COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

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THE APPLICATION OF)	
CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS)	
AND HARMONI TOWERS, LLC FOR ISSUANCE)	
OF A CERTIFICATE OF PUBLIC)	CASE NO. 2023-00043
CONVENIENCE AND NECESSITY TO CONSTRUCT)	
A WIRELESS COMMUNICATIONS FACILITY)	
IN THE COMMONWEALTH OF KENTUCKY)	
IN THE COUNTY OF LOGAN)	

SITE NAME: RUSSELLVILLE CAPACITY

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

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

In support of this Application, Co-Applicants respectfully provides and states the following information:

- 1. The complete name and address of the Co-Applicants:
 - a. Cellco Partnership, d/b/a Verizon Wireless, having a local address of 2902 Ring Road, Elizabethtown, KY 42701.

b. Harmoni Towers, LLC, having an address of 11101 Anderson Drive, Ste. 200,
 Little Roack, AR 72212

2. Co-Applicants;

- a. Cellco Partnership, d/b/a Verizon Wireless is a Delaware general partnership and a copy of the Amended Certificate of Assumed Name is on file with the Secretary of State of Commonwealth of Kentucky is included as part of Exhibit A.
- b. b. Harmoni Towers, LLC is a Delaware Limited Liability Company organized in the State of Delaware on December 2, 2015. We attest that Harmoni Towers, LLC is in good standing with the State of Delaware and is also authorized to transact business in the Commonwealth of Kentucky. A copy of the Certificate of Amendment to Certificate of Formation is on file with the Secretary of State of Commonwealth of Kentucky and is included as part of **Exhibit A**.
- 3. Co-Applicants propose construction of an antenna tower for communications services, which is to be located in an area outside the jurisdiction of a planning commission, and Co-Applicants submit this application to the PSC for a certificate of public convenience and necessity pursuant to KRS §§ 278.020(1), 278.040, 278.650, 278.665, and other statutory authority.
- 4. The Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements. A copy of the CoApplicant's FCC licenses to provide wireless services are attached to this Application or described as part of **Exhibit B**, and the facility will be constructed and operated in accordance with applicable FCC regulations.

- 5. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve the Co-Applicants' services to an area currently not served or not adequately served by the Co-Applicants by increasing coverage or capacity and thereby enhancing the public's access to innovative and competitive wireless communications services. A statement from Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless's RF Design Engineer outlining said need is attached as **Exhibit Q** along with Propagation Maps attached as **Exhibit Qa**. The WCF is an integral link in the Co-Applicant's network design that must be in place to provide adequate coverage to the service area.
- 6. To address the above-described service needs, Co-Applicants propose to construct a WCF on Creekwood Dr., Russellville, KY 42276 (36° 51' 50.30" North latitude, 86° 53' 09.85" 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 John and Elizabeth Tabor pursuant to a Deed recorded at Deed Book 365, Page 673 in the office of the County Clerk. The proposed WCF will consist of a 190-foot tall tower, with an approximately 4-foot tall lightning arrestor attached at the top, for a total height of 199-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of the Co-Applicant's radio electronics equipment and appurtenant equipment. The Co-Applicant's equipment cabinet or shelter will be approved for use in the Commonwealth of Kentucky by the relevant building inspector. The WCF compound will be fenced and all access gate(s) will be secured. A description of the manner in which the proposed WCF will be constructed is attached as **Exhibit** C and **Exhibit** D.

- 7. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete along with a map showing the proposed location as well as the identified like facilities is attached as **Exhibit E**.
- 8. The site development plan and a vertical profile sketch of the WCF signed and sealed by a professional engineer registered in Kentucky depicting the tower height, as well as a proposed configuration for the antennas of the Co-Applicant, Cellco Partnership, d/b/a Verizon Wireless has also been included as part of **Exhibit C**.
- 9. Foundation design plans signed and sealed by a professional engineer registered in Kentucky and a description of the standards according to which the tower was designed are included as part of **Exhibit D**.
- WCF on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate Co-Applicant's antennas on an existing structure. When suitable towers or structures exist, Co-Applicant's attempts to co-locate on existing structures such as communications towers or other structures capable of supporting Co-Applicant's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site.
- 11. A copy of the Federal Aviation Administration's ("FAA") Notice Criteria Tool indicates filing for a Determination of No Hazard to Air Navigation due to the height and location of the tower is not required is attached as **Exhibit F**.

- 12. A copy of communication from the Kentucky Airport Zoning Commission ("KAZC") indicating that the proposed site and height does not fall within the Commission's jurisdiction is attached as **Exhibit G**.
- 13. A geotechnical engineering report was performed by Power of Design Group, LLC, Louisville, KY, dated November 11, 2022, and is attached as **Exhibit H**. The name and address of the geotechnical engineering firm and the professional engineer registered in Kentucky who prepared the report are included as part of **Exhibit R**.
- 14. Clear directions to the proposed WCF site from the County seat are attached as **Exhibit I**. The name and telephone number of the preparer of Exhibit I are included as part of this exhibit.
- 15. Co-Applicants, pursuant to a written agreement, have acquired the right to use the WCF site and associated property rights. A copy of the agreement is attached as **Exhibit J**.
- 16. Personnel directly responsible for the design and construction of the proposed WCF are well qualified and experienced. The tower and foundation drawings for the proposed tower submitted as part of **Exhibit D** bear the signature and stamp of a professional engineer registered in the Commonwealth of Kentucky. All tower designs meet or exceed the minimum requirements of applicable laws and regulations.
- 17. The Construction Manager for the proposed facility is Billy Waldridge, Jr. and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in **Exhibit R**.
- 18. As noted on the Survey attached as part of **Exhibit C**, the surveyor has determined that the tower site and access easement are not within any flood hazard area per Flood Hazard

Boundary Map, Community Panel Number 21141C0257D, Dated October 2, 2012. A letter from the surveyor regarding the site coordinates is attached as **Exhibit Ca**.

- 19. **Exhibit C** includes a map drawn to an appropriate scale that shows the location of the proposed tower and identifies every owner of real estate within 500 feet of the proposed tower (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 C**.
- 20. Co-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 will be 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 to be sent by certified mail to each landowner are attached as **Exhibit K** and **Exhibit L**, respectively.
- 21. Co-Applicants have notified the applicable County Judge/Executive by certified mail, return receipt requested, of the proposed construction. This notice included the PSC docket number under which the application will be processed and informed the County Judge/Executive of his/her right to request intervention. A copy of this notice is attached as **Exhibit M**.
- 22. Notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2) that measure at least 2 feet in height and 4 feet in width and that contain all required language in letters of required height, have been posted, one in a visible location on the proposed site and one on the nearest public road. Such signs shall remain posted for at least two weeks after filing of the

Application, and a copy of the posted text is attached as **Exhibit N**. A legal notice advertisement regarding the location of the proposed facility has been published in a newspaper of general circulation in the county in which the WCF is proposed to be located. A copy of the newspaper legal notice advertisement is attached as **Exhibit O**.

- 23. The general area where the proposed facility is to be located is undeveloped and removed a significant distance from any residential structures. The nearest residential structure is 230 feet from the proposed tower site.
- Wireless radio frequency engineers in selecting the site for the proposed WCF was consistent with the general process used for selecting all other existing and proposed WCF facilities within the proposed network design area. Co-Applicant's radio frequency engineers have conducted studies and tests in order to develop a highly efficient network that is designed to handle voice and data traffic in the service area. The engineers determined an optimum area for the placement of the proposed facility in terms of elevation and location to provide the best quality service to customers in the service area. A radio frequency design search area prepared in reference to these radio frequency studies was considered by the Co-Applicant when searching for sites for its antennas that would provide the coverage deemed necessary by the Co-Applicant. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements is attached as **Exhibit P**.
- 25. The tower must be located at the proposed location and proposed height to provide necessary service to wireless communications users in the subject area, as set out and documented in the RF Design Engineers' Statement of Need and Propagation Maps attached as **Exhibit Q and**

Qa. The proposed tower will expand and improve voice and data service for Verizon Wireless customers.

26. All Exhibits to this Application are hereby incorporated by reference as if fully set out as part of the Application.

27. All responses and requests associated with this Application may be directed to:

Russell L. Brown Clark, Quinn, Moses, Scott & Grahn, LLP 320 North Meridian Street, Suite 1100 Indianapolis, IN 46204

Phone: (317) 637-1321 FAX: (317) 687-2344

Email: rbrown@clarkquinnlaw.com

Attorney for Cellco Partnership d/b/a Verizon Wireless

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

Respectfully submitted,

Russell L. Brown

Clark, Quinn, Moses, Scott & Grahn, LLP 320 North Meridian Street, Suite 1100

Indianapolis, IN 46204

Phone: (317) 637-1321 / FAX: (317) 687-2344

Email: rbrown@clarkquinnlaw.com

Attorney for Cellco Partnership d/b/a Verizon Wireless

LIST OF EXHIBITS

A	Applicant Entity
В	FCC License Documentation
C	Site Development Plan:
	500' Vicinity Map Legal Descriptions Flood Plain Certification Site Plan Vertical Tower Profile
Ca	Letter from Surveyor regarding Site Coordinates
D	Tower and Foundation Design
Е	Competing Utilities, Corporations, or Persons List And Map of Like Facilities in Vicinity
F	FAA Criteria Tool
G	KAZC Communication
Н	Geotechnical Report
I	Directions to WCF Site
J	Copy of Real Estate Agreement
K	Notification Listing
L	Copy of Property Owner Notification
M	Copy of County Judge/Executive notice
N	Copy of Posted Notices
О	Copy of Newspaper Legal Notice Advertisement
P	Copy of Radio Frequency Design Search Area
Q	Copy of RF Design Engineer State of Need
Qa	Propagation Maps
R	List of Qualified Professionals



COMMONWEALTH OF KENTUCKY TREY GRAYSON SECRETARY OF STATE



Secretary of State
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CERTIFICATE OF ASSUMED NAME

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COMMONWEALTH OF KENTUCKY ELAINE N. WALKER, SECRETARY OF STATE

Algoritum of Applicant	Printed Nami		Title	Date
sare dachapter	Jana A. Scha	pker.	Assistant Secretary	1/21/2012
I declare under penalty of perjury		Kentucky that the forgoing is	s true and correct.	
8. The changes in the identity of	f the partners are as	s follows: See Adden	dum for currer	nt partners
77.700.000.000.000				(Delayed effective date and/or time)
5. This application will be effectly or the delayed effective date can				15
Street Address or Post Office Box Nur	mbere	City	State	Zip
4. The principal office address is	heraby changed to	C-4/		
Street Address or Post Office Box Nur	nbere	CITY	State	Zip
One Verizon Way		Basking Ridge	NJ	07920
3 The current principal office ad	Idress (If any) is:			
2. The cartificate of assumed na	me was filed with th	ne Secretary of State on:	6/21/2006	
(The nam	e must be identical to	the name on record with the Se		
1. The assumed name is Ve	rizon Wireles	S		
Pursuant to the provisions of KR3 purpose, submits the following at		ned applies to amend the c	ertificate of assumed	name end, for that
(502) 564-3490 www.sos.ky.gov				
Business Filings PO Box 718 Frankfort, KY 40802	(Domestic or	- A-14-C-13-3-1-10-1	AAN	

Addendum

The full name of the Partnership is Cellco Partnership, a Delaware general partnership composed of the following partners:

Address
One Verizon Way Basking Ridge, NJ 07920
One Verizon Way Basking Ridge, NJ 07920
Denver Place South Tower 999-18 th Street, Suhe 1750 Denver, CO 80202
Denver Place South Tower 999-18 th Street, Suite 1750 Denver, CO 80202

FRANKLIN COUNTY

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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

Business Filings PO Box 718 Frankforl, KY 40602 (502) 564-3490 www.sos.ky.gov	Certificate of Authority (Foreign Business Enti	ty)		FBE
Pursuant to the provisions of KRS 14 on behalf of the entity named below a	A and KRS 271B, 273, 274,275, 362 and 3 nd, for that purpose, submits the following	386 the undersigned her statements:	eby applies for a	uthority to transact business in Kentuck
busine		orporation (KRS 273). Illty company (KRS 275).		onal service corporation (KRS 274). onal limited liability company (KRS 275)
2. The name of the entity is Uniti T	owers LLC			
	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):			
4. The state or country under whose	Dolowore	If "real name" is unavallal	ble for use; otherw	dse, leave blank.)
5. The date of organization is $\frac{12/2}{1}$	2015	and the period of duration		
			(if	left blank, the period of duration is considered perpetual.)
The mailing address of the entity's 10802 Executive Center Dr	principal office is ive, Benton Building, Suite 300	Little Rock	AR	72211
Street Address		City	State	ZIp Code
7. The street address of the entity's r	egistered office in Kentucky is			
306 West Main Street - Su	nite 512	Frankfort	KY	40601
Street Address (No P.O. Box Numbers)		City	State	Zip Code
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Street Address (No P.O. Box Numbers) and the name of the registered agent B. The names and business address Daniel L. Heard Name Kenneth Gunderman Name Mark A. Wallace Name 9. If a professional service corporation, all the more states or territories of the United States 10. I certify that, as of the date of filling 11. If a limited partnership, it elects 12. If a limited liability company, ching 13. This application will be effective unthe effective date or the delayed effective date or the delayed effective for Authorized Representative is C T Corporation System	es of the entity's representatives (secretary 10802 Executive Center Drive, Benton Building, Suite 300 Street or P.O. Box 10802 Executive Center Drive, Benton Building, Suite 300 Street or P.O. Box 10802 Executive Center Drive, Benton Building, Suite 300 Street or P.O. Box Individual shareholders, not less than one half (1/2) or District of Columbia to render a professional service of the suite of the service of the	city ystem y, officers and directors, Little Rock City Little Rock City Little Rock City Of the directors, and all of the ce described in the statement validly exists under the lip. Check the box if apparent of the director is filed. The ce described have a statement of the control of the ce described in the statement of the ce described in the ce describ	Managers, truste AR State AR State AR State Officers other than the fourposes of the jurisdiction policable: State and/or time is the price of the control of the state of the control of the state of the control of the contr	es or general partners): 72211 Zip Code 72211 Zip Code 72211 Zip Code 72211 Zip Code 6 secretary and treasurer are licensed in one of proretion. Cition of its formation. Signature of the business entity.

(09/15)



Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF

DELAWARE, DO HEREBY CERTIFY "UNITI TOWERS LLC" IS DULY FORMED UNDER

THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A

LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF

THE THIRTIETH DAY OF DECEMBER, A.D. 2016.

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

5896640 8300

SR# 20167345793

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

Jeffre y W. Bullock, Shoretary of State

Authentication: 203613650

Date: 12-30-16

DOCUMENT NO: 454352
RECORDED: January 04,2017 01:08:00 PM
TOTAL FEES: \$11.00
COUNTY CLERK: JEFF HANCOCK
DEPUTY CLERK: STARLA HAEBERLIN
COUNTY: FRANKLIN
BOOK: A120 PAGES: 445 - 446

State of Delaware
Secretary of State
Division of Corporations
Delivered 05:13 PM 09/18/2020
FILED 05:13 PM 09/18/2020
SR 20207362106 - File Number 5896640

CERTIFICATE OF AMENDMENT TO

CERTIFICATE OF FORMATION

OF

UNITI TOWERS LLC

The undersigned, being duly authorized to execute and file this Certificate of

Amendment to Certificate of Formation for the purpose of amending the Certificate of Formation

pursuant to the Section 18-202 of the Limited Liability Company Act of the State of Delaware,

does hereby certify as follows:

FIRST

The name of the limited liability company is Uniti Towers LLC (the "Company").

SECOND

Paragraph 1 of the Certificate of Formation of the Company is hereby deleted in

its entirety and amended to read in full as follows:

FIRST: The name of the limited liability company is Harmoni

Towers LLC (the "Company").

IN WITNESS WHEREOF, the undersigned has duly executed this Certificate of

Amendment to Certificate of Formation as of the 18th day of September, 2020.

HARMONI TOWERS HOLDINGS LLC

Its: Sole Member

By: /s/ Chester Dawes

Name: Chester Dawes

Its: Chief Financial Officer

REFERENCE COPY

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



Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

	Call Sign	File Number
	KNKN867	0009262184
	Radio	Service
	CL - C	ellular
	Market Numer	Channel Block
	CMA445	В
1	Sub-Market	Designator
	()

FCC Registration Number (FRN): 0003290673

Market Name Kentucky 3 - Meade

Grant Date 09-01-2020	Effective Date 01-13-2021	Expiration Date 10-01-2030	Five Yr Build-Out Date	Print Date
07-01-2020	01 13 2021	10 01 2030		

Site Information:

LocationLatitudeLongitudeGround Elevation (meters)Structure Hgt to Tip (meters)Antenna Structure Registration No.136-50-41.0 N086-51-27.0 W243.882.31043225

Address: 1.3 KM EAST OF SR-100 & JEFF DAVIS HIGHWAY

City: RUSSELLVILLE County: LOGAN 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)	133.200	104.800	100.900	107.400	123.200	117.300	105.900	123.700
Transmitting ERP (watts) Antenna: 2	153.310	72.160	9.790	0.510	0.420	0.540	11.230	75.590
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	133.200	104.800	100.900	107.400	123.200	117.300	105.900	123.700
Transmitting ERP (watts) Antenna: 3	0.870	21.280	113.650	147.250	38.070	3.570	0.330	0.410
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	133.200	104.800	100.900	107.400	123.200	117.300	105.900	123.700
Transmitting ERP (watts)	1.480	0.400	0.430	2.930	40.950	143.640	111.910	19.230

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.

Location Latitude 2 36-58-11.0 N	Longitude 086-31-15.0 W	(m 20	ound Elev eters) 5.4		ucture Hg eters) 7.3	t to Tip	Antenna St Registratio 1043045	
Address: Bowling Green M City: BOWLING GREEN	County: WARREN		KV Con	struction I)eadline:			
ety: Do Well to GREET	County: WARCEL	State.	ici con	struction 1				
Antenna: 2	4							
Maximum Transmitting ERP								
Azimuth(from true north Antenna Height AAT (meters		45 135.100	90 135.400	135 118.600	180 102.700	225 103.000	270 111.100	315 110.800
Transmitting ERP (watts) Antenna: 3	186.450	83.280	10.010	0.510	0.420	0.490	10.730	87.210
Maximum Transmitting ERP			0.0	105	100	22.5	250	21.5
Azimuth(from true north Antenna Height AAT (meters		45 74.100	90 74.500	135 57.600	180 41.800	225 42.100	270 50.200	315 49.900
Transmitting ERP (watts)	0.270	2.540	54.390	78.620	9.450	0.350	0.270	0.270
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 Transmitting ERP (watts)	108.200 1.020	135.100 0.240	135.400 0.310	118.600 2.130	102.700 24.000	103.000 70.020	111.100 56.310	110.800 11.460
	1.020	0.270	0.510	2.130	27.000	70.020	30.310	11.700
Location Latitude	Longitude		ound Elev		ucture Hg	t to Tip	Antenna St	
2	G	(m	eters)	(me	eters)	t to Tip	Registratio	
3 37-08-47.0 N	086-39-02.0 W	(m			eters)	t to Tip		
3 37-08-47.0 N Address: 9.7 KM SOUTH S	086-39-02.0 W	(m	eters) 9.0	(me	eters) 3.0	t to Tip	Registratio	
3 37-08-47.0 N Address: 9.7 KM SOUTH S	086-39-02.0 W SOUTHEAST OF	(m 18	eters) 9.0	(me 128	eters) 3.0	t to Tip	Registratio	
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1	086-39-02.0 W SOUTHEAST OF County: BUTLER	(m 18	eters) 9.0	(me 128	eters) 3.0	t to Tip	Registratio	
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP	086-39-02.0 W SOUTHEAST OF County: BUTLER	(m 18 State: KY	eters) 9.0 Constr	(me 128 uction Dea	eters) 3.0 dline:		Registratio 1043044	n No.
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters	086-39-02.0 W SOUTHEAST OF County: BUTLER in Watts: 140.820	(m 18	eters) 9.0 Constr	(me 128 uction Dea	eters) 3.0 dline:	225	Registratio 1043044	315
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	086-39-02.0 W SOUTHEAST OF County: BUTLER in Watts: 140.820	(m 18 State: KY	eters) 9.0 Constr	(me 128 uction Dea	eters) 3.0 dline:		Registratio 1043044	n No.
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP	086-39-02.0 W SOUTHEAST OF County: BUTLER 2 in Watts: 140.820 0 126.200 0.330 2 in Watts: 140.820	(m 18 State: KY 45 118.800	9.0 Constr 90 110.000	(mo 128 uction Dea 135 116.600	eters) 3.0 dline: 180 100.700	225 122.200	Registratio 1043044 270 119.800	315 131.300
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north	086-39-02.0 W SOUTHEAST OF County: BUTLER 2 in Watts: 140.820 0 0.330 2 in Watts: 140.820 0 0	(m 18 State: KY 45 118.800 0.690	90 110.000 16.910	(mc 128 uction Dea 135 116.600 90.270 135	180 100.700 116.960	225 122.200 30.240 225	270 119.800 2.840	315 131.300 0.260 315
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	086-39-02.0 W SOUTHEAST OF County: BUTLER 2 in Watts: 140.820 0 0.330 2 in Watts: 140.820 0 0	(m 18 State: KY 45 118.800 0.690	9,0 Constr 90 110.000 16.910	(mc 128 uction Dea 135 116.600 90.270	180 100.700 116.960	225 122.200 30.240	270 119.800 2.840	315 131.300 0.260
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3	086-39-02.0 W SOUTHEAST OF County: BUTLER 2 in Watts: 140.820 1) 0 126.200 0.330 2 in Watts: 140.820 1) 0 126.200 2.100	(m 18 State: KY 45 118.800 0.690 45 118.800	90 110.000 16.910 90 110.000	128 uction Dea 135 116.600 90.270 135 116.600	180 100.700 116.960	225 122.200 30.240 225 122.200	270 119.800 2.840 270 119.800	315 131.300 0.260 315 131.300
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP Azimuth(from true north	086-39-02.0 W SOUTHEAST OF County: BUTLER 2 in Watts: 140.820 1) 0 126.200 0.330 2 in Watts: 140.820 2.100 2 in Watts: 140.820 10 0 2 in Watts: 140.820 10 0	(m 18 State: KY 45 118.800 0.690 45 118.800	90 110.000 16.910 90 110.000	128 uction Dea 135 116.600 90.270 135 116.600	180 100.700 116.960	225 122.200 30.240 225 122.200	270 119.800 2.840 270 119.800	315 131.300 0.260 315 131.300
3 37-08-47.0 N Address: 9.7 KM SOUTH S City: MORGANTOWN Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP	086-39-02.0 W SOUTHEAST OF County: BUTLER 2 in Watts: 140.820 0 126.200 0.330 2 in Watts: 140.820 1 0 126.200 2.100 2 in Watts: 140.820 0 10 0 0	45 118.800 0.690 45 118.800 0.260	90 110.000 16.910 90 110.000 0.330	135 116.600 90.270 135 116.600 1.050	180 100.700 116.960 180 100.700 21.320	225 122.200 30.240 225 122.200 101.470	270 119.800 2.840 270 119.800 108.950	315 131.300 0.260 315 131.300 23.430

Location Latitude 4 37-47-53.0 N Address: WITHIN THE CIT City: GARFIELD County:	Longitude 086-19-51.0 W Y LIMITS OF BRECKINRIDGE	(mo 25°	,			t to Tip	Antenna St Registratio 1043043	
City. GARTIELD County.	. DRECKINGDGE	State. I	Cons	ti uction D	caumic.			
Antenna: 1 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	n Watts: 140.820 0 164.300 104.850	45 145.800 46.830	90 148.800 5.630	135 118.100 0.290	180 136.500 0.240	225 132.100 0.280	270 154.800 6.030	315 164.500 49.040
Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	n Watts: 140.820 0 164.300 0.560	45 145.800 13.820	90 148.800 74.230	135 118.100 95.620	180 136.500 25.740	225 132.100 2.460	270 154.800 0.240	315 164.500 0.270
Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	n Watts: 140.820 0 164.300 0.930	45 145.800 0.240	90 148.800 0.280	135 118.100 2.040	180 136.500 27.580	225 132.100 95.620	270 154.800 74.230	315 164.500 12.320
Location Latitude 6 36-46-32.1 N	Longitude 086-33-56.0 W		ound Eleva eters)		ucture Hg eters)	t to Tip	Antenna St Registratio 1043041	
Address: 2.4 KM NORTH O		200	0.5)1.	1		1045041	
		e: KY C	onstructio	n Deadline	:			
Antenna: 1 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2		45 81.100 63.540	90 68.500 7.340	135 56.000 0.360	180 56.400 0.300	225 56.600 0.380	270 64.300 8.420	315 64.200 66.540
Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	0 78.700 0.710	45 81.100 17.400	90 68.500 93.440	135 56.000 120.380	180 56.400 32.400	225 56.600 3.090	270 64.300 0.300	315 64.200 0.340
Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters)	n Watts: 140.820 0 78.700	45 81.100	90 68.500	135 56.000	180 56.400	225 56.600	270 64.300	315 64.200

Location Latitude 7 37-03-33.7 N	Longitude 087-01-50.4 W	(m	round Eleva leters) 0.0		ructure Hgt neters) 7.7	t to Tip	Antenna St Registratio 1266950	
Address: Lake Malone, 1038		V Cons	truction De	adlina.				
City: Lewisburg County: I	LOGAN State: K	Y Cons	truction De	eadiine:				
Antenna: 1 Maximum Transmitting ERP in	n Watts: 140 820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.200	116.000	119.100	120.900	103.100	89.400	78.300	104.000
Transmitting ERP (watts) Antenna: 2	102.840	191.490	71.150	7.980	0.430	0.450	0.570	14.860
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	120.200	116.000	119.100	120.900	103.100	89.400	78.300	104.000
Antenna: 3	0.570	14.860	102.840	191.490	71.150	7.980	0.430	0.450
Maximum Transmitting ERP in								
Azimuth(from true north) Antenna Height AAT (meters)	0 120.200	45 116.000	90	135	180	225	270	315
Transmitting ERP (watts)	3.330	0.430	119.100 0.500	120.900 1.560	103.100 31.780	89.400 148.650	78.300 162.990	104.000 36.490
- · · · ·	5.550	01.150	0.00	1.000	211700	1 101000	102.,,,	
Location Latitude	Longitude	Gı	ound Eleva	ation St	ructure Hgt	to Tip	Antenna St	ructure
	Longitude	(m	eters)		ructure Hgt neters)	to Tip	Antenna St Registratio	
Location Latitude 8 36-47-11.0 N	Longitude 086-08-35.3 W	(m			neters)	t to Tip		
	086-08-35.3 W	(m	eters)	(m	neters)	t to Tip	Registratio	
8 36-47-11.0 N Address: 4.8 KM NORTHEA	086-08-35.3 W AST OF	(m 25	eters)	(m 91	neters)	to Tip	Registratio	
8 36-47-11.0 N Address: 4.8 KM NORTHEA	086-08-35.3 W AST OF	(m 25	eters)	(m 91	neters)	to Tip	Registratio	
8 36-47-11.0 N Address: 4.8 KM NORTHEA	086-08-35.3 W AST OF	(m 25	eters)	(m 91	neters)	t to Tip	Registratio	
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in	086-08-35.3 W AST OF nty: ALLEN Sta	(m 25 ate: KY	construction	(m 91 on Deadli	neters) .1		Registratio 1043039	n No.
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north)	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820	(m 25 ate: KY	eters) 3.3 Construction 90	(m 91 on Deadli	neters) .1 ine:	225	Registratio 1043039 270	315
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in	086-08-35.3 W AST OF nty: ALLEN Stan N Watts: 140.820 0 151.400	(m 25 ate: KY 45 124.900	90 113.700	(m 91 on Deadli 135 118.200	neters) .1 ine: 180 77.200	225 108.300	Registratio 1043039 270 128.800	315 139.000
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820 0 151.400 117.640	(m 25 ate: KY	eters) 3.3 Construction 90	(m 91 on Deadli	neters) .1 ine:	225	Registratio 1043039 270	315
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in	086-08-35.3 W AST OF nty: ALLEN Sta N Watts: 140.820 0 151.400 117.640 N Watts: 140.820	(m 25 ate: KY 45 124.900 52.550	90 113.700 6.320	(m 91 on Deadli 135 118.200 0.320	180 77.200 0.260	225 108.300 0.310	Registratio 1043039 270 128.800 6.770	315 139.000 55.020
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820 0 151.400 117.640	(m 25 ate: KY 45 124.900	90 113.700 6.320	(m 91 on Deadli 135 118.200 0.320	180 77.200 0.260	225 108.300 0.310	270 128.800 6.770	315 139.000 55.020
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820 0 151.400 117.640 n Watts: 140.820 0	(m 25 ate: KY 45 124.900 52.550	90 113.700 6.320	(m 91 on Deadli 135 118.200 0.320	180 77.200 0.260	225 108.300 0.310	Registratio 1043039 270 128.800 6.770	315 139.000 55.020
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820 0 151.400 117.640 n Watts: 140.820 0 151.400 0.630	45 124.900 52.550 45 124.900	90 113.700 6.320 90 113.700	(m 91 on Deadli 135 118.200 0.320	180 77.200 0.260 180 77.200	225 108.300 0.310 225 108.300	270 128.800 6.770 270 128.800	315 139.000 55.020 315 139.000
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP in Azimuth(from true north)	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820 0 151.400 117.640 n Watts: 140.820 0 151.400 0.630	45 124.900 52.550 45 124.900	90 113.700 6.320 90 113.700	(m 91 on Deadli 135 118.200 0.320	180 77.200 0.260 180 77.200	225 108.300 0.310 225 108.300	270 128.800 6.770 270 128.800	315 139.000 55.020 315 139.000
8 36-47-11.0 N Address: 4.8 KM NORTHEA City: SCOTTSVILLE Cou Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP in	086-08-35.3 W AST OF nty: ALLEN Sta n Watts: 140.820 0 151.400 117.640 n Watts: 140.820 0 151.400 0.630 n Watts: 140.820	45 124.900 52.550 45 124.900 15.510	90 113.700 6.320 90 113.700 83.280	(m 91 on Deadli 135 118.200 0.320 135 118.200 107.290	180 77.200 0.260 180 77.200 28.880	225 108.300 0.310 225 108.300 2.760	270 128.800 6.770 270 128.800 0.260	315 139.000 55.020 315 139.000 0.300

Location Latitude 9 37-53-45.0 N	Longitude 086-49-51.0 W		ound Eleva eters) 4.5	(1	structure Hgt meters) 55.6	to Tip	Antenna St Registratio 1043711	
Address: OLD LEWISPOR	T OWENSBORO RI	D, 7.6 KM	WEST OF					
City: HAWESVILLE Co		State: KY		iction De	eadline:			
•								
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 Transmitting ERP (watts)	, 01.000	79.800	95.100	59.500	72.200	82.700	89.400	93.100
Antenna: 2	7.600	61.740	131.990	58.960	7.090	0.360	0.300	0.350
Maximum Transmitting ERP								
Azimuth(from true north Antenna Height AAT (meters		45 79.800	90	135	180	225	270	315
Transmitting ERP (watts)	0.300	0.340	95.100 0.710	59.500 17.400	72.200 93.440	82.700 120.380	89.400 32.400	93.100 3.090
Antenna: 3		0.5 10	0.710	17.100	73.110	120.500	32.100	3.070
Maximum Transmitting ERP Azimuth(from true north		45	90	135	100	225	270	315
Antenna Height AAT (meters		79.800	95.100	59.500	180 72.200	82.700	89.400	93.100
Transmitting ERP (watts)	93.440	15.510	1.180	0.300	0.350	2.570	34.720	120.380
			1.151			4 m·		
Location Latitude	Longitude		ound Eleva		structure Hgt	to Tip	Antenna St	
10	S	(me	eters)	(1	meters)	to Tip	Registratio	
10 37-16-52.0 N	087-06-06.0 W	(me	eters)	(1	meters) 28.0	to Tip		
10 37-16-52.0 N Address: 0.4 MI. EAST OF	087-06-06.0 W INTERCHANGE O	(mo 150 F 58 & W.	eters)).0 KY PKWY	(I 1 ; IMME	meters) 28.0 D. ESE OF	•	Registratio	
10 37-16-52.0 N Address: 0.4 MI. EAST OF	087-06-06.0 W	(mo 150 F 58 & W.	eters)).0 KY PKWY	(I 1 ; IMME	meters) 28.0	•	Registratio	
10 37-16-52.0 N Address: 0.4 MI. EAST OF	087-06-06.0 W INTERCHANGE O	(mo 150 F 58 & W.	eters)).0 KY PKWY	(I 1 ; IMME	meters) 28.0 D. ESE OF	•	Registratio	
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1	087-06-06.0 W INTERCHANGE O County: MUHLENB	(mo 150 F 58 & W.	eters)).0 KY PKWY	(I 1 ; IMME	meters) 28.0 D. ESE OF	•	Registratio	
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP	087-06-06.0 W INTERCHANGE O County: MUHLENBI	(me 150 F 58 & W. ERG Star	eters)).0 KY PKWY te: KY	(I 1 7; IMME Construc	meters) 28.0 D. ESE OF	: ::	Registratio 1043038	n No.
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1	087-06-06.0 W INTERCHANGE O County: MUHLENBI in Watts: 140.820	(mo 150 F 58 & W.	eters) 0.0 KY PKWY te: KY C	(I 1 2; IMME Construc	meters) 28.0 D. ESE OF	225	Registratio 1043038	315
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	087-06-06.0 W INTERCHANGE O County: MUHLENBI in Watts: 140.820	(me 150 F 58 & W. ERG Star	eters)).0 KY PKWY te: KY	(I 1 7; IMME Construc	meters) 28.0 D. ESE OF ction Deadline	: ::	Registratio 1043038	n No.
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2	087-06-06.0 W INTERCHANGE O County: MUHLENB in Watts: 140.820) 0 126.500 50.380	(me 150 F 58 & W. ERG Star 45 101.500	eters) 0.0 KY PKWY te: KY C	(1 17; IMME Construc	meters) 28.0 D. ESE OF etion Deadline	225 87.900	Registratio 1043038 270 94.300	315 112.900
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	087-06-06.0 W INTERCHANGE O County: MUHLENB in Watts: 140.820) 0 126.500 50.380 in Watts: 140.820	(me 150 F 58 & W. ERG Star 45 101.500 128.750	90 105.400 66.660	(1 17; IMME Construc 135 104.300 8.640	28.0 D. ESE OF ction Deadling	225 87.900 0.260	Registratio 1043038 270 94.300 0.330	315 112.900 5.430
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters	087-06-06.0 W INTERCHANGE O County: MUHLENB in Watts: 140.820 0 126.500 50.380 in Watts: 140.820 0 0	(me 150 F 58 & W. ERG Star 45 101.500	eters) 0.0 KY PKWY te: KY C	(1 17; IMME Construc	180 180 180	225 87.900	Registratio 1043038 270 94.300	315 112.900
Address: 0.4 MI. EAST OF City: CENTRAL CITY Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	087-06-06.0 W INTERCHANGE O County: MUHLENB in Watts: 140.820 0 126.500 50.380 in Watts: 140.820 0 0	(me 150 F 58 & W. ERG Star 45 101.500 128.750	90 105.400 66.660	(1 17; IMME Construc 135 104.300 8.640	180 180 180	225 87.900 0.260	270 94.300 0.330	315 112.900 5.430
10 37-16-52.0 N Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters	087-06-06.0 W INTERCHANGE O County: MUHLENBI in Watts: 140.820 0 126.500 50.380 in Watts: 140.820 0 126.500 0.300	(me 150 F 58 & W. ERG Star 45 101.500 128.750	90 105.400 66.660	(1 17; IMME Construc 135 104.300 8.640	180 100.200 100.200	225 87.900 0.260 225 87.900	270 94.300 0.330 270 94.300	315 112.900 5.430 315 112.900
Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP Azimuth(from true north	087-06-06.0 W INTERCHANGE O County: MUHLENB in Watts: 140.820)	(me 150 F 58 & W. ERG Star 45 101.500 128.750 45 101.500 0.480	90 105.400 66.660	(1 17; IMME Construc 135 104.300 8.640	180 100.200 100.200	225 87.900 0.260 225 87.900	270 94.300 0.330 270 94.300	315 112.900 5.430 315 112.900
Address: 0.4 MI. EAST OF City: CENTRAL CITY C Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP	087-06-06.0 W INTERCHANGE O County: MUHLENB in Watts: 140.820)	(mo 150 F 58 & W. ERG Star 45 101.500 128.750 45 101.500 0.480	90 105.400 66.660 90 105.400 13.100	(1 17; IMME Construc 135 104.300 8.640 135 104.300 80.300	180 100.200 100.200 100.200 122.700	225 87.900 0.260 225 87.900 38.140	270 94.300 0.330 270 94.300 3.840	315 112.900 5.430 315 112.900 0.260

11 Address:	Latitude 37-27-33.0 N 0.8 KM SSE OF IN		(m 220 Y & SR-25	9	(n 12	tructure Hgt neters) 28.0	to Tip	Antenna St Registratio 1043037	
City: LEI	TCHFIELD Cou	nty: GRAYSON	State: KY	Constru	iction Dea	adline:			
Antenna: 1 Maximum Azin Antenna H Transmitti Antenna: 2 Maximum Azin Antenna H Transmitti Antenna: 3 Maximum	Transmitting ERP in muth(from true north) Height AAT (meters) ing ERP (watts) Transmitting ERP in muth(from true north) Height AAT (meters) ing ERP (watts) Transmitting ERP in Transmitting ERP in Transmitting ERP in Transmitting ERP in muth(from true north)	in Watts: 140.820 0 136.500 92.370 in Watts: 140.820 0 136.500 3.700 in Watts: 140.820	45 139.400 12.750 45 139.400 26.630	90 136.800 0.300 90 136.800 74.790	135 139.500 0.450 135 139.500 73.070	180 172.500 0.200 180 172.500 22.660	225 127.300 0.420 225 127.300 3.610	270 136.600 3.510 270 136.600 0.490	315 156.800 48.480 315 156.800 0.490
Antenna H	<pre>muth(from true north) leight AAT (meters)</pre>	0 136.500	45 139.400	90 136.800	135 139.500	180 172.500	225 127.300	270 136.600	315 156.800
Transmitti	ing ERP (watts)	2.080	0.820	0.770	7.520	42.060	84.790	55.750	12.610
Location 12	Latitude 37-59-17.0 N	Longitude 086-08-53.0 W	(m	ound Elev eters) 2,4	(n	tructure Hgt neters) 1.0	to Tip	Antenna St Registratio 1043036	
Address:	1.6 km ESE of								
City: BRA	ANDENBURG C	County: MEADE	State: KY	Constru	iction Dea	adline:			
A 4 1									
Azin Antenna H Transmitti Antenna: 2 Maximum Azin Antenna H	Transmitting ERP i muth(from true north) leight AAT (meters) ing ERP (watts)	0 82.800 0.480	45 58.900 12.480 45 58.900 0.500	90 109.700 87.870 90 109.700 0.330	135 63.200 162.090 135 63.200 0.330	180 40.600 56.190 180 40.600 4.740	225 55.600 6.380 225 55.600 24.940	270 61.600 0.330 270 61.600 42.710	315 100.400 0.360 315 100.400 26.730
Maximum Azim Antenna H Transmitti Antenna: 2 Maximum Azim Antenna H Transmitti Location	Transmitting ERP is muth(from true north) leight AAT (meters) ing ERP (watts) 2 Transmitting ERP is muth(from true north) leight AAT (meters) ing ERP (watts)	0 82.800 0.480 in Watts: 140.820 0 82.800 5.570 Longitude 086-32-12.0 W	58.900 12.480 45 58.900 0.500	109.700 87.870 90 109.700 0.330 ound Elev eters)	63.200 162.090 135 63.200 0.330	40.600 56.190 180 40.600	55.600 6.380 225 55.600 24.940	61.600 0.330 270 61.600	100.400 0.360 315 100.400 26.730
Maximum Azim Antenna H Transmitti Antenna: 2 Maximum Azim Antenna H Transmitti Location 13 Address:	Transmitting ERP in the muth (from true north) leight AAT (meters) ing ERP (watts) 2 Transmitting ERP in the muth (from true north) leight AAT (meters) ing ERP (watts) Latitude 37-24-41.0 N 3.2 KM WEST SOI	0 82.800 0.480 in Watts: 140.820 0 82.800 5.570 Longitude 086-32-12.0 W	58.900 12.480 45 58.900 0.500 Gr	109.700 87.870 90 109.700 0.330 ound Eleveters) 3.5	63.200 162.090 135 63.200 0.330	40.600 56.190 180 40.600 4.740 cructure Hgt neters)	55.600 6.380 225 55.600 24.940	61.600 0.330 270 61.600 42.710 Antenna St Registratio	100.400 0.360 315 100.400 26.730

13	Latitude 37-24-41.0 N 3.2 KM WEST SOU	Longitude 086-32-12.0 W JTHWEST OF	(m	ound Elev eters) 3.5	ation	Structure Hgt (meters) 128.0	to Tip	Antenna St Registratio 1043035	
	NEYVILLE Cour		State: KY	Constr	uction I	Deadline:			
Azir Antenna H Transmitt Antenna: 3 Maximum Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts) 3 Transmitting ERP in muth(from true north) leight AAT (meters)	0 136.900 20.040	45 135.600 101.220 45 135.600	90 147.900 204.390 90 147.900	135 125.10 162.46 135 125.10	34.720 180	225 161.200 3.620 225 161.200	270 146.000 0.410 270 146.000	315 164.600 2.990 315 164.600
Transmitt	ing ERP (watts)	4.910	0.410	2.960	14.520	88.120	204.810	176.590	43.820
	Latitude	Longitude	(m	ound Elev eters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
14	36-55-48.0 N	086-56-27.0 W	20	7.9		60.7			
	6.4 KM SOUTH OF		VV		D	n•			
City: LEV	VISBURG Count	y: LOGAN State	e: KY C	onstructio	n Dead	lline:			
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 116.400	45 93.400	90 82.400	135 74.500		225 70.800	270 79.200	315 98.300
Antenna: 2	2	113.650	147.250	38.070	3.570	0.330	0.410	0.870	21.280
Azin Antenna H Transmitt Antenna:		0 116.400 0.430	45 93.400 3.180	90 82.400 42.710	135 74.500 147.25		225 70.800 18.120	270 79.200 1.350	315 98.300 0.330
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	140.820 0 116.400 8.230	45 93.400 0.410	90 82.400 0.330	135 74.500 0.420	180 68.800 9.450	225 70.800 74.650	270 79.200 162.390	315 98.300 71.290
	Latitude	Longitude	(m	ound Elev eters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
Address:	36-59-27.0 N 537 10th Street at C WLING GREEN	086-26-29.0 W hestnut Street County: WARREN		0.9 KY C on	structi	79.3 on Deadline:		1201033	
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 60.100 162.390	45 54.500 71.290	90 67.300 8.230	135 54.300 0.410	180 51.400 0.330	225 51.700 0.420	270 45.400 9.450	315 61.600 74.650

Call Sign: KNKN867	File Number: 0009262184	Print Date:

J									
	n Latitude	Longitude		round Elev neters)		structure Hg meters)	to Tip	Antenna St Registratio	
15	36-59-27.0 N	086-26-29.0 W	16	50.9	7	9.3		1201033	
Address	: 537 10th Street at C	hestnut Street							
City: BC	WLING GREEN	County: WARREN	N State:	KY Cor	struction	Deadline:			
•									
Antenna:	: 2	- 7 40							
	m Transmitting ERP in					100			
	imuth(from true north) Height AAT (meters)	0 60.100	45 54.500	90 67.300	135 54.300	180 51.400	225 51.700	270 45.400	315 61.600
Transmit	tting ERP (watts)	0.310	2.780	58.870	89.730	12.030	0.400	0.310	0.310
Antenna:		Watts: 140.820							
	m Transmitting ERP ir imuth(from true north)	0	45	90	135	180	225	270	315
Antenna	Height AAT (meters)	60.100	54.500	67.300	54.300	51.400	51.700	45.400	61.600
Transmit	tting ERP (watts)	0.310	0.310	0.310	0.460	21.160	106.060	35.940	1.760
Location	n Latitude	Longitude		round Elev		structure Hgt	to Tip	Antenna St	
16	26 50 40 231	007 12 42 0 11		ieters)	`	meters)		Registratio	n No.
-	36-50-40.2 N	087-12-42.0 W	25	56.6	6	0.7			
	: 5.8 KM NW OF								
City: EL	KTON County: To	ODD State: KY	Constr	uction Dea	dline:				
Antenna:		W-44 140 920							
	m Transmitting ERP ir imuth(from true north)	0 watts: 140.820	45	90	135	180	225	270	315
Antenna	Height AAT (meters)	102.100	95.500	91.800	117.800	119.100	128.800	118.300	103.200
Transmit Antenna:	tting ERP (watts)	112.350	104.850	19.980	1.660	0.300	0.350	1.660	27.580
	n Transmitting ERP ir	Watts: 140.820							
Az	imuth(from true north)	0	45	90	135	180	225	270	315
	Height AAT (meters) tting ERP (watts)	102.100	95.500	91.800	117.800		128.800	118.300	103.200
Antenna:		0.940	15.530	144.900	372.460	200.020	26.370	1.550	0.840
	m Transmitting ERP in								
	imuth(from true north) Height AAT (meters)	0 102.100	45 95.500	90	135	180	225	270	315
	tting ERP (watts)	4.170	0.300	91.800 0.320	117.800 0.500	119.100 13.510	128.800 83.280	118.300 126.050	103.200 39.860
Location	n Latitude	Longitude		round Elev		tructure Hgt		Antenna St	
	-	S		ieters)		meters)		Registratio	
17	37-32-55.4 N	087-16-05.4 W	14	10.2	9	3.0		1244911	
Address	: 235 WEST KY 136								
City: CA	LHOUN County:	MCLEAN State	e: KY C	onstructio	n Deadlir	ie:			
							7		
Antenna:	: 1								
	m Transmitting ERP in								
	imuth(from true north) Height AAT (meters)	0 81.300	45 91.000	90	135	180	225	270	315
	tting ERP (watts)	30.940	106.670	88.000 82.330	100.800 13.120	95.300 0.980	104.000 0.240	105.400 0.310	89.700 2.310
		20.210	100.070	JJJ		0.,00	V IV		

Address: 2	37-32-55.4 N 235 WEST KY 136	Longitude 087-16-05.4 W	(m 6 140			Structure Hgt t (meters) 93.0	to Tip	Antenna Str Registration 1244911	
City: CAL	HOUN County:	MCLEAN State:	XY Co	nstruction	Deadl	ine:			
Azim Antenna H Transmitti Antenna: 3	Transmitting ERP in nuth(from true north) (eight AAT (meters) ng ERP (watts)	0 81.300 9 0.240	5 1.000 0.310	90 88.000 6.850	135 100.80 54.080	0 95.300	225 104.000 51.650	270 105.400 5.960	315 89.700 0.290
Azim Antenna H	Transmitting ERP in nuth(from true north) leight AAT (meters) ng ERP (watts)	0 81.300 9	5 1.000 590	90 88.000 0.240	135 100.80 0.300	0 95.300	225 104.000 15.420	270 105.400 82.330	315 89.700 106.670
Location	Latitude	Longitude		ound Eleva eters)		Structure Hgt ((meters)	to Tip	Antenna Str Registration	
18	37-38-33.2 N	086-42-46.0 W	210	_ ′		60.7			
Address: 6	6 KM EAST OF			7					
City: FOR	DSVILLE Coun	ty: OHIO State: K	Y Con	struction l	Deadlir	ie:			
Azim Antenna H Transmitti Antenna: 2	Transmitting ERP in nuth(from true north) (eight AAT (meters) ng ERP (watts)	0 4 84.000 6 144.730 6	5 5.700 3.540	90 96.800 7.340	135 89.400 0.360	105.200	225 118.300 0.380	270 113.200 8.420	315 109.900 66.540
Azim Antenna H Transmitti Antenna: 3	nuth(from true north) leight AAT (meters) ng ERP (watts)	0 84.000 6 0.780 1	5 5.700 8.970	90 96.800 101.290	135 89.400 131.24	105.200	225 118.300 3.180	270 113.200 0.300	315 109.900 0.370
Azim Antenna H	Transmitting ERP in nuth(from true north) eight AAT (meters) ng ERP (watts)	0 84.000 6	5.700 0.300	90 96.800 0.390	135 89.400 2.840	105.200	225 118.300 131.240	270 113.200 101.290	315 109.900 16.150
Location 19	Latitude 38-00-08.4 N	Longitude 086-19-20.3 W	(me	ound Eleva eters) 7.4		Structure Hgt (meters) 103.9	to Tip	Antenna Str Registration 1049227	
Address:	1.2 km Northwest o		KY (Constructio					
Azim Antenna H	Transmitting ERP in nuth(from true north) leight AAT (meters) ng ERP (watts)	0 4 115.700 1	5 25.400 16.290	90 135.500 19.640	135 103.30 1.990	0 111.300	225 123.300 4.460	270 141.900 28.140	315 137.900 120.910

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Location Latitude	Longitude		Ground Ele meters)		Structure Hgt meters)	to Tip	Antenna St Registratio	
19 38-00-08.4		W 2	237.4	1	.03.9		1049227	
Address: 1.2 km Nort								
City: PAYNEVILLE	County: MEADE	State: KY	Construct	ion Dead	line:			
Antenna: 2 Maximum Transmittin	g ERP in Watts: 140.820	1						
Azimuth(from tru	e north) 0	45	90	135	180	225	270	315
Antenna Height AAT (1 Transmitting ERP (wat			135.500	103.300		123.300	141.900	137.900
Antenna: 3	0.710		165.560	182.540	70.320	9.950	0.770	1.160
Maximum Transmittin Azimuth(from tru	g ERP in Watts: 140.820		90	125	100	225	270	215
Azimum(nom uu Antenna Height AAT (1		45 125.400	135.500	135 103.300	180 111.300	225 123.300	270 141.900	315 137.900
Transmitting ERP (wat	4.430		2.670	13.090	79.440	184.650	159.200	39.500
Location I 44 1	I		Tuound Fla	votion S	Structure Ues	to Tin	A mto S	
Location Latitude	Longitude	*	Ground Eleg meters)		Structure Hgt meters)	to 11p	Antenna St Registratio	
20 37-11-25.0	N 087-11-51.0		182.9	`	66.4		1065886	11 110.
Address: 701 BASS I			02.5		,0.1		1003000	
City: GREENVILLE	County: MUHLENE	BERG Sta	te: KY C	onstructio	on Deadline:			
•	<u>, </u>							
Antenna: 1								
	g ERP in Watts: 140.820							
Azimuth(from tru Antenna Height AAT (1	e north) 0 meters) 103.80	45 96,500	90 95.100	135 84.500	180 77.800	225 98.000	270 117.300	315 91.200
Transmitting ERP (wat		, 0.00		1.430	0.350	0.460	3.370	45.240
Antenna: 2 Maximum Transmittin	g ERP in Watts: 140.820)						
Azimuth(from tru	e north) 0	45	90	135	180	225	270	315
Antenna Height AAT () Transmitting ERP (wat	· · ·	, 0.00	95.100	84.500	77.800	98.000	117.300	91.200
Antenna: 3	0.510	13.220	93.080	171.700	62.700	6.760	0.350	0.380
	g ERP in Watts: 140.820		00	125	100	225	250	215
Azimuth(from tru Antenna Height AAT (1		45 96.500	90 95.100	135 84.500	180 77.800	225 98.000	270 117.300	315 91.200
Transmitting ERP (wat		, 0.000	0.450	1.400	28.440	135.320	145.300	31.240
			S 1.E1		Y TT			
Location Latitude	Longitude		Ground Elev		Structure Hgt meters)	to Tip	Antenna St	
21 37-11-39.2	N 086-15-53.9	`	meters) 213.4	`	52.0		Registratio	n No.
Address: WATER TO		VV 2	213.4	J	52.0			
City: BROWNSVILL		SON Stat	e: KY Co	nstructio	n Deadline:			
eny: Bito Wito VILL	E County: EDITION	5011 5111		msti uctio	n Deadine.			
Antenna: 1								
Maximum Transmittin	g ERP in Watts: 140.820)						
Azimuth(from tru Antenna Height AAT (1	e north) 0 meters) 69.000	45	90	135	180	225	270	315
Transmitting ERP (wat			63.000 17.830	60.300 0.910	76.600 0.740	76.200 0.870	93.300 19.100	97.400 155.270
	331.9	110.200	17.000	0.710	0., 10	0.070	13.100	7
						-		

		The	rumber.	00072021	J-T		2	•	
Locatio	on Latitude	Longitude		round Elev leters)		tructure Hg neters)	t to Tip	Antenna St Registratio	
21	37-11-39.2 N	086-15-53.9 W	21	3.4	52	2.0		J	
Addres	s: WATER TOWER	ROAD							
City: B	ROWNSVILLE Co	unty: EDMONSO	N State:	KY Co	ıstruction	Deadline:			
Antenna	a· 2								
	a. 2 am Transmitting ERP i	n Watts: 140.820							
	zimuth(from true north) a Height AAT (meters)	0 69.000	45	90	135	180	225	270	315
	itting ERP (watts)	1.780	44.100 43.760	63.000 235.010	60.300 302.750	76.600 81.490	76.200 7.780	93.300 0.740	97.400 0.850
Antenna			13.700	233.010	302.730	01.190	7.700	0.7 10	0.050
A	<pre>im Transmitting ERP i zimuth(from true north)</pre>	n watts: 140.820	45	90	135	180	225	270	315
	a Height AAT (meters)	69.000	44.100	63.000	60.300	76.600	76.200	93.300	97.400
1 ransm	itting ERP (watts)	2.960	0.740	0.870	6.470	87.310	302.750	235.010	39.000
Locatio	on Latitude	Longitude		round Elev ieters)		tructure Hg neters)	t to Tip	Antenna St Registratio	
22	36-40-28.0 N	086-51-30.0 W		2.9	•	8.1		Registratio	II INO.
	ss: WITHIN THE TOV				50	0.1			
			te: KY	Constructi	on Deadli	ne:			
Antenna	a: 1								
Maximu	ım Transmitting ERP i	n Watts: 140.820							
	zimuth(from true north) a Height AAT (meters)	0 35.900	45	90	135	180	225	270	315
	itting ERP (watts)	148.100	37.000 65.400	29.900 7.600	34.100 0.390	29.900 0.300	40.700 0.430	57.000 8.720	48.700 70.070
Antenna			03.100	7.000	0.570	0.500	0.150	0.720	70.070
	<pre>im Transmitting ERP i zimuth(from true north)</pre>	n watts: 140.820	45	90	135	180	225	270	315
Antenna	a Height AAT (meters)	35.900	37.000	29.900	34.100	29.900	40.700	57.000	48.700
Transm Antenna	itting ERP (watts) a: 3	1.830	30.180	122.250	111.260	20.840	1.700	0.300	0.380
Maximu	ım Transmitting ERP i	n Watts: 140.820							
	zimuth(from true north) a Height AAT (meters)	0 35.900	45 37.000	90	135	180	225	270 57.000	315
	itting ERP (watts)	2.360	0.300	29.900 0.370	34.100 1.180	29.900 23.930	40.700 113.860	57.000 122.250	48.700 26.290
Locatio	on Latitude	Longitude		round Elev		tructure Hg	t to Tip	Antenna St	
23	27 12 17 0 31	006 42 02 0 117	,	ieters)	`	neters)		Registratio	n No.
	37-13-17.0 N	086-42-02.0 W		00.8		7.9			
	s: Morgantown Down		*		uction De				
City: M	IORGANTOWN C	ounty: BUTLER	State: KY	Constr	uction De	eadiine:			
Antenna	a: 1								
	ım Transmitting ERP i		4.5	00	125	100	225	250	215
Antenna	zimuth(from true north) a Height AAT (meters)	0 102.300	45 72.100	90 81.900	135 88.300	180 85.600	225 94.300	270 111.800	315 102.700
	itting ERP (watts)	42.710	147.250	113.650	18.120	1.350	0.330	0.430	3.180
									7
									7

8		The	rumber.	00072021	0-1			•	
Locatio	n Latitude	Longitude		round Elev neters)		Structure Hgt (meters)	t to Tip	Antenna St Registratio	
23	37-13-17.0 N	086-42-02.0 W	19	8.00		57.9		Ü	
Address	s: Morgantown Down	town, Approx 1.5 I	KM (1.0 N	II) ENE OF	7				
City: M	ORGANTOWN C	ounty: BUTLER	State: KY	Y Constr	uction I	Deadline:			
Antenna		110,000							
	m Transmitting ERP in zimuth(from true north)	n watts: 140.820	45	90	135	180	225	270	315
	Height AAT (meters)	102.300	72.100	81.900	88.300	85.600	94.300	111.800	102.700
Transmi Antenna	tting ERP (watts): 3	0.330	0.420	9.450	74.650	162.390	71.290	8.230	0.410
	m Transmitting ERP i	n Watts: 140.820							
	zimuth(from true north) Height AAT (meters)	0 102.300	45 72 100	90	135	180	225	270	315
	tting ERP (watts)	38.070	72.100 3.570	81.900 0.330	88.300 0.410	85.600 0.870	94.300 21.280	111.800 113.650	102.700 147.250
		30.070	3.370	0.550	0.110	0.070	21.200	113.030	117.230
Locatio	n Latitude	Longitude		round Elev ieters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
24	37-38-30.2 N	086-28-14.9 W		2.7		50.2		Registi atio	II 140.
	s: Rough River, 9.5Kl		20	,2.7		30.2			
	•	ity: BRECKINRID	GF Stat	te: KY C	'onstruc	tion Deadline:			
City: Ki	TIOSWOOD COUL	ity: BRECKI WED	OL DIA	ic. Ki	onsti uc	tion Deadine	•		
Antenna									
	m Transmitting ERP is		4.5	00	125	100	225	250	215
	zimuth(from true north) Height AAT (meters)	0 43.600	45 58.600	90 57.500	135 57.700	180 60.100	225 89.000	270 70.700	315 65.400
Transmi	tting ERP (watts)	264.330	116.050	13.400	0.660	0.540	0.690	15.390	121.520
Antenna Maximu	: 2 m Transmitting ERP i	n Watts: 140 820							
Az	zimuth(from true north)	0	45	90	135	180	225	270	315
	Height AAT (meters)	43.600	58.600	57.500	57.700		89.000	70.700	65.400
Antenna	tting ERP (watts): 3	1.420	34.650	184.990	239.69	0 61.970	5.820	0.540	0.670
	m Transmitting ERP i								
	zimuth(from true north) Height AAT (meters)	0 43.600	45 58.600	90	135	180	225	270	315
	tting ERP (watts)	2.200	0.540	57.500 0.700	57.700 5.180	60.100 69.530	89.000 239.690	70.700 184.990	65.400 29.490
Locatio	n Latitude	Longitude		round Elev		Structure Hgt	to Tip	Antenna St	
25			`	ieters)		(meters)		Registratio	n No.
25	36-51-02.0 N	086-42-26.0 W		98.1		59.4	·		
	s: JCT. SR-103 & SR-	•							
City: Al	UBURN County: I	LOGAN State: K	XY Cons	struction D	eadline:				
Antenna	: 1 m Transmitting ERP i	n Watter 140 920						7	
Az	zimuth(from true north)	0	45	90	135	180	225	270	315
Antenna	Height AAT (meters)	61.200	65.800	54.700	38.200	54.400	60.300	51.100	56.100
1 ransmi	tting ERP (watts)	124.760	162.210	90.940	14.810	1.300	0.640	5.680	30.740
									7

Call Sign: KNKN867	File Number: 0009262184	Print Date:
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Location Latitude	Longitude	G	round Eleva	tion St	ructure Hg	t to Tip	Antenna St	ructure
		(n	neters)	(m	neters)	P	Registratio	
25 36-51-02.0 N	086-42-26.0 W		98.1	59	0.4			
Address: JCT. SR-103 & S								
City: AUBURN County	: LOGAN State: K	CY Cons	struction De	adline:				
Antenna: 2 Maximum Transmitting ERI Azimuth(from true nort Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERI	h) 61.200 1.480	45 65.800 8.260	90 54.700 53.490	135 38.200 159.390	180 54.400 161.650	225 60.300 53.380	270 51.100 6.730	315 56.100 0.530
Azimuth(from true nort Antenna Height AAT (meter	h) 0 61.200	45 65.800		135 38.200	180 54.400	225 30.300	270 51.100	315 56.100
Transmitting ERP (watts)	41.260	4.310	0.490	3.550	23.820	120.300	242.920	193.090
Location Latitude	Longitude	(n	round Eleva neters)		ructure Hg neters)	t to Tip	Antenna St Registratio	
26 37-23-00.0 N	086-52-28.0 W	10	63.4	12	25.3		1043042	
Address: 1.6 KM SSE								
City: BEAVER DAM C	ounty: OHIO Stat	e: KY C	construction	Deadline	e:			
Antenna: 1 Maximum Transmitting ERI Azimuth(from true nort Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERI	h) 0 127.600 3.020	45 102.300 33.930	90 92.500 100.130	135 117.700 64.650	180 113.600 9.650	225 112.400 0.650	270 112.300 0.240	315 132.200 0.270
Azimuth(from true nort Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 3	h) 0 127.600 0.240	45 102.300 0.250	90 92.500 0.310	135 117.700 8.140	180 113.600 56.310	225 112.400 104.850	270 112.300 38.950	315 132.200 4.370
Azimuth (from true nort Antenna Height AAT (meter Transmitting ERP (watts)	h) 0	45 102.300 31.660		135 117.700 0.240	180 113.600 0.260	225 112.400 0.400	270 112.300 10.730	315 132.200 66.150
Location Latitude	Longitude		round Eleva neters)		ructure Hg neters)	to Tip	Antenna St Registratio	
27 37-02-39.4 N	086-10-59.9 W	2	12.8	10	06.4		1213318	
Address: 470 Hayes Road								
City: Smiths Grove Cour	nty: WARREN St	ate: KY	Constructio	n Deadli	ne:			
Antenna: 1 Maximum Transmitting ERI Azimuth(from true nort Antenna Height AAT (meter Transmitting ERP (watts)	h) 0	45 97.700 58.040		135 90.100 0.270	180 117.500 0.190	225 131.500 0.360	270 124.400 4.280	315 116.400 56.720

Call Sign: KNKN867	File Number: 0009262184	Print Date:

_	Latitude 37-02-39.4 N 70 Hayes Road	Longitude 086-10-59.9 W	(m	round Eleva neters) 12.8		Structure Hgt to Tip (meters) 106.4	ip Antenna Structure Registration No. 1213318	
City: Smith		: WARREN State	: KY	Constructio	n Dead	dline:		
Azimo Antenna He Transmittin Antenna: 3 Maximum T	Transmitting ERP in uth(from true north) ight AAT (meters) g ERP (watts) Transmitting ERP in uth(from true north)	0 101.600 9 0.970 1 Watts: 140.820	5 7.700 6.520	90 91.800 117.640	135 90.100 131.23		270 00 124.400 0.300	315 116.400 0.270
Antenna He	ight AAT (meters)	101.600 9	7.700	91.800	90.100	117.500 131.50	00 124.400	116.400
1 ransmittin	g ERP (watts)	0.570	.190	0.210	1.560	29.210 92.910	81.390	12.800
Location 1	Latitude	Longitude	(n	round Eleva ieters)		Structure Hgt to Tip (meters)	Registratio	
-	36-44-52.5 N	086-11-51.7 W	21	19.4		77.7	1219613	
Address: D		LIEN States VV	Cons	truction Dea	.dl:na.			
City: Scotts	sville County: A	LLEN State: KY	Cons	truction Dea	ianne:			
Azimi Antenna He Transmittin Antenna: 2	Fransmitting ERP in thth (from true north) ight AAT (meters) g ERP (watts)	0 85.000 6 148.300 9	5 6.900 9.760	90 61.300 16.850	135 43.400 1.700	180 225 61.400 63.100 0.460 3.820	270 73.600 24.140	315 85.500 103.720
Azimi Antenna He Transmittin Antenna: 3	Fransmitting ERP in uth(from true north) ight AAT (meters) g ERP (watts)	0 85.000 6 7.500 4	5 6.900 1.790	90 61.300 142.020	135 43.400 156.58	180 225 61.400 63.100 60.320 8.540	270 73.600 0.660	315 85.500 0.990
Azimi Antenna He	Fransmitting ERP in uth(from true north) ight AAT (meters) g ERP (watts)	0 4 85.000 6	6.900 0.320	90 61.300 2.290	135 43.400 11.230	180 225 61.400 63.100 68.150 158.40		315 85.500 33.890
Location 1		Longitude	(m	round Eleva neters)		Structure Hgt to Tip (meters)	Antenna S Registratio	
	37-52-14.6 N	086-16-43.1 W	24	13.8		39.6	•	
Address: In City: Irving	rvington WT, 1.0 kg		ate: KY	Constru	ction D	leadline:		
Antenna: 1 Maximum T	Fransmitting ERP in uth(from true north) ight AAT (meters)	Watts: 140.820	5 1.900	90 56.800	135 59.600	180 225	270 110,200	315 67.900

29	Latitude 37-52-14.6 N Irvington WT, 1.0 k	Longitude 086-16-43.1 W cm ESE of	(m	ound Eleveters)	vation	Structure Hgt (meters) 39.6	to Tip	Antenna Structure Registration No.	
City: Irvin			State: KY	Constr	uction I	Deadline:			
Azin Antenna F Transmitt Antenna: Azin Azin Antenna F	Transmitting ERP in muth(from true north) Height AAT (meters) ing ERP (watts) Transmitting ERP in muth(from true north) Height AAT (meters)	72.800 0.370	45 71.900 0.480 45 71.900	90 56.800 10.610 90 56.800	135 59.600 83.760 135 59.600	182.210 180	225 80.000 79.990 225 80.000	270 110.200 9.240 270 110.200	315 67.900 0.460 315 67.900
Transmitt	ing ERP (watts)	42.710	4.010	0.370	0.460	0.980	23.880	127.520	165.220
	Latitude	Longitude	(m	ound Eleveters)	vation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
30	37-56-31.2 N	086-03-37.8 W	19	3.5		77.7		1221515	
Address: 0.8 km North Northwest of									
City: Lick	kskillet County: N	MEADE State: K	CY Cons	truction I	Deadline	:			
Azii Antenna F Transmitt Antenna: 2 Maximum	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 63.900 61.740	45 127.200 82.330	90 65.800 23.470	135 54.400 2.370	180 36.100 0.260	225 30.500 0.260	270 59.300 0.510	315 102.600 11.360
Transmitt Antenna:	leight AAT (meters) ing ERP (watts) 3 Transmitting ERP in	63.900 0.380 n Watts: 140.820	127.200 3.220	65.800 20.310	54.400 87.270	36.100	30.500 83.940	59.300 14.180	102.600 1.430
Aziı Antenna H	muth(from true north) Height AAT (meters) ing ERP (watts)	0 63.900 14.180	45 127.200 1.430	90 65.800 0.380	135 54.400 3.220	180 36.100 20.310	225 30.500 87.270	270 59.300 124.780	315 102.600 83.940
	Latitude	Longitude	(m	ound Eleveters)	vation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
31	36-57-06.0 N	086-26-12.0 W	16	6.1		16.8			
	Downtown vling Green Coun	ty: WARREN S	tate: KY	Constru	ction De	eadline:			
Antenna: Maximum Azii Antenna H	-		45 29.900 83.940	90 29.900 14.180	135 29.900 1.430	180	225 29.900 3.220	270 29.900 20.310	315 29.900 87.270

mber: 0009262184	Print Date:
]	mber: 0009262184

Location Latitude 31 36-57-06.0 N Address: Downtown	Longitude 086-26-12.0 W	(m	ound Eleve eters) 6.1	ation	Structure Hgt (meters) 16.8	to Tip	Antenna St Registratio	
	ty: WARREN Sta	te: KY	Construc	tion De	adline:			
ety: Be wining Green Cedual	ij. Whiteh Sta							
Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP in	29.900 6.310 6.320	45 29.900 35.160	90 29.900 119.490	135 29.900 131.75	50.750	225 29.900 7.180	270 29.900 0.550	315 29.900 0.830
Azimuth(from true north) Antenna Height AAT (meters)		45 29.900	90 29.900	135 29.900	1 80 29.900	225 29.900	270 29.900	315 29.900
Transmitting ERP (watts)		0.270	1.930	9.450	57.340	133.270	114.910	28.510
Location Latitude 32 37-59-31 1 N	Longitude	(m	ound Eleve	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
32 37-59-31.1 N Address: 1.6 km West of	086-11-44.3 W	18	7.7		77.7		1232593	
	: MEADE State: I	XX Co	nstruction	Deadli	ne•			
City: Diandenburg County	· WIE/IDE State: 1		nstruction	Deadii	ne.			
Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north)		45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)		56.600 60.570	82.400 96.350	34.400 32.270		41.000 0.300	40.100 0.300	67.700 0.420
Antenna: 2 Maximum Transmitting ERP in	n Watts: 140 820							
Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 4	0 58.400 5	45 56.600 0.380	90 82.400 8.420	135 34.400 66.540		225 41.000 63.540	270 40.100 7.340	315 67.700 0.360
Maximum Transmitting ERP in Azimuth(from true north)		45	90	135	180	225	270	315
Antenna Height AAT (meters)	58.400	56.600	82.400	34.400	36.100	41.000	40.100	67.700
Transmitting ERP (watts)	28.390	3.310	0.300	0.380	0.830	17.510	70.860	87.550
Location Latitude	Longitude		ound Elev eters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
33 37-56-46.1 N	085-59-38.4 W	22	2.8		57.3		1200354	
Address: 115 Timber Ct.								
City: Muldraugh County: 1	MEADE State: KY	Y Cons	struction D	eadlin	2:			
Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting EPP (watts)	0 84.500	45 85.900	90 93.700	135 56.800		225 40.300	270 67.400	315 81.700
Transmitting ERP (watts)	57.050	54.960	17.180	1.960	0.330	0.430	1.840	21.320

Location	Latitude	Longitude		Structure Hgt to Tip	Antenna Structure
			(meters)	(meters)	Registration No.
33	37-56-46.1 N	085-59-38.4 W	222.8	57.3	1200354

File Number: 0009262184

Print Date:

Address: 115 Timber Ct.

Call Sign: KNKN867

City: Muldraugh County: MEADE **State: KY** Construction Deadline:

Antenna: 2	140.920							
Maximum Transmitting ERP in Watts: Azimuth(from true north)		45	90	135	180	225	270	315
Antenna Height AAT (meters)		85.900	93.700	56.800	54.600	40.300	67.400	81.700
Transmitting ERP (watts) Antenna: 3	0.380	0.800	19.520	104.850	135.070	36.350	3.470	0.330
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)		45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.500	85.900	93.700	56.800	54.600	40.300	67.400	81.700
Transmitting ERP (watts)	2.570	0.330	0.390	1.200	24.580	114.960	156.050	28.220

Location	Latitude	Longitude		Structure Hgt to Tip	
			(meters)	(meters)	Registration No.
34	37-46-03.7 N	086-26-10.4 W	219.5	45.7	
A ddwoee.	Hardinghura Water 7	Contr. 2 O lem SE of			

Address: Hardinsburg Water Tank, 3.0 km SE of

City: Hardinsburg County: BRECKINRIDGE **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)	77.900	54.500	36.600	52.000	74.200	60.600	78.300	83.900
Transmitting ERP (watts) Antenna: 2	182.210	79.990	9.240	0.460	0.370	0.480	10.610	83.760
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	77.900	54.500	36,600	52.000	74.200	60.600	78.300	83.900
Transmitting ERP (watts)	0.980	23.880	127.520	165.220	42.710	4.010	0.370	0.460
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)	77.900	54.500	36.600	52.000	74.200	60.600	78.300	83.900
Transmitting ERP (watts)	1.520	0.370	0.480	3.570	47.930	165.220	127.520	20.330

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	36-42-08.6 N	086-33-19.0 W	217.0	114.3	1200032
Addross	Fronklin South Tu	irners Ford Dond			

Address: Franklin South, Turners Ford Road

City: Franklin County: SIMPSON State: KY Construction Deadline:

Antenna: 1								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 75.500 8.520	45 67.800 69.270	90 58.900 148.100	135 47.700 66.150	180 34.900 7.950	225 56.000 0.410	270 62.700 0.330	315 57.000 0.390

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Location Latitude 35 36-42-08.6 N Address: Franklin South, T City: Franklin County: S		Ground Elevation (meters) 217.0 CY Construction Deadline		(Structure Hgt to Tip (meters) 114.3		Antenna Structure Registration No. 1200032	
City: 1 tulikilii County: 5	IIII SOIT State: I	ti con	struction L	- caumic.				
Antenna: 2 Maximum Transmitting ERF Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3	1) 0	45 67.800 0.330	90 58.900 0.370	135 47.700 6.170	180 34.900 57.620	225 56.000 148.100	270 62.700 79.530	315 57.000 10.480
Maximum Transmitting ERF Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	1) 0	45 67.800 28.220	90 58.900 2.570	135 47.700 0.330	180 34.900 0.390	225 56.000 1.200	270 62.700 24.580	315 57.000 114.960
Location Latitude	Longitude		round Ele		Structure Hg	t to Tip	Antenna Structure	
36 36-44-58 7 N	087-01-10.9 W		neters)		(meters)		Registratio	n No.
36 36-44-58.7 N Address: Russellville South			79.8		37.5			
City: Olmstead County:			truction D	eadline.				
City. Offisical County.	LOGAN State, K	1 CUIIS	ii action D	caumie.				
Antenna: 1 Maximum Transmitting ERF Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2	n) 0	45 29.900 83.940	90 31.500 14.180	135 45.900 1.430	180 38.200 0.380	225 39.100 3.220	270 29.900 20.310	315 29.900 87.270
Maximum Transmitting ERF Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 3	1) 0	45 29.900 35.160	90 31.500 119.490	135 45.900 131.750	180 38.200 50.750	225 39.100 7.180	270 29.900 0.550	315 29.900 0.830
Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	n) 0	45 29.900 0.270	90 31.500 1.930	135 45.900 9.450	180 38.200 57.340	225 39.100 133.270	270 29.900 114.910	315 29.900 28.510
Location Latitude	Longitude		round Eleveneters)		Structure Hg (meters)	t to Tip	Antenna St Registratio	
37 36-49-37.9 N	086-18-51.3 W	•	92.0		77.7		1232590	-
Address: Allen Northwest	cell, 13.7 km Northw	est of						
City: Scottsville County:	ALLEN State: K	Y Cons	struction D	eadline:				
Antenna: 1 Maximum Transmitting ERF Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	1) 0	45 102.800 4.010	90 60.100 53.770	135 49.200 185.380		225 71.000 22.810	270 89.900 1.700	315 100.000 0.420

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37	Latitude 36-49-37.9 N Allen Northwest cel	Longitude 086-18-51.3 W 1, 13.7 km Northwe	Ground Elevation (meters) 192.0		ation	Structure Hgt to Tip (meters) 77.7		Antenna Structure Registration No. 1232590		
City: Scottsville County: ALLEN State: KY Construction Deadline:										
Azi Antenna I Transmitt Antenna: Maximum	n Transmitting ERP in muth(from true north) Height AAT (meters) ting ERP (watts) 3 n Transmitting ERP in	91.800 0.400 1 Watts: 140.820	45 102.800 0.290	90 60.100 0.290	135 49.200 0.290	5.380	225 71.000 93.450	270 89.900 104.850	315 100.000 10.250	
Antenna I	muth(from true north) Height AAT (meters)	0 91.800	45 102.800	90 60.100	135 49.200	180 58.900	225 71.000	270 89.900	315 100.000	
Transmitt	ting ERP (watts)	211.380	60.790	7.140	0.540	2.800	11.880	85.700	226.550	
	Latitude	Longitude	(m	round Elev leters)	ation	Structure Hg (meters)	t to Tip	Antenna Structure Registration No.		
38	36-55-15.1 N	086-25-38.5 W	17	71.0		62.5		1210120		
	1140 Three Springs		L IZZZ		D	11.				
City: Boy	vling Green Coun	ty: WARREN S	tate: KY	Construc	ction De	adline:				
Azi Antenna I Transmitt Antenna:	n Transmitting ERP in muth(from true north) Height AAT (meters) ing ERP (watts)	0 62.400 41.740	45 67.900 24.340	90 45.500 4.420	135 40.600 0.400	180 40.900 0.330	225 36.000 0.330	270 40.900 3.510	315 56.100 21.690	
Azi Antenna I Transmitt Antenna:	muth(from true north) Height AAT (meters) ting ERP (watts)	0 62.400 0.870	45 67.900 21.280	90 45.500 113.650	135 40.600 147.25		225 36.000 3.570	270 40.900 0.330	315 56.100 0.410	
Azi Antenna I	muth(from true north) Height AAT (meters) ting ERP (watts)	0 62.400 1.130	45 67.900 0.260	90 45.500 0.370	135 40.600 2.600	180 40.900 30.680	225 36.000 93.270	270 40.900 73.680	315 56.100 13.650	
	Latitude	Longitude	(m	round Elev neters)	ation	Structure Hg (meters)	t to Tip	Antenna St Registratio		
39		086-29-39.3 W		02.6		66.1		1202759		
	Warren South, 3184				D 11.					
City: Wo	odburn County: V	VARREN State:	KI CO	nstruction	Deagiii	ne:				
Azi Antenna I	1 n Transmitting ERP in muth(from true north) Height AAT (meters) ing ERP (watts)	1 Watts: 140.820 0 58.500 157.120	45 58.500 103.520	90 57.100 17.130	135 39.300 1.570	180 32.800 0.350	225 33.900 3.440	270 35.000 23.000	315 49.400 104.220	

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39		Longitude 086-29-39.3 W Woodburn-Allen Sp VARREN State: F	(m 19 prings Ro	Ground Elevation (meters) 192.6 gs Road Construction Dead		Structure Hgt to Tip (meters) 66.1 ne:		Antenna Structure Registration No. 1202759	
Aziı Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 58.500	45 58.500 41.510	90 57.100 144.360	135 39.300 164.76		225 33.900 8.540	270 35.000 0.570	315 49.400 0.780
Maximum Azii Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 58.500	45 58.500 0.310	90 57.100 0.310	135 39.300 0.310	180 32.800 2.120	225 33.900 58.290	270 35.000 121.780	315 49.400 19.300
	Latitude	Longitude	(m	round Elev leters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
		086-35-24.6 W rell, Old Morgantown ty: WARREN Sta		34.4 Construc	tion De	67.1 eadline:		1219414	
Antonno	1								
Aziı Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 91.800	45 71.100 11.130	90 64.500 78.320	135 67.200 144.46		225 67.700 5.690	270 67.900 0.300	315 70.300 0.320
Maximum Azii Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 91.800	45 71.100 0.300	90 64.500 0.370	135 67.200 6.090		225 67.700 144.460	270 67.900 74.790	315 70.300 9.690
Maximum Azii Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 91.800	45 71.100 16.150	90 64.500 1.200	135 67.200 0.300	180 57.900 0.390	225 67.700 2.840	270 67.900 38.070	315 70.300 131.240
Location 41	Latitude 37-08-05.9 N	Longitude 087-01-05.2 W	(m	round Elev leters) 37.8	ation	Structure Hgt (meters) 77.7	to Tip	Antenna St Registratio 1278320	
Address: City: Belt	Muhlenberg South,	21 Myers Chapel Ro	ad	Construction	on Dead			12,0320	
Antenna: Maximum Azii Antenna I		1 Watts: 140.820 0 110.500	45 126.100 83.940	90 111.400 14.180	135 114.50 1.430	180	225 73.900 3.220	270 100.200 20.310	315 112.200 87.270

Call Sign: KNKN867

Antenna Height AAT (meters)

Antenna Height AAT (meters)

Azimuth(from true north)

Maximum Transmitting ERP in Watts: 140.820

Transmitting ERP (watts)

Transmitting ERP (watts)

Antenna: 3

Structure Hgt to Tip Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 41 37-08-05.9 N 087-01-05.2 W 187.8 1278320 77.7 Address: Muhlenberg South, 21 Myers Chapel Road City: Belton **County: MUHLENBERG** State: KY **Construction Deadline:** Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 135 180 225 270 315 45 110.500 126.100 73.900 111.400 114.500 86.400 100.200 112.200 Transmitting ERP (watts) 6.310 35.160 119.490 131.750 50.750 7.180 0.550 0.830 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 45 135 225 315 110.500 126.100 111.400 114.500 86.400 73.900 100.200 112.200 Transmitting ERP (watts) 3.200 114.910 0.270 1.930 9.450 57.340 133.270 28.510 Location Latitude Longitude **Ground Elevation Structure Hgt to Tip Antenna Structure** (meters) (meters) Registration No. 42 37-00-06.1 N 086-19-52.5 W 161.2 1207196 77.4 Address: Bowling Green Corvette site, 1188 Red Pond Road City: Bowling Green **County: WARREN** State: KY **Construction Deadline:** Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 180 225 270 315 45 135 48.300 Antenna Height AAT (meters) 48.300 68.100 59.700 47.300 66.500 54.700 79.200 **Transmitting ERP (watts)** 0.370 149.820 65.780 7.600 0.310 0.390 8.720 68.880 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 225 270 315 45

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
43	37-50-10.4 N Breckinridge West,	086-35-44.7 W	225.6	77.7	1242951
Auul ess.	Bieckiiniuge west,	1.0 KIII ENE 01			

47.300

85.580

47.300

0.430

90

66.500

135

66.500

3.020

108.340

54.700

31.760

180

54.700

35.640

68.100

3.380

225

68.100

108.340

79.200

0.310

270

79.200

85.580

59.700

0.410

315

59.700

15.850

City: Cloverport County: BRECKINRIDGE State: KY Construction Deadline:

48.300

0.850

48.300

1.320

48.300

18.620

48.300

0.310

45

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)	138.300	128.300	120,400	132.900	123.200	133.200	139.400	156.600
Transmitting ERP (watts)	63.170	117.640	43.710	4.900	0.260	0.280	0.350	9.130

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Location Latitude 43 37-50-10.4 N				Elevation Structure H (meters) 77.7		Antenna Stru Registration 1242951		
٤	BRECKINRIDGE	State: K	Y Const	ruction l	Deadline:			
Antenna: 2 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	138.300 0.310	45 128.300 2.290 45 128.300 0.370	90 120.400 30.940 90 120.400 0.370	135 132.900 107.290 135 132.900 0.530	83.280 180	225 133.200 13.820 225 133.200 76.250	270 139.400 1.050 270 139.400 121.300	315 156.600 0.260 315 156.600 40.630
Location Latitude	Longitude	(m	round Elev eters)	(Structure Hg (meters)	to Tip	Antenna St Registratio	
44 37-51-15.4 N Address: Garrett, State Road	086-06-03.2 W		03.9	6	67.4		1042711	
,	`		Constructio	n Deadli	ne:			
Antenna: 1 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP i Azimuth(from true north)	0 153.600 79.530 n Watts: 140.820 0 153.600 5.460	45 154.600 54.370 45 154.600 32.920	90 149.600 13.580 90 149.600 114.480	135 132,900 1.630 135 132,900 130.660	0.410 180 121.400	225 131.200 3.580 225 131.200 6.770	270 143.100 18.240 270 143.100 0.450	315 146.300 54.730 315 146.300 0.620
Antenna Height AAT (meters) Transmitting ERP (watts)	153.600 2.950	154.600 0.270	149.600 1.500	132.900 8.200		131.200 130.660	143.100 112.910	146.300 27.380
Location Latitude 45 37-52-54.4 N	Longitude 086-12-42.9 W	Gi (n	round Elevaters)	ration S	Structure Hgt (meters) 29.0		Antenna St Registratio	ructure
Address: Meade South, 1.4 k		a .						
City: Guston County: ME.	ADE State: KY	Constru	ection Dead	lline:				
Antenna: 1 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	n Watts: 140.820 0 109.800 4.970	45 103.800 37.720	90 82.400 85.280	135 63.100 49.710	180 79.200 8.130	225 105.900 0.540	270 114.800 0.260	315 76.100 0.330

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Can Sign. KiviKivoo7	riic	rumber.	000920210) T		int Date	•	
Location Latitude 45 37-52-54.4 N	Longitude 086-12-42.9 W	(m	round Elev neters) 74.3	(Structure Hgt (meters) 29.0	to Tip	Antenna St Registratio	
Address: Meade South, 1.4	km southeast of							
City: Guston County: MI		Constru	ction Dead	lline:				
Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	0	45 103.800 0.260	90 82.400 0.280	135 63.100 0.860	180 79.200 17.310	225 105.900 81.910	270 114.800 91.780	315 76.100 21.270
Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	0	45 103.800 31.280	90 82.400 4.680	135 63.100 0.260	180 79.200 0.300	225 105.900 0.380	270 114.800 7.690	315 76.100 41.430
Location Latitude	Longitude		round Elev ieters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
46 36-54-15.9 N	086-36-29.1 W		2.7	`	83.8		1200363	1,0•
Address: Warren-Logan cel				`				
2	WARREN State:		struction 1	Deadline	<u>، •</u>			
Antenna: 1 Maximum Transmitting ERP Azimuth(from true north		45	90	125	100	225	270	215
Antenna Height AAT (meters		45 84.600	84.000	135 77.200	180 66.700	225 61.500	270 67.700	315 81.100
Fransmitting ERP (watts) Antenna: 2	19.380	98.240	108.110	44.550	2.720	0.270	0.230	1.010
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 Fransmitting ERP (watts)		84.600	84.000	77.200	66.700	61.500	67.700	81.100
Antenna: 3	0.270	0.270	5.300	90.270	100.820	9.580	0.400	0.270
Maximum Transmitting ERP					100			
Azimuth(from true north Antenna Height AAT (meters		45 84.600	90	135 77.200	180 66.700	225 61.500	270 67.700	315 81.100
Transmitting ERP (watts)	0.880	0.230	84.000 0.310	2.530	42.550	110.630	96.000	20.290
Location Latitude	Longitude	(m	round Elev neters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
47 37-24-19.0 N	086-42-17.0 W		9.9	Ģ	94.5		1213965	
Address: Ohio West, 3893 S	State Route 505 Sout	h						
City: Horse Branch Coun	ty: OHIO State: 1	KY Con	struction I	Deadline :	:			
Antenna: 1 Maximum Transmitting ERP Azimuth(from true north	0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	112.900 117.640	104.700 63.170	91.700 8.330	117.300 0.490		134.600 0.300	135.400 4.900	100.900 45.770

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47	Latitude 37-24-19.0			(m 19	ound Eleve eters) 9.9	ation	Structure Hgt (meters) 94.5	to Tip	Antenna Structure Registration No. 1213965	
		3893 State Rout								
City: Hor	rse Branch	County: OHIO	State: K	CY Cons	struction D	eadling	e:			
Azi Antenna I Transmitt Antenna:	n Transmitting muth(from true Height AAT (it ing ERP (wat 3	neters)	0 112.900 1.260	45 104.700 33.960	90 91.700 209.410	135 117.30 316.96		225 134.600 10.500	270 135.400 0.740	315 100.900 0.810
Azi Antenna I	muth(from true Height AAT (i ting ERP (wat	e north) neters)	0 112.900 1.480	45 104.700 0.260	90 91.700 0.310	135 117.30 1.480	180 127.400 24.580	225 134.600 100.120	270 135.400 93.440	315 100.900 17.800
Location	Latitude	Longi		(m	ound Eleve eters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
	36-57-24.8	n 080-2 ald Industrial D	8-42.2 W	10	7.0		84.1		1056469	
		County: WA		tate: KY	Construc	tion Da	adlina			
Azi Antenna I Fransmitt Antenna:	muth(from true Height AAT (1 ting ERP (wat 2	neters) ts)	0 71.400 61.180	45 63.700 69.730	90 65.900 7.330	135 62.600 0.310	180 44.100 0.310	225 41.900 0.310	270 36.500 0.310	315 59.500 3.930
Azi Antenna I	muth(from true Height AAT (1 ting ERP (wat	neters)	140.820 0 71.400 0.310	45 63.700 2.460	90 65.900 45.980	135 62.600 65.510		225 41.900 0.390	270 36.500 0.310	315 59.500 0.310
Maximun	Transmitting muth(from true Height AAT (1		140.820 0 71.400	45 63.700	90 65.900	135 62.600	180 44.100	225 41.900	270 36.500	315 59.500
Antenna I	ing ERP (wat	ts)	1.080	0.260	0.280	1.840	17.800	47.490	39.840	10.320
Antenna I Transmitt Location	Latitude	Longi	tude	0.260 Gr (m	ound Elev		Structure Hgt (meters)		Antenna St Registratio	10.320
Antenna I Transmitt Location 49 Address:	Latitude 36-49-53.1	Longi	tude 4-51.9 W	0.260 Gr (m 25	ound Eleve eters) 3.9	ation	Structure Hgt (meters) 78.6	to Tip	Antenna St	10.320
Antenna I Transmitt Location 49 Address: BYPASS	Latitude 36-49-53.1	Longi N 086-5	tude 4-51.9 W .64 KM NC	0.260 Gr (m 25 ORTH OF	ound Eleve eters) 3.9	ation	Structure Hgt (meters) 78.6 I WEST OF HV	to Tip	Antenna St Registratio	10.320

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Location Latitude 49 36-49-53.1 N	Longitude 086-54-51.9 W	(n 2:	round Elev neters) 53.9	(1 7	tructure Hg neters) 8.6	-	Antenna St Registratio 1043422	
Address: RUSSELLVILLE V BYPASS	VES1, 0.64 KM N	OR TH OF	HWY /9,	J.16 KM \	WEST OF H	W Y 68		
City: LEWISBURG Count	y: LOGAN Stat	te: KY	Constructio	on Deadlii	ne:			
Antenna: 2								
Maximum Transmitting ERP in Azimuth(from true north)	n Watts: 140.820 0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	107.500 9.170	100.000 55.270	79.700 192.200	100.100 219.360	113.000 82.390	110.200 11.370	90.700 0.760	106.900 1.030
Antenna: 3		33.270	172.200	217.500	02.370	11.570	0.700	1.050
Azimuth (from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	140.820 0 107.500 4.520	45 100.000 0.380	90 79.700 2.720	135 100.100 13.340	180 113.000 81.000	225 110.200 188.260	270 90.700 162.320	315 106.900 40.280
Location Latitude	Longitude		round Elev		tructure Hg neters)	t to Tip	Antenna St Registratio	
50 37-05-38.9 N	086-25-49.5 W		17.6	1	03.6		1232131	
Address: Richardsville, 604 S								
City: Bowling Green Coun	ty: WARREN S	tate: KY	Constru	ction Dead	dline:			
Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	n Watts: 140.820 0 108.300 144.730	45 97.200 63.540	90 74.500 7.340	135 103.300 0.360	180 110.500 0.300	225 127.000 0.380	270 127.000 8.420	315 111.000 66.540
Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	n Watts: 140.820 0 108.300 0.780	45 97.200 18.970	90 74.500 101.290	135 103.300 131.240	180 110.500 33.930	225 100.500 3.180	270 127.000 0.300	315 111.000 0.370
Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	n Watts: 140.820 0 108.300 1.200	45 97.200 0.300	90 74.500 0.390	135 103.300 2.840	180 110.500 38.070	225 100.500 131.240	270 127.000 101.290	315 111.000 16.150
Location Latitude	Longitude		round Elev	,	tructure Hg neters)	t to Tip	Antenna St Registratio	
51 37-31-30.4 N Address: Beda, 729 Sherwoo	086-55-04.2 W d Drive	•	95.7	9	7.8		1214609	
City: Hartford County: OH	IIO State: KY	Construc	ction Dead	line:				
Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north)	n Watts: 140.820	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	107.800 38.070	100.300 131.240	110.100 101.290	108.400 16.150	122.200 1.200	117.000 0.300		107.200 2.840

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)

Antenna Height AAT (meters)

Transmitting ERP (watts)

Print Date: Call Sign: KNKN867 File Number: 0009262184 **Structure Hgt to Tip** Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 51 37-31-30.4 N 086-55-04.2 W 195.7 97.8 1214609 Address: Beda, 729 Sherwood Drive City: Hartford County: OHIO State: KY **Construction Deadline:** Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 135 180 225 270 315 45 107.800 100.300 110.100 108.400 122.200 117.000 103.100 107.200 Transmitting ERP (watts) 0.340 0.540 14.700 90.110 137.670 42.790 4.300 0.300 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 45 135 225 315 107.800 100.300 110.100 108.400 122.200 117.000 103.100 107.200 Transmitting ERP (watts) 52.750 5.690 0.300 0.320 0.430 11.130 78.320 144.460 Location Latitude Longitude **Ground Elevation Structure Hgt to Tip Antenna Structure** (meters) (meters) Registration No. 52 37-29-36.0 N 086-11-16.5 W 221.9 83.8 1217206 Address: Braton Road State: KY **Construction Deadline:** City: Clarkson County: GRAYSON Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 270 315 45 135 225 Antenna Height AAT (meters) 80.100 57.600 68.100 101.700 93.100 71.000 82.900 77.300 **Transmitting ERP (watts)** 23.930 113.860 122,250 26.290 2.360 0.300 0.370 1.180 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 270 45 225 315 Antenna Height AAT (meters) 80.100 57.600 68.100 71.000 82.900 101.700 77.300 93.100 **Transmitting ERP (watts)** 2.360 0.300 23.930 113.860 122.250 0.370 1.180 26.290 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 270 45 135 225 315 Antenna Height AAT (meters) 80.100 57.600 68.100 71.000 82.900 101.700 77.300 93.100 Transmitting ERP (watts) 103.640 9.240 0.340 0.270 0.270 0.270 5.700 92.370 **Ground Elevation Structure Hgt to Tip** Longitude Antenna Structure **Location Latitude** (meters) (meters) Registration No. 53 087-09-13.7 W 141.7 1018270 37-31-11.9 N 95.4 Address: 550 SCHNEIDER TANNER ROAD City: LIVERMORE **County: MCLEAN** State: KY **Construction Deadline:**

315

85.400

14.630

270

102.600

2.180

90

70.300

118.620

135

81.600

25.350

180

92.100

2.650

225

93,900

0.300

45

69.100

149.230

86.400

73.900

Call Sign: KNKN867	File Number: 0009262184	Print Date:
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53	ation Latitude Longitude 37-31-11.9 N 087-09-13.7 W ress: 550 SCHNEIDER TANNER ROAD		(Ground Elevation (meters) (meters) 141.7 Structure (meters) 95.4		` /	to Tip	Antenna Structure Registration No. 1018270	
			ate: KY	Construc	tion Dea	dline:			
Azir Antenna E Transmitt Antenna: 3 Maximum	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	86.400 0.570 1 Watts: 140.820	45 69.100 5.060	90 70.300 27.400	135 81.600 111.19	0 144.570	225 93.900 81.050	270 102.600 13.200	315 85.400 1.160
Antenna H	Height AAT (meters) ing ERP (watts)	0 86.400	45 69.100	90 70.300	135 81.600		225 93.900	270 102.600	315 85.400
	Latitude 37-19-05.4 N	47.570 Longitude 086-12-12.3 W	(0.480 Ground Elev (meters) 231.6	1.320 vation	7.360 Structure Hgt (meters) 83.8	47.670 t to Tip	Antenna St Registratio 1235514	
	Nolin Lake North, 1	•		WW G		D 111			
City: Mar	nmoth Cave Cour	ity: EDMONSON	State:	KY Cons	struction	n Deadline:			
Azin Antenna H Transmitt Antenna: 2	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	93.200 117.640	45 91.500 54.390	90 87.800 6.620	135 91.400 0.360	180 103.800 0.300	225 115.800 0.330	270 129.600 6.460	315 104.400 54.390
Azin Antenna H Transmitt Antenna: 3	muth(from true north) Height AAT (meters) ing ERP (watts)	93.200 3.300	45 91.500 11.570	90 87.800 54.260	135 91.400 67.250		225 115.800 3.340	270 129.600 0.340	315 104.400 0.490
Antenna H	muth(from true north) Height AAT (meters) ing ERP (watts)	93.200 1.110	45 91.500 0.300	90 87.800 0.320	91.400 2.200	180 103.800 30.710	225 115.800 107.710	270 129.600 83.920	315 104.400 14.420
Location	Latitude	Longitude		Ground Eleving (meters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
	36-40-20.5 N	086-15-11.1 W		239.6		60.7			
	Allen South, 371 Ar	_	-						
City: Ado	olphus County: Al	LLEN State: KY	Cons	struction De	adline:				
Azir Antenna H	1 Transmitting ERP in muth(from true north) Ieight AAT (meters) ing ERP (watts)	Watts: 140.820 0 87.000 117.640	45 70.200 63.170	90 64.700 8.330	135 57.200 0.490	180 44.500 0.260	225 66.500 0.300	270 82.700 4.900	315 88.700 45.770

Call Sign: KNKN867	File Number: 0009262184	Print Date:

55	36-40-20.5 N : Allen South, 371 A olphus County: A	(meters) (239.6			tructure Hg neters) 0.7	t to Tip	Antenna Structure Registration No.		
Antenna Az	m Transmitting ERP i imuth(from true north) Height AAT (meters) ting ERP (watts)	n Watts: 140.820 0 87.000 0.490	45 70.200 8.150	90 64.700 38.780	135 57.200 44.150	180 44.500 11.680	225 66.500 1.200	270 82.700 0.260	315 88.700 0.260
Maximur Az Antenna	n Transmitting ERP i imuth(from true north) Height AAT (meters) ting ERP (watts)	n Watts: 140.820 0 87.000 4.900	45 70.200 0.260	90 64.700 0.280	135 57.200 0.350	180 44.500 9.130	225 66.500 63.170	270 82.700 117.640	315 88.700 43.710
Location	1 Latitude	Longitude		Ground Elev meters)		tructure Hg neters)	t to Tip	Antenna St Registratio	
56	36-42-03.8 N	086-23-15.8 W		226.2	`	7.7		1263047	II INO.
	: Alonzo, 4651 Perry			.20.2	,	7.7		1203047	
City: Fra			Const	ruction Dea	dline:				
Antenna:	1								
	n Transmitting ERP i	n Watts: 140.820							
	imuth(from true north) Height AAT (meters)	0 114.500	45 97.300	90	135	180	225	270	315
Transmit	ting ERP (watts)	111.060	68.480	87.900 3.430	75.000 0.250	66.000 0.370	77.000 0.250	88.300 1.220	100.400 16.430
Antenna:						,			
	n Transmitting ERP i imuth(from true north)	0	45	90	135	180	225	270	315
	Height AAT (meters)	114.500	97.300	87.900	75.000	66.000	77.000	88.300	100.400
Antenna:	ting ERP (watts)	1.480	24.580	100.120	93.440	17.800	1.480	0.260	0.310
	n Transmitting ERP i	n Watts: 140.820							
	imuth(from true north) Height AAT (meters)	0	45	90	135	180	225	270	315
Antenna	imuth(from true north) Height AAT (meters) ting ERP (watts)		45 97.300 0.730	90 87.900 0.260	135 75.000 0.300	180 66.000 3.390	225 77.000 38.070	270 88.300 112.340	315 100.400 72.530
Antenna Transmit	Height AAT (meters)	0 114.500	97.300 0.730	87.900 0.260 Ground Elev	75.000 0.300 vation S	66.000 3.390 tructure Hg	77.000 38.070	88.300 112.340 Antenna St	100.400 72.530
Antenna Transmit	Height AAT (meters) ting ERP (watts) Latitude	0 114.500 10.730 Longitude	97.300 0.730	87.900 0.260 Ground Elev meters)	75.000 0.300 vation S	66.000 3.390 tructure Hg neters)	77.000 38.070	88.300 112.340 Antenna St Registratio	100.400 72.530
Antenna Transmit Location 57	Height AAT (meters) ting ERP (watts) 1 Latitude 36-53-20.1 N	0 114.500 10.730 Longitude 086-12-48.7 W	97.300 0.730	87.900 0.260 Ground Elev	75.000 0.300 vation S	66.000 3.390 tructure Hg	77.000 38.070	88.300 112.340 Antenna St	100.400 72.530
Antenna Transmit Location 57	Height AAT (meters) ting ERP (watts) Latitude 36-53-20.1 N Allen North, 173 R	0 114.500 10.730 Longitude 086-12-48.7 W ay Vernon Lane	97.300 0.730	87.900 0.260 Ground Elev meters)	75.000 0.300 vation S (r	66.000 3.390 tructure Hg neters)	77.000 38.070	88.300 112.340 Antenna St Registratio	100.400 72.530

Call Sign: KNKN867		File Number: 0009262184	Print Date:
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Location Latitude 57 36-53-20.1 N Address: Allen North 173			Ground Elevation (meters) (meters) (meters) 77.7		to Tip Antenna Structure Registration No. 1264536			
	: ALLEN State: K	Y Cons	struction D	eadline:				
Antenna: 2 Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 3	th) 0	45 87.800 0.310	90 105.100 1.480	135 69.200 24.580		225 92.400 93.440	270 105.300 17.800	315 118.000 1.480
Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts)	th) 0	45 87.800 8.330	90 105.100 0.490	135 69.200 0.260	180 68.400 0.300	225 92.400 4.900	270 105.300 45.770	315 118.000 117.640
Location Latitude	Longitude		round Elev neters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
58 37-07-58.9 N	086-13-12.8 W		97.8		77.7		1263384	
Address: Edmonson South	, 466 Rhea Road							
City: Smiths Grove Cou	nty: EDMONSON	State: K	Y Constr	uction D	Deadline:			
Antenna: 1 Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts)	th) 0 70.900 128.990 P in Watts: 140.820 th) 0	45 74.500 56.630 45 74.500	90 47.600 6.540 90 47.600	135 73.500 0.320	0.260 180 83.900	225 88.000 0.340 225 88.000	270 89.200 7.510 270 89.200	315 76.800 59.300 315 76.800
Antenna: 3 Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts)	P in Watts: 140.820 (th) 0	16.910 45 74.500 0.260	90.270 90 47.600 0.340	116.96 135 73.500 2.530	180	2.840 225 88.000 116.960	0.260 270 89.200 90.270	0.330 315 76.800 14.390
Location Latitude 59 37-13-31 0 N	Longitude	(r	round Elev neters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
Address: Near entrance to	086-07-40.6 W Mammoth Cave Park ounty: EDMONSON		62.1 KY Cons		58.0 Deadline:			
Antenna: 1 Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts)	th) 0	45 91.300 78.910	90 119.200 9.600	135 86.600 0.520	180 117.300 0.430	225 116.700 0.480	270 135.200 9.380	315 124.600 78.910

Call Sign: KNKN867	File Number: 0009262184	Print Date:

Can Sign. KiviKivoo7	File	Mullipel.	00092021	υ -1		ini Date		
Location Latitude 59 37-13-31 0 N	Longitude	(m	round Elev neters)	(m	ructure Hg neters)	t to Tip	Antenna St Registratio	
37 13 31.01	086-07-40.6 W	26	52.1	58	.0			
Address: Near entrance to I		A						
City: Mammoth Cave Co	ounty: EDMONSON	State: K	CY Cons	truction D	eadline:			
Antenna: 2 Maximum Transmitting ERI Azimuth(from true nortl Antenna Height AAT (meter: Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERI Azimuth(from true nortl	n) 0 122.200 0.920 P in Watts: 140.820	45 91.300 21.900	90 119.200 118.970	135 86.600 156.260	180 117.300 43.540	225 116.700 4.210	270 135.200 0.430	315 124.600 0.450
Azimuti(noin true north Antenna Height AAT (meters	0 122.200	45 91.300	90 119.200	135 86.600	180 117.300	225 116.700	270 135.200	315 124.600
Transmitting ERP (watts)	1.600	0.430	0.470	3.190	44.550	156.260	121.750	20.910
Location Latitude 60 37-23-49.1 N	Longitude 087-08-43.7 W	(m	cound Elev eters) 5.0		ructure Hg neters) .2	to Tip	Antenna St Registratio 1244765	
Address: Bremen, 12849 K	entucky Highway							
City: CENTRAL CITY (County: MUHLENB	ERG Sta	ate: KY	Constructi	ion Deadlin	e:		
Antenna: 1 Maximum Transmitting ERI Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2	n) 0 90.200 122.700	45 93.400 78.480	90 74.900 11.150	135 83.100 0.740	180 73.300 0.260	225 66.600 0.340	270 87.200 3.750	315 92.000 40.860
Maximum Transmitting ERI Azimuth(from true north		4.5	00	125	100	225	250	215
Azimum(from true noru Antenna Height AAT (meter		45 93.400	90 74.900	135 83.100	180 73.300	225 66.600	270 87.200	315 92.000
Transmitting ERP (watts)	0.330	5.430	50.380	128.750	66.660	8.640	0.500	0.260
Antenna: 3 Maximum Transmitting ERI	P in Watts: 140 820							
Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts)	h) 0	45 93.400 0.260	90 74.900 0.300	135 83.100 0.480	180 73.300 13.100	225 66.600 80.300	270 87.200 122.700	315 92.000 38.140
Location Latitude	Longitude		ound Elev eters)		ructure Hg neters)	t to Tip	Antenna St Registratio	
Location Latitude 61 37-57-06.1 N	Longitude 086-24-38.3 W	(m			eters)	t to Tip		
	086-24-38.3 W	(m 26	eters)	(m	eters)	t to Tip	Registratio	
61 37-57-06.1 N Address: HWY 144, 4.8 KI	086-24-38.3 W	(m 26 OF	eters)	(m 96	eters)		Registratio	

Call Sign: KNKN867 File Number: 0009262184 Print Date:

	37-57-06.1 N HWY 144, 4.8 KM	,	(m 26 OF	round Elev neters) 50.0	(m 96		-	Antenna St Registratio 1043429	
City: UNI	ON STAR Count	y: BRECKINRIDO	JE Stat	e: KY C	onstruction	n Deadline:	1		
Azin Antenna H Transmitti Antenna: 3	Transmitting ERP in nuth(from true north) (eight AAT (meters) ng ERP (watts)	0 155.100 0.310	45 133.800 8.140	90 120.800 56.310	135 135.100 104.850	180 151.300 38.950	225 176.200 4.370	270 170.600 0.240	315 164.100 0.250
Azin Antenna H	Transmitting ERP in nuth(from true north) (eight AAT (meters) ing ERP (watts)	Watts: 140.820 0 155.100 1.820	45 133.800 0.240	90 120.800 0.280	135 135.100 0.850	180 151.300 17.400	225 176.200 81.390	270 170.600 89.240	315 164.100 19.980
Location	Latitude	Longitude		round Elev ieters)		ructure Hg eters)	t to Tip	Antenna St Registratio	
62	37-32-44.1 N	086-18-58.4 W		00.9	77	,		1258451	
Address:	2408 Hanging Rock	Road							
City: Leito			e: KY C	onstructio	n Deadline	e:			
Antenna: 1	[
	Transmitting ERP in								
	nuth(from true north) leight AAT (meters)	0 75,500	45 84.400	90	135	180	225	270	315
Transmitti	ng ERP (watts)	97.150	35.730	70.100 4.550	67.400 0.310	67.900 0.380	86.700 0.580	82.300 13.630	95.400 68.070
Antenna: 2									
	Transmitting ERP in nuth(from true north)	0	45	90	135	180	225	270	315
	leight AAT (meters)	75.500	84.400	70.100	67.400	67.900	86.700	82.300	95.400
Transmitti Antenna: 3	ng ERP (watts)	0.630	15.510	83.280	107.290	28.880	2.760	0.260	0.300
Maximum	Transmitting ERP in	Watts: 140.820							
	nuth(from true north) leight AAT (meters)	0 75,500	45 84.400	90	135	180	225	270	315
	ng ERP (watts)	1.050	0.260	70.100 0.310	67.400 2.290	67.900 30.940	86.700 107.290	82.300 83.280	95.400 13.820
Location	Latitude	Longitude		round Elev neters)		ructure Hg	t to Tip	Antenna St Registratio	
63	36-41-48.4 N	087-07-44.2 W	17	6.5	60	.7		1274279	
Address:	4799 Russellville Ro	oad							
City: Alle	nsville County: T	ODD State: KY	Const	ruction De	adline:				
Azin	Transmitting ERP in nuth(from true north)	Watts: 140.820	45	90	135	180	225	270	315
	leight AAT (meters) ing ERP (watts)	39.500 19.520	56.100 91.310	59.000 100.120	64.900 22.420	64.800 2.040	67.600 0.260	57.500 0.310	49.800 0.960

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)

Antenna Height AAT (meters)

Transmitting ERP (watts)

Print Date: Call Sign: KNKN867 File Number: 0009262184 **Structure Hgt to Tip** Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 63 36-41-48.4 N 087-07-44.2 W 176.5 60.7 1274279 Address: 4799 Russellville Road City: Allensville **County: TODD** State: KY **Construction Deadline:** Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 135 180 225 270 315 45 39.500 56.100 67.600 49.800 59.000 64.900 64.800 57.500 Transmitting ERP (watts) 0.260 0.290 0.45012.040 74.220 112.340 35.530 3.720 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 45 135 225 315 39.500 56.100 59.000 64.900 64.800 67.600 57.500 49.800 Transmitting ERP (watts) 72.530 10.730 0.730 0.260 0.300 3.390 38.070 112.340 Location Latitude Longitude Ground Elevation Structure Hgt to Tip **Antenna Structure** (meters) (meters) Registration No. 64 37-14-00.7 N 086-28-02.1 W 1231934 183.2 103.6 Address: 109 Peach Road North **Construction Deadline:** City: Roundhill County: BUTLER State: KY Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 225 270 315 45 135 Antenna Height AAT (meters) 64.400 90.500 91.500 87.200 101.000 93.800 118.600 91.600 **Transmitting ERP (watts)** 363.980 159.800 18.450 0.910 0.740 0.950 21.190 167.330 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 225 270 315 45 Antenna Height AAT (meters) 64.400 90.500 87.200 101.000 93.800 118.600 91.600 91.500 **Transmitting ERP (watts)** 1.950 47.700 254.680 85.310 0.740 329.990 8.010 0.920 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 180 270 45 90 135 225 315 64.400 Antenna Height AAT (meters) 90.500 87.200 101.000 93.800 118.600 91.600 91.500 Transmitting ERP (watts) 0.970 95.740 3.030 0.740 7.140 330.050 254.730 40.610 **Ground Elevation Structure Hgt to Tip** Location Latitude Longitude Antenna Structure (meters) (meters) Registration No. 65 149.0 37-52-03.2 N 086-41-39.8 W 60.7 Address: Hancock South, 4586 Midway Lane City: Hawesville **County: HANCOCK** State: KY **Construction Deadline:**

315

89.200

36.360

270

52.700

4.480

90

66.200

10.410

135

57.400

0.540

180

29.900

0.280

225

51.200

0.490

45

44.700

73.040

42.800

115.500

Call Sign: KNKN867		File Number: 0009262184	Print Date:
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65	Latitude 37-52-03.2 N	Longitude 086-41-39.8 W	(1	(meters) (m		Structure Hgt (meters) 60.7	to Tip	Antenna Structure Registration No.	
Address: City: Haw	Hancock South, 458 vesville County: 1		e: KY	Constructi	on Dead	lline:			
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 42.800 3.060	45 44.700 20.470	90 66.200 92.740	135 57.400 139.82		225 51.200 15.240	270 52.700 1.400	315 89.200 0.310
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 42.800 14.390	45 44.700 1.320	90 66.200 0.300	135 57.400 2.890	180 29.900 19.320	225 51.200 87.550	270 52.700 132.000	315 89.200 86.970
Location	Latitude	Longitude		Fround Elev neters)	ation	Structure Hgt	to Tip	Antenna St Registratio	
66	37-48-20.2 N	086-28-22.4 W		13.7		98.8		1215268	II 1 10.
Address:	Hardinsburg North,	West side of Finley	/Dowell	Road					
City: Hard	dinsburg County:	BRECKINRIDGE	States	KY Con	structio	n Deadline:			
Antenna:		W 140.000							
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 117.700 65.140	45 128.800 85.560	90 92.100 23.840	135 83.000 2.300	180 91.500 0.240	225 112.900 0.240	270 146.900 0.510	315 129.700 11.990
Maximum Aziı Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 117.700 0.260	45 128.800 1.750	90 92.100 24.390	135 83.000 85.560		225 112.900 11.450	270 146.900 0.880	315 129.700 0.240
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 117.700 5.250	45 128.800 0.290	90 92.100 0.240	135 83.000 0.260	180 91.500 5.140	225 112.900 43.210	270 146.900 93.440	315 129.700 43.210
	Latitude	Longitude	(1	Fround Elev neters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
	37-31-51.2 N 3690 FALLS OF RO ORT CREEK Cou	086-28-23.9 W OUGH ROAD Inty: GRAYSON	State: k	92.0	ruction	123.4 Deadline:		1244902	
Antenna: 1 Maximum Azir Antenna H			45 72.500 107.290	90 68.000 83.280	135 60.600 13.820	180 85.600	225 82.500 0.260	270 104.300 0.310	315 89.800 2.290

Antenna Height AAT (meters)

Transmitting ERP (watts)

Print Date: Call Sign: KNKN867 File Number: 0009262184 **Structure Hgt to Tip** Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 67 37-31-51.2 N 086-28-23.9 W 192.0 123.4 1244902 Address: 3690 FALLS OF ROUGH ROAD City: SHORT CREEK **County: GRAYSON** State: KY **Construction Deadline:** Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 135 180 225 270 315 45 81.800 72.500 89.800 68.000 60.600 85.600 82.500 104.300 Transmitting ERP (watts) 0.260 0.310 6.770 55.020 117.640 52.550 6.320 0.320 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 45 135 225 315 81.800 72.500 68.000 60.600 85.600 82.500 104.300 89.800 Transmitting ERP (watts) 28.880 2.760 15.510 0.260 0.300 0.630 83.280 107.290 Location Latitude Longitude **Ground Elevation Structure Hgt to Tip Antenna Structure** (meters) (meters) Registration No. 68 37-19-34.6 N 086-57-44.7 W 167.0 83.8 1217201 Address: Western KY Parkway, 256 Pond Run Church Road City: Beaver Dam County: OHIO State: KY **Construction Deadline:** Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 270 315 45 135 225 94.000 Antenna Height AAT (meters) 93.500 100.700 97.600 89.600 96.400 94.000 102.100 **Transmitting ERP (watts)** 1.070 33.930 116.960 90.270 14.390 0.260 0.340 2.530 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 225 270 45 315 Antenna Height AAT (meters) 94.000 93.500 89.600 96.400 94.000 100.700 102.100 97.600 **Transmitting ERP (watts)** 3.840 0.260 0.300 0.480 13.100 80.300 122.700 38.140 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 45 135 225 270 315 Antenna Height AAT (meters) 94.000 93.500 100.700 89.600 96.400 94.000 102.100 97.600 Transmitting ERP (watts) 88.210 8.620 0.340 0.240 0.240 0.240 4.520 78.620 **Ground Elevation Structure Hgt to Tip** Longitude Antenna Structure **Location Latitude** (meters) (meters) Registration No. 69 086-40-27.4 W 175.0 1268018 37-16-08.2 N 77.7 Address: Welcome, 224 Cook Road City: Morgantown **County: BUTLER** State: KY **Construction Deadline:** Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 270 45 90 135 180 225 315

103.600

55.020

94.800

117.640

67.500

52.550

90.400

6.320

96.600

0.320

102.900

0.260

98.300

0.310

116.100

6.770

Call Sign: KNKN867		File Number: 0009262184	Print Date:
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69	Latitude 37-16-08.2 N Welcome, 224 Cook		(r	Ground Elev neters) 75.0	(Structure Hgt (meters) 77.7	to Tip	Antenna St Registratio 1268018	
City: Mor	gantown County:	BUTLER State:	KY (Construction	ı Deadli	ne:			
Azir Antenna H Transmitti Antenna: 3 Maximum	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts) 3 Transmitting ERP in	94.800 0.630 Watts: 140.820	45 57.500 15.510	90 90.400 83.280	135 96.600 107.290		225 98.300 2.760	270 116.100 0.260	315 103.600 0.300
Antenna H	nuth(from true north) leight AAT (meters)		45 57.500	90 90.400	135 96.600	180 102.900	225 98.300	270 116.100	315 103.600
Transmitti	ing ERP (watts)	1.050	0.260	0.310	2.290	30.940	107.290	83.280	13.820
	Latitude	Longitude	(I	Fround Elev neters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
70	37-12-05.9 N	087-02-26.4 W	1	53.0		111.3		1231935	
	1317 US HWY 431	MIHH ENDED		V. VV	4	4° D 11°			
City: DRA	AKESBORO Cou	nty: MUHLENBER	G Sta	ate: KY C	onstruc	tion Deadline:			
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 106.300	45 109.400 44.990	90 98.200 5.190	135 89.900 0.260	180 81.000 0.210	225 80.100 0.270	270 89.600 5.960	315 94.400 47.110
Maximum Azir Antenna H Transmitti Antenna: 3	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 106.300 1 0.550	45 109.400 13.430	90 98.200 71.710	135 89.900 92.910	180 81.000 24.020	225 80.100 2.250	270 89.600 0.210	315 94.400 0.260
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 106.300	45 109.400 0.210	90 98.200 0.270	135 89.900 2.010	180 81.000 26.950	225 80.100 92.910	270 89.600 71.710	315 94.400 11.430
	Latitude	Longitude	(r	Ground Elev neters)	(Structure Hgt (meters)	to Tip	Antenna St Registratio	
Address:	36-58-34.3 N Lewinsburg Downto VISBURG Count	086-57-59.8 W wn, Spa Road y: LOGAN State:		90.2 C onstructio		93.0 ine:		1246006	
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 107.500	45 103.300 93.440	90 93.900 17.800	135 90.700 1.480	180 82.900 0.260	225 85.300 0.310	270 84.200 1.480	315 89.200 24.580

Call Sign: KNKN867 File Number: 0009262184 Print Date:

Address: Lewinsburg Do	Longitude 086-57-59.8 V	(r	Fround Ele neters) 90.2		ructure Hg eters) .0	t to Tip	Antenna St Registratio 1246006	
3	, <u>,</u>	tate: KY	Constructi	on Deadlin	a•			
City: LEWISBURG C	Julity: LOGAN S	tate: KI	Constructi	on Deaumi	:			
Antenna: 2 Maximum Transmitting EI Azimuth(from true no Antenna Height AAT (mete Transmitting ERP (watts) Antenna: 3	rth) 0	45	90 93.900 45.770	135 90.700 117.640	180 82.900 63.170	225 85.300 8.330	270 84.200 0.490	315 89.200 0.260
Maximum Transmitting EI Azimuth(from true no Antenna Height AAT (mete Transmitting ERP (watts)	rth) 0	45	90 93.900 0.310	135 90.700 0.960	180 82.900 19.520	225 85.300 91.310	270 84.200 100.120	315 89.200 22.420
Location Latitude	Longitude		Fround Ele neters)		ructure Hg eters)	t to Tip	Antenna St Registratio	
72 37-02-45.0 N	086-21-53.0 V		67.6	`	2.7		1046177	11 110.
Address: Bristow, KY Hy			7.10	10			10101//	
City: BOWLING GREEN	•		: KY Co	nstruction 1	Deadline:			
,								
Antenna: 1								
Maximum Transmitting El	RP in Watts: 140.820							
Azimuth(from true no Antenna Height AAT (mete		45	90	135	180	225	270	315
Transmitting ERP (watts)	144.73	12.000	42.800 7.340	67.000 0.360	66.800 0.300	77.800 0.380	53.600 8.420	55.000 66.540
Antenna: 2			7.5 10	0.500	0.500	0.500	0.120	00.5 10
Maximum Transmitting El Azimuth(from true no		45	90	135	180	225	270	315
Antenna Height AAT (mete			42.800	67.000	66.800	77.800	53.600	55.000
Transmitting ERP (watts) Antenna: 3	0.640	15.100	82.010	107.710	30.010	2.900	0.300	0.310
Maximum Transmitting El	RP in Watts: 140.820							
Azimuth(from true no		45	90	135	180	225	270	315
Antenna Height AA I (meta	40.000	42.800	42.800	67.000	66.800	'/'/ X(I)(I)		
Č ,	1.180	0.300	0.350	2.570	34.720	77.800 120.380	53.600 93.440	55.000 15.510
Antenna Height AAT (meter Transmitting ERP (watts) Location Latitude	Longitude	G	0.350 Fround Ele	2.570 vation St	34.720 ructure Hg	120.380	93.440 Antenna St	15.510 tructure
Transmitting ERP (watts)		G (r	0.350	2.570 vation Str (m	34.720 ructure Hg eters)	120.380	93.440	15.510 tructure
Transmitting ERP (watts) Location Latitude 73 36-48-17.7 N	Longitude 087-09-29.0 V	G (r W 1	0.350 Fround Elemeters) 95.1	2.570 vation St	34.720 ructure Hg eters)	120.380	93.440 Antenna St	15.510 tructure
Transmitting ERP (watts) Location Latitude	Longitude 087-09-29.0 V wn, Water Tank with	G (r W 1 nin the Town	0.350 Fround Elemeters) 95.1	2.570 vation Str (m 37	34.720 ructure Hg eters)	120.380	93.440 Antenna St	15.510 tructure

Print Date: Call Sign: KNKN867 File Number: 0009262184 **Structure Hgt to Tip** Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 73 36-48-17.7 N 087-09-29.0 W 195.1 37.0 Address: Elkton Downtown, Water Tank within the Town of City: Elkton County: TODD State: KY **Construction Deadline:** Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 135 180 225 270 315 45 29,900 29.900 51.300 29.900 36.400 49,400 47.700 46.600 Transmitting ERP (watts) 186.670 22.440 1.150 0.940 1.100 24.050 195.470 417.910 Antenna: 4 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 45 135 225 315 29.900 29.900 36.400 49.400 47.700 51.300 46.600 29.900 Transmitting ERP (watts) 69.360 324.400 355.700 79.630 7.260 0.9401.100 3.400 Location Latitude Longitude Ground Elevation Structure Hgt to Tip **Antenna Structure** (meters) (meters) Registration No. 74 36-45-37.5 N 086-43-02.9 W 197.2 77.7 1268208 Address: Middleton, 2514 Neely Road **County: SIMPSON Construction Deadline:** City: Franklin State: KY Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 180 270 315 45 135 225 Antenna Height AAT (meters) 65.100 67.700 65.900 89.900 84.400 76.100 61.000 73.500 **Transmitting ERP (watts)** 108.950 99.160 18.570 1.520 0.260 0.340 26.900 1 630 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 225 270 315 45 Antenna Height AAT (meters) 65.100 67.700 65.900 61.000 73.500 89.900 84.400 76.100 **Transmitting ERP (watts)** 0.340 7.510 59.300 128.990 56.630 6.540 0.320 0.260 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 225 270 315

Location	n Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
75	36-44-33.6 N	086-30-05.7 W	209.4	74.7	1057217
	G' T 65 600 T	N 1111 T			

65.900

0.260

135

61.000

0.340

73.500

7.510

89.900

59.300

84.400

128.990

76.100

56.630

45

67.700

0.320

Address: Simpson I-65, 680 Phillips Lane

Antenna Height AAT (meters)

Transmitting ERP (watts)

City: Franklin County: SIMPSON State: KY **Construction Deadline:**

65.100

6.540

Antenna: 1 Maximum Transmitting ERP in Watts:	140.920							
Maximum Transmitting ERF in Watts:	140.620							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	74.500	60.400	58.100	45.300	43.900	54.700	56.900	65.000
Transmitting ERP (watts)	113.860	122.250	26.290	2.360	0.300	0.370	1.180	23.930

Call Sign: KNKN867	File Number:	0009262184	Print Date:

Address: Sin	-44-33.6 N npson I-65, 680 P	*	(m 20	round Elev neters) 09.4	(n 74	tructure Hg neters) 4.7	t to Tip	Antenna St Registratio 1057217	
City: Franklin	n County: SIM	IPSON State: K	Y Cons	struction D	eadline:				
Azimutl	ansmitting ERP in h(from true north) ht AAT (meters) ERP (watts)	Watts: 140.820 0 74.500 0.430	45 60.400 11.130	90 58.100 78.320	135 45.300 144.460	180 43.900 52.750	225 54.700 5.690	270 56.900 0.300	315 65.000 0.320
Azimutl	ansmitting ERP in h(from true north) ht AAT (meters) ERP (watts)	Watts: 140.820 0 74.500 0.830	45 60.400 0.300	90 58.100 0.380	135 45.300 4.210	180 43.900 45.850	225 54.700 137.670	270 56.900 88.060	315 65.000 12.510
Location La	atitude	Longitude		round Elev neters)		tructure Hgi neters)	to Tip	Antenna St Registratio	
76 36	-41-45.2 N	086-08-55.9 W		99.9	•	2.7		Registi atio	II INU.
50	en Southeast, 7.0				72	□. /			
City: Scottsv:			Y Cons	truction D	eadline:				
	•								
Azimuth Antenna Heig Transmitting Antenna: 2	, ,	0 108.900 156.880	45 124.900 103.360	90 127.700 17.100	135 96.400 1.570	180 75.800 0.350	225 97.900 3.430	270 122.100 22.970	315 116.000 104.060
Azimuth Antenna Heig Transmitting Antenna: 3	, ,	0 108.900 6.870	45 124.900 41.440	90 127.700 144.130	135 96.400 164.500	180 75.800 61.780	225 97.900 8.520	270 122.100 0.570	315 116.000 0.770
Azimutl	ansmitting ERP in h(from true north) ht AAT (meters) ERP (watts)	140.820 0 108.900 1.120	45 124.900 0.240	90 127.700 0.870	135 96.400 3.340	180 75.800 18.280	225 97.900 65.860	270 122.100 50.650	315 116.000 9.530
Location La		Longitude	(m	round Elev neters)	(n	tructure Hgt neters)	t to Tip	Antenna St Registratio	
31		086-25-06.2 W	21	10.6	/ .	7.7		1262107	
Addross V	125WOOU, 1003 St	nmen-raur Lane							
Address: Kir City: Harned	_	CKINRIDGE S	tate: KY	Construc	tion Dead	lline:			

Call Sign: KNKN867	File Number: 0009262184	Print Date:

Location Latitude 77 37-41-44.8 N	Longitude 086-25-06.2 W	(m	round Elev neters) 10.6		Structure Hgt (meters) 77.7	to Tip	Antenna S Registration 1262107	
Address: Kingswood, 1065			a .					
City: Harned County: B	RECKINRIDGE SI	tate: KY	Construc	tion Dea	adline:			
Antenna: 2 Maximum Transmitting ERI Azimuth(from true nort Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERI	78.900 0.260	45 76.900 0.300	90 78.500 3.390	135 81.600 38.070		225 108.200 72.530	270 91.500 10.730	315 108.400 0.730
Azimuth(from true north	h) 0	45	90	135	180	225	270	315
Antenna Height AAT (meter Transmitting ERP (watts)	78.900 112.340	76.900 35.530	78.500 3.720	81.600 0.260	105.100 0.290	108.200 0.450	91.500 12.040	108.400 74.220
Location Latitude 78 36-54-24.5 N Address: Claypool, 2818 A	Longitude 086-19-35.4 W Ivaton-Greenhill Roa	(m 17	round Elev neters) 72.8		Structure Hgt (meters) 77.7	to Tip	Antenna S Registration 1275463	
City: Bowling Green Cor	unty: WARREN S	tate: KY	Construc	tion De	adline:			
Antenna: 1 Maximum Transmitting ERI Azimuth(from true north Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERI Azimuth(from true north	h) 0 82.200 18.240 P in Watts: 140.820	45 76.200 82.650	90 79.200 124.610	135 52.800 82.100	13.580	225 78.000 1.250	270 69.500 0.280	315 86.500 2.730
Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 3		45 76.200 0.620	90 79.200 5.460	135 52.800 32.920		225 78.000 130.660	270 69.500 49.070	315 86.500 6.770
Maximum Transmitting ERI Azimuth(from true north Antenna Height AAT (meter Transmitting ERP (watts)	h) 0	45 76.200 27.380	90 79.200 2.950	135 52.800 0.270	180 60.600 1.500	225 78.000 8.200	270 69.500 53.810	315 86.500 130.660
Location Latitude	Longitude		round Elev neters)		Structure Hgt (meters)	to Tip	Antenna S Registratio	
79 37-54-07.2 N	086-31-56.1 W	,	35.9		30.3		registi atto	711 1 1 U •
Address: 1.0 km SSW of	**** DDECVINIDIDA	E 64-4-	. VV C	ma4w a4*	on Doodling			
City: Stephensports Cour Antenna: 1 Maximum Transmitting ERI	nty: BRECKINRIDG Pin Watts: 140.820	E State	: KY C0	nstructi	on Deadline:			
Azimuth(from true nort Antenna Height AAT (meter Transmitting ERP (watts)	h) 0	45 29.900 136.640	90 49.700 63.910	135 43.700 3.510	180 40.700 0.310	225 48.900 0.310	270 79.700 0.310	315 37.400 0.340

Call Sign: KNKN867		File Number: 0009262184	Print Date:
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79 Address:	37-54-07.2 N 1.0 km SSW of	Longitude 086-31-56.1 W	(n 18	round Elev neters) 85.9	3	Structure Hgt (meters) 30.3	to Tip	Antenna St Registratio	
City: Ste	phensports County	y: BRECKINRIDG	E State	e: KY Co	nstructio	on Deadline:			
Azi Antenna l	n Transmitting ERP in imuth(from true north) Height AAT (meters) ting ERP (watts)	1 Watts: 140.820 0 69.900 0.310	45 29.900 0.310	90 49.700 3.510	135 43.700 82.330	180 40.700 124.620	225 48.900 15.330	270 79.700 0.570	315 37.400 0.310
Azi Antenna l	n Transmitting ERP in imuth(from true north) Height AAT (meters) ting ERP (watts)	1 Watts: 140.820 0 69.900 5.190	45 29.900 0.310	90 49.700 0.310	135 43.700 0.310	180 40.700 0.310	225 48.900 13.660	270 79.700 127.520	315 37.400 78.630
Location	1 Latitude	Longitude		round Elev neters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
80	37-42-39.3 N	086-31-34.6 W		18.5	`	77.7		1272916	
Address:	: 245 Dejarnette Lane	;							
City: Mc	Quady County: B	RECKINRIDGE	State: K	Y Constr	uction D	Deadline:			
Azi Antenna l Transmitt Antenna:	n Transmitting ERP in imuth(from true north) Height AAT (meters) ting ERP (watts)	0 122.000 128.360	45 93.600 93.210	90 90.700 17.180	135 109.100 1.520	180 120.100 0.270	225 106.500 1.720	270 93.000 14.250	315 113.900 71.470
Antenna l Transmitt Antenna:	imuth(from true north) Height AAT (meters) ting ERP (watts) 3 n Transmitting ERP in	0 122.000 4.860	45 93.600 26.750	90 90.700 105.570	135 109.100 130.690		225 106.500 9.030	270 93.000 0.640	315 113.900 0.460
Azi Antenna l	imuth(from true north) Height AAT (meters) ting ERP (watts)	0 122.000 3.780	45 93.600 0.270	90 90.700 1.280	135 109.100 5.690	180 120.100 46.750	225 106.500 127.920	270 93.000 120.460	315 113.900 33.780
	Latitude	Longitude	(n	round Elev neters)	(Structure Hgt (meters)	to Tip	Antenna St Registratio	
81		086-16-14.7 W	2.	31.6	2	14.2			
City: Lei	Leitchfield WT, 1.5 tchfield County: C		e: KY (Constructio	n Deadli	ine:			
Azi Antenna l	1 n Transmitting ERP in imuth(from true north) Height AAT (meters) ting ERP (watts)	1 Watts: 140.820 0 84.200 127.520	45 71.900 78.630	90 49.000 5.190	135 65.200 0.310	180 69.200 0.310	225 59.900 0.310	270 55.400 0.310	315 68.100 13.660

Call Sign: KNKN867

Structure Hgt to Tip Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 81 37-29-16.7 N 086-16-14.7 W 231.6 44.2 Address: Leitchfield WT, 1.5 km East of City: Leitchfield **County: GRAYSON** State: KY **Construction Deadline:** Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) **0** 84.200 90 135 180 225 270 315 45 71.900 59.900 68.100 49.000 65.200 69.200 55.400 Transmitting ERP (watts) 0.310 0.790 146.410 40.320 38.510 1.570 0.310 0.310 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 315 45 135 225 84.200 71.900 49.000 65.200 69.200 59.900 55.400 68.100 Transmitting ERP (watts) 0.570 0.310 124.620 0.310 0.310 3.510 82.330 15.330 Location Latitude Longitude Ground Elevation Structure Hgt to Tip **Antenna Structure** (meters) (meters) Registration No. 82 086-52-35.7 W 37-12-13.0 N 161.2 77.7 1263383 Address: 354 New Cut Road North State: KY **Construction Deadline:** City: Rochester County: BUTLER Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 225 270 315 45 135 92.200 Antenna Height AAT (meters) 104.300 79.800 95.900 112.900 74.100 80.300 89.700 **Transmitting ERP (watts)** 0.280 63.170 117.640 43.710 4.900 0.260 0.350 9.130 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 270 45 225 315 92.200 Antenna Height AAT (meters) 104.300 79.800 80.300 95.900 89.700 112.900

File Number: 0009262184

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
83	36-45-39.5 N	086-51-51.6 W	186.6	77.7	1256442
Addross	Logan South 75 Hal	1 Store Pond			

19.520

79.800

0.260

90

74.100

91.310

74.100

0.300

135

100.120

180

80.300

3.390

22.420

225

95.900

38.070

2.040

270

89.700

112.340

0.260

315

112.900

72.530

Address: Logan South, 75 Hall Store Road

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)

Antenna Height AAT (meters)

Transmitting ERP (watts)

Transmitting ERP (watts)

Antenna: 3

City: Russellville **County:** LOGAN State: KY **Construction Deadline:**

0.310

92.200

10.730

0.960

104.300

0.730

45

Antenna: 1								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 70.500 128.990	45 51.300 56.630	90 69.000 6.540	135 75.700 0.320	180 80.000 0.260	225 87.100 0.340	270 81.800 7.510	315 59.200 59.300

mber: 0009262184	Print Date:
]	mber: 0009262184

Location Latitude 83 36-45-39.5 N Address: Logan South, 75 Ha			Ground Elevation (meters) 186.6		Structure Hgt to Tip (meters) 77.7		Antenna Structure Registration No. 1256442	
City: Russellville County:		KY Con	struction	Deadline	e :			
Antenna: 2	-740							
Maximum Transmitting ERP in Azimuth(from true north)	n Watts: 140.820	45	90	135	180	225	270	315
Antenna Height AAT (meters)	70.500	51.300	69.000	75.700		87.100	81.800	59.200
Transmitting ERP (watts) Antenna: 3	0.340	2.530	33.930	116.96		14.390	1.070	0.260
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0	45	90	135	180	225	270	315
Transmitting ERP (watts)	70.500 3.840	51.300 0.260	69.000 0.300	75.700 0.480	80.000 13.100	87.100 80.300	81.800 122.700	59.200 38.140
	2.0.10	0.200	0.500				1221,00	2011.0
Location Latitude	Longitude		ound Ele		Structure Hg	t to Tip	Antenna St	
84 36-58-47 9 N	096 22 20 0 W		eters) 5.1		(meters)		Registratio	n No.
30 30 1713 11	086-23-20.0 W				56.4		1241356	
Address: Bowling Green Cen City: Bowling Green Coun	•	cumberian tate: KY	Constru		adlina.			
City: Bowing Green Coun	ty: WARREN S	tate: K1	Constru	ction De	aume:			
Antenna: 1								
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	29.900 129.890	35.000 61.320	33.800 3.430	29.900 0.310	39.200 0.310	29.900 0.310	29.900 0.450	54.700 18.690
Antenna: 2		01.320	3.730	0.510	0.510	0.510	0.430	10.070
Maximum Transmitting ERP in Azimuth(from true north)	n Watts: 140.820	45	90	135	180	225	270	315
Antenna Height AAT (meters)	29.900	35.000	33.800	29.900		29.900	29.900	54.700
Transmitting ERP (watts) Antenna: 3	0.310	3.260	77.190	119.56	0 14.880	0.420	0.310	0.310
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0 29.900	45	90	135	180	225	270	315
Transmitting ERP (watts)	0.310	35.000 0.310	33.800 0.310	29.900 0.570	39.200 26.700	29.900 136.640	29.900 48.150	54.700 2.270
	0.310	0.510	0.510	0.570	20.700	130.010	10.130	2.270
Location Latitude	Longitude		ound Ele		Structure Hg	t to Tip	Antenna St	
85 36-53-34.0 N	086-24-38.0 W	`	eters) 4.4		(meters) 46.7		Registratio	n No.
Address: Plano Water Tank, 9		10	77.7		40.7			
City: Bowling Green Coun		tate: KY	Constru	ction De	adline:			
, . Zo mig Green Coun								
Antenna: 1								
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0	45	90	135	180	225	270	315
Transmitting ERP (watts)	61.200 1.340	49.800 39.400	45.800 76.830	33.400 11.900		33.600 0.240	34.800 0.240	46.200 0.240
5 , ,	1.5 10	27.100	, 0.050	11.700	0.100	3.2 10	0.2 10	0.2 10

Call Sign: KNKN867

Structure Hgt to Tip Location Latitude Longitude **Ground Elevation Antenna Structure** (meters) (meters) Registration No. 85 36-53-34.0 N 086-24-38.0 W 184.4 46.7 Address: Plano Water Tank, 9.0 SSE of City: Bowling Green **County: WARREN** State: KY **Construction Deadline:** Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) **0** 61.200 90 135 180 225 270 315 45 49.800 45.800 33.400 35.100 33.600 34.800 46.200 Transmitting ERP (watts) 0.240 0.240 0.240 5.320 66.920 53.150 4.220 0.240 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north)
Antenna Height AAT (meters) 90 180 270 315 45 135 225 61.200 49.800 45.800 33.400 35.100 33.600 34.800 46.200 Transmitting ERP (watts) 28.550 84.240 1.400 0.240 0.2400.240 0.370 16.810

File Number: 0009262184

Print Date:

LocationLatitudeLongitudeGround Elevation (meters)Structure Hgt to Tip (meters)Antenna Structure Registration No.8636-53-16.1 N086-30-48.3 W183.860.6

Address: Richpond, 608 Skeek Road

City: Bowling Green County: WARREN State: KY Construction Deadline:

Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 225 270 315 45 135 69.900 Antenna Height AAT (meters) 78.100 43.600 56.900 73.400 67.600 58.700 47.300 **Transmitting ERP (watts)** 87.200 42.220 5.380 0.310 0.260 0.260 4.790 40.320 Antenna: 2 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 135 180 225 270 315 45 Antenna Height AAT (meters) 69.900 78.100 67.600 47.300 43.600 56.900 73.400 58.700 **Transmitting ERP (watts)** 1.480 24.580 100.120 93.440 17.800 1.480 0.310 0.260 Antenna: 3 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 90 180 225 270 45 135 315 69.900 Antenna Height AAT (meters) 78.100 67.600 58.700 47.300 43.600 56.900 73.400 Transmitting ERP (watts) 0.300 4.900 45.770 0.490 0.260 117.640 63.170 8.330

LocationLatitudeLongitudeGround Elevation (meters)Structure Hgt to Tip (meters)Antenna Structure Registration No.8736-44-23.3 N086-34-22.4 W211.293.61007990

Address: Franklin Downtown, Ogles Road (Franklin #9142)

City: Franklin County: SIMPSON State: KY Construction Deadline:

Antenna: 1 **Maximum Transmitting ERP in Watts: 140.820** Azimuth(from true north) 270 90 135 180 225 315 Antenna Height AAT (meters) 82.400 91.500 57.000 65.400 75.500 64.400 77.000 60.200 Transmitting ERP (watts) 1.890 59.640 119.000 18.430 0.750 0.270 0.270 0.270

mber: 0009262184	Print Date:
]	mber: 0009262184

87	Latitude 36-44-23.3 N Franklin Downtown klin County: SIN	,	(n 2 aklin #914	round Elev neters) 11.2 2) struction D	9	Structure Hgt (meters) 93.6	to Tip	Antenna St Registratio 1007990	
Antenna:	2 Transmitting ERP in	Watts: 140 820							
Aziı	muth(from true north)	0	45	90	135	180	225	270	315
	Ieight AAT (meters) ing ERP (watts)	82.400 0.270	91.500 0.270	77.000 0.270	60.200 8.050	57.000 101.290	65.400 84.250	75.500 6.540	64.400 0.310
Antenna:	3		0.270	0.270	8.030	101.290	84.230	0.340	0.310
	Transmitting ERP in muth(from true north)		45	00	125	100	225	270	315
Antenna I	Height AAT (meters)	0 82.400	91.500	90 77.000	135 60.200	180 57.000	225 65.400	75.500	64.400
Transmitt	ing ERP (watts)	44.210	2.120	0.270	0.270	0.270	0.400	25.440	127.510
	Latitude	Longitude		round Elev neters)		Structure Hgt (meters)	to Tip	Antenna St Registratio	
88	36-50-51.7 N	086-46-11.1 W	19	98.4	8	82.3		1237175	
Address:	Rockcastle, 1365 Ed	cho Valley Road							
City: Aub	ourn County: LOC	GAN State: KY	Constr	uction Dea	dline:				
Azir Antenna H Transmitt Antenna: Maximum Azir	Transmitting ERP in muth(from true north) Height AAT (meters) ing ERP (watts)	0 64.000 122.700	45 66.400 78.480 45 66.400	90 63.200 11.150 90 63.200	135 58.100 0.740 135 58.100	180 74.800 0.260 180 74.800	225 70.400 0.340 225 70.400	270 71.300 3.750 270 71.300	315 75.200 40.860 315 75.200
Transmitt Antenna:	ing ERP (watts)	0.380	9.920	69.800	128.750		5.070	0.260	0.280
Aziı Antenna H	muth(from true north) Height AAT (meters) ing ERP (watts)	0 64.000 2.100	45 66.400 0.260	90 63.200 0.330	135 58.100 1.050	180 74.800 21.320	225 70.400 101.470	270 71.300 108.950	315 75.200 23.430
	Latitude	Longitude	(n	round Elev neters)	(Structure Hgt (meters)	to Tip	Antenna St Registratio	
89	37-25-24.5 N	086-24-14.9 W	19	97.8	8	83.8		1217214	
	Millwood, 1006 Ple		1737 ~		ъ				
City: Mill	lwood County: G	RAYSON States	:KY C	onstruction	Deadlin	1e:			
Azii Antenna H	1 Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 62.400 39.870	45 41.800 122.420	90 60.100 126.750	135 71.500 40.620	180 58.400 4.930	225 67.600 0.330	270 87.100 0.900	315 76.500 5.470

Call Sign: KNKN867		File Number: 0009262184	Print Date:
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89	Latitude 37-25-24.5 N Millwood, 1006 Ple		(1	Ground Elev meters) 197.8		Structure Hgt (meters) 83.8	to Tip	Antenna St Registratio 1217214	
City: Mill	wood County: G	RAYSON State:	KY C	Construction	Deadli	ne:			
Azin Antenna H Transmitt Antenna: 3	Transmitting ERP in muth (from true north) leight AAT (meters) ing ERP (watts)	0 62.400 0.890	45 41.800 0.350	90 60.100 3.940	135 71.500 22.290		225 67.600 128.360	270 87.100 70.660	315 76.500 11.140
Azir Antenna H	muth(from true north) leight AAT (meters) ing ERP (watts)	0 62.400 103.880	45 41.800 21.640	90 60.100 2.140	135 71.500 0.270	180 58.400 1.490	225 67.600 11.530	270 87.100 61.810	315 76.500 130.990
Location	Latitude	Longitude		Ground Elev meters)	ation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
90	37-17-38.2 N	086-44-29.7 W		29.8		83.8		1217204	
Address:	Natcher Parkway, 1	C. Beck Rd.		7					
City: Mor	gantown County	: BUTLER State	: KY	Construction	n Deadl	ine:			
Azin Antenna H Transmitti Antenna: 2	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	0 37.600 7.510	45 36.200 59.300	90 41.100 128.990	135 50.200 56.630		225 52.200 0.320	270 53.300 0.260	315 52.700 0.340
Azin Antenna H Transmitt Antenna:	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts) 3 Transmitting ERP in	0 37.600 0.260	45 36.200 0.340	90 41.100 3.750	135 50.200 40.860		225 52.200 78.480	270 53.300 11.150	315 52.700 0.740
Aziı Antenna H	muth(from true north) leight AAT (meters) ing ERP (watts)	0 37.600 122.700	45 36.200 38.140	90 41.100 3.840	135 50.200 0.260	180 36.800 0.300	225 52.200 0.480	270 53.300 13.100	315 52.700 30.300
Location 91	Latitude 37-10-17.8 N	Longitude 086-46-48.7 W	(1	Ground Elev meters) 157.3		Structure Hgt (meters) 90.0	to Tip	Antenna St Registratio 1273826	
Address: City: Mor	South Hill, 231 Free gantown County	eman Staples Road : BUTLER State	: KY	Construction	n Deadl	ine:			
Azir Antenna H	Transmitting ERP in muth(from true north) leight AAT (meters) ing ERP (watts)	n Watts: 140.820 0 114.500 71.470	45 84.600 128.360	90 81.200 93.210	135 73.600 17.180		225 70.900 0.270	270 96.300 1.720	315 102.200 14.250

Call Sign: KNKN867	File Number: 0009262184	Print Date:

Contain Latitude Longitude County LOGAN State: KY Construction Deadline:	91	Latitude 37-10-17.8 N	Longitude 086-46-48.7 W	(1	Ground Elev meters) .57.3	ation	Structure Hgt (meters) 90.0	to Tip	Antenna St Registratio 1273826	
Maximum Transmitting ERP in Watts: 140.820 45 90 135 180 225 270 315 200			*	KY (Construction	n Deadl	ine:			
Maximum Transmitting ERP in Watts: 140.820 45 90 135 180 225 270 315 200										
Azimuth(from true north) Antenna Height AAT (meters) 114.500 84.600 81.200 73.600 93.700 70.900 96.300 102.200 73.600 93.700 70.900 96.300 102.200 114.480 130.660 49.070 6.770 0.450 Antenna ERP (watts) 140.820 Azimuth(from true north) Antenna Height AAT (meters) 122.500 Antenna Hei			Watter 140 920							
Transmitting ERP (watts)	Azir	nuth(from true north)		45	90	135	180	225	270	315
Antenna: 3 Maximum Transmitting ERP in Watts: 140.820		0 \								102.200
Azimuth(from true north)	Antenna: 3	3 ` ` ′		5.460	32.920	114.48	0 130.660	49.070	6.770	0.450
Artenna Height AAT (meters) 114.500 21.640 2.140 2.140 0.270 114.90 2.16000 2.160000 2.160000 2.160000 2.160000 2.160000 2.1600000 2.160000000 2.16000000000000000000000000000000000000					0.0	125	100	225	2=0	21.5
Contact Cont								_		
Part		. ,								103.880
Part	Location	T a444 J a	Longitudo		round Flor	otion	Structura Hat	to Tin	Antonno St	wotwo
92	Location	Lautude	Longitude			ation	_	to 11p		
Address: Chandler, 8773 Morgantown Road City: Russellville	92	36-57-07.6 N	086-47-36.4 W				,		_	1110.
Antenna: 1 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north)	Address:						, , . ,		1201175	
Antenna: 1 Maximum Transmitting ERP in Watts: 140.820		,	C	Y Co	nstruction 1	Deadlin	e:			
Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 0 45 90 135 180 225 270 315 Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Transmitting ERP (watts) 122.700 78.480 11.150 0.740 0.260 0.340 3.750 40.860 Maximum Transmitting ERP (watts) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Transmitting ERP (watts) 0.480 13.100 80.300 122.700 38.140 3.840 0.260 0.300 Maximum Transmitting ERP in Watts: 140.820 140.820 42.200 45 90 135 180 225 270 315 Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 <td></td>										
Azimuth(from true north) Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Antenna: 2 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Antenna: 3 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Antenna: 3 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Azimuth(from true north) Antenna: 3 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Azimuth(from true north) Antenna: 3 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Azimuth(from true north) Antenna: 1 Maximum Transmitting ERP (watts) Azimuth(from true north) Antenna: 1 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Azimuth	Antenna: 1	1								
Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800	Maximum	Transmitting ERP in								
Transmitting ERP (watts) 122.700 78.480 11.150 0.740 0.260 0.340 3.750 40.860 Antenna: 2 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Antenna Height AAT (meters) 122.500 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 126.200 114.800 126.2	Azir Antenna H	nuth(from true north) [eight AAT (meters)						_		
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) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Antenna: 3 0.480 13.100 80.300 122.700 38.140 3.840 0.260 0.300 Asimuth(from true north) 0 45 90 135 180 225 270 315 Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Transmitting ERP (watts) 0.500 0.260 0.330 5.430 50.380 128.750 66.660 8.640 Location Latitude Longitude Ground Elevation (meters) Structure Hgt to Tip (meters) Antenna Structure Registration No. 1273825 93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Antenna: 1			`							
Azimuth(from true north) Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Antenna: 3 Maximum Transmitting ERP (watts) Azimuth(from true north) 0 45 90 135 180 225 270 315 0.260 0.300 148.00 0.260 0.300 Azimuth(from true north) Antenna: 3 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 122.500 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 75.500 96.400 126.200 114.800 126.200 126.200 114.800 126.200				,					21,23	
Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Antenna: 3 Maximum Transmitting ERP in Watts: 140.820				45	90	135	180	225	270	315
Antenna: 3 Antenna: 3 State: KY State: KY Construction Deadline: Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 0 45 90 135 180 225 270 315 Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Transmitting ERP (watts) 0.500 0.260 0.330 5.430 50.380 128.750 66.660 8.640 Location Latitude Longitude Ground Elevation (meters) Structure Hgt to Tip (meters) Antenna Structure Registration No. 93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER State: KY Construction Deadline: Antenna: 1 Maximum Transmitting ERP in Watts: 140.820 45 90 135 180 225 270 315 Antenna Height AAT (meters) 90.300					98.600	86.200	75.500	_	126.200	114.800
Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 0 45 90 135 180 225 270 315 Antenna Height AAT (meters) 122.500 88.200 98.600 86.200 75.500 96.400 126.200 114.800 Transmitting ERP (watts) 0.500 0.260 0.330 5.430 50.380 128.750 66.660 8.640 Location Latitude Longitude Ground Elevation (meters) Structure Hgt to Tip (meters) Antenna Structure Registration No. 93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER 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) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800 <td>Transmitti Antenna: 3</td> <td>ing ERP (watts)</td> <td>0.480</td> <td>13.100</td> <td>80.300</td> <td>122.70</td> <td>0 38.140</td> <td>3.840</td> <td>0.260</td> <td>0.300</td>	Transmitti Antenna: 3	ing ERP (watts)	0.480	13.100	80.300	122.70	0 38.140	3.840	0.260	0.300
Antenna Height AAT (meters) Transmitting ERP (watts) 122.500 0.500 0.260 0.330 128.750 96.400 126.200 114.800 126.200 126.600 8.640 128.750 66.660 126.600 126.200 114.800 126.200 126.600 126.600 126.600 126.600 126.600 126.600 126.200 126.600 126.600 126.600 126.600 126.600 126.600 126.200 126.600 126.600 126.600 126.200 126	Maximum	Transmitting ERP in	Watts: 140.820							
Transmitting ERP (watts) 0.500 0.260 93.000 (0.330) 50.380 (0.380) 128.750 (0.66.660) 120.200 (0.66.660) 114.000 (0.66.660) Location Latitude Longitude Ground Elevation (meters) Structure Hgt to Tip (meters) Antenna Structure Registration No. 93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER 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) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800								_		
(meters) (meters) Registration No. 93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER State: KY Construction Deadline:			`							
(meters) (meters) Registration No. 93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER State: KY Construction Deadline:	T	T	T '4 1		Sugarand Elec-	4	Ct II ot	40 Ti-		
93 37-03-12.4 N 086-44-45.3 W 184.4 77.7 1273825 Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER 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) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800	Location	Latitude	Longitude			auon	_	to 11p		
Address: Davis Crossroads, 63 Fire Station Lane City: Morgantown County: BUTLER 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) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800	93	37-03-12.4 N	086-44-45.3 W	,	,		`			100
Antenna: 1 Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) Antenna Height AAT (meters) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800	Address:	Davis Crossroads, 6	3 Fire Station Lane							
Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 0 45 90 135 180 225 270 315 Antenna Height AAT (meters) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800	City: Mor	gantown County:	BUTLER State:	KY (Construction	n Deadl	ine:			
Maximum Transmitting ERP in Watts: 140.820 Azimuth(from true north) 0 45 90 135 180 225 270 315 Antenna Height AAT (meters) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800										
Azimuth(from true north) Antenna Height AAT (meters) 0 45 90 135 180 225 270 315 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800										
Antenna Height AAT (meters) 90.300 104.500 88.100 79.900 67.600 85.300 105.100 96.800					0.0	125	100		250	21.5
TE 100 00.100 77.700 07.000 03.300 103.100 70.000										
		EDD (.445)				/ 7.900	07.000	00.500	103.100	20.000

Call Sign: KNKN867	File Number: 0009262184	Print Date:

Call Sign; KINKIN60/	File	number	00092621	84	Г	riiit Date	•	
Location Latitude 93 37-03-12 4 N	Longitude	(1	Fround Elev neters)	(n	tructure Hg neters)	t to Tip	Antenna St Registratio	
37 03 12.111	086-44-45.3 W		84.4	7.	7.7		1273825	
Address: Davis Crossroads,			~•	ъ ш				
City: Morgantown County	y: BUTLER State	e: KY (Constructio	n Deadlin	e:			
Antenna: 2 Maximum Transmitting ERP Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP Azimuth(from true north)	0 90.300 0.350 in Watts: 140.820	45 104.500 3.940	90 88.100 22.290	135 79.900 94.500	180 67.600 128.360	225 85.300 70.660	270 105.100 11.140 270	315 96.800 0.890
Antenna Height AAT (meters)		104.500	88.100	79.900	67.600	85.300	105.100	96.800
Transmitting ERP (watts)	17.180	1.520	0.270	1.720	14.250	71.470	128.360	93.210
Location Latitude	Longitude		Fround Elev neters)		tructure Hg neters)	t to Tip	Antenna St Registratio	
94 36-49-14.6 N	087-02-42.8 W	1	98.7	77	7.7		1261471	
Address: Daysville, 1270 Da	ysville Road		9					
City: Russellville County:	LOGAN State:	KY Co	nstruction	Deadline:				
Antenna: 1								
Maximum Transmitting ERP : Azimuth(from true north)		45	90	135	180	225	270	315
Antenna Height AAT (meters)		79.200	75.600	95.700	90.500	86.800	61.000	55.000
Transmitting ERP (watts)	2.290	30.940	107.290	83.280	13.820	1.050	0.260	0.310
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)		79.200	75.600	95.700	90.500	86.800	61.000	55.000
Transmitting ERP (watts) Antenna: 3	0.490	0.260	0.300	4.900	45.770	117.640	63.170	8.330
Maximum Transmitting ERP								
Azimuth(from true north) Antenna Height AAT (meters)	0 80.600	45 79.200	90	135	180	225	270	315
Transmitting ERP (watts)	112.340	35.530	75.600 3.720	95.700 0.260	90.500 0.290	86.800 0.450	61.000 12.040	55.000 74.220
Location Latitude	Longitude		Fround Elev		tructure Hg		Antenna St Registratio	ructure
95 36-41-25.9 N	086-04-02.1 W	2	37.1	77	7.7		1278967	
Address: Holland, 359 Lafay	vette Road							
City: Scottsville County:	ALLEN State: K	Y Cons	struction D	eadline:				
Antenna: 1 Maximum Transmitting ERP								

Call Sign: KNKN867	File Number: 0009262184	Print Date:
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Location Latitude 95 36-41-25.9 N Address: Holland, 359 Lafayo	Longitude 086-04-02.1 W	Ground Ele (meters) 237.1	evation	Structure Hgt (meters) 77.7	to Tip	Antenna So Registratio 1278967	
City: Scottsville County: A		Construction I	Deadline	:			
	Sunt III						
Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	0 114.100 8	45 90 88.200 100.700 4.900	135 73.600 40.250		225 69.400 103.720	270 81.800 29.080	315 87.800 3.250
Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 114.100 8	45 90 100.700 17.180 1.520	135 73.600 0.270	180 49.300 1.720	225 69.400 14.250	270 81.800 71.470	315 87.800 128.360
Location Latitude	Longitude	Ground Ele (meters)	evation	Structure Hgt (meters)	to Tip	Antenna St Registratio	
96 36-59-23.5 N	086-28-21.6 W	146.6		76.2		1277050	
Address: Lampkin Park, Behi			_	•	231		
City: Bowling Green Coun	ty: WARREN Sta	te: KY Constru	iction D	eadline:			
Antenna: 1 Maximum Transmitting ERP in	watts: 140.820						
Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	0 30.300 2	45 90 29.900 37.300 29.890 1.180	135 29.90 0.240	180 29.900 0.240	225 29.900 0.240	270 29.900 0.710	315 29.900 29.750
Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters)	0 4	45 90 29.900 37.300	135 29.900	180 29.900	225 29.900	270 29.900	315 29.900
Transmitting ERP (watts) Antenna: 3	0.240	2.330 51.180	79.74		0.320	0.240	0.240
Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 30.300 2	45 90 29.900 37.300 0.240 0.240	135 29.900 0.280	180 29.900 10.010	225 29.900 96.730	270 29.900 60.750	315 29.900 3.910
Location Latitude	Longitude	Ground Ele (meters)		Structure Hgt (meters)		Antenna St Registratio	tructure
97 37-25-27.1 N	086-13-46.7 W	252.1		41.1		1280487	II INO.
Address: Johnson Crossroads		Road					
City: Clarkson County: GF	RAYSON State: K	Y Construction	n Deadli	ne:			
Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters)	0 4	45 90	135	180	225	270	315
Transmitting ERP (watts)	,	73.900 78.500 105.670 17.850	96.70 1.800		108.500 4.050	99.600 25.570	95.600 109.870

Call Sign: KNKN867 File Number: 0009262184 Print Date:

LocationLatitudeLongitudeGround Elevation (meters)Structure Hgt to Tip (meters)Antenna Structure Registration No.9737-25-27.1 N086-13-46.7 W252.141.11280487

Address: Johnson Crossroads, 2601 St. Augustine Road

City: Clarkson County: GRAYSON State: KY Construction Deadline:

Antenna: 2							
Maximum Transmitting ERP in Watts:	140.820						
Azimuth(from true north)	0 45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.900 73.900	78.500	96.700	106.000	108.500	99.600	95.600
Transmitting ERP (watts)	7.940 44.270	150.440	165.870	63.900	9.040	0.700	1.050
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)	97.900 73.900	78.500	96.700	106.000	108.500	99.600	95.600
Transmitting ERP (watts)	4.030 0.340	2.430	11.890	72.190	167.790	144.670	35.900

Location LatitudeLongitudeGround Elevation (meters)Structure Hgt to Tip (meters)Antenna Structure Registration No.9837-54-31.9 N085-59-25.9 W236.235.0

Address: Fort Knox IV, 5800 Block of Adams Street

City: Fort Knox County: MEADE 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)	94.000	74.300	90.800	60.900	57.100	53.800	55.700	114.300
Transmitting ERP (watts) Antenna: 2	36.310	138.730	165.910	77.210	12.030	0.950	0.820	6.980
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.000	74.300	90.800	60.900	57.100	53.800	55.700	114.300
Transmitting ERP (watts) Antenna: 3	1.300	0.640	5.680	30.740	124.760	162.210	90.940	14.810
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.000	74.300	90.800	60.900	57.100	53.800	55.700	114.300
Transmitting ERP (watts)	117.350	21.640	1.920	0.340	2.170	17.950	89.980	161.610

Control Points:

Control Pt. No. 1

Address: 216 W LINCOLN TRAIL

City: RADCLIFF County: State: KY Telephone Number:

Waivers/Conditions:

NONE

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WPZV473	File Number 0009262040
Radio	Service
CW - PCS	Broadband

FCC Registration Number (FRN): 0003290673

Grant Date 06-23-2015	Effective Date 01-13-2021	r					
Market Number MTA026		nel Block A	Sub-Market Designator 23				
Market Name Louisville-Lexington-Evansvill							
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date				

Waivers/Conditions:

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

Conditions:

Pursuant to §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.

Call Sign: WPZV473 File Number: 0009262040 Print Date: 03-10-2021

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WQGA718	File Number 0009793647						
Radio Service							
AW - AWS (1710-1755 MHz and							
2110-2155 MHz)							

FCC Registration Number (FRN): 0003290673

Grant Date 02-22-2022	Effective Date 02-22-2022	Expiration Date 11-29-2036	Print Date 02-23-2022				
Market Number REA004		Channel Block Sub-Market Designator 15					
Market Name Mississippi Valley							
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date				

Waivers/Conditions:

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

Conditions:

Pursuant to §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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Call Sign: WQGA718 File Number: 0009793647 Print Date: 02-23-2022

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WQGA959	File Number 0009775569		
Radio Service			
AW - AWS (1710-1755 MHz and			
2110-2155 MHz)			

FCC Registration Number (FRN): 0003290673

<u> </u>	<u> </u>		
Grant Date 01-03-2022	Effective Date 01-03-2022	Expiration Date 11-29-2036	Print Date 01-05-2022
Market Number BEA071		nel Block B	Sub-Market Designator
		t Name c, 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.

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.

Call Sign: WQGA959 File Number: 0009775569 Print Date: 01-05-2022

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WQJQ692	File Number
Radio	Service
WU - 700 MHz Up	per Band (Block C)

FCC Registration Number (FRN): 0003290673

`							
Grant Date 01-10-2020	Effective Date 02-11-2021	Expiration Date 06-13-2029	Print Date				
Market Number REA004		nel Block	Sub-Market Designator				
	Marke Mississip						
1st Build-out Date 06-13-2013	2nd Build-out Date 06-13-2019	3rd Build-out Date	4th Build-out Date				

Waivers/Conditions:

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

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

Conditions:

Pursuant to §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.

Call Sign: WQJQ692 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WQVN764	File Number	
Radio Service		
AT - AWS-3 (1695-1710 MHz,		
1755-1780 MHz, and 2155-2180 MHz)		

FCC Registration Number (FRN): 0003290673

Grant Date 04-08-2015	Effective Date 02-24-2017	Expiration Date 04-08-2027	Print Date
Market Number BEA071		nel Block H	Sub-Market Designator
		, TN-KY	1
1st Build-out Date 04-08-2021	2nd Build-out Date 04-08-2027	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WQVN764 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WQVN765	File Number	
Radio Service		
AT - AWS-3 (1695-1710 MHz,		
1755-1780 MHz, and 2155-2180 MHz)		

FCC Registration Number (FRN): 0003290673

Grant Date 04-08-2015	Effective Date 02-24-2017	Expiration Date 04-08-2027	Print Date
Market Number BEA071	Chann	nel Block I	Sub-Market Designator
		t Name c, TN-KY	
1st Build-out Date 04-08-2021	2nd Build-out Date 04-08-2027	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WQVN765 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRAM746	File Number 0009262184
Radio WT - 600 I	Service MHz Band

FCC Registration Number (FRN): 0003290673

,				
Grant Date 01-09-2018	Effective Date 01-13-2021	Expiration Date 01-09-2030	Print Date 03-11-2021	
Market Number PEA112 Channel Block A Sub-Market Designator 0				
Market Name Bowling Green, KY				
1st Build-out Date 01-09-2024	2nd Build-out Date	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

NONE

Conditions:

Pursuant to §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.

Call Sign: WRAM746 File Number: 0009262184 Print Date: 03-11-2021

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRBB966	File Number 0009262037	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0003290673

0 (
Grant Date 07-09-2019	Effective Date 01-13-2021	Expiration Date 08-09-2029	Print Date 03-10-2021
Market Number BTA052	Channel Block L1 Sub-Market Designator 0		
		t Name 1-Glasgow, KY	
1st Build-out Date 06-01-2024	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §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.

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRBB967	File Number 0009262037
Radio UU - Upper Micro Serv	

FCC Registration Number (FRN): 0003290673

Grant Date 07-09-2019	Effective Date 01-13-2021	Expiration Date 08-09-2029	Print Date 03-10-2021	
Market Number BTA052 Channel Block Sub-Market Designator 0				
Market Name Bowling Green-Glasgow, KY				
1st Build-out Date 06-01-2024	2nd Build-out Date	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

NONE

Conditions:

Pursuant to §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.

Call Sign: WRBB967 File Number: 0009262037 Print Date: 03-10-2021

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WREV449	File Number 0009262184	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0003290673

Grant Date 12-11-2019	Effective Date 01-13-2021	Expiration Date 12-11-2029	Print Date 03-11-2021	
Market Number PEA112 Channel Block A Sub-Market Designator 0				
Market Name Bowling Green, KY				
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

NONE

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.

Call Sign: WREV449 File Number: 0009262184 Print Date: 03-11-2021

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WREV451	File Number 0009262184	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0003290673

Grant Date 12-11-2019	Effective Date 01-13-2021	Expiration Date 12-11-2029	Print Date 03-11-2021		
Market Number PEA112					
	Market Name Bowling Green, KY				
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date		

Waivers/Conditions:

NONE

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.

Call Sign: WREV451 File Number: 0009262184 Print Date: 03-11-2021

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

File Number 0009262184		
Radio Service		
UU - Upper Microwave Flexible Use Service		
١		

FCC Registration Number (FRN): 0003290673

Grant Date 12-11-2019	Effective Date 01-13-2021	Expiration Date 12-11-2029	Print Date 03-11-2021	
Market Number PEA112	Chamier Brock			
Market Name Bowling Green, KY				
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

NONE

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.

Call Sign: WREV453 File Number: 0009262184 Print Date: 03-11-2021

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF210	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M1	Sub-Market Designator
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF210 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF211	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M10	Sub-Market Designator
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF211 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF212	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M2	Sub-Market Designator
	Market Bowling (
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF212 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF213	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block 13	Sub-Market Designator 0
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF213 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF214	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M4	Sub-Market Designator
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF214 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF215	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M5	Sub-Market Designator
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF215 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF216	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M6	Sub-Market Designator
	Marke Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF216 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF217	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M7	Sub-Market Designator
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF217 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF218	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		el Block 18	Sub-Market Designator 0
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF218 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STRAIGHT PATH SPECTRUM, LLC

ATTN: REGULATORY STRAIGHT PATH SPECTRUM, LLC 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING ALPHARETTA, GA 30022

Call Sign WRHF219	File Number	
Radio Service		
UU - Upper Microwave Flexible Use		
Service		

FCC Registration Number (FRN): 0012576435

Grant Date 06-04-2020	Effective Date 06-04-2020	Expiration Date 06-04-2030	Print Date
Market Number PEA112		nel Block M9	Sub-Market Designator
	Market Bowling C		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

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.

Call Sign: WRHF219 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF682	File Number
Radio	Service
PM - 3.7 G	Hz Service

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date	
Market Number PEA112		Channel Block A1		
Market Name Bowling Green, KY				
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

Operation for this combination license grants both interim and final rights for this PEA and is not impacted by the relocation process pursuant to 47 CFR ? 27.1412(g).

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

Conditions:

Pursuant to §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.

Call Sign: WRNF682 File Number: Print Date:

700 MHz Relicensed Area Information:

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



Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF683	File Number
Radio	Service
PM - 3.7 G	Hz Service

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date		
Market Number PEA112		Channel Block A2 Sub-Market Design 0			
Market Name Bowling Green, KY					
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date		

Waivers/Conditions:

Operation for this combination license grants both interim and final rights for this PEA and is not impacted by the relocation process pursuant to 47 CFR ? 27.1412(g).

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

Conditions:

Pursuant to §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.

Call Sign: WRNF683 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF684	File Number
Radio	Service
PM - 3.7 G	Hz Service

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date		
Market Number PEA112		Channel Block A3 Sub-Market Designator 0			
Market Name Bowling Green, KY					
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date		

Waivers/Conditions:

Operation for this combination license grants both interim and final rights for this PEA and is not impacted by the relocation process pursuant to 47 CFR ? 27.1412(g).

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

Conditions:

Pursuant to §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.

Call Sign: WRNF684 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF685	File Number
Radio	Service
PM - 3.7 G	Hz Service

FCC Registration Number (FRN): 0003290673

- 1g ()				
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date	
Market Number PEA112		Channel Block A4 Sub-Market Designat		
Market Name Bowling Green, KY				
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

Operation for this combination license grants both interim and final rights for this PEA and is not impacted by the relocation process pursuant to 47 CFR ? 27.1412(g).

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

Conditions:

Pursuant to §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.

Call Sign: WRNF685 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF686	File Number
Radio	Service
PM - 3.7 G	Hz Service

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date		
Market Number PEA112		Channel Block Sub-Market Designator 0			
Market Name Bowling Green, KY					
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date		

Waivers/Conditions:

Operation for this combination license grants both interim and final rights for this PEA and is not impacted by the relocation process pursuant to 47 CFR ? 27.1412(g).

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Conditions:

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Call Sign: WRNF686 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF687	File Number
Radio	Service
PM - 3.7 G	Hz Service

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date		
Market Number PEA112		Channel Block B1 Sub-Market Designate 0			
Market Name Bowling Green, KY					
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date		

Waivers/Conditions:

This interim license, in conjunction with one or more final licenses, collectively provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR ? 27.1412(g). Assignment application(s) and transfers of control filed for this interim license must be done in conjunction with any linked final license.

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

Conditions:

Pursuant to §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.

Call Sign: WRNF687 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF688	File Number	
Radio Service PM - 3.7 GHz Service		
1101 3.7 0	TIZ SCI VICC	

FCC Registration Number (FRN): 0003290673

,			
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date
Market Number PEA112		nel Block 32	Sub-Market Designator
	Market Bowling C		
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This interim license, in conjunction with one or more final licenses, collectively provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR ? 27.1412(g). Assignment application(s) and transfers of control filed for this interim license must be done in conjunction with any linked final license.

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Conditions:

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Call Sign: WRNF688 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign WRNF689	File Number		
Radio Service PM - 3.7 GHz Service			

FCC Registration Number (FRN): 0003290673

8			
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date
Market Number PEA112		nel Block 33	Sub-Market Designator
	Market Bowling C		
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This interim license, in conjunction with one or more final licenses, collectively provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR ? 27.1412(g). Assignment application(s) and transfers of control filed for this interim license must be done in conjunction with any linked final license.

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

Conditions:

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Call Sign: WRNF689 File Number: Print Date:

700 MHz Relicensed Area Information:



11101 ANDERSON DRIVE, SUITE 200 LITTLE ROCK, AR 72212

NEW 195'-0" SELF SUPPORT TOWER w/4' LIGHTNING ARRESTOR -TOTAL TOWER HEIGHT 199'-0"

HARMONI TOWERS SITE RUSSELLVILLE SITE #: KYBGN2037

VERIZON SITE

CK RUSSELLVILLE CAP
FUZE ID: 16507368
LOCATION CODE: 689715

SITE ADDRESS

CREEKWOOD DRIVE
RUSSELLVILLE, KY 42276

RUSSELLVILLE, KY 4227 LOGAN COUNTY E911 ADDRESS: TBD CLIENT CONTACT

VERIZON 2902 RING ROAD ELIZABETHTOWN, KY 42701 CONTACT: JACKIE STRAIGHT PHONE: (290) 750-0023

VERIZONWIRELESS.COM TOWER OWNER

HARMONI TOWERS
11101 ANDERSON DRIVE, SUITE 200
LITTLE ROCK, AR 72212
CONTACT: NATHAN OLSON
PHONE: (616) 633-9730
E-MAIL: NATHAN OLSON@
HARMONITOWERS COM

PROPERTY OWNER

JOHN & ELIZABETH TABOR
5349 BUENA VISTA ROAD
RUSSELIVILLE, KY 42276
CONTACT: JOHN TABOR
PHONE: (270) 792-7181
E-MAIL: TABOR_BETH@YAHOO.COM

RUSSELLVILLE POLICE DEPT. 168 S MAIN ST RUSSELLVILLE, KY 42276

PHONE: (270) 726-7669

FIRE

RUSSELLVILLE FIRE DEPT.

620 N MAIN ST RUSSELLVILLE, KY 42276 PHONE: (270) 726-5020 GENERAL INFORMATION

LATITUDE: 36.863972 N LONGITUDE: 86.886069 W 1983 (NAD83) ELEVATION: 581'± AMSL 1988 (NAVD88)

HARMONI TOWERS LEASE AREA 100'-0" x 100'-0" (10,000 SF)

VERIZON LEASE AREA 12'-0" X 25'-0"

PROJECT TOTAL DISTURBED AREA

COMPOUND: (10,000 SF) = (0.23 ACRE)

ACCESS DRIVE: (24.848 SF) = (0.57 ACRE)

(34,848 SF) = (0.80 ACRE)

GROSS AR



CK RUSSELLVILLE CAP

CREEKWOOD DRIVE RUSSELLVILLE, KY 42276 LOGAN COUNTY

TOWER OWNER: HARMONI TOWERS

ROM LOGAN COUNTY CLERK: 229 W 3RD ST, RUSSELLVILLE, KY 42276: HEAD EAST ON W 3RD ST TOWARD WINTER ST (0.3 MI). TURN LEFT ONTO N BREATHITT ST (0.3 MI). CONTINUE ONTO ARMORY DR (0.2 MI). FURN RIGHT ONTO FRANCES RD/FRANCIS ST (0.4 MI). CONTINUE ONTO NEWTOWN RD (0.4 MI). SITE WILL BE LOCATED ON RIGHT (EAST) SIDE OF ROAD.

FROM LOUISVILLE MTSO: 2421 HOLLOWAY ROAD LOUISVILLE, KY 40299: HEAD SOUTH ON HOLLOWAY RD TOWARD PLANTSIDE DR (0.1 MI). TURN RIGHT AT THE 1ST CROSS STREET ONTO PLANTSIDE DR (0.3 MI), TURN LEFT ONTO WATTERSON TRAIL (0.7 MI). CONTINUE ONTO RUCKRIEGEL PKWY (0.5 MI). TURN LEFT ONTO OLD TAYLORSVILLE RD (0.2 MI), TURN RIGHT ONTO CHENOWETH RUN RD (2.5 MI). TURN RIGHT ONTO GELLHAUS LN (0.9 MI). TURN LEFT ONTO BILLTOWN RD (0.2 MI), TAKE THE RAMP ONTO I-265 W/KY-841 W (0.4 MI). MERGE ONTO I-265 W/KY-841 W (8.3 MI). CONTINUE ONTO KY-841 W (0.5 MI). TAKE EXIT 10B TO MERGE ONTO I-65 S TOWARD NASHVILLE (65.0 MI). KEEP LEFT TO STAY ON I-65 S (39.6 MI). TAKE THE WILLIAM H. NATCHER GREEN RIVER PARKWAY/KY-9007 N EXIT TOWARD BOWLING GREEN/OWENSBORO (0.2 MI). KEEP RIGHT AT THE FORK TO CONTINUE ON EXIT 20 B, FOLLOW SIGNS FOR I-165 N/OWENSBORO AND MERGE ONTO I-165/KY-9007 N (4.9 MI). TAKE EXIT 5 FOR US-68 TOWARD RUSSELLVILLE/BOWLING GREEN (0.3 MI). CONTINUE STRAIGHT ONTO US-68 W/RUSSELLVILLE RD & CONTINUE TO FOLLOW US-68 W (23.3 MI). TURN RIGHT ONTO US-68 (2.9 MI). TURN LEFT ONTO NEWTOWN RD (0.2 MI). SITE WILL BE LOCATED ON LEFT (EAST) SIDE OF ROAD.

OTE:ALL ITEMS WITHIN THESE CONSTRUCTION DOCUMENTS ARE BY TOWER OWNER'S GENERAL
ONTRACTOR AND HIS SUB-CONTRACTORS UNLESS NOTED AS IVZW GC WHICH SHALL INCLUDE VERIZON
ENERAL CONTRACTOR AND HIS SUB-CONTRACTORS. GENERALLY DESCRIBED BELOW:

ALL WORK AND MATERIALS SHALL BE PERFORMED AND 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 CONSTRUCTED TO PERMIT

BUILDING CODE STRUCTURAL CODE MECHANICAL CODE PLUMBING CODE ELECTRICAL CODE FIRE/LIFE SAFETY CODE

G TO THESE CODES.

2018 KENTUCKY BUILDING CODE
TIA/EIA-222 - REVISION G (INCLUDES ADDENDUM #2)
2012 INTERNATIONAL MECHANICAL CODE (IMC 2012)
KENTUCKY STATE PLUMBING CODE (B15 KAR CHAP. 20)
2017 NATIONAL ELECTRICAL CODE (NCC) - NFPA 70
2012 INTERNATIONAL FIRE CODE (2012 IFC)
2019 NATIONAL ENERGY CODE (COMMERCIAL)
2009 NATIONAL FUEL GAS CODE (NFPA 54)

ARCHITECTURAL

POWER OF DESIGN GROUP, LLC

ELECTRICAL UTILITY COORDINATION

S NOT FINALIZED, DO NOT PROCEE

11490 BLUFGRASS PARKWAY

LOUISVILLE, KY 40299

WITH CONSTRUCTION.

ACCESSIBILITY REQUIREMENTS:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2009 IBC BUILDING CODE

APPLICABLE CODES

SURVEYOR POWER OF DE

GAS CODE

POWER OF DESIGN GROUP, LLC 11490 BLUEGRASS PARKWAY LOUISVILLE, KY 40299 PHONE: (502) 437-5252

RUSSELLVILLE ELECTRIC PLANT BOAR ADDRESS: 165 E 4TH ST RUSSELLVILLE, KY 42276 CONTACT: TBD PHONE: (270) 726-2466

MAIL: TBD

CONSULTANT TEAM



SHEET NUMBER DESCRIPTION PROJECT INFORMATION, SITE MAPS, SHEET INDEX B-1 TO B-1.1 SITE SURVEY 500' RADIUS AND ABUTTERS MAP REVISION LOG TOWER ELEVATION TE-1 TOWER ELEVATION CIVIL C-1 OVERALL SITE PLAN W/ AFRIAL OVERLAY OVERALL SITE PLAN W/ DISTANCE TO PROPERTY LINES C-1A C-1B

DETAILED SITE PLAN

DIMENSIONED SITE PLAN

POD
POWER OF DESIGN
11490 BLUEGRASS PARKWAY
LOUISVILLE, KY 402299
502-437-5252

HARMONI

11101 ANDERSON DRIVE, SUITE 200 LITTLE ROCK, AR 72212

07/19/2022



EN PERMIT: 3594

ZONING DRAWINGS

	REV.	DATE	DESCRIPTION
	Α	6.28.22	ISSUED FOR REVIEW
	В	7.18.22	TOWER OWNER COMMENTS
	0	7.19.22	ISSUED AS FINAL
- 1			

SITE INFORMATION:

CK RUSSELLVILLE CAP

CREEKWOOD DRIVE RUSSELLVILLE, KY 42276 LOGAN COUNTY

HARMONI TOWERS SITE NUMBER
KYBGN2037

HARMONI TOWERS SITE NAME: RUSSELLVILLE

POD NOWBER

DRAWN BY: CHECKED BY: POD MEP 05.16.22

21-102848

SHEET TITLE:

PROJECT INFORMATION, SITE MAPS, SHEET INDEX

SHEET NUMBER:

T-1



INSTALL A NEW 195'-0" SELF SUPPORT TOWER w/ 4" LIGHTNING ROD (TOTAL 199'-0")

INSTALL NEW YZW SUBSURFACE GROUNDING SYSTEM
INSTALL AND NIT-6'-19'-5' CONCRETE EQUIPMENT / GENERATOR PAD
INSTALL NEW 3'-5'*XIO'O' CONCRETE PROPANE TANK PAD
INSTALL NEW 3'-5'*XIO'O' CONCRETE PROPANE TANK PAD
INSTALL NEW 3'-5'*XIO'O' CONCRETE PROPANE TANK PAD
INSTALL NEW 0'-5'*XIO'O' CONCRETE PROPANE TANK PAD
INSTALL NEW 0'-5'*XIO'O' CONCRETE PROPANE TANK PAD
INSTALL NEW CONDUITS WITH PULL TAPES FROM YZW ILE ENCLOSURE STUB-UPS TO EQUIPMENT
ENCLOSURE STUB-UPS WITHIN YZW EQUIPMENT PAD
INSTALL NEW CONDUITS WITHIN YZW EQUIPMENT PAD
INSTALL NEW CONDUITS WITHIN PULL TAPES FROM YZW ILE & EQUIPMENT ENCLOSURE STUB-UP LOCATIONS
TO THE GENERATOR LOCATION WITHIN YZW EQUIPMENT TO OVE HERAME LIT HIBER LOCATION
INSTALL NEW CONDUITS WITH PULL TAPES FROM SE CABINET TO OVE HERAME LIT HIBER LOCATION
INSTALL NEW CONDUITS WITH PULL TAPES FROM SE CABINET TO OVE HERAME LIT HIBER LOCATION
INSTALL NEW TO NEW "YERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE AND TRACER WIRE FROM YZW
EQUIPMENT TO NEW "YERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE AND TRACER WIRE FROM NEW
"YERIZON ONLY" TAPE AND HOLE OUTSIDE COMPOUND TO NEW "YERIZON ONLY" 36" K OF "HAND
HOLE AT ROW
INSTALL SIN NEW "YERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE FROM NEW "YERIZON ONLY" 36" K OF "HAND
HOLE AT ROW
INSTALL SIN NEW "YERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE FROM NEW "YERIZON ONLY" S6" K OF "HAND
HOLE AT ROW
INSTALL SIN NEW "YERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE FROM NEW "YERIZON ONLY" S6" K OF "HAND
HOLE AT ROW

INSTALL (1) NEW "VERIZON ONLY" FIBER OPTIC CONDUIT WITH PULL TAPE FROM NEW "VERIZON ONLY" 24 x 36" HAND HOLE OUTSIDE COMPOUND AND STUB UP AT FUTURE FIBER PEDESTAL LOCATION

PERMANENT ELECTRIC POWER MUST BE AVAILABLE FOR VERIZON AT THE METER BASE PRIOR TO THE SITE BEING RELEASED AS TENANT READY.

VERIZON SCOPE (VZW GC):

INSTALL A NEW 11-5-14-9" PREFABBRICATED CANOPY ON EXISTING CONCRETE PAD

INSTALL NEW 35-W GAS VAPOR GENERATOR ON EXISTING CONCRETE PAD

INSTALL NEW 500 GALLON PROPANE TANK ON EXISTING 3"-6"-10"-0" CONCRETE PAD

INSTALL VZW ICE BRIDGE AND FOUNDATIONS
INSTALL VZW ANTENNA MOUNTING SUPPORT STRUCTURE ON TOWER

INSTALL VZW ANTENNAS, UNES, COAX, GPS ANTENNA AND RADIO EQUIPMENT
INSTALL VZW ANTENNAS, UNES, COAX, GPS ANTENNA AND RADIO EQUIPMENT
INSTALL EXISTING SUBSURFACE GROUND IS LEDS TO VZW EQUIPMENT & FACILITIES

INSTALL VZW ELECTRIC SERVICE CONDUCTORS FROM UTILITY H-FRAME TO VZW ILC ENCLOSURE

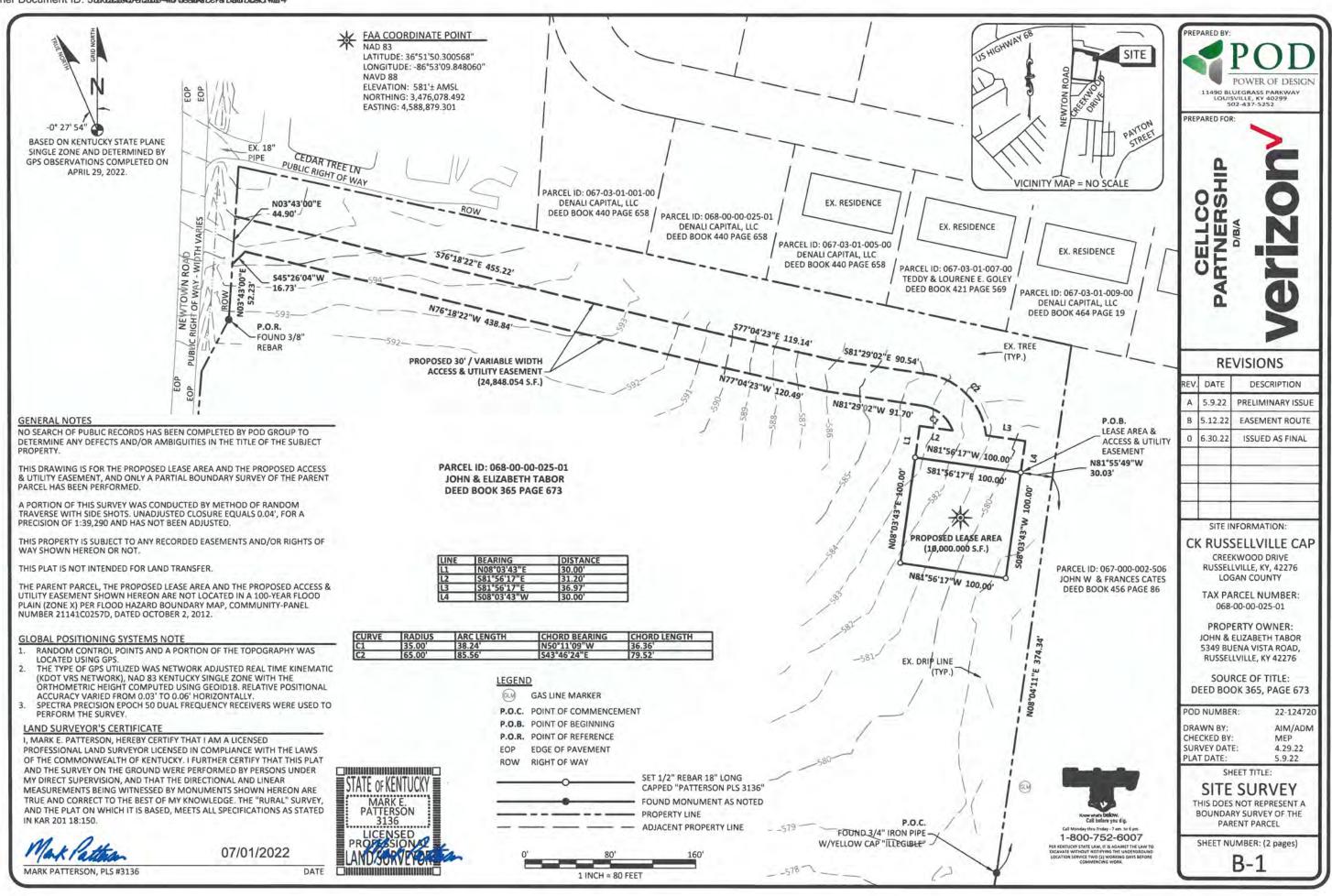
INSTALL VZW ELECTRIC SERVICE CONDUCTORS FROM UTILITY H-FRAME TO VZW ILC ENCLOSURE

INSTALL NEW OUTDOOR OVP AND CABLING H-FRAME SUPPORT

NSTALL VZW EENERATOR CIRCUITS FROM VZW ILC & EQUIPMENT ENCLOSURES TO VZW GENERATOR NSTALL CIRCUITS FROM VZW ILC TO VZW EQUIPMENT ENCLOSURES

INSTALL (2) 1-1/4" & (1) 1" INNERDUCTS WITH PULL TAPES AND TRACER WIRE WITHIN OWNER INSTALLED "VERIZON ONLY" FIBER OPTIC CONDUITS

INSTALLA NEW 195-70-SEP SUPPORT I OWER W/ & CIGHTNI
INSTALLA NEW TOWER FOUNDATION SYSTEM
INSTALLA NEW 90'-90' FENCED GRAVEL COMPOUND
INSTALLA NEW SIEL-FIRANCE RUN TO SITE H-FRAME
INSTALLA NEW ELECTRICAL SERVICE RUN TO SITE H-FRAME
INSTALLA NEW GRAVEL ACCESS DRIVE
NO WATER OR SEWAGE SERVICES RUN TO SITE
INSTALLA NEW TOWER & SITE GROUNDING SYSTEM
INSTALL NEW VZW SUBSURFACE GROUNDING SYSTEM
INSTALL NEW VZW SUBSURFACE GROUNDING SYSTEM



LEGAL DESCRIPTIONS

PROPOSED LEASE AREA

THE FOLLOWING IS A DESCRIPTION OF THE PROPOSED LEASE AREA TO BE LEASED FROM THE PROPERTY CONVEYED TO JOHN & ELIZABETH TABOR AS RECORDED IN DEED BOOK 365, PAGE 673 IN THE OFFICE OF THE CLERK IN LOGAN COUNTY, KENTUCKY, PARCEL ID: 068-00-00-025-01, WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, KENTUCKY SINGLE ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON JANUARY 26, 2022.

COMMENCING AT A FOUND 3/4" IRON PIPE WITH A YELLOW CAP (ILLEGIBLE) IN THE EAST LINE OF THE PROPERTY CONVEYED TO JOHN & ELIZABETH TABOR AS RECORDED IN DEED BOOK 365, PAGE 673, AND ALSO BEING IN THE WEST LINE OF THE PROPERTY CONVEYED TO JOHN W & FRANCES CATES AS RECORDED IN DEED BOOK 456 PAGE 86; THENCE WITH THE COMMON LINE OF SAID TABOR AND CATES, NO8"04'11"E 374.34'; THENCE LEAVING THE WEST LINE OF SAID CATES, AND LEAVING THE EAST LINE OF SAID TABOR AND TRAVERSING THE LAND OF TABOR, N81"55'49"W 30.03' TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136", HEREAFTER REFERRED TO AS A "SET IPC" IN THE NORTHEAST CORNER OF THE PROPOSED LEASE AREA AND BEING THE TRUE POINT OF BEGINNING OF THE PROPOSED LEASE AREA; THENCE WITH THE EAST LINE OF THE PROPOSED LEASE AREA, 508"03'43"W 100.00' TO A SET IPC; THENCE N81"56'17"W 100.00' TO A SET IPC; THENCE N08"03'43"E 100.00' TO A SET IPC; THENCE S81"56'17"E 100.00' TO THE POINT OF BEGINNING CONTAINING 10,000 SQ. FT. AS PER SURVEY BY MARK PATTERSON, PLS #3136 WITH POWER OF DESIGN GROUP, LLC DATED APRIL 29, 2022.

PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT

THE FOLLOWING IS A DESCRIPTION OF THE PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT TO BE GRANTED FROM THE PROPERTY CONVEYED TO JOHN & ELIZABETH TABOR AS RECORDED IN DEED BOOK 365, PAGE 673 IN THE OFFICE OF THE CLERK IN LOGAN COUNTY, KENTUCKY, PARCEL ID: 068-00-00-025-01, WHICH IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEARING DATUM USED HEREIN IS BASED UPON KENTUCKY STATE PLANE COORDINATE SYSTEM, KENTUCKY SINGLE ZONE, NAD 83, FROM A REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM OBSERVATION USING THE KENTUCKY TRANSPORTATION CABINET REAL TIME GPS NETWORK COMPLETED ON JANUARY 26, 2022.

COMMENCING AT A FOUND 3/4" IRON PIPE WITH A YELLOW CAP (ILLEGIBLE) IN THE EAST LINE OF THE PROPERTY CONVEYED TO JOHN & ELIZABETH TABOR AS RECORDED IN DEED BOOK 365, PAGE 673, AND ALSO BEING IN THE WEST LINE OF THE PROPERTY CONVEYED TO JOHN W & FRANCES CATES AS RECORDED IN DEED BOOK 456 PAGE 86; THENCE WITH THE COMMON LINE OF SAID TABOR AND CATES, NO8"04"11"E 374.34"; THENCE LEAVING THE WEST LINE OF SAID CATES, AND LEAVING THE EAST LINE OF SAID TABOR AND TRAVERSING THE LAND OF TABOR, N81"S5'49"W 30.03' TO A SET 1/2" REBAR 18" LONG CAPPED "PATTERSON PLS 3136", HEREAFTER REFERRED TO AS A "SET IPC" IN THE SOUTHEAST CORNER OF THE PROPOSED 30' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT, AND BEING THE NORTHEAST CORNER OF THE PROPOSED LEASE AREA, AND BEING THE TRUE POINT OF BEGINNING OF THE PROPOSED 100' / VARIABLE WIDTH ACCESS & UTILITY EASEMENT; THENCE WITH THE NORTH LINE OF THE PROPOSED LEASE AREA, N81"56'17"W 100.00' TO A SET IPC; THENCE N08"03'43"E 30.00'; THENCE S81"56'17"E 31.20'; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 35.00', ARC LENGTH OF 38.24', THE CHORD OF WHICH BEARS NSO"11'09"W, WITH A CHORD LENGTH OF 36.36'; THENCE N81"29'02"W 91.70'; THENCE N77"04'23"W 120.49'; THENCE N76"18'22"W 438.84'; THENCE S45'26'04"W 16.73' TO A POINT IN THE WEST LINE OF SAID TABOR, SAID POINT ALSO BEING IN THE EAST RIGHT OF WAY LINE OF NEWTOWN ROAD, SAID POINT FOR REFERENCE BEING N03"43"00"E 52.23' FROM A FOUND 3/8" REBAR IN THE WEST LINE OF SAID TABOR AND EAST RIGHT OF WAY LINE OF NEWTOWN ROAD; THENCE WITH THE WEST LINE OF SAID TABOR AND EAST RIGHT OF WAY LINE OF SAID NEWTOWN ROAD, N03"43'00"E 52.23' FROM A FOUND 3/8" REBAR IN THE WEST LINE OF SAID TABOR AND EAST RIGHT OF WAY LINE OF SAID NEWTOWN ROAD, N03"43'00"E 44.90'; THENCE LEAVING THE EAST RIGHT OF WAY LINE OF SAID NEWTOWN ROAD. THENCE WITH THE WEST LINE OF SAID TABOR AND THE EAST RIGHT OF WAY LINE OF SAID NEWTOWN ROAD. THE RIGHT HAVING A RADIUS OF 65.00', ARC LENGTH OF 85.56', THE CHORD OF WHICH BEARS S43'46'24"E, WITH A CHORD LENGTH OF 75.52'; TH

LAND SURVEYOR'S CERTIFICATE

I, MARK E. PATTERSON, HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF KENTUCKY. I FURTHER CERTIFY THAT THIS PLAT AND THE SURVEY ON THE GROUND WERE PERFORMED BY PERSONS UNDER MY DIRECT SUPERVISION, AND THAT THE DIRECTIONAL AND LINEAR MEASUREMENTS BEING WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. THE "RURAL" SURVEY, AND THE PLAT ON WHICH IT IS BASED, MEETS ALL SPECIFICATIONS AS STATED IN KAR 201 18:150.



07/01/2022



REPORT OF TITLE - PARCEL ID: 068-00-00-025-01 - DEED BOOK 365, PAGE 673

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY POD GROUP, LLC. AND AS SUCH WE ARE NOT RESPONSIBLE FOR THE INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE, UNRECORDED EASEMENTS, AUGMENTING EASEMENTS, IMPLIED OR PRESCRIPTIVE EASEMENTS, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE AND THIS SURVEY WAS COMPLETED WITH THE AID OF TITLE WORK PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, FOR THE BENEFIT OF FNF - INDIANAPOLIS, ORDER NO. 35208091, ISSUE DATE OF AUGUST 25, 2021. THE FOLLOWING COMMENTS ARE IN REGARD TO SAID REPORT.

SEARCH DISCLOSED THE FOLLOWING:

- TAXES
- TYPE OF TAX: COUNTY CALENDAR YEAR: 2020 AMOUNT: \$149.63 ANNUALLY PARCEL ID#: 068-00-00-025-01 PAID THROUGH: 2020 ASSESSMENT: \$11,590.00 (TOTAL = LAND AND IMPROVEMENTS, IF ANY) (POD GROUP, LLC DID NOT EXAMINE OR ADDRESS THIS ITEM.)
- RIGHT OF WAY EASEMENT IN FAVOR OF JOHN W. CATES SET FORTH IN INSTRUMENT RECORDED ON AUGUST 28, 1989 IN DEED BOOK 40, PAGE 647. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- 3. MEMORANDUM AGREEMENT DATED AUGUST 23, 1989 BY AND BETWEEN REBECCA MONTGOMERY SIMOR AND GEORGE SIMOR AND JOHN W. CATES, D/B/A CATES CONSTRUCTION COMPANY RECORDED ON AUGUST 29, 1989 IN DEED BOOK 40, PAGE 638. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- RIGHT OF WAY EASEMENT IN FAVOR OF REBECCA MONTGOMERY SIMOR AND GEORGE SIMOR SET FORTH IN INSTRUMENT RECORDED ON AUGUST 28, 2009 IN DEED BOOK 40, PAGE 649. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- AGREEMENT DATED AUGUST 23M 1989 BY AND BETWEEN JOHN W. CATES, D/B/A CATES CONSTUCTION COMPANY AND REBECCA SIMOR AND GEORGE SIMOR RECORDED ON AUGUST 28, 1989 IN DEED BOOK 40, PAGE 643. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- HIGHWAY DEED DATED MAY 17, 1993 BY AND BETWEEN REBECCA M. SIMOR AND GEORGE G. SIMOR, AS GRANTER, AND THE COMMONWEALTH OF KENTUCKY, AS GRANTEE, RECORDED ON JULY 15, 1993 IN DEED BOOK 283, PAGE 475. (DEED BOOK 283, PAGE 475 DOES NOT AFFECT THE PARENT PARCEL, THE PROPOSED LEASE AREA OR THE PROPOSED ACCESS & UTILITY EASEMENT AND IS SHOWN HEREON.)
- 7. MORTGAGE OF REAL ESTATE FROM JOHN J TABOR AND ELIZABETH TABOR, GRANTOR(S), IN FAVOR OF BRANCH BANKING AND TRUST COMPANY, DATED JANUARY 31, 2006, AND RECORDED FEBRUARY 17, 1960 IN DEED BOOK 394, PAGE 437, IN THE ORIGINAL AMOUNT OF \$95,500.00; MORTGAGE EXTENSION AGREEMENT RECORDED ON FEBRUARY 7, 2008 IN DEED BOOK 432, PAGE 767; KENTUCKY AFFIDAVIT OF AMENDMENT TO MORTGAGE (TERM NOTE) RECORDED ON DECEMBER 17, 2012 IN DEED BOOK 505, PAGE 178; MORTGAGE EXTENSION AGREEMENT RECORDED ON DECEMBER 17, 2012 IN DEED BOOK 505, PAGE 180; MODIFICATION OF MORTGAGE RECORDED ON DECEMBER 23, 2019 IN DEED BOOK M614, PAGE 208. (DOCUMENTS AFFECT THE PARENT PARCEL, THE PROPOSED LEASE AREA OR THE PROPOSED ACCESS & UTILITY EASEMENT.)
- 8. MORTGAGE OF REAL ESTATE FROM JOHN P TABOR AND ELIZABETH TABOR, GRANTOR(S), IN FAVOR OF BRANCH BANKING AND TRUST COMPANY, DATED APRIL 23, 2013, AND RECORDED APRIL 25, 2013 IN DEED BOOK 510, PAGE 451, IN THE ORIGINAL AMOUNT OF \$260,000.00. (DOCUMENT AFFECTS THE PARENT PARCEL, THE PROPOSED LEASE AREA OR THE PROPOSED ACCESS & UTILITY EASEMENT.)

PARENT PARCEL - LEGAL DESCRIPTION - DEED BOOK 365, PAGE 673 (NOT FIELD SURVEYED)

PROPERTY LOCATED IN LOGAN COUNTY, KENTUCKY

UNLESS STATED OTHERWISE, ANY MONUMENT REFERRED TO HEREIN AS A "SET IRON PIN" IS A 5/8" DIAMETER STEEL REINFORCING BAR, EIGHTEEN INCHES IN LENGTH WITH A PLASTIC CAP STAMPED "J.L. HARRIS-P.L.S. 3148". ALL BEARINGS STATED HEREIN ARE REFERRED TO FOUND MONUMENTATION AS DESCRIBED ON A PLAT OF CREEKWOOD SUBDIVISION-PLAT CABINET 1-ENVELOPE 174-PLAT #258.

BEGINNING AT A SET IRON PIN IN THE EAST RIGHT OF WAY OF THE NEWTOWN ROAD (RIGHT OF WAY VARIES), CORNER TO CATES (DEED BOOK 309, PAGE 426); THENCE LEAVING SAID RIGHT OF WAY WITH THE LINE OF CATES THEN TWIN OAKS ESTATES SUBDIVISION (PLAT CABINET 1, ENVELOPE 134 PLAT #218) S 79* 12' 48" E 797.32 FEET TO A FOUND IRON PIN # 2474, CORNER OF HOLLAND (DEED BOOK 322, PAGE 133); THENCE TURNING RIGHT WITH THE LINE OF HOLLAND S 06" 45' 18" W 499.36 FEET TO A FOUND 3/4" DIAMETER IRON PIPE # 906, CORNER TO HOLLAND (DEED BOOK 297, PAGE 050); THENCE WITH THE LINE OF HOLLAND S 08" 56' 53" W 387.12 FEET TO A FOUND DISTURBED IRON PIN (NO. 1.5, CAP), CORNER TO THE CREEKWOOD SUBDIVISION (PLAT CABINET 1, ENVELOPE 174-PLAT # 258); THENCE TURNING RIGHT WITH THE LINE OF THE CREEKWOOD SUBDIVISION N 84" 56' 27" W 734-78 FEET TO A SET IRON PIN IN SAID RIGHT OF WAY; THENCE TURNING RIGHT WITH SAID RIGHT OF WAY N 02" 45' 51" E 770.84 FEET TO A SET IRON PIN; THENCE N 26" 27' 56" E 54.83 FEET TO A SET IRON PIN; THENCE N 02*24' 07" E 143.82 FEET TO THE POINT OF BEGINNING, DESCRIBED PARCEL CONTAINING 16.47 ACRES AS SHOWN BY SURVEY PERFORMED BY JEFFREY L. HARRIS, P.L.S. # 3148 WITH BENCHMARK LAND SURVEYING, DATED JANUARY 16, 2006.

AND BEING THE SAME PROPERTY CONVEYED TO JOHN TABOR AND ELIZABETH TABOR FROM GEORGE SIMOR AND REBECCA M. SIMOR BY DEED DATED JANUARY 31, 2006 AND RECORDED FEBRUARY 17, 2006 IN DEED BOOK 365, PAGE 673.

TAX PARCEL NO. 068-00-00-025-01



PREPARED FOR:

CELLCO

Ve

REVISIONS

REV.	DATE	DESCRIPTION		
A	5.9.22	PRELIMINARY ISSUE		
В	5.12.22	EASEMENT ROUTE		
0	6.30.22	ISSUED AS FINAL		
	7	-		

SITE INFORMATION

CK RUSSELLVILLE CAP

CREEKWOOD DRIVE RUSSELLVILLE, KY, 42276 LOGAN COUNTY

TAX PARCEL NUMBER: 068-00-00-025-01

PROPERTY OWNER: JOHN & ELIZABETH TABOR 5349 BUENA VISTA ROAD, RUSSELLVILLE, KY 42276

SOURCE OF TITLE: DEED BOOK 365, PAGE 673

POD NUMBER

PLAT DATE:

DRAWN BY: CHECKED BY: SURVEY DATE: AIM/ADM MEP 4.29.22 5.9.22

22-124720

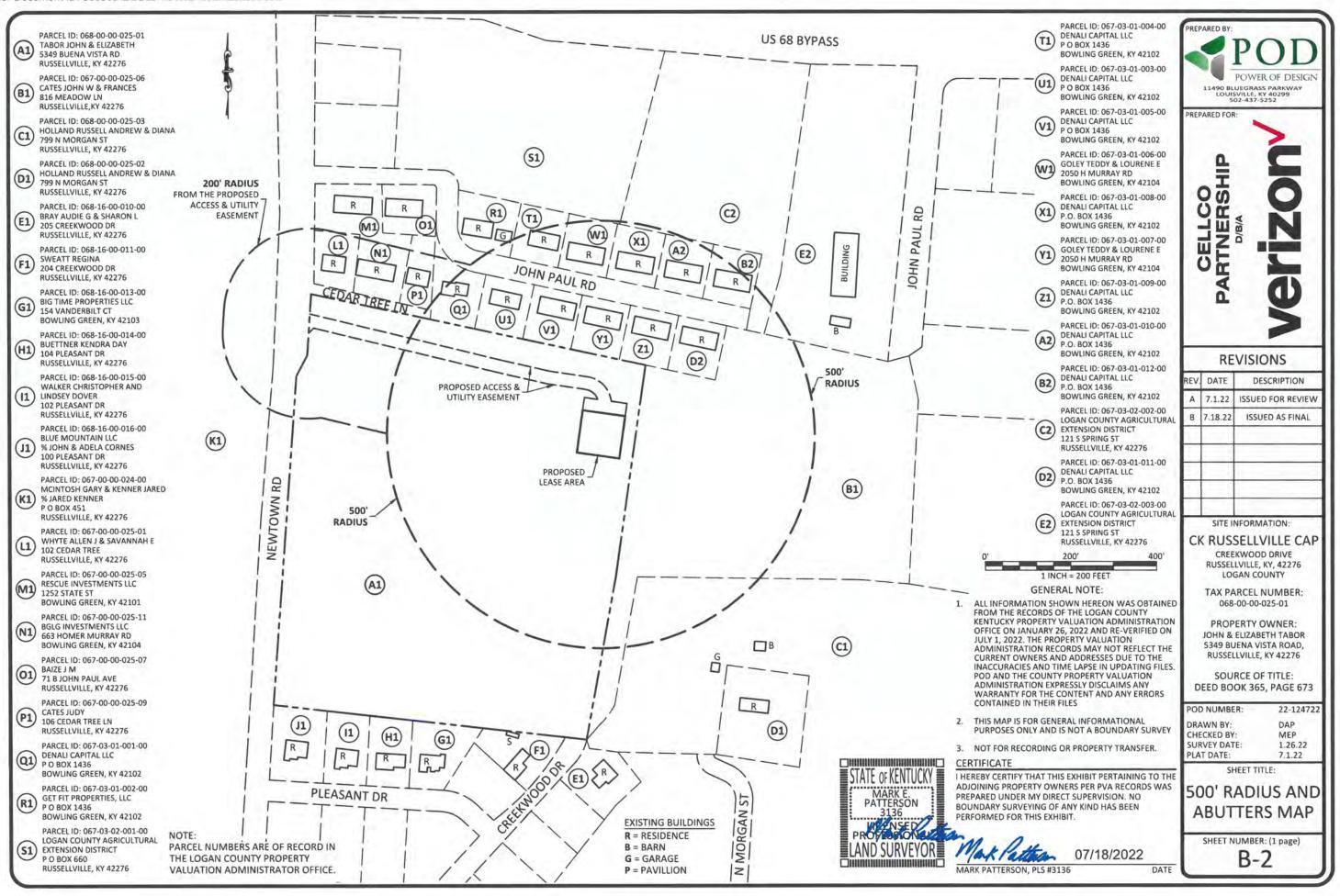
SHEET TITLE:

SITE SURVEY

THIS DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL

SHEET NUMBER: (2 pages)

B-1.1



REVISION LOG

REV * MM/DD/YY		SHEET NUMBER	DESCRIPTION OF REVISION	
A	6/28/2022	ALL SHEETS	ISSUED FOR REVIEW	
В	7/18/2022	ALL SHEETS	TOWER OWNER COMMENTS	
0	7/19/2022	ALL SHEETS	ISSUED AS FINAL	





11101 ANDERSON DRIVE, SUITE 200 LITTLE ROCK, AR 72212

07/19/2022



EN PERMIT: 3594

ZONING DRAWINGS

.28.22	ISSUED FOR REVIEW
.18.22	TOWER OWNER COMMENTS
.19.22	ISSUED AS FINAL
	7.000

SITE INFORMATION:

CK RUSSELLVILLE CAP

CREEKWOOD DRIVE RUSSELLVILLE, KY 42276 LOGAN COUNTY

HARMONI TOWERS SITE NUMBER: KYBGN2037

HARMONI TOWERS SITE NAME: RUSSELLVILLE

POD NUMBER:

ER: 21-102848

DRAWN BY: CHECKED BY: DATE:

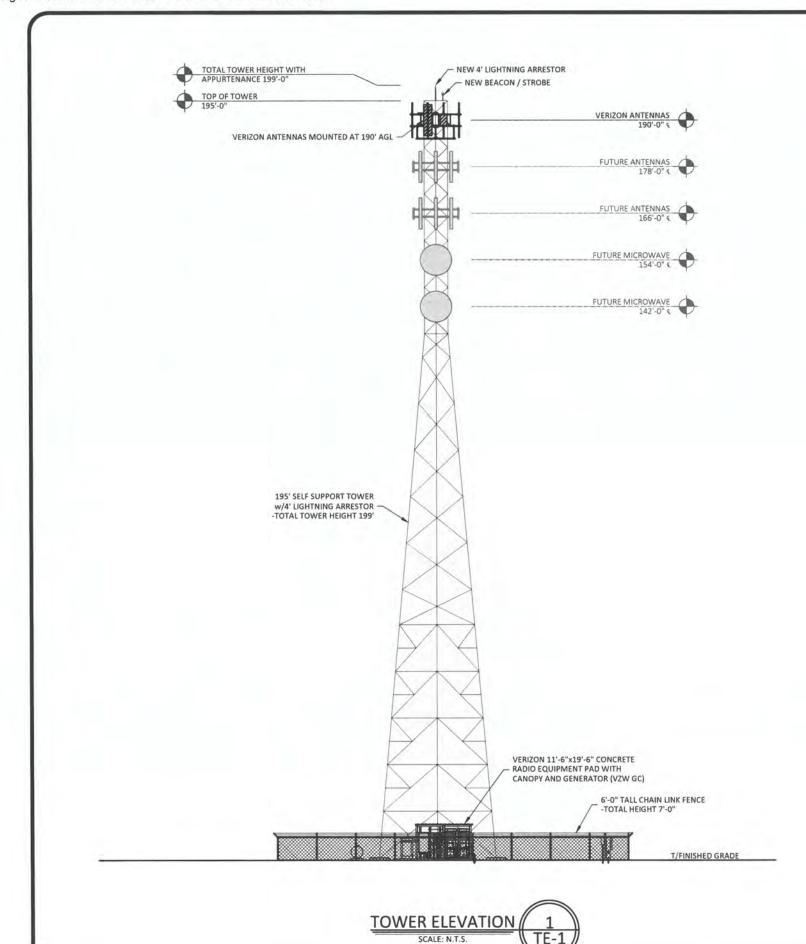
MEP 05.16.22

05.16

REVISION LOG

SHEET TITLE:

R-1



NOTE:

 IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ANTENNA INFORMATION AGAINST FINAL RADIO ENGINEERING PLAN PROVIDED BY CELLCO PARTNERSHIP d/b/a VERIZON (VZW GC)

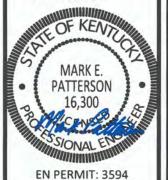


POWER OF DESIGN 11490 BLUEGRASS PARKWAY LOUISVILLE, KY 40299 502-437-5252



11101 ANDERSON DRIVE, SUITE 200 LITTLE ROCK, AR 72212

07/19/2022



ZONING

ZONING DRAWINGS

REV.	DATE	DESCRIPTION
Α	6.28.22	ISSUED FOR REVIEW
В	7.18.22	TOWER OWNER COMMENTS
0	7.19.22	ISSUED AS FINAL
	7.13.22	ISSUED AS TIMAL
	-	

SITE INFORMATION:

CK RUSSELLVILLE CAP

CREEKWOOD DRIVE RUSSELLVILLE, KY 42276 LOGAN COUNTY

HARMONI TOWERS SITE NUMBER
KYBGN2037

HARMONI TOWERS SITE NAME: RUSSELLVILLE

POD NUMBER: 21-102848

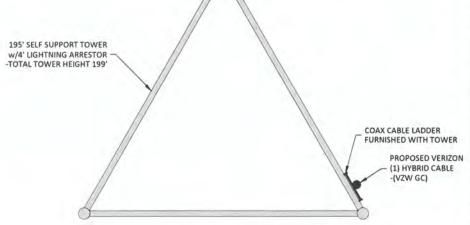
DRAWN BY: CHECKED BY: DATE: POD MEP 05.16.22

SHEET TITLE:

TOWER ELEVATION

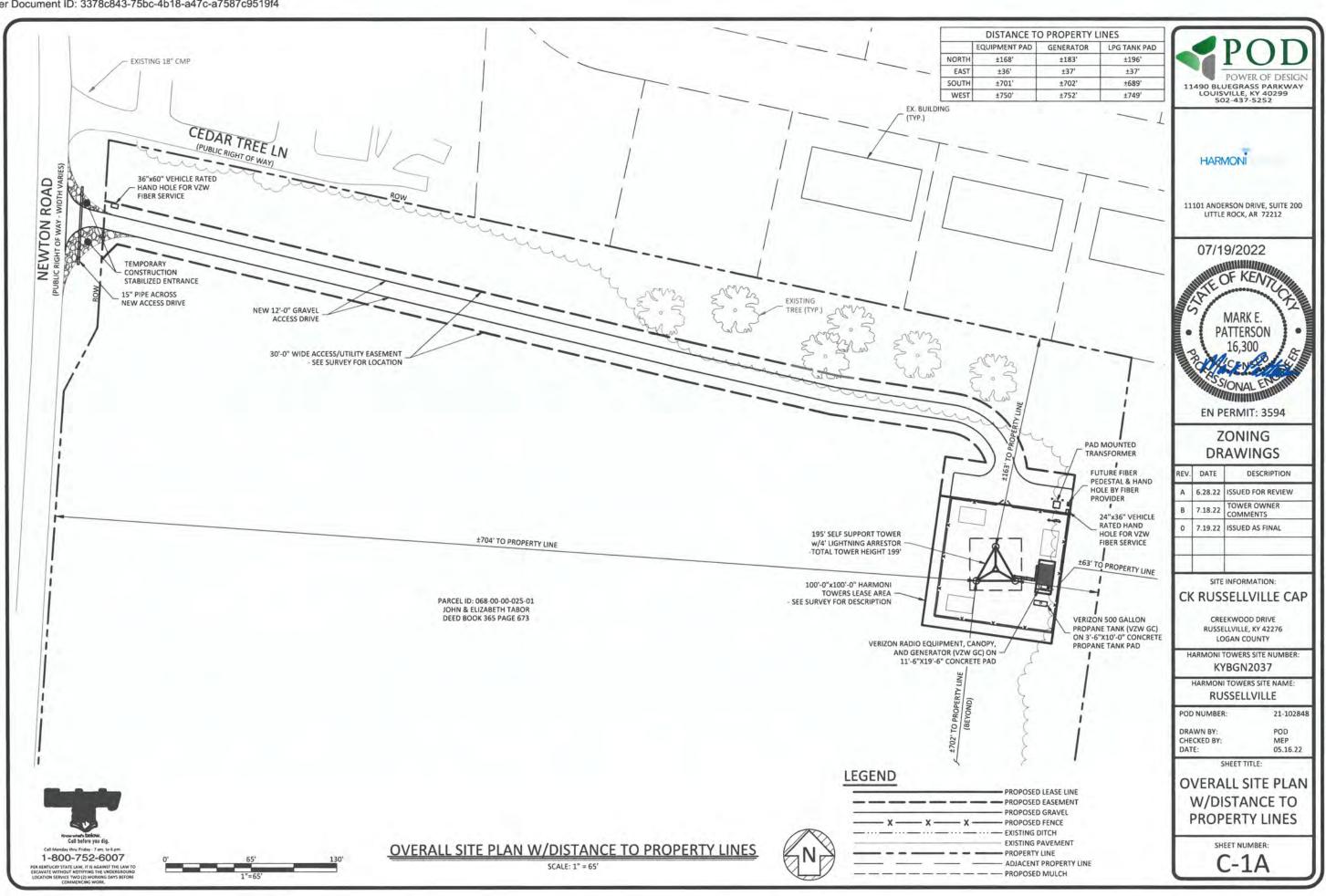
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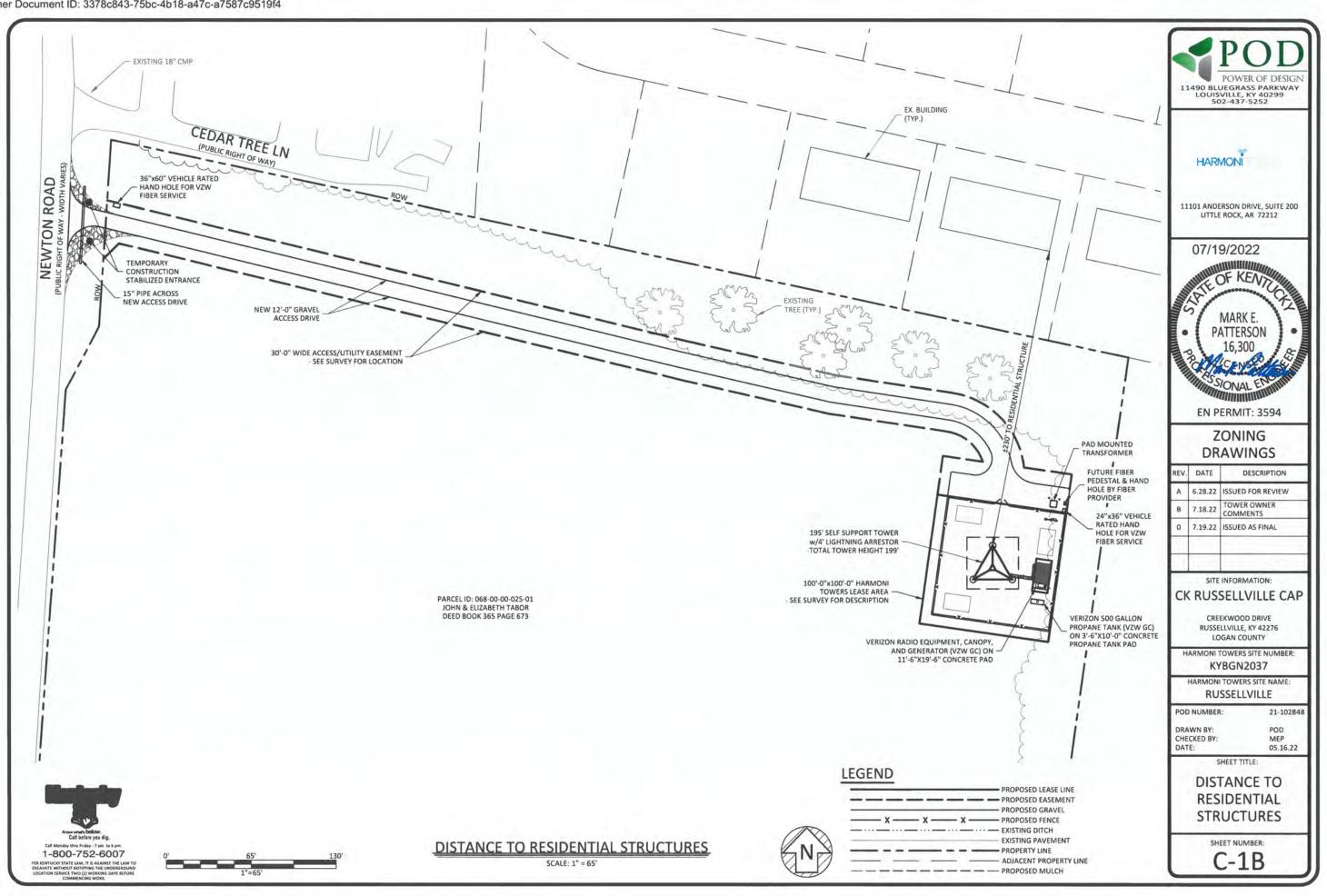
TE-1

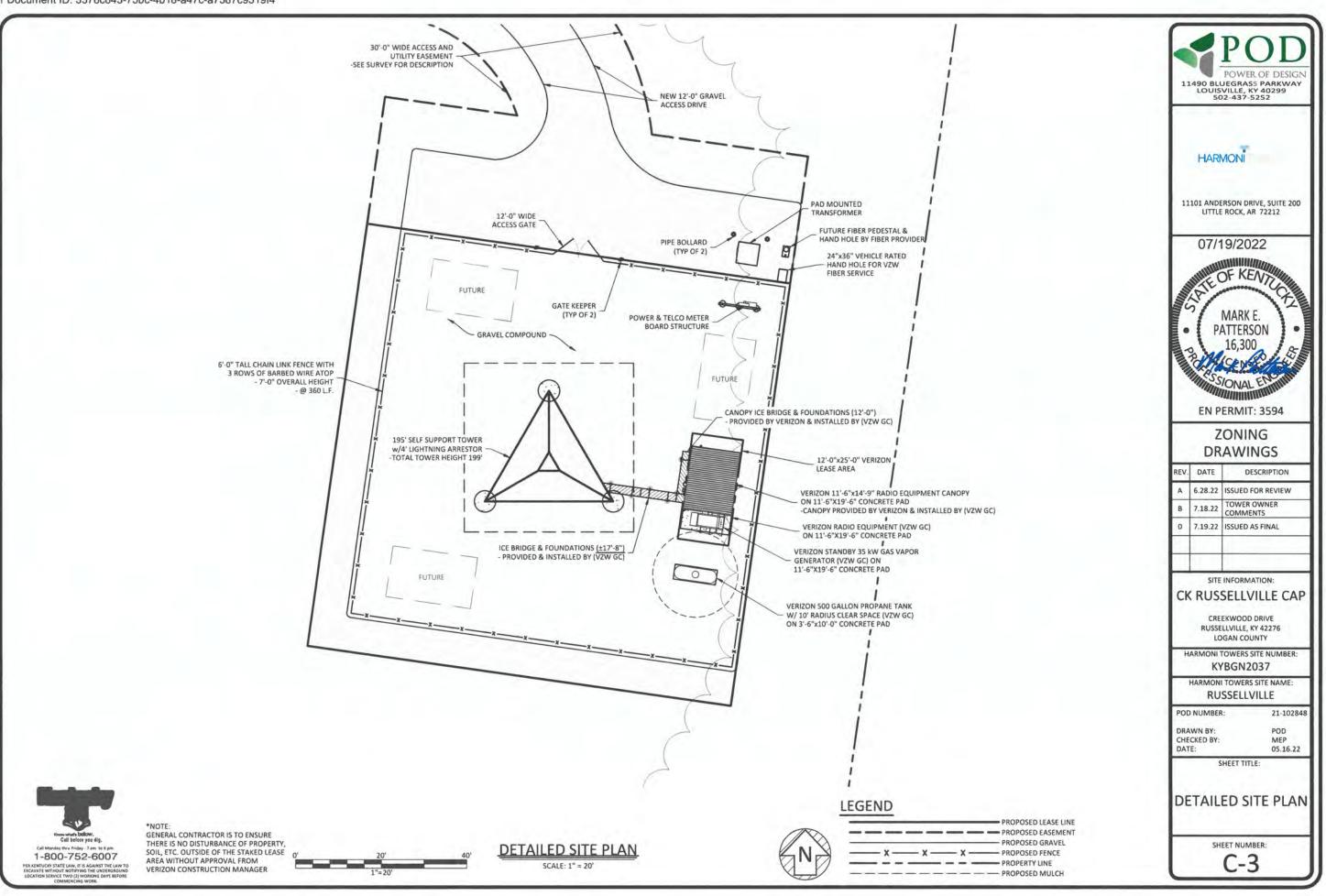


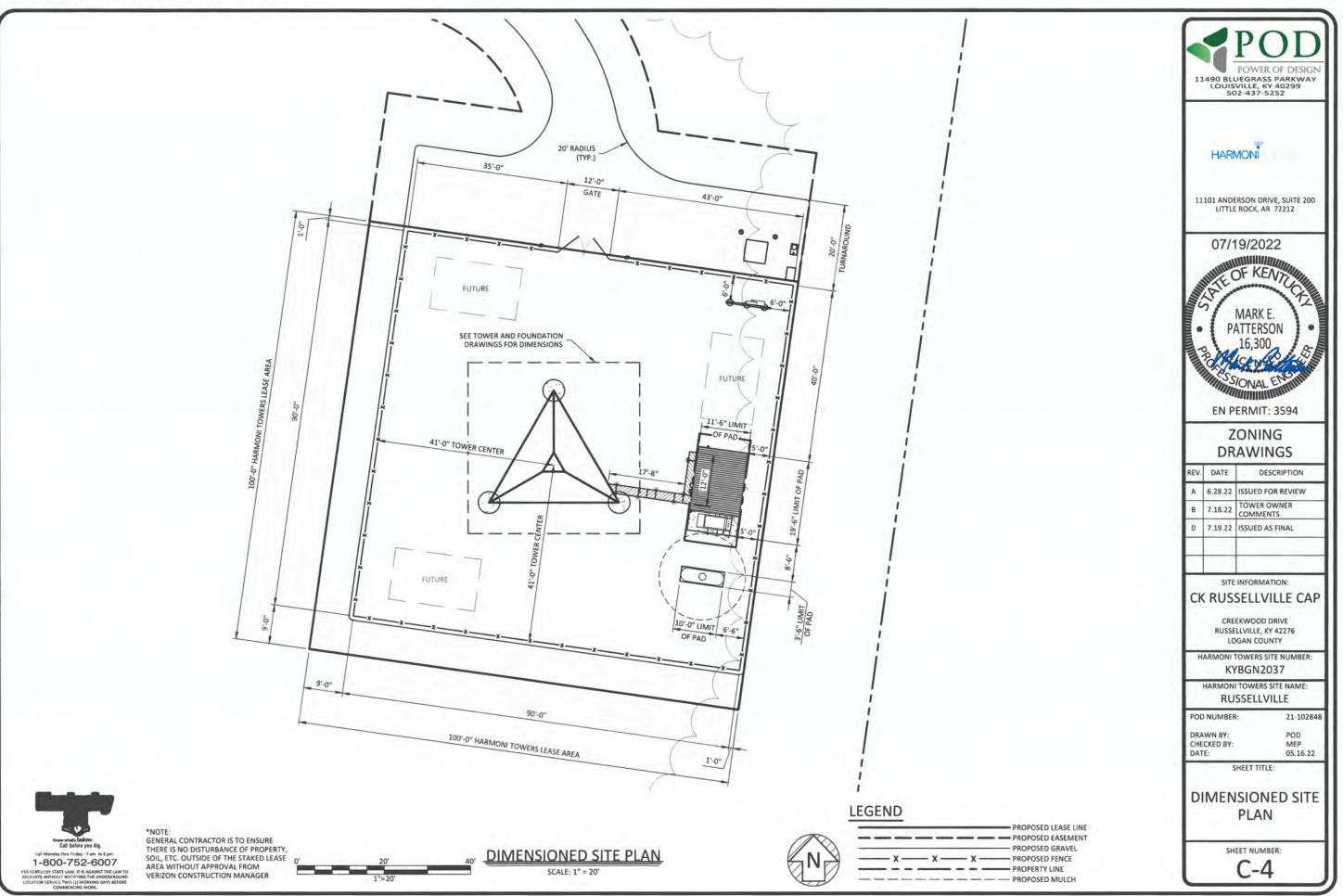














May 6, 2022 POD Project #: 22-124720

VERIZON WIRELESS

1A Letter

Site Name: **CK Russellville Cap**

Site Number: **689715**

Site Address: East side of Newtown Road

North of Creekwood Drive Russellville, KY 42276

County: Logan

USGS Quad Map: Russellville, KY

Site Coordinates:

NAD 83

Latitude: 36° 51' 50.300568" (36.863972°)
Longitude: -86° 53' 09.848060" (-86.886069°)

Site Elevation (NAVD88): 580.8' ± AMSL

The horizontal coordinates are per the North American Datum of 1983 (2011) Kentucky State Plane Single Zone. Coordinates are shown as degrees, minutes and seconds which were derived from KDOT VRS RTK Network.

The vertical elevations are per the North American Vertical Datum of 1988, which were derived from KDOT VRS RTK Network.

I hereby certify that the horizontal and vertical locations are accurate to within 1A reporting requirements (20'± horizontally and 3'± feet vertically). The type of GPS survey utilized was network adjusted real time kinematic (KDOT VRS RTK Network) with the orthometric height computed using GEOID18.

The above-mentioned coordinates were established using "Spectra Precision Epoch 50 receivers" and are tied to the National Geodetic Reference System established by the National Geodetic Survey.

Consultant

Mark E. Patterson, PLS Power of Design Group, LLC 11490 Bluegrass Parkway Louisville, KY 40299 STATE OF KENTUCKY

MARK E.
PATTERSON
3136

LICENSED
PROFESSIONAL
LAND SURVEYOR

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 1"x10"	195	Sector2(CaAa=10000 Sq.in)No Ice	166
Sector1(CaAa=13333.33 Sq.in)No Ice	190	(Carrier 3)	
(Carrier 1)		Sector3(CaAa=10000 Sq.in)No Ice	166
Sector2(CaAa=13333,33 Sq.in)No Ice	190	(Carrier 3)	
(Carrier 1)		4 1/2" OD Dish Mount (Carrier 4)	154
Sector3(CaAa=13333,33 Sq.in)No Ice (Carrier 1)	4 1/2" OD Dish Mount (Carrier 4)	154	
		6' MW Dish (Carrier 4)	154
Sector1(CaAa=10000 Sq.in)No Ice	178	6' MW Dish (Carrier 4)	154
(Carrier 2)		4 1/2" OD Dish Mount (Carrier 5)	142
Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2)	178	4 1/2" OD Dish Mount (Carrier 5)	142
Sector3(CaAa=10000 Sq.in)No Ice		6' MW Dish (Carrier 5)	142
(Carrier 2)	170	6' MW Dish (Carrier 5)	142
Sector1(CaAa=10000 Sq.in)No Ice (Carrier 3)	166		

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 Logan 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.
- 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
- 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: 406 K SHEAR: 31 K

UPLIFT: -360 K SHEAR: 29 K

> AXIAL 151 K

SHEAR MOMENT

TORQUE 2 kip-ft 30 mph WIND - 1.500 in ICE

> AXIAL 54 K

SHEAR 53 K MOMENT 6550 kip-ft

TORQUE 17 kip-ft REACTIONS - 106 mph WIND



ARCOSA TELECOM STRUCTURES

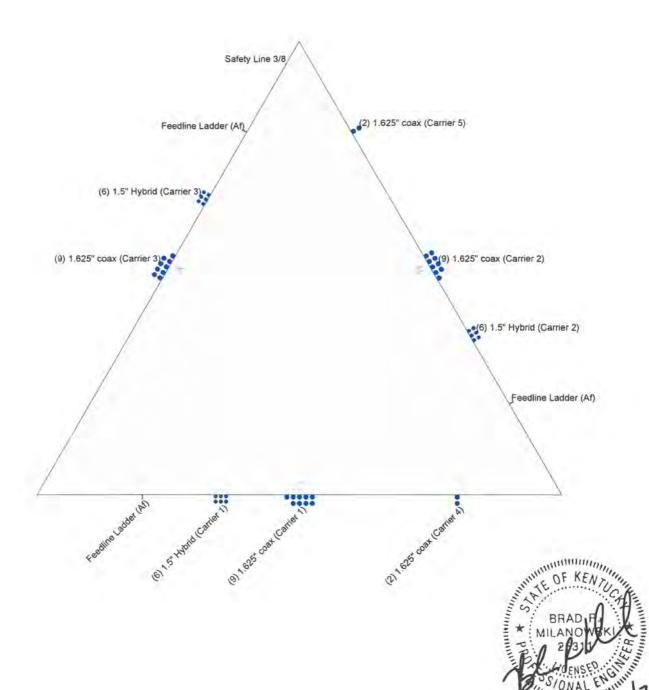


B+T Group 1717 S Boulder Ave, Suite 300

Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 ob ATS# 9830 - Russellville (Site# KYBGN2037)

Date: 12/09/22 Scale NTS Dwg No. E-1

Round Flat App in Face App Out Face





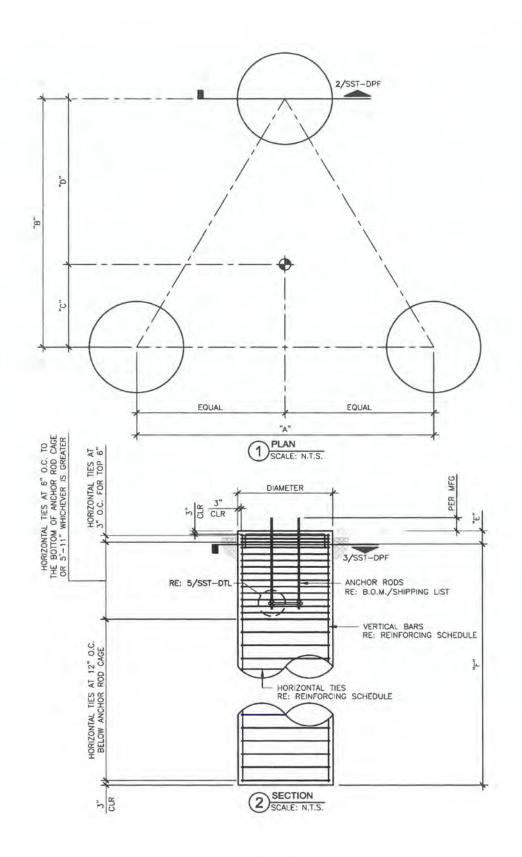


B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119

Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 ^b ATS# 9830 - Russellville (Site# KYBGN2037)

| Project: 195' SST/36.863972, -86.886069 |
| Client | Harmoni Towers | Drawn by daniel.hast |
| Code: TIA-222-H | Date: 12/09/22

Scale NTS Dwg No. E-7



DATE:

- NOTES:
 1. REINFORCEMENT STEEL SHALL CONFIRM TO THE REQUIREMENT OF ASTM A-615 (GRADE 60) EXCEPT THAT TIES MAY BE ASTM-615 (GRADE 40) WITH 3" MINIMUM CLEAR COVER.
- REINFORCEMENT STEEL SHALL BE DETAILED, FABRICATED, BENT, AND PLACED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE AND THE ACI 315 (LATEST EDITION).
- 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: POWER OF DESIGN 21-102846 PROJECT NUMBER:

11/11/2022

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.

TOTAL CONCRETE VOLUME FOR ALL (3) PIERS IN CUBIC YARDS: 32.81

- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- CONCRETE MIXTURES SHALL MEET DURABILITY REQUIREMENTS OF CHAPTER 19 OF THE ACI 318-14

 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.

 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.
- 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.
- VERIFY ALL DIMENSIONS AGAINST MANUFACTURER'S DRAWINGS.

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	19' 6"	
В	16' 10-5/8"	
C	5' 7-9/16"	
D	11' 3-1/8"	
E	0' 6"	
F	23'0"	
MIN. OVERLAP "G"	2'3"	
DIAMETER	4' 0"	

REINFORCING SCHEDULE	SIZE	TOTAL QTY
VERTICAL BARS	#8	36
HORIZONTAL TIES	#4	93
U-BAR HORIZONTAL	#4	12

GLOBAL REAC	TIONS	
MOMENT	6550	KIP-FT
AXIAL	54	KIPS
SHEAR	53	KIPS
REACTIONS PI	ER LEG	
COMPRESSION AXIAL	406	KIPS
COMPRESSION SHEAR	31	KIPS
UPLIFT AXIAL	360	KIPS
UPLIFT SHEAR	29	KIPS



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

ARCOSA

TELECOM STRUCTURES

4020 TULL AVE. MUSKOGEE, OK 74403

REV	DATE	DESCRIPTION
0	12/09/22	ISSUED FOR CONSTRUCTION

COA: 4011

EXPIRES: 12/31/2023



IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTIONS OF A LICENSES PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

PROJECT INFORMATION:

PROJECT NO: 166509_001_01_0001 SITE NAME: RUSSELLVILLE

SITE NO: 9830

CLIENT NAME: ARCOSA TELECOM STRUCTURES

DRAWN BY: DANIEL HAST CHECKED BY:

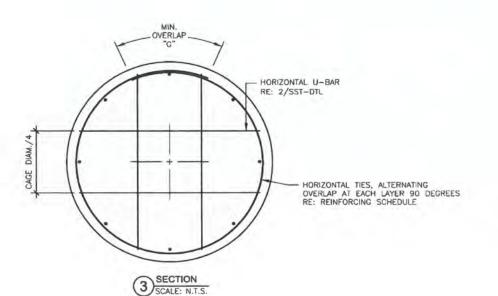
SHEET TITLE:

DRILLED PIER FOUNDATION

SHEET NUMBER:

REVISION:

SST-DPF



DIMENSIONING	SCHEDULE
A	28' 6"
В	4' 6"
C	19' 6"
D	5' 9-11/16"
E	16' 10-5/8"
F	2' 9-3/4"
	0'6"
K	6' 0"
	2' 0"
MIN. OVERLAP "M"	2' 3"
DIAMETER	3'0"

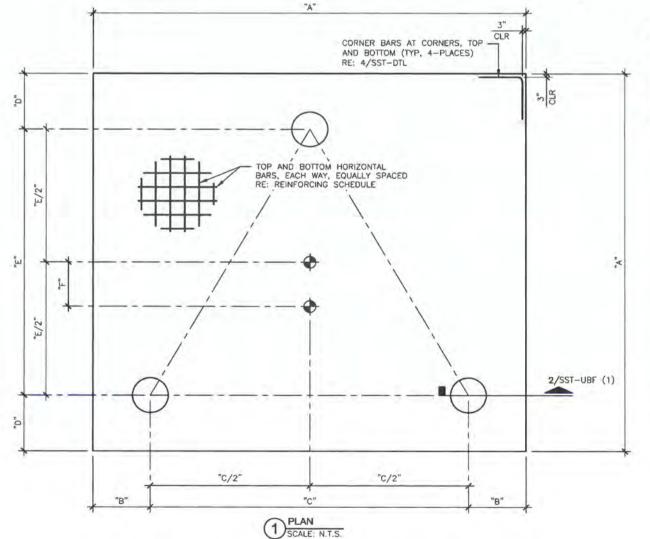
REINFORCING SCHEDULE	SIZE	TOTAL QT
VERTICAL BARS WITH 90° BEND	#8	30
HORIZONTAL TIES	#4	42
HORIZONTAL U-BAR (PEDESTAL)	#4	12
TOP HORIZONTAL BARS	#8	58
BOTTOM HORIZONTAL BARS	#8	58
CORNER BARS	#4	8
VERTICAL U-BARS (PAD)	#4	58

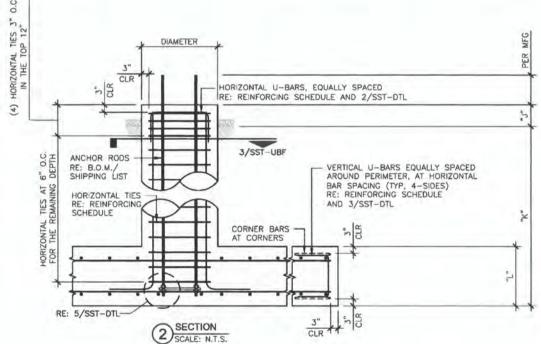
GLOBAL REAC	TIONS	
MOMENT	6550	KIP-FT
AXIAL	54	KIPS
SHEAR	53	KIPS
REACTIONS PI	ER LEG	
COMPRESSION AXIAL	406	KIPS
COMPRESSION SHEAR	31	KIPS
UPLIFT AXIAL	360	KIPS
UPLIFT SHEAR	29	KIPS

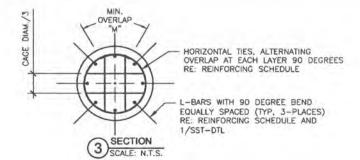
- REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENT OF ASTM A-615 (GRADE 60) EXCEPT THAT TIES MAY BE ASTM-615 (GRADE 40) WITH 3" MINIMUM CLEAR COVER.
- REINFORCEMENT STEEL SHALL BE DETAILED, FABRICATED, BENT, AND PLACED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD
- PRACTICE AND THE ACI 315 (LATEST EDITION). 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: POWER OF DESIGN PROJECT NUMBER:
- 11/11/2022 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
- CONCRETE VOLUME IN CUBIC YARDS: 63.7
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- CONCRETE MIXTURES SHALL MEET DURABILITY REQUIREMENTS OF CHAPTER 19 OF THE ACI 318-14.
- 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. 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. 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.
- 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.









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

ARCOSA

TELECOM STRUCTURES

4020 TULL AVE, MUSKOGEE, OK 74403

STRUCTION

COA: 4011

EXPIRES: 12/31/2023



IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTIONS OF A LICENSES PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

PROJECT INFORMATION:

PROJECT NO: 166509_001_01_0001 SITE NAME: RUSSELLVILLE

SITE NO: 9830 CLIENT NAME: ARCOSA TELECOM STRUCTURES

DRAWN BY: DANIEL HAST CHECKED BY:

SHEET TITLE:

UNIT BASE FOUNDATION

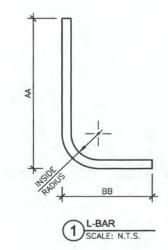
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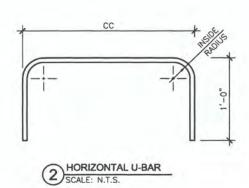
REVISION:

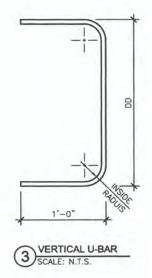
SST-UBF

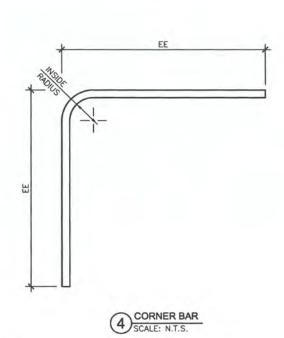
DIMENSIONING SCHEDULE	
AA*	5' 10"
BB	1'3"
CC*	VARIES
DD*	1'6"
EE	3'0"

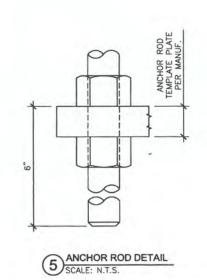
*NOTE: CONTRACTOR TO VERIFY DIMENSIONS PRIOR TO FABRICATION













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



TELECOM STRUCTURES

4020 TULL AVE. MUSKOGEE, OK 74403

	15	SSUED FOR:
REV	DATE	DESCRIPTION
0	12/09/22	ISSUED FOR CONSTRUCTION
\Box		

COA: 4011

EXPIRES: 12/31/2023



IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTIONS OF A LICENSES PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

PROJECT INFORMATION:

PROJECT NO: 166509_001_01_0001 SITE NAME: RUSSELLVILLE SITE NO: 9830 CLIENT NAME: ARCOSA TELECOM STRUCTURES

DRAWN BY: DANIEL HAST CHECKED BY:

SHEET TITLE:

DIMENSIONING DETAIL

SHEET NUMBER:

REVISION:

SST-DTL

Drilled Pier Foundation

Project #:	166509_001_01_0001
Site Name:	Russellville
Site Number:	9830
TIA-222 Revison:	Н
Tower Type:	Self Support

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)		
Axial Force (kips)	406	360
Shear Force (kips)	31	29

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

	Pier Design Data					
	Depth	23	ft			
	Ext. Above Grade	0.5	ft			
	Pier	Section 1				
	From 0.5' above g	rade to 23' below	grade			
	Pier Diameter	4	ft			
Γ	Rebar Quantity	12				
	Rebar Size	8				
	Clear Cover to Ties	3	in			
	Tie Size	4				
	Tie Spacing	12	in			

ebar & Pier Options	
nbedded Pole Inputs	R
Belled Pier Inputs	

Analysis	s Results	
Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	10.83	10.83
Soil Safety Factor	75.56	80.77
Max Moment (kip-ft)	254.81	238.37
Rating	1.8%	1.6%
Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	330.15	330.15
End Bearing (kips)	706.86	-
Weight of Concrete (kips)	53.16	39.87
Total Capacity (kips)	1037.01	370.02
Axial (kips)	459.16	360.00
Rating	44.3%	97.3%
Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	11.07	8.32
Critical Moment (kip-ft)	254.63	219.58
Critical Moment Capacity	1328.50	419.98
Rating	19.2%	52.3%
Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	17.17	0.00
Critical Shear (kip)	40.23	29.00
Critical Shear Capacity	340.83	127.05
Rating	11.8%	22.8%
Structural Foundation Rating	52	.8%

Check Limitation	
Apply TIA-222-H Section 15.5:	
N/A	
Additional Longitudinal Reb	ar
Input Effective Depths (else Actual):	
Shear Design Options	
Check Shear along Depth of Pier:	>
Utilize Shear-Friction Methodology:	
Override Critical Depth:	
Go to Soil Ca	Iculations

Go to Soil Calculations

			Soil Pr	ofile Control of the
Groundwater Depth	N/A	# of Layers	4	

Soil Interaction Rating

97.7%

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{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)	l IIItimate Skin I	Rearing	SPT Blow Count	Soil Type
1	0	1.7	1.7	110	150			0.000	0.000					Cohesionless
2	1.7	2.5	0.3	110	150			0.275	0.275	0.00	0.00			Cohesive
3	2	6	4	120	150	2		1.100	1.100	0.25	0.25			Cohesive
4	6	23	17	135	150	15		6.750	6.750	2.00	2.00	75		Cohesive

SST Unit Base Foundation

Project #: 166509_001_01_00
Site Name: Russellville
Site #: 9830

TIA-222 Revision:

Top & Bot. Pad Rein. Different?:	
Tower Centroid Offset?:	7
Block Foundation?:	
Rectangular Pad?:	

Superstructure Analysis Reactions					
Global Moment, M :	6550	ft-kips			
Global Axial, P:	54	kips			
Global Shear, V:	53	kips			
Leg Compression, P _{comp} :	406	kips			
Leg Comp. Shear, V_{u_comp} :	31	kips			
Leg Uplift, P _{uplift} :	360	kips			
Leg Uplift. Shear, V _{u_uplift} :	29	kips			
Tower Height, H :	195	ft			
Base Face Width, BW :	19.5	ft			
BP Dist. Above Fdn, bp _{dist} :	3	in			

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 :	10		
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:	28.50	ft
Pad Thickness, T :	2.00	ft
Pad Rebar Size (Bottom dir. 2), Sp ₂ :	8	
Pad Rebar Quantity (Bottom dir. 2), mp ₂ :	29	
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 Gross Bearing, Qult:	10.000	ksf
Cohesion, Cu :	2.000	ksf
Friction Angle, φ :		degrees
SPT Blow Count, N _{blows} :		
Base Friction, μ :		
Neglected Depth, N:	2.5	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, gw :	N/A	ft

Foundation Analysis Checks					
	Capacity	Demand	Rating	Check	
Lateral (Sliding) (kips)	1457.01	53.00	3.6%	Pass	
Bearing Pressure (ksf)	7.50	4.98	66.4%	Pass	
Overturning (kip*ft)	7893.71	7058.00	89.4%	Pass	
Pier Flexure (Comp.) (kip*ft)	820.60	139.50	17.0%	Pass	
Pier Flexure (Tension) (kip*ft)	138.49	130.50	94.2%	Pass	
Pier Compression (kip)	4499.01	411.73	9.2%	Pass	
Pad Flexure (kip*ft)	1949.42	1634.97	83.9%	Pass	
Pad Shear - 1-way (kips)	632.68	328.50	51.9%	Pass	
Pad Shear - Comp 2-way (ksi)	0.190	0.125	65.8%	Pass	
Flexural 2-way (Comp) (kip*ft)	1214.14	83.70	6.9%	Pass	
Pad Shear - Tension 2-way (ksi)	0.190	0.128	67.4%	Pass	
Flexural 2-way (Tension) (kip*ft)	1214.14	78.30	6.4%	Pass	

Structural Rating:	94.2%
Soil Rating:	89.4%

<-- Toggle between Gross and Net

tnxTower

B+T Group

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Job		Page	
	ATS# 9830 - Russellville (Site# KYBGN2037)	1 of 26	
Project		Date	
	195' SST/36.863972, -86.886069	16:08:52 12/09/22	
Client	Harmoni Towers	Designed by daniel.hast	

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 195.000 ft above the ground line.

The base of the tower is set at an elevation of 0.000 ft above the ground line.

The face width of the tower is 4.875 ft at the top and 19.500 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Logan County, Kentucky.

Tower base elevation above sea level: 582.000 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 Consider Moments - Horizontals Consider Moments - Diagonals

Use Moment Magnification

- √ Use Code Stress Ratios
- √ Use Code Safety Factors Guys Escalate Ice
 Always Use Max Kz
 Use Special Wind Profile
- √ Include Bolts In Member Capacity
- √ Leg Bolts Are At Top Of Section
- √ Secondary Horizontal Braces Leg
 Use Diamond Inner Bracing (4 Sided)
 SR Members Have Cut Ends
 SR Members Are Concentric

- Distribute Leg Loads As Uniform Assume Legs Pinned
- √ Assume Rigid Index Plate
- √ Use Clear Spans For Wind Area
- √ Use Clear Spans For KL/r
 Retension Guys To Initial Tension
- √ Bypass Mast Stability Checks
- √ Use Azimuth Dish Coefficients
 √ Project Wind Area of Appurt.
 Autocalc Torque Arm Areas

Add IBC .6D+W Combination

Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs

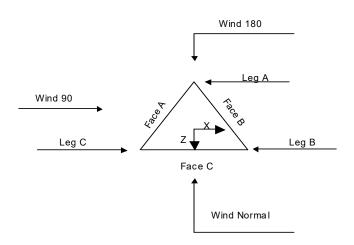
- Use ASCE 10 X-Brace Ly Rules
- √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA
- √ SR Leg Bolts Resist Compression
 All Leg Panels Have Same Allowable
 Offset Girt At Foundation
- √ Consider Feed Line Torque
- ✓ Include Angle Block Shear Check
 Use TIA-222-H Bracing Resist. Exemption
 Use TIA-222-H Tension Splice Exemption
 Poles

Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known

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Job		Page
	ATS# 9830 - Russellville (Site# KYBGN2037)	2 of 26
Project		Date
	195' SST/36.863972, -86.886069	16:08:52 12/09/22
Client	Harmoni Towers	Designed by daniel.hast



Triangular Tower

Tower Section Geometry

Tower	Tower	Assembly	Description	Section	Number	Section
Section	Elevation	Database		Width	of	Length
					Sections	
	ft			ft		ft
T1	195.000-180.000			4.875	1	15.000
T2	180.000-160.000			6.000	1	20.000
T3	160.000-140.000			7.500	1	20.000
T4	140.000-120.000			9.000	1	20.000
T5	120.000-100.000			10.500	1	20.000
T6	100.000-80.000			12.000	1	20.000
T7	80.000-60.000			13.500	1	20.000
T8	60.000-40.000			15.000	1	20.000
T9	40.000-20.000			16.500	1	20.000
T10	20.000-0.000			18.000	1	20.000

Tower	Tower	Diagonal	Bracing	Has	Has	Top Girt	Bottom Girt
Section	Elevation	Spacing	Type	K Brace	Horizontals	Offset	Offset
				End			
	ft	ft		Panels		in	in
T1	195.000-180.000	4.667	X Brace	No	No	6.000	6.000
T2	180.000-160.000	4.750	X Brace	No	No	6.000	6.000
T3	160.000-140.000	4.750	X Brace	No	No	6.000	6.000
T4	140.000-120.000	4.750	X Brace	No	No	6.000	6.000
T5	120.000-100.000	4.750	X Brace	No	No	6.000	6.000

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

Tower Section Geometry (cont'd)

Tower	Leg	Leg	Leg	Diagonal	Diagonal	Diagonal
Elevation	Type	Size	Grade	Type	Size	Grade
ft						
T1	Solid Round	1 3/4	A529-50	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50
195.000-180.000			(50 ksi)			(50 ksi)
T2	Solid Round	2 1/4	A529-50	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50
180.000-160.000			(50 ksi)			(50 ksi)
T3	Solid Round	2 1/2	A529-50	Equal Angle	L2x2x3/16	A36M-50
160.000-140.000			(50 ksi)			(50 ksi)
T4	Solid Round	2 3/4	A529-50	Equal Angle	L2x2x1/4	A36M-50
140.000-120.000			(50 ksi)			(50 ksi)
T5	Solid Round	3	A529-50	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50
120.000-100.000			(50 ksi)			(50 ksi)
T6	Solid Round	3 1/4	A529-50	Equal Angle	L2 1/2x2 1/2x3/16	A36M-50
100.000-80.000			(50 ksi)			(50 ksi)
T7 80.000-60.000	Solid Round	3 1/2	A529-50	Equal Angle	L2 1/2x2 1/2x1/4	A36M-50
			(50 ksi)			(50 ksi)
T8 60.000-40.000	Solid Round	3 3/4	A529-50	Equal Angle	L3x3x3/16	A36M-50
			(50 ksi)	1 0		(50 ksi)
T9 40.000-20.000	Solid Round	3 3/4	À529-50	Equal Angle	L3x3x1/4	A36M-50
			(50 ksi)			(50 ksi)
T10 20.000-0.000	Solid Round	4	À529-50	Equal Angle	L3x3x1/4	A36M-50
			(50 ksi)	1 0		(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 195.000-180.000	Equal Angle	L1 3/4x1 3/4x3/16	A36M-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Elevation	Gusset Area	Gusset Thickness	Gusset Grade Adjust. Factor A_f	Adjust. Factor	Weight Mult.	Double Angle Stitch Bolt	Double Angle Stitch Bolt	Double Angle Stitch Bolt
	(per face)		· ·	A_r		Spacing	Spacing	Spacing
						Diagonals	Horizontals	Redundants
ft	ft ²	in				in	in	in

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Tower Elevation	Gusset Area	Gusset Thickness	Gusset Grade	$Adjust.\ Factor \ A_f$	Adjust. Factor	Weight Mult.	Double Angle Stitch Bolt	Double Angle Stitch Bolt	Double Angle Stitch Bolt
	(per face)				A_r		Spacing	Spacing	Spacing
							Diagonals	Horizontals	Redundants
ft	ft ²	in					in	in	in
T1	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
195.000-180.0			(50 ksi)						
00									
T2	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
180.000-160.0			(50 ksi)						
00									
T3	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
160.000-140.0			(50 ksi)						
00									
T4	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
140.000-120.0			(50 ksi)						
00									
T5	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
120.000-100.0			(50 ksi)						
00									
T6	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
100.000-80.00			(50 ksi)						
0	0.000	0.255					26.000	26.000	26.000
T7	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
80.000-60.000	0.000	0.275	(50 ksi)				26,000	26,000	26,000
T8	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
60.000-40.000	0.000	0.275	(50 ksi)	1	1	1	26,000	26,000	26,000
T9	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
40.000-20.000	0.000	0.275	(50 ksi)	1	1	1	26,000	26,000	26,000
T10	0.000	0.375	A36M-50	1	1	1	36.000	36.000	36.000
20.000-0.000			(50 ksi)						

		_				K Fa	ctors ¹			
Tower Elevation	Calc K Single	K	Legs	Legs X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
	Angles	Rounds		X	X	X	X	X	X	X
ft	O			Y	Y	Y	Y	Y	Y	Y
T1	No	No	1	1	1	1	1	1	1	1
195.000-180.0				1	1	1	1	1	1	1
00										
T2	No	No	1	1	1	1	1	1	1	1
180.000-160.0				1	1	1	1	1	1	1
00										
T3	No	No	1	1	1	1	1	1	1	1
160.000-140.0				1	1	1	1	1	1	1
00										
T4	No	No	1	1	1	1	1	1	1	1
140.000-120.0				1	1	1	1	1	1	1
00										
T5	No	No	1	1	1	1	1	1	1	1
120.000-100.0				1	1	1	1	1	1	1
00										
T6	No	No	1	1	1	1	1	1	1	1
100.000-80.00				1	1	1	1	1	1	1
0										
T7	No	No	1	1	1	1	1	1	1	1
80.000-60.000				1	1	1	1	1	1	1

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Project		Date
	195' SST/36.863972, -86.886069	16:08:52 12/09/22
Client	Harmoni Towers	Designed by daniel.hast

		_				K Fac	ctors ¹			
Tower	Calc	Calc	Legs	X	K	Single	Girts	Horiz.	Sec.	Inner
Elevation	K	K		Brace	Brace	Diags			Horiz.	Brace
	Single	Solid		Diags	Diags	_				
	Angles	Rounds		X	X	X	X	X	X	X
ft				Y	Y	Y	Y	Y	Y	Y
Т8	No	No	1	1	1	1	1	1	1	1
0.000-40.000				1	1	1	1	1	1	1
Т9	No	No	1	1	1	1	1	1	1	1
0.000-20.000				1	1	1	1	1	1	1
T10	No	No	1	1	1	1	1	1	1	1
20.000-0.000				1	1	1	1	1	1	1

¹Note: 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 Elevation ft	Leg		Diago	nal	Top G	Top Girt		n Girt	Mid	Girt	Long Ho	rizontal	Short Horizontal	
J.	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 195.000-180.0 00	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 180.000-160.0	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
00 T3 160.000-140.0	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
00 T4 140.000-120.0	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
00 T5 120.000-100.0	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
00 T6 100.000-80.00	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
0 T7 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
T8 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
T9 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
T10 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

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Project		Date
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Tower Elevation ft			Reduna Diago		Redund Sub-Diag		Redur Sub-Ho		Redundan	t Vertical	Redundo	ant Hip	Redundant Hip Diagonal	
J.	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 195.000-180.0 00	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 180.000-160.0	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
00 T3 160.000-140.0	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
00 T4 140.000-120.0	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
00 T5 120.000-100.0	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
00 T6 100.000-80.00	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
0 T7 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
T8 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
T9 40.000-20.000 T10 20.000-0.000	0.000	0.75 0.75	0.000	0.75 0.75	0.000	0.75 0.75	0.000	0.75 0.75	0.000	0.75 0.75	0.000	0.75	0.000	0.75 0.75

Tower	Leg	Leg		Diagoi	ıal	Top G	irt	Bottom	Girt	Mid G	irt	Long Hori	zontal	Short Hori	izontal
Elevation ft	Connection Type														
		Bolt Size	No.	Bolt Size	No.	Bolt Size	No.	Bolt Size	No.						
		in		in		in		in		in		in		in	
T1	Flange	0.000	0	0.625	1	0.625	1	0.000	0	0.625	0	0.000	0	0.625	0
195.000-180.0		A325N		A325X		A325X		A325N		A325N		A325X		A325N	
00															
T2	Flange	0.750	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
180.000-160.0		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
00															
T3	Flange	0.750	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
160.000-140.0		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
00															
T4	Flange	0.750	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
140.000-120.0		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
00															
T5	Flange	1.000	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
120.000-100.0		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
00															
T6	Flange	1.000	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
100.000-80.00		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
0															

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Tower	Leg	Leg		Diagor	ıal	Top G	irt	Bottom	Girt	Mid G	irt	Long Hori	zontal	Short Hori	izontal
Elevation ft	Connection Type														
		Bolt Size	No.	Bolt Size	No.	Bolt Size	No.	Bolt Size	No.						
		in		in		in		in		in		in		in	
T7	Flange	1.000	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
80.000-60.000		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T8	Flange	1.250	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
60.000-40.000		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T9	Flange	1.250	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
40.000-20.000		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T10	Flange	1.250	6	0.625	1	0.000	0	0.000	0	0.625	0	0.000	0	0.625	0
20.000-0.000		A325N		A325X		A325N		A325N		A325N		A325X		A325N	

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
			Calculation		<i>J</i> -		(= : : : : : : : : ;						,
1.625" coax (Carrier 1)	С	No	No	Ar (CaAa)	190.000 - 10.000	0.000	0	9	5	0.750	1.980		0.001
1.5" Hybrid (Carrier 1)	С	No	No	Ar (CaAa)	190.000 - 10.000	0.000	0.15	6	3	0.750	1.500		0.001
1.625" coax (Carrier 2)	В	No	No	Ar (CaAa)	178.000 - 10.000	0.000	0	9	5	0.750	1.980		0.001
1.5" Hybrid (Carrier 2)	В	No	No	Ar (CaAa)	178.000 - 10.000	0.000	0.15	6	3	0.750	1.500		0.001
1.625" coax (Carrier 3)	A	No	No	Ar (CaAa)	166.000 - 10.000	0.000	0	9	5	0.750	1.980		0.001
1.5" Hybrid (Carrier 3)	A	No	No	Ar (CaAa)	166.000 - 10.000	0.000	0.15	6	3	0.750	1.500		0.001
1.625" coax (Carrier 4) **	С	No	No	Ar (CaAa)	154.000 - 10.000	0.000	-0.3	2	1	0.750	1.980		0.001
1.625" coax (Carrier 5) **	В	No	No	Ar (CaAa)	142.000 - 10.000	0.000	-0.3	2	1	0.750	1.980		0.001
Safety Line 3/8 **	A	No	No	Ar (CaAa)	195.000 - 10.000	0.000	0.45	1	1	0.375	0.375		0.000
Feedline Ladder (Af)	C	No	No	Af (CaAa)	190.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008
Feedline Ladder (Af)	В	No	No	Af (CaAa)	178.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008
Feedline Ladder (Af)	A	No	No	Af (CaAa)	166.000 - 10.000	0.000	0.3	1	1	3.000	0.250		0.008

Feed Line/Linear Appurtenances - Entered As Area

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Description		Allow Shield	Exclude From	Component Type	Placement	Total Number	$C_A A_A$	Weight
	or Leg	snieia	Torque	71	ft	ivamber	ft²/ft	klf
			Calculation					
**								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A_R	A_F	C_AA_A In Face	C _A A _A Out Face	Weight
section	ft		ft^2	ft^2	ft ²	ft^2	K
T1	195.000-180.000	A	0.000	0.000	0.563	0.000	0.003
		В	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	27.237	0.000	0.214
T2	180.000-160.000	A	0.000	0.000	17.092	0.000	0.133
		В	0.000	0.000	49.026	0.000	0.386
		C	0.000	0.000	54.473	0.000	0.428
T3	160.000-140.000	A	0.000	0.000	55.223	0.000	0.433
		В	0.000	0.000	55.265	0.000	0.432
		C	0.000	0.000	60.017	0.000	0.451
T4	140.000-120.000	Α	0.000	0.000	55.223	0.000	0.433
		В	0.000	0.000	62.393	0.000	0.461
		C	0.000	0.000	62.393	0.000	0.461
T5	120.000-100.000	Α	0.000	0.000	55.223	0.000	0.433
		В	0.000	0.000	62.393	0.000	0.461
		C	0.000	0.000	62.393	0.000	0.461
T6	100.000-80.000	Ā	0.000	0.000	55.223	0.000	0.433
		В	0.000	0.000	62.393	0.000	0.461
		Č	0.000	0.000	62.393	0.000	0.461
T7	80.000-60.000	A	0.000	0.000	55.223	0.000	0.433
- /	00.000 00.000	В	0.000	0.000	62.393	0.000	0.461
		C	0.000	0.000	62.393	0.000	0.461
T8	60.000-40.000	Ā	0.000	0.000	55.223	0.000	0.433
	******	В	0.000	0.000	62.393	0.000	0.461
		Č	0.000	0.000	62.393	0.000	0.461
T9	40.000-20.000	A	0.000	0.000	55.223	0.000	0.433
	.0.000 20.000	В	0.000	0.000	62.393	0.000	0.461
		C	0.000	0.000	62.393	0.000	0.461
T10	20.000-0.000	A	0.000	0.000	27.612	0.000	0.216
110	20.000 0.000	В	0.000	0.000	31.197	0.000	0.231
		C	0.000	0.000	31.197	0.000	0.231

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or	Ice Thickness	A_R	A_F	C _A A _A In Face	C _A A _A Out Face	Weight
~~~~~	ft	Leg	in	$ft^2$	$ft^2$	ft ²	ft ²	K
T1	195.000-180.000	A	1.785	0.000	0.000	5.916	0.000	0.074
		В		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	42.086	0.000	0.863
T2	180.000-160.000	A	1.767	0.000	0.000	32.978	0.000	0.611
		В		0.000	0.000	75.478	0.000	1.543
		C		0.000	0.000	83.865	0.000	1.714
T3	160.000-140.000	A	1.745	0.000	0.000	91.206	0.000	1.794
		В		0.000	0.000	85.940	0.000	1.734

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Tower	Tower	Face	Ice	$A_R$	$A_F$	$C_A A_A$	$C_A A_A$	Weight
Section	Elevation	or	Thickness			In Face	Out Face	
	ft	Leg	in	ft ²	ft ²	ft ²	ft ²	K
		C		0.000	0.000	100.726	0.000	1.944
T4	140.000-120.000	A	1.720	0.000	0.000	90.668	0.000	1.774
		В		0.000	0.000	107.508	0.000	2.026
		C		0.000	0.000	107.508	0.000	2.026
T5	120.000-100.000	A	1.692	0.000	0.000	90.049	0.000	1.752
		В		0.000	0.000	106.806	0.000	1.998
		C		0.000	0.000	106.806	0.000	1.998
T6	100.000-80.000	A	1.658	0.000	0.000	89.319	0.000	1.725
		В		0.000	0.000	105.978	0.000	1.966
		C		0.000	0.000	105.978	0.000	1.966
T7	80.000-60.000	A	1.617	0.000	0.000	88.426	0.000	1.694
		В		0.000	0.000	104.964	0.000	1.928
		C		0.000	0.000	104.964	0.000	1.928
T8	60.000-40.000	A	1.564	0.000	0.000	87.265	0.000	1.653
		В		0.000	0.000	103.647	0.000	1.878
		C		0.000	0.000	103.647	0.000	1.878
T9	40.000-20.000	A	1.486	0.000	0.000	85.577	0.000	1.594
		В		0.000	0.000	101.731	0.000	1.807
		C		0.000	0.000	101.731	0.000	1.807
T10	20.000-0.000	A	1.331	0.000	0.000	41.114	0.000	0.741
		В		0.000	0.000	48.967	0.000	0.835
		C		0.000	0.000	48.967	0.000	0.835

#### **Feed Line Center of Pressure**

Section	Elevation	$CP_X$	$CP_Z$	$CP_X$	$CP_Z$
				Ice	Ice
	ft	in	in	in	in
T1	195.000-180.000	-1.219	4.305	-1.687	2.711
T2	180.000-160.000	1.785	-0.240	1.711	0.174
Т3	160.000-140.000	0.299	-2.685	0.687	-1.860
T4	140.000-120.000	1.008	-3.876	1.688	-3.196
T5	120.000-100.000	1.017	-3.976	1.779	-3.425
T6	100.000-80.000	1.082	-4.262	1.902	-3.701
T7	80.000-60.000	1.140	-4.519	2.007	-3.950
T8	60.000-40.000	1.106	-4.443	2.018	-4.039
Т9	40.000-20.000	1.152	-4.652	2.082	-4.231
T10	20.000-0.000	0.708	-2.935	1.287	-2.725

## Shielding Factor Ka

Tower	Feed Line	Description	Feed Line	$K_a$	$K_a$
Section	Record No.		Segment Elev.	No Ice	Ice
T1	1	1.625" coax	180.00 -	0.6000	0.6000
			190.00		
T1	2	1.5" Hybrid	180.00 -	0.6000	0.6000
			190.00		
T1	14	Safety Line 3/8	180.00 -	0.6000	0.6000
		-	195.00		
T1	16	Feedline Ladder (Af)	180.00 -	0.6000	0.6000
			190.00		

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	$K_a$ $Ice$
T2	1	1.625" coax	160.00 -	0.6000	0.6000
T2	2	1.5" Hybrid	180.00 160.00 -	0.6000	0.6000
T2	4	1.625" coax	180.00 160.00 - 178.00	0.6000	0.6000
T2	5	1.5" Hybrid	160.00 - 178.00	0.6000	0.6000
T2	7	1.625" coax	160.00 - 166.00	0.6000	0.6000
T2	8	1.5" Hybrid	160.00 - 166.00	0.6000	0.6000
T2	14	Safety Line 3/8	160.00 - 180.00	0.6000	0.6000
T2	16	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T2 T2	17 18	Feedline Ladder (Af) Feedline Ladder (Af)	160.00 - 178.00	0.6000	0.6000 0.6000
T3	1	1.625" coax	160.00 - 166.00 140.00 -	0.6000	0.6000
T3	2	1.5" Hybrid	160.00 140.00 -	0.6000	0.6000
Т3	4	1.625" coax	160.00 140.00 -	0.6000	0.6000
Т3	5	1.5" Hybrid	160.00 140.00 -	0.6000	0.6000
Т3	7	1.625" coax	160.00 140.00 -	0.6000	0.6000
Т3	8	1.5" Hybrid	160.00 140.00 - 160.00	0.6000	0.6000
Т3	10	1.625" coax	140.00 - 154.00	0.6000	0.6000
Т3	12	1.625" coax	140.00 - 142.00	0.6000	0.6000
Т3	14	Safety Line 3/8	140.00 - 160.00	0.6000	0.6000
Т3	16	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	17 18	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T4	1	Feedline Ladder (Af) 1.625" coax	140.00 - 160.00 120.00 -	0.6000	0.6000
T4	2	1.5" Hybrid	140.00 120.00 -	0.6000	0.6000
T4	4	1.625" coax	140.00 120.00 -	0.6000	0.6000
T4	5	1.5" Hybrid	140.00 120.00 -	0.6000	0.6000
T4	7	1.625" coax	140.00 120.00 -	0.6000	0.6000
T4	8	1.5" Hybrid	140.00 120.00 - 140.00	0.6000	0.6000
T4	10	1.625" coax	120.00 - 120.00 - 140.00	0.6000	0.6000
T4	12	1.625" coax	120.00 - 140.00	0.6000	0.6000
T4	14	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000

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Client	Harmoni Towers	Designed by daniel.hast

Tower	Feed Line	Description	Feed Line	$K_a$	$K_a$
Section	Record No.	Description	Segment Elev.	No Ice	Ice
T4	16	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	17	Feedline Ladder (Af)	120.00 -	0.6000	0.6000
T4	18	Feedline Ladder (Af)	140.00 120.00 -	0.6000	0.6000
T5	1	1.625" coax	140.00 100.00 -	0.6000	0.6000
Т5	2	1.5" Hybrid	120.00 100.00 -	0.6000	0.6000
T5	4	1.625" coax	120.00 100.00 -	0.6000	0.6000
T5	5	1.5" Hybrid	120.00 100.00 -	0.6000	0.6000
T5	7	1.625" coax	120.00 100.00 -	0.6000	0.6000
T5	8	1.5" Hybrid	120.00 100.00 -	0.6000	0.6000
Т5	10	1.625" coax	120.00 100.00 -	0.6000	0.6000
Т5	12	1.625" coax	120.00 100.00 -	0.6000	0.6000
Т5	14	Safety Line 3/8	120.00 100.00 -	0.6000	0.6000
T5	16	Feedline Ladder (Af)	120.00 100.00 -	0.6000	0.6000
T5	17	Feedline Ladder (Af)	120.00 100.00 -	0.6000	0.6000
T5	18	Feedline Ladder (Af)	120.00 100.00 -	0.6000	0.6000
		,	120.00		0.6000
T6 T6	1 2	1.625" coax	80.00 - 100.00 80.00 - 100.00	0.6000 0.6000	0.6000
T6	4	1.625" coax		0.6000	0.6000
T6	5		80.00 - 100.00	0.6000	0.6000
Т6	7	1.625" coax	80.00 - 100.00	0.6000	0.6000
T6	8		80.00 - 100.00	0.6000	0.6000
Т6	10	1.625" coax		0.6000	0.6000
T6	12	1.625" coax	80.00 - 100.00	0.6000	0.6000
T6	14	Safety Line 3/8		0.6000	0.6000
T6	16	Feedline Ladder (Af)		0.6000	0.6000
T6	17	Feedline Ladder (Af)		0.6000	0.6000
T6	18	Feedline Ladder (Af)		0.6000	0.6000
T7	1	1.625" coax	60.00 - 80.00	0.6000	0.6000
T7	2	1.5" Hybrid	60.00 - 80.00	0.6000	0.6000
T7	4	1.625" coax	60.00 - 80.00	0.6000	0.6000
T7	5 7	1.5" Hybrid	60.00 - 80.00 60.00 - 80.00	0.6000	0.6000
T7 T7	8	1.625" coax 1.5" Hybrid	60.00 - 80.00	0.6000 0.6000	0.6000 0.6000
T7	10	1.625" coax	60.00 - 80.00	0.6000	0.6000
T7	12	1.625" coax	60.00 - 80.00	0.6000	0.6000
T7	14	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T7	16	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	17	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	18	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
Т8	1	1.625" coax	40.00 - 60.00	0.6000	0.6000
Т8	2	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
Т8	4	1.625" coax	40.00 - 60.00	0.6000	0.6000
Т8	5	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T8	7	1.625" coax	40.00 - 60.00	0.6000	0.6000
T8	8	1.5" Hybrid	40.00 - 60.00	0.6000	0.6000
T8	10	1.625" coax	40.00 - 60.00	0.6000	0.6000
T8	12	1.625" coax	40.00 - 60.00	0.6000	0.6000

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Client	Harmoni Towers	Designed by daniel.hast

Tower	Feed Line	Description	Feed Line	$K_a$	$K_a$
Section	Record No.		Segment Elev.	No Ice	Ice
T8	14	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T8	16	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	17	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	18	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T9	1	1.625" coax	20.00 - 40.00	0.6000	0.6000
T9	2	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T9	4	1.625" coax	20.00 - 40.00	0.6000	0.6000
T9	5	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T9	7	1.625" coax	20.00 - 40.00	0.6000	0.6000
T9	8	1.5" Hybrid	20.00 - 40.00	0.6000	0.6000
T9	10	1.625" coax	20.00 - 40.00	0.6000	0.6000
T9	12	1.625" coax	20.00 - 40.00	0.6000	0.6000
T9	14	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T9	16	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	17	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	18	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T10	1	1.625" coax	10.00 - 20.00	0.6000	0.6000
T10	2	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T10	4	1.625" coax	10.00 - 20.00	0.6000	0.6000
T10	5	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T10	7	1.625" coax	10.00 - 20.00	0.6000	0.6000
T10	8	1.5" Hybrid	10.00 - 20.00	0.6000	0.6000
T10	10	1.625" coax	10.00 - 20.00	0.6000	0.6000
T10	12	1.625" coax	10.00 - 20.00	0.6000	0.6000
T10	14	Safety Line 3/8	10.00 - 20.00	0.6000	0.6000
T10	16	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T10	17	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000
T10	18	Feedline Ladder (Af)	10.00 - 20.00	0.6000	0.6000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		$C_AA_A$ Front	$C_AA_A$ Side	Weigh
	·		Vert ft ft	0	ft		ft²	$ft^2$	K
Lightning Rod 1"x10'	С	From Leg	0.000	0.000	195.000	No Ice	1.000	1.000	0.040
			0.000			1/2" Ice	2.017	2.017	0.049
			5.000			1" Ice	3.050	3.050	0.065
**						2" Ice	5.148	5.148	0.116
Sector1(CaAa=13333.33	Α	From Leg	4.000	0.000	190.000	No Ice	92.600	62.040	0.700
Sq.in)No Ice		8	0.000			1/2" Ice	115.750	77.550	1.400
(Carrier 1)			0.000			1" Ice	138.900	93.060	2.100
,						2" Ice	185.200	124.080	3.500
Sector2(CaAa=13333.33	В	From Leg	4.000	0.000	190.000	No Ice	92.600	62.040	0.700
Sq.in)No Ice			0.000			1/2" Ice	115.750	77.550	1.400
(Carrier 1)			0.000			1" Ice	138.900	93.060	2.100
						2" Ice	185.200	124.080	3.500
Sector3(CaAa=13333.33	C	From Leg	4.000	0.000	190.000	No Ice	92.600	62.040	0.700
Sq.in)No Ice		_	0.000			1/2" Ice	115.750	77.550	1.400
(Carrier 1)			0.000			1" Ice	138.900	93.060	2.100
						2" Ice	185.200	124.080	3.500

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** Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2)	A		Vert ft ft ft	٥	ft		a 2		
Sector1(CaAa=10000 Sq.in)No Ice	A				J·		$ft^2$	ft ²	K
Sector1(CaAa=10000 Sq.in)No Ice	A		jι						
Sq.in)No Ice	A								
1 /		From Leg	4.000	0.000	178.000	No Ice	69.440	46.525	0.700
(Carrier 2)			0.000			1/2" Ice	86.800	58.156	1.400
(Currier 2)			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
Sector2(CaAa=10000	В	From Leg	4.000	0.000	178.000	No Ice	69.440	46.525	0.700
Sq.in)No Ice			0.000			1/2" Ice	86.800	58.156	1.400
(Carrier 2)			0.000			1" Ice	104.160	69.787	2.100
						2" Ice	138.880	93.050	3.500
Sector3(CaAa=10000	C	From Leg	4.000	0.000	178.000	No Ice	69.440	46.525	0.700
Sq.in)No Ice			0.000			1/2" Ice	86.800	58.156	1.400
(Carrier 2)			0.000			1" Ice	104.160	69.787	2.100
**						2" Ice	138.880	93.050	3.500
Sector1(CaAa=10000	Α	From Leg	4.000	0.000	166.000	No Ice	69.440	46.525	0.700
Sq.in)No Ice	7.1	Trom Leg	0.000	0.000	100.000	1/2" Ice	86.800	58.156	1.400
(Carrier 3)			0.000			1" Ice	104.160	69.787	2.100
(Carrier 3)			0.000			2" Ice	138.880	93.050	3.500
Sector2(CaAa=10000	В	From Leg	4.000	0.000	166.000	No Ice	69.440	46.525	0.700
Sq.in)No Ice	Ь	1 Tom Leg	0.000	0.000	100.000	1/2" Ice	86.800	58.156	1.400
(Carrier 3)			0.000			1" Ice	104.160	69.787	2.100
(Currier 3)			0.000			2" Ice	138.880	93.050	3.500
Sector3(CaAa=10000	C	From Leg	4.000	0.000	166.000	No Ice	69.440	46.525	0.700
Sq.in)No Ice	Č	Trom Leg	0.000	0.000	100.000	1/2" Ice	86.800	58.156	1.400
(Carrier 3)			0.000			1" Ice	104.160	69.787	2.100
, ,						2" Ice	138.880	93.050	3.500
**	_								
4 1/2" OD Dish Mount	С	From Leg	0.500	0.000	154.000	No Ice	1.870	1.621	0.05
(Carrier 4)			0.000			1/2" Ice	2.207	2.207	0.074
			0.000			1" Ice	2.543	2.543	0.094
4.1/0# OD D: 1.14	ъ.	т т	0.500	0.000	154.000	2" Ice	3.241	3.241	0.148
4 1/2" OD Dish Mount	В	From Leg	0.500	0.000	154.000	No Ice	1.870	1.621	0.05
(Carrier 4)			0.000			1/2" Ice	2.207	2.207	0.074
			0.000			1" Ice 2" Ice	2.543 3.241	2.543 3.241	0.094 0.148
**						2 100	3.241	3.241	0.140
4 1/2" OD Dish Mount	C	From Leg	0.500	0.000	142.000	No Ice	1.870	1.628	0.05
(Carrier 5)		3	0.000			1/2" Ice	2.207	2.207	0.074
` /			0.000			1" Ice	2.543	2.543	0.094
						2" Ice	3.241	3.241	0.148
4 1/2" OD Dish Mount	В	From Leg	0.500	0.000	142.000	No Ice	1.870	1.628	0.05
(Carrier 5)		3	0.000			1/2" Ice	2.207	2.207	0.074
` /			0.000			1" Ice	2.543	2.543	0.094
**						2" Ice	3.241	3.241	0.148

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

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Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter		Aperture Area	Weigh
				ft	0	0	ft	ft		ft ²	K
6' MW Dish	С	Paraboloid w/o	From	1.000	0.000		154.000	6.000	No Ice	28.270	0.143
(Carrier 4)		Radome	Leg	0.000					1/2" Ice	29.050	0.292
				0.000					1" Ice	29.831	0.441
									2" Ice	31.392	0.740
6' MW Dish	В	Paraboloid w/o	From	1.000	0.000		154.000	6.000	No Ice	28.270	0.143
(Carrier 4)		Radome	Leg	0.000					1/2" Ice	29.050	0.292
				0.000					1" Ice	29.831	0.441
**									2" Ice	31.392	0.740
6' MW Dish	С	Paraboloid w/o	From	1.000	0.000		142.000	6.000	No Ice	28.270	0.143
(Carrier 5)	Č	Radome	Leg	0.000	0.000		1 12.000	0.000	1/2" Ice	29.050	0.292
(Currer c)		114401110	248	0.000					1" Ice	29.831	0.441
				0.000					2" Ice	31.392	0.740
6' MW Dish	В	Paraboloid w/o	From	1.000	0.000		142.000	6.000	No Ice	28.270	0.143
(Carrier 5)		Radome	Leg	0.000					1/2" Ice	29.050	0.292
/			8	0.000					1" Ice	29.831	0.441
									2" Ice	31.392	0.740
**											

#### **Load Combinations**

Comb.	Description
No.	
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
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

B+T Group

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	Harmoni Towers	daniel.hast

Comb.	Description
No.	
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	Elevation	Component	Condition	Gov.	Axial	Major Axis	Minor Axis
No.	ft	Type		Load		Moment	Moment
				Comb.	K	kip-ft	kip-ft
T1	195 - 180	Leg	Max Tension	15	13.889	0.567	0.005
			Max. Compression	2	-15.861	0.832	0.004
			Max. Mx	14	13.640	-0.851	-0.004
			Max. My	24	-1.296	-0.035	0.691
			Max. Vy	2	-2.886	0.832	0.004
			Max. Vx	24	-2.269	-0.006	0.173
		Diagonal	Max Tension	2	3.471	0.000	0.000
		•	Max. Compression	2	-3.552	0.000	0.000
			Max. Mx	38	0.217	0.018	-0.002
			Max. My	8	-3.044	-0.001	-0.007
			Max. Vy	32	0.022	0.017	0.002
			Max. Vx	8	0.002	0.000	0.000
		Top Girt	Max Tension	23	0.373	0.000	0.000
		•	Max. Compression	11	-0.446	0.000	0.000
			Max. Mx	31	-0.076	-0.036	0.000
			Max. My	28	-0.018	0.000	0.001
			Max. Vy	31	0.029	0.000	0.000
			Max. Vx	28	-0.001	0.000	0.000
T2	180 - 160	Leg	Max Tension	15	56.900	3.087	-0.003
		Č	Max. Compression	2	-63.404	0.547	-0.003
			Max. Mx	2	-63.398	-3.772	0.006
			Max. My	24	-1.308	-0.080	1.661
			Max. Vy	2	-8.631	0.547	-0.003
			Max. Vx	4	3.606	-0.063	-0.464
		Diagonal	Max Tension	16	7.815	0.000	0.000
		J	Max. Compression	8	-7.201	0.000	0.000
			Max. Mx	2	-0.958	0.037	-0.002
			Max. My	20	-7.176	-0.006	0.038
			Max. Vy	35	0.028	0.026	-0.003
			Max. Vx	20	-0.009	0.000	0.000
T3	160 - 140	Leg	Max Tension	15	105.121	3.039	-0.005
-		8	Max. Compression	2	-115.895	1.113	-0.002
			Max. Mx	2	-63.417	4.855	-0.011
			Max. My	4	-3.928	-0.102	-2.269
			Max. Vy	2	-10.728	1.113	-0.002
			Max. Vx	4	4.640	0.077	-0.747

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Section No.	Elevation ft	Component Type	Condition	Gov. Load	Axial	Major Axis Moment	Minor Axi Moment
				Comb.	K	kip-ft	kip-ft
		Diagonal	Max Tension	20	8.729	0.000	0.000
			Max. Compression	16	-7.826	0.000	0.000
			Max. Mx	28	0.447	0.037	0.003
			Max. My	20	-7.616	-0.009	0.022
			Max. Vy	28	0.036	0.037	0.003
			Max. Vx	20	-0.005	0.000	0.000
T4	140 - 120	Leg	Max Tension	7	151.757	3.479	0.171
		Č	Max. Compression	2	-166.261	0.913	-0.004
			Max. Mx	2	-115.916	6.434	-0.013
			Max. My	4	-6.972	0.322	-3.069
			Max. Vy	2	-10.967	0.913	-0.004
			Max. Vx	4	4.642	0.322	-3.069
		Diagonal	Max Tension	20	8.883	0.000	0.000
		8	Max. Compression	20	-9.634	0.000	0.000
			Max. Mx	34	0.372	0.051	-0.005
			Max. My	8	-9.571	-0.002	-0.021
			Max. Vy	34	0.044	0.051	-0.005
			Max. Vx	8	0.004	0.000	0.000
T5	120 - 100	Leg	Max Tension	7	192.934	3.726	0.158
13	120 - 100	Leg	Max. Compression	2	-211.406	0.929	-0.004
			Max. Mx	2	-166.280	6.365	-0.023
			Max. My	4	-100.280	0.215	-2.705
			Max. Vy	2	-11.665	0.929	-0.004
			Max. Vx	4	4.630	0.215	-2.705
		Diagonal	Max Tension	20		0.000	
		Diagonal			8.841		0.000
			Max. Compression	20	-9.193	0.000	0.000
			Max. Mx	34	0.391	0.070	-0.007
			Max. My	20	-9.118	-0.006	0.020
			Max. Vy	34	0.054	0.070	-0.007
m.	100 00		Max. Vx	20	-0.004	0.000	0.000
T6	100 - 80	Leg	Max Tension	7	230.565	3.932	0.141
			Max. Compression	2	-253.487	1.018	-0.006
			Max. Mx	2	-211.428	6.733	-0.030
			Max. My	4	-14.562	0.200	-2.701
			Max. Vy	2	-12.306	1.018	-0.006
			Max. Vx	4	4.711	0.027	-0.539
		Diagonal	Max Tension	20	8.946	0.000	0.000
			Max. Compression	20	-9.215	0.000	0.000
			Max. Mx	28	0.467	0.085	0.008
			Max. My	18	-9.015	-0.006	0.015
			Max. Vy	28	0.060	0.085	0.008
			Max. Vx	18	-0.003	0.000	0.000
T7	80 - 60	Leg	Max Tension	7	265.631	4.346	0.147
			Max. Compression	2	-293.708	0.893	-0.004
			Max. Mx	2	-253.511	7.142	-0.037
			Max. My	4	-17.721	0.197	-2.897
			Max. Vy	2	-12.993	0.893	-0.004
			Max. Vx	4	4.852	0.021	-0.391
		Diagonal	Max Tension	20	9.309	0.000	0.000
		J	Max. Compression	20	-9.489	0.000	0.000
			Max. Mx	28	0.451	0.110	0.010
			Max. My	18	-9.281	0.005	0.013
			Max. Vy	28	0.070	0.110	0.010
			Max. Vx	28	-0.003	0.000	0.000
			Max Tension	7	298.987	5.072	0.145
Т8	60 - 40	Leo					
Т8	60 - 40	Leg		2	-332 595	() 354	_() (1() ⊀
Т8	60 - 40	Leg	Max. Compression	2	-332.595 -293.733	0.354 7.371	-0.003 -0.040
Т8	60 - 40	Leg	Max. Compression Max. Mx	2	-293.733	7.371	-0.040
Т8	60 - 40	Leg	Max. Compression Max. Mx Max. My	2 4	-293.733 -20.857	7.371 0.193	-0.040 -2.820
Т8	60 - 40	Leg	Max. Compression Max. Mx	2	-293.733	7.371	-0.003 -0.040 -2.820 -0.015 -0.359

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Section No.	Elevation ft	Component Type	Condition	Gov. Load	Axial	Major Axis Moment	Minor Axis Moment
	·			Comb.	K	kip-ft	kip-ft
			Max. Compression	20	-9.684	0.000	0.000
			Max. Mx	28	0.454	0.135	0.012
			Max. My	6	-8.805	0.033	-0.013
			Max. Vy	28	0.080	0.135	0.012
			Max. Vx	28	-0.003	0.000	0.000
T9	40 - 20	Leg	Max Tension	7	330.691	4.843	0.132
		C	Max. Compression	2	-370.457	1.013	-0.004
			Max. Mx	10	-330.546	7.300	-0.109
			Max. My	4	-23.854	0.184	-2.916
			Max. Vy	10	-14.767	1.013	-0.016
			Max. Vx	4	5.319	0.026	-0.469
		Diagonal	Max Tension	20	10.156	0.000	0.000
		•	Max. Compression	20	-10.179	0.000	0.000
			Max. Mx	31	1.115	0.166	-0.015
			Max. My	28	-0.185	0.154	-0.015
			Max. Vy	30	0.090	0.161	-0.015
			Max. Vx	28	-0.003	0.000	0.000
T10	20 - 0	Leg	Max Tension	7	360.892	5.818	0.140
			Max. Compression	2	-406.830	0.000	0.000
			Max. Mx	10	-368.476	8.375	-0.087
			Max. My	4	-26.952	0.205	-3.131
			Max. Vy	10	-15.447	0.000	-0.000
			Max. Vx	4	5.322	0.205	-3.131
		Diagonal	Max Tension	20	10.472	0.000	0.000
		•	Max. Compression	20	-10.576	0.000	0.000
			Max. Mx	29	-0.651	0.209	-0.019
			Max. My	28	-2.268	0.206	-0.019
			Max. Vy	29	0.093	0.209	-0.019
			Max. Vx	28	-0.004	0.000	0.000

#### **Maximum Reactions**

Location	Condition	Gov.	Vertical	Horizontal, X	Horizontal, Z
		Load	K	K	K
		Comb.			
Leg C	Max. Vert	18	404.589	26.570	-15.019
	Max. H _x	18	404.589	26.570	-15.019
	Max. H _z	5	-314.535	-20.979	14.342
	Min. Vert	7	-359.899	-25.232	14.177
	Min. H _x	7	-359.899	-25.232	14.177
	Min. Hz	18	404.589	26.570	-15.019
Leg B	Max. Vert	10	404.045	-26.496	-15.207
_	Max. H _x	23	-359.083	25.140	14.396
	Max. H _z	25	-313.131	20.825	14.516
	Min. Vert	23	-359.083	25.140	14.396
	Min. H _x	10	404.045	-26.496	-15.207
	Min. Hz	10	404.045	-26.496	-15.207
Leg A	Max. Vert	2	405.970	0.068	30.597
_	Max. H _x	21	23.979	4.706	1.363
	Max. H _z	2	405.970	0.068	30.597
	Min. Vert	15	-349.070	-0.079	-28.138
	Min. H _x	9	23.979	-4.705	1.363
	Min. H _z	15	-349.070	-0.079	-28.138

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#### **Tower Mast Reaction Summary**

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment M	Overturning	Torque
Combination	K	K	K	Moment, $M_x$ kip-ft	$Moment, M_z$ $kip-ft$	kip-ft
Dead Only	45.330	0.000	0.000	2.763	-1.263	0.000
1.2 Dead+1.0 Wind 0 deg - No	54.396	-0.000	-52.952	-6549.615	-1.531	2.504
Ice 0.9 Dead+1.0 Wind 0 deg - No	40.797	-0.000	-52.953	-6540.385	-1.149	2.501
Ice 1.2 Dead+1.0 Wind 30 deg - No	54.396	26.277	-42.919	-5353.564	-3317.517	17.362
Ice 0.9 Dead+1.0 Wind 30 deg - No Ice	40.797	26.277	-42.920	-5346.139	-3312.029	17.353
1.2 Dead+1.0 Wind 60 deg - No Ice	54.396	43.560	-24.837	-3120.574	-5493.100	9.898
0.9 Dead+1.0 Wind 60 deg - No Ice	40.797	43.558	-24.836	-3116.427	-5483.935	9.883
1.2 Dead+1.0 Wind 90 deg - No Ice	54.396	50.864	-1.196	-174.699	-6361.463	-4.110
0.9 Dead+1.0 Wind 90 deg - No Ice	40.797	50.865	-1.196	-175.284	-6351.291	-4.126
1.2 Dead+1.0 Wind 120 deg - No Ice	54.396	46.848	24.655	2993.200	-5797.178	-1.634
0.9 Dead+1.0 Wind 120 deg - No Ice	40.797	46.848	24.656	2987.767	-5787.909	-1.646
1.2 Dead+1.0 Wind 150 deg - No Ice	54.396	24.799	42.825	5335.442	-3090.920	4.868
0.9 Dead+1.0 Wind 150 deg - No Ice	40.797	24.799	42.825	5326.385	-3085.766	4.863
1.2 Dead+1.0 Wind 180 deg - No Ice	54.396	-0.000	48.841	6134.891	-1.529	-2.503
0.9 Dead+1.0 Wind 180 deg - No Ice	40.797	-0.000	48.842	6124.578	-1.147	-2.500
1.2 Dead+1.0 Wind 210 deg - No Ice	54.396	-24.841	42.898	5357.228	3100.426	-12.030
0.9 Dead+1.0 Wind 210 deg - No Ice	40.797	-24.841	42.899	5348.128	3096.012	-12.021
1.2 Dead+1.0 Wind 240 deg - No Ice	54.396	-46.780	24.616	2999.138	5804.366	-5.739
0.9 Dead+1.0 Wind 240 deg - No Ice	40.797	-46.781	24.617	2993.688	5795.831	-5.724
1.2 Dead+1.0 Wind 270 deg - No Ice	54.396	-50.864	-1.196	-174.700	6358.417	4.110
0.9 Dead+1.0 Wind 270 deg - No Ice	40.797	-50.865	-1.196	-175.285	6349.009	4.126
1.2 Dead+1.0 Wind 300 deg - No Ice	54.396	-43.627	-24.876	-3114.680	5479.795	-2.525
0.9 Dead+1.0 Wind 300 deg - No Ice	40.797	-43.625	-24.875	-3110.551	5471.425	-2.513
1.2 Dead+1.0 Wind 330 deg - No Ice	54.396	-26.235	-42.846	-5331.801	3301.877	-10.200
0.9 Dead+1.0 Wind 330 deg - No Ice	40.797	-26.235	-42.847	-5324.419	3297.179	-10.194
1.2 Dead+1.0 Ice+1.0 Temp	150.671	-0.000	-0.001	6.108	-12.782	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0	150.671	-0.000	-7.177	-926.509	-13.007	0.549
Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0	150.671	3.584	-5.980	-775.291	-484.106	1.540
Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	150.671	6.068	-3.476	-449.391	-809.564	0.788
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	150.671	7.053	-0.105	-9.400	-934.316	-0.543

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Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 120	150.671	6.317	3.438	448.331	-833.159	-0.673
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150	150.671	3.469	5.998	788.176	-465.228	-0.195
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180	150.671	-0.000	6.877	907.274	-13.005	-0.549
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210	150.671	-3.458	5.978	787.905	439.061	-1.071
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	150.671	-6.298	3.427	448.177	806.876	-0.422
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	150.671	-7.053	-0.105	-9.400	908.306	0.543
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	150.671	-6.087	-3.487	-449.547	783.825	0.308
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	150.671	-3.595	-6.000	-775.562	458.251	-0.273
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	45.330	-0.000	-16.966	-2094.736	-1.269	0.802
Dead+Wind 30 deg - Service	45.330	8.419	-13.751	-1711.904	-1062.633	5.578
Dead+Wind 60 deg - Service	45.330	13.956	-7.958	-997.152	-1759.025	3.167
Dead+Wind 90 deg - Service	45.330	16.297	-0.383	-54.201	-2036.997	-1.337
Dead+Wind 120 deg - Service	45.330	15.010	7.900	959.790	-1856.395	-0.530
Dead+Wind 150 deg - Service	45.330	7.946	13.721	1709.498	-990.159	1.575
Dead+Wind 180 deg - Service	45.330	-0.000	15.649	1965.393	-1.269	-0.801
Dead+Wind 210 deg - Service	45.330	-7.959	13.745	1716.468	991.644	-3.869
Dead+Wind 240 deg - Service	45.330	-14.989	7.887	961.687	1857.136	-1.833
Dead+Wind 270 deg - Service	45.330	-16.297	-0.383	-54.201	2034.460	1.338
Dead+Wind 300 deg - Service	45.330	-13.978	-7.970	-995.262	1753.209	-0.806
Dead+Wind 330 deg - Service	45.330	-8.406	-13.728	-1704.936	1056.070	-3.283

## **Solution Summary**

	Sui	m of Applied Force:	s		Sum of Reaction	ıs	
Load	PX	PY	PZ	PX	PY	PZ	% Error
Comb.	K	K	K	K	K	K	
1	0.000	-45.330	0.000	-0.000	45.330	-0.000	0.000%
2	0.000	-54.396	-52.955	0.000	54.396	52.952	0.003%
3	0.000	-40.797	-52.955	0.000	40.797	52.953	0.003%
4	26.278	-54.396	-42.921	-26.277	54.396	42.919	0.003%
5	26.278	-40.797	-42.921	-26.277	40.797	42.920	0.002%
6	43.561	-54.396	-24.838	-43.560	54.396	24.837	0.002%
7	43.561	-40.797	-24.838	-43.558	40.797	24.836	0.006%
8	50.866	-54.396	-1.195	-50.864	54.396	1.196	0.003%
9	50.866	-40.797	-1.195	-50.865	40.797	1.196	0.003%
10	46.850	-54.396	24.657	-46.848	54.396	-24.655	0.003%
11	46.850	-40.797	24.657	-46.848	40.797	-24.656	0.003%
12	24.800	-54.396	42.827	-24.799	54.396	-42.825	0.003%
13	24.800	-40.797	42.827	-24.799	40.797	-42.825	0.003%
14	0.000	-54.396	48.843	0.000	54.396	-48.841	0.002%
15	0.000	-40.797	48.843	0.000	40.797	-48.842	0.002%
16	-24.842	-54.396	42.900	24.841	54.396	-42.898	0.003%
17	-24.842	-40.797	42.900	24.841	40.797	-42.899	0.003%
18	-46.783	-54.396	24.618	46.780	54.396	-24.616	0.003%
19	-46.783	-40.797	24.618	46.781	40.797	-24.617	0.003%
20	-50.866	-54.396	-1.195	50.864	54.396	1.196	0.003%
21	-50.866	-40.797	-1.195	50.865	40.797	1.196	0.003%
22	-43.628	-54.396	-24.877	43.627	54.396	24.876	0.002%
23	-43.628	-40.797	-24.877	43.625	40.797	24.875	0.006%
24	-26.235	-54.396	-42.848	26.235	54.396	42.846	0.003%

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	Sui	m of Applied Forces	;		Sum of Reaction	S	
Load	PX	PY	PZ	PX	PY	PZ	% Erroi
Comb.	K	K	K	K	K	K	
25	-26.235	-40.797	-42.848	26.235	40.797	42.847	0.002%
26	0.000	-150.671	0.000	0.000	150.671	0.001	0.001%
27	0.000	-150.671	-7.177	0.000	150.671	7.177	0.000%
28	3.584	-150.671	-5.981	-3.584	150.671	5.980	0.000%
29	6.068	-150.671	-3.477	-6.068	150.671	3.476	0.000%
30	7.053	-150.671	-0.105	-7.053	150.671	0.105	0.000%
31	6.318	-150.671	3.438	-6.317	150.671	-3.438	0.000%
32	3.469	-150.671	5.998	-3.469	150.671	-5.998	0.000%
33	0.000	-150.671	6.877	0.000	150.671	-6.877	0.000%
34	-3.458	-150.671	5.979	3.458	150.671	-5.978	0.000%
35	-6.298	-150.671	3.427	6.298	150.671	-3.427	0.000%
36	-7.053	-150.671	-0.105	7.053	150.671	0.105	0.000%
37	-6.087	-150.671	-3.488	6.087	150.671	3.487	0.000%
38	-3.595	-150.671	-6.000	3.595	150.671	6.000	0.000%
39	0.000	-45.330	-16.967	0.000	45.330	16.966	0.001%
40	8.419	-45.330	-13.752	-8.419	45.330	13.751	0.001%
41	13.957	-45.330	-7.958	-13.956	45.330	7.958	0.001%
42	16.297	-45.330	-0.383	-16.297	45.330	0.383	0.001%
43	15.011	-45.330	7.900	-15.010	45.330	-7.900	0.001%
44	7.946	-45.330	13.722	-7.946	45.330	-13.721	0.001%
45	0.000	-45.330	15.649	0.000	45.330	-15.649	0.001%
46	-7.959	-45.330	13.745	7.959	45.330	-13.745	0.001%
47	-14.989	-45.330	7.887	14.989	45.330	-7.887	0.001%
48	-16.297	-45.330	-0.383	16.297	45.330	0.383	0.001%
49	-13.978	-45.330	-7.970	13.978	45.330	7.970	0.001%
50	-8.406	-45.330	-13.728	8.406	45.330	13.728	0.001%

## Non-Linear Convergence Results

Load	Converged?	Number	Displacement	Force
Combination	-	of Cycles	Tolerance	Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	11	0.00000001	0.00011421
3	Yes	11	0.00000001	0.00008958
4	Yes	11	0.00000001	0.00009774
5	Yes	11	0.00000001	0.00007379
6	Yes	11	0.00000001	0.00008289
7	Yes	10	0.00005937	0.00014971
8	Yes	11	0.00000001	0.00009803
9	Yes	11	0.00000001	0.00007410
10	Yes	11	0.00000001	0.00011376
11	Yes	11	0.00000001	0.00008917
12	Yes	11	0.00000001	0.00009907
13	Yes	11	0.00000001	0.00007508
14	Yes	11	0.00000001	0.00008325
15	Yes	11	0.00000001	0.00005929
16	Yes	11	0.00000001	0.00009916
17	Yes	11	0.00000001	0.00007515
18	Yes	11	0.00000001	0.00011397
19	Yes	11	0.00000001	0.00008936
20	Yes	11	0.00000001	0.00009804
21	Yes	11	0.00000001	0.00007411
22	Yes	11	0.00000001	0.00008285
23	Yes	10	0.00005935	0.00014964
24	Yes	11	0.00000001	0.00009765
25	Yes	11	0.00000001	0.00007372

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26	Yes	6	0.00000001	0.00005888
27	Yes	12	0.00000001	0.00008047
28	Yes	12	0.00000001	0.00007947
29	Yes	12	0.00000001	0.00007983
30	Yes	12	0.00000001	0.00008118
31	Yes	12	0.00000001	0.00008268
32	Yes	12	0.00000001	0.00008115
33	Yes	12	0.00000001	0.00008045
34	Yes	12	0.00000001	0.00008065
35	Yes	12	0.00000001	0.00008177
36	Yes	12	0.00000001	0.00007996
37	Yes	12	0.00000001	0.00007863
38	Yes	12	0.00000001	0.00007870
39	Yes	11	0.00000001	0.00008206
40	Yes	11	0.00000001	0.00007699
41	Yes	11	0.00000001	0.00007270
42	Yes	11	0.00000001	0.00007701
43	Yes	11	0.00000001	0.00008189
44	Yes	11	0.00000001	0.00007743
45	Yes	11	0.00000001	0.00007290
46	Yes	11	0.00000001	0.00007749
47	Yes	11	0.00000001	0.00008199
48	Yes	11	0.00000001	0.00007703
49	Yes	11	0.00000001	0.00007266
50	Yes	11	0.00000001	0.00007695

#### **Maximum Tower Deflections - Service Wind**

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	0
T1	195 - 180	8.544	39	0.352	0.056
T2	180 - 160	7.420	39	0.347	0.056
T3	160 - 140	5.912	39	0.323	0.054
T4	140 - 120	4.517	39	0.283	0.046
T5	120 - 100	3.325	39	0.235	0.036
T6	100 - 80	2.336	39	0.189	0.028
T7	80 - 60	1.536	39	0.145	0.020
T8	60 - 40	0.926	39	0.105	0.014
Т9	40 - 20	0.461	39	0.070	0.009
T10	20 - 0	0.161	39	0.033	0.004

#### **Critical Deflections and Radius of Curvature - Service Wind**

Elevation	Appurtenance	Gov.	Deflection	Tilt	Twist	Radius of
		Load				Curvature
ft		Comb.	in	0	0	ft
195.000	Lightning Rod 1"x10'	39	8.544	0.352	0.056	271307
190.000	Sector1(CaAa=13333.33 Sq.in)No	39	8.171	0.351	0.057	271307
	Ice					
178.000	Sector1(CaAa=10000 Sq.in)No Ice	39	7.269	0.345	0.056	146374
166.000	Sector1(CaAa=10000 Sq.in)No Ice	39	6.360	0.332	0.055	61059
154.000	6' MW Dish	39	5.476	0.312	0.052	29717
142.000	6' MW Dish	39	4.648	0.287	0.047	22123

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#### **Maximum Tower Deflections - Design Wind**

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	۰
T1	195 - 180	26.794	2	1.101	0.175
T2	180 - 160	23.266	2	1.087	0.175
T3	160 - 140	18.531	2	1.012	0.167
T4	140 - 120	14.150	2	0.885	0.142
T5	120 - 100	10.412	2	0.737	0.112
T6	100 - 80	7.313	2	0.590	0.086
T7	80 - 60	4.807	2	0.454	0.063
T8	60 - 40	2.898	2	0.329	0.045
T9	40 - 20	1.444	2	0.218	0.027
T10	20 - 0	0.503	2	0.102	0.013

#### Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	0	0	ft
195.000	Lightning Rod 1"x10'	2	26.794	1.101	0.175	86897
190.000	Sector1(CaAa=13333.33 Sq.in)No	2	25.622	1.098	0.175	86897
	Ice					
178.000	Sector1(CaAa=10000 Sq.in)No Ice	2	22.791	1.082	0.175	46821
166.000	Sector1(CaAa=10000 Sq.in)No Ice	2	19.936	1.041	0.171	19648
154.000	6' MW Dish	2	17.161	0.978	0.161	9561
142.000	6' MW Dish	2	14.562	0.899	0.145	7118

#### **Bolt Design Data**

Section No.	Elevation	Component Type	Bolt Grade	Bolt Size	Number Of	Maximum Load	Allowable Load	Ratio Load	Allowable Ratio	Criteria
	ft			in	Bolts	per Bolt K	per Bolt K	Allowable	•	
T1	195	Diagonal	A325X	0.625	1	3.471	9.598	0.362	1	Member Block Shear
		Top Girt	A325X	0.625	1	0.373	9.598	0.039	1	Member Block Shear
T2	180	Leg	A325N	0.750	6	2.313	30.101	0.077	1	Bolt Tension
		Diagonal	A325X	0.625	1	7.815	9.598	0.814	1	Member Block Shear
Т3	160	Leg	A325N	0.750	6	9.482	30.101	0.315	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.729	10.740	0.813	1	Member Block Shear
T4	140	Leg	A325N	0.750	6	17.518	30.101	0.582	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.883	14.320	0.620	1	Member Block Shear
T5	120	Leg	A325N	1.000	6	25.291	54.517	0.464	1	Bolt Tension

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	Harmoni Towers	daniel.hast

Section No.	Elevation	Component Type	Bolt Grade	Bolt Size	Number Of	Maximum Load	Allowable Load	Rati Loa		Allowable Ratio	Criteria
	ft			in	Bolts	per Bolt K	per Bolt K	Allowe	able	•	
		Diagonal	A325X	0.625	1	8.841	13.025	0.679	/	1	Member Block Shear
T6	100	Leg	A325N	1.000	6	32.154	54.517	0.590	~	1	Bolt Tension
		Diagonal	A325X	0.625	1	8.946	13.025	0.687	/	1	Member Block Shear
T7	80	Leg	A325N	1.000	6	38.425	54.517	0.705	1	1	Bolt Tension
		Diagonal	A325X	0.625	1	9.489	17.257	0.550		1	Bolt Shear
T8	60	Leg	A325N	1.250	6	44.269	87.220	0.508		1	Bolt Tension
		Diagonal	A325X	0.625	1	9.755	14.168	0.689	1	1	Member Block Shear
Т9	40	Leg	A325N	1.250	6	49.828	87.220	0.571	1	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.179	17.257			1	Bolt Shear
T10	20	Leg	A325N	1.250	6	55.112	87.220		1	1	Bolt Tension
		Diagonal	A325X	0.625	1	10.576	17.257	0.032	1	1	Bolt Shear

## Compression Checks

Section No.	Elevation	Size	L	$L_u$	Kl/r	A	$P_u$	$\phi P_n$	Ratio $P_u$
	ft		ft	ft		$in^2$	K	K	$\phi P_n$
T1	195 - 180	1 3/4	15.014	4.671	128.1 K=1.00	2.405	-13.040	33.103	0.394 1
T2	180 - 160	2 1/4	20.019	4.754	101.4 K=1.00	3.976	-56.701	84.331	0.672 1
Т3	160 - 140	2 1/2	20.019	4.754	91.3 K=1.00	4.909	-109.646	120.108	0.913 1
T4	140 - 120	2 3/4	20.019	4.754	83.0 K=1.00	5.940	-160.409	161.540	0.993 1
T5	120 - 100	3	20.019	4.754	76.1 K=1.00	7.069	-205.790	208.347	0.988 1
T6	100 - 80	3 1/4	20.019	4.754	70.2 K=1.00	8.296	-248.033	260.312	0.953 1
T7	80 - 60	3 1/2	20.019	4.754	65.2 K=1.00	9.621	-288.348	317.273	0.909 1
Т8	60 - 40	3 3/4	20.019	4.754	60.9 K=1.00	11.045	-327.241	379.106	0.863 1
Т9	40 - 20	3 3/4	20.019	4.754	60.9 K=1.00	11.045	-365.248	379.106	0.963 1
T10	20 - 0	4	20.019	4.754	57.1 K=1.00	12.566	-401.684	445.717	0.901 1

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Diagonal Design Data	(Compression)

Section No.	Elevation	Size	L	$L_u$	Kl/r	A	$P_u$	$\phi P_n$	$Ratio$ $P_u$
	ft		ft	ft		$in^2$	K	K	$\Phi P_n$
T1	195 - 180	L1 3/4x1 3/4x3/16	7.166	3.605	125.9 K=1.00	0.621	-3.552	11.206	0.317 1
T2	180 - 160	L1 3/4x1 3/4x3/16	8.697	4.343	151.7 K=1.00	0.621	-7.201	7.721	0.933 1
Т3	160 - 140	L2x2x3/16	9.987	4.976	151.6 K=1.00	0.715	-7.658	8.909	0.860 1
T4	140 - 120	L2x2x1/4	11.329	5.636	173.0 K=1.00	0.938	-8.179	8.972	0.912 1
T5	120 - 100	L2 1/2x2 1/2x3/16	12.706	6.314	153.1 K=1.00	0.902	-8.317	11.018	0.755 1
T6	100 - 80	L2 1/2x2 1/2x3/16	14.108	7.005	169.8 K=1.00	0.902	-8.593	8.952	0.960 ¹
T7	80 - 60	L2 1/2x2 1/2x1/4	15.529	7.705	188.3 K=1.00	1.190	-8.967	9.605	0.933 1
T8	60 - 40	L3x3x3/16	16.963	8.412	169.4 K=1.00	1.090	-9.520	10.877	0.875 1
Т9	40 - 20	L3x3x1/4	18.408	9.134	185.2 K=1.00	1.440	-9.827	12.022	0.817 1
T10	20 - 0	L3x3x1/4	19.861	9.851	199.7 K=1.00	1.440	-10.174	10.338	0.984 1

¹  $P_u$  /  $\phi P_n$  controls

## Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	$L_u$	Kl/r	A	$P_u$	$\phi P_n$	Ratio P _u
	ft		ft	ft		$in^2$	K	K	$\phi P_n$
T1	195 - 180	L1 3/4x1 3/4x3/16	4.913	4.767	166.5	0.621	-0.446	6.409	0.070 1
					K=1.00				~

¹  $P_u$  /  $\phi P_n$  controls

#### Tension Checks

#### Leg Design Data (Tension)

¹  $P_u$  /  $\phi P_n$  controls

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Section No.	Elevation	Size	L	$L_u$	Kl/r	A	$P_u$	$\phi P_n$	$Ratio$ $P_u$
	ft		ft	ft		$in^2$	K	K	$\phi P_n$
T1	195 - 180	1 3/4	15.014	0.500	13.7	2.405	13.889	108.238	0.128 1
T2	180 - 160	2 1/4	20.019	0.500	10.7	3.976	56.900	178.924	0.318 1
Т3	160 - 140	2 1/2	20.019	0.500	9.6	4.909	105.121	220.893	0.476 ¹
T4	140 - 120	2 3/4	20.019	0.500	8.7	5.940	151.757	267.281	0.568 1
T5	120 - 100	3	20.019	0.500	8.0	7.069	192.934	318.086	0.607 1
Т6	100 - 80	3 1/4	20.019	0.500	7.4	8.296	230.565	373.310	0.618 1
T7	80 - 60	3 1/2	20.019	0.500	6.9	9.621	265.631	432.951	0.614 ¹
Т8	60 - 40	3 3/4	20.019	0.500	6.4	11.045	298.987	497.010	0.602 1
Т9	40 - 20	3 3/4	20.019	0.500	6.4	11.045	330.691	497.010	0.665 1
T10	20 - 0	4	20.019	0.500	6.0	12.566	360.892	565.487	0.638 1

¹  $P_u$  /  $\phi P_n$  controls

Diagonal	<b>Design Data</b>	(Tension)	
Diagona	Doolgii Data	(	

Elevation	Size	L	$L_u$	Kl/r	A	$P_u$	$\phi P_n$	$Ratio$ $P_u$
ft		ft	ft		$in^2$	K	K	$\phi P_n$
195 - 180	L1 3/4x1 3/4x3/16	7.435	3.736	83.5	0.360	3.471	17.567	0.198 1
180 - 160	L1 3/4x1 3/4x3/16	8.697	4.343	97.1	0.360	7.815	17.567	0.445 1
160 - 140	L2x2x3/16	9.987	4.976	96.8	0.431	8.729	21.001	0.416 ¹
140 - 120	L2x2x1/4	11.329	5.636	111.1	0.563	8.883	27.440	0.324 1
120 - 100	L2 1/2x2 1/2x3/16	12.706	6.314	97.4	0.571	8.841	27.838	0.318 1
100 - 80	L2 1/2x2 1/2x3/16	14.108	7.005	108.0	0.571	8.946	27.838	0.321 1
80 - 60	L2 1/2x2 1/2x1/4	15.529	7.705	120.2	0.752	9.309	36.654	0.254 1
60 - 40	L3x3x3/16	16.963	8.412	107.5	0.712	9.755	34.712	0.281 1
40 - 20	L3x3x1/4	18.408	9.134	117.9	0.939	10.156	45.794	0.222 1
20 - 0	L3x3x1/4	19.861	9.851	127.1	0.939	10.472	45.794	0.229 1
	ft  195 - 180  180 - 160  160 - 140  140 - 120  120 - 100  100 - 80  80 - 60  60 - 40  40 - 20	ft  195 - 180  L1 3/4x1 3/4x3/16  180 - 160  L1 3/4x1 3/4x3/16  160 - 140  L2x2x3/16  140 - 120  L2x2x1/4  120 - 100  L2 1/2x2 1/2x3/16  100 - 80  L2 1/2x2 1/2x3/16  80 - 60  L2 1/2x2 1/2x1/4  60 - 40  L3x3x3/16  40 - 20  L3x3x1/4	ft         ft           195 - 180         L1 3/4x1 3/4x3/16         7.435           180 - 160         L1 3/4x1 3/4x3/16         8.697           160 - 140         L2x2x3/16         9.987           140 - 120         L2x2x1/4         11.329           120 - 100         L2 1/2x2 1/2x3/16         12.706           100 - 80         L2 1/2x2 1/2x3/16         14.108           80 - 60         L2 1/2x2 1/2x1/4         15.529           60 - 40         L3x3x3/16         16.963           40 - 20         L3x3x1/4         18.408	ft         ft         ft         ft           195 - 180         L1 3/4x1 3/4x3/16         7.435         3.736           180 - 160         L1 3/4x1 3/4x3/16         8.697         4.343           160 - 140         L2x2x3/16         9.987         4.976           140 - 120         L2x2x1/4         11.329         5.636           120 - 100         L2 1/2x2 1/2x3/16         12.706         6.314           100 - 80         L2 1/2x2 1/2x3/16         14.108         7.005           80 - 60         L2 1/2x2 1/2x1/4         15.529         7.705           60 - 40         L3x3x3/16         16.963         8.412           40 - 20         L3x3x1/4         18.408         9.134	ft         ft         ft           195 - 180         L1 3/4x1 3/4x3/16         7.435         3.736         83.5           180 - 160         L1 3/4x1 3/4x3/16         8.697         4.343         97.1           160 - 140         L2x2x3/16         9.987         4.976         96.8           140 - 120         L2x2x1/4         11.329         5.636         111.1           120 - 100         L2 1/2x2 1/2x3/16         12.706         6.314         97.4           100 - 80         L2 1/2x2 1/2x3/16         14.108         7.005         108.0           80 - 60         L2 1/2x2 1/2x1/4         15.529         7.705         120.2           60 - 40         L3x3x3/16         16.963         8.412         107.5           40 - 20         L3x3x1/4         18.408         9.134         117.9	ft         ft         ft         ft         in²           195 - 180         L1 3/4x1 3/4x3/16         7.435         3.736         83.5         0.360           180 - 160         L1 3/4x1 3/4x3/16         8.697         4.343         97.1         0.360           160 - 140         L2x2x3/16         9.987         4.976         96.8         0.431           140 - 120         L2x2x1/4         11.329         5.636         111.1         0.563           120 - 100         L2 1/2x2 1/2x3/16         12.706         6.314         97.4         0.571           100 - 80         L2 1/2x2 1/2x3/16         14.108         7.005         108.0         0.571           80 - 60         L2 1/2x2 1/2x1/4         15.529         7.705         120.2         0.752           60 - 40         L3x3x3/16         16.963         8.412         107.5         0.712           40 - 20         L3x3x1/4         18.408         9.134         117.9         0.939	ft         ft         ft         ft         in²         K           195 - 180         L1 3/4x1 3/4x3/16         7.435         3.736         83.5         0.360         3.471           180 - 160         L1 3/4x1 3/4x3/16         8.697         4.343         97.1         0.360         7.815           160 - 140         L2x2x3/16         9.987         4.976         96.8         0.431         8.729           140 - 120         L2x2x1/4         11.329         5.636         111.1         0.563         8.883           120 - 100         L2 1/2x2 1/2x3/16         12.706         6.314         97.4         0.571         8.841           100 - 80         L2 1/2x2 1/2x3/16         14.108         7.005         108.0         0.571         8.946           80 - 60         L2 1/2x2 1/2x1/4         15.529         7.705         120.2         0.752         9.309           60 - 40         L3x3x3/16         16.963         8.412         107.5         0.712         9.755           40 - 20         L3x3x1/4         18.408         9.134         117.9         0.939         10.156	ft         ft         ft         in²         K         K           195 - 180         L1 3/4x1 3/4x3/16         7.435         3.736         83.5         0.360         3.471         17.567           180 - 160         L1 3/4x1 3/4x3/16         8.697         4.343         97.1         0.360         7.815         17.567           160 - 140         L2x2x3/16         9.987         4.976         96.8         0.431         8.729         21.001           140 - 120         L2x2x1/4         11.329         5.636         111.1         0.563         8.883         27.440           120 - 100         L2 1/2x2 1/2x3/16         12.706         6.314         97.4         0.571         8.841         27.838           100 - 80         L2 1/2x2 1/2x3/16         14.108         7.005         108.0         0.571         8.946         27.838           80 - 60         L2 1/2x2 1/2x1/4         15.529         7.705         120.2         0.752         9.309         36.654           60 - 40         L3x3x3/16         16.963         8.412         107.5         0.712         9.755         34.712           40 - 20         L3x3x1/4         18.408         9.134         117.9         0.939         10.156

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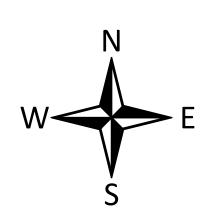
¹  $P_u$  /  $\phi P_n$  controls

Top Girt Design Data (Tension)									
Section No.	Elevation	Size	L	$L_u$	Kl/r	A	$P_u$	$\phi P_n$	Ratio P _u
	ft		ft	ft		$in^2$	K	K	$\phi P_n$
T1	195 - 180	L1 3/4x1 3/4x3/16	4.913	4.767	106.5	0.360	0.373	17.567	0.021 1

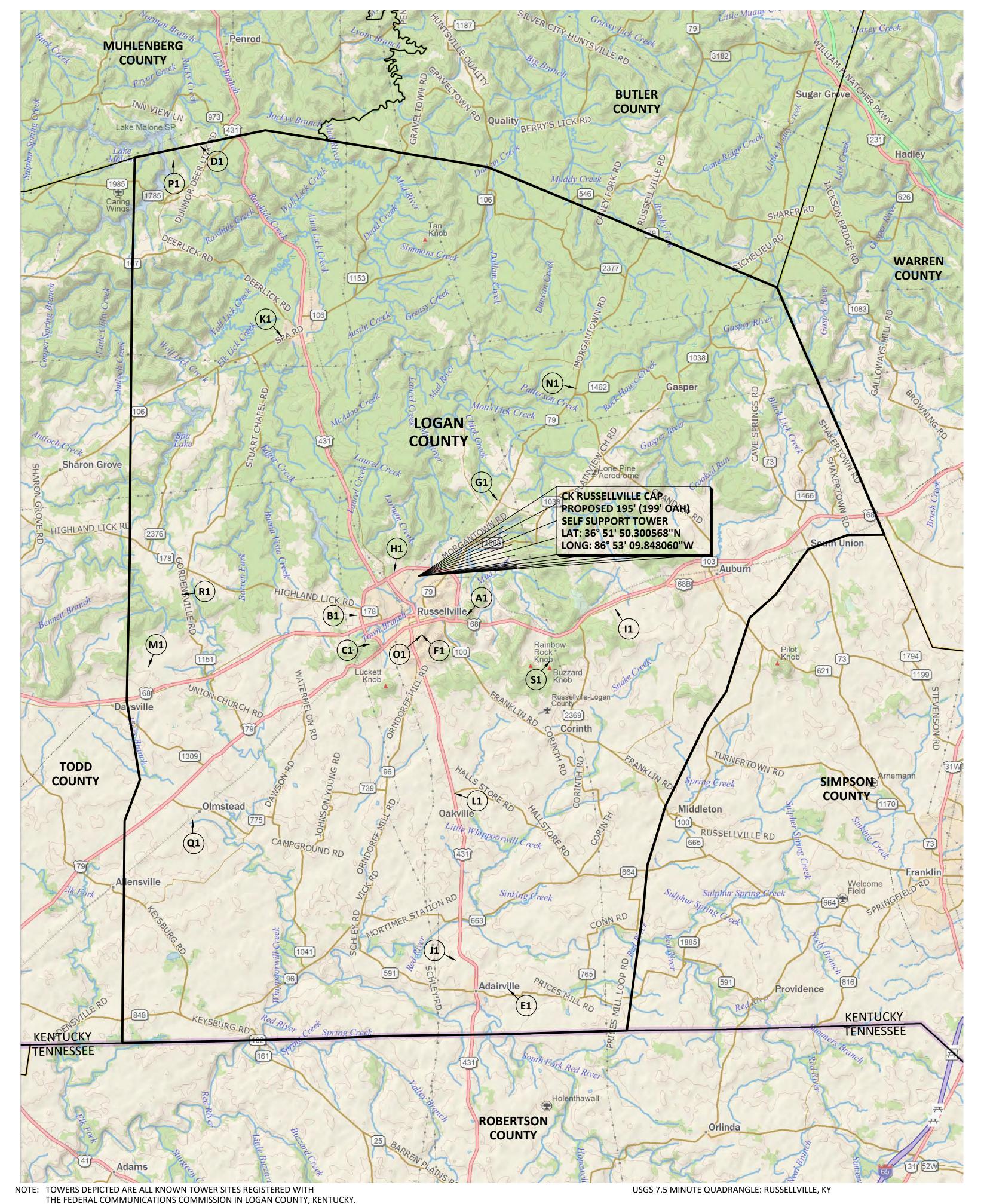
¹  $P_u$  /  $\phi P_n$  controls

#### **Section Capacity Table**

Section	Elevation	Component	Size	Critical	P	$\phi P_{allow}$	%	Pass
No.	ft	Type		Element	K	K	Capacity	Fail
T1	195 - 180	Leg	1 3/4	1	-13.040	33.103	39.4	Pass
T2	180 - 160	Leg	2 1/4	27	-56.701	84.331	67.2	Pass
T3	160 - 140	Leg	2 1/2	54	-109.646	120.108	91.3	Pass
T4	140 - 120	Leg	2 3/4	81	-160.409	161.540	99.3	Pass
T5	120 - 100	Leg	3	108	-205.790	208.347	98.8	Pass
T6	100 - 80	Leg	3 1/4	135	-248.033	260.312	95.3	Pass
T7	80 - 60	Leg	3 1/2	162	-288.348	317.273	90.9	Pass
T8	60 - 40	Leg	3 3/4	189	-327.241	379.106	86.3	Pass
T9	40 - 20	Leg	3 3/4	216	-365.248	379.106	96.3	Pass
T10	20 - 0	Leg	4	243	-401.684	445.717	90.1	Pass
T1	195 - 180	Diagonal	L1 3/4x1 3/4x3/16	17	-3.552	11.206	31.7	Pass
		_					36.2 (b)	
T2	180 - 160	Diagonal	L1 3/4x1 3/4x3/16	29	-7.201	7.721	93.3	Pass
T3	160 - 140	Diagonal	L2x2x3/16	55	-7.658	8.909	86.0	Pass
T4	140 - 120	Diagonal	L2x2x1/4	82	-8.179	8.972	91.2	Pass
T5	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	109	-8.317	11.018	75.5	Pass
T6	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	136	-8.593	8.952	96.0	Pass
T7	80 - 60	Diagonal	L2 1/2x2 1/2x1/4	163	-8.967	9.605	93.3	Pass
T8	60 - 40	Diagonal	L3x3x3/16	190	-9.520	10.877	87.5	Pass
T9	40 - 20	Diagonal	L3x3x1/4	217	-9.827	12.022	81.7	Pass
T10	20 - 0	Diagonal	L3x3x1/4	244	-10.174	10.338	98.4	Pass
T1	195 - 180	Top Girt	L1 3/4x1 3/4x3/16	6	-0.446	6.409	7.0	Pass
							Summary	
						Leg (T4)	99.3	Pass
						Diagonal	98.4	Pass
						(T10)		
						Top Girt	7.0	Pass
						(T1)		
						Bolt Checks	81.4	Pass
						RATING =	99.3	Pass



# LOGAN COUNTY, KENTUCKY VERIZON WIRELESS SITE NAME: CK RUSSELLVILLE CAP



#### **EXISTING TOWER LEGEND**

FCC REGISTRATION #: 1043225
CELLCO PARTNERSHIP
LAT: 36° 50' 41.0"N
LONG: 86° 51' 27.0"W

FCC REGISTRATION #: 1246006
CCATT LLC
LAT: 36° 58' 34.3"N
LONG: 86° 57' 59.8"W

(GRANTED)
FCC REGISTRATION #: 1043269
LOGAN RADIO INC
LAT: 36° 50' 41.0"N
LONG: 86° 55' 21.0"W

FCC REGISTRATION #: 1256442
CELLCO PARTNERSHIP
LAT: 36° 45' 39.5"N
LONG: 86° 51' 51.6"W

FCC REGISTRATION #: 1043422 CROWN CASTLE SOUTH LLC LAT: 36° 49' 53.1"N LONG: 86° 54' 51.9"W

FCC REGISTRATION #: 1261471
CELLCO PARTNERSHIP
LAT: 36° 49' 14.6"N
LONG: 87° 02' 42.8"W

FCC REGISTRATION #: 1043427 CROWN CASTLE SOUTH LLC LAT: 37° 03' 58.8"N FCC REGISTRATION #: 1261473
CELLCO PARTNERSHIP
LAT: 36° 57' 07.6"N
LONG: 86° 47' 36.4"W

FCC REGISTRATION #: 1043439
FRANKLYNN FARMS, INC.
LAT: 36° 40' 05.6"N
LONG: 86° 49' 57.3"W

FCC REGISTRATION #: 1262078
CITY OF RUSSELLVILLE
ELECTRIC PLANT BOARD
LAT: 36° 50' 09.6"N

FCC REGISTRATION #: 1043532
PENNYRILE RECC
LAT: 36° 50' 09.0"N
LONG: 86° 53' 02.0"W

P1 FCC REGISTRATION #: 1266950 CELLCO PARTNERSHIP LAT: 37° 03' 33.7"N LONG: 87° 01' 50.4"W

LONG: 86° 53' 01.8"W

FCC REGISTRATION #: 1044828
COMMONWEALTH OF KENTUCKY dba=
KY EMERGENCY WARNING SYSTEM KEWS
LAT: 36° 53' 58.0"N
LONG: 86° 50' 21.7"W

FCC REGISTRATION #: 1287202
CELLCO PARTNERSHIP
LAT: 36° 44' 53.9"N
LONG: 87° 01' 08.7"W

FCC REGISTRATION #: 1050236
CEQUEL III COMMUNICATIONS I
dba= SUDDENLINK COMMUNICATIONS
LAT: 36° 51' 55.0"N
LONG: 86° 54' 01.0"W

FCC REGISTRATION #: 1303476
TILLMAN INFRASTRUCTURE LLC
LAT: 36° 51' 15.9"N
LONG: 87° 01' 32.6"W

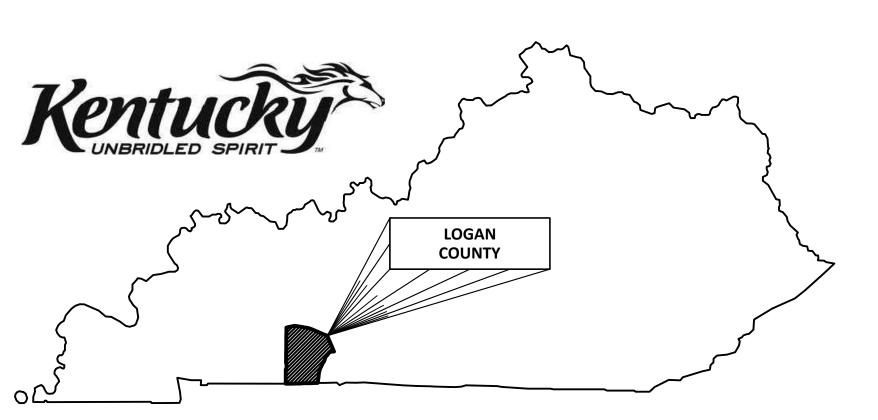
FCC REGISTRATION #: 1237175 GLOBAL TOWER, LLC. through AMERICAN TOWERS, LLC

LAT: 36° 50′ 51.7″N

LONG: 86° 46' 11.1"W

FCC REGISTRATION #: 1306388
CELLCO PARTNERSHIP
LAT: 36° 49' 24.6"N
LONG: 86° 48' 30.3"W

FCC REGISTRATION #: 1246004 CCATT LLC LAT: 36° 40' 56.0"N LONG: 86° 51' 50.5"W





PREPARED FOR:

CELLCO

# REVISIONS

REV.	DATE	DESCRIPTION						
Α	2.21.22	ISSUED FOR REVIEW						
В	6.30.22	REVISED TOWER & LOCATION						

SITE INFORMATION:

## CK RUSSELLVILLE CAP

CREEKWOOD DRIVE RUSSELLVILLE, KY, 42276 LOGAN COUNTY

TAX PARCEL NUMBER: 068-00-00-025-01

PROPERTY OWNER: JOHN & ELIZABETH TABOR 5349 BUENA VISTA ROAD, RUSSELLVILLE, KY 42276

SOURCE OF TITLE: DEED BOOK 365, PAGE 673

POD NUMBER: 22-121714

DRAWN BY: DAP
CHECKED BY: MEP
SURVEY DATE: 1.26.22
PLAT DATE: 2.21.22

SHEET TITLE:

**TOWER GRID MAP** 

SHEET NUMBER: (1 page)

C-1

8/17/22, 3:10 PM Notice Criteria Tool



The system will be going offline from 7pm ET to midnight on Thursday, August 18, 2022 for scheduled upgrades. We apologize for any inconvenience.

« OE/AAA

#### **Notice Criteria Tool**

Notice Criteria Tool - Desk Reference Guide V_2018.2.0

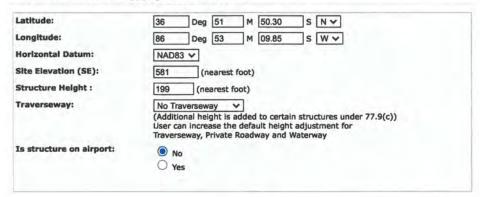
The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- · filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport construction.

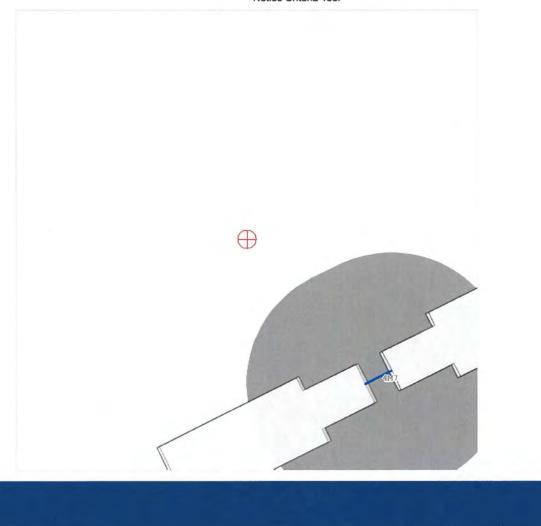
The tool below will assist in applying Part 77 Notice Criteria.



#### Results

You do not exceed Notice Criteria.

8/17/22, 3:10 PM Notice Criteria Tool



#### RE: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

From: Lee Littleton (lee.littleton@harmonitowers.com)

To: barbara.evans@verizonwireless.com

Cc: pattonacq@yahoo.com; abigail.ball@verizonwireless.com; dancoots@chwlaw.com; jcoulon@chwlaw.com; jackie.straight@verizonwireless.com; Abigale.McClain@harmonitowers.com; Nathan.Olson@harmonitowers.com; cdamico@podgrp.com

Date: Monday, October 3, 2022, 01:54 PM EDT

Barb,

Here is the reply from KAZC:

#### Good Morning,

This proposed site and height does not fall within the jurisdiction of the Zoning Commission so no permit is required. You are free to proceed from an airspace standpoint.

Note: If you plug your coordinates into this FAA site (link below) and no airspace study is required (i.e.; 'You do not exceed Notice Criteria'), then you are not required to file with us either. I hope this helps save you some paperwork in the future, as well as selecting potential sites.

No ce Criteria Tool (faa.gov)

Regards, Brad

Brad Schwandt Airport Zoning Administration Department of Aviation 90 Airport Road Frankfort, KY 40601 Office: 502-564-0151



From: Evans, Barbara J <barbara.evans@verizonwireless.com>

Sent: Monday, October 3, 2022 8:50 AM

To: Lee Littleton <Lee.Littleton@harmonitowers.com>

Cc: Preston Patton <pattonacq@yahoo.com>; Ball, Abigail Diane Dewey <abigail.ball@verizonwireless.com>; Dan Coots <dancoots@chwlaw.com>; Jennifer Coulon <jcoulon@chwlaw.com>; Straight, Jackie <jackie.straight@verizonwireless.com>; Abigale McClain <Abigale.McClain@harmonitowers.com>; Nathan Olson <Nathan.Olson@harmonitowers.com>; Cali D'Amico POD <cdamico@podgrp.com>

Subject: Re: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

CAUTION: This email is from outside the organization

Thanks.

#### verizon^v

Barbara Madigan Evans

Sr Engineer Spec - Network Reg/RE

24242 Northwestern Highway

Southfield, MI 48075

Barbara.Evans@verizonwireless.com

C	2 248-9 15-35 / /   M 248- / 2 1 - 109 /
Е	larbara.Evans@verizonwireless.com
C	on Mon, Oct 3, 2022 at 9:46 AM Lee Littleton < Lee.Littleton@harmonitowers.com > wrote:
	Good morning, Barb.
	We submitted the KAZC application this morning.
	Additionally, we requested the application to be included on the 10/10 agenda.
	Preston,
	Updated title report attached. There are 2 modifications of mortgage and 1 partial release of mtg, recorded.
	Thanks always,
	Lee Littleton
	501-352-2464
	From: Evans, Barbara J < barbara.evans@verizonwireless.com > Sent: Thursday, September 29, 2022 9:48 AM
	To: Preston Patton <pattonacq@yahoo.com></pattonacq@yahoo.com>
	Cc: Ball, Abigail Diane Dewey <a bigail.ball@verizonwireless.com="">; Lee Littleton <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Dan Coots <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Dan Coots <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Dan Coots <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Dan Coots <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Jennifer Coulon <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Lee.Littleton@harmonitowers.com">Lee.Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Lee.Littleton@harmonitowers.com">Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Lee.Littleton@harmonitowers.com">Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Lee.Littleton@harmonitowers.com">Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Lee.Littleton@harmonitowers.com">Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Littleton@harmonitowers.com">Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Littleton">Littleton@harmonitowers.com</a>; Straight, Jackie <a href="Littleton">Litt</a></a>
	< <u>Nathan.Olson@harmonitowers.com</u> >; Cali D'Amico POD < <u>cdamico@podgrp.com</u> > <b>Subject:</b> Re: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368
	Subject. He. [L] I W. Assistance Hequested. BTO 2.0 Assignment. OK Hussenvine Cap - I # 10007000
	CAUTION: This email is from outside the organization
	Hi Preston:
	That is correct.
	Thanks,
	Barb
	verizon ^v
	Barbara Madigan Evans
	Sr Engineer Spec - Network Reg/RE
	24242 Northwestern Highway
	Southfield, MI 48075
	O 248-915-3577   M 248-721-1097

On Wed, Sep 28, 2022 at 8:58 AM Preston Patton pattonacq@yahoo.com> wrote:

Hi Lee,

Per the Verizon deployment call yesterday, the new direction from Barb regarding the KAZC is as follows:

If Verizon is required to file notice with the FAA, Verizon will also file for the KAZC. If the FAA is NNR- Notice Not Required, the BTS company needs to file for the KAZC (Kentucky Airport Zoning Commission).

I have attached the 1A and Airspace study I pulled from FUZE.

Hi Barb,

Could you please confirm I am understanding the new direction correctly and that this one falls into the category of the BTS company needing to file for the KAZC?

Thanks much,

Preston F. Patton, Jr.

President

Patton Acquisition Inc.

Mobile: 601-260-9994

On Monday, September 26, 2022, 12:06:52 PM EDT, Lee Littleton <a href="Littleton@harmonitowers.com">Littleton@harmonitowers.com</a> wrote:

Thank you for the time on the phone, Preston.

No further action needed at this time regarding the sewer easement.

Lee

From: Preston Patton <a href="mailto:spattonacq@yahoo.com">sent: Monday, September 26, 2022 8:19 AM To: Ball, Abigail Diane Dewey <a href="mailto:spattonace">abigail.ball@verizonwireless.com</a>>

Cc: Lee Littleton < Lee.Littleton@harmonitowers.com >; Dan Coots < dancoots@chwlaw.com >; Jennifer Coulon < jcoulon@chwlaw.com >; Straight, Jackie <jackie.straight@verizonwireless.com>; Nathan Olson <Nathan.Olson@harmonitowers.com>; Barbara J. Evans

<a href="mailto:substantial-align:ref;">barbara.evans@verizonwireless.com</a>; Cali D'Amico POD <a href="mailto:cdamico@podgrp.com">cdamico@podgrp.com</a>>

Subject: Re: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

**CAUTION:** This email is from outside the organization

Hi Abbey and Lee,

Yahoo Mail - RE: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368
We have the PE lease. We received an email with the partial release of lien, but can not send the lease up for full execution until it's recorded. They will send us that as soon as it is complete. I will follow back up with the LL today to see if the bank has completed this.
Dan, did we need anything else, besides having that one document recorded, to clear us for FE?
Lee,
I just left a voicemail regarding this. As for the easement, since the information wasn't available in the title docs theres no way for the surveyor to plat the easement. From looking on page 84 of supporting title docs and comparing to the LE and google earth, it looks to me to be the sewer easement that runs on the adjoining property to the east and then turns to just cross our SE property corner. The tower Lease area and access/ utility easement is not encroaching on that sewer easement.
Is there an issue here that needs to be addressed? If so, please advise how you would like us to proceed.
Thanks,
Preston F. Patton, Jr.
President
Patton Acquisition Inc.
Mobile: 601-260-9994
On Sep 26, 2022, at 7:30 AM, Ball, Abigail Diane Dewey <a href="mailto:abigail.ball@verizonwireless.com">abigail.ball@verizonwireless.com</a> wrote:
I do not see any digital record of the lease in my inbox for processing -
+Dan Coots +Jennifer Coulon
Can you please get me the lease agreement for this and I will get it processed today?
Thank you
abbey
verizon ^v

Abigail Ball

Sr Engr Cslt-Ntwk Reg/RE

M 989-944-0850

F 614-339-4889

abigail.ball@verizonwireless.com

On Sun, Sep 25, 2022 at 12:10 PM Lee Littleton < Lee.Littleton@harmonitowers.com> wrote:

Hi Preston,

Hope everyone is doing well.

Did the Lease Agreement get fully executed?

Are SNDAs forthcoming? Seems like there are two mortgages. One that originally was 95.000 and another one for 260,000.

Also note that the Surveyor did not plot (could not determine location) the 15' wide perpetual ROW Easement. Page 84 of the Supporting Title docs is a simple survey of where this easement is located and page 91 describes a "plat attached hereto" but there is not a plat attached. I suspect this easement is paralleling the North property line of our LO, to service the houses there.

- RIGHT OF WAY EASEMENT IN FAVOR OF JOHN W. CATES SET FORTH IN INSTRUMENT RECORDED ON AUGUST 28, 1989 IN DEED BOOK 40, PAGE 647. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- MEMORANDUM AGREEMENT DATED AUGUST 23, 1989 BY AND BETWEEN REBECCA MONTGOMERY SIMOR AND GEORGE SIMOR AND JOHN W. CATES, D/B/A CATES CONSTRUCTION COMPANY RECORDED ON AUGUST 29, 1989 IN DEED BOOK 40, PAGE 638. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- RIGHT OF WAY EASEMENT IN FAVOR OF REBECCA MONTGOMERY SIMOR AND GEORGE SIMOR SET FORTH IN INSTRUMENT RECORDED ON AUGUST 28, 2009 IN DEED BOOK 40, PAGE 649. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)
- AGREEMENT DATED AUGUST 23M 1989 BY AND BETWEEN JOHN W. CATES, D/B/A CATES CONSTUCTION COMPANY AND REBECCA SIMOR AND GEORGE SIMOR RECORDED ON AUGUST 28, 1989 IN DEED BOOK 40, PAGE 643. (LOCATION OF AGREEMENT CAN NOT BE DETERMINED.)

Thank you,

Lee

From: Lee Littleton

Sent: Friday, August 5, 2022 10:02 AM

To: Preston Patton <a href="mailto:spattonacq@yahoo.com">>; Straight, Jackie <a href="mailto:spattonacq@yahoo.com">; Straight, Jackie <a href="mailto:spattonacq@yahoo.com">>; Straight, Jackie <a href="mailto:spattonacq@yahoo.com">>; Straight, Jackie <a href="mailto:spattonacq@yahoo.com">>; Nathan Olson <a href="mailto:spattonacq@yahoo.com">>; Straight, Jackie <a href="mailto:spattonacq@yahoo.com">>; Nathan Olson <a href="m

<Nathan.Olson@harmonitowers.com>

Cc: Barbara J. Evans < barbara.evans@verizonwireless.com >; Abigail Diane Dewey Ball < abigail.ball@verizonwireless.com >

Subject: RE: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

Excellent news, Preston!

Thank you so very much for this update.

Lee

From: Preston Patton pattonacq@yahoo.com

**Sent:** Friday, August 5, 2022 10:00 AM

To: Straight, Jackie < jackie.straight@verizonwireless.com >; Nathan Olson < Nathan.Olson@harmonitowers.com >

Cc: Barbara J. Evans <a href="mailto:barbara.evans@verizonwireless.com">barbara.evans@verizonwireless.com</a>; Abigail Diane Dewey Ball <a href="mailto:abigail.ball@verizonwireless.com">abigail.ball@verizonwireless.com</a>; Lee Littleton

<Lee.Littleton@harmonitowers.com>

Subject: Re: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

**CAUTION:** This email is from outside the organization

Hi All,

Just wanted to provide another update here in relations to the LL executed Lease. I just spoke to Dr. Tabor again a moment ago. He reviewed the revised doc that Dan Coots sent while he was on vacation and is has approved the Lease language. He said he will find a notary for the MOL either today or first thing Monday morning and then send the PE docs back to Dan no later than Monday.

Have a great Friday and weekend.

Thanks,

Preston F. Patton. Jr. President Patton Acquisition Inc.

Mobile: 601-260-9994

On Tuesday, July 19, 2022, 04:16:42 PM EDT, Nathan Olson <a href="mailto:nathan.olson@harmonitowers.com">nathan.olson@harmonitowers.com</a> wrote:

Good news, Preston! Thanks for the update.

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com



harmonitowers.com

From: Straight, Jackie < jackie.straight@verizonwireless.com>

Sent: Tuesday, July 19, 2022 2:23 PM To: Preston Patton pattonacq@yahoo.com>

Cc: Nathan Olson < Nathan.Olson@harmonitowers.com >; Barbara J. Evans < barbara.evans@verizonwireless.com >; Abigail Diane Dewey Ball

<a href="mailto:square: cm"><a href="mailto:ball@verizonwireless.com"><a href="mailto:ball@verizonwireless.com"><a

**CAUTION:** This email is from outside the organization

Thanks, Preston. That is great news.

#### verizon/

Jackie Straight

Sr Eng Cslt Network Reg RE

M 2707500023 2902 Ring Road Elizabethtown, KY 42701 On Tue, Jul 19, 2022 at 10:47 AM Preston Patton pattonacq@yahoo.com> wrote:

Hi All,

I wanted to provide another update regarding this Lease. We have finally been able to work out all of the issues regarding the lease language. We previously had the language worked out, so we sent the executable docs to the landowner a couple of weeks ago. He came back with more redlines. We were able to accommodate him on 1 of the 2 requests. I just spoke to him again and he agreed to let the other issue drop. He is leaving tomorrow morning for a family trip to Wyoming and will be home on 7/28. I have asked Dan Coots to mail him the revised executable Ground Lease again for his signature when he returns. I expect to have the PE docs to Verizon for Full execution by 8/3.

Sorry for the delays. Although this landowner is very nice, he is also very particular.

Thanks much,

Preston F. Patton, Jr. President Patton Acquisition Inc. Mobile: 601-260-9994

On Tuesday, July 12, 2022, 04:33:30 PM EDT, Nathan Olson <a href="mailto:nathan.olson@harmonitowers.com">nathan.olson@harmonitowers.com</a> wrote:

Thanks, Preston.

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com



harmonitowers.com

From: Preston Patton < pattonacq@yahoo.com > Sent: Tuesday, July 12, 2022 10:47 AM

To: Nathan Olson < Nathan.Olson@harmonitowers.com >

Subject: Re: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

#### **CAUTION:** This email is from outside the organization

No Sir. Sorry to say, but once he receive the executable docs he sent it to his attorney and he asked for a few more small revisions. The redlined lease, with his requests incorporated, is back with him and his attorney for review. I expect to have his approval or more comments by mid to late this week.

Sorry	for	the	delay	here.	

Thanks much,

Preston F. Patton, Jr. President

Patton Acquisition Inc.

Mobile: 601-260-9994

On Tuesday, July 12, 2022, 11:07:57 AM EDT, Nathan Olson <a href="mailto:nathan.olson@harmonitowers.com">nathan.olson@harmonitowers.com</a>> wrote:

Hi Preston,

Just wanted to check in and see if the LL signed the ground lease yet. Thanks,

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com



harmonitowers.com

From: Preston Patton pattonacq@yahoo.com
Sent: Tuesday, June 21, 2022 9:31 AM

To: Nathan Olson < Nathan.Olson@harmonitowers.com >

Subject: Re: [E] FW: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

**CAUTION:** This email is from outside the organization

Hi Nathan,

The Phase 1 came back clean. The Landowner said he will have the partially executed Lease docs back to Verizon by the end of the week. The NEPA is in process, but we still need the NEPA clearance back to order the Geotech and SRR. You will need those to order the tower and foundation drawings.

Thanks much,

Preston F. Patton, Jr. President Patton Acquisition Inc.
Mobile: 601-260-9994
On Thursday, May 26, 2022, 06:55:40 PM EDT, Preston Patton < pattonacq@yahoo.com > wrote:
Hi Nathan,
I just wanted to provide you an update. I just received approval of the revised survey tower location from the landowner today. I have ordered the Phase 1 and NEPA and alerted Verizon that we can move forward now. I will also contact Dan Coots, Verizon's outside council to send the executable docs to the landowner when he get back in the office on Tuesday morning.
Have a great weekend!
Thanks,
Preston F. Patton, Jr. President Patton Acquisition Inc.
Mobile: 601-260-9994
On Monday, May 16, 2022, 01:56:24 PM EDT, Preston Patton <pre>pattonacq@yahoo.com</pre> wrote:
Hi Nathan,
Sorry for the delayed response. Your email along with many other of my contacts have started going to spam for some reason.
Also, I was off 5/12 & 5/13, so I'm digging out of emails right now. We did received the revised location survey on 5/12 and I will be sending it to the LL for approval. The LE is due 5/20. I am sending the survey to the LL for approval today and will have the attorney send him the executable lease and order the Phase 1 and NEPA once he approves. The Lease language has already been agreed to. The delay has been the landowner wanting to move the site after we did the original survey.
I'll let you know as soon as have more updates.
Thanks much,
Preston F. Patton, Jr. President Patton Acquisition Inc.
Mobile: 601-260-9994

On Wednesday, May 11, 2022, 12:28:49 PM EDT, Nathan Olson <nathan.olson@harmonitowers.com> wrote:

Hi Preston,

Just wanted to check in and see how things are progressing with this site. Do you need anything from us?

How are things going with the LL and negotiating the ground lease? Any ETA on when you expect that to be complete? Thanks,

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com



harmonitowers.com

From: Patton Acq <pattonacq@yahoo.com>
Sent: Monday, April 11, 2022 3:53 PM

To: Straight, Jackie < jackie.straight@verizonwireless.com >

Cc: Nathan Olson < Nathan.Olson@harmonitowers.com>; Abigail Diane Dewey Ball <a href="mailto:abigail.ball@verizonwireless.com">abigail.ball@verizonwireless.com</a>; Palanjian, Anna T <a href="mailto:anna.palanjian@verizonwireless.com">anna.palanjian@verizonwireless.com</a>; Eyans, Barbara J <a href="mailto:barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-barbara-ba

### CAUTION: This email is from outside the organization

Thanks so much Jackie. I have let POD know so we can meet setbacks from the houses to the north.

Thanks,

Preston F. Patton, Jr.

President

Patton Acquisition Inc.

Mobile: 601-260-9994

On Apr 11, 2022, at 4:42 PM, Straight, Jackie < jackie.straight@verizonwireless.com > wrote:

Nathan,

Approved for self-support instead of monopole. I have asked for an updated RFDS to reflect mounts for the selfsupport. If anyone has any questions, please let me know.

Thank You,

### verizon/

Jackie Straight

Sr Eng Cslt Network Reg RE

M 2707500023 2902 Ring Road Elizabethtown, KY 42701

On Mon, Apr 11, 2022 at 3:13 PM Nathan Olson < Nathan.Olson@harmonitowers.com > wrote:

Hi Jackie,

I was out of the office last Thursday and Friday so I did not send you an email asking if Verizon is Ok with us building a self-support at this location as opposed to a monopole.

It appears zoning does not care if it is a monopole or self-support so our Dev team would prefer to do a self-support due to overall cost.

If Verizon has any issue with that we'll be fine with doing a monopole or if Preston sees any issue come up from permitting same thing. Thanks.

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com

harmonitowers.com

From: Patton Acq <pattonacq@yahoo.com>
Sent: Monday, April 11, 2022 8:21 AM

To: Nathan Olson < Nathan.Olson@harmonitowers.com >

Subject: Re: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

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Hi Nathan,

I just spoke to Jackie regarding the tower change. I let her know you sent her an email as well because I'm sure she'll have a lot of emails to go through today. She said she will look into it and let us know something ASAP. Please let me know as soon as you hear back from her. I will do the same.

Thanks,

Preston F. Patton, Jr.

President

Patton Acquisition Inc.

Mobile: 601-260-9994
On Apr 7, 2022, at 11:05 AM, Nathan Olson < <u>Nathan.Olson@harmonitowers.com</u> > wrote: Hey Preston,
Just got confirmation back from our Dev group they would prefer a self support but I'll need to make sure Verizon is Ok with that also.
I believe Jackie is OOO today and I am also but will try to confirm with her tomorrow for you.
Nathan Olson
Sent from my iPhone
On Apr 7, 2022, at 9:06 AM, Preston Patton <pre>pattonacq@yahoo.com</pre> > wrote:
CAUTION: This email is from outside the organization Hi Nathan,
Just needing to check back on this.
Thanks much,
Preston F. Patton, Jr. President Patton Acquisition Inc.
Mobile: 601-260-9994
On Wednesday, April 6, 2022, 09:53:29 AM EDT, Preston Patton <pre>pattonacq@yahoo.com</pre> > wrote:
Hi Nathan,
I just left you a voicemail. I wanted to provide you an update on this site. We had another A&E walk yesterday because the landowner wanted to move the tower to the NE corner of the property. So we are going to redo the survey and 1A. We are pushing the tower as close as zoning setbacks will allow to the houses on the north property line. Our setback can not be determined until we know for sure what the tower type will be. Are you for sure wanting to use a SST here? If so, have you discussed that tower change with Verizon and received their approval. The RFDS is currently still showing a monopole. We will need to get the RFDS revised to show a Self Support and change the antenna mounts as well.
Please let me know at your earliest convenience, as this will affect the placement the tower to meet setbacks.
Thanks much,

Preston F. Patton, Jr.

President

Patton Acquisition Inc.

Mobile: 601-260-9994

On Monday, March 7, 2022, 11:44:59 AM EST, Nathan Olson <a href="mailto:nathan.olson@harmonitowers.com">nathan.olson@harmonitowers.com</a> wrote:

Hi Preston,

One more question for you on this site. Do you think zoning would allow a self-support here? I believe this is showing as a 195' MP but steel costs for a MP are way higher right now than a self-support so wanted to check with you on that. Thanks,

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com

<image001.png>

harmonitowers.com

From: Preston Patton pattonacq@yahoo.com

Sent: Tuesday, February 22, 2022 9:10 AM

To: Straight, Jackie <jackie.straight@verizonwireless.com>; Michael McCormick < Michael.McCormick@harmonitowers.com>; Nathan

Olson < Nathan.Olson@harmonitowers.com >

Cc: Abigail Diane Dewey Ball <abigail.ball@verizonwireless.com>; Anna T Palanjian <anna.palanjian@verizonwireless.com>; Barbara J

Evans <a href="mailto:scom">sarbara.evans@verizonwireless.com</a>; Cali D'Amico POD <a href="mailto:cdamico@podgrp.com">cdamico@podgrp.com</a>>
Subject: Re: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

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Sorry Nathan. I forgot to include one thing. The landowner will not allow for a guyed tower.

Preston F. Patton, Jr.

President

Patton Acquisition Inc.

Mobile: 601-260-9994

On Tuesday, February 22, 2022, 10:09:13 AM EST, Preston Patton pattonacq@yahoo.com> wrote:

Hi All.

Nathan, I just wanted to give you a quick rundown of were we are on this project. We are currently waiting for lease comments back from the landowner. We are also working through some Lease Exhibit and survey questions/ comments with the landowner.

I have attached the SCIP for your review.

Please note: The information in the SCIP regarding zoning is not accurate, due to the County/City Zoning Administrator not know what the zoning requirements were at the time of SCIP submittal. This is explained in the SCIP. I have recently confirmed with the Joint County/ city Zoning Administrator and County Judge Executive, that there will be no zoning requirements through the county or city. We will submit zoning through the KY Public Service Commission.

Feel free to call me with any questions or comments.

Thanks,

Preston F. Patton, Jr. President Patton Acquisition Inc.

Mobile: 601-260-9994

On Tuesday, February 22, 2022, 09:19:04 AM EST, Nathan Olson <a href="mailto:nathan.olson@harmonitowers.com">nathan.olson@harmonitowers.com</a> wrote:

Thanks, Jackie. Email received and we'll be in touch.

#### **Nathan Olson**

**Business Development Manager** 

C 616-633-9730

nathan.olson@harmonitowers.com

<image001.png>

harmonitowers.com

From: Straight, Jackie < jackie.straight@verizonwireless.com>

Sent: Tuesday, February 22, 2022 7:47 AM

To: Nathan Olson <a href="mailto:Nathan.Olson@harmonitowers.com">Nathan.Olson@harmonitowers.com</a>; Michael McCormick <a href="mailto:Michael.McCormick@harmonitowers.com">Michael.McCormick@harmonitowers.com</a>> Cc: Preston Patton <a href="mailto:pattonacq@yahoo.com">pattonacq@yahoo.com</a>; Abigail Diane Dewey Ball <a href="mailto:abigail.ball@verizonwireless.com">abigail.ball@verizonwireless.com</a>; Anna T Palanjian

<a href="mailto:square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-square-right-sq

Subject: Assistance Requested: BTS 2.0 Assignment: CK Russellville Cap - F# 16507368

**CAUTION:** This email is from outside the organization

Good Morning.

Please let this serve as notice that this 2022 POR Macro NB - BG is being assigned to Harmoni Tower for BTS2.0 review and acceptance.

All documents are loaded into Fuze. The site acq assigned to this site is Preston Patton (copied on this email) if you have any questions.

We are working toward a 12/01/22 RTC date.

Please respond back via email by COB 03/08/22 with acceptance or rejection.

Thank You,

### verizon/

Jackie Straight

Sr Eng Cslt Network Reg RE

M 2707500023 2902 Ring Road Elizabethtown, KY 42701

#### ATTENTION: New office address, as of 2/1/2022: 11101 Anderson Drive, Suite 200, Little Rock, AR 72212

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Date: November 11, 2022 POD Job Number: 21-102846

### **GEOTECHNICAL REPORT**

### **CK RUSSELLVILLE CAP**

P 36° 51' 50.300568" N 86° 53' 09.848060" W

Creekwood Drive, Russellville, KY 42276

Prepared For:



Prepared By:





November 11, 2022

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

Re: Geotechnical Report – PROPOSED 195' SELF-SUPPORT TOWER w/ 4' LIGHTNING ARRESTOR

Site Name: CK RUSSELLVILLE CAP

Site Address: Creekwood Drive, Russellville, Logan County, Kentucky

Coordinates: N36° 51′ 50.30″, W86° 53′ 09.85″

POD Project No. 21-102846

Dear Ms. Straight:

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

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

Cordially,

Maxi

Mark Patterson, P.E. Project Engineer

License No.: KY 16300

Copies submitted: (3) Ms. Jackie Straight

CK RUSSELLVILLE CAP November 11, 2022

### LETTER OF TRANSMITTAL

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### APPENDIX

BORING LOCATION PLAN BORING LOGS SOIL SAMPLE CLASSIFICATION

CK RUSSELLVILLE CAP November 11, 2022

Geotechnical Report

PROPOSED 195' SELF-SUPPORT TOWER w/ 4' LIGHTNING ARRESTOR

Site Name: CK RUSSELLVILLE CAP

Creekwood Drive, Russellville, Logan County, Kentucky N36° 51' 50.300568", W86° 53' 09.848060"

PURPOSE AND SCOPE

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

recommendations dealing with quality control during construction.

2. PROJECT CHARACTERISTICS

Verizon is proposing to construct a self-support tower and either an equipment shelter, slab, or platform at N36° 51′ 50.300568″, W86° 53′ 09.848060″, Creekwood Drive, Russellville, Logan County, Kentucky. The site is located in a farm field just south of US 68 on the north side of Russellville. The proposed lease area will be 10,000 square feet and will be accessed by a new access road off Newtown Road running east to the site. The proposed elevation at the tower location is about EL 581 and there is about 4-feet of change in elevation across the proposed lease area.

The proposed tower location is shown on the Boring Location Plan in the Appendix.

SUBSURFACE CONDITIONS

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

general subsurface conditions disclosed by the test boring is discussed in the following paragraphs.

According to the Kentucky Geological Survey, Kentucky Geologic Map Information Services, the site is underlain by the Mississippian age Ste Genevieve and St Louis Limestone. These formations are intensely karst. There are a few small sinkholes mapped within about a half mile of the site. Most all of the Russellville area is karst, and it is an inherited risk

in building in the area.

The borings encountered some topsoil at the existing ground surface. Below the topsoil, the borings encountered clay (CH) of medium to high plasticity. The SPT N-values in the clay were between 9 to 11 blows per foot (bpf) generally indicating medium stiff to stiff consistency. The borings encountered auger refusal between 3.2 and 6.3 feet. Auger

refusal is defined as the depth at which the boring can no longer be advanced using the current drilling method.

1

CK RUSSELLVILLE CAP November 11, 2022

The refusal material was cored in Boring B-1 from 3.5 to 23.5 feet below the ground surface. Limestone that was

continuous, hard, slightly weathered to fresh and light gray was encountered. The recoveries of the rock cores were

about 100 percent and the RQD values were 86, 92, 97 and 95 percent. These values generally represent fair to

excellent quality rock from a foundation support viewpoint.

Observations made at the completion of soil drilling operations indicated the borings to be dry. It must be noted,

however, that short-term water readings in test borings are not necessarily a reliable indication of the actual

groundwater level. Furthermore, it must be emphasized that the groundwater level is not stationary but will fluctuate

seasonally.

Based on the limited subsurface conditions encountered at the site and using Table 1615.1.1 of the 2018 Kentucky

Building Code, the site class is considered "B". Seismic design requirements for telecommunication towers are given in

section 1622 of the code. A detailed seismic study was beyond the scope of this report.

4. FOUNDATION DESIGN RECOMMENDATIONS

The following design recommendations are based on the previously described project information, the subsurface

conditions encountered in our borings, the results of our laboratory testing, empirical correlations for the soil

types encountered, our analyses, and our experience. If there is any change in the project criteria or structure

location, you should retain us to review our recommendations so that we can determine if any modifications are

required. The findings of such a review can then be presented in a supplemental report or addendum.

We recommend that the geotechnical engineer be retained to review the near-final project plans and

specifications, pertaining to the geotechnical aspects of the project, prior to bidding and construction. We

recommend this review to check that our assumptions and evaluations are appropriate based on the current

project information provided to us, and to check that our foundation and earthwork recommendations were

properly interpreted and implemented.

4.1. Proposed Tower

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

foundation. Please note that auger refusal was encountered as shallow as 3.2 below the existing ground surface. The

contractor should plan to deal with bedrock that may not be able to be excavated by soil methods from the ground

surface.

2

CK RUSSELLVILLE CAP November 11, 2022

### 4.1.1. Drilled Piers

The following table summarizes the recommended values for use in analyzing lateral and frictional resistance for the various strata encountered at the test boring. It is important to note that these values are estimated based on the standard penetration test results and soil types and were not directly measured. The all values provided are ultimate values and appropriate factors of safety should be used in conjunction with these values. If the piers will bear deeper than about 23 feet, a deeper boring should be drilled to determine the nature of the deeper material.

Depth Below Ground Surface, feet	0-2	2-6	6-23
Ultimate Bearing Pressure (psf)		11,000	75,000
C Undrained Shear Strength, psf	500	2,000	15,000
Ø Angle of Internal Friction degrees	0	0	0
Total Unit Weight, pcf	110	120	135
Soil Modulus Parameter k, pci	30	500	2000
Passive Soil Pressure, psf/one foot of depth		1,350 + 40(D-2)	10,000 + 45(D-6)
Side Friction, psf	100	250	2000

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

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

### 4.1.2. Mat Foundation

The tower could be supported on a common mat foundation bearing on the limestone bedrock at least 4 feet in depth can be designed using a net allowable bearing pressure of 5,000 pounds per square foot may be used. This value may

CK RUSSELLVILLE CAP November 11, 2022

be increased by 30 percent for the maximum edge pressure under transient loads. The friction value can be increased

to 0.40 between the concrete and bedrock. The passive pressures given for the drilled pier foundation may be used to

resist lateral forces.

It is important that the mat be designed with an adequate factor of safety with regard to overturning under the

maximum design wind load.

The mat must found on either soil or bedrock but not both. Soil pockets must be removed and replaced with KY #57 or

equivalent.

4.2. Equipment Platform

An equipment platform may be supported on shallow piers bearing in the very highly weathered rock and designed for

a net allowable soil pressure of 2,500 pounds per square foot. The piers should bear at a depth of at least 30 inches to

minimize the effects of frost action. All existing topsoil or clay soil should be removed beneath footings.

4.3. Equipment Slab

A concrete slab supporting the equipment must be supported on at least 6-inch layer of relatively clean granular

material such as gravel or crushed stone containing not more than 10 percent material that passes through a No. 4

sieve. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Provided

that a minimum of 6 in. of granular material is placed below the slab, a modulus of subgrade reaction (k) of 120

lbs/cu.in. can be used for design of the slab. All existing topsoil or soft natural soil should be removed beneath

crushed stone layer.

4.4. Equipment Building

If an equipment building support on a slab is chosen in place of the equipment platform, it may be supported on

shallow spread footings bearing in the highly weathered siltstone and designed for a net allowable soil pressure of

2,500 pounds per square foot.

The footings should be at least ten inches wide. If the footings bear on soil they should bear at a depth of at least 30

inches to minimize the effects of frost action. All existing topsoil or clay natural soil should be removed beneath

footings.

4

CK RUSSELLVILLE CAP November 11, 2022

Floor slabs must be supported on at least 4-inch layer of relatively clean granular material such as gravel or

crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. This is to help

distribute concentrated loads and equalize moisture conditions beneath the slab. Provided that a minimum of 4 in.

of granular material is placed below the slab, a modulus of subgrade reaction (k) of 120 lbs/cu.in. can be used for

design of the floor slabs.

4.5. Drainage and Groundwater Considerations

Good site drainage must be provided. Surface run-off water should be drained away from the tower and platform

and not allowed to pond. It is recommended that all foundation concrete be placed the same day the excavation is

made.

At the time of this investigation, groundwater was not encountered. Therefore, no special provisions regarding

groundwater control are considered necessary for shallow foundations. Any seepage should be able to be pumped

with sumps.

5. GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS

It is possible that variations in subsurface conditions will be encountered during construction. Although only minor

variations that can be readily evaluated and adjusted for during construction are anticipated, it is recommended

the geotechnical engineer, or a qualified representative be retained to perform continuous inspection and review

during construction of the soils-related phases of the work. This will permit correlation between the test boring

data and the actual soil conditions encountered during construction-

5.1 Drilled Piers

Please note that auger refusal was right at the existing ground surface. The contractor should plan to deal with bedrock

that may not be able to be excavated by soil methods from the start of excavations.

The following recommendations are recommended for drilled pier construction:

Clean the foundation bearing area so it is nearly level or suitably benched and is free of ponded

water or loose material.

Make provisions for ground water removal from the drilled shaft excavation. While groundwater was not encountered during the soil drilling, some seepage may be encountered. The drilled pier

contractor should have pumps on hand to remove water from the drilled pier.

5

Geotechnical Report CK RUSSELLVILLE CAP
November 11, 2022

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

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

### 5.2 Fill Compaction

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

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

#### 5.3 Construction Dewatering

At the time of this investigation, groundwater was not encountered. Therefore, no special provisions regarding groundwater control are considered necessary for shallow foundations. Any seepage should be able to be pumped with sumps.

CK RUSSELLVILLE CAP November 11, 2022

If groundwater is encountered in the drilled pier excavations, it may be difficult to dewater since pumping directly from the excavations could cause a deterioration of the bottom of the excavation. If the pier excavations are not dewatered, concrete should be placed by the termie method.

### **6 FIELD INVESTIGATION**

Three soil test borings were drilled near the base of the existing tower. Split-spoon samples were obtained by the Standard Penetration Test (SPT) procedure (ASTM D1586) in all test borings. The borings encountered auger refusal from about 3.2 to 6.3 feet. A rock core of the refusal material was taken in Boring B-1 from 3.5 to 23.5 feet. The split-spoon samples were inspected and visually classified by a geotechnical engineer. Representative portions of the soil samples were sealed in glass jars and returned to our laboratory.

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

#### 7 WARRANTY AND LIMITATIONS OF STUDY

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

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

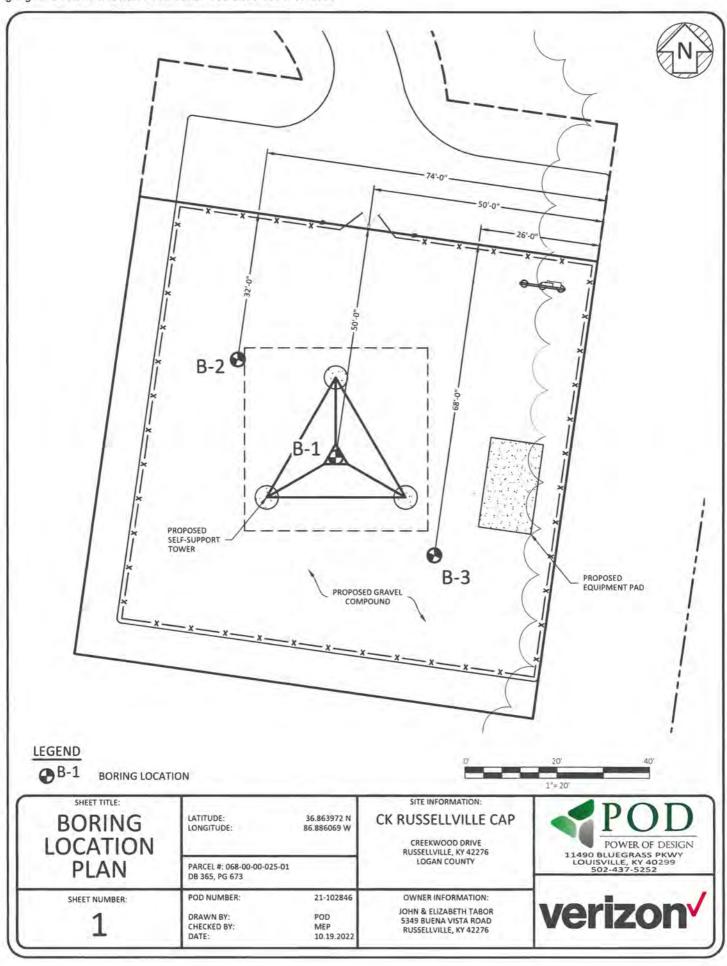
The nature and extent of variation and change in the subsurface conditions at the site may not become evident until the course of construction. Construction monitoring by the geotechnical engineer or a representative is therefore considered necessary to verify the subsurface conditions and to check that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

CK RUSSELLVILLE CAP November 11, 2022

becomes available, a review must be made by this office to determine if any modification in the recommendations will be required.

### **APPENDIX**

BORING LOCATION PLAN
BORING LOGS
SOIL SAMPLE CLASSIFICATION





## **Boring Log**

Boring: B-1

Page 1 of 1

Project: **CK Russellville Cap** City, State Russellville, KY

**Boring Date:** Method: S.F.A. 24-Oct-22 **Location: Proposed Tower Center** 

Drill Rig Type: D-25 (ATV) Inside Diameter: 4" Hammer Type: Auto

Diamete	1.4	Drill kig Type:		D-23 (A	iv		папп	iei i	ype: At	110			
dwater	: DRY						Weat	her:					
: Greer	nbauı	m Associates Note:	Tops	oil was e	ncou	ntered at the gr	round s	urface					
A A	To (ft)	Material Description		Sample Depth (ft)	Sample Type	Blows per 6-inch increment	Recovery (in)	SPT-N value	Rock Quality (RQD,%)	Atterberg Limits	Moisture Content (%)	% Fines (clay & silt)	Unconfined
0.0	35	CLAY (CH) - medium stiff, reddish brown, slightly moist, trace chert		1 - 2.5	SS	5, 5, 40	14	45,			28%		3.7
3.5	18.5	LIMESTONE- continues, hard, slightly weathered, light gray		3,5 - 8,5	RC		60		86%				
				8.5 - 13.5	RC		60		92%				
3	13.5	- fresh		13.5-18.5	RC		60		97%				
				18.5-23.5	RC		60		95%				



# **Boring Log**

Boring: B-2

Page 1 of 1

Project: CK Russellville Cap

City, State Russellville, KY

Method: S.F.A. Boring Date: 24-Oct-22 Location: 30' NW of Proposed Tower Center

Inside Diameter: 4" Drill Rig Type: D-25 (ATV) Hammer Type: Auto

Groundwater: DRY

Weather:

Driller: Greenbaum Associates

Note: Topsoil was encountered at the ground surface

id	e Diame	eter: 4"	Drill Rig T	ype:	D-25	(ATV				Hamm	er Ty	/pe: Au	to			
ou	indwat	er: DRY								Weath	er:					
110	er: Gre	enbau	m Associates	Note: To			intere	d at t	he gr	ound su	rface				_	
	From (ft)	To (ft)	Material Descripti	on	Sample Depth	(ft) Sample Type		Blows per 6-inch	increment	Recovery (in)	SPT-N value	Rock Quality (RQD,%)	Atterberg Limits	Moisture Content (%)	% Fines (clay & silt)	Unconfined Compressive Strength, (ksf)
	0.0	3.,5	CLAY (CH) - medium stiff to st brown	tiff, reddish	1 - 3	2.5 SS	2,	4,	5	18	9,			19%		5.8
	7		Auger Refusal at 6.3	feet												



# **Boring Log**

Boring: B-3

Page 1 of 1

Project: **CK Russellville Cap** City, State Russellville, KY Method: S.F.A. **Boring Date:** Location: 30' SW of Proposed Tower Center 24-Oct-22

	S.F.A.	Boring Dat	te:		24-Oct	-22		Locati	on: 30	)' SW of	Propo	sed Tov	ver Cer	nter
eter: 4"		Drill Rig Ty	/pe:		D-25 (/	ATV)		Hamn	ner T	ype: A	uto			
ter: DR	4							Weat	her:	Table				
eenbau	m Associat	es	Note:	Tops	oil was e	ncou	ntered at the	ground :	surfac	9				
To (ft)	Mat	erial Descriptio	n		Sample Depth (ft)	Sample Type	Blows per 6-inch increment	Recovery (in)	SPT-N value	Rock Quality (RQD,%)	Atterberg Limits	Moisture Content (%)	% Fines (clay & silt)	Unconfined Compressive
3.,5	CLAY (CH) - m	nedium stiff, redd			1 - 2.5	SS	4, 50,	10	50,			19%		6.0
	Auger	Refusal at 3.2 fe	eet											
	eter: 4" ter: DR' eenbau  To (ft)	ter: 4" ter: DRY eenbaum Associat  To (ft) Mat  35 CLAY (CH) - m	ter: 4"  ter: DRY  eenbaum Associates  To (ft)  Material Descriptio  35  CLAY (CH) - medium stiff, redd with trace chert	ter: 4" Drill Rig Type: ter: DRY eenbaum Associates Note:  To (ft) Material Description  35 CLAY (CH) - medium stiff, reddish brown	ter: 4" Drill Rig Type:  ter: DRY eenbaum Associates Note: Tops  To (ft) Material Description  35 CLAY (CH) - medium stiff, reddish brown with trace chert	To (ft) Material Description  35  CLAY (CH) - medium stiff, reddish brown with trace chert  Drill Rig Type:  D-25 (A	To (ft) Material Description  35  CLAY (CH) - medium stiff, reddish brown with trace chert  D-25 (ATV)  Drill Rig Type:  D-25 (ATV)  ### ### ### ### ### #### ###########	ter: 4" Drill Rig Type: D-25 (ATV)  ter: DRY  eenbaum Associates Note: Topsoil was encountered at the  To (ft) Material Description	ter: 4" Drill Rig Type: D-25 (ATV) Hamn ter: DRY  eenbaum Associates  Note: Topsoil was encountered at the ground:  To (ft) Material Description  35  CLAY (CH) - medium stiff, reddish brown with trace chert  D-25 (ATV)  Hamn (i) Augustian Stiff, reddish brown with trace chert  1-2.5 SS 4, 50, 10	ter: 4" Drill Rig Type: D-25 (ATV) Hammer T  ter: DRY  eenbaum Associates  Note: Topsoil was encountered at the ground surface  To (ft) Material Description  35  CLAY (CH) - medium stiff, reddish brown with trace chert  D-25 (ATV)  Hammer T  Weather:    1-2.5   SS   4, 50, 10   50,	ter: 4" Drill Rig Type: D-25 (ATV) Hammer Type: Atter: DRY  ter: DRY  tenbaum Associates  Note: Topsoil was encountered at the ground surface  To (ft) Material Description  35  CLAY (CH) - medium stiff, reddish brown with trace chert  D-25 (ATV)  Hammer Type: Attended in the ground surface  Weather:  1-2.5 SS 4, 50, 10 50,	To (ft) Material Description  35  CLAY (CH) - medium stiff, reddish brown with trace chert  D-25 (ATV)  Hammer Type: Auto  Weather:	ter: 4" Drill Rig Type: D-25 (ATV) Hammer Type: Auto  Weather:  Benbaum Associates Note: Topsoil was encountered at the ground surface  To (ft) Material Description (ft) Material Description (ft) Moistruc (ft) (ft) Material Description (ft) (ft) Material Description (ft) (ft) Material Description (ft) (ft) Material Description (ft) (ft) (ft) Material Description (ft) (ft) (ft) (ft) (ft) (ft) (ft) (ft)	ter: 4" Drill Rig Type: D-25 (ATV) Hammer Type: Auto  Weather:  Eenbaum Associates Note: Topsoil was encountered at the ground surface  To (ft) Material Description (%) Woistrue (%) Woist

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

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

ROCK	PROP	ERTIES
------	------	--------

ROCK QUAL	ITY DESIGNATION (RQD)		ROCK HARDNESS
Percent RQD	Quality	Very Hard:	Rock can be broken by heavy hammer blows.
0-25	Very Poor	Hard:	Rock cannot be broken by thumb pressure, but can be broken by moderate hammer blows.
25-50	Poor	Moderately	Small pieces can be broken off along sharp edges by considerable
50-75	Fair	Hard:	hard thumb pressure; can be broken with light hammer blows.
75-90	Good	Soft:	Rock is coherent but breaks very easily with thumb pressure at sharp edges and crumbles with firm hand pressure.
90-100	Excellent	Very Soft:	Rock disintegrates or easily compresses when touched; can be hard to very hard soil.

Recovery =	Length of Rock Core Recovered Length of Core Run	X100	63 REC NQ	Core Diameter BQ NQ	1-7/16 1-7/8
RQD =	Sum of 4 in. and longer Rock Pieces Recovered Length of Core Run	X100	43 RQD	HQ	2-1/2

### SYMBOLS

### **KEY TO MATERIAL TYPES**

	SOILS
Group Symbols	Typical Names
GW	Well graded gravel - sand mixture, little or no fines
GP	Poorly graded gravels or gravel - sand mixture, little or no fines
GM	Silty gravels, gravel - sand silt mixtures
GC	Clayey gravels, gravel - sand - clay mixtures
sw	Well graded sands, gravelly sands, little or no fines
SP	Poorly graded sands or gravelly sands, little or no fines
SM	Silty sands, sand - silt mixtures
sc	Clayey sands, sand - day mixtures
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts
OL	Organic silts and organic silty clays of low plasticity
CL	inorganic clays of low range plasticity, gravelly clays, sandy clays, sity clays, lean clays
МН	Inorganic silts, micaceous or diatornaceous fine sandy or silty soils, elastic silts
СН	Inorganic days of high range plasticity, fat clays

	ROCKS
Symbols	Typical Names
	Limestone or Dolomite
	Shale
	Sandstone

N:	Standard Penetration, BPF	
M:	Moisture Content, %	
LL:	Liquid Limit, %	
PI:	Plasticity Index, %	
Qp:	Pocket Penetrometer Value, TSF	
Qu:	Unconfined Compressive Strength Estimated Qu, TSF	
γ_:	Dry Unit Weight, PCF	
F:	Fine	s Content
	S	AMPLING SYMBOLS
	SS	Split Spoon Sample
	On	Relatively Undisturbed Sample
	Core 1	Rock Core Sample

SOIL DEODEDTY SYMBOLS

### **DIRECTIONS TO SITE**

FROM LOGAN COUNTY CLERK: 229 W 3RD ST, RUSSELLVILLE, KY 42276: HEAD EAST ON W 3RD ST TOWARD WINTER ST (0.3 MI). TURN LEFT ONTO N BREATHITT ST (0.3 MI). CONTINUE ONTO ARMORY DR (0.2 MI) TURN RIGHT ONTO FRANCES RD/FRANCIS ST (0.4 MI). CONTINUE ONTO NEWTOWN RD (0.4 MI). SITE WILL BE LOCATED ON RIGHT (EAST) SIDE OF ROAD.

PREPARED BY: POWER OF DESIGN GROUP, LLC - (502) 437-5252

This Instrument prepared by and after recording return to:
Cellco Partnership d/b/a Verizon Wireless Coots Henke & Wheeler, P.C.

255 E. Carmel Drive Carmel, IN 46032

Daniel E. Coots, Esq.

VzW Site Name: CK Russellville Capacity

Location Code: 689715

STATE OF KENTUCKY

COUNTY OF LOGAN

Prior Deed References: Deed Book 365, Page 673 in Office of Clerk of Logan County, Kentucky

### MEMORANDUM OF LAND LEASE AGREEMENT

This Memorandum of Land Lease Agreement is made this 18 day of 2012, between John Tabor and Elizabeth Tabor, both Kentucky residents with a mailing address of 798 Walker Wells Road, Lewisburg, Kentucky 42256, hereinafter designated LESSOR, and Cellco Partnership d/b/a Verizon Wireless, with its principal offices at One Verizon Way, Mailstop 4AW100, Basking Ridge, NJ 07920, hereinafter designated LESSEE.

- 1. LESSOR and LESSEE entered into a certain Land Lease Agreement ("Lease") dated 20 22. Such Lease has an initial term of five (5) years which shall be automatically extended for four (4) additional five (5) year terms unless LESSEE terminates the Lease in accordance with the terms thereof.
- 2. In consideration of the rental set forth in the Lease, LESSOR hereby leases to LESSEE certain ground space area consisting of approximately 100' x 100', or 10,000 square feet, for the construction and maintenance of LESSEE's telecommunications facility upon that certain real estate located approximately at 0 Creekwood Drive, Russellville, Kentucky 42276 (Logan County), with a legal description attached as Exhibit A ("Property"), together with the non-exclusive right for ingress and egress, access, and utility easements.

### MEMORANDUM OF LAND LEASE AGREEMENT CONTINUED

- The term of the Lease shall commence the first (1st) day of the month after LESSEE begins
  construction of the telecommunications facility. A copy of the Lease is on file in the office of the LESSOR
  and LESSEE.
- 4. The terms, covenants and provisions of the Lease of which this is a Memorandum, shall extend to and be binding upon the respective executors, administrators, heirs, successors and assigns of LESSOR and LESSEE, including but not limited to any rights of first refusal to purchase the Premises during any given Term of the Lease.
- 5. The purpose of this Memorandum is to give record notice of the Lease and of the rights created thereby, all of which are hereby confirmed. In the event of a conflict between the terms of this Memorandum and the terms of the Lease, the terms of the Lease shall prevail.

[the remainder of this page is intentionally left blank]

### MEMORANDUM OF LAND LEASE AGREEMENT CONTINUED

IN WITNESS WHEREOF, hereunto and to a duplicate hereof, LESSOR and LESSEE have caused this Memorandum to be duly executed on (1) 17 (1) , 20 7 (2)
LESSEE:
CELLCO PARTNERSHIP d/b/a Verizon Wireless
ву:
Printed: Bd Maher Title: Director - Network Field Engineering
Address: One Verizon Way, Mailstop 4AW100 Basking Ridge, NJ 07920
LESSEE NOTARY BLOCK:
COUNTY OF COULD ?
The foregoing instrument was acknowledged before me this day of
BARBARA MADIGAN EVANS [NOTWING Alere of Michigan County of Oakland
Acting in the County of Notary Public
My commission expires 5/10/087 Bull Wall Que Wall (Printed Name)

### MEMORANDUM OF LAND LEASE AGREEMENT CONTINUED

LESSOR:	
John Tabor	
Phizabeth Tabor	
LESSOR NOTARY BLOCK:	
COUNTY OF Logar	
The foregoing instrument was acknowledge 2022, by John Tabor and Elizabeth Tabor, who are	ed before me this day of te personally known to me.
Notary Public - State at Large Kentucky My Commission Expires oct. 28, 2023 Notary ID 634466	Notary Public
My commission expires 10-28-33	(Printed Name)
I, affirm, under the penalties for perjury, that Security number in this document, unless require	I have taken reasonable eare to redact each Social red by law."  (Printed)

### EXHIBIT A Legal Description

Property located in Logan County, Kentucky

Unless stated otherwise, any monument referred to herein as a "set iron pin" is a 5/8" diameter steel reinforcing bar, eighteen inches in length with a plastic cap stamped "J.L. Harris-P.L.S. 3148". All bearings stated herein are referred to found monumentation as described on a plat of Creekwood Subdivision-Plat Cabinet 1-Envelope 174-Plat #258.

Beginning at a set iron pin in the East right of way of the Newtown Road (right of way varies), corner to Cates (Deed Book 309, Page 426); thence leaving said right of way with the line of Cates then Twin Oaks Estates Subdivision (Plat Cabinet 1, Envelope 134 Plat #218) S 79° 12' 48" E 797.32 feet to a found iron pin # 2474, corner of Holland (Deed Book 322, Page 133); thence turning right with the line of Holland S 06° 45' 18" W 499.36 feet to a found 3/4" diameter iron pipe # 906, corner to Holland (Deed Book 297, Page 050); thence with the line of Holland S 08° 56' 53" W 387.12 feet to a found disturbed iron pin (No. I.S. Cap), corner to the Creekwood Subdivision (Plat Cabinet 1, Envelope 174-Plat # 258); thence turning right with the line of the Creekwood Subdivision N 84° 56' 27" W 734-78 feet to a set iron pin in said right of way; thence turning right with said right of way N 02° 45' 51" E 770.84 feet to a set iron pin; thence N 26° 27' 56" E 54.63 feet to a set iron pin; thence N 02° 24' 07" E 143.82 feet to the point of beginning, described parcel containing 16.47 acres as shown by survey performed by Jeffrey L. Harris, P.L.S. # 3148 with Benchmark Land Surveying, dated January 16, 2006.

AND BEING the same property conveyed to John Tabor and Elizabeth Tabor from George Simor and Rebecca M. Simor by Deed dated January 31, 2006 and recorded February 17, 2006 in Deed Book 365, Page 673.

Tax Parcel No. 068-00-00-025-01

DOCUMENT NO: 225578
RECORDED ON:11/1/2022 12:17:00 PM
COUNTY CLERK: STACY WATKINS
COUNTY: LOGAN COUNTY
BOOK: MC127 PAGE: 633 - 637 LEASE

Signed: CYJ

### Notification List

PARCEL ID: 068-00-00-025-01 TABOR JOHN & ELIZABETH 5349 BUENA VISTA RD RUSSELLVILLE, KY 42276

PARCEL ID: 067-00-00-025-06 CATES JOHN W & FRANCES 816 MEADOW LN RUSSELLVILLE,KY 42276

PARCEL ID: 068-00-00-025-03 HOLLAND RUSSELL ANDREW & DIANA 799 N MORGAN ST RUSSELLVILLE, KY 42276

PARCEL ID: 068-00-00-025-02 HOLLAND RUSSELL ANDREW & DIANA 799 N MORGAN ST RUSSELLVILLE, KY 42276

PARCEL ID: 068-16-00-010-00 BRAY AUDIE G & SHARON L 205 CREEKWOOD DR RUSSELLVILLE, KY 42276

PARCEL ID: 068-16-00-011-00 SWEATT REGINA 204 CREEKWOOD DR RUSSELLVILLE, KY 42276

PARCEL ID: 068-16-00-013-00 BIG TIME PROPERTIES LLC 154 VANDERBILT CT BOWLING GREEN, KY 42103

PARCEL ID: 068-16-00-014-00 BUETTNER KENDRA DAY 104 PLEASANT DR RUSSELLVILLE, KY 42276

PARCEL ID: 068-16-00-015-00 WALKER CHRISTOPHER AND LINDSEY DOVER 102 PLEASANT DR RUSSELLVILLE, KY 42276

PARCEL ID: 068-16-00-016-00 BLUE MOUNTAIN LLC % JOHN & ADELA CORNES 100 PLEASANT DR RUSSELLVILLE, KY 42276

PARCEL ID: 067-00-00-024-00 MCINTOSH GARY & KENNER JARED % JARED KENNER P O BOX 451 RUSSELLVILLE, KY 42276

PARCEL ID: 067-00-00-025-01 WHYTE ALLEN J & SAVANNAH E 102 CEDAR TREE RUSSELLVILLE, KY 42276

PARCEL ID: 067-00-00-025-05 RESCUE INVESTMENTS LLC 1252 STATE ST BOWLING GREEN, KY 42101 PARCEL ID: 067-00-00-025-11 BGLG INVESTMENTS LLC 663 HOMER MURRAY RD BOWLING GREEN, KY 42104

PARCEL ID: 067-00-00-025-07 BAIZE J M 71 B JOHN PAUL AVE RUSSELLVILLE, KY 42276

PARCEL ID: 067-00-00-025-09 CATES JUDY 106 CEDAR TREE LN RUSSELLVILLE, KY 42276

PARCEL ID: 067-03-01-001-00 DENALI CAPITAL LLC P O BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-01-002-00 GET FIT PROPERTIES, LLC P O BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-02-001-00 LOGAN COUNTY AGRICULTURAL EXTENSION DISTRICT P O BOX 660 RUSSELLVILLE, KY 42276

PARCEL ID: 067-03-01-004-00 DENALI CAPITAL LLC P O BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-01-003-00 DENALI CAPITAL LLC P O BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-01-005-00 DENALI CAPITAL LLC P O BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-01-006-00 GOLEY TEDDY & LOURENE E 2050 H MURRAY RD BOWLING GREEN, KY 42104

PARCEL ID: 067-03-01-008-00 DENALI CAPITAL LLC P.O. BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-01-007-00 GOLEY TEDDY & LOURENE E 2050 H MURRAY RD BOWLING GREEN, KY 42104

PARCEL ID: 067-03-01-009-00 DENALI CAPITAL LLC P.O. BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-01-010-00 DENALI CAPITAL LLC P.O. BOX 1436 BOWLING GREEN, KY 42102 PARCEL ID: 067-03-01-012-00 DENALI CAPITAL LLC P.O. BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-02-002-00 LOGAN COUNTY AGRICULTURAL EXTENSION DISTRICT 121 S SPRING ST RUSSELLVILLE, KY 42276

PARCEL ID: 067-03-01-011-00 DENALI CAPITAL LLC P.O. BOX 1436 BOWLING GREEN, KY 42102

PARCEL ID: 067-03-02-003-00 LOGAN COUNTY AGRICULTURAL EXTENSION DISTRICT 121 S SPRING ST RUSSELLVILLE, KY 42276



Russell L. Brown Attorney at Law rbrown@clarkquinnlaw.com 320 N. Meridian St., Ste. 1100 Indianapolis, IN 46204 (317) 637-1321 main (317) 687-2344 fax

February 7, 2023

Notice of Proposed Construction of Wireless Communications Facility Site Name: Russellville Capacity

Cellco Partnership, d/b/a Verizon Wireless and Harmoni Towers, LLC have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located on Creekwood Drive, Russellville, KY 42276 (North Latitude: (36° 51' 50.30", West Longitude 86° 53' 09.85"). The proposed facility will include a 195-foot tall antenna tower, plus a 4-foot lightning arrestor, for a total height of 199 feet with related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

This notice is being sent to you because the County Property Valuation Administrator's records indicate that you may own property that is within a 500' radius of the proposed tower site or contiguous to the property on which the tower is to be constructed. You have a right to submit testimony to the Kentucky Public Service Commission ("PSC"), either in writing or to request intervention in the PSC's proceedings on the application. You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00043 in any correspondence sent in connection with this matter.

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

Sincerely,

Russell L. Brown

Attorney for Applicant

RLB/jdj enclosure



Russell L. Brown Attorney at Law rbrown@clarkquinnlaw.com 320 N. Meridian St., Ste. 1100 Indianapolis, IN 46204 (317) 637-1321 main (317) 687-2344 fax

February 7, 2023

Via Certified Mail, Return Receipt Requested 7020 1810 0002 1853 0770

Hon. Phil Baker PO Box 365 200 W. Fourth Street Russellville, KY 42276

RE: Notice of Proposal to Construct Wireless Communications Facility Kentucky Public Service Commission Docket No. 2023-00043 Site Name: Russellville Capacity

Dear Judge Baker:

Cellco Partnership, d/b/a Verizon Wireless and Harmoni Towers, LLC have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located on Creekwood Drive, Russellville, KY 42276 (North Latitude: (36° 51' 50.30", West Longitude 86° 53' 09.85"). The proposed facility will include a 195-foot tall antenna tower, plus a 4-foot lightning arrestor, for a total height of 199 feet with related ground facilities. This facility is needed to provide improved coverage for wireless communications in the area.

You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00043 in any correspondence sent in connection with this matter.

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

Sincerely,

Russell L. Brown

Attorney for Applicant

RLB/jdj Enclosures

# SITE NAME: Russellville Capacity 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.

Cellco Partnership, d/b/a Verizon Wireless and Harmoni Towers, LLC propose to construct a telecommunications **tower** on this site. If you have questions, please contact Clark, Quinn, Moses, Scott & Grahn, LLP, 320 N. Meridian Street, Indianapolis, IN 46204; 317-637-1321, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00043 in your correspondence.

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Land Use Consultant Elizabeth Bentz Williams, AICP

> *Also admitted in Montana †Also admitted in Kentucky **

Registered Civil Mediator

News-Democrat & Leader 250 N. Main St. Russellville, KY 42276

RE: Legal Notice Advertisement

Site Name: Russellville Capacity

To Whom It May Concern,

Please publish the following legal notice advertisement in the next available edition of the Logan County/Russellville Publication:

### **NOTICE**

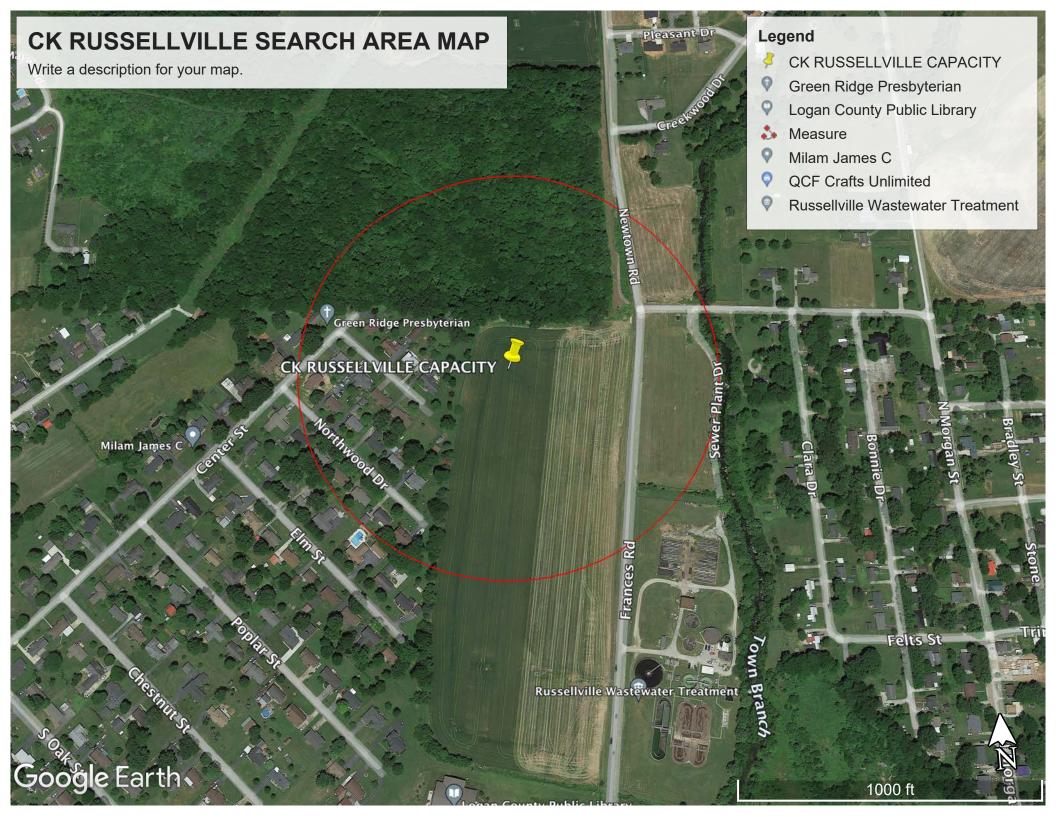
Cellco Partnership, d/b/a Verizon Wireless and Harmoni Towers, LLC have filed an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located on Creekwood Drive, Russellville, KY 42276 (North Latitude: (36° 51' 50.30", West Longitude 86° 53' 09.85"). The proposed facility will include a 195-foot tall antenna tower, plus a 4-foot lightning arrestor, for a total height of 199 feet with related ground facilities. You have a right to submit comments to the PSC or to request intervention in the PSC's proceedings on the application. You may contact the PSC at: Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2023-00043 in any correspondence sent in connection with this matter.

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

Sincerely,

Highest Bety Williams

Elizabeth Bentz Williams, AICP







January, 10th, 2023

RE: Proposed Cellco Partnership d/b/a Verizon Wireless Communications

Facility Site Name: CK Russellville Cap Type of Tower: 195 ft. Self-Support

Location: 0 Creekwood Drive, Russellville, KY 42276 Logan County

To Whom It May Concern:

As a radio frequency engineer for Verizon Wireless, I am providing this letter to state the need for a Verizon Wireless site called, CK Russellville Cap.

The CK Russellville Cap site is proposed with the below objectives:

- 1. To offload existing traffic of existing Verizon sites in this area.
- 2. To improve cellular service in northern Russellville.

Currently the area is experiencing poor service and a high demand for wireless high-speed data. This tower is needed to provide all Verizon customers in the area with the best experience on their wireless devices.

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

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



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

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

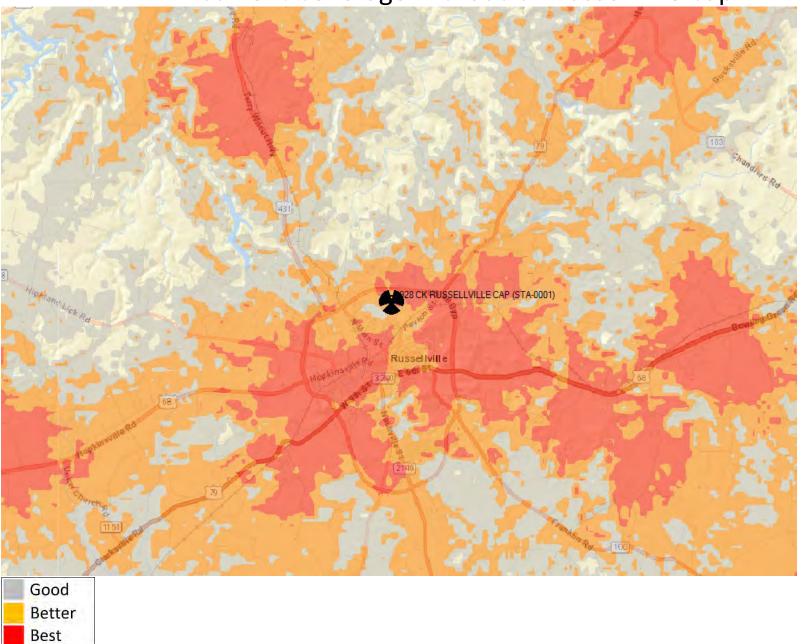
This cell site has been designed, and shall be constructed and operated in a manner that satisfies regulations and requirements of all applicable governmental agencies that have been charged with regulating tower specifications, operation, construction, and placement, including the FAA and FCC.

Sincerely,

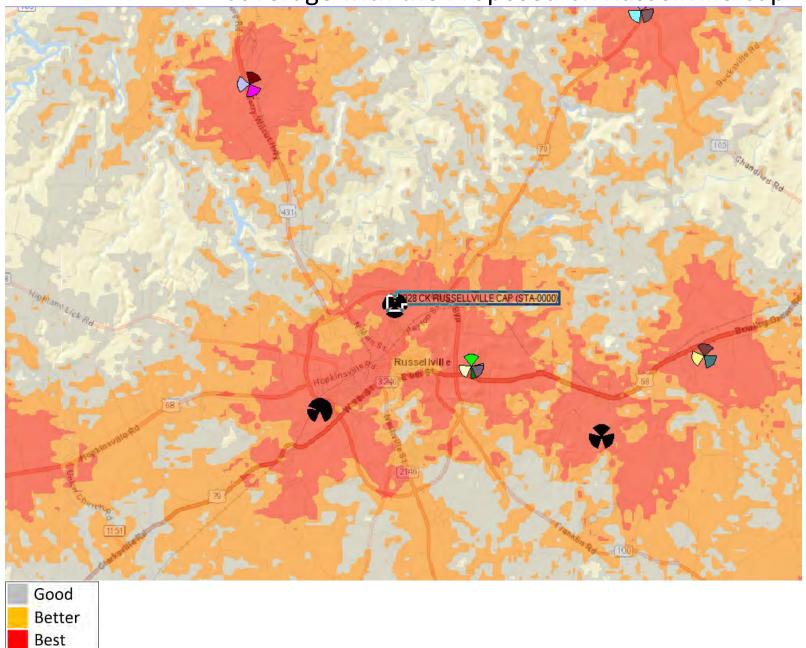
Zachary Parsons RF Engineer

Verizon Wireless

verizon Current Coverage without CK Russellville Cap



verizon Coverage with the Proposed CK Russellville Cap



# **Exhibit R List and Identity and Qualifications of Professionals**

Mark E. Patterson Professional Land Surveyor Kentucky License 3136 Power of Design Group, LLC 11490 Bluegrass Parkway Louisville, KY 40299

Mark E. Patterson Professional Engineer Kentucky License 16300 Power of Design Group, LLC 11490 Bluegrass Parkway Louisville, KY 40299

Brad P. Milanowski Professional Engineer Kentucky License 25311 B & T Group 1717 S. Boulder Ave., Ste 300 Tulsa, OK 74119

Billy Waldridge, Jr. Construction Manager Verizon Wireless 2421 Holloway Road Louisville, KY 40299

Gordan Snyder RF Engineer Verizon Wireless 2421 Holloway Road Louisville, KY 40299