EXISTING 1" PIPE IN THE WEST RIGHT-OF-WAY OF HIGHWAY 95 (30 FEET WEST OF THE CENTER-LINE) AT A FENCE CORNER POST, SAID PIPE BEING THE NORTHEAST CORNER OF THE JERRY BYARS PROPERTY (DEED BOOK 186, PAGE 630); THENCE, SOUTH 88° 51' 33" WEST -241.41 FEET GENERALLY FOLLOWING A FENCE ALONG THE NORTH BOUNDARY OF THE BYARS PROPERTY TO AN EXISTING 1" PIPE AT A FENCE CORNER POST; THENCE, SOUTH 2° 59' 03" WEST -216.78 FEET GENERALLY FOLLOWING A FENCE ALONG A WEST LINE OF THE BYARS PROPERTY TO AN EXISTING 3/4" IRON PIN AT A FENCE CORNER POST; THENCE, NORTH 89° 33' 11" WEST -2,974.80 FEET GENERALLY FOLLOWING A FENCE ALONG THE NORTH LINES OF THE BYARS PROPERTY, THE CAL LITTLEJOHN PROPERTY (DEED BOOK 107, PAGE 545) AND EGNER FARMS (WILL BOOK 7, PAGE 355), CROSSING THE CENTERLINE OF THE TEXAS GAS PIPELINE EASEMENT AT APPROXIMATELY 2,100 FEET, TO A 1/2" RE-BAR IRON PIN SET ON THE SOUTH SIDE OF A FENCE CORNER POST; THENCE, NORTH 1° 34' 51" WEST -2,455.66 FEET GENERALLY FOLLOWING A FENCE ALONG THE EAST BOUNDARY OF THE EGNER FARMS, THE L. V. MCGREGOR PROPERTY (DEED BOOK 75, PAGE 390) THE J. D. BRADLEY PROPERTY (DEED BOOK 160, PAGE 59), CROSSING THE CENTERLINE OF A POWERLINE EASEMENT APPROXIMATELY 435 FEET, TO A 1/2" RE-BAR IRON PIN SET IN THE ROOT OF A 48" TWIN OAK, FENCE CORNER; THENCE, SOUTH 88° 15' 04" EAST -2,766.59 FEET GENERALLY FOLLOWING A FENCE ALONG THE SOUTH BOUNDARY OF THE FRANK MYERS PROPERTY (DEED BOOK 152, PAGE 355) AND THE OLLIE STEVENSON PROPERTY (DEED BOOK 85, PAGE 455) TO A 1/2" RE-BAR IRON PIN SET AT A FENCE CORNER POST, SAID IRON PIN BEING 53.34 FEET NORTH OF A GAS LINE MARKER; THENCE, SOUTH 1° 28' 24" WEST -451.02 FEET GENERALLY ALONG A FENCE ALONG THE WEST BOUNDARY OF THE TROY MILTON STEVENSON PROPERTY, CROSSING THE CENTERLINE OF THE TEXAS GAS PIPELINE EASEMENT AT APPROXIMATELY 250 FEET, TO A 1/2" RE-BAR IRON PIN SET A FENCE CORNER POST, 6.63 FEET SOUTH OF A GAS LINE MARKER; THENCE, SOUTH 87°10' 38" EAST -692.22 FEET GENERALLY FOLLOWING A FENCE ALONG THE SOUTH LINE OF THE TROY MILTON STEVENSON PROPERTY TO THE POINT OF BEGINNING.

AND BEING A PORTION OF THE SAME PROPERTY CONVEYED TO PATRICIA S. TAYLOR AND LAWRENCE J. TAYLOR, A ONE THIRD (1/3) UNDIVIDED INTEREST, CECELIA F. SOLOMON, A ONE THIRD (1/3) UNDIVIDED INTEREST, JOHN A. HARRINGTON SR., A ONE-SIXTH (1/6) UNDIVIDED INTEREST, AND PAMELA F. SIMMONS, A ONE-SIXTH (1/6) UNDIVIDED INTEREST FROM STEPHEN W. HARRINGTON AND SHIRLEY HARRINGTON, PATRICIA S. TAYLOR AND LAWRENCE J. TAYLOR, CECELIA F. SOLOMON, JOHN A. HARRINGTON, SR., AND PAMELA F. SIMMONS AND LARRY SIMMONS BY QUITCLAIM DEED DATED OCTOBER 1, 1997 AND RECORDED OCTOBER 2, 1997 IN DEED BOOK 298, PAGE 217.

TAX PARCEL NO. 33-00-00-035

LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND, LYING AND BEING IN MARSHALL COUNTY, KENTUCKY, AND BEING A PORTION OF THE LANDS OF PATRICIA S. TAYLOR, LAWRENCE J. TAYLOR, CECELIA F. SOLOMAN, AND MARY E. HARRINGTON, AS RECORDED IN DEED BOOK 202, PAGE 578, MARSHALL COUNTY RECORDS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE, AT A ½-INCH OPEN TOP PIPE FOUND AT A SOUTHEASTERN PROPERTY CORNER OF SAID LANDS, SAID PIPE HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3527166.5623 E: 4159251.5336; THENCE RUNNING ALONG A TIE-LINE, NORTH 10°33'17" EAST, 1295.82 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3528440.4595 E: 4159488.8937 AND THE TRUE POINT OF BEGINNING; THENCE, NORTH 08°15'50" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 81°44'10" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 08°15'50" WEST, 100.00 FEET TO A POINT; THENCE NORTH 81°44'10" WEST, 100.00 FEET TO A POINT AND THE POINT OF BEGINNING.

BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUES.

SAID TRACT CONTAINS 0.2296 ACRES (10,000 SQUARE FEET), MORE OR LESS.

30' INGRESS-EGRESS & UTILITY EASEMENT

TOGETHER WITH A 30-FOOT WIDE INGRESS-EGRESS AND UTILITY EASEMENT (LYING 15 FEET EACH SIDE OF CENTERLINE), LYING AND BEING IN MARSHALL COUNTY, KENTUCKY, AND BEING A PORTION OF THE LANDS OF PATRICIA S. TAYLOR, LAWRENCE J. TAYLOR, CECELIA F. SOLOMAN, AND MARY E. HARRINGTON, AS RECORDED IN DEED BOOK 202, PAGE 578, MARSHALL COUNTY RECORDS, AND BEING MORE PARTICULARLY DESCRIBED BY THE FOLLOWING CENTERLINE DATA:

TO FIND THE POINT OF BEGINNING, COMMENCE, AT A ½-INCH OPEN TOP PIPE FOUND AT A SOUTHEASTERN PROPERTY CORNER OF SAID LANDS, SAID PIPE HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3527166.5623 E: 4159251.5336; THENCE RUNNING ALONG A TIE-LINE, NORTH 10°33'17" EAST, 1295.82 FEET TO A POINT ON THE LEASE AREA, HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3528440.4595 E: 4159488.8937 THENCE, RUNNING WITH SAID LEASE AREA, NORTH 08°15'50" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 81°44'10" EAST, 100.00 FEET TO A POINT; THENCE SOUTH 08°15'50" WEST 75.00 FEET TO A POINT AND THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID LEASE AREA AND RUNNING SOUTH 81°44'10" EAST 84.26 FEET TO AN ENDING POINT ON THE WESTERN RIGHT-OF-WAY LINE OF KENTUCKY HIGHWAY NO. 95 (HAVING A 60-FOOT PUBLIC RIGHT-OF-WAY, PER PLAT CABINET F, SLIDE 356).

BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUES.

SURVEY NOT VALID WITHOUT SHEETS 1 & 2 OF 3

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

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SPECIFIC PURPOSE SURVEY PREPARED FOR:

HARMONI TOWERS

10801 EXECUTIVE CENTER DRIVE
SHANNON BLDG., STE 100
LITTLE ROCK, AR 72211

CALVERT CITY

SITE NO.
KYBGN2027
MARSHALL COUNTY, KENTUCKY

DRAWN BY: AJT
CHECKED BY: JKL
APPROVED: D. MILLER
DATE: JANUARY 25, 2021
P2P JOB #: 202597KY

SHEET: 3 OF 3

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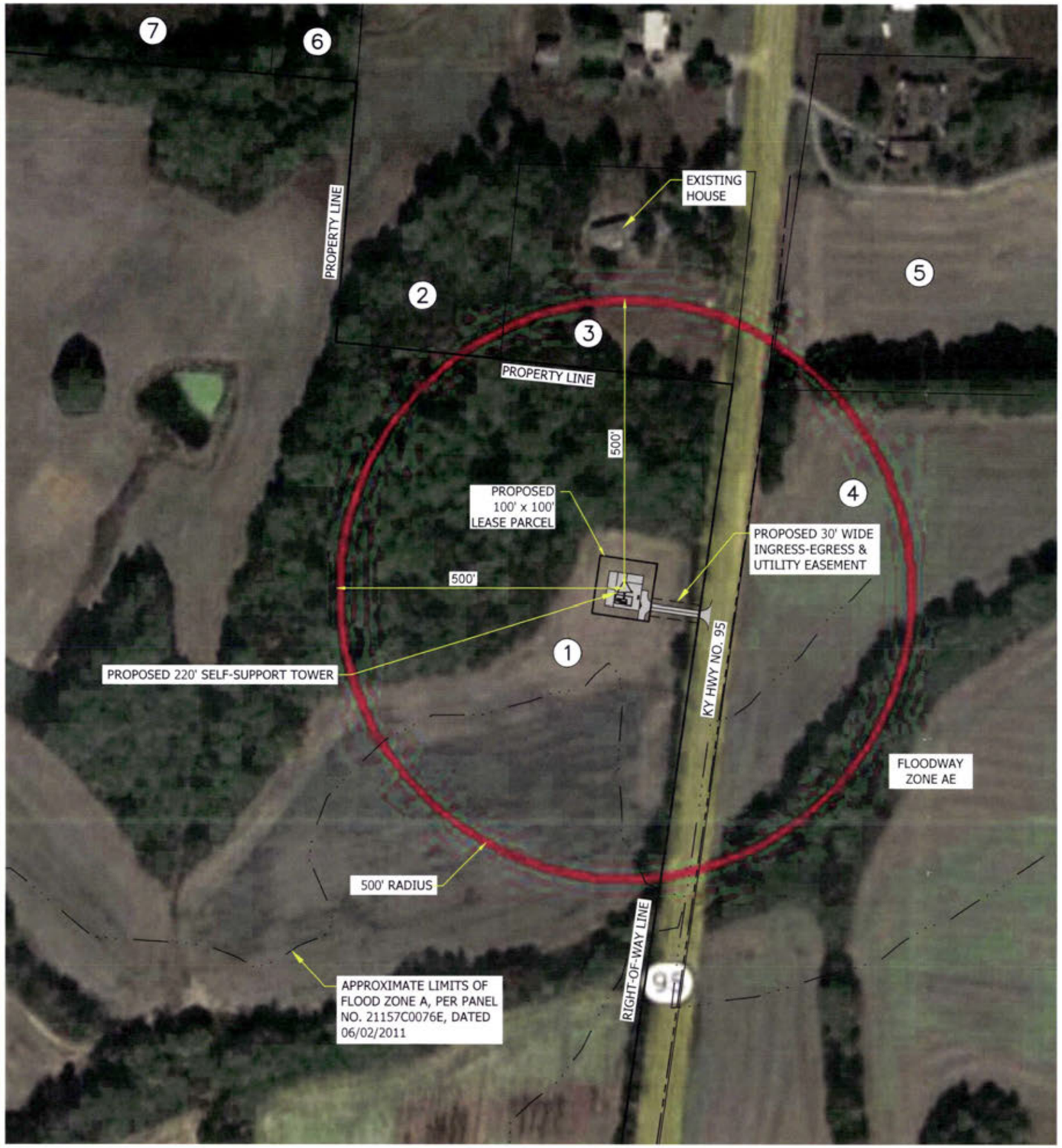


#	OWNER	ADDRESS	PID	REF
1	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000035000000	DB 202 PG 578
2	STEVENSON MILTON AND GLENDA	1218 US HIGHWAY 95 CALVERT CITY, KY 42029	330000034000000	DB 156 PG 575
3	PATRICK L STEVENSON	13 DEES LN CALVERT CITY, KY 42029	330000034010000	DB 440 PG 377
4	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000073000000	DB 195 PG 627
5	LEAMON J & SHIRLEY FUTRELL	1243 US HIGHWAY 95 CALVERT CITY, KY 42029	330000074000000	DB 178 PG 551
6	JAMES M STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033040000	DB 450 PG 649
7	JAMES STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033000000	DB 466 PG 558

NOTE:

1. PVA INFORMATION WAS OBTAINED ON 1/25/2021 AND UPDATED ON 8/18/2022 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

1 500' RADIUS & ADJOINER'S DRAWING
SCALE: 0' 100' 200' 300' 400' 1"=200'

N

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS BEFORE YOU DIG!

811

B+T GRP

at&t mobility corp.

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# _____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: G0144556.001.12
CHECKED BY: MAS

ISSUED FOR:

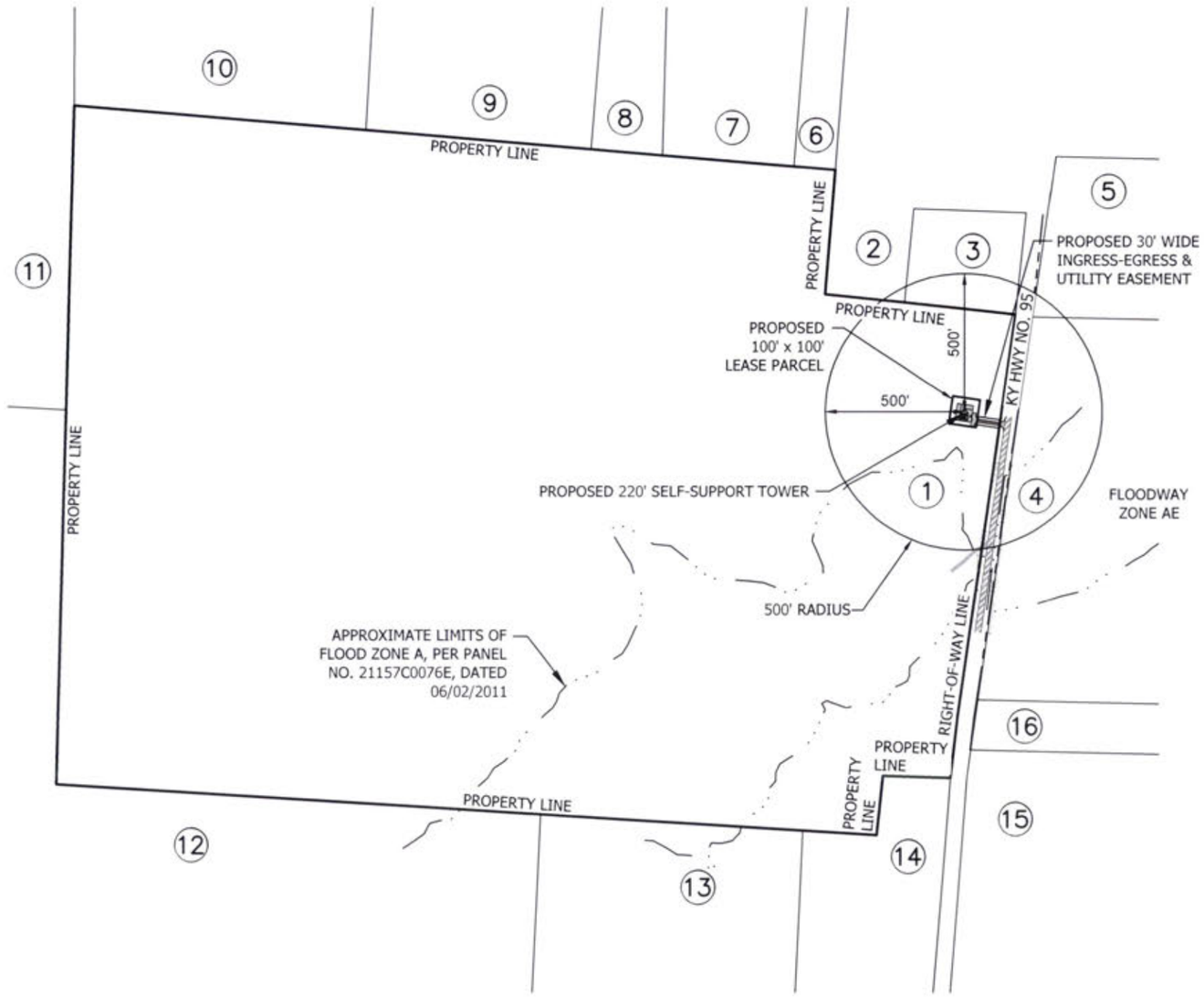
REV	DATE	DRWN	DESCRIPTION
B	11/17/21	RMC	REVIEW
0	12/20/21	MAS	REVIEW
1	08/25/22	DLS	REVIEW

B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRAD P. MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

500' RADIUS & ADJOINER'S DRAWING

SHEET NUMBER:
C-1.0



#	OWNER	ADDRESS	PID	REF
1	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000035000000	DB 202 PG 578
2	STEVENSON MILTON AND GLENDA	1218 US HIGHWAY 95 CALVERT CITY, KY 42029	330000034000000	DB 156 PG 575
3	PATRICK L STEVENSON	13 DEES LN CALVERT CITY, KY 42029	330000034010000	DB 440 PG 377
4	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000073000000	DB 195 PG 627
5	LEAMON J & SHIRLEY FUTRELL	1243 US HIGHWAY 95 CALVERT CITY, KY 42029	330000074000000	DB 178 PG 551
6	JAMES M STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033040000	DB 450 PG 649
7	JAMES STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033000000	DB 466 PG 558
8	EALVIS R STEVENSON	161 DEES LN CALVERT CITY, KY 42029	330000033010000	DB 393 PG 640
9	EALVIS RAY STEVENSON	145 DEES LN CALVERT CITY, KY 42029	330000033030000	DB 432 PG 341
10	ROBERT W & SANDY F DAVIS	1958 NEEDMORE RD CALVERT CITY, KY 42029	330000029000000	DB 478 PG 585
11	RUSSELL T & MARY JO RILEY	PO BOX 627 CALVERT CITY, KY 42029	330000026000000	DB 250 PG 100
12	RUSSELL T & MARY JO RILEY	PO BOX 627 CALVERT CITY, KY 42029	330000021010000	DB 274 PG 282
13	JAMES ROBERT & CALVIN BERNIE LITTLEJOHN	9 WEST ST UNIT A MADISON, NJ 07940	330000037000000	DB 318 PG 253
14	RONALD PAUL & LAURIE JO ADRIAN	1678 US HIGHWAY 95 CALVERT CITY, KY 42029	33000003600M000	DB 244 PG 478
15	STEPHANIE DUCKETT	35 JERICHO LN CALVERT CITY, KY 42029	330A00002000000	DB 382 PG 600
16	BRUCE E ADAMS	35 JERICHO LN CALVERT CITY, KY 42029	330A00001000000	DB 385 PG 631

NOTE:

1. PVA INFORMATION WAS OBTAINED ON 1/25/2021 AND UPDATED ON 8/18/2022 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

1 OVERALL ADJOINER'S DRAWING
SCALE: 1"=500'
0' 250' 500' 750' 1000'

N

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

B+T GRP

at&t mobility corp.

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# _____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: G0144556.001.12
CHECKED BY: MAS

ISSUED FOR:

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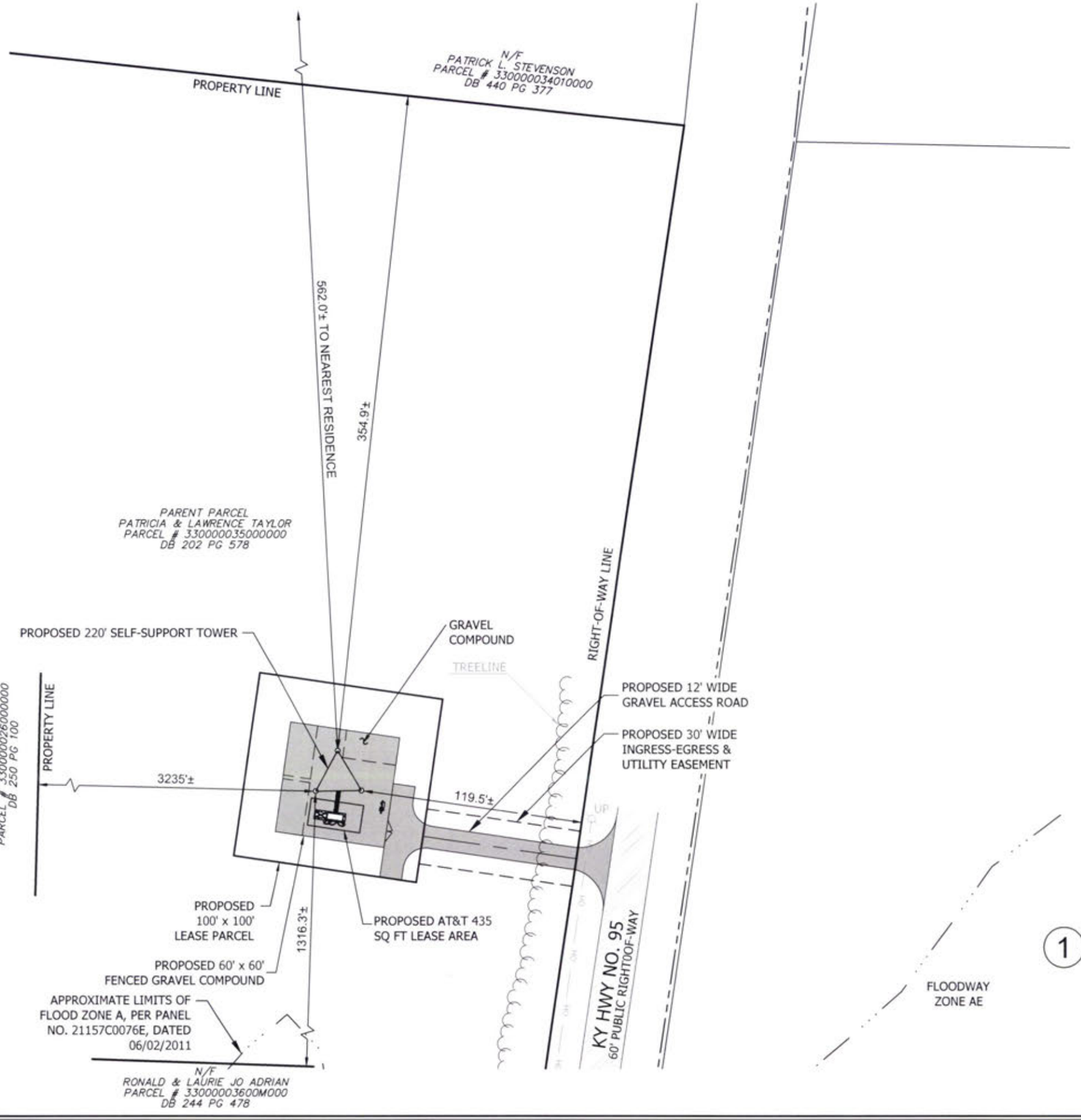
STATE OF KENTUCKY
BRAD P. KILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

OVERALL ADJOINER'S DRAWING

SHEET NUMBER:
C-1.1



1 OVERALL SITE LAYOUT
SCALE: 0' 30' 60' 90' 120' 1"=60'

N

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS
BEFORE YOU DIG!

NOTES:

1. TOWER LATITUDE, LONGITUDE & ELEVATION MEET FAA"1-A" ACCURACY REQUIREMENTS.

2. CENTER OF TOWER:

LATITUDE: NORTH 36°59'03.19" (36.984219) NAD 83
LONGITUDE: WEST -88°21'28.88" (-88.358022) NAD 83
GROUND ELEVATION @ 358.7' A.M.S.L. NAVD 88

3. THE APPROXIMATE PERPENDICULAR DISTANCES FROM THE OUTER EDGE OF THE PROPOSED TOWER TO PARENT TRACT NEAREST PROPERTY LINE ARE AS FOLLOWS:

NORTHEAST:	354.9'±
SOUTHWEST:	1316.3'±
SOUTHEAST:	119.5'±
NORTHWEST:	3235.0'±

B+T GRP

at&t mobility corp.

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# (PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: G0144556.001.12
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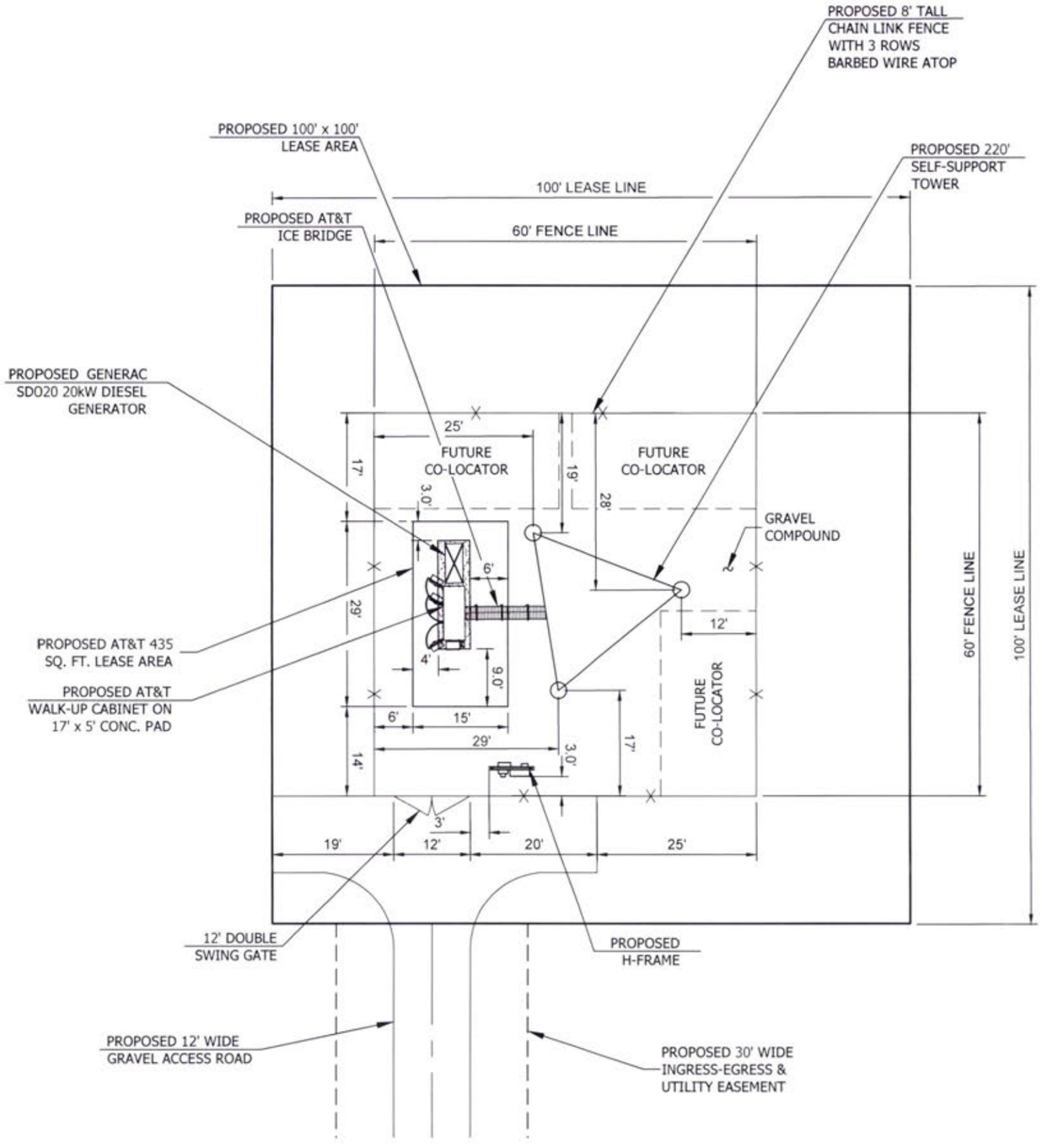
B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRADLEY MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

OVERALL SITE LAYOUT

SHEET NUMBER:
C-2



1 ENLARGED COMPOUND LAYOUT

SCALE: 1"=20'

0' 10' 20' 30' 40'

N

CALL KENTUCKY ONE CALL
(800) 752-6007
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811

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HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# _____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO:	G0144556.001.12
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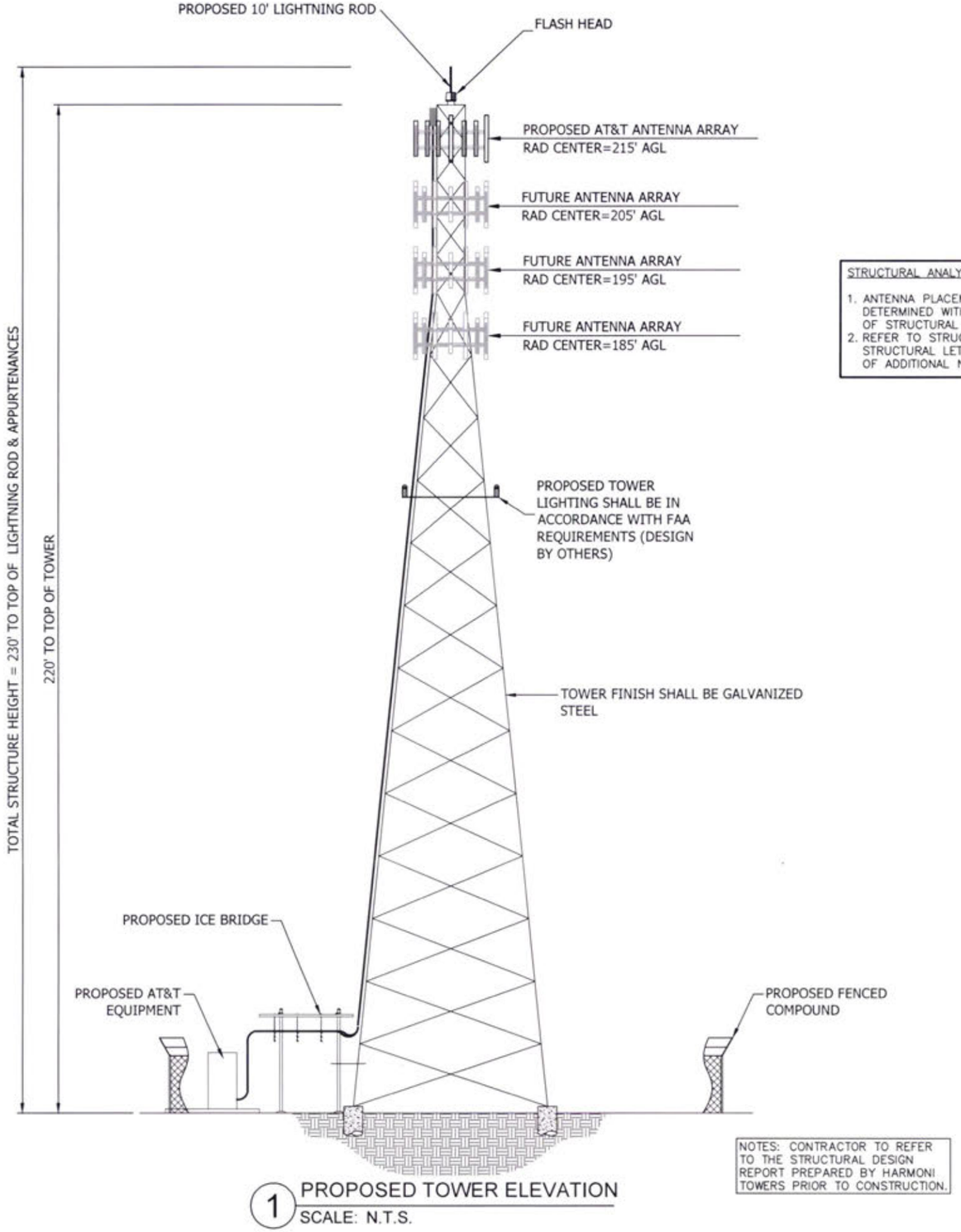
4011
Expires 12/31/22

STATE OF KENTUCKY
BRAD P. PHILAKOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

ENLARGED COMPOUND LAYOUT

SHEET NUMBER:
C-3



1 PROPOSED TOWER ELEVATION
SCALE: N.T.S.

STRUCTURAL ANALYSIS NOTES:

1. ANTENNA PLACEMENT WAS DETERMINED WITHOUT VERIFICATION OF STRUCTURAL ANALYSIS.
2. REFER TO STRUCTURAL ANALYSIS OR STRUCTURAL LETTER FOR APPROVAL OF ADDITIONAL NEW APPURTENANCES.

NOTES: CONTRACTOR TO REFER TO THE STRUCTURAL DESIGN REPORT PREPARED BY HARMONI TOWERS PRIOR TO CONSTRUCTION.

B+T GRP

at&t mobility corp.

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# _____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO:	G0144556.001.12
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B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRAD P. MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

TOWER ELEVATION

SHEET NUMBER:
C-4

EXHIBIT C
TOWER AND FOUNDATION DESIGN

HARMONI TOWERS

January 21, 2022

Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

RE: Site Name – I-24/Purchase Parkway Relo/Calvert City
Proposed Cell Tower
36.984219 North Latitude, 88.358022 West Longitude

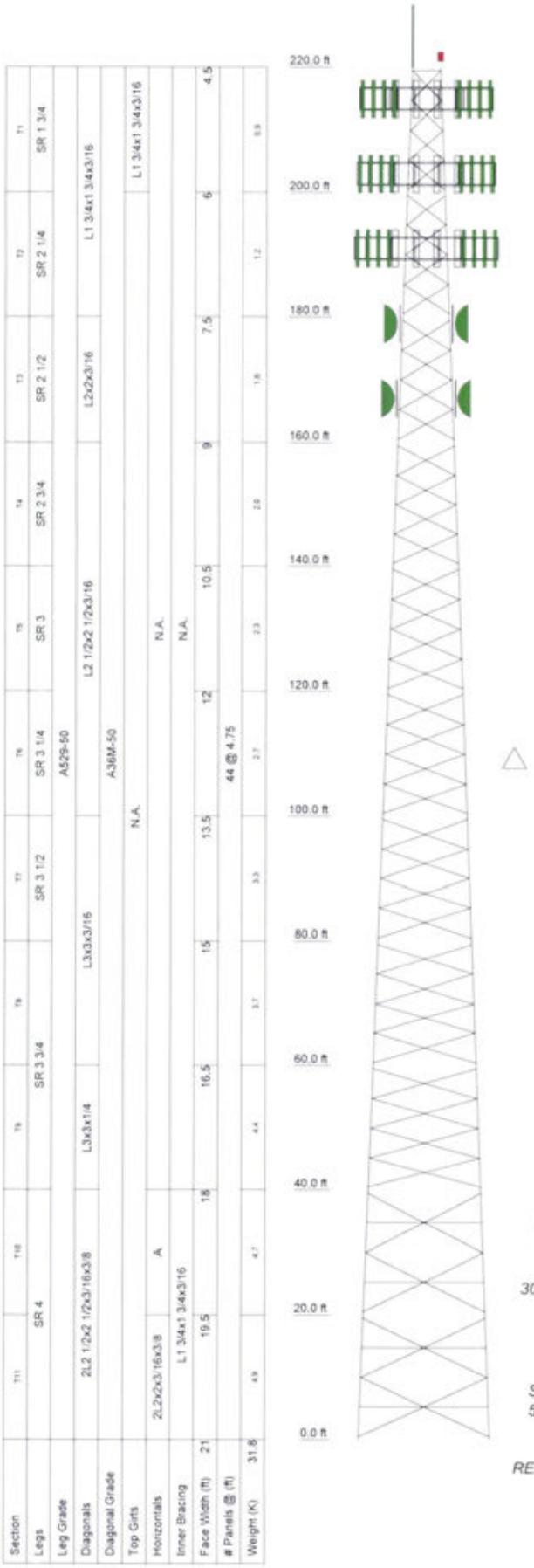
Dear Commissioners:

The Construction Manager for the proposed new communications facility will be Marshall Corbin. His contact information is (540) 287-8142 or Marshall Corbin@harmonitowers.com. Marshall has been in the industry completing civil construction and constructing towers since 1996. He has worked at Harmoni Towers LLC since 2021 completing project and construction management on new site build projects.

Thank you,

Marshall Corbin
Marshall Corbin
Construction Manager – Tennessee/Kentucky Market
Harmoni Towers LLC

Harmoni Towers LLC
11101 Anderson Drive, Suite 200
Little Rock, AR 72212
501.621.0521 | harmonitowers.com



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 1"x10'	220	Sector1(CaAa=10000 Sq.in)No Ice (Carrier 3)	191
Top Beacon	220	Sector2(CaAa=10000 Sq.in)No Ice (Carrier 3)	191
Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	215	Sector3(CaAa=10000 Sq.in)No Ice (Carrier 3)	191
Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	215	4 1/2" OD Dish Mount (Carrier 4)	179
Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 1)	215	4 1/2" OD Dish Mount (Carrier 4)	179
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	203	6' MW Dish (Carrier 4)	179
		6' MW Dish (Carrier 4)	179
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	203	4 1/2" OD Dish Mount (Carrier 5)	167
		4 1/2" OD Dish Mount (Carrier 5)	167
Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2)	203	6' MW Dish (Carrier 5)	167
		6' MW Dish (Carrier 5)	167

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	2L1 3/4x1 3/4x3/16x3/8		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A529-50	50 ksi	65 ksi	A36M-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower is located in Marshall County, Kentucky.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 106 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 30 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity.

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 442 K
SHEAR: 33 K

UPLIFT: -389 K
SHEAR: 31 K

AXIAL 173 K
SHEAR 8 K *MOMENT 1141 kip-ft*
TORQUE 4 kip-ft
30 mph WIND - 1.500 in ICE

AXIAL 62 K
SHEAR 57 K *MOMENT 7675 kip-ft*
TORQUE 29 kip-ft
REACTIONS - 106 mph WIND

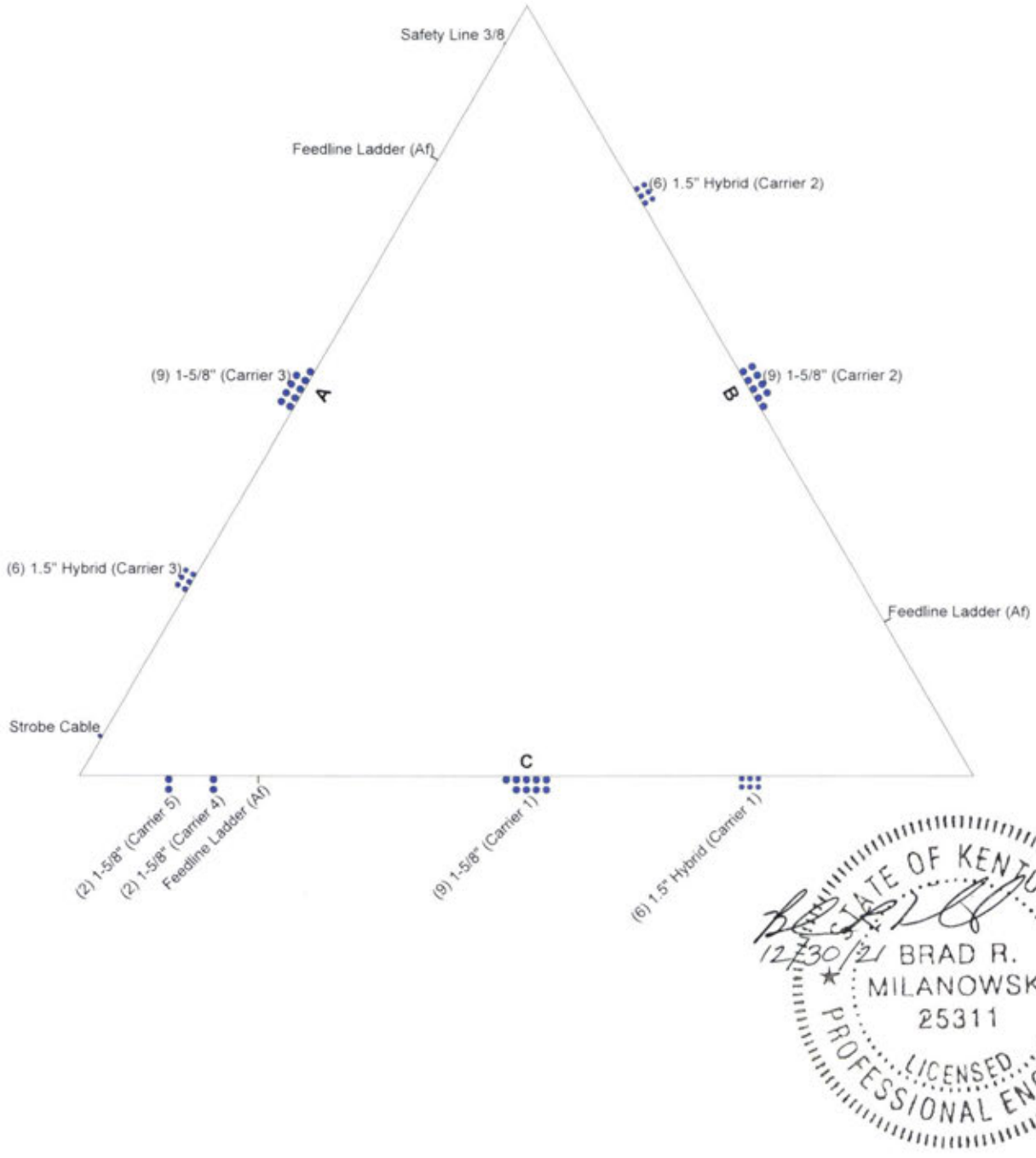
STATE OF KENTUCKY
12/30/21 BRAD R. MILANOWSKI 25311
LICENSED PROFESSIONAL ENGINEER

ARCOSA
TELECOM STRUCTURES

B+T Group
1717 S Boulder Ave, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: ATS #9322- Calvert City			
Project: 220' SST/36.984285, -88.357966			
Client: Harmoni Towers	Drawn by: rose.denny		App'd:
Code: TIA-222-H	Date: 12/29/21		Scale: NTS
Path:			Dwg No. E-1

Feed Line Plan

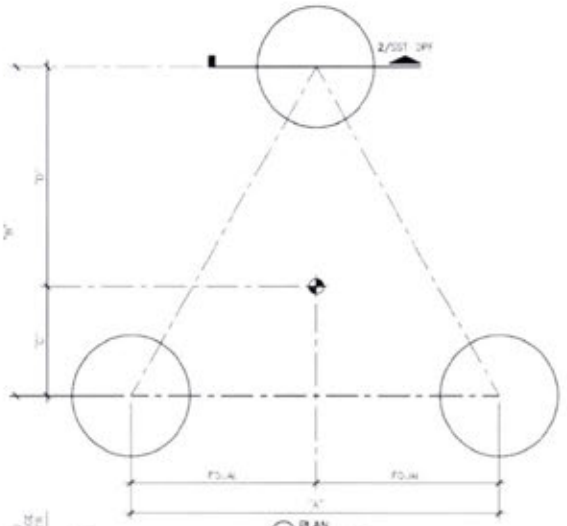


STATE OF KENTUCKY
12/30/21 BRAD R. MILANOWSKI 25311
LICENSED PROFESSIONAL ENGINEER

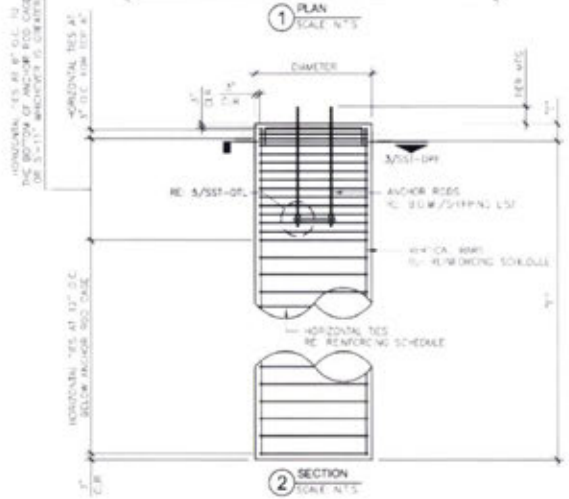
ARCOSA
TELECOM STRUCTURES

B+T Group
1717 S Boulder Ave, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

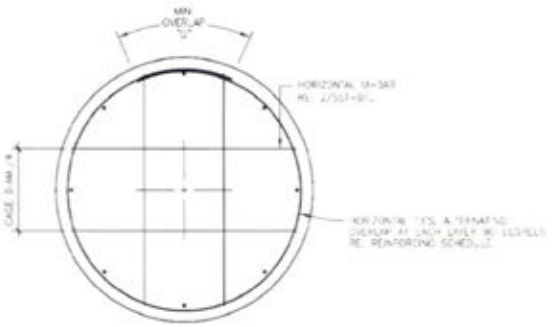
Job:	ATS #9322- Calvert City		
Project:	220' SST/36.984285, -88.357966		
Client:	Harmoni Towers	Drawn by: rose.denny	App'd:
Code:	TIA-222-H	Date: 12/29/21	Scale: NTS
Path:			Dwg No. E-7



1 PLAN
SCALE: N.T.S



2 SECTION
SCALE: N.T.S



3 SECTION
SCALE: N.T.S

NOTES:

1. REINFORCEMENT STEEL SHALL CONFIRM TO THE REQUIREMENT OF ASTM A 615 (GRADE 60) EXCEPT THAT TIES MAY BE ASTM IES (GRADE 40) WITH MINIMUM CLEAR COVER.
2. REINFORCEMENT STEEL SHALL BE DETAILED, FABRICATED, BENT, AND PLACED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE AND THE ACI 315 (LATEST EDITION).
3. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE GEOTECH REPORT FOR THIS PROJECT AND FOLLOW THE RECOMMENDATIONS IN THAT REPORT WHEN CONSTRUCTING THE FOUNDATION.
   GEOTECHNICAL PROPERTIES BY: ALT & WITZIG ENGINEERING, INC
   PROJECT NUMBER: 21N08155
   DATE: DECEMBER 17,2021
4. THIS FOUNDATION HAS BEEN DESIGNED, IN ACCORDANCE WITH THE TIA 222-H STANDARD, SPECIFICALLY FOR THE TOWER AND SOIL CONDITION REFERENCED ABOVE. IF ANYTHING DIFFERS THIS DESIGN SHALL BE CONSIDERED INVALID AND MUST BE REDESIGNED PRIOR TO CONSTRUCTION.
5. TOTAL CONCRETE VOLUME FOR ALL (3) PIERS IN CUBIC YARDS: 91.94
6. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
7. CONCRETE MIXTURES SHALL MEET DURABILITY REQUIREMENTS OF CHAPTER 19 OF THE ACI 318-14.
8. ALL CONCRETE TESTING SHALL BE IN ACCORDANCE WITH ACI 318-14. A MINIMUM OF (2) 6"X12" OR (3) 4"X8" CONCRETE CYLINDERS PER INDIVIDUAL FOUNDATION AND A MINIMUM OF (6) 6"X12" OR (6) 4"X8" CYLINDERS PER BATCH REQUIRED.
9. SLUMP TEST SHALL BE MADE IN ACCORDANCE WITH ASTM C143. THE ALLOWABLE CONCRETE SLUMP SHALL BE 4 INCHES (±1") UNLESS ADMIXTURES ARE USED. ADMIXTURE SHALL BE IN ACCORDANCE WITH ASTM C494 STANDARD TYPES A, B, C, D OR E. THE ENGINEER SHALL PRE-APPROVE SUPER PLASTICIZER USE. DO NOT USE CHLORIDE-CONTAINING ADMIXTURES. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260.
10. BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM UNIT WEIGHT SPECIFIED IN GEOTECH REPORT. THE SOIL SHALL BE INSTALLED IN 6" TO 8" LIFTS AND COMPACTED THOROUGHLY TO ACHIEVE APPROPRIATE UNIT WEIGHT UNLESS GEOTECH SPECIFIES OTHER COMPACTION REQUIREMENTS.
11. VERIFY ALL DIMENSIONS AGAINST MANUFACTURER'S DRAWINGS.

STIPULATION FOR REUSE:

1. THIS DRAWING WAS SPECIFICALLY DESIGNED FOR USE BY THE CUSTOMER ON THIS DRAWING AT THE SPECIFIED LOCATION. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF A PROPERLY LICENSED ENGINEER.

DIMENSIONING SCHEDULE	
A	21'-0"
B	18'-3 1/4"
C	6'-3/4"
D	12'-3 1/2"
E	9'-6"
F	21'-0"
MIN. OVERLAP "G"	2'-3"
LOADING	1'-0"

REINFORCING SCHEDULE	SIZE	TOTAL QTY
VERTICAL BARS	#9	84
HORIZONTAL TIES	#4	87
U-BAR HORIZONTAL	#4	12

BASE REACTIONS: (FACTORED LOADS)		
GLOBAL REACTIONS		
MOMENT	7675	KIP-FT
AXIAL	62	KIPS
SHEAR	57	KIPS
REACTIONS PER LEG		
COMPRESSION AXIAL	440	KIPS
COMPRESSION SHEAR	33	KIPS
UPLIFT AXIAL	389	KIPS
UPLIFT SHEAR	33	KIPS

B+T GRP
17171 BOULDER AVE #300, TULSA, OK 74119
(918) 587-4630

ARCOSA
TELECOM STRUCTURES
4020 TULL AVE, MUSKOGEE, OK 74403

ISSUED FOR:

REV	DATE	DESCRIPTION
0	12/30/21	ISSUED FOR CONSTRUCTION

COA: 4011

EXPIRES: 12/31/2022

STATE OF KENTUCKY
BRAD R. MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
12/30/21

PROJECT INFORMATION

PROJECT NO: 160109.001
SITE NAME: CALVERT CITY
SITE NO: 9322
CLIENT NAME: ARCOSA TELECOM STRUCTURES

DRAWN BY: ROSE DENNY
CHECKED BY:

SHEET TITLE:
DRILLED PIER FOUNDATION

SHEET NUMBER	REVISION
SST-DPF	0

DIMENSIONING SCHEDULE	
A	29'-0"
B	4'-0"
C	21'-0"
D	5'-4 7/8"
E	18'-2 1/4"
F	3 3/8
I	0'-6
K	6'-0"
	2'-0"
MIN OVERLAP "M"	2'-3"
DIAMETER	5'-0"

REINFORCING SCHEDULE	SIZE	TOTAL QTY
VERTICAL BARS WITH 90° BEND	# 8	36
HORIZONTAL TIES	# 4	42
HORIZONTAL U-BAR (PEDESTAL)	# 4	12
TOP HORIZONTAL BARS	# 8	68
BOTTOM HORIZONTAL BARS	# 8	68
CORNER BARS	# 4	8
VERTICAL U-BARS (PAD)	# 4	68

BASE REACTIONS: (FACTORED LOADS)		
GLOBAL REACTIONS		
MOMENT	7675	KIP-FT
AXIAL	62	KIPS
SHEAR	57	KIPS
REACTIONS PER LEG		
COMPRESSION AXIAL	442	KIPS
COMPRESSION SHEAR	33	KIPS
UPLIFT AXIAL	589	KIPS
UPLIFT SHEAR	33	KIPS

NOTES:

1. REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENT OF ASTM A 615 (GRADE 60) EXCEPT THAT TIES MAY BE ASTM 615 (GRADE 4 WITH 3" MINIMUM CLEAR COVER
2. REINFORCEMENT STEEL SHALL BE DETAILED, FABRICATED, BENT, AND PLACED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE AND THE ACI 315 (LATEST EDITION)
3. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE GEOTECH REPORT FOR THIS PROJECT AND FOLLOW THE RECOMMENDATIONS IN THAT REPORT WHEN CONSTRUCTING THE FOUNDATION
   GEOTECHNICAL PROPERTIES BY: ALT & WITZIG ENGINEERING, INC.
   PROJECT NUMBER: 21N0855
   DATE: DECEMBER 17,2021
4. THIS FOUNDATION HAS BEEN DESIGNED, IN ACCORDANCE WITH THE TIA 222-H STANDARD, SPECIFICALLY FOR THE TOWER AND SOIL CONDITION REFERENCED ABOVE. IF ANYTHING DIFFERS THIS DESIGN SHALL BE CONSIDERED INVALID AND MUST BE REDESIGNED PRIOR TO CONSTRUCTION
5. CONCRETE VOLUME IN CUBIC YARDS: 65.83
6. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS
7. CONCRETE MIXTURES SHALL MEET DURABILITY REQUIREMENTS OF CHAPTER 19 OF THE ACI 318-14
8. ALL CONCRETE TESTING SHALL BE IN ACCORDANCE WITH ACI 318-14. A MINIMUM OF (2) 6"X12" OR (3) 4"X8" CONCRETE CYLINDERS PER INDIVIDUAL FOUNDATION AND A MINIMUM OF (6) 6"X12" OR (6) 4"X8" CYLINDERS PER BATCH REQUIRED.
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10. BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM UNIT WEIGHT SPECIFIED IN GEOTECH REPORT. THE SOIL SHALL BE INSTALLED IN [illegible] TO 8" LIFTS AND COMPACTED THOROUGHLY TO ACHIEVE APPROPRIATE UNIT WEIGHT UNLESS GEOTECH SPECIFIES OTHER COMPACTION REQUIREMENTS.
11. VERIFY ALL DIMENSIONS AGAINST MANUFACTURER'S DRAWING.

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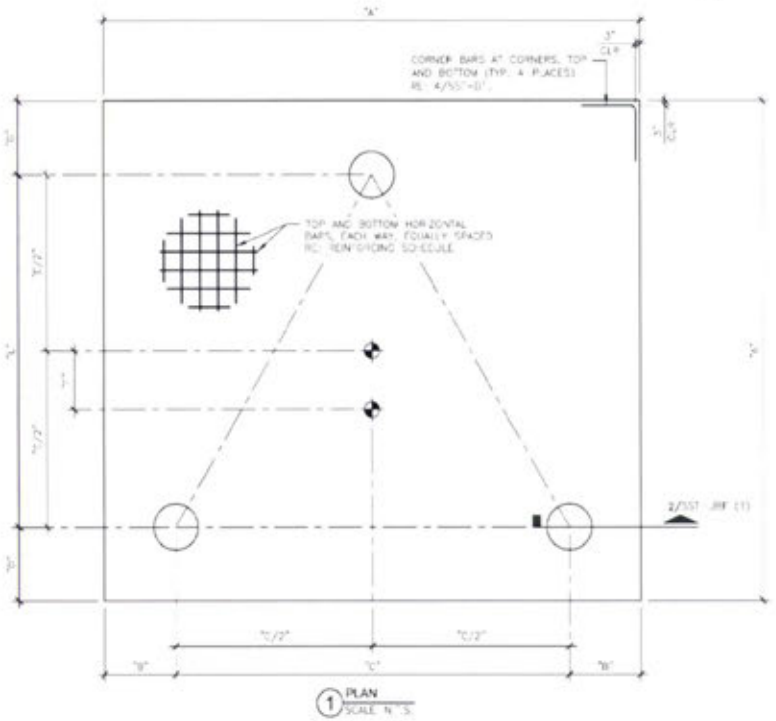
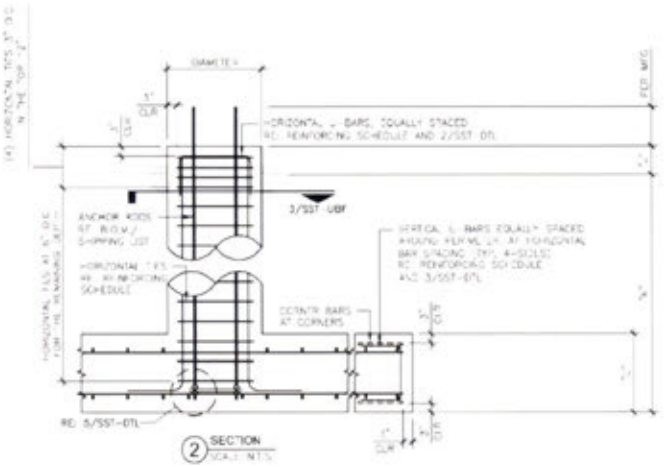
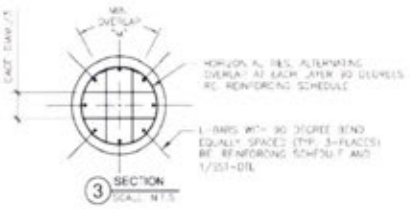


1 PLAN
SCALE: N.T.S.



2 SECTION
SCALE: N.T.S.



3 SECTION
SCALE: N.T.S.

B+T GRP

1717 S BOULDER AVE #300, TULSA, OK 74119
(918) 587-4630

ARCOSA
TELECOM STRUCTURES

4020 TULL AVE, MUSKOGEE, OK 74403

ISSUED FOR:

REV	DATE	DESCRIPTION
0	12/30/21	ISSUED FOR CONSTRUCTION

CDA: 4011

EXPIRES: 12/31/2022

STATE OF KENTUCKY
BRAD R. MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
12/30/21

PROJECT INFORMATION

PROJECT NO: 160109.001
SITE NAME: CALVERT CITY
SITE NO: 9322
CLIENT NAME: ARCOSA TELECOM STRUCTURES

DRAWN BY: ROSE DENNI
CHECKED BY:

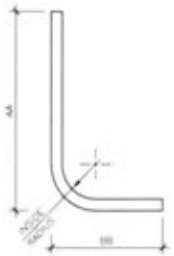
SHEET TITLE

UNIT BASE FOUNDATION

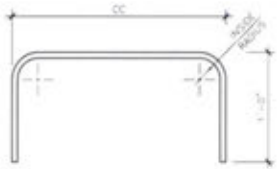
SHEET NUMBER	REVISION
SST-UBF	0

DIMENSIONING SCHEDULE	
AA*	5'-10"
BB	1'-3"
CC*	VARIES
DD*	1'-6"
EE	3'-0"

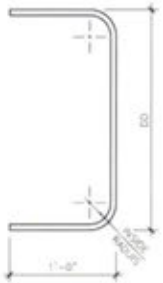
*NOTE: CONTRACTOR TO VERIFY DIMENSIONS PRIOR TO FABRICATION



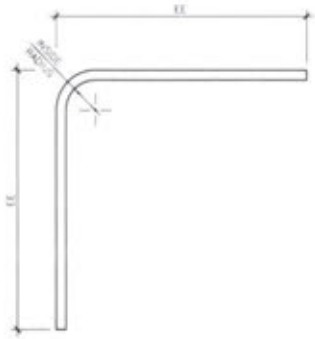
1 L-BAR
SCALE: N.T.S.



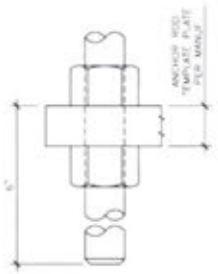
2 HORIZONTAL U-BAR
SCALE: N.T.S.



3 VERTICAL U-BAR
SCALE: N.T.S.



4 CORNER BAR
SCALE: N.T.S.



5 ANCHOR ROD DETAIL
SCALE: N.T.S.

B+T GRP
17171 BOULDER AVE #300, TULSA, OK 74119
(918) 587-4630

ARCOSA
TELECOM STRUCTURES
4020 TULL AVE. MUSKOGEE, OK 74403

ISSUED FOR:

REV.	DATE	DESCRIPTION
0	12/30/21	ISSUED FOR CONSTRUCTION

COA: 4011
EXPIRES: 12/31/2022

STATE OF KENTUCKY
BRAD R. MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
12/30/21

PROJECT INFORMATION

PROJECT NO: 160109.001
SITE NAME: CALVERT CITY
SITE NO: 9322
CLIENT NAME: ARCOSA TELECOM STRUCTURES

DRAWN BY: ROSE DENNY
CHECKED BY:

SHEET TITLE
DIMENSIONING DETAIL

SHEET NUMBER	REVISION
SST-DTL	0

SST Unit Base Foundation

Project #:	160109.001
Site Name:	Calvert City
Site #:	9322

TIA-222 Revision: H

Top & Bot. Pad Rein. Different?:	☐
Tower Centroid Offset?:	☑
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions

Global Moment, **M**:	7675	ft-kips
Global Axial, **P**:	62	kips
Global Shear, **V**:	57	kips
Leg Compression, P_{comp}:	442	kips
Leg Comp. Shear, V_{u_comp}:	33	kips
Leg Uplift, P_{uplift}:	389	kips
Leg Uplift. Shear, V_{u_uplift}:	31	kips
Tower Height, **H**:	220	ft
Base Face Width, **BW**:	21	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Foundation Analysis Checks

	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	1152.85	57.00	**4.9%**	**Pass**
Bearing Pressure (ksf)	6.57	4.71	**71.7%**	**Pass**
*Overturning (kip*ft)*	8643.96	8239.74	**95.3%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	916.69	148.50	**16.2%**	**Pass**
*Pier Flexure (Tension) (kip*ft)*	209.15	139.50	**66.7%**	**Pass**
Pier Compression (kip)	4499.01	447.73	**10.0%**	**Pass**
*Pad Flexure (kip*ft)*	2274.65	2205.50	**97.0%**	**Pass**
Pad Shear - 1-way (kips)	643.78	528.55	**82.1%**	**Pass**
Pad Shear - Comp 2-way (ksi)	0.190	0.136	**71.4%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	1243.50	89.10	**7.2%**	**Pass**
Pad Shear - Tension 2-way (ksi)	0.190	0.144	**75.8%**	**Pass**
*Flexural 2-way (Tension) (kip*ft)*	1243.50	83.70	**6.7%**	**Pass**

Structural Rating:	**97.0%**
Soil Rating:	**95.3%**

Pier Properties

Pier Shape:	Circular	
Pier Diameter, **dpier**:	3.0	ft
Ext. Above Grade, **E**:	0.50	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	12	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	14	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	6.00	ft
Pad Width, W_1:	29.00	ft
Pad Thickness, **T**:	2.00	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	34	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, **δc**:	150	pcf

Soil Properties

Total Soil Unit Weight, **γ**:	110	pcf
Ultimate Net Bearing, Qnet:	8.100	ksf
Cohesion, **Cu**:	1.500	ksf
Friction Angle, **ϕ**:		degrees
SPT Blow Count, N_{blows}:		
Base Friction, **μ**:		
Neglected Depth, **N**:	1.7	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	16	ft

Drilled Pier Foundation

Project# :	160109.001
Site Name:	Calvert City
Site Number:	9322
TIA-222 Revison:	H
Tower Type:	Self Support

Applied Loads	Comp.	Uplift
Moment (kip-ft)		
Axial Force (kips)	442	389
Shear Force (kips)	33	31

Material Properties		
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

Pier Design Data		
Depth	21	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 21' below grade		
Pier Diameter	7	ft
Rebar Quantity	28	
Rebar Size	9	
Clear Cover to Ties	3	in
Tie Size	4	
Tie Spacing	12	in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{y=0}$ (ft from TOC)	10.18	10.18
Soil Safety Factor	15.72	16.74
Max Moment (kip-ft)	234.20	220.01
Rating	*8.5%*	*7.9%*
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	328.22	328.22
End Bearing (kips)	583.27	-
Weight of Concrete (kips)	134.50	100.87
Total Capacity (kips)	911.49	429.09
Axial (kips)	576.50	389.00
Rating	*63.2%*	*90.7%*
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	10.28	9.61
Critical Moment (kip-ft)	234.18	219.20
Critical Moment Capacity	5556.25	3907.53
Rating	*4.2%*	*5.6%*
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	16.50	16.50
Critical Shear (kip)	44.50	41.81
Critical Shear Capacity	909.69	501.32
Rating	*4.9%*	*8.3%*

Structural Foundation Rating	**8.3%**
Soil Interaction Rating	**90.7%**

Check Limitation	
Apply TIA-222-H Section 15.5:	☐
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐
Override Critical Depth:	☐

Go to Soil Calculations

Soil Profile

Groundwater Depth	16	# of Layers	4

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	120	150	0		0.000	0.000					Cohesionless
2	3.5	13	9.5	120	150	1.5		0.825	0.825	1.00	1.00			Cohesive
3	13	16	3	120	150	2.5		1.375	1.375	1.30	1.30			Cohesive
4	16	21	5	57.6	87.6	2.5		1.375	1.375	1.30	1.30	18		Cohesive

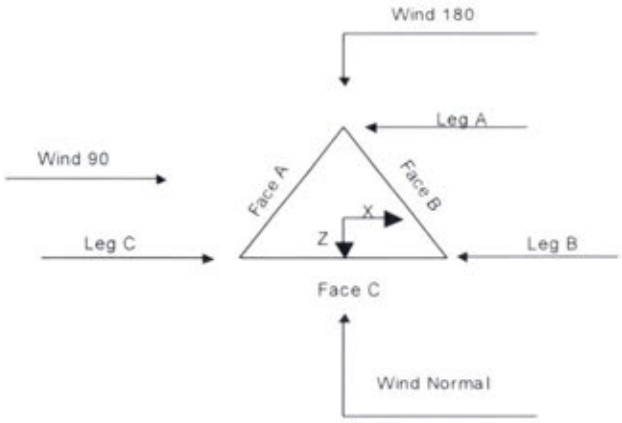
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 220.000 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 4.500 ft at the top and 21.000 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Marshall County, Kentucky.
Tower base elevation above sea level: 362.000 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 °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.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	√ SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt	Use TIA-222-H Bracing Resist. Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
√ Leg Bolts Are At Top Of Section	Add IBC 6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are Known



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	220.000-200.000			4.500	1	20.000
T2	200.000-180.000			6.000	1	20.000
T3	180.000-160.000			7.500	1	20.000
T4	160.000-140.000			9.000	1	20.000
T5	140.000-120.000			10.500	1	20.000
T6	120.000-100.000			12.000	1	20.000
T7	100.000-80.000			13.500	1	20.000
T8	80.000-60.000			15.000	1	20.000
T9	60.000-40.000			16.500	1	20.000
T10	40.000-20.000			18.000	1	20.000
T11	20.000-0.000			19.500	1	20.000

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	220.000-200.000	4.750	X Brace	No	No	6.000	6.000
T2	200.000-180.000	4.750	X Brace	No	No	6.000	6.000
T3	180.000-160.000	4.750	X Brace	No	No	6.000	6.000
T4	160.000-140.000	4.750	X Brace	No	No	6.000	6.000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T5	140.000-120.000	4.750	X Brace	No	No	6.000	6.000
T6	120.000-100.000	4.750	X Brace	No	No	6.000	6.000
T7	100.000-80.000	4.750	X Brace	No	No	6.000	6.000
T8	80.000-60.000	4.750	X Brace	No	No	6.000	6.000
T9	60.000-40.000	4.750	X Brace	No	No	6.000	6.000
T10	40.000-20.000	4.750	Double K	No	Yes	6.000	6.000
T11	20.000-0.000	4.750	Double K	No	Yes	6.000	6.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 220.000-200.000	Solid Round	1 3/4	A529-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
T2 200.000-180.000	Solid Round	2 1/4	A529-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
T3 180.000-160.000	Solid Round	2 1/2	A529-50 (50 ksi)	Equal Angle	L2x2x3/16	A36M-50 (50 ksi)
T4 160.000-140.000	Solid Round	2 3/4	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
T5 140.000-120.000	Solid Round	3	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
T6 120.000-100.000	Solid Round	3 1/4	A529-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50 (50 ksi)
T7 100.000-80.000	Solid Round	3 1/2	A529-50 (50 ksi)	Equal Angle	L3x3x3/16	A36M-50 (50 ksi)
T8 80.000-60.000	Solid Round	3 3/4	A529-50 (50 ksi)	Equal Angle	L3x3x3/16	A36M-50 (50 ksi)
T9 60.000-40.000	Solid Round	3 3/4	A529-50 (50 ksi)	Equal Angle	L3x3x1/4	A36M-50 (50 ksi)
T10 40.000-20.000	Solid Round	4	A529-50 (50 ksi)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	A36M-50 (50 ksi)
T11 20.000-0.000	Solid Round	4	A529-50 (50 ksi)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	A36M-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 220.000-200.000	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T10 40.000-20.000	None	Flat Bar		A36 (36 ksi)	Double Angle	2L1 3/4x1 3/4x3/16x3/8	A36M-50 (50 ksi)
T11 20.000-0.000	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2x2x3/16x3/8	A36M-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T10 40.000-20.000	Solid Round		A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)
T11 20.000-0.000	Solid Round		A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	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
T1 220.000-200.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T2 200.000-180.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T3 180.000-160.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T4 160.000-140.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T5 140.000-120.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T6 120.000-100.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T7 100.000-80.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T8 80.000-60.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T9 60.000-40.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	36.000	36.000	36.000
T10 40.000-20.000	0.000	0.375	A36M-50 (50 ksi)	1	1	1	Mid-Pt	Mid-Pt	36.000
T11	0.000	0.375	A36M-50	1	1	1	Mid-Pt	Mid-Pt	36.000

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft²	in					in	in	in
20 000-0 000			(50 ksi)						

Tower Section Geometry *(cont'd)*

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
ft															
T1	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
220 000-200 000															
T2	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
200 000-180 000															
T3	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
180 000-160 000															
T4	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
160 000-140 000															
T5	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
140 000-120 000															
T6	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
120 000-100 000															
T7	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
100 000-80 000															
T8	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
80 000-60 000															
T9	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
60 000-40 000															
T10	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
40 000-20 000															
T11	No	No	1	1	1	1	1	1	1	1	1	1	1	1	1
20 000-0 000															

[1]*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)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 220.000-200.000	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
T2 200.000-180.000	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
T3 180.000-160.000	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
T4 160.000-140.000	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
T5 140.000-120.000	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
T6 120.000-100.000	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
T7 100.000-80.000	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
T8 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
T9 60.000-40.000	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
T10 40.000-20.000	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
T11 20.000-0.000	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

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 220.000-200.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 200.000-180.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 180.000-160.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 160.000-140.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 140.000-120.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 120.000-100.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T7 100.000-80.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 80.000-60.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T9 60.000-40.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 40.000-20.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T11 20.000-0.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 220.000-200.000	Flange	0.000 A325N	0	0.625 A325X	1	0.625 A325X	1	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T2 200.000-180.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T3 180.000-160.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T4 160.000-140.000	Flange	0.750 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T5 140.000-120.000	Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T6 120.000-100.000	Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T7 100.000-80.000	Flange	1.000 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T8 80.000-60.000	Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T9 60.000-40.000	Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325X	0	0.625 A325N	0
T10 40.000-20.000	Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325X	1	0.625 A325N	0
T11 20.000-0.000	Flange	1.250 A325N	6	0.625 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325X	1	0.625 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
1-5/8" (Carrier 1)	C	No	No	Ar (CaAa)	215.000 - 10.000	0.000	0	9	5	0.750	1.980		0.001
1.5" Hybrid (Carrier 1) **	C	No	No	Ar (CaAa)	215.000 - 10.000	0.000	-0.25	6	3	0.750	1.500		0.001
1-5/8" (Carrier 2)	B	No	No	Ar (CaAa)	203.000 - 10.000	0.000	0	9	5	0.750	1.980		0.001
1.5" Hybrid (Carrier 2) **	B	No	No	Ar (CaAa)	203.000 - 10.000	0.000	-0.25	6	3	0.750	1.500		0.001
1-5/8" (Carrier 3)	A	No	No	Ar (CaAa)	191.000 - 10.000	0.000	0	9	5	0.750	1.980		0.001
1.5" Hybrid (Carrier 3) **	A	No	No	Ar (CaAa)	191.000 - 10.000	0.000	-0.25	6	3	0.750	1.500		0.001
1-5/8" (Carrier 4) **	C	No	No	Ar (CaAa)	179.000 - 10.000	0.000	0.35	2	1	0.750	1.980		0.001
1-5/8" (Carrier 5) **	C	No	No	Ar (CaAa)	167.000 - 10.000	0.000	0.4	2	1	0.750	1.980		0.001
Safety Line 3/8	A	No	No	Ar (CaAa)	220.000 - 10.000	0.000	0.45	1	1	0.375	0.375		0.000
Strobe Cable **	A	No	No	Ar (CaAa)	220.000 - 10.000	0.000	-0.45	1	1	1.250	1.250		0.001
Feedline Ladder (Af)	C	No	No	Af (CaAa)	215.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008
Feedline Ladder (Af)	B	No	No	Af (CaAa)	203.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008
Feedline Ladder (Af)	A	No	No	Af (CaAa)	191.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T1	220.000-200.000	A	0.000	0.000	3.250	0.000	0.018
		B	0.000	0.000	8.171	0.000	0.062
		C	0.000	0.000	40.855	0.000	0.308
T2	200.000-180.000	A	0.000	0.000	33.210	0.000	0.244
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	54.473	0.000	0.410
T3	180.000-160.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	64.769	0.000	0.448
T4	160.000-140.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468
T5	140.000-120.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468

Tower Section	Tower Elevation ft	Face	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T6	120.000-100.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468
T7	100.000-80.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468
T8	80.000-60.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468
T9	60.000-40.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468
T10	40.000-20.000	A	0.000	0.000	57.723	0.000	0.429
		B	0.000	0.000	54.473	0.000	0.410
		C	0.000	0.000	70.313	0.000	0.468
T11	20.000-0.000	A	0.000	0.000	28.862	0.000	0.214
		B	0.000	0.000	27.237	0.000	0.205
		C	0.000	0.000	35.157	0.000	0.234

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T1	220.000-200.000	A	1.805	0.000	0.000	17.689	0.000	0.249
		B		0.000	0.000	12.680	0.000	0.258
		C		0.000	0.000	63.400	0.000	1.292
T2	200.000-180.000	A	1.787	0.000	0.000	63.864	0.000	1.186
		B		0.000	0.000	84.215	0.000	1.710
		C		0.000	0.000	84.215	0.000	1.710
T3	180.000-160.000	A	1.767	0.000	0.000	101.252	0.000	1.938
		B		0.000	0.000	83.865	0.000	1.696
		C		0.000	0.000	116.100	0.000	2.155
T4	160.000-140.000	A	1.745	0.000	0.000	100.687	0.000	1.918
		B		0.000	0.000	83.475	0.000	1.681
		C		0.000	0.000	132.763	0.000	2.374
T5	140.000-120.000	A	1.720	0.000	0.000	100.049	0.000	1.895
		B		0.000	0.000	83.036	0.000	1.664
		C		0.000	0.000	131.980	0.000	2.344
T6	120.000-100.000	A	1.692	0.000	0.000	99.316	0.000	1.869
		B		0.000	0.000	82.531	0.000	1.644
		C		0.000	0.000	131.080	0.000	2.309
T7	100.000-80.000	A	1.658	0.000	0.000	98.452	0.000	1.839
		B		0.000	0.000	81.936	0.000	1.621
		C		0.000	0.000	130.019	0.000	2.268
T8	80.000-60.000	A	1.617	0.000	0.000	97.395	0.000	1.803
		B		0.000	0.000	81.207	0.000	1.592
		C		0.000	0.000	128.721	0.000	2.219
T9	60.000-40.000	A	1.564	0.000	0.000	96.020	0.000	1.756
		B		0.000	0.000	80.261	0.000	1.556
		C		0.000	0.000	127.033	0.000	2.155
T10	40.000-20.000	A	1.486	0.000	0.000	94.020	0.000	1.689
		B		0.000	0.000	78.884	0.000	1.504
		C		0.000	0.000	124.579	0.000	2.065
T11	20.000-0.000	A	1.331	0.000	0.000	45.026	0.000	0.781
		B		0.000	0.000	38.076	0.000	0.702
		C		0.000	0.000	59.857	0.000	0.946

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T1	220.000-200.000	1.675	3.386	0.045	2.824
T2	200.000-180.000	1.873	-2.383	0.794	-1.381
T3	180.000-160.000	-1.255	-1.352	-2.884	0.154
T4	160.000-140.000	-1.976	-0.496	-4.147	1.414
T5	140.000-120.000	-2.151	-0.538	-4.534	1.535
T6	120.000-100.000	-2.305	-0.575	-4.873	1.643
T7	100.000-80.000	-2.274	-0.572	-4.993	1.688
T8	80.000-60.000	-2.381	-0.599	-5.224	1.764
T9	60.000-40.000	-2.488	-0.626	-5.421	1.830
T10	40.000-20.000	-3.197	-0.786	-6.391	2.126
T11	20.000-0.000	-2.054	-0.521	-4.074	1.393

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev	K_a No Ice	K_a Ice
T1	1	1-5/8"	200.00 - 215.00	0.6000	0.6000
T1	2	1.5" Hybrid	200.00 - 215.00	0.6000	0.6000
T1	4	1-5/8"	200.00 - 203.00	0.6000	0.6000
T1	5	1.5" Hybrid	200.00 - 203.00	0.6000	0.6000
T1	14	Safety Line 3/8	200.00 - 220.00	0.6000	0.6000
T1	15	Strobe Cable	200.00 - 220.00	0.6000	0.6000
T1	17	Feedline Ladder (Af)	200.00 - 215.00	0.6000	0.6000
T1	18	Feedline Ladder (Af)	200.00 - 203.00	0.6000	0.6000
T2	1	1-5/8"	180.00 - 200.00	0.6000	0.6000
T2	2	1.5" Hybrid	180.00 - 200.00	0.6000	0.6000
T2	4	1-5/8"	180.00 - 200.00	0.6000	0.6000
T2	5	1.5" Hybrid	180.00 - 200.00	0.6000	0.6000
T2	7	1-5/8"	180.00 - 191.00	0.6000	0.6000
T2	8	1.5" Hybrid	180.00 - 191.00	0.6000	0.6000
T2	14	Safety Line 3/8	180.00 - 200.00	0.6000	0.6000
T2	15	Strobe Cable	180.00 - 200.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T2	17	Feedline Ladder (Af)	180.00 - 200.00	0.6000	0.6000
T2	18	Feedline Ladder (Af)	180.00 - 200.00	0.6000	0.6000
T2	19	Feedline Ladder (Af)	180.00 - 191.00	0.6000	0.6000
T3	1	1-5/8"	160.00 - 180.00	0.6000	0.6000
T3	2	1.5" Hybrid	160.00 - 180.00	0.6000	0.6000
T3	4	1-5/8"	160.00 - 180.00	0.6000	0.6000
T3	5	1.5" Hybrid	160.00 - 180.00	0.6000	0.6000
T3	7	1-5/8"	160.00 - 180.00	0.6000	0.6000
T3	8	1.5" Hybrid	160.00 - 180.00	0.6000	0.6000
T3	10	1-5/8"	160.00 - 179.00	0.6000	0.6000
T3	12	1-5/8"	160.00 - 167.00	0.6000	0.6000
T3	14	Safety Line 3/8	160.00 - 180.00	0.6000	0.6000
T3	15	Strobe Cable	160.00 - 180.00	0.6000	0.6000
T3	17	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T3	18	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T3	19	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T4	1	1-5/8"	140.00 - 160.00	0.6000	0.6000
T4	2	1.5" Hybrid	140.00 - 160.00	0.6000	0.6000
T4	4	1-5/8"	140.00 - 160.00	0.6000	0.6000
T4	5	1.5" Hybrid	140.00 - 160.00	0.6000	0.6000
T4	7	1-5/8"	140.00 - 160.00	0.6000	0.6000
T4	8	1.5" Hybrid	140.00 - 160.00	0.6000	0.6000
T4	10	1-5/8"	140.00 - 160.00	0.6000	0.6000
T4	12	1-5/8"	140.00 - 160.00	0.6000	0.6000
T4	14	Safety Line 3/8	140.00 - 160.00	0.6000	0.6000
T4	15	Strobe Cable	140.00 - 160.00	0.6000	0.6000
T4	17	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T4	18	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T4	19	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T5	1	1-5/8"	120.00 - 140.00	0.6000	0.6000
T5	2	1.5" Hybrid	120.00 - 140.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T5	4	1-5/8"	120.00 - 140.00	0.6000	0.6000
T5	5	1.5" Hybrid	120.00 - 140.00	0.6000	0.6000
T5	7	1-5/8"	120.00 - 140.00	0.6000	0.6000
T5	8	1.5" Hybrid	120.00 - 140.00	0.6000	0.6000
T5	10	1-5/8"	120.00 - 140.00	0.6000	0.6000
T5	12	1-5/8"	120.00 - 140.00	0.6000	0.6000
T5	14	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T5	15	Strobe Cable	120.00 - 140.00	0.6000	0.6000
T5	17	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T5	18	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T5	19	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T6	1	1-5/8"	100.00 - 120.00	0.6000	0.6000
T6	2	1.5" Hybrid	100.00 - 120.00	0.6000	0.6000
T6	4	1-5/8"	100.00 - 120.00	0.6000	0.6000
T6	5	1.5" Hybrid	100.00 - 120.00	0.6000	0.6000
T6	7	1-5/8"	100.00 - 120.00	0.6000	0.6000
T6	8	1.5" Hybrid	100.00 - 120.00	0.6000	0.6000
T6	10	1-5/8"	100.00 - 120.00	0.6000	0.6000
T6	12	1-5/8"	100.00 - 120.00	0.6000	0.6000
T6	14	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000
T6	15	Strobe Cable	100.00 - 120.00	0.6000	0.6000
T6	17	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T6	18	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T6	19	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T7	1	1-5/8"	80.00 - 100.00	0.6000	0.6000
T7	2	1.5" Hybrid	80.00 - 100.00	0.6000	0.6000
T7	4	1-5/8"	80.00 - 100.00	0.6000	0.6000
T7	5	1.5" Hybrid	80.00 - 100.00	0.6000	0.6000
T7	7	1-5/8"	80.00 - 100.00	0.6000	0.6000
T7	8	1.5" Hybrid	80.00 - 100.00	0.6000	0.6000
T7	10	1-5/8"	80.00 - 100.00	0.6000	0.6000
T7	12	1-5/8"	80.00 - 100.00	0.6000	0.6000
T7	14	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T7	15	Strobe Cable	80.00 - 100.00	0.6000	0.6000
T7	17	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T7	18	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T7	19	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T8	1	1-5/8"	60.00 - 80.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T8	2	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T8	4	1-5/8"	60.00 - 80.00	0.6000	0.6000
T8	5	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T8	7	1-5/8"	60.00 - 80.00	0.6000	0.6000
T8	8	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T8	10	1-5/8"	60.00 - 80.00	0.6000	0.6000
T8	12	1-5/8"	60.00 - 80.00	0.6000	0.6000
T8	14	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T8	15	Strobe Cable	60.00 - 80.00	0.6000	0.6000
T8	17	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T8	18	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T8	19	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T9	1	1-5/8"	40.00 - 60.00	0.6000	0.6000
T9	2	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T9	4	1-5/8"	40.00 - 60.00	0.6000	0.6000
T9	5	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T9	7	1-5/8"	40.00 - 60.00	0.6000	0.6000
T9	8	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T9	10	1-5/8"	40.00 - 60.00	0.6000	0.6000
T9	12	1-5/8"	40.00 - 60.00	0.6000	0.6000
T9	14	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T9	15	Strobe Cable	40.00 - 60.00	0.6000	0.6000
T9	17	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T9	18	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T9	19	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T10	1	1-5/8"	20.00 - 40.00	0.6000	0.6000
T10	2	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T10	4	1-5/8"	20.00 - 40.00	0.6000	0.6000
T10	5	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T10	7	1-5/8"	20.00 - 40.00	0.6000	0.6000
T10	8	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T10	10	1-5/8"	20.00 - 40.00	0.6000	0.6000
T10	12	1-5/8"	20.00 - 40.00	0.6000	0.6000
T10	14	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T10	15	Strobe Cable	20.00 - 40.00	0.6000	0.6000
T10	17	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T10	18	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T10	19	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T11	1	1-5/8"	10.00 - 20.00	0.6000	0.6000
T11	2	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T11	4	1-5/8"	10.00 - 20.00	0.6000	0.6000
T11	5	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T11	7	1-5/8"	10.00 - 20.00	0.6000	0.6000
T11	8	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T11	10	1-5/8"	10.00 - 20.00	0.6000	0.6000
T11	12	1-5/8"	10.00 - 20.00	0.6000	0.6000
T11	14	Safety Line 3/8	10.00 - 20.00	0.6000	0.6000
T11	15	Strobe Cable	10.00 - 20.00	0.6000	0.6000
T11	17	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T11	18	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T11	19	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_f Front ft²	C_AA_s Side ft²	Weight K
Lightning Rod 1"x10'	C	From Leg	0.000 0.000 5.000	0.000	220.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.000 2.017 3.050 5.148	1.000 2.017 3.050 5.148	0.040 0.049 0.065 0.116
Top Beacon	B	From Leg	0.000 0.000 1.000	0.000	220.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.700 3.100 3.500 4.300	2.700 3.100 3.500 4.300	0.050 0.070 0.090 0.130
**									
Sector1(CaAa=13333.33 Sq in)No Ice (Carrier 1)	A	From Leg	4.000 0.000 0.000	0.000	215.000	No Ice 1/2" Ice 1" Ice 2" Ice	92.592 115.740 138.888 185.184	62.037 77.546 93.055 124.073	0.700 1.400 2.100 3.500
Sector2(CaAa=13333.33 Sq in)No Ice (Carrier 1)	B	From Leg	4.000 0.000 0.000	0.000	215.000	No Ice 1/2" Ice 1" Ice 2" Ice	92.592 115.740 138.888 185.184	62.037 77.546 93.055 124.073	0.700 1.400 2.100 3.500
Sector3(CaAa=13333.33 Sq in)No Ice (Carrier 1)	C	From Leg	4.000 0.000 0.000	0.000	215.000	No Ice 1/2" Ice 1" Ice 2" Ice	92.592 115.740 138.888 185.184	62.037 77.546 93.055 124.073	0.700 1.400 2.100 3.500
**									
Sector1(CaAa=10000 Sq in)No Ice (Carrier 2)	A	From Leg	4.000 0.000 0.000	0.000	203.000	No Ice 1/2" Ice 1" Ice 2" Ice	69.444 86.805 104.166 138.888	46.527 58.159 69.791 93.055	0.700 1.400 2.100 3.500
Sector2(CaAa=10000 Sq in)No Ice (Carrier 2)	B	From Leg	4.000 0.000 0.000	0.000	203.000	No Ice 1/2" Ice 1" Ice 2" Ice	69.444 86.805 104.166 138.888	46.527 58.159 69.791 93.055	0.700 1.400 2.100 3.500
Sector3(CaAa=10000 Sq in)No Ice (Carrier 2)	C	From Leg	4.000 0.000 0.000	0.000	203.000	No Ice 1/2" Ice 1" Ice 2" Ice	69.444 86.805 104.166 138.888	46.527 58.159 69.791 93.055	0.700 1.400 2.100 3.500
**									
Sector1(CaAa=10000 Sq in)No Ice (Carrier 3)	A	From Leg	4.000 0.000 0.000	0.000	191.000	No Ice 1/2" Ice 1" Ice 2" Ice	69.444 86.805 104.166 138.888	46.527 58.159 69.791 93.055	0.700 1.400 2.100 3.500
Sector2(CaAa=10000 Sq in)No Ice (Carrier 3)	B	From Leg	4.000 0.000 0.000	0.000	191.000	No Ice 1/2" Ice 1" Ice 2" Ice	69.444 86.805 104.166 138.888	46.527 58.159 69.791 93.055	0.700 1.400 2.100 3.500
Sector3(CaAa=10000 Sq in)No Ice (Carrier 3)	C	From Leg	4.000 0.000 0.000	0.000	191.000	No Ice 1/2" Ice 1" Ice 2" Ice	69.444 86.805 104.166 138.888	46.527 58.159 69.791 93.055	0.700 1.400 2.100 3.500
**									
4 1/2" OD Dish Mount (Carrier 4)	C	From Leg	0.500 0.000 0.000	0.000	179.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.646 2.207 2.543 3.241	1.646 2.207 2.543 3.241	0.057 0.074 0.094 0.148
4 1/2" OD Dish Mount (Carrier 4)	B	From Leg	0.500 0.000 0.000	0.000	179.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.646 2.207 2.543 3.241	1.646 2.207 2.543 3.241	0.057 0.074 0.094 0.148
**									

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
4 1/2" OD Dish Mount (Carrier 5)	C	From Leg	0.500 0.000 0.000	0.000	167.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.646 2.207 2.543 3.241	1.646 2.207 2.543 3.241	0.057 0.074 0.094 0.148
4 1/2" OD Dish Mount (Carrier 5)	B	From Leg	0.500 0.000 0.000	0.000	167.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.646 2.207 2.543 3.241	1.646 2.207 2.543 3.241	0.057 0.074 0.094 0.148
**									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
6' MW Dish (Carrier 4)	C	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		179.000	6.000	No Ice 1/2" Ice 1" Ice 2" Ice	28.270 29.050 29.831 31.392	0.143 0.292 0.441 0.740
6' MW Dish (Carrier 4)	B	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		179.000	6.000	No Ice 1/2" Ice 1" Ice 2" Ice	28.270 29.050 29.831 31.392	0.143 0.292 0.441 0.740
**											
6' MW Dish (Carrier 5)	C	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		167.000	6.000	No Ice 1/2" Ice 1" Ice 2" Ice	28.270 29.050 29.831 31.392	0.143 0.292 0.441 0.740
6' MW Dish (Carrier 5)	B	Paraboloid w/o Radome	From Leg	1.000 0.000 0.000	0.000		167.000	6.000	No Ice 1/2" Ice 1" Ice 2" Ice	28.270 29.050 29.831 31.392	0.143 0.292 0.441 0.740
**											

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice

Comb. No.	Description
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	220 - 200	Leg	Max Tension	15	20.834	0.834	-0.008
			Max. Compression	2	-24.338	1.523	-0.009
			Max. Mx	2	-20.123	-1.621	0.010
			Max. My	4	-1.388	-0.005	1.434
			Max. Vy	2	-5.250	1.523	-0.009
			Max. Vx	4	2.254	-0.030	-1.054
		Diagonal	Max Tension	20	4.225	0.000	0.000
			Max. Compression	20	-3.678	0.000	0.000
			Max. Mx	2	-0.146	0.042	-0.002
			Max. My	20	-3.663	-0.009	0.033
			Max. Vy	35	0.023	0.020	-0.002

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	24	0.009	0.000	0.000
		Top Girt	Max Tension	14	1.691	0.000	0.000
			Max. Compression	2	-1.617	0.000	0.000
			Max. Mx	26	0.014	-0.031	0.000
			Max. My	38	0.021	0.000	0.001
			Max. Vy	26	0.027	0.000	0.000
			Max. Vx	38	-0.001	0.000	0.000
T2	200 - 180	Leg	Max Tension	15	63.022	2.248	-0.022
			Max. Compression	2	-70.373	0.798	-0.007
			Max. Mx	2	-24.366	4.101	-0.029
			Max. My	4	-2.344	-0.042	-2.181
			Max. Vy	2	-7.257	0.798	-0.007
			Max. Vx	16	-3.454	-0.026	0.377
		Diagonal	Max Tension	24	6.591	0.000	0.000
			Max. Compression	2	-6.291	0.000	0.000
			Max. Mx	29	0.837	0.026	0.002
			Max. My	8	-5.486	0.001	-0.014
			Max. Vy	34	0.028	0.025	-0.003
			Max. Vx	8	0.004	0.000	0.000
T3	180 - 160	Leg	Max Tension	7	108.054	3.135	0.195
			Max. Compression	2	-119.828	0.792	-0.001
			Max. Mx	2	-70.389	4.400	-0.044
			Max. My	4	-4.323	-0.031	-2.138
			Max. Vy	2	-9.723	0.792	-0.001
			Max. Vx	4	4.329	-0.002	-0.400
		Diagonal	Max Tension	20	8.523	0.000	0.000
			Max. Compression	20	-7.807	0.000	0.000
			Max. Mx	37	1.058	0.038	-0.003
			Max. My	20	-7.532	-0.002	0.023
			Max. Vy	32	0.036	0.037	0.004
			Max. Vx	20	-0.005	0.000	0.000
T4	160 - 140	Leg	Max Tension	7	151.346	3.293	0.152
			Max. Compression	2	-166.563	0.870	0.003
			Max. Mx	2	-119.845	5.628	-0.018
			Max. My	4	-8.077	0.225	-2.566
			Max. Vy	18	-10.394	0.869	0.043
			Max. Vx	24	-4.407	0.025	0.395
		Diagonal	Max Tension	8	8.439	0.000	0.000
			Max. Compression	20	-8.766	0.000	0.000
			Max. Mx	36	1.298	0.058	-0.004
			Max. My	20	-8.706	-0.012	0.022
			Max. Vy	32	0.049	0.057	0.005
			Max. Vx	20	-0.005	0.000	0.000
T5	140 - 120	Leg	Max Tension	7	190.600	3.600	0.135
			Max. Compression	2	-209.602	0.894	0.005
			Max. Mx	18	-166.097	6.037	0.325
			Max. My	24	-12.238	0.215	2.602
			Max. Vy	18	-11.257	0.897	0.031
			Max. Vx	24	-4.527	0.027	0.396
		Diagonal	Max Tension	8	8.621	0.000	0.000
			Max. Compression	8	-8.809	0.000	0.000
			Max. Mx	32	0.388	0.071	0.007
			Max. My	8	-8.734	-0.006	-0.019
			Max. Vy	32	0.055	0.071	0.007
			Max. Vx	8	0.003	0.000	0.000
T6	120 - 100	Leg	Max Tension	7	227.188	3.893	0.117
			Max. Compression	18	-250.407	0.974	0.036
			Max. Mx	18	-209.344	6.499	0.268
			Max. My	24	-15.727	0.198	2.663
			Max. Vy	18	-12.106	0.974	0.036
			Max. Vx	24	-4.731	0.025	0.506

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	8	8.920	0.000	0.000
			Max. Compression	8	-9.030	0.000	0.000
			Max. Mx	32	0.402	0.087	0.008
			Max. My	10	-8.902	-0.006	-0.016
			Max. Vy	32	0.061	0.087	0.008
			Max. Vx	10	0.003	0.000	0.000
T7	100 - 80	Leg	Max Tension	7	262.077	4.360	0.110
			Max. Compression	18	-290.477	0.936	0.027
			Max. Mx	18	-250.432	7.000	0.235
			Max. My	24	-18.876	0.190	2.874
			Max. Vy	18	-13.132	0.936	0.027
			Max. Vx	24	-5.019	0.022	0.446
		Diagonal	Max Tension	8	9.493	0.000	0.000
			Max. Compression	8	-9.464	0.000	0.000
			Max. Mx	32	0.410	0.119	0.011
			Max. My	22	-8.224	0.021	0.016
			Max. Vy	32	0.076	0.119	0.011
			Max. Vx	38	0.003	0.000	0.000
T8	80 - 60	Leg	Max Tension	7	295.924	5.195	0.105
			Max. Compression	18	-330.044	0.353	0.022
			Max. Mx	18	-290.504	7.482	0.198
			Max. My	24	-21.939	0.185	2.958
			Max. Vy	18	-14.225	0.353	0.022
			Max. Vx	24	-5.392	0.013	0.376
		Diagonal	Max Tension	8	10.149	0.000	0.000
			Max. Compression	8	-9.966	0.000	0.000
			Max. Mx	38	0.539	0.137	-0.012
			Max. My	22	-9.229	0.034	0.017
			Max. Vy	38	0.082	0.137	-0.012
			Max. Vx	38	0.003	0.000	0.000
T9	60 - 40	Leg	Max Tension	7	328.564	4.998	0.082
			Max. Compression	18	-369.040	0.874	0.046
			Max. Mx	18	-330.069	7.458	0.174
			Max. My	24	-24.910	0.174	3.075
			Max. Vy	18	-14.990	0.874	0.046
			Max. Vx	24	-6.016	0.003	0.978
		Diagonal	Max Tension	10	10.687	0.000	0.000
			Max. Compression	8	-10.616	0.000	0.000
			Max. Mx	35	0.844	0.181	0.016
			Max. My	22	-9.796	0.056	0.020
			Max. Vy	32	0.095	0.181	-0.016
			Max. Vx	37	0.003	0.000	0.000
T10	40 - 20	Leg	Max Tension	7	360.087	6.378	0.093
			Max. Compression	18	-407.272	-0.473	0.012
			Max. Mx	18	-369.069	8.354	0.186
			Max. My	24	-27.988	0.181	3.988
			Max. Vy	18	-15.609	-0.473	0.012
			Max. Vx	24	-6.018	0.181	3.988
		Diagonal	Max Tension	9	11.948	0.000	0.000
			Max. Compression	11	-12.390	0.000	0.000
			Max. Mx	36	1.979	0.261	0.000
			Max. My	31	0.340	0.000	-0.006
			Max. Vy	36	-0.096	0.000	0.000
			Max. Vx	31	0.002	0.000	0.000
		Horizontal	Max Tension	10	1.789	-0.059	0.001
			Max. Compression	8	-1.824	0.000	0.000
			Max. Mx	33	0.091	-0.163	0.003
			Max. My	6	0.688	-0.048	0.005
			Max. Vy	33	0.088	-0.163	0.003
			Max. Vx	27	-0.002	-0.162	0.004
		Inner Bracing	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	29	-0.009	0.000	0.000
			Max. Mx	26	-0.009	-0.111	0.000
			Max. My	18	-0.006	0.000	-0.000
			Max. Vy	26	0.046	0.000	0.000
			Max. Vx	18	0.000	0.000	0.000
T11	20 - 0	Leg	Max Tension	7	389.570	6.138	0.085
			Max. Compression	18	-443.058	0.000	-0.000
			Max. Mx	18	-443.032	-8.123	-0.114
			Max. My	24	-31.090	0.115	3.296
			Max. Vy	18	-16.232	0.000	-0.000
			Max. Vx	24	-5.991	0.115	3.296
		Diagonal	Max Tension	9	11.735	0.000	0.000
			Max. Compression	11	-12.023	0.000	0.000
			Max. Mx	31	2.191	0.275	0.000
			Max. My	31	0.692	0.000	-0.007
			Max. Vy	31	0.096	0.000	0.000
			Max. Vx	31	0.002	0.000	0.000
		Horizontal	Max Tension	10	1.748	-0.080	0.001
			Max. Compression	23	-1.680	-0.056	0.002
			Max. Mx	35	-0.049	-0.200	0.004
			Max. My	6	0.661	-0.063	0.005
			Max. Vy	33	-0.096	-0.185	0.003
			Max. Vx	29	0.002	-0.198	0.005
		Inner Bracing	Max Tension	1	0.000	0.000	0.000
			Max. Compression	29	-0.009	0.000	0.000
			Max. Mx	31	-0.008	-0.116	0.000
			Max. My	6	-0.007	0.000	0.000
			Max. Vy	31	0.045	0.000	0.000
			Max. Vx	6	-0.000	0.000	0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	442.122	28.709	-16.368
	Max. H_x	18	442.122	28.709	-16.368
	Max. H_z	5	-338.621	-22.185	15.263
	Min. Vert	7	-388.531	-26.709	15.186
	Min. H_x	7	-388.531	-26.709	15.186
	Min. H_z	18	442.122	28.709	-16.368
Leg B	Max. Vert	10	439.521	-28.794	-15.961
	Max. H_x	23	-386.546	26.818	14.736
	Max. H_z	25	-336.918	22.318	14.775
	Min. Vert	23	-386.546	26.818	14.736
	Min. H_x	10	439.521	-28.794	-15.961
	Min. H_z	10	439.521	-28.794	-15.961
Leg A	Max. Vert	2	439.683	-0.144	32.770
	Max. H_x	21	27.095	4.773	1.296
	Max. H_z	2	439.683	-0.144	32.770
	Min. Vert	15	-373.034	0.158	-29.501
	Min. H_x	9	27.095	-4.777	1.297
	Min. H_z	15	-373.034	0.158	-29.501

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear$_x$ K	Shear$_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	51.484	-0.000	0.000	5.180	3.047	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	61.781	0.000	-56.147	-7621.779	3.694	-5.511
0.9 Dead+1.0 Wind 0 deg - No Ice	46.336	0.000	-56.148	-7610.036	2.772	-5.505
1.2 Dead+1.0 Wind 30 deg - No Ice	61.781	27.907	-45.648	-6214.758	-3858.523	11.890
0.9 Dead+1.0 Wind 30 deg - No Ice	46.336	27.908	-45.649	-6205.442	-3852.675	11.884
1.2 Dead+1.0 Wind 60 deg - No Ice	61.781	46.517	-26.538	-3634.614	-6398.602	6.400
0.9 Dead+1.0 Wind 60 deg - No Ice	46.336	46.515	-26.537	-3629.615	-6387.943	6.383
1.2 Dead+1.0 Wind 90 deg - No Ice	61.781	54.226	-1.245	-210.674	-7408.031	2.866
0.9 Dead+1.0 Wind 90 deg - No Ice	46.336	54.227	-1.245	-211.874	-7395.999	2.843
1.2 Dead+1.0 Wind 120 deg - No Ice	61.781	49.990	26.377	3490.932	-6781.989	17.504
0.9 Dead+1.0 Wind 120 deg - No Ice	46.336	49.990	26.377	3483.316	-6771.092	17.480
1.2 Dead+1.0 Wind 150 deg - No Ice	61.781	26.306	45.444	6187.557	-3577.280	23.264
0.9 Dead+1.0 Wind 150 deg - No Ice	46.336	26.307	45.444	6175.169	-3571.923	23.249
1.2 Dead+1.0 Wind 180 deg - No Ice	61.781	0.000	51.520	7079.495	3.691	5.510
0.9 Dead+1.0 Wind 180 deg - No Ice	46.336	0.000	51.518	7065.088	2.769	5.504
1.2 Dead+1.0 Wind 210 deg - No Ice	61.781	-26.412	45.626	6223.369	3605.371	-6.492
0.9 Dead+1.0 Wind 210 deg - No Ice	46.336	-26.412	45.626	6210.910	3598.130	-6.487
1.2 Dead+1.0 Wind 240 deg - No Ice	61.781	-50.170	26.481	3511.352	6824.822	-2.154
0.9 Dead+1.0 Wind 240 deg - No Ice	46.336	-50.171	26.481	3503.695	6812.011	-2.136
1.2 Dead+1.0 Wind 270 deg - No Ice	61.781	-54.226	-1.245	-210.675	7415.380	-2.868
0.9 Dead+1.0 Wind 270 deg - No Ice	46.336	-54.227	-1.245	-211.875	7401.504	-2.844
1.2 Dead+1.0 Wind 300 deg - No Ice	61.781	-46.336	-26.434	-3614.092	6370.521	-21.752
0.9 Dead+1.0 Wind 300 deg - No Ice	46.336	-46.335	-26.433	-3609.135	6358.089	-21.729
1.2 Dead+1.0 Wind 330 deg - No Ice	61.781	-27.802	-45.466	-6178.886	3845.232	-28.662
0.9 Dead+1.0 Wind 330 deg - No Ice	46.336	-27.802	-45.466	-6169.640	3837.581	-28.646
1.2 Dead+1.0 Ice+1.0 Temp	173.447	0.000	-0.001	33.426	34.082	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	173.447	0.000	-7.648	-1053.151	34.391	-1.780
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	173.447	3.833	-6.402	-877.433	-515.922	0.108
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	173.447	6.532	-3.743	-499.917	-898.664	0.394
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	173.447	7.602	-0.110	14.408	-1046.106	1.084

Load Combination	Vertical K	Shear$_x$ K	Shear$_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	173.447	6.777	3.694	549.905	-926.603	2.772
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	173.447	3.693	6.385	941.791	-490.927	3.274
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	173.447	0.000	7.312	1078.771	34.385	1.778
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	173.447	-3.701	6.400	944.713	561.386	0.368
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	173.447	-6.791	3.703	551.619	998.339	-0.021
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	173.447	-7.602	-0.110	14.404	1114.880	-1.085
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	173.447	-6.517	-3.735	-498.231	964.515	-3.146
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	173.447	-3.824	-6.387	-874.511	583.014	-3.750
Dead+Wind 0 deg - Service	51.484	0.000	-17.990	-2436.098	3.061	-1.765
Dead+Wind 30 deg - Service	51.484	8.942	-14.626	-1985.757	-1233.023	3.831
Dead+Wind 60 deg - Service	51.484	14.904	-8.503	-1160.011	-2045.938	2.047
Dead+Wind 90 deg - Service	51.484	17.374	-0.399	-64.225	-2369.004	0.891
Dead+Wind 120 deg - Service	51.484	16.017	8.451	1120.476	-2168.664	5.599
Dead+Wind 150 deg - Service	51.484	8.429	14.560	1983.495	-1142.985	7.472
Dead+Wind 180 deg - Service	51.484	0.000	16.507	2268.935	3.061	1.764
Dead+Wind 210 deg - Service	51.484	-8.462	14.619	1994.963	1155.731	-2.099
Dead+Wind 240 deg - Service	51.484	-16.075	8.485	1127.023	2186.134	-0.683
Dead+Wind 270 deg - Service	51.484	-17.374	-0.399	-64.225	2375.123	-0.892
Dead+Wind 300 deg - Service	51.484	-14.846	-8.470	-1153.454	2040.712	-6.965
Dead+Wind 330 deg - Service	51.484	-8.908	-14.567	-1974.284	1232.525	-9.203

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-51.484	0.000	0.000	51.484	-0.000	0.000%
2	0.000	-61.781	-56.150	-0.000	61.781	56.147	0.004%
3	0.000	-46.336	-56.150	-0.000	46.336	56.148	0.003%
4	27.908	-61.781	-45.650	-27.907	61.781	45.648	0.003%
5	27.908	-46.336	-45.650	-27.908	46.336	45.649	0.003%
6	46.519	-61.781	-26.539	-46.517	61.781	26.538	0.003%
7	46.519	-46.336	-26.539	-46.515	46.336	26.537	0.006%
8	54.229	-61.781	-1.245	-54.226	61.781	1.245	0.003%
9	54.229	-46.336	-1.245	-54.227	46.336	1.245	0.003%
10	49.992	-61.781	26.378	-49.990	61.781	-26.377	0.003%
11	49.992	-46.336	26.378	-49.990	46.336	-26.377	0.003%
12	26.308	-61.781	45.446	-26.306	61.781	-45.444	0.003%
13	26.308	-46.336	45.446	-26.307	46.336	-45.444	0.003%
14	0.000	-61.781	51.522	-0.000	61.781	-51.520	0.003%
15	0.000	-46.336	51.522	-0.000	46.336	-51.518	0.006%
16	-26.413	-61.781	45.628	26.412	61.781	-45.626	0.003%
17	-26.413	-46.336	45.628	26.412	46.336	-45.626	0.003%
18	-50.173	-61.781	26.482	50.170	61.781	-26.481	0.003%
19	-50.173	-46.336	26.482	50.171	46.336	-26.481	0.003%
20	-54.229	-61.781	-1.245	54.226	61.781	1.245	0.003%
21	-54.229	-46.336	-1.245	54.227	46.336	1.245	0.003%
22	-46.338	-61.781	-26.435	46.336	61.781	26.434	0.003%
23	-46.338	-46.336	-26.435	46.335	46.336	26.433	0.006%
24	-27.803	-61.781	-45.468	27.802	61.781	45.466	0.003%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
25	-27.803	-46.336	-45.468	27.802	46.336	45.466	0.003%
26	0.000	-173.447	0.000	-0.000	173.447	0.001	0.000%
27	-0.000	-173.447	-7.648	-0.000	173.447	7.648	0.000%
28	3.833	-173.447	-6.403	-3.833	173.447	6.402	0.000%
29	6.532	-173.447	-3.743	-6.532	173.447	3.743	0.000%
30	7.602	-173.447	-0.109	-7.602	173.447	0.110	0.000%
31	6.777	-173.447	3.694	-6.777	173.447	-3.694	0.000%
32	3.693	-173.447	6.386	-3.693	173.447	-6.385	0.000%
33	0.000	-173.447	7.312	-0.000	173.447	-7.312	0.000%
34	-3.702	-173.447	6.401	3.701	173.447	-6.400	0.000%
35	-6.792	-173.447	3.703	6.791	173.447	-3.703	0.000%
36	-7.602	-173.447	-0.109	7.602	173.447	0.110	0.000%
37	-6.517	-173.447	-3.735	6.517	173.447	3.735	0.000%
38	-3.825	-173.447	-6.388	3.824	173.447	6.387	0.000%
39	0.000	-51.484	-17.990	-0.000	51.484	17.990	0.001%
40	8.942	-51.484	-14.626	-8.942	51.484	14.626	0.001%
41	14.904	-51.484	-8.503	-14.904	51.484	8.503	0.001%
42	17.375	-51.484	-0.399	-17.374	51.484	0.399	0.001%
43	16.018	-51.484	8.452	-16.017	51.484	-8.451	0.001%
44	8.429	-51.484	14.561	-8.429	51.484	-14.560	0.001%
45	0.000	-51.484	16.508	-0.000	51.484	-16.507	0.001%
46	-8.463	-51.484	14.619	8.462	51.484	-14.619	0.001%
47	-16.075	-51.484	8.485	16.075	51.484	-8.485	0.001%
48	-17.375	-51.484	-0.399	17.374	51.484	0.399	0.001%
49	-14.847	-51.484	-8.470	14.846	51.484	8.470	0.001%
50	-8.908	-51.484	-14.568	8.908	51.484	14.567	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	12	0.00004322	0.00010574
3	Yes	12	0.00000001	0.00008159
4	Yes	12	0.00003841	0.00009441
5	Yes	12	0.00000001	0.00007072
6	Yes	12	0.00000001	0.00008430
7	Yes	11	0.00006117	0.00014170
8	Yes	12	0.00003845	0.00009443
9	Yes	12	0.00000001	0.00007076
10	Yes	12	0.00004309	0.00010536
11	Yes	12	0.00000001	0.00008126
12	Yes	12	0.00000001	0.00009529
13	Yes	12	0.00000001	0.00007156
14	Yes	12	0.00000001	0.00008468
15	Yes	11	0.00006142	0.00014245
16	Yes	12	0.00003880	0.00009539
17	Yes	12	0.00000001	0.00007165
18	Yes	12	0.00004313	0.00010546
19	Yes	12	0.00000001	0.00008136
20	Yes	12	0.00003845	0.00009441
21	Yes	12	0.00000001	0.00007075
22	Yes	12	0.00000001	0.00008432
23	Yes	11	0.00006121	0.00014178
24	Yes	12	0.00003837	0.00009430
25	Yes	12	0.00000001	0.00007062

26	Yes	9	0.00000001	0.00009389
27	Yes	13	0.00000001	0.00008776
28	Yes	13	0.00000001	0.00008578
29	Yes	13	0.00000001	0.00008626
30	Yes	13	0.00000001	0.00008804
31	Yes	13	0.00000001	0.00009041
32	Yes	13	0.00000001	0.00008972
33	Yes	13	0.00000001	0.00009026
34	Yes	13	0.00000001	0.00009125
35	Yes	13	0.00000001	0.00009294
36	Yes	13	0.00000001	0.00009084
37	Yes	13	0.00000001	0.00008865
38	Yes	13	0.00000001	0.00008717
39	Yes	12	0.00000001	0.00007863
40	Yes	12	0.00000001	0.00007519
41	Yes	12	0.00000001	0.00007224
42	Yes	12	0.00000001	0.00007515
43	Yes	12	0.00000001	0.00007848
44	Yes	12	0.00000001	0.00007550
45	Yes	12	0.00000001	0.00007248
46	Yes	12	0.00000001	0.00007552
47	Yes	12	0.00000001	0.00007849
48	Yes	12	0.00000001	0.00007513
49	Yes	12	0.00000001	0.00007222
50	Yes	12	0.00000001	0.00007514

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	220 - 200	10.570	47	0.398	0.068
T2	200 - 180	8.845	47	0.389	0.068
T3	180 - 160	7.145	47	0.361	0.067
T4	160 - 140	5.608	47	0.317	0.058
T5	140 - 120	4.280	47	0.269	0.048
T6	120 - 100	3.155	47	0.222	0.039
T7	100 - 80	2.216	47	0.179	0.029
T8	80 - 60	1.458	47	0.140	0.021
T9	60 - 40	0.848	47	0.104	0.013
T10	40 - 20	0.399	47	0.067	0.007
T11	20 - 0	0.129	47	0.034	0.003

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
220.000	Lightning Rod 1"x10'	47	10.570	0.398	0.068	Inf
215.000	Sector1(CaAa=13333.33 Sq in)No Ice	47	10.139	0.397	0.068	Inf
203.000	Sector1(CaAa=10000 Sq in)No Ice	47	9.104	0.392	0.068	351095
191.000	Sector1(CaAa=10000 Sq in)No Ice	47	8.069	0.379	0.068	56696
179.000	6' MW Dish	47	7.063	0.359	0.066	23852
167.000	6' MW Dish	47	6.122	0.334	0.062	22801

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	220 - 200	33.022	18	1.243	0.214
T2	200 - 180	27.634	18	1.215	0.212
T3	180 - 160	22.323	18	1.127	0.208
T4	160 - 140	17.521	18	0.990	0.182
T5	140 - 120	13.372	18	0.839	0.150
T6	120 - 100	9.857	18	0.693	0.120
T7	100 - 80	6.925	18	0.558	0.091
T8	80 - 60	4.557	18	0.436	0.066
T9	60 - 40	2.650	18	0.325	0.041
T10	40 - 20	1.248	18	0.210	0.022
T11	20 - 0	0.403	18	0.106	0.010

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
220.000	Lightning Rod 1"x10'	18	33.022	1.243	0.214	380992
215.000	Sector1(CaAa=13333.33 Sq in)No Ice	18	31.676	1.239	0.213	380992
203.000	Sector1(CaAa=10000 Sq in)No Ice	18	28.444	1.223	0.212	117462
191.000	Sector1(CaAa=10000 Sq in)No Ice	18	25.210	1.183	0.212	18429
179.000	6' MW Dish	18	22.068	1.121	0.207	7675
167.000	6' MW Dish	18	19.129	1.041	0.193	7340

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	220	Diagonal	A325X	0.625	1	4.225	9.598	0.440 ✔	1	Member Block Shear
		Top Girt	A325X	0.625	1	1.691	9.598	0.176 ✔	1	Member Block Shear
T2	200	Leg	A325N	0.750	6	3.469	30.101	0.115 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	6.591	9.598	0.687 ✔	1	Member Block Shear
T3	180	Leg	A325N	0.750	6	10.502	30.101	0.349 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.523	10.740	0.794 ✔	1	Member Block Shear
T4	160	Leg	A325N	0.750	6	18.007	30.101	0.598 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.439	13.025	0.648 ✔	1	Member Block Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T5	140	Leg	A325N	1.000	6	25.222	54.517	0.463 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.621	13.025	0.662 ✔	1	Member Block Shear
T6	120	Leg	A325N	1.000	6	31.764	54.517	0.583 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.920	13.025	0.685 ✔	1	Member Block Shear
T7	100	Leg	A325N	1.000	6	37.862	54.517	0.695 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	9.493	14.168	0.670 ✔	1	Member Block Shear
T8	80	Leg	A325N	1.250	6	43.677	87.220	0.501 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.149	14.168	0.716 ✔	1	Member Block Shear
T9	60	Leg	A325N	1.250	6	49.318	87.220	0.565 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.687	17.257	0.619 ✔	1	Bolt Shear
T10	40	Leg	A325N	1.250	6	54.758	87.220	0.628 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	11.948	26.051	0.459 ✔	1	Member Block Shear
		Horizontal	A325X	0.625	1	7.059	19.195	0.368 ✔	1	Member Block Shear
T11	20	Leg	A325N	1.250	6	60.011	87.220	0.688 ✔	1	Bolt Tension
		Diagonal	A325X	0.625	1	11.735	26.051	0.450 ✔	1	Member Block Shear
		Horizontal	A325X	0.625	1	7.679	21.480	0.358 ✔	1	Member Block Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	220 - 200	1 3/4	20.019	4.754	130.4 K=1.00	2.405	-20.123	31.952	0.630 [1] ✔
T2	200 - 180	2 1/4	20.019	4.754	101.4 K=1.00	3.976	-64.985	84.331	0.771 [1] ✔
T3	180 - 160	2 1/2	20.019	4.754	91.3 K=1.00	4.909	-113.827	120.108	0.948 [1] ✔
T4	160 - 140	2 3/4	20.019	4.754	83.0 K=1.00	5.940	-161.017	161.540	0.997 [1] ✔
T5	140 - 120	3	20.019	4.754	76.1 K=1.00	7.069	-204.201	208.347	0.980 [1] ✔
T6	120 - 100	3 1/4	20.019	4.754	70.2 K=1.00	8.296	-245.038	260.312	0.941 [1] ✔
T7	100 - 80	3 1/2	20.019	4.754	65.2 K=1.00	9.621	-285.067	317.273	0.898 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T8	80 - 60	3 3/4	20.019	4.754	60.9 K=1.00	11.045	-324.573	379.106	0.856 [1] ✔
T9	60 - 40	3 3/4	20.019	4.754	60.9 K=1.00	11.045	-363.753	379.106	0.960 [1] ✔
T10	40 - 20	4	20.019	4.754	57.1 K=1.00	12.566	-397.323	445.717	0.891 [1] ✔
T11	20 - 0	4	20.019	4.754	57.1 K=1.00	12.566	-433.521	445.717	0.973 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	220 - 200	L1 3/4x1 3/4x3/16	7.485	3.764	131.5 K=1.00	0.621	-3.678	10.280	0.358 [1] ✔
T2	200 - 180	L1 3/4x1 3/4x3/16	8.697	4.343	151.7 K=1.00	0.621	-5.949	7.721	0.771 [1] ✔
T3	180 - 160	L2x2x3/16	9.987	4.976	151.6 K=1.00	0.715	-7.807	8.909	0.876 [1] ✔
T4	160 - 140	L2 1/2x2 1/2x3/16	11.329	5.636	136.6 K=1.00	0.902	-7.771	13.828	0.562 [1] ✔
T5	140 - 120	L2 1/2x2 1/2x3/16	12.706	6.314	153.1 K=1.00	0.902	-8.115	11.018	0.737 [1] ✔
T6	120 - 100	L2 1/2x2 1/2x3/16	14.108	7.005	169.8 K=1.00	0.902	-8.566	8.952	0.957 [1] ✔
T7	100 - 80	L3x3x3/16	15.529	7.705	155.1 K=1.00	1.090	-9.175	12.964	0.708 [1] ✔
T8	80 - 60	L3x3x3/16	16.963	8.412	169.4 K=1.00	1.090	-9.904	10.877	0.911 [1] ✔
T9	60 - 40	L3x3x1/4	18.408	9.134	185.2 K=1.00	1.440	-10.358	12.022	0.862 [1] ✔
T10	40 - 20	2L2 1/2x2 1/2x3/16x3/8	10.829	10.644	168.4 K=1.00	1.800	-11.735	17.598	0.667 [1] ✔
T11	20 - 0	2L 'a' > 60.948 in - 252 2L2 1/2x2 1/2x3/16x3/8 2L 'a' > 64.848 in - 291	11.508	11.325	179.2 K=1.00	1.800	-11.755	15.610	0.753 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T10	40 - 20	2L1 3/4x1 3/4x3/16x3/8	19.106	9.386	209.8 K=1.00	1.242	-7.059	8.079	0.874 [1] ✔
T11	20 - 0	2L 'a' > 54.035 in - 256 2L2x2x3/16x3/8 2L 'a' > 58.256 in - 295	20.606	10.136	198.3 K=1.00	1.430	-7.679	10.268	0.748 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	220 - 200	L1 3/4x1 3/4x3/16	4.538	4.392	153.4 K=1.00	0.621	-1.617	7.550	0.214 [1] ✔

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T10	40 - 20	L1 3/4x1 3/4x3/16	9.553	9.553	333.8 K=1.00	0.621	-0.009	1.596	0.006 [1] ✔
T11	20 - 0	KL/R > 250 (C) - 261 L1 3/4x1 3/4x3/16 KL/R > 250 (C) - 300	10.303	10.303	360.0 K=1.00	0.621	-0.009	1.372	0.006 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	220 - 200	1 3/4	20.019	0.500	13.7	2.405	20.834	108.238	0.192 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	200 - 180	2 1/4	20.019	0.500	10.7	3.976	63.022	178.924	0.352 [1] ✔
T3	180 - 160	2 1/2	20.019	0.500	9.6	4.909	108.054	220.893	0.489 [1] ✔
T4	160 - 140	2 3/4	20.019	0.500	8.7	5.940	151.346	267.281	0.566 [1] ✔
T5	140 - 120	3	20.019	0.500	8.0	7.069	190.600	318.086	0.599 [1] ✔
T6	120 - 100	3 1/4	20.019	0.500	7.4	8.296	227.188	373.310	0.609 [1] ✔
T7	100 - 80	3 1/2	20.019	0.500	6.9	9.621	262.077	432.951	0.605 [1] ✔
T8	80 - 60	3 3/4	20.019	0.500	6.4	11.045	295.924	497.010	0.595 [1] ✔
T9	60 - 40	3 3/4	20.019	0.500	6.4	11.045	328.564	497.010	0.661 [1] ✔
T10	40 - 20	4	20.019	0.500	6.0	12.566	360.087	565.487	0.637 [1] ✔
T11	20 - 0	4	20.019	0.500	6.0	12.566	389.570	565.487	0.689 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	220 - 200	L1 3/4x1 3/4x3/16	7.485	3.764	84.1	0.360	4.225	17.567	0.240 [1] ✔
T2	200 - 180	L1 3/4x1 3/4x3/16	8.697	4.343	97.1	0.360	6.591	17.567	0.375 [1] ✔
T3	180 - 160	L2x2x3/16	9.987	4.976	96.8	0.431	8.523	21.001	0.406 [1] ✔
T4	160 - 140	L2 1/2x2 1/2x3/16	11.329	5.636	86.9	0.571	8.439	27.838	0.303 [1] ✔
T5	140 - 120	L2 1/2x2 1/2x3/16	12.706	6.314	97.4	0.571	8.621	27.838	0.310 [1] ✔
T6	120 - 100	L2 1/2x2 1/2x3/16	14.108	7.005	108.0	0.571	8.920	27.838	0.320 [1] ✔
T7	100 - 80	L3x3x3/16	15.529	7.705	98.5	0.712	9.493	34.712	0.273 [1] ✔
T8	80 - 60	L3x3x3/16	16.963	8.412	107.5	0.712	10.149	34.712	0.292 [1] ✔
T9	60 - 40	L3x3x1/4	18.408	9.134	117.9	0.939	10.687	45.794	0.233 [1] ✔
T10	40 - 20	2L2 1/2x2 1/2x3/16x3/8	10.829	10.644	164.2	1.139	11.948	55.529	0.215 [1] ✔
T11	20 - 0	2L 'a' > 60.948 in - 251 2L2 1/2x2 1/2x3/16x3/8	11.508	11.325	174.7	1.139	11.735	55.529	0.211 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
		2L 'a' > 64.848 in - 290							✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T10	40 - 20	2L1 3/4x1 3/4x3/16x3/8	18.394	9.030	201.8	0.721	7.059	35.134	0.201 [1] ✔
T11	20 - 0	2L 'a' > 51.985 in - 274 2L2x2x3/16x3/8 2L 'a' > 56.208 in - 313	19.894	9.780	190.2	0.862	7.679	42.001	0.183 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	220 - 200	L1 3/4x1 3/4x3/16	4.538	4.392	98.1	0.360	1.691	17.567	0.096 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	220 - 200	Leg	1 3/4	3	-20.123	31.952	63.0	Pass
T2	200 - 180	Leg	2 1/4	33	-64.985	84.331	77.1	Pass
T3	180 - 160	Leg	2 1/2	60	-113.827	120.108	94.8	Pass
T4	160 - 140	Leg	2 3/4	87	-161.017	161.540	99.7	Pass
T5	140 - 120	Leg	3	114	-204.201	208.347	98.0	Pass
T6	120 - 100	Leg	3 1/4	139	-245.038	260.312	94.1	Pass
T7	100 - 80	Leg	3 1/2	166	-285.067	317.273	89.8	Pass
T8	80 - 60	Leg	3 3/4	193	-324.573	379.106	85.6	Pass
T9	60 - 40	Leg	3 3/4	220	-363.753	379.106	96.0	Pass
T10	40 - 20	Leg	4	247	-397.323	445.717	89.1	Pass
T11	20 - 0	Leg	4	286	-433.521	445.717	97.3	Pass
T1	220 - 200	Diagonal	L1 3/4x1 3/4x3/16	7	-3.678	10.280	35.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
							44.0 (b)	
T2	200 - 180	Diagonal	L1 3/4x1 3/4x3/16	36	-5.949	7.721	77.1	Pass
T3	180 - 160	Diagonal	L2x2x3/16	61	-7.807	8.909	87.6	Pass
T4	160 - 140	Diagonal	L2 1/2x2 1/2x3/16	89	-7.771	13.828	56.2	Pass
							64.8 (b)	
T5	140 - 120	Diagonal	L2 1/2x2 1/2x3/16	116	-8.115	11.018	73.7	Pass
T6	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	143	-8.566	8.952	95.7	Pass
T7	100 - 80	Diagonal	L3x3x3/16	170	-9.175	12.964	70.8	Pass
T8	80 - 60	Diagonal	L3x3x3/16	197	-9.904	10.877	91.1	Pass
T9	60 - 40	Diagonal	L3x3x1/4	224	-10.358	12.022	86.2	Pass
T10	40 - 20	Diagonal	2L2 1/2x2 1/2x3/16x3/8	252	-11.735	17.598	66.7	Pass
T11	20 - 0	Diagonal	2L2 1/2x2 1/2x3/16x3/8	291	-11.755	15.610	75.3	Pass
T10	40 - 20	Horizontal	2L1 3/4x1 3/4x3/16x3/8	256	-7.059	8.079	87.4	Pass
T11	20 - 0	Horizontal	2L2x2x3/16x3/8	295	-7.679	10.268	74.8	Pass
T1	220 - 200	Top Girt	L1 3/4x1 3/4x3/16	4	-1.617	7.550	21.4	Pass
T10	40 - 20	Inner Bracing	L1 3/4x1 3/4x3/16	261	-0.009	1.596	0.6	Pass
T11	20 - 0	Inner Bracing	L1 3/4x1 3/4x3/16	300	-0.009	1.372	0.6	Pass
							Summary	
						Leg (T4)	99.7	Pass
						Diagonal (T6)	95.7	Pass
						Horizontal (T10)	87.4	Pass
						Top Girt (T1)	21.4	Pass
						Inner Bracing (T11)	0.6	Pass
						Bolt Checks	79.4	Pass
						RATING =	**99.7**	**Pass**

EXHIBIT D
COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

KY Public Service Commission

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
				Active

Search

	Utility ID	Utility Name	Utility Type	Class	City	State
View	4111300	2600Hz, Inc. dba ZSWITCH	Cellular	D	San Francisco	CA
View	4108300	Air Voice Wireless, LLC	Cellular	B	Bloomfield Hill	MI
View	4110650	Alliant Technologies of KY, L.L.C.	Cellular	D	Morristown	NJ
View	4111900	ALLNETAIR, INC.	Cellular	D	West Palm Beach	FL
View	44451184	Alltel Corporation d/b/a Verizon Wireless	Cellular	A	Lisle	IL
View	4110850	AltaWorx, LLC	Cellular	D	Fairhope	AL
View	4107800	American Broadband and Telecommunications Company	Cellular	D	Toledo	OH
View	4108650	AmeriMex Communications Corp.	Cellular	A	Safety Harbor	FL
View	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
View	4105700	Assurance Wireless USA, L.P.	Cellular	A	Atlanta	GA
View	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
View	4106000	Best Buy Health, Inc. d/b/a GreatCall d/b/a Jitterbug	Cellular	A	San Diego	CA
View	4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
View	4111050	BlueBird Communications, LLC	Cellular	D	New York	NY
View	4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY
View	4107600	Boomerang Wireless, LLC	Cellular	C	Hiawatha	IA

View	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4106600	Cintex Wireless, LLC	Cellular	D	Houston	TX
View	4111150	Comcast OTR1, LLC	Cellular	B	Phoeniexville	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
View	4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
View	4111500	CSC Wireless, LLC d/b/a Altice Wireless	Cellular	D	Long Island City	NY
View	10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
View	4111650	DataBytes, Inc.	Cellular	D	Rogers	AR
View	4112000	DISH Wireless L.L.C.	Cellular	A	Englewood	CO
View	4111200	Dynalink Communications, Inc.	Cellular	C	Brooklyn	NY
View	4111800	Earthlink, LLC	Cellular	D	Atlanta	GA
View	4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
View	4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
View	4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
View	4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
View	4112400	Excess Telecom Inc.	Cellular	C	Beverly Hills	CA
View	4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Herndon	VA
View	4111750	Gabb Wireless, Inc.	Cellular	D	Provo	UT
View	4112300	Gen Mobile Inc.	Cellular	C	Redondo Beach	CA
View	4109350	Global Connection Inc. of America	Cellular	D	Newport	KY
View	4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
View	4112050	GLOTELL US, Corp.	Cellular	D	Hallandale	FL
View	4109600	Google North America Inc.	Cellular	A	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	4111350	HELLO MOBILE TELECOM LLC	Cellular	D	Dania Beach	FL
View	4103100	i-Wireless, LLC	Cellular	B	Newport	KY
View	4112550	IDT Domestic Telecom, Inc.	Cellular	C	Newark	NJ
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Plano	TX
View	4111950	J Rhodes Enterprises LLC	Cellular	D	Gulf Breeze	FL
View	22215360	KDDI America, Inc.	Cellular	D	Staten Island	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY

View	10681	Kentucky RSA #4 Cellular General	Cellular	A	Elizabethtown	KY
View	4109550	Kynect Communications, LLC	Cellular	D	Dallas	TX
View	4112200	Lexvor Inc.	Cellular	D	Irvine	CA
View	4111250	Liberty Mobile Wireless, LLC	Cellular	A	Sunny Isles Beach	FL
View	4111400	Locus Telecommunications, LLC	Cellular	A	Fort Lee	NJ
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4112500	Marconi Wireless Holdings, LLC	Cellular	C	Westlake Village	CA
View	4112450	Matrix Telecom, LLC dba Excel Telecommunications	Cellular	C	Irving	TX
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
View	4111700	Mint Mobile, LLC	Cellular	D	Costa Mesa	CA
View	4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ
View	4111850	Mobi, Inc.	Cellular	D	Honolulu	HI
View	4109400	NetZero Wireless, Inc. dba magicJack Wireless	Cellular	D	Westlake Village	CA
View	4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
View	4112350	NewPhone Wireless, L.L.C.	Cellular	C	Houston	TX
View	4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
View	4110700	Norcell, LLC	Cellular	D	Buford	GA
View	4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS
View	4001800	OnStar, LLC	Cellular	A	Detroit	MI
View	4110750	Onvoy Spectrum, LLC	Cellular	D	Chicago	IL
View	4109050	Patriot Mobile LLC	Cellular	D	Irving	TX
View	4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
View	33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
View	4107700	Puretalk Holdings, Inc.	Cellular	A	Covington	GA
View	4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	C	Hiawatha	IA
View	4110500	Republic Wireless, Inc.	Cellular	A	Raleigh	NC
View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	B	Los Angeles	CA
View	4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Fremont	NE
View	4110150	Spectrotel of the South LLC dba Touch Base Communications	Cellular	D	Neptune	NJ
View	4111450	Spectrum Mobile, LLC	Cellular	A	St. Louis	MO
View	4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
View	4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
View	4111600	STX Group LLC dba Twigby	Cellular	D	Murfreesboro	TN
	4202200	T-Mobile Central, LLC dba T-	Cellular	A	Bellevue	WA

View		Mobile				
View	4002500	TAG Mobile, LLC	Cellular	D	Plano	TX
View	4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	Portland	ME
View	4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
View	4112100	Tello LLC	Cellular	D	Atlanta	GA
View	4108900	Telrite Corporation	Cellular	D	Covington	GA
View	4108450	Tempo Telecom, LLC	Cellular	C	Atlanta	GA
View	4109000	Ting, Inc.	Cellular	B	Toronto	ON
View	4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
View	4103300	Touchtone Communications, Inc.	Cellular	D	Cedar Knolls	NJ
View	4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
View	4112250	TROOMI WIRELESS, Inc.	Cellular	C	Lehi	UT
View	4002000	Truphone, Inc.	Cellular	D	Durham	NC
View	4112600	Tube Incorporated dba Reach Mobile	Cellular	C	Chelmsford	MA
View	4110300	UVNV, Inc. d/b/a Mint Mobile	Cellular	D	Costa Mesa	CA
View	10630	Verizon Americas LLC dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4110800	Visible Service LLC	Cellular	D	Basking Ridge	NJ
View	4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
View	4110950	Wing Tel Inc.	Cellular	D	New York	NY
View	4112150	Zefcom, LLC	Cellular	C	Wichita Falls	TX

EXHIBIT E
FAA

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

Aeronautical Study No.
2021-ASO-37310-OE

Issued Date: 10/21/2021

Andrew Smith
RESCOM Environmental Corp
PO Box 361
Petoskey, MI 49770

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

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

Structure:	Antenna Tower Calvert City
Location:	Calvert City, KY
Latitude:	36-59-03.19N NAD 83
Longitude:	88-21-28.88W
Heights:	359 feet site elevation (SE)
	232 feet above ground level (AGL)
	591 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) 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 M, Obstruction Marking and Lighting, a med-dual system-Chapters 4,8(M-Dual),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to 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)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 04/21/2023 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 20, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on November 30, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

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.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed

structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

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 Chris Smith, at (817) 222-5928, or chris.smith@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ASO-37310-OE.

Signature Control No: 495057796-498329320 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Frequency Data
Map(s)

cc: FCC

Abbreviations
AGL - Above Ground Level
CFR - Code of Federal Regulations
nm - nautical mile
TPA - Traffic Pattern Airspace

The FAA study has disclosed that this proposed tower would be located approximately 3.21 nm southwest of the Airport Reference Point and would be within a protected surface at KENTUCKY DAM STATE PARK Airport (M34), KY. It is identified as exceeding the obstruction standards of 14 CFR Part 77 as applied to M34:

77.17 (a.)(2). A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

It would exceed by 12 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization proposals which exceed the above cited obstruction standard, and does NOT penetrate the airport TPA.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

> The proposed structure would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

> The proposed structure would have no effect on any existing or proposed IFR enroute routes, operations, or procedures.

> The proposed structure would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

> The proposed structure would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

> The proposed structure would not conflict with airspace required to conduct normal VFR traffic pattern operations at M34 or any known public use or military airports.

> The proposed structure would not have a substantial adverse effect on VFR enroute flight operations.

> The proposed structure will be appropriately obstruction marked/lighted to make it more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures is not considered significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth in this determination are met.

Frequency Data for ASN 2021-ASO-37310-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

TOPO Map for ASN 2021-ASO-37310-OE

Sectional Map for ASN 2021-ASO-37310-OE

EXHIBIT F
KENTUCKY AIRPORT ZONING COMMISSION

KENTUCKY AIRPORT ZONING COMMISSION

ANDY BESHEAR
Governor

Office of Audits, 200 Mero Street, 4th floor
Frankfort, KY 40622
www.transportation.ky.gov
502-782-4043

JIM GRAY
Secretary

APPROVAL OF APPLICATION

February 15, 2022

APPLICANT
Harmoni Towers
B&T Group – Patricia Parr
10801 Executive Center Dr. Ste. 100
Little Rock, AR 72211

SUBJECT: AS-MASHALL-M34-2022-002

STRUCTURE:	Antenna Tower
LOCATION:	Calvert City, KY
COORDINATES:	36° 59' 3.19" N / 88° 21' 28.88" W
HEIGHT:	232' AGL/591' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 232'AGL/ 591'AMSL Antenna Tower near Calvert City, KY 36° 59' 3.19" N / 88° 21' 28.88" W.

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

Dual red & white medium intensity obstruction lighting is required.

Randall S. Royer

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

EXHIBIT G
GEOTECHNICAL REPORT

SUBSURFACE INVESTIGATION & GEOTECHNICAL RECOMMENDATIONS

HARMONI TOWER – KYBGN2027
CALVERT CITY, KENTUCKY
A&W PROJECT NO: 21IN0855

PREPARED FOR:
B+T GROUP
TULSA, OKLAHOMA

PREPARED BY:
ALT & WITZIG ENGINEERING, INC.
GEOTECHNICAL DIVISION

DECEMBER 17, 2021

Alt & Witzig Engineering, Inc.
4105 West 99th Street • Carmel, Indiana 46032
(317) 875-7000 • Fax (317) 876-3705

December 17, 2021

B+T Group
1717 S. Boulder Ave., Suite 300
Tulsa, Oklahoma 74119
ATTN: Patricia Parr

Report of Subsurface Investigation & Geotechnical Recommendations

RE: Harmoni KYBGN2027 Tower
Calvert City, Kentucky
B+T Group # 144556.001.05
Alt & Witzig File: **21IN0855**

Dear Ms. Parr:

In compliance with your request, we have completed a subsurface investigation and geotechnical evaluation for the above referenced project. It is our pleasure to transmit herewith one (1) electronic copy of our report.

The purpose of this subsurface investigation was to determine the various soils profile components and the engineering characteristics of the materials encountered to provide design parameters for the design and construction of the proposed 220-foot-tall self-support communication tower.

Project Description

The site is located approximately 150 west of KY Highway 95 and approximately 1200 feet south of Dees Lane on the south side of Calvert City, Kentucky (Exhibit 1). The center elevation of the tower is listed on the survey provided by the client at 358.7 feet.

The shallow soil types as mapped for this site were derived from the USDA's Web Soil Survey. A Custom Soil Resource Report for this site is included in the Appendix.

Exhibit 1: 2019 Aerial Photograph

Field Methods

The field investigation included a reconnaissance of the project site, performing one (1) soil boring near the tower center, and obtaining soil samples for laboratory testing. The apparent groundwater level at the boring location was also determined.

Laboratory Investigation

A laboratory investigation was conducted to ascertain additional pertinent engineering characteristics of the subsurface materials at the site of the proposed tower. The laboratory testing program included visual classification of all soils, and pocket penetrometer and moisture content testing of cohesive samples.

Site Specific Subsurface Conditions

At the ground surface, the boring encountered approximately eight (8) inches of topsoil. Beneath the topsoil the boring encountered soft to medium stiff Silt and Clayey Silt and Gravel extending to a depth of 21 feet. The silty soils increased in sand content to a Sandy Silt from 21 to 28 feet which was underlain by a fine-grained Clayey Sand. This material was found to extend to 37 feet at which point a highly plastic, soft clay layer was encountered. The clay layer was approximately 3 feet thick, and the boring was then terminated at elevation 318 feet in a white, medium dense sand. Bedrock was not encountered at this location. Water level observations made during and upon completion of drilling operations indicated water as shallow as 16 feet below the surface.

It should be noted that the groundwater level measurement recorded on the individual *Boring Logs* in the Appendix of this report is accurate for the specific date on which the measurements was performed. It must be understood that the groundwater level will fluctuate throughout the year. The *Boring Logs* do not indicate these fluctuations.

Seismic Parameters

An evaluation of the seismic site class has been performed for this site. The Commonwealth of Kentucky has integrated the 2015 International Building Code into the Kentucky Building Code (KBC). The seismic site class is determined by averaging soil conditions within the top 100 feet with respect to the shear wave velocity in accordance with ASCE 7. Our evaluation is based on data obtained for a single boring performed to a depth of 40 feet at this site and limited information provided by the Kentucky Geological Survey for a depth of 100 feet. A detailed report generated by data from USGS and formatted by SEAOC and OSHPD (seismicmaps.org) has been attached to this letter. Following are the summarized requested seismic parameters.

Seismic Parameters

Site Soil Classification	Site Class D
MCE Spectral Response Accelerations	$S_s = 0.821$ $S_1 = 0.280$

Geotechnical Recommendations

Information provided by B+T Group indicates that a new 220-foot-tall self-support communications tower will be constructed at this site. This investigation was conducted to provide information for use in the design and construction of the foundations for the proposed structure.

Tower Foundation Recommendations

Extended Footing or Extended Mat Foundation

The soil parameters presented in *Table 1* may be utilized for the evaluation of a shallow foundation at the tower location.

Table 1: Shallow Foundation Soil Parameters

Soil Description	Depth Below Existing Grade (feet)	Allowable Bearing Pressure (psf) FS=3	Unit Weight (pcf)	C (psf)/ Φ (°)	Adhesion (psf)
Silt	3-13	2,700	120	1,500	1,250

Drilled Shafts

Drilled shaft foundations may be designed using the soil parameters provided in *Table 2.* It is recommended that a drilled shafts for this structure be limited to a maximum depth of 25 feet due to the underlying layer of soft clay. However, a shaft base depth range of 15-20 feet would avoid the wet sandy silts and be supported by the stiffer material from 13 to 21 feet. If the drilled shaft foundation will penetrate below 21 feet wet sandy soils will be encountered and casing or drilling mud will be necessary.

Table 2: Deep Foundation Soil Parameters

Depth Below Grade (Feet)	**Allowable Skin Friction for Gravity Loads (psf) SF=2**	**Design End Bearing Pressure SF=3**	**Unit Weight (pcf)**	**C (psf) / Φ (°)**	**e50**	**Lateral p-y Model**
3-13 Silt	500	NA	120	1,500	0.015	Soft Clay
13-21 Clayey Silt and Gravel	650	6,000	120	2,500	0.006	Stiff Clay
21-28 Loose Sandy Silt	400	4,000	110	28°	NA	Silt
28-37 Clayey Sand	500	2,000	120	30°	NA	O'Neil Sand

*Skin friction may be utilized in shaft compression and tension
** Skin friction shall be ignored for 1B at the top and bottom of the shaft, where B is the diameter, when that portion of the shaft is in cohesive soils.

Equipment Building Foundation Recommendations

A net allowable bearing pressure of **2,000 psf** is recommended for evaluating continuous wall footings at this site for lightly loaded ancillary buildings. The above-suggested bearing pressure is provided assuming the footings will be founded on soft to medium stiff natural soils or properly compacted fill materials at a minimum depth of two (2) feet below grade.

Statement of Limitations

Our subsurface investigation was conducted in accordance with guidelines set forth in the scope of services and applicable industry standards.

An inherent limitation of any geotechnical engineering study is that conclusions must be drawn based on data collected at a limited number of discrete locations. The geotechnical parameters provided in this report were developed from the information obtained from the test borings that depict subsurface conditions only at these specific locations and on the date indicated on the boring logs. Soil conditions at other locations may differ from conditions encountered at these boring locations and groundwater levels shall be expected to vary with time. The nature and extent of variations between the borings may not become evident until the course of construction.

Often, because of design and construction details that occur on a project, questions rise concerning the soil conditions. If we can give further service in these matters, please contact us at your convenience.

Sincerely,

Alt & Witzig Engineering, Inc.

David C. Harness, P.E.
Sr. Geotechnical Engineer

APPENDIX

Boring Log
General Notes
U.S. Seismic Design Maps
Custom Soil Resource Report

BORING LOG

BORING NO.: B-1
SHEET 1 OF 1
LATITUDE : 36.984219
LONGITUDE : -88.358022
DATUM : NAVD88
DATE STARTED : 12-15-21
DATE COMPLETED : 12-15-21

CLIENT : B+T Group
PROJECT : KYBGN2027
LOCATION : Calvert City
COUNTY : Marshall
AW PROJECT NO.: 21IN0855

ELEVATION	: 358.7	BORING METHOD	: DC	HAMMER	: Auto
STATION	:	RIG TYPE	: Geoprobe 6712DT	DRILLER/INSP	: D. Samsel/D. Harness
OFFSET	: 0.0 ft	CASING DIA.	: 3.25	TEMPERATURE	: 55 °F
LINE	:	CORE SIZE	:	WEATHER	: Overcast, windy
DEPTH	: 41.0 ft				

GROUNDWATER: ▽ Encountered at 17.0 ft ▼ At completion 16.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS LL	PL	PI	REMARKS
		Brown, Very Moist, **TOPSOIL** 0.8											
		Brown to Tan, Very Moist, Very Soft **SILT** 2.0	MC 1		100	25.0		0.50					
355.0	5												
		Tan and Gray, Very Moist, Soft **SILT** Mottled, Friable,	MC 2		100	21.4		1.50					5.0, Boring backfilled upon completion with bentonite chips to -4', hydrated, then sand to surface.
350.0	10	13.0	MC 3		80	22.3		1.80					
345.0						18.0							
	15	Dark Brown and Orange, Very Moist, Medium Stiff **Clayey SILT** and GRAVEL,	MC 4		80	15.2		2.50					
340.0	20	21.0	MC 5		60	23.2							
335.0	25	Light Brown, Wet, Very Loose **Sandy SILT** 28.0	MC 6		80	17.9							
330.0	30												
		Reddish Brown, Wet, Medium Dense **Clayey SAND** (fine grained),	MC 7		20								
325.0	35	37.0											
		Dark Gray, Very Moist, Very Soft **CLAY** (possible marl), 40.0	MC 8		50	29.3		0.00					
320.0	40	White, Moist, Medium Dense **SAND** (medium grained), 41.0											
		Bottom of Boring at 41.0 ft											
315.0	45												
310.0	50												

MATERIAL GRAPHICS LEGEND


IN CLAY: Indiana DOT: Clay


IN CLAY LOAM: Indiana DOT: Clay Loam


IN SAND: Indiana DOT: Sand


IN SANDY LOAM: Indiana DOT: Sandy Loam


IN SILT: Indiana DOT: Silt


TOPSOIL

SOIL PROPERTY SYMBOLS

N: *Standard "N" penetration value. Blows per foot of a 140-lb hammer falling 30" on a 2" O.D. split-spoon.*

Qu: *Unconfined Compressive Strength, tsf* PP: *Pocket Penetrometer, tsf*

LL: *Liquid Limit, %* PL: *Plastic Limit, %* PI: *Plasticity Index, %*

DRILLING AND SAMPLING SYMBOLS

GROUNDWATER SYMBOLS

○ *Apparent water level noted while drilling.*

▽ *Apparent water level noted upon completion.*

▼ *Apparent water level noted upon delayed time.*

SAMPLER SYMBOLS

MC: Macro Core

RELATIVE DENSITY & CONSISTANCY CLASSIFICATION (NON-COHESIVE SOILS)

TERM	*BLOWS PER FOOT*
Very Loose	0 - 5
Loose	6 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	>51

RELATIVE DENSITY & CONSISTANCY CLASSIFICATION (COHESIVE SOILS)

TERM	*BLOWS PER FOOT*
Very Soft	0 - 3
Soft	4 - 5
Medium Stiff	6 - 10
Stiff	11 - 15
Very Stiff	16 - 30
Hard	>31

Alt & Witzig Engineering, Inc.
4105 West 99th St.
Carmel, IN 46032
Telephone:
Fax:

GENERAL NOTES

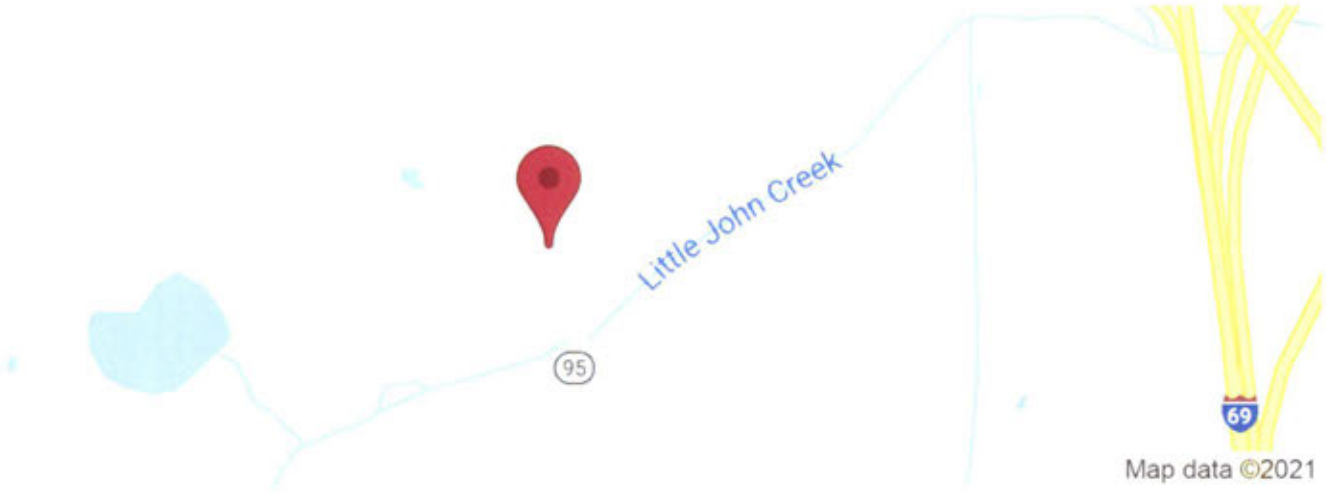
Project: KYBGN2027

Location: Calvert City

Number: 21IN0855

OSHPD

Latitude, Longitude: 36.98404754, -88.35819905



Date	12/9/2021, 4:40:14 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_S	0.821	MCE_R ground motion. (for 0.2 second period)
S_1	0.28	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.986	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	0.657	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.482	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.578	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	0.821	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.935	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.28	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.325	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.645	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.878	Mapped value of the risk coefficient at short periods
C_{R1}	0.863	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Calloway and Marshall Counties, Kentucky

December 8, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (21IN0855)

Map Scale: 1:1,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Calloway and Marshall Counties, Kentucky
Survey Area Data: Version 16, Sep 8, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 21, 2019—Sep 4, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (21IN0855)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BpD3	Brandon-Purchase-Lax complex, 12 to 20 percent slopes, severely eroded	0.2	1.6%
BsE2	Brandon-Saffell-Smithdale complex, 20 to 35 percent slopes, eroded	3.2	32.0%
Cu	Collins-Iuka complex, 0 to 2 percent slopes, occasionally flooded	6.0	60.5%
Ef	Enville-Falaya complex, 0 to 2 percent slopes, occasionally flooded	0.1	1.1%
PIC3	Purchase-Lax-Brandon complex, 6 to 12 percent slopes, severely eroded	0.5	4.9%
Totals for Area of Interest		**9.9**	**100.0%**

Map Unit Descriptions (21IN0855)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor

components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Calloway and Marshall Counties, Kentucky

BpD3—Brandon-Purchase-Lax complex, 12 to 20 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2qyk6
Elevation: 340 to 600 feet
Mean annual precipitation: 52 to 62 inches
Mean annual air temperature: 48 to 69 degrees F
Frost-free period: 182 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Brandon, severely eroded, and similar soils: 40 percent
Purchase, severely eroded, and similar soils: 35 percent
Lax, severely eroded, and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brandon, Severely Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin fine-silty noncalcareous loess over fluviomarine deposits

Typical profile

Ap - 0 to 1 inches: silty clay loam
Bt - 1 to 29 inches: silty clay loam
2C1 - 29 to 36 inches: very gravelly loam
2C2 - 36 to 80 inches: very gravelly loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Purchase, Severely Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Thick fine-silty noncalcareous loess

Typical profile

Ap - 0 to 3 inches: silt loam
Btx - 3 to 14 inches: silt loam
Bx - 14 to 51 inches: silt loam
BC - 51 to 80 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: 3 to 14 inches to fragipan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 0.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Lax, Severely Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over gravelly alluvium and/or gravelly residuum

Typical profile

Ap - 0 to 3 inches: silt loam
Bt1 - 3 to 8 inches: silty clay loam
Bt2 - 8 to 26 inches: silt loam
2Btx - 26 to 36 inches: gravelly silt loam
3Bt - 36 to 80 inches: very gravelly silt loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: 22 to 30 inches to fragipan
Drainage class: Moderately well drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

BsE2—Brandon-Saffell-Smithdale complex, 20 to 35 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2wn5f
Elevation: 320 to 560 feet
Mean annual precipitation: 48 to 55 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 177 to 222 days
Farmland classification: Not prime farmland

Map Unit Composition

Brandon and similar soils: 41 percent
Saffell and similar soils: 26 percent
Smithdale and similar soils: 17 percent
Minor components: 16 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brandon

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin fine-silty noncalcareous loess over fluviomarine deposits

Typical profile

A - 0 to 1 inches: silt loam
E - 1 to 10 inches: silt loam
Bt - 10 to 29 inches: silty clay loam
2C - 29 to 80 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 20 to 35 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Sodium adsorption ratio, maximum: 6.0
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL
Hydric soil rating: No

Description of Saffell

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Gravelly fluviomarine deposits

Typical profile

A - 0 to 3 inches: fine sandy loam
E - 3 to 14 inches: silt loam
Bt1 - 14 to 21 inches: very gravelly clay loam
Bt2 - 21 to 32 inches: extremely gravelly sandy clay loam
C - 32 to 80 inches: extremely gravelly coarse sandy loam

Properties and qualities

Slope: 20 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Sodium adsorption ratio, maximum: 6.0
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL
Hydric soil rating: No

Description of Smithdale

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy fluviomarine deposits

Typical profile

A - 0 to 5 inches: sandy loam
E - 5 to 11 inches: sandy loam
Bt - 11 to 40 inches: sandy clay loam
BC - 40 to 63 inches: fine sandy loam
C - 63 to 80 inches: fine sandy loam

Properties and qualities

Slope: 20 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F133AA030AL - East Gulf Coastal Plain Northern Upland Hardwood Forest; Subxeric, Not Flat
Hydric soil rating: No

Minor Components

Feliciana

Percent of map unit: 9 percent
Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL
Hydric soil rating: No

Loring

Percent of map unit: 7 percent
Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear

Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

Cu—Collins-luka complex, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2dxth
Elevation: 330 to 580 feet
Mean annual precipitation: 52 to 62 inches
Mean annual air temperature: 48 to 69 degrees F
Frost-free period: 182 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Collins, occasionally flooded, and similar soils: 55 percent
luka, occasionally flooded, and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Collins, Occasionally Flooded

Setting

Landform: Flood plains, drainageways
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Typical profile

Ap - 0 to 12 inches: silt loam
Bw - 12 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 24 to 60 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B

Hydric soil rating: No

Description of Iuka, Occasionally Flooded

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium

Typical profile

Ap - 0 to 15 inches: silt loam
Bw - 15 to 27 inches: loam
Cg - 27 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Vicksburg

Percent of map unit: 10 percent
Hydric soil rating: No

Falaya

Percent of map unit: 5 percent
Hydric soil rating: No

Ef—Enville-Falaya complex, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2dxtg
Elevation: 330 to 600 feet
Mean annual precipitation: 52 to 62 inches
Mean annual air temperature: 48 to 69 degrees F

Frost-free period: 182 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Enville, occasionally flooded, and similar soils: 55 percent
Falaya, occasionally flooded, and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enville, Occasionally Flooded

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 5 inches: silt loam
C - 5 to 13 inches: silt loam
Cg - 13 to 45 inches: stratified sand to loamy sand to sandy loam
Bgb - 45 to 80 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Description of Falaya, Occasionally Flooded

Setting

Landform: Flood plains, drainageways
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Typical profile

Ap - 0 to 10 inches: silt loam
Bw - 10 to 52 inches: silt loam
Cg - 52 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

luka

Percent of map unit: 10 percent
Hydric soil rating: No

PIC3—Purchase-Lax-Brandon complex, 6 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2dy65
Elevation: 330 to 570 feet
Mean annual precipitation: 52 to 62 inches
Mean annual air temperature: 48 to 69 degrees F
Frost-free period: 182 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Purchase, severely eroded, and similar soils: 50 percent
Lax, severely eroded, and similar soils: 30 percent
Brandon, severely eroded, and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Purchase, Severely Eroded

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Thick fine-silty noncalcareous loess

Typical profile

Ap - 0 to 4 inches: silt loam
Btx - 4 to 14 inches: silt loam
Bx - 14 to 51 inches: silt loam
BC - 51 to 80 inches: silt loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: 4 to 18 inches to fragipan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Lax, Severely Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over gravelly alluvium and/or gravelly residuum

Typical profile

Ap - 0 to 3 inches: silt loam
Bt1 - 3 to 8 inches: silty clay loam
Bt2 - 8 to 26 inches: silt loam
2Btx - 26 to 36 inches: gravelly silt loam
3Bt - 36 to 80 inches: very gravelly silt loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: 22 to 30 inches to fragipan
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D

Hydric soil rating: No

Description of Brandon, Severely Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Thin fine-silty noncalcareous loess over fluviomarine deposits

Typical profile

Ap - 0 to 4 inches: silty clay loam
Bt - 4 to 29 inches: silty clay loam
2C1 - 29 to 36 inches: very gravelly loam
2C2 - 36 to 80 inches: very gravelly loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

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EXHIBIT H
DIRECTIONS TO WCF SITE

Driving Directions to Proposed Tower Site:

1. Beginning at 1101 Main Street, Benton, KY 42025 head north on Poplar Street toward E 11th Street and travel approximately 0.5 miles.
2. Turn right onto US-641 N / Main Street and travel approximately 4.0 miles.
3. Take a slight left onto US-641 N / US-68 and travel approximately 2.4 miles.
4. Turn right onto KY-95 and travel approximately 2.7 miles.
5. The site is located on the left. The site address is Kentucky Hwy 95, Calvert City, KY 42029. The site coordinates are: 36° 59' 03.19" North latitude, 88° 21' 28.88" West longitude.

Prepared by:
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Shepherdsville, KY 40165-3069
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EXHIBIT I
COPY OF REAL ESTATE AGREEMENT

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 Patricia S. Taylor and Lawrence J. Taylor, husband and wife, the Estate of Cecelia Solomon by Patricia Mae Taylor, Ancillary Executrix, John A. Harrington, Sr., a married man and Paula Harrington, his spouse and non-vested owner and Pamela F. Schott, a married woman and Michael Schott, her spouse and non-vested owner ("**Landlord**") having a mailing address of 4417 Spring Bay Court, Louisville, Kentucky 40241, and Harmoni Towers LLC, a Delaware limited liability company having a mailing address of 11101 Anderson Drive, Suite 200, Little Rock AR 72212 ("**Tenant**").

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 at 1492 US Highway 95, in the City/Town of Calvert City, County of Marshall, State of Kentucky 42029 (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:

1. OPTION TO LEASE.

(a) Landlord grants to Tenant an exclusive option (the "**Option**") to lease a certain portion of the Property containing approximately Ten Thousand (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 [redacted] within thirty (30) business days after the 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 [redacted] 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 Landlord 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 Landlord'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. Landlord 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.

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 (5th) 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 shall be equal to the [redacted] 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**".

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 (5th) day of each calendar month in advance, [redacted] (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 the first year of an Extension Term, the monthly Rent will increase by [redacted] over the Rent paid during the previous five (5) year term, 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.

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 pays Landlord a termination fee [redacted] 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 [redacted]. Notwithstanding the foregoing, Tenant shall have the right to self-insure such general liability coverage.

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.

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.

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)**.

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 asbestos-containing 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 government 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. If Tenant elects to utilize an Unmanned Aircraft System ("UAS") in connection with its installation, construction, monitoring, site audits, inspections, maintenance, repair, modification, or alteration activities at the Property, Landlord hereby grants Tenant, or any UAS operator acting on Tenant's behalf, express permission to fly over the applicable Property and Premises, and consents to the use of audio and video navigation and recording in connection with the use of the UAS. 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, [redacted] 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 or after 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 or after the Term. Tenant will repair any damage to the Property resulting from Tenant's removal activities. Any portions of the Communication Facility that Tenant does not remove within one hundred twenty (120) days after the later of the end of the Term and cessation of Tenant's operations at the Premises shall be deemed abandoned and owned by Landlord.

Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation.

14. MAINTENANCE/UTILITIES.

(a) Tenant will keep and maintain the Premises in good condition, reasonable wear and tear and damage from the elements excepted. Landlord will maintain and repair the Property and access 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) Tenant will be responsible for paying on a monthly or quarterly basis all utilities charges for electricity, telephone service or any other utility used or consumed by Tenant on the Premises. In the event Tenant cannot secure its own metered electrical supply, Tenant will have the right, at its own cost and expense, to sub-meter from Landlord. When sub-metering is required under this Agreement, Landlord will read the meter and provide Tenant with an invoice and usage data on a monthly basis. Tenant shall reimburse Landlord for such utility usage at the same rate charged to Landlord by the utility service provider. Landlord further agrees to provide the usage data and invoice on forms provided by Tenant and to send such forms to such address and/or agent designated by Tenant. Tenant will remit payment within sixty (60) days of receipt of the usage data and required forms. Landlord shall maintain accurate and detailed records of all utility expenses, invoices and payments applicable to Tenant's reimbursement obligations hereunder. Within fifteen (15) days after a request from Tenant, Landlord shall provide copies of such utility billing records to the Tenant in the form of copies of invoices, contracts and cancelled checks. If the utility billing records reflect an overpayment by Tenant, Tenant shall have the right to deduct the amount of such overpayment from any monies due to Landlord from Tenant.

(c) As noted in Section 4(c) above, any utility fee recovery by Landlord is limited to a twelve (12) month period. If Tenant submeters electricity from Landlord, Landlord agrees to give Tenant at least twenty-four (24) hours advance notice of any planned interruptions of said electricity. Landlord acknowledges that Tenant provides a communication service which requires electrical power to operate and must operate twenty-four (24) hours per day, seven (7) days per week. If the interruption is for an extended period of time, in Tenant's reasonable determination, Landlord agrees to allow Tenant the right to bring in a temporary source of power for the duration of the interruption. Landlord will not be responsible for interference with, interruption of or failure, beyond the reasonable control of Landlord, of such services to be furnished or supplied by Landlord.

(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.

15. DEFAULT AND RIGHT TO CURE.

(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) non-payment 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, return 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:

If to Tenant:
Harmoni Towers LLC
Attn: Real Estate
11101 Anderson Drive
Anderson Building, Suite 200
Little Rock AR 72212
REAdmin@harmonitowers.com

cc:

Harmoni Towers LLC
Attn: Director of Legal
11101 Anderson Drive, Suite 200
Little Rock, AR 72212

For Emergencies: NOC@harmonitowers.com

If to Landlord:
Patricia S. Taylor, Lawrence J. Taylor, the Estate of Cecelia Solomon, John A. Harrington, Sr., and Pamela F. Schott
4417 Spring Bay Court
Louisville, Kentucky 40241
Email: jeromepattaylor@bellsouth.net
Telephone: [redacted]
Cell: [redacted]

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. **TAXES.**

(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.

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 Offer and agree in writing (the "**Exercise Notice**") to match the financial terms of the Offer. For the avoidance of doubt, to exercise its rights under this Section 23, Tenant shall not be required to match any compensation due to parties unrelated Landlord, including but not limited to broker compensation. The Exercise Notice shall be in the form of a contract substantially similar to the Offer (matching the financial terms as set forth herein); provided, however, that Landlord and Tenant acknowledge and agree that the Exercise Notice is intended to be a letter of intent or similar, and the parties shall thereafter negotiate in good faith the documents reasonably required to consummate Tenant's exercise of its rights under this Section 23. Tenant may assign its rights under this Section 23. 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.

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 Harmoni 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, Landlord 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 written 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.

[SIGNATURES APPEAR ON NEXT PAGE]

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

"LANDLORD"

Patricia S. Taylor and Lawrence J. Taylor, husband and wife, the Estate of Cecelia Solomon, by Patricia Mae Taylor, Ancillary Executrix, John A. Harrington, Sr., a married man and Paula Harrington, his spouse and non-vested owner and Pamela F. Schott, a married woman and Michael Schott, her spouse and non-vested owner

Patricia S. Taylor

By: Patricia S. Taylor
Print Name: Patricia S. Taylor
Its: _____
Date: 7-30-22

Lawrence J. Taylor

By: Lawrence J. Taylor
Print Name: Lawrence J. Taylor
Its: _____
Date: 7-30-22

The Estate of Cecelia Solomon

By: Patricia Mae Taylor
Print Name: The Estate of Cecelia Solomon by Patricia Mae Taylor, Ancillary Executrix

Date: 7-30-22

John A. Harrington, Sr.

By: _____
Print Name: John A. Harrington, Sr.
Its: _____
Date: 7-30-22

Paula Harrington

By: _____
Print Name: Paula Harrington
Its: Non-vested owner relinquishing any marital rights
Date: 7-30-22

Pamela F. Schott

By: _____
Print Name: Pamela F. Schott
Its: _____
Date: 8-2-22

Michael Schott

By: _____
Print Name: Michael Schott
Its: Non-vested owner relinquishing any marital rights
Date: 8-2-22

"TENANT"

Harmoni Towers LLC

By: _____
Print Name: ~~Ginger Majors~~
Its: ~~SVP, Real Estate~~
Date: 8/22/2022

[ACKNOWLEDGMENTS APPEAR ON NEXT PAGE]

TENANT ACKNOWLEDGMENT

STATE OF ARKANSAS

COUNTY OF PULASKI

On the 22ND day of AUGUST, 2022 before me personally appeared GINGER WILSON, who acknowledged under oath that he/ she is the VP - REAL ESTATE of Harmoni Towers LLC, the Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of the Tenant.

NANCY J. KOSUTA
MY COMMISSION # 12357237
EXPIRES: November 30, 2026
Pulaski County

Nancy J Kosuta
Notary Public: NANCY J. KOSUTA
My Commission Expires: 11/30/2026

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY

COUNTY OF ~~MARSHALL~~ Jefferson

BE IT REMEMBERED, that on this 30 day of July, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Patricia S. Taylor** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

NOTARY ID # KYNP26597
SANDRA L. BENNETT
NOTARY PUBLIC
STATE AT LARGE, KENTUCKY
MY COMMISSION EXPIRES MAY 24, 2025

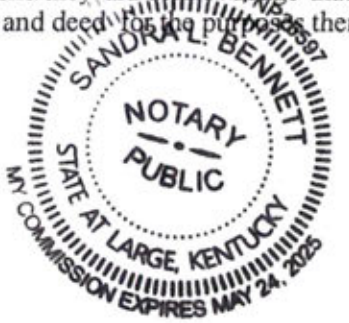
Sandra L Bennett
Notary Public: _____
My Commission Expires: _____

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY

COUNTY OF ~~MARSHALL~~ JEFFERSON

BE IT REMEMBERED, that on this 30 day of July, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Lawrence J. Taylor** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.



Sandra L Bennett

Notary Public: _____

My Commission Expires: _____

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY

COUNTY OF MARSHALL

BE IT REMEMBERED, that on this 30 day of July, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Patricia Mae Taylor,** Ancillary Executrix for the Estate of Cecelia Solomon, who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Sandra L Bennett

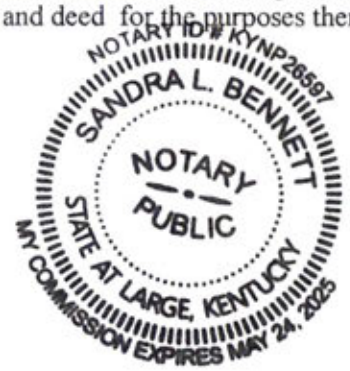
Notary Public: _____

My Commission Expires: _____

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY
JEFFERSON
COUNTY OF ~~MARSHALL~~

BE IT REMEMBERED, that on this 30 day of July, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **John A. Harrington, Sr.** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.



Sandra L Bennett
Notary Public: _____
My Commission Expires: _____

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY
JEFFERSON
COUNTY OF ~~MARSHALL~~

BE IT REMEMBERED, that on this 30 day of July, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Paula Harrington** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Sandra L Bennett
Notary Public: _____
My Commission Expires: _____

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY

COUNTY OF MARSHALL

BE IT REMEMBERED, that on this 2 day of August, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Pamela F. Schott** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Mary J. Goodman Notary
Notary Public
My Commission Expires: 06-19-2025

LANDLORD ACKNOWLEDGMENT

STATE OF KENTUCKY

COUNTY OF MARSHALL

BE IT REMEMBERED, that on this 2 day of August, 2022 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared **Michael Schott** who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Mary J. Goodman Notary
Notary Public
My Commission Expires: 06-19-2025

EXHIBIT 1

DESCRIPTION OF PREMISES

to the Option and Lease Agreement dated August 26, 2021 by and between Patricia S. Taylor and Lawrence J. Taylor, husband and wife, the Estate of Cecelia Solomon, by Patricia Mae Taylor, Ancillary Executrix, John A. Harrington, Sr., a married man and Paula Harrington, his spouse and non-vested owner and Pamela F. Schott, a married woman and Michael Schott, her spouse and non-vested owner as Landlord, and Harmoni Towers LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:65

A 176 acre more or less tract of land as surveyed by Gartrell Travis and Associates of Benton, Kentucky in May, 2021 and generally located South of Calvert City, Kentucky, approximately 0.4 miles South of Interstate 24 and on the West side of Highway 95, and more particularly described as:

Beginning at the northeast corner of the property herein surveyed, said corner being a 1/2" re-bar iron pin set in the west right of way of Highway 95, 30 feet West of the centerline, and 33 feet on a bearing of North 89° 52' 39" West from an existing 1/2" re-bar iron pin set at the Northwest corner of a 98.21 acre tract and 1,175 feet East of a fence corner post, said iron pin also being the southeast corner of Troy Milton Stevenson property as described in Deed Book 156, Page 575; thence, along the West right of way of Highway 95, and when projected on straight lines, South 1° 04' 47" West 1,148.77 feet to a point, South 1° 54' 15" West 223.26 feet to an existing 1" pipe in the West right-of-way of highway 95, 30 feet West of the center-line at a fence corner post, said pipe being the northeast corner of the Jerry Byars property (Deed Book 196, Page 480); thence, South 88° 51' 32" West 241.43 feet generally following a fence along the North boundary of the Byars property to an existing 1" pipe at a fence corner post; thence, South 2° 50' 03" West 220.78 feet generally following a fence along a West line of the Byars property to an existing 3/4" iron pin at a fence corner post; thence, North 89° 33' 11" West 2,974.30 feet generally following a fence along the North lines of the Byars property, the Ga. Littlejohn property (Deed Book 107, Page 545) and Egner Farms (Will Book 7, Page 355) crossing the centerline of the Texas Gas pipeline easement at approximately 2,190 feet, to a 1/2" re-bar iron pin set on the South side of a fence corner post; thence, North 1° 34' 51" West 2,455.69 feet generally following a fence along the East boundary of the Egner Farms, the E. J. McGregor property (Deed Book 75, Page 193), the J. D. Bradley property (Deed Book 160, Page 500), crossing the centerline of a powerline easement approximately 435 feet, to a 1/2" re-bar iron pin set at the root of a 42" Nail Oak, Fence corner; thence, South 88° 16' 04" East 2,760.19 feet generally following a fence along the South boundary of the Frank Myers property (Deed Book 152, Page 355) and the Ollie Stevenson property (Deed Book 35, Page 455) to a 1/2" re-bar iron pin set at a fence corner post, said iron pin being 52.34 feet North of a gas line marker; thence, South 1° 28' 14" West 4,547.02 feet generally along a fence along the West boundary of the Troy Milton Stevenson property, crossing the centerline of the Texas Gas pipeline easement at approximately 250 feet, to a 1/2" re-bar iron pin set a fence corner post 6.83 feet South of a gas line marker; thence, South 87° 10' 39" East 692.22 feet generally following a fence along the South line of the Troy Milton Stevenson property to the point of beginning.

AND BEING a portion of the same property conveyed to Patricia S. Taylor and Lawrence J. Taylor, a one-third (1/3) undivided interest, Cecelia F. Solomon, a one-third (1/3) undivided interest, John A. Harrington Sr., a one-sixth (1/6) undivided interest, and Pamela F. Summons, a one-sixth (1/6) undivided interest from Stephen W. Harrington and Shirley Harrington, Patricia S. Taylor and Lawrence J. Taylor, Cecelia F. Solomon, John A. Harrington, Sr., and Pamela F. Summons and Larry Summons by Quitclaim Deed dated October 1, 1997 and recorded October 2, 1997 in Deed Book 248, Page 217.

Tax Parcel No. 33.00.00.015

The Premises are described and/or depicted as follows:

30' INGRESS-EGRESS & UTILITY EASEMENT:

Together with a 30-foot wide Ingress-Egress and Utility Easement (lying 15 feet each side of centerline), lying and being in Marshall County, Kentucky, and being a portion of the lands of Patricia S. Taylor, Lawrence J. Taylor, Cecelia F. Soloman, and Mary E. Harrington, as recorded in Deed Book 202, Page 578, Marshall County records, and being more particularly described by the following centerline data:

To find the point of beginning, COMMENCE, at a ½-inch open top pipe found at a southeastern property corner of said lands, said pipe having a Kentucky Grid North, NAD 83, Single zone value of N: 3527166.5623 E:

4159251.5336; thence running along a tie-line, North 10°33'17" East, 1295.82 feet to a point on the Lease Area, having a Kentucky Grid North, NAD 83, Single zone value of N: 3528440.4595 E: 4159488.8937 Thence, running with said Lease Area, North 08°15'50" East, 100.00 feet to a point; Thence, South 81°44'10" East, 100.00 feet to a point; Thence South 08°15'50" West 75.00 feet to a point and the true POINT OF BEGINNING; thence leaving said Lease Area and running South 81°44'10" East 84.26 feet to an ending point on the western right-of-way line of Kentucky Highway No. 95 (having a 60-foot public right-of-way, per Plat Cabinet F, Slide 356).

Bearings based on Kentucky Grid North, NAD 83, Single zone values.

LEASE AREA:

All that tract or parcel of land, lying and being in Marshall County, Kentucky, and being a portion of the lands of Patricia S. Taylor, Lawrence J. Taylor, Cecelia F. Soloman, and Mary E. Harrington, as recorded in Deed Book 202, Page 578, Marshall County records, and being more particularly described as follows:

To find the point of beginning, COMMENCE, at a ½-inch open top pipe found at a southeastern property corner of said lands, said pipe having a Kentucky Grid North, NAD 83, Single zone value of N: 3527166.5623 E: 4159251.5336; thence running along a tie-line, North 10°33'17" East, 1295.82 feet to a point having a Kentucky Grid North, NAD 83, Single zone value of N: 3528440.4595 E: 4159488.8937 and the true POINT OF BEGINNING; Thence, North 08°15'50" East, 100.00 feet to a point; Thence, South 81°44'10" East, 100.00 feet to a point; Thence, South 08°15'50" West, 100.00 feet to a point; Thence North 81°44'10" West, 100.00 feet to a point and the POINT OF BEGINNING.

Bearings based on Kentucky Grid North, NAD 83, Single zone values.

Said tract contains 0.2296 acres (10,000 square feet), more or less

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.

PARENT PARCEL

OWNER: PATRICIA S. TAYLOR, LAWRENCE J. TAYLOR, CECELIA F. SOLOMAN, JOHN A. HAMMINGTON SR. & PAMELA F. SIMMONS

SITE ADDRESS: KENTUCKY HWY 95, CALVERT CITY, KENTUCKY 42029

PARCEL ID: 330000095000000

AREA: 174.9 ACRES

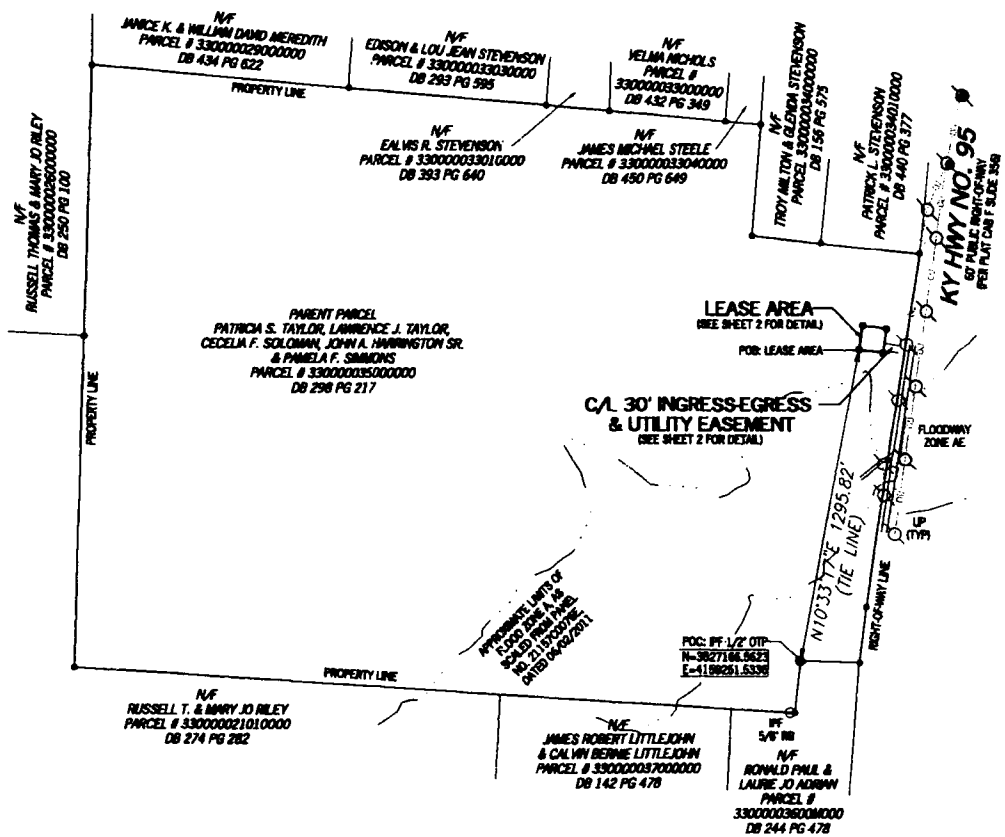
ALL ZONING INFORMATION SHOULD BE VERIFIED WITH THE PROPER ZONING OFFICIALS

REFERENCE: DEED BOOK 298 PAGE 217

GPS NOTES

THE FOLLOWING GPS STATISTICS UPON WHICH THIS SURVEY IS BASED HAVE BEEN PRODUCED AT THE 95% CONFIDENCE LEVEL:

POSITIONAL ACCURACY: 0.04 FEET (HORIZ) 0.08 FEET (VERT)
TYPE OF EQUIPMENT: GEOMAX ZENITH35 PRO BASE AND ROVER, DUAL FREQUENCY
TYPE OF GPS FIELD PROCEDURE: ONLINE POSITION USER INTERFACE
DATES OF SURVEY: 01/11/2021
DATUM / EPOCH: NAD_1983(2011)EPOCH:2010.0000
PUBLISHED / FIXED CONTROL USE: N/A
GEOID MODEL: 18
COMBINED GRID FACTOR(S): 1.00004301 CENTERED ON THE GPS BASE POINT AS SHOWN HEREON.
CONVERGENCE ANGLE: -1.60139911°
BENCHMARKS USED: DI3316, DJ8964, DM1118, DJ8970, DK7399, DJ8968, DJ8964, DH5838, DM2497



VICINITY MAP

NOT TO SCALE

SITE

GENERAL NOTES

* THIS SPECIFIC PURPOSE SURVEY IS FOR THE LEASED PREMISES AND EASEMENTS ONLY. THIS SPECIFIC PURPOSE SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF HARMONI TOWERS AND EXCLUSIVELY FOR THE TRANSFERRAL OF THE LEASED PREMISES AND THE RIGHTS OF EASEMENT SHOWN HEREON AND SHALL NOT BE USED AS AN EXHIBIT OR EVIDENCE IN THE FEE SIMPLE TRANSFERRAL OF THE PARENT PARCEL NOR ANY PORTION OR PORTIONS THEREOF. BOUNDARY INFORMATION SHOWN HEREON WAS BEEN COMPILED FROM TAX MAPS AND DEED DESCRIPTIONS ONLY. NO BOUNDARY SURVEY OF THE PARENT PARCEL WAS PERFORMED.

THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

THE FIELD DATA UPON WHICH THIS SPECIFIC PURPOSE SURVEY IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 10,000+ FEET AND AN ANGULAR ERROR OF 5.0" PER ANGLE POINT AND WAS NOT ADJUSTED FOR CLOSURE.

EQUIPMENT USED FOR ANGULAR & LINEAR MEASUREMENTS: LEICA TPS 1200 ROBOTIC & GEOMAX ZENITH 35. DATE OF LAST FIELD VISIT: 01/11/2021

THE 1' CONTOURS AND SPOT ELEVATIONS SHOWN ON THIS SPECIFIC PURPOSE SURVEY ARE ADJUSTED TO NAVD 88 DATUM (COMPUTED USING GEOID18) AND HAVE A VERTICAL ACCURACY OF ± 0.5'. CONTOURS OUTSIDE THE IMMEDIATE SITE AREA ARE APPROXIMATE.

BEARINGS SHOWN ON THIS SPECIFIC PURPOSE SURVEY ARE BASED ON GRID NORTH (NAD 83) KENTUCKY SINGLE ZONE.

PER THE FEMA FLOODPLAIN MAPS, PORTIONS OF THE SITE ARE LOCATED IN AN AREA DESIGNATED AS ZONE A AREA WITHOUT BASE FLOOD ELEVATIONS, COMMUNITY PANEL NO. : 21157C0079E DATED: 06/02/2011

NO WETLAND AREAS HAVE BEEN INVESTIGATED BY THIS SPECIFIC PURPOSE SURVEY.

ALL ZONING INFORMATION SHOULD BE VERIFIED WITH THE PROPER ZONING OFFICIALS.

ANY UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM ABOVE GROUND FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT ANY UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT ANY UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED ANY UNDERGROUND UTILITIES.

SURVEYOR'S CERTIFICATE

I, G. DARRELL TAYLOR, A KENTUCKY PROFESSIONAL LAND SURVEYOR, CERTIFY THAT THE INFORMATION SHOWN HEREON WAS COMPILED USING DATA FROM AN ACTUAL FIELD SURVEY MADE UNDER MY DIRECT SUPERVISION BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. THE UNADJUSTED PRECISION RATIO OF THE TRAVERSE EXCEEDED 1:10,000 AND WAS NOT ADJUSTED FOR CLOSURE. THIS SURVEY MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR AN URBAN SURVEY AS ESTABLISHED BY THE STATE OF KENTUCKY, PER 201 KAR 18:150 AND IN EFFECT ON THE DATE OF THIS SURVEY.

06/15/2021
G. DARRELL TAYLOR, PLS 4179 — DATE

SURVEY NOT VALID WITHOUT SHEETS 2 & 3 (OF 3)

811 Know what's below. Call before you dig.

LEGEND

POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
IPF	IRON PIN FOUND
OTP	ONE TOP PIPE
RBF	REBAR
CL/EL	CENTERLINE
ROW	RIGHT OF WAY (FORMERLY UTILITY POLE)
UP	OVERHEAD UTILITY
TYP(S)	TYPICAL
BM	BASIS OF BEARINGS
TBM	TEMPORARY BENCHMARK

GRAPHIC SCALE IN FEET
SCALE: 1" = 500'

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1	06/15/2021	ADDED TITLE - AJT
2	6/27/2021	REV. TITLE/UTIL. ESMT.
3	9/8/2021	ACCESS/UTIL ESMT.

* SPECIFIC PURPOSE SURVEY PREPARED BY:

POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com

SPECIFIC PURPOSE SURVEY PREPARED FOR

HARMONI

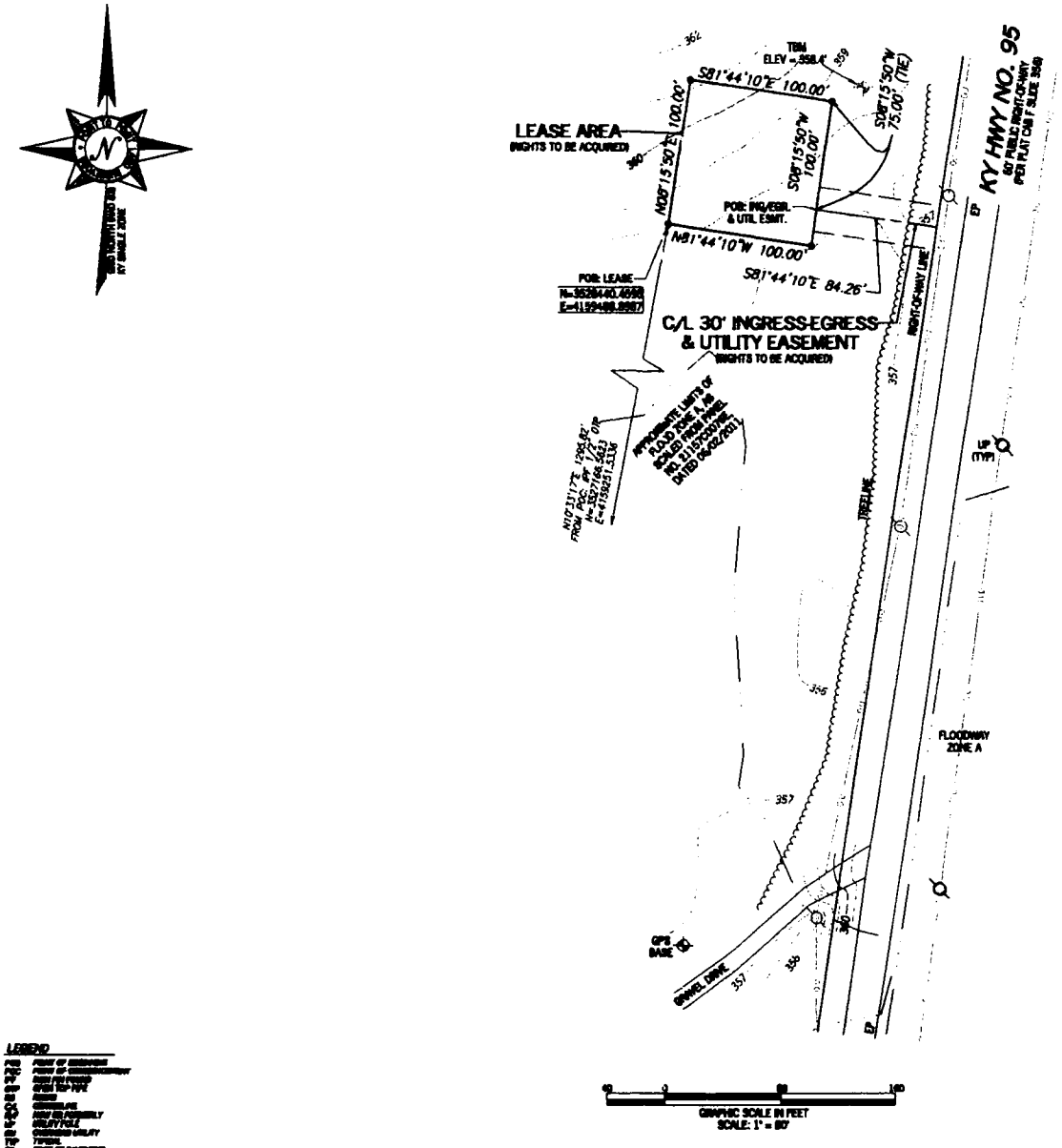
10801 EXECUTIVE CENTER DRIVE
SHANNON BLDG., STE 100
LITTLE ROCK, AR 72211

CALVERT CITY

SITE NO.
KYBGN2027
MARSHALL COUNTY,
KENTUCKY

DRAWN BY: AJT
CHECKED BY: JAL
APPROVED: D. MILLER
DATE: JANUARY 25, 2021
P2P JOB #: 202007KY

SHEET: 1 OF 3



SITE INFORMATION

LEASE AREA = 10,000 SQUARE FEET (0.2296 ACRES)

LATITUDE = 36°59'03.19" (NAD 83) (36.9842197°)
LONGITUDE = -88°21'22.88" (NAD 83) (-88.3563222°)
AT CENTER LEASE AREA

ELEVATION AT CENTER OF LEASE AREA = 358.7' A.M.S.L.

TITLE EXCEPTIONS

THIS SURVEY WAS COMPLETED WITH THE AID OF TITLE WORK PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, ISSUE DATE OF AUGUST 3, 2021, ISSUING ORDER NO. 3624-6855, FOR THE PARENT PARCEL, TO DETERMINE THE IMPACTS OF EXISTING TITLE EXCEPTIONS.

8. RIGHT OF WAY AGREEMENT IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND ASSIGNS SET FORTH IN INSTRUMENT RECORDED ON FEBRUARY 16, 1940 IN DEED BOOK 81, PAGE 381. (THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTAIN THE EXACT LOCATION THEREOF.)

9. GRANT OF TRANSMISSION LINE EASEMENT IN FAVOR OF THE UNITED STATES OF AMERICA SET FORTH IN INSTRUMENT RECORDED ON JANUARY 3, 1992 IN DEED BOOK 99, PAGE 486.(THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTAIN THE EXACT LOCATION THEREOF.)

10. RIGHT OF WAY IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION SET FORTH IN INSTRUMENT RECORDED ON FEBRUARY 16, 1994 IN DEED BOOK 113, PAGE 134. (THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTAIN THE EXACT LOCATION THEREOF.)

11. RIGHT OF WAY IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION SET FORTH IN INSTRUMENT RECORDED ON FEBRUARY 16, 1994 IN DEED BOOK 116, PAGE 127. (THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTAIN THE EXACT LOCATION THEREOF.)

12. RIGHT OF WAY IN FAVOR OF TEXAS GAS TRANSMISSION CORPORATION SET FORTH IN INSTRUMENT RECORDED ON MAY 13, 1998 IN DEED BOOK 122, PAGE 226. (THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTAIN THE EXACT LOCATION THEREOF.)

13. GRANT OF TRANSMISSION LINE EASEMENT IN FAVOR OF UNITED STATES OF AMERICA SET FORTH IN INSTRUMENT RECORDED ON OCTOBER 14, 1999 IN DEED BOOK 130, PAGE 546. (THIS ITEM CANNOT BE LOCATED BECAUSE THE DESCRIPTION IS TOO VAGUE AND WE CANNOT ASCERTAIN THE EXACT LOCATION THEREOF.)

14. EASEMENT IN FAVOR OF NORTH MARSHALL WATER DISTRICT SET FORTH IN INSTRUMENT RECORDED ON AUGUST 4, 2000 IN DEED BOOK 340, PAGE 594. (THIS ITEM IS APPLICABLE TO THE PARENT PARCEL AND IS PLOTTED HEREON.)

SURVEY NOT VALID WITHOUT SHEETS 1 & 3 OF 3

LEGEND

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1	06/15/2021	ADDED TITLE - AJT
2	9/27/2021	REV. TITLE/ATTL. ESMT
3	9/8/2021	ACCESS/ATTL ESMT.

POINT TO POINT LAND SURVEYORS
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(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com

* SPECIFIC PURPOSE SURVEY PREPARED BY:

SPECIFIC PURPOSE SURVEY PREPARED FOR:

HARMONI

10801 EXECUTIVE CENTER DRIVE
SHANNON BLDG., STE 100
LITTLE ROCK, AR 72211

CALVERT CITY

SITE NO.
KYBGN2027
MARSHALL COUNTY, KENTUCKY

DRAWN BY: AJT
CHECKED BY: JM
APPROVED: D. MILLER
DATE: JANUARY 25, 2021
PTP JOB #: 2020907KY

SHEET: 2 OF 3

LEGAL DESCRIPTION SHEET

PARENT PARCEL

(PER ORDER NO. 3354-641)

A 176.88-ACRE TRACT OF LAND AS SURVEYED BY GAMMEL, TRAVIS AND WILLIAMS OF BENTON, KENTUCKY IN MAY, 1981, AND GENERALLY LOCATED SOUTH OF CALVERT CITY, KENTUCKY, APPROXIMATELY 0.4 MILES SOUTH OF INTERSTATE 24 AND ON THE WEST SIDE OF HIGHWAY 95, AND MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE NORTHEAST CORNER OF THE PROPERTY HEREIN CONVEYED, SAID CORNER BEING A 1/2" RE-BAR IRON PIN SET IN THE WEST RIGHT-OF-WAY OF HIGHWAY 95 (30 FEET WEST OF THE CENTERLINE), 60.38 FEET ON A BEARING OF NORTH 89° 52' 39" WEST FROM AN EXISTING 1/2" RE-BAR IRON PIN SET AT THE NORTHWEST CORNER OF A 66.28 ACRE TRACT AND 1.75 FEET EAST OF A FENCE CORNER POST, SAID IRON PIN ALSO BEING THE SOUTHEAST CORNER OF TROY MILTON STEVENSON PROPERTY AS DESCRIBED IN DEED BOOK 156, PAGE 575; THENCE, ALONG THE WEST RIGHT-OF-WAY OF HIGHWAY 95 AND WHEN PROJECTED ON STRAIGHT LINES: SOUTH 5° 15' 47" WEST -1,464.77 FEET TO A POINT; SOUTH 3° 54' 15" WEST -229.20 FEET TO AN EXISTING 1" PIPE IN THE WEST RIGHT-OF-WAY OF HIGHWAY 95 (30 FEET WEST OF THE CENTER-LINE) AT A FENCE CORNER POST, SAID PIPE BEING THE NORTHEAST CORNER OF THE JERRY BYARS PROPERTY (DEED BOOK 186, PAGE 630); THENCE, SOUTH 88° 51' 33" WEST -241.41 FEET GENERALLY FOLLOWING A FENCE ALONG THE NORTH BOUNDARY OF THE BYARS PROPERTY TO AN EXISTING 1" PIPE AT A FENCE CORNER POST; THENCE, SOUTH 2° 59' 03" WEST -216.78 FEET GENERALLY FOLLOWING A FENCE ALONG A WEST LINE OF THE BYARS PROPERTY TO AN EXISTING 3/4" IRON PIN AT A FENCE CORNER POST; THENCE, NORTH 89° 33' 11" WEST -2,974.80 FEET GENERALLY FOLLOWING A FENCE ALONG THE NORTH LINES OF THE BYARS PROPERTY, THE CAL LITTLEJOHN PROPERTY (DEED BOOK 107, PAGE 545) AND EGNER FARMS (WILL BOOK 7, PAGE 355), CROSSING THE CENTERLINE OF THE TEXAS GAS PIPELINE EASEMENT AT APPROXIMATELY 2,100 FEET, TO A 1/2" RE-BAR IRON PIN SET ON THE SOUTH SIDE OF A FENCE CORNER POST; THENCE, NORTH 1° 34' 51" WEST -2,455.66 FEET GENERALLY FOLLOWING A FENCE ALONG THE EAST BOUNDARY OF THE EGNER FARMS, THE L. V. MCGREGOR PROPERTY (DEED BOOK 75, PAGE 390) THE J. D. BRADLEY PROPERTY (DEED BOOK 160, PAGE 99), CROSSING THE CENTERLINE OF A POWERLINE EASEMENT APPROXIMATELY 435 FEET, TO A 1/2" RE-BAR IRON PIN SET IN THE ROOT OF A 48" TWIN OAK, FENCE CORNER; THENCE, SOUTH 88° 15' 04" EAST -2,766.59 FEET GENERALLY FOLLOWING A FENCE ALONG THE SOUTH BOUNDARY OF THE FRANK MYERS PROPERTY (DEED BOOK 152, PAGE 355) AND THE OLLIE STEVENSON PROPERTY (DEED BOOK 85, PAGE 455) TO A 1/2" RE-BAR IRON PIN SET AT A FENCE CORNER POST, SAID IRON PIN BEING 53.34 FEET NORTH OF A GAS LINE MARKER; THENCE, SOUTH 1° 28' 24" WEST -451.02 FEET GENERALLY ALONG A FENCE ALONG THE WEST BOUNDARY OF THE TROY MILTON STEVENSON PROPERTY, CROSSING THE CENTERLINE OF THE TEXAS GAS PIPELINE EASEMENT AT APPROXIMATELY 250 FEET, TO A 1/2" RE-BAR IRON PIN SET A FENCE CORNER POST, 6.63 FEET SOUTH OF A GAS LINE MARKER; THENCE, SOUTH 87°10' 38" EAST -692.22 FEET GENERALLY FOLLOWING A FENCE ALONG THE SOUTH LINE OF THE TROY MILTON STEVENSON PROPERTY TO THE POINT OF BEGINNING.

AND BEING A PORTION OF THE SAME PROPERTY CONVEYED TO PATRICIA S. TAYLOR AND LAWRENCE J. TAYLOR, A ONE THIRD (1/3) UNDIVIDED INTEREST, CECELIA F. SOLOMON, A ONE THIRD (1/3) UNDIVIDED INTEREST, JOHN A. HARRINGTON SR., A ONE-SIXTH (1/6) UNDIVIDED INTEREST, AND PAMELA F. SIMMONS, A ONE-SIXTH (1/6) UNDIVIDED INTEREST FROM STEPHEN W. HARRINGTON AND SHIRLEY HARRINGTON, PATRICIA S. TAYLOR AND LAWRENCE J. TAYLOR, CECELIA F. SOLOMON, JOHN A. HARRINGTON, SR., AND PAMELA F. SIMMONS AND LARRY SIMMONS BY QUITCLAIM DEED DATED OCTOBER 1, 1997 AND RECORDED OCTOBER 2, 1997 IN DEED BOOK 298, PAGE 217.

TAX PARCEL NO. 33-00-00-035

LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND, LYING AND BEING IN MARSHALL COUNTY, KENTUCKY, AND BEING A PORTION OF THE LANDS OF PATRICIA S. TAYLOR, LAWRENCE J. TAYLOR, CECELIA F. SOLOMAN, AND MARY E. HARRINGTON, AS RECORDED IN DEED BOOK 202, PAGE 578, MARSHALL COUNTY RECORDS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO FIND THE POINT OF BEGINNING, COMMENCE, AT A ½-INCH OPEN TOP PIPE FOUND AT A SOUTHEASTERN PROPERTY CORNER OF SAID LANDS, SAID PIPE HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3527166.5623 E: 4159251.5336; THENCE RUNNING ALONG A TIE-LINE, NORTH 10°33'17" EAST, 1295.82 FEET TO A POINT HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3528440.4595 E: 4159488.8937 AND THE TRUE POINT OF BEGINNING; THENCE, NORTH 08°15'50" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 81°44'10" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 08°15'50" WEST, 100.00 FEET TO A POINT; THENCE NORTH 81°44'10" WEST, 100.00 FEET TO A POINT AND THE POINT OF BEGINNING.

BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUES.

SAID TRACT CONTAINS 0.2296 ACRES (10,000 SQUARE FEET), MORE OR LESS.

30' INGRESS-EGRESS & UTILITY EASEMENT

TOGETHER WITH A 30-FOOT WIDE INGRESS-EGRESS AND UTILITY EASEMENT (LYING 15 FEET EACH SIDE OF CENTERLINE), LYING AND BEING IN MARSHALL COUNTY, KENTUCKY, AND BEING A PORTION OF THE LANDS OF PATRICIA S. TAYLOR, LAWRENCE J. TAYLOR, CECELIA F. SOLOMAN, AND MARY E. HARRINGTON, AS RECORDED IN DEED BOOK 202, PAGE 578, MARSHALL COUNTY RECORDS, AND BEING MORE PARTICULARLY DESCRIBED BY THE FOLLOWING CENTERLINE DATA:

TO FIND THE POINT OF BEGINNING, COMMENCE, AT A ½-INCH OPEN TOP PIPE FOUND AT A SOUTHEASTERN PROPERTY CORNER OF SAID LANDS, SAID PIPE HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3527166.5623 E: 4159251.5336; THENCE RUNNING ALONG A TIE-LINE, NORTH 10°33'17" EAST, 1295.82 FEET TO A POINT ON THE LEASE AREA, HAVING A KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUE OF N: 3528440.4595 E: 4159488.8937 THENCE, RUNNING WITH SAID LEASE AREA, NORTH 08°15'50" EAST, 100.00 FEET TO A POINT; THENCE, SOUTH 81°44'10" EAST, 100.00 FEET TO A POINT; THENCE SOUTH 08°15'50" WEST 75.00 FEET TO A POINT AND THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID LEASE AREA AND RUNNING SOUTH 81°44'10" EAST 84.26 FEET TO AN ENDING POINT ON THE WESTERN RIGHT-OF-WAY LINE OF KENTUCKY HIGHWAY NO. 95 (HAVING A 60-FOOT PUBLIC RIGHT-OF-WAY, PER PLAT CABINET F, SLIDE 356).

BEARINGS BASED ON KENTUCKY GRID NORTH, NAD 83, SINGLE ZONE VALUES.

SURVEY NOT VALID WITHOUT SHEETS 1 & 2 OF 3

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1	06/15/2021	ADDED TITLE - AJT
2	8/27/2021	REV. TITLE/UTIL. EBMT
3	9/8/2021	ACCESS/UTIL EBMT.

* SPECIFIC PURPOSE SURVEY PREPARED BY:
POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com

SPECIFIC PURPOSE SURVEY PREPARED FO

HARMONI
10801 EXECUTIVE CENTER DRIVE
BHANNON BLDG., STE 100
LITTLE ROCK, AR 72211

CALVERT CITY

SITE NO.
KYBGN2027
MARSHALL COUNTY,
KENTUCKY

DRAWN BY: AJT
CHECKED BY: JKL
APPROVED: D. MILLER
DATE: JANUARY 25, 2021
P2P JOB #: 202567KY

SHEET:
3
OF 3

EXHIBIT J
NOTIFICATION LISTING
CERTIFIED GREEN CARD RECEIPTS

Calvert City – Notice List

TAYLOR PATRICIA AND LAWRENCE ET AL
4417 SPRING BAY CT
LOUISVILLE, KY 40241-1781

STEVENSON MILTON AND GLENDA
1218 US HIGHWAY 95
CALVERT CITY, KY 42029

STEVENSON PATRICK AND VALERIA
13 DEES LN
CALVERT CITY, KY 42029

STEVENSON PATRICK L
13 DEES LN
CALVERT CITY, KY 42029

ADRIAN RONALD PAUL AND LAURIE JO
1678 US HIGHWAY 95
CALVERT CITY, KY 42029

LITTLEJOHN JAMES ROBERT
AND CALVIN BERNIE
9 WEST ST UNIT A
MADISON, NJ 07940

RILEY RUSSELL THOMAS AND MARY JO
PO BOX 627
CALVERT CITY, KY 42029

DAVIS ROBERT W AND SANDY F
1958 NEEDMORE RD
CALVERT CITY, KY 42029

DAVIS ROBERT
1958 NEEDMORE RD
CALVERT CITY, KY 42029

STEVENSON EALVIS RAY
145 DEES LN
CALVERT CITY, KY 42029

STEVENSON EALVIS R
161 DEES LN
CALVERT CITY, KY 42029

STEELE JAMES
166 PRINCESS JENNIFER DR
CALVERT CITY, KY 42029

STEELE JAMES M
166 PRINCESS JENNIFER DR
CALVERT CITY, KY 42029

FUTRELL LEAMON J AND SHIRLEY
1243 US HIGHWAY 95
CALVERT CITY, KY 42029

ADAMS BRUCE E
35 JERICHO LN
CALVERT CITY, KY 42029

DUCKETT STEPHANIE
35 JERICHO LN
CALVERT CITY, KY 42029


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LAURIE JO
1678 US HIGHWAY 95
CALVERT CITY, KY 42029
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See Reverse for Instructions


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AND CALVIN BERNIE
9 WEST ST UNIT A
MADISON, NJ 07940
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GLENDA
1218 US HIGHWAY 95
CALVERT CITY, KY 42029
PS Form 3800, April 2015 PSN 7530-02-000-9047
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7021 2720 0001 6149 4017
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VALERIA
13 DEES LN
CALVERT CITY, KY 42029
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LAWRENCE ET AL
4417 SPRING BAY CT
LOUISVILLE, KY 40241-1781
See Reverse for Instr


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Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
7021 2720 0000 5437 0244
STEVENSON EALVIS RAY
145 DEES LN
CALVERT CITY, KY 42029
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Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
7021 2720 0000 5437 0237
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161 DEES LN
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Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
7021 2720 0001 6149 3966
DAVIS ROBERT W AND SANDY F
1958 NEEDMORE RD
CALVERT CITY, KY 42029
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7021 2720 0001 6149 3959
DAVIS ROBERT
1958 NEEDMORE RD
CALVERT CITY, KY 42029
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Kevin Neal
County Judge Executive
1101 Main Street
Benton, KY 42025
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RILEY RUSSELL THOMAS AND
MARY JO
PO BOX 627
CALVERT CITY, KY 42029
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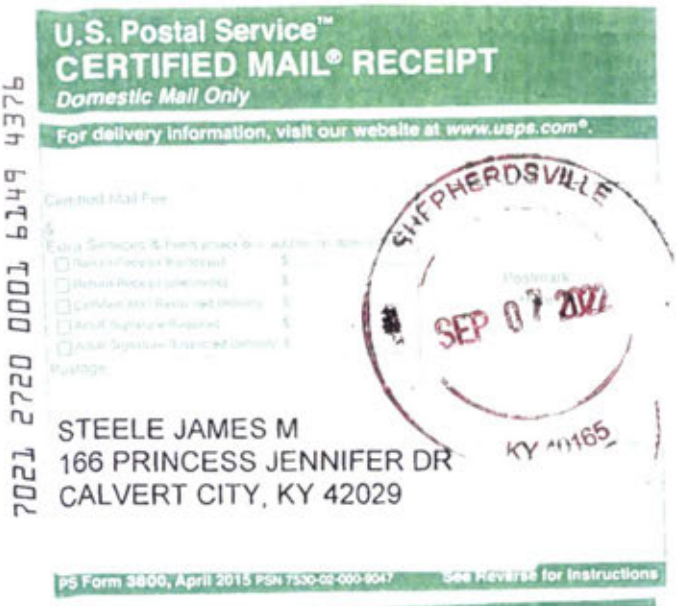

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KY 40165
7021 2720 0001 6149 4376
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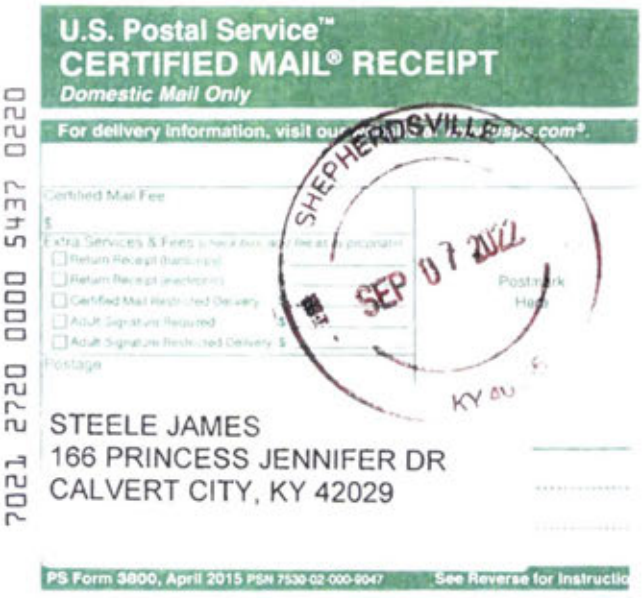
166 PRINCESS JENNIFER DR
CALVERT CITY, KY 42029
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



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SEP 07 2022
KY 40
7021 2720 0000 5437 0220
STEELE JAMES
166 PRINCESS JENNIFER DR
CALVERT CITY, KY 42029
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SEP 07
KY 40165
7021 2720 0001 6149 4352
ADAMS BRUCE E
35 JERICHO LN
CALVERT CITY, KY 42029
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SEP 07
KY 40165
7021 2720 0001 6149 4369
FUTRELL LEAMON J AND
SHIRLEY
1243 US HIGHWAY 95
CALVERT CITY, KY 42029
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Adult Signature Required
Adult Signature Restricted Delivery
Postage
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SEP 07
KY 40165
7021 2720 0001 6149 4345
DUCKETT STEPHANIE
35 JERICHO LN
CALVERT CITY, KY 42029
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instru

EXHIBIT K
COPY OF PROPERTY OWNER NOTIFICATION

PIKE LEGAL

1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-0369
Phone (502) 955-4400 or (800) 516-4293
Fax (502) 543-4410 or (800) 541-4410

Notice of Proposed Construction of Wireless Communications Facility Site Name: Calvert City

Dear Landowner:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Harmoni 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 Kentucky Hwy 95, Calvert City, KY 42029 (36° 59' 03.19" North latitude, 88° 21' 28.88" West longitude). The proposed facility will include a 220-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 230-feet, plus related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.[1]

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 2022-00306 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

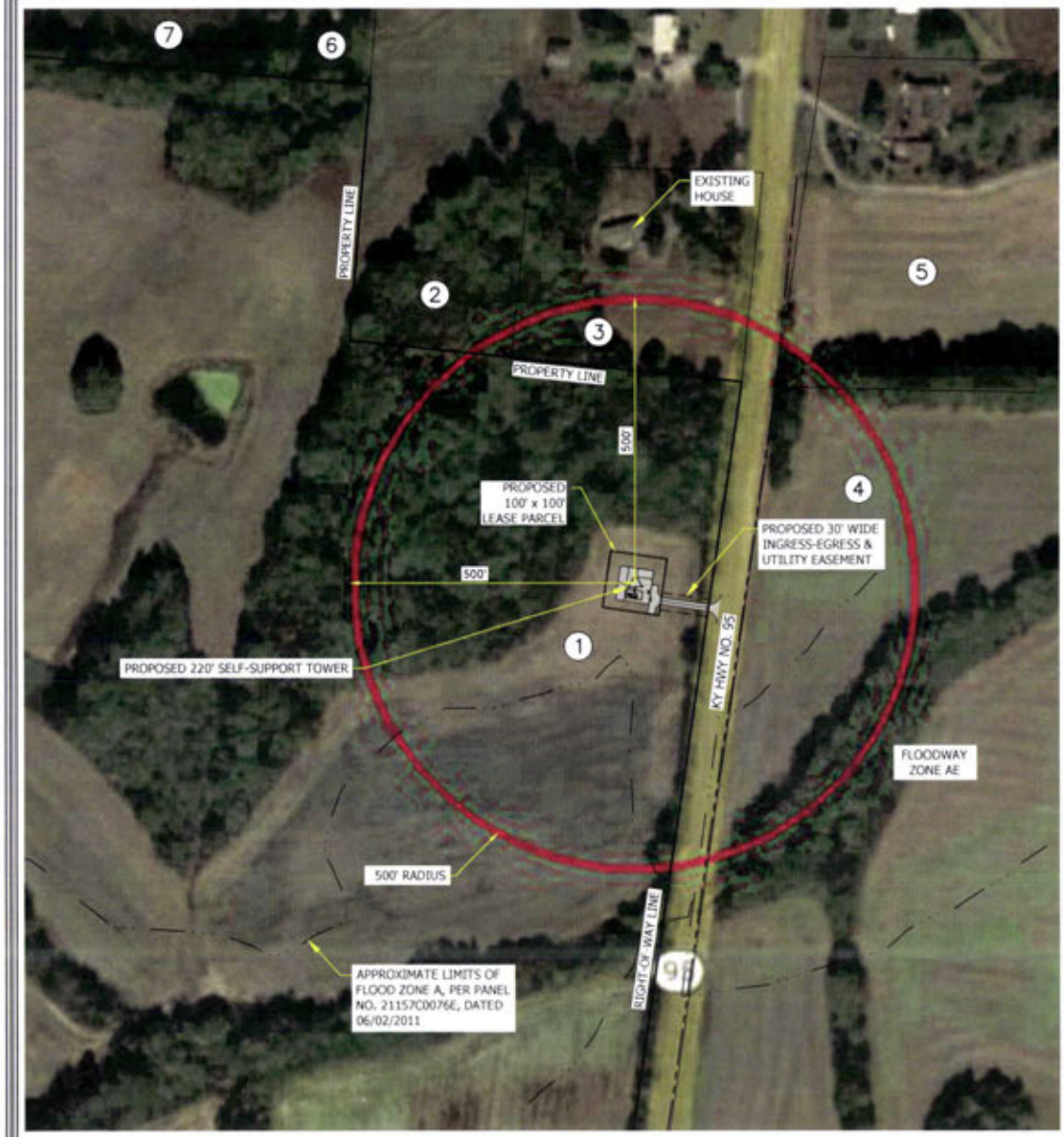
enclosures

[1] AT&T is currently providing wireless services from an existing tower owned by SBA Properties, LLC ("SBA"). The SBA owned tower (FCC Antenna Structure Registration Number: 1222232) is located in the general area where Applicants propose to construct the new tower. However, the SBA owned tower is no longer reasonably available for co-location. As a result, construction of the proposed tower is necessary to meet AT&T's coverage objectives for this area.

Driving Directions to Proposed Tower Site:

1. Beginning at 1101 Main Street, Benton, KY 42025 head north on Poplar Street toward E 11th Street and travel approximately 0.5 miles.
2. Turn right onto US-641 N / Main Street and travel approximately 4.0 miles.
3. Take a slight left onto US-641 N / US-68 and travel approximately 2.4 miles.
4. Turn right onto KY-95 and travel approximately 2.7 miles.
5. The site is located on the left. The site address is Kentucky Hwy 95, Calvert City, KY 42029. The site coordinates are: 36° 59' 03.19" North latitude, 88° 21' 28.88" West longitude.

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



#	OWNER	ADDRESS	PID	REF
1	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000035000000	DB 202 PG 578
2	STEVENSON MILTON AND GLENDA	1218 US HIGHWAY 95 CALVERT CITY, KY 42029	330000034000000	DB 156 PG 575
3	PATRICK L STEVENSON	13 DEES LN CALVERT CITY, KY 42029	330000034010000	DB 440 PG 377
4	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000073000000	DB 195 PG 627
5	LEAMON J & SHIRLEY FUTRELL	1243 US HIGHWAY 95 CALVERT CITY, KY 42029	330000074000000	DB 178 PG 551
6	JAMES M STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033040000	DB 450 PG 649
7	JAMES STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033000000	DB 466 PG 558

NOTE:

1. PVA INFORMATION WAS OBTAINED ON 1/25/2021 AND UPDATED ON 8/18/2022 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

1 500' RADIUS & ADJOINER'S DRAWING

SCALE: 1"=200'

0' 100' 200' 300' 400'

N

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS
BEFORE YOU DIG!

B+T GRP

at&t

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PT# ____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: G0144556.001.12
CHECKED BY: MAS

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	11/17/21	RWC	REVIEW
0	12/20/21	MAS	REVIEW
1	08/25/22	DLS	REVIEW

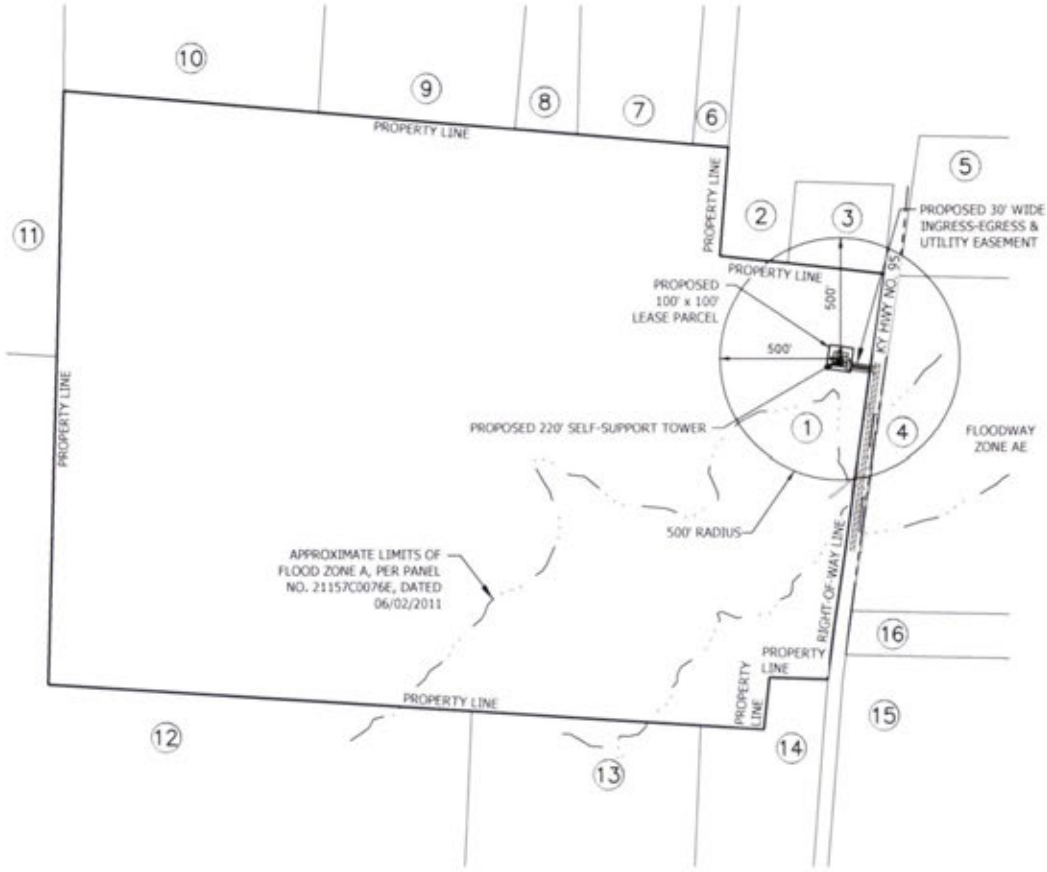
B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRADLEY ILAKOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

500' RADIUS & ADJOINER'S DRAWING

SHEET NUMBER:
C-1.0



#	OWNER	ADDRESS	PID	REF
1	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000035000000	DB 202 PG 578
2	STEVENSON MILTON AND GLENDA	1218 US HIGHWAY 95 CALVERT CITY, KY 42029	330000034000000	DB 156 PG 575
3	PATRICK L STEVENSON	13 DEES LN CALVERT CITY, KY 42029	330000034010000	DB 440 PG 377
4	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000073000000	DB 195 PG 627
5	LEAMON J & SHIRLEY FUTRELL	1243 US HIGHWAY 95 CALVERT CITY, KY 42029	330000074000000	DB 178 PG 551
6	JAMES M STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033040000	DB 450 PG 649
7	JAMES STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033000000	DB 466 PG 558
8	EALVIS R STEVENSON	161 DEES LN CALVERT CITY, KY 42029	330000033010000	DB 393 PG 640
9	EALVIS RAY STEVENSON	145 DEES LN CALVERT CITY, KY 42029	330000033030000	DB 432 PG 341
10	ROBERT W & SANDY F DAVIS	1958 NEEDMORE RD CALVERT CITY, KY 42029	330000029000000	DB 478 PG 585
11	RUSSELL T & MARY JO RILEY	PO BOX 627 CALVERT CITY, KY 42029	330000026000000	DB 250 PG 100
12	RUSSELL T & MARY JO RILEY	PO BOX 627 CALVERT CITY, KY 42029	330000021010000	DB 274 PG 282
13	JAMES ROBERT & CALVIN BERNIE LITTLEJOHN	9 WEST ST UNIT A MADISON, NJ 07940	330000037000000	DB 318 PG 253
14	RONALD PAUL & LAURIE JO ADRIAN	1678 US HIGHWAY 95 CALVERT CITY, KY 42029	330000003600M000	DB 244 PG 478
15	STEPHANIE DUCKETT	35 JERICHO LN CALVERT CITY, KY 42029	330A000002000000	DB 382 PG 600
16	BRUCE E ADAMS	35 JERICHO LN CALVERT CITY, KY 42029	330A000001000000	DB 385 PG 631

NOTE:

1. PVA INFORMATION WAS OBTAINED ON 1/25/2021 AND UPDATED ON 8/18/2022 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

1 OVERALL ADJOINER'S DRAWING
SCALE: 1"=500'
0 250' 500' 750' 1000'

N

CALL KENTUCKY ONE CALL
(800) 752-6007
CALL 3 WORKING DAYS
BEFORE YOU DIG!

B+T GRP

at&t

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PTI# ____
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: [illegible]
CHECKED BY: MAS

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	11/17/21	RMC	REVIEW
0	12/20/21	MAS	REVIEW
1	08/25/22	DLS	REVIEW

B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRAD P. [illegible]
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

OVERALL ADJOINER'S DRAWING

SHEET NUMBER:
C-1.1

EXHIBIT L
COPY OF COUNTY JUDGE/EXECUTIVE NOTICE

PIKE LEGAL

1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-0369
Phone (502) 955-4400 or (800) 516-4293
Fax (502) 543-4410 or (800) 541-4410

VIA CERTIFIED MAIL

Kevin Neal
County Judge Executive
1101 Main Street
Benton, KY 42025

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2022-00306
Site Name: Calvert City

Dear Judge/Executive:

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Harmoni 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 Kentucky Hwy 95, Calvert City, KY 42029 (36° 59' 03.19" North latitude, 88° 21' 28.88" West longitude). The proposed facility will include a 220-foot tall tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 230-feet, plus related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.[1]

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 2022-00306 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.

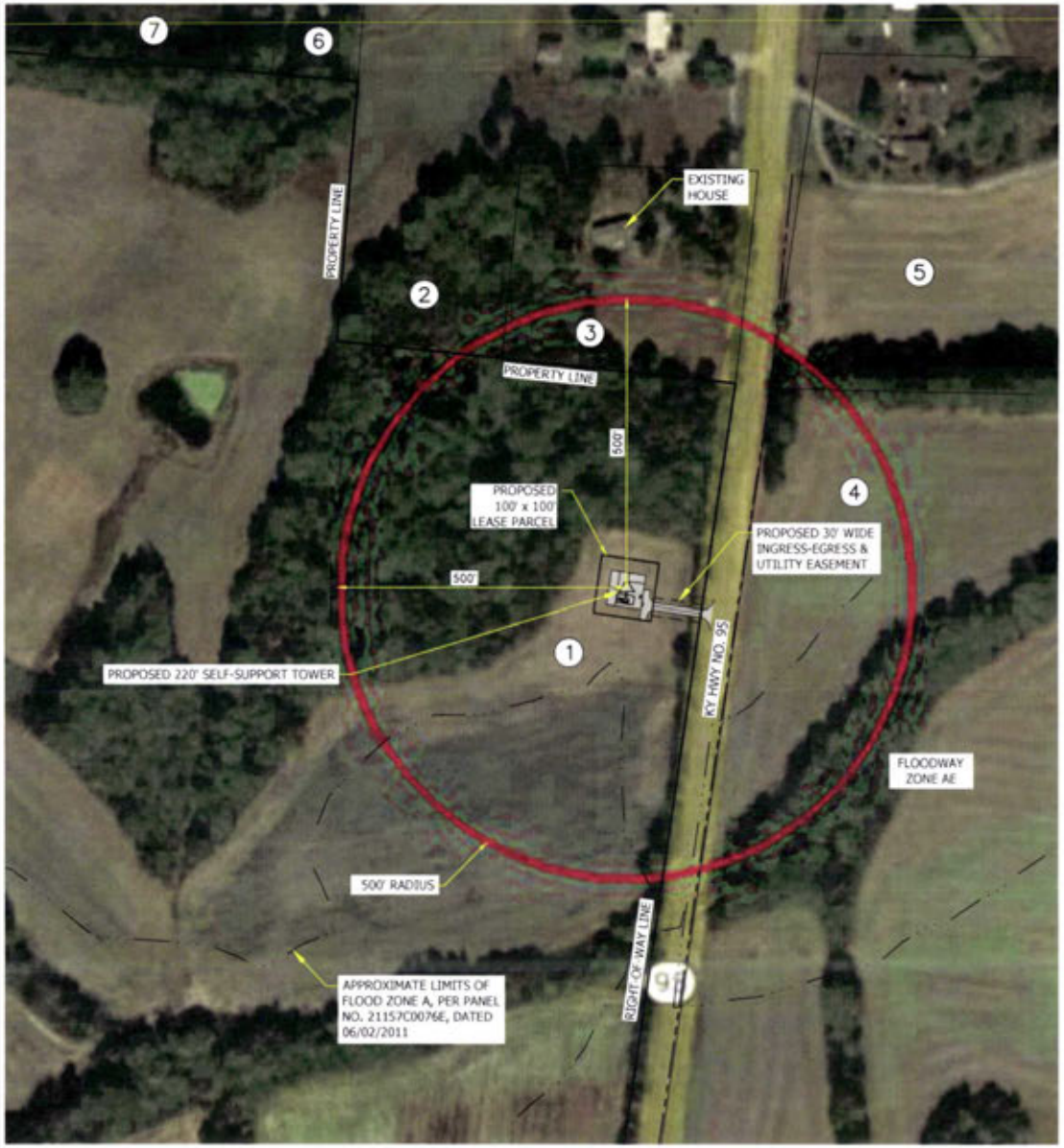
Sincerely,
David A. Pike
Attorney for Applicants
enclosures

[1] AT&T is currently providing wireless services from an existing tower owned by SBA Properties, LLC ("SBA"). The SBA owned tower (FCC Antenna Structure Registration Number: 1222232) is located in the general area where Applicants propose to construct the new tower. However, the SBA owned tower is no longer reasonably available for co-location. As a result, construction of the proposed tower is necessary to meet AT&T's coverage objectives for this area.

Driving Directions to Proposed Tower Site:

1. Beginning at 1101 Main Street, Benton, KY 42025 head north on Poplar Street toward E 11th Street and travel approximately 0.5 miles.
2. Turn right onto US-641 N / Main Street and travel approximately 4.0 miles.
3. Take a slight left onto US-641 N / US-68 and travel approximately 2.4 miles.
4. Turn right onto KY-95 and travel approximately 2.7 miles.
5. The site is located on the left. The site address is Kentucky Hwy 95, Calvert City, KY 42029. The site coordinates are: 36° 59' 03.19" North latitude, 88° 21' 28.88" West longitude.

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



#	OWNER	ADDRESS	PID	REF
1	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000035000000	DB 202 PG 578
2	STEVENSON MILTON AND GLENDA	1218 US HIGHWAY 95 CALVERT CITY, KY 42029	330000034000000	DB 156 PG 575
3	PATRICK L STEVENSON	13 DEES LN CALVERT CITY, KY 42029	330000034010000	DB 440 PG 377
4	PATRICIA & LAWRENCE TAYLOR	4417 SPRING BAY CT LOUISVILLE, KY 40241	330000073000000	DB 195 PG 627
5	LEAMON J & SHIRLEY FUTRELL	1243 US HIGHWAY 95 CALVERT CITY, KY 42029	330000074000000	DB 178 PG 551
6	JAMES M STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033040000	DB 450 PG 649
7	JAMES STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033000000	DB 466 PG 558

NOTE:

1. PVA INFORMATION WAS OBTAINED ON 1/25/2021 AND UPDATED ON 8/18/2022 FROM THE OFFICIAL RECORDS OF THE COUNTY'S PROPERTY VALUATION ADMINISTRATOR.
2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT A BOUNDARY SURVEY.
3. NOT FOR RECORDING OR PROPERTY TRANSFER.

1 500' RADIUS & ADJOINER'S DRAWING

SCALE: 1"=200'

0' 100' 200' 300' 400'

N

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B+T GRP

at&t

HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PTI#
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: [illegible]
CHECKED BY: MAS

ISSUED FOR

REV	DATE	DRWN	DESCRIPTION
B	11/17/21	RMC	REVIEW
C	12/20/21	MAS	REVIEW
1	08/25/22	DLS	REVIEW

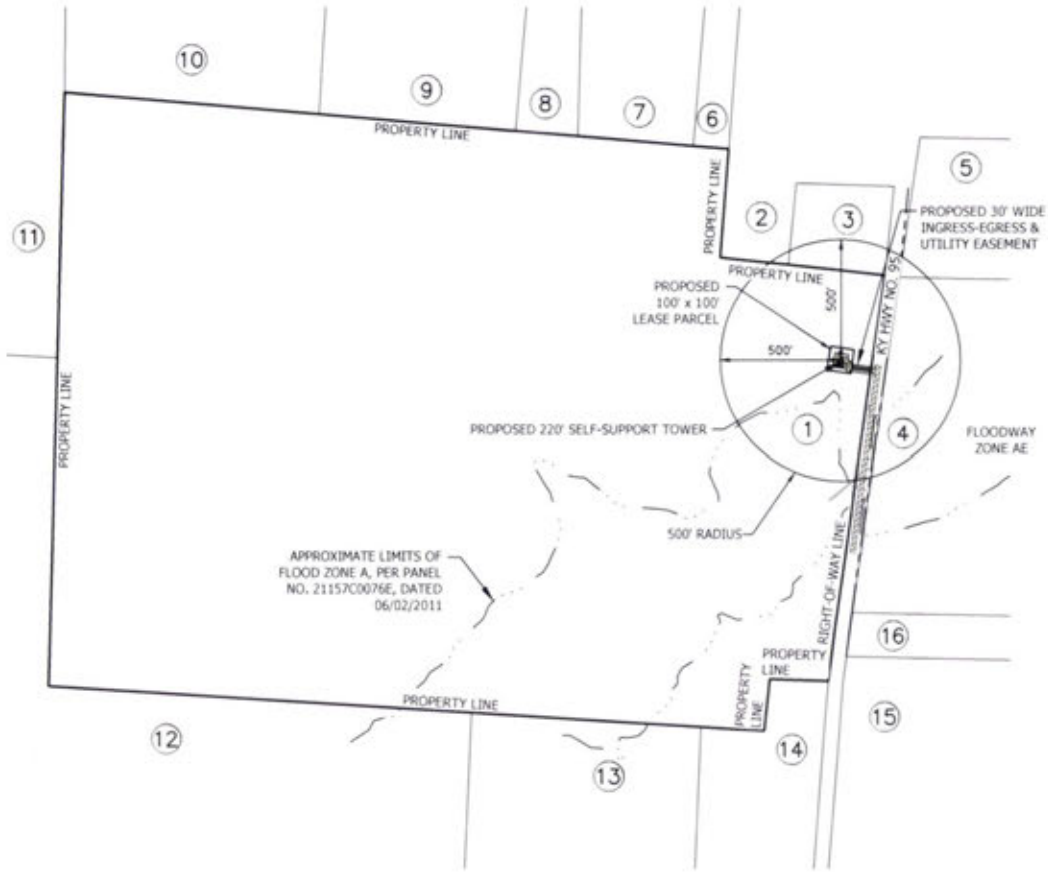
B&T ENGINEERING, INC.
4011
Expires 12/31/22

STATE OF KENTUCKY
BRAD P. MILANOWSKI
25311
LICENSED PROFESSIONAL ENGINEER
8/25/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

500' RADIUS & ADJOINER'S DRAWING

SHEET NUMBER:
C-1.0



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7	JAMES STEELE	166 PRINCESS JENNIFER DR CALVERT CITY, KY 42029	330000033000000	DB 466 PG 558
8	EALVIS R STEVENSON	161 DEES LN CALVERT CITY, KY 42029	330000033010000	DB 393 PG 640
9	EALVIS RAY STEVENSON	145 DEES LN CALVERT CITY, KY 42029	330000033030000	DB 432 PG 341
10	ROBERT W & SANDY F DAVIS	1958 NEEDMORE RD CALVERT CITY, KY 42029	330000029000000	DB 478 PG 585
11	RUSSELL T & MARY JO RILEY	PO BOX 627 CALVERT CITY, KY 42029	330000026000000	DB 250 PG 100
12	RUSSELL T & MARY JO RILEY	PO BOX 627 CALVERT CITY, KY 42029	330000021010000	DB 274 PG 282
13	JAMES ROBERT & CALVIN BERNIE LITTLEJOHN	9 WEST ST UNIT A MADISON, NJ 07940	330000037000000	DB 318 PG 253
14	RONALD PAUL & LAURIE JO ADRIAN	1678 US HIGHWAY 95 CALVERT CITY, KY 42029	330000036008M000	DB 244 PG 478
15	STEPHANIE DUCKETT	35 JERICHO LN CALVERT CITY, KY 42029	330A00002000000	DB 382 PG 600
16	BRUCE E ADAMS	35 JERICHO LN CALVERT CITY, KY 42029	330A00001000000	DB 385 PG 631

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1 OVERALL ADJOINER'S DRAWING

SCALE 0 250' 500' 750' 1000' 1"=500'

N

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HARMONI

HARMONI TOWERS
CALVERT CITY
FA# 15415630
PACE# N/A
PTP#
(PROPERTY)
KY HWY NO. 95
CALVERT CITY, KY 42602
MARSHALL COUNTY
PROPOSED 220' SELF-SUPPORT TOWER

PROJECT NO: G414455.001.12
CHECKED BY: MAS

ISSUED FOR

REV	DATE	DRWN	DESCRIPTION
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C	12/20/21	MRS	REVIEW
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OVERALL ADJOINER'S DRAWING

SHEET NUMBER:
C-1.1

EXHIBIT M
COPY OF POSTED NOTICES
AND NEWSPAPER NOTICE ADVERTISEMENT

SITE NAME: CALVERT CITY
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 Harmoni 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 2022-00306 in your correspondence.

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Harmoni 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 2022-00306 in your correspondence.

PIKE LEGAL

1578 Highway 44 East, Suite 6
P.O. Box 369
Shepherdsville, KY 40165-0369
Phone (502) 955-4400 or (800) 516-4293
Fax (502) 543-4410 or (800) 541-4410

VIA FAX: (270) 395-5858
VIA EMAIL: news@thelakenews.com

The Lake News
P.O. Box 498
Calvert City, KY 42029

RE: Legal Notice Advertisement
Site Name: Calvert City

Dear Staff:

Please publish the following legal notice advertisement in the next edition of *The Lake News*:

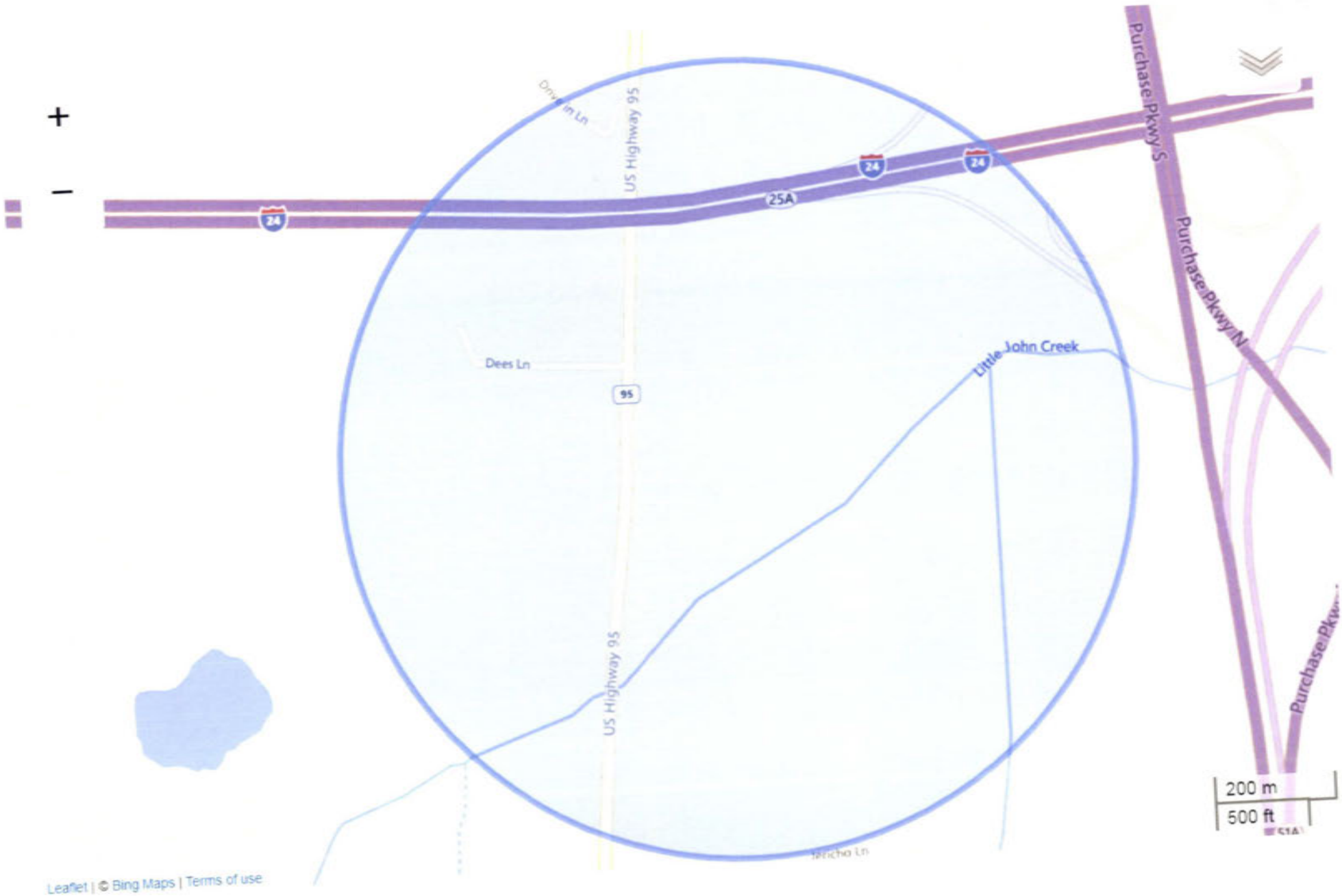
NOTICE

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Harmoni 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 Kentucky Hwy 95, Calvert City, KY 42029 (36° 59' 03.19" North latitude, 88° 21' 28.88" 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 2022-00306 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


Purchase Pkwy S
Purchase Pkwy N
US Highway 95
Dees Ln
Little John Creek
25A
24
95
200 m
500 ft
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