COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF	)	
THE TOWERS, LLC D/B/A VERTICAL BRIDGE	)	
AND KENTUCKY RSA 1 PARTNERSHIP BY CELLCO	)	
PARTNERSHIP D/B/A VERIZON WIRELESS, ITS	)	
MANAGING PARTNER	)	
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC	)	CASE NO.: 2025-00302
CONVENIENCE AND NECESSITY TO CONSTRUCT	)	
A WIRELESS COMMUNICATIONS FACILITY	)	
IN THE COMMONWEALTH OF KENTUCKY	)	
IN THE COUNTY OF MARSHALL	)	

SITE NAME: TIM ROAD

* * * * * * *

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

The Towers, LLC d/b/a Vertical Bridge and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner ("Applicants"), by counsel, pursuant to (i) KRS §§ 278.020, 278.040, 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and (ii) the Telecommunications Act of 1996, respectfully submit this Application requesting issuance of a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("PSC") to construct, maintain, and operate a Wireless Communications Facility ("WCF") to serve the customers of Verizon Wireless with wireless communications services.

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

1. The complete name and address of the Applicants are: The Towers, LLC

d/b/a Vertical Bridge, a Delaware limited liability company, having an address of 750 Park of Commerce Drive, Suite 200, Boca Raton, Florida 33487 and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, having an address of 2421 Holloway Road, Louisville, Kentucky 40299.

2. Applicants propose construction of an antenna tower for communications services, which is to be located in an area outside the jurisdiction of a planning commission, and Applicants submit this application to the PSC for a certificate of public convenience and necessity pursuant to KRS §§ 278.020(1), 278.040, 278.650, 278.665, and other statutory authority.

3. The Towers, LLC d/b/a Vertical Bridge is a limited liability company organized in the State of Delaware. The Towers, LLC's Certificate of Good Standing issued by the State of Delaware is attached as part of **Exhibit A** and hereby incorporated by reference. The Towers, LLC is in good standing in the state in which it is organized and further states that it is authorized to transact business in Kentucky, and a copy of the Certificate of Authorization issued by the Kentucky Secretary of State is attached as part of **Exhibit A** and is hereby incorporated by reference.

4. Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its managing partner, is a Delaware general partnership, and a copy of the Statement of Good Standing from Delaware and Certificate of Assumed Name on file with the Kentucky Secretary of State are included as a part of **Exhibit A**. Verizon Wireless is in good standing in the state in which it is organized and further state that they are authorized to transact business in Kentucky.

5. Verizon Wireless operates on frequencies licensed by the Federal

Communications Commission ("FCC") pursuant to applicable FCC requirements. A copy of Verizon Wireless' FCC applications and licenses to provide wireless services are attached to this Application or described as part of **Exhibit A**, and the facility will be constructed and operated in accordance with applicable FCC regulations.

6. The public convenience and necessity require the construction of the proposed WCF. The construction of the WCF will bring or improve Version Wireless' services to an area currently not served or not adequately served by Verizon Wireless by increasing coverage or capacity and thereby enhancing the public's access to innovative and competitive wireless communications services. The WCF will provide a necessary link in Verizon Wireless' communications network that is designed to meet the increasing demands for wireless services in Kentucky's wireless communications service area. The WCF is an integral link in Verizon Wireless' network design that must be in place to provide adequate coverage to the service area.

7. To address the above-described service needs, Applicants propose to construct a WCF in a lease area located at 1429 JB Copeland Road, Symsonia, KY 42082 (36° 52' 45.31" North latitude, 88° 27' 27.72" 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 Scarlett Pennington, surviving Trustee of the Pennington Family Trust U/A dated July 30, 2008 pursuant to a deed recorded in Book 385 Page 159 in the office of the County Clerk. The proposed WCF will consist of a 255-foot tall self-support tower, with an approximately 10-foot tall lightning arrestor attached at the top, for a total height of 265-feet. The WCF will also include concrete foundations and a shelter or cabinets to accommodate the placement of radio electronics equipment and

appurtenant equipment. The equipment cabinet or shelter will be approved for use in the Commonwealth of Kentucky by the relevant building inspector. The WCF compound will be fenced and all access gate(s) will be secured. A description of the manner in which the proposed WCF will be constructed is attached as **Exhibit B** and **Exhibit C**.

8. A list of utilities, corporations, or persons with whom the proposed WCF is likely to compete is attached as **Exhibit D**.

9. 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 Verizon Wireless has also been included as part of **Exhibit B**.

10. Foundation design plans signed and sealed by a professional engineer registered in Kentucky and a description of the standards according to which the tower was designed are included as part of **Exhibit C**.

11. Applicants have considered the likely effects of the installation of the proposed WCF on nearby land uses and values and have concluded that there is no more suitable location reasonably available from which adequate services can be provided, and that there are no reasonably available opportunities to co-locate antennas on an existing structure. When suitable towers or structures exist, Verizon Wireless attempts to co-locate on existing structures such as communications towers or other structures capable of supporting carrier's facilities; however, no other suitable or available co-location site was found to be located in the vicinity of the site.

12. A Determination of No Hazard to Air Navigation issued by the Federal Aviation Administration ("FAA") for the proposed tower is attached as **Exhibit E**.

13. A copy of the Kentucky Airport Zoning Commission ("KAZC") approval for the proposed construction is attached as **Exhibit F**.

14. A geotechnical engineering firm has performed soil boring(s) and subsequent geotechnical engineering studies at the WCF site. A copy of the geotechnical engineering report, signed and sealed by a professional engineer registered in the Commonwealth of Kentucky, is attached as **Exhibit G**. The name and address of the geotechnical engineering firm and the professional engineer registered in the Commonwealth of Kentucky who supervised the examination of this WCF site are included as part of this exhibit.

15. Clear directions to the proposed WCF site from the County seat are attached as **Exhibit H**. The name and telephone number of the preparer of **Exhibit H** are included as part of this exhibit.

16. The Towers, LLC, pursuant to a written agreement, has acquired the right to use the WCF site and associated property rights. A copy of the agreement or an abbreviated agreement recorded with the County Clerk is attached as **Exhibit I**.

17. Personnel directly responsible for the design and construction of the proposed WCF are well qualified and experienced. The tower and foundation drawings for the proposed tower submitted as part of **Exhibit C** bear the signature and stamp of a professional engineer registered in the Commonwealth of Kentucky. All tower designs meet or exceed the minimum requirements of applicable laws and regulations.

18. The construction manager for the proposed facility is Adam Johnson and the identity and qualifications of each person directly responsible for design and construction of the proposed tower are contained in **Exhibits B & C**.

19. As noted on the Survey attached as part of **Exhibit B**, the surveyor has determined that the site is not within any flood hazard area.

20. **Exhibit B** includes a map drawn to an appropriate scale that shows the location of the proposed tower and identifies every owner of real estate within 500 feet of the proposed tower (according to the records maintained by the County Property Valuation Administrator). Every structure and every easement within 500 feet of the proposed tower or within 200 feet of the access road including intersection with the public street system is illustrated in **Exhibit B**.

21. Applicants have sent notice to every person who, according to the records of the County Property Valuation Administrator ("PVA"), owns property which is within 500 feet of the proposed tower or contiguous to the site property, by certified mail, return receipt requested, of the proposed construction. Each notified property owner has been provided with a map of the location of the proposed construction, the PSC docket number for this application, the address of the PSC, and has been informed of his or her right to request intervention. A list of the notified property owners and a copy of the form of the notice sent by certified mail to each landowner are attached as **Exhibit J** and **Exhibit K**, respectively.

22. Copies of the Marshall County PVA records obtained on August 25, 2025 (and re-verified on October 22, 2025) and used to generate the notice list are attached as part of **Exhibit J**.

23. Eleven notice letters were sent to the landowners on the notice list at the mailing addresses shown on the PVA records. Copies of the "Certified Mail Receipts" confirming the dates on which the letters were sent are attached as part of **Exhibit J**.

24. An additional notice letter was sent on October 17, 2025 due to a change in

ownership of an adjoining parcel. The updated PVA record for this parcel and a copy of the "Certified Mail Receipt" confirming the date on which the letter was send are attached as part of **Exhibit J**. Applicants will supplement the record once that letter is delivered or returned.

25. To date, ten signed United States Postal Service Form 3811 "green cards" have been returned. Copies of the returned "green cards" are attached as a part of **Exhibit J**. One notice letter was returned and marked "Return to Sender / Unclaimed / Unable to Forward." A copy of the returned undelivered letter is attached as part of **Exhibit J**. There are no unaccountable notices.

26. Applicants have notified the applicable County Judge/Executive by certified mail, return receipt requested, of the proposed construction. This notice included the PSC docket number under which the application will be processed and informed the County Judge/Executive of his/her right to request intervention. A copy of this notice is attached as **Exhibit L**. A copy of the "Certified Mail Receipt" and a copy of the USPS Form 3811 "green card" for this mailing are also attached as a part of **Exhibit L**.

27. Notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2) that measure at least 2 feet in height and 4 feet in width and that contain all required language in letters of required height, have been posted, one in a visible location on the proposed site and one on the nearest public road. Such signs shall remain posted for at least two weeks after filing of the Application, and a copy of the posted text is attached as **Exhibit M**. A legal notice advertisement regarding the location of the proposed facility has been published in a newspaper of general circulation in the county in which the WCF is proposed to be located. A tear sheet from the newspaper that includes the notice

advertisement is attached as part of **Exhibit M**.

28. The general area where the proposed facility will be located is predominantly rural in character and consists primarily of agricultural uses and sparse residential uses. The site parcel itself is rural with significant wooded areas and a residential use at the north edge of the parcel.

29. The process that was used by Verizon 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. Verizon Wireless' radio frequency engineers have conducted studies and tests in order to develop a highly efficient network that is designed to handle voice and data traffic in the service area. The engineers determined an optimum area for the placement of the proposed facility in terms of elevation and location to provide the best quality service to customers in the service area. A radio frequency design search area prepared in reference to these radio frequency studies was considered by the Applicants when searching for sites for its antennas that would provide the coverage deemed necessary by Verizon Wireless' Radio Frequency Engineers. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements is attached as **Exhibit N**.

30. The tower must be located at the proposed location and proposed height to provide necessary service to wireless communications users in the subject area.

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

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

David A. Pike and
F. Keith Brown
Pike Legal Group, PLLC
1578 Highway 44 East, Suite 6
P. O. Box 369
Shepherdsville, KY 40165-0369
Telephone: (502) 955-4400
Telefax: (502) 543-4410
Email: dpike@pikelegal.com
kbrown@pikelegal.com

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

Respectfully submitted,

David A. Pike
And

F. Keith Brown

Pike Legal Group, PLLC
1578 Highway 44 East, Suite 6
P. O. Box 369
Shepherdsville, KY 40165-0369
Telephone: (502) 955-4400
Telefax: (502) 543-4410
Email: dpike@pikelegal.com
Email: kbrown@pikelegal.com
Attorneys for Applicants

LIST OF EXHIBITS

A - Business Documentation & FCC Documentation

B - Site Development Plan:

- 500' Vicinity Map
- Legal Descriptions
- Flood Plain Certification
- Site Plan
- Vertical Tower Profile

C - Tower and Foundation Design

- Construction Manager Letter
- List of Qualified Professionals
- Tower and Foundation Drawings

D - Competing Utilities, Corporations, or Persons List

E - Federal Aviation Administration Documentation

F - Kentucky Airport Zoning Commission Documentation

G - Geotechnical Report

H - Directions to WCF Site

I - Copy of Real Estate Agreement

J - Notification Listing, PVA Records & Proof of Notice

K - Copy of Property Owner Notification

L - Copy of County Judge/Executive Notice & Proof of Notice

M - Copy of Posted Notices, Newspaper Notice Advertisement Tear Sheet

N - Copy of Radio Frequency Design Search Area

EXHIBIT A

BUSINESS DOCUMENTATION & FCC LICENSE DOCUMENTATION

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "THE 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 SIXTH DAY OF DECEMBER, A.D. 2024.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "THE TOWERS, LLC" WAS FORMED ON THE TWENTY-FOURTH DAY OF MARCH, A.D. 2023.

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

7370717 8300

SR# 20244414963

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

Authentication: 205056961

Date: 12-06-24

Commonwealth of Kentucky
Michael G. Adams, Secretary of State

Michael G. Adams
Secretary of State
P. O. Box 718
Frankfort, KY 40602-0718
(502) 564-3490
http://www.sos.ky.gov

Certificate of Authorization

Authentication number: 307364
Visit https://web.sos.ky.gov/ftshow/certvalidate.aspx to authenticate this certificate.

I, Michael G. Adams, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

THE TOWERS, LLC

, a limited liability company authorized under the laws of the state of Florida, is authorized to transact business in the Commonwealth of Kentucky, and received the authority to transact business in Kentucky on February 22, 2024.

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

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 18th day of March, 2024, in the 232nd year of the Commonwealth.

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
307364/1343772

1343772.06 mmoore AOC

Michael G. Adams
Kentucky Secretary of State
Received and Filed:
12/13/2024 1:54 PM
Fee Receipt: $20.00

COMMONWEALTH OF KENTUCKY
MICHAEL G. ADAMS, SECRETARY OF STATE

Division of Business Filings
Business Filings
P.O. Box 718,
Frankfort, KY 40602
(502) 564-3490
sosfilings@ky.gov to submit via email
Filing Fee: $15.00 ($20.00 for LLC)

Articles of Correction — AOC

Pursuant to the provisions of KRS 14A-2.090, the undersigned applies correct articles and for that purpose, submits the following statement:

1. Name of the entity is: THE TOWERS, LLC.
   Document to be corrected is: Certificate of Authority.
   Date the document being corrected was originally filed: 2/22/2024.

2. Please specify the inaccuracies or defects to be corrected:
The domestic state in item 4 was incorrectly typed in as Florida.

3. The inaccuracy or defect stated above should be corrected as follows:
The state or county under whose law the entity is organized is: Delaware

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

/s/ Allison Cannella	Allison Cannella	Authorized Person	12/12/2024
Signature	**Printed Name**	**Title**	**Date**

(2/23)

1343772.06 mmoore ADD

Michael G. Adams
Kentucky Secretary of State
Received and Filed:
2/22/2024 11:15 AM
Fee Receipt: $90.00

COMMONWEALTH OF KENTUCKY
MICHAEL G. ADAMS, SECRETARY OF STATE

Division of Business Filings
P.O. Box 718
Frankfort, KY 40602
(502) 564-3490
www.sos.ky.gov

Certificate of Authority
(Foreign Business Entity)

FBE

Pursuant to the provisions of KRS 14A – 030 the undersigned hereby applies for authority to transact business in Kentucky on behalf of the entity named below and, for that purpose, submits the following statements:

1. The entity is a:
- ☐ profit corporation
- ☐ business trust
- ☐ limited partnership
- ☐ non-profit llc
- ☐ nonprofit corporation
- ☒ limited liability company
- ☐ ltd cooperative association
- ☐ professional service corporation
- ☐ professional limited liability company
- ☐ statutory trust
- ☐ public benefit corporation
- ☐ other

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

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

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

5. The date of organization is 03/24/2023 and the period of duration is _____.
(If left blank, duration is considered perpetual.)

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

750 PARK OF COMMERCE DR, STE 200	BOCA RATON	FL	33487
Street Address	City	State	Zip Code

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

828 Lane Allen Road Suite 219	Lexington	KY	40504
Street Address (No P.O. Box Numbers)	City	State	Zip Code

and the name of the registered agent at that office is Cogency Global Inc.

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

Name	Street or P.O. Box	City	State	Zip Code
Ron Bizick	750 Park of Commerce Dr Ste 2	Boca Raton	FL	33487

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

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

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

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

13. This application will be effective upon filing.

[signature]	Ron Bizick, CEO	02/05/2024
Signature of Authorized Representative	Printed Name & Title	Date

I, Cogency Global Inc., consent to serve as the registered agent on behalf of the business entity.
Type/Print Name of Registered Agent

Joelle Churik	Joelle Churik	Asst. Secretary	02/06/2024
Signature of Registered Agent	Printed Name	Title	Date

(2/23)

Delaware

The First State

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

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

3341134 8300

SR# 20231665976

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

Authentication: 203227418

Date: 04-27-23

COMMONWEALTH OF KENTUCKY

Michael G. Adams
Secretary of State

Certificate

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

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

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

COMMONWEALTH OF KENTUCKY
OFFICE OF SECRETARY OF STATE

Michael G. Adams

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

COMMONWEALTH OF KENTUCKY
TREY GRAYSON
SECRETARY OF STATE

0641227.07 Dcornish C226
Trey Grayson
Secretary of State
Received and Filed
06/21/2006 12:06:09 PM
Fee Receipt: $20.00

CERTIFICATE OF ASSUMED NAME

This certifies that the assumed name of

Verizon Wireless

[Name under which the business will be conducted]

has been adopted by See Addendum

[Real name - KRS 365.015(1)]

which is the "real name" of [YOU MUST CHECK ONE]

- [ ] a Domestic General Partnership
- [ ] a Domestic Registered Limited Liability Partnership
- [ ] a Domestic Limited Partnership
- [ ] a Domestic Business Trust
- [ ] a Domestic Corporation
- [ ] a Domestic Limited Liability Company
- [ ] a Joint Venture
- [x] a Foreign General Partnership
- [ ] a Foreign Registered Limited Liability Partnership
- [ ] a Foreign Limited Partnership
- [ ] a Foreign Business Trust
- [ ] a Foreign Corporation
- [ ] a Foreign Limited Liability Company

organized and existing in the state or country of Delaware, and whose address is

One Verizon Way	Basking Ridge	NJ	07920
Street address, if any	City	State	Zip Code

The certificate of assumed name is executed by

NYNEX PCS Inc.

Jane A. Schapker

Signature

Jane A. Schapker-Assistant Secretary

Print or type name and title

June 15, 2006

Date

Signature

Print or type name and title

Date

GSC-228 (7/98)

(See attached sheet for instructions)

Addendum

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

General Partners of Cellco Partnership	Address
Bell Atlantic Cellular Holdings, L.P.	One Verizon Way Basking Ridge, NJ 07920
NYNEX PCS Inc.	One Verizon Way Basking Ridge, NJ 07920
PCSCO Partnership	One Verizon Way Basking Ridge, NJ 07920
GTE Wireless Incorporated	One Verizon Way Basking Ridge, NJ 07920
GTE Wireless of Ohio Incorporated	One Verizon Way Basking Ridge, NJ 07920
PCS Nucleus, L.P.	2999 Oak Road, 7th Floor Walnut Creek, CA 94597
JV PartnerCo, LLC	2999 Oak Road, 7th Floor Walnut Creek, CA 94597

C227

0641227.07
Alison Lundergan Grimes
KY Secretary of State
Received and Filed
5/31/2016 1:54:34 PM
Fee receipt: $20.00

Commonwealth of Kentucky
Alison Lundergan Grimes, Secretary o

Alison Lundergan Grimes
Secretary of State
P. O. Box 718
Frankfort, KY 40602-0718
(502) 564-3490
http://www.sos.ky.gov

Renewal Certificate of Assumed Name

REN

This certifies that the assumed name of

VERIZON WIRELESS

is hereby renewed by the general partnership listed above, organized and existing in the state of Delaware.

Signatures

Signature	Karen M. Shipman
Title	Assistatn Secretary
Date	5/31/2016 1:54:34 PM

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign	File Number
KNKN871	0009611092
Radio Service CL - Cellular	
Market Numer CMA444	**Channel Block** B
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003290673

Market Name
Kentucky 2 - Union

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
08-31-2021	08-31-2021	10-01-2031		08-31-2021

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
1	37-30-51.2 N	087-30-18.0 W	139.9	91.4	1030659

Address: 2138 SR 1405
City: SLAUGHTERS **County:** WEBSTER **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)	104.300	99.100	103.400	105.700	89.600	78.600	86.500	103.800
Transmitting ERP (watts)	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

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

FCC 601-C
March 2018

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN871 **File Number:** 0009611092 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	37-16-53.0 N	087-29-17.0 W	176.8	90.8	1030654

Address: 1369 SAND CUT RD
City: Madisonville **County:** HOPKINS **State:** KY **Construction Deadline:**

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	127.800	138.700	133.200	133.500	121.500	113.200	123.000	142.100
Transmitting ERP (watts)	208.970	190.560	12.020	1.000	0.500	0.500	0.630	30.910

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	127.800	138.700	133.500	133.500	121.500	113.200	123.000	142.100
Transmitting ERP (watts)	0.500	0.540	19.950	190.560	208.940	20.420	1.070	0.500

Antenna: 7
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	127.800	138.700	133.500	133.500	121.500	113.200	123.000	142.100
Transmitting ERP (watts)	1.000	1.910	1.000	1.000	6.310	213.810	501.220	190.560

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	36-57-17.4 N	087-51-07.6 W	172.2	123.1	1030739

Address: (Hopson) RT 4 BOX 58 814999
City: Princeton **County:** CALDWELL **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)	135.700	130.000	144.600	143.600	151.900	144.500	138.300	138.900
Transmitting ERP (watts)	18.030	88.290	65.450	2.610	0.360	0.200	0.200	0.350

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)	135.700	130.000	144.600	143.600	151.900	144.500	138.300	138.900
Transmitting ERP (watts)	0.420	0.420	2.640	89.540	209.890	79.800	0.420	0.800

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)	135.700	130.000	144.600	143.600	151.900	144.500	138.300	138.900
Transmitting ERP (watts)	55.210	1.870	1.030	0.840	1.150	19.590	283.140	381.940

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN871 **File Number:** 0009611092 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	37-19-00.3 N	088-04-34.3 W	237.4	90.5	1030656

Address: (Marion) 11 Brairwood Drive

City: Marion **County:** CRITTENDEN **State:** KY C**onstruction 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)	162.700	163.300	176.200	156.900	167.800	184.500	160.300	175.600
Transmitting ERP (watts)	271.010	402.110	56.170	1.380	1.090	1.090	1.090	16.570

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)	162.700	163.300	176.200	156.900	167.800	184.500	160.300	175.600
Transmitting ERP (watts)	1.090	1.090	54.770	411.390	270.910	18.590	1.090	1.090

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)	162.700	163.300	176.200	156.900	167.800	184.500	160.300	175.600
Transmitting ERP (watts)	2.710	0.550	0.550	0.550	2.110	63.550	191.830	63.550

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	37-19-19.5 N	087-30-03.8 W	144.5	99.1	1040639

Address: 54 W LAKE ST

City: Madisonville **County:** HOPKINS **State:** KY C**onstruction 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	120.000	110.700	105.000	90.400	94.900	118.300	102.200
Transmitting ERP (watts)	91.200	87.100	85.110	85.110	89.130	87.100	89.130	89.130

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	37-39-38.0 N	087-55-11.5 W	153.6	121.9	1030655

Address: (Morganfield) 996 TP LUCKETTE RD

City: Morganfield **County:** UNION **State:** KY C**onstruction 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)	130.600	126.500	124.600	100.000	131.200	122.100	129.400	122.600
Transmitting ERP (watts)	355.170	248.530	31.970	1.840	0.810	0.810	2.870	89.690

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.600	126.500	124.600	100.000	131.200	122.100	129.400	122.600
Transmitting ERP (watts)	0.890	27.540	263.030	389.050	97.720	5.890	0.810	0.810

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN871 **File Number:** 0009611092 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	37-39-38.0 N	087-55-11.5 W	153.6	121.9	1030655

Address: (Morganfield) 996 TP LUCKETTE RD
City: Morganfield **County:** UNION **State:** KY C**onstruction Deadline:**

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	130.600	126.500	124.600	100.000	131.200	122.100	129.400	122.600
Transmitting ERP (watts)	0.680	0.680	0.680	2.630	61.490	217.250	146.520	15.150

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	37-02-00.0 N	088-22-10.0 W	105.5	106.7	1040303

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

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	78.900	77.600	88.100	83.000	68.600	85.300	97.900	93.100
Transmitting ERP (watts)	23.380	330.300	378.360	36.130	0.970	0.970	0.970	0.970

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	78.900	77.600	88.100	83.000	68.600	85.300	97.900	93.100
Transmitting ERP (watts)	0.970	0.970	0.970	14.730	240.930	357.480	49.940	1.230

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)	78.900	77.600	88.100	83.000	68.600	85.300	97.900	93.100
Transmitting ERP (watts)	63.740	2.060	0.660	0.660	0.660	4.020	107.530	274.970

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	37-36-46.0 N	087-29-35.0 W	118.0	91.0	1034040

Address: EASTWOOD FERRY ROAD
City: SEBREE **County:** WEBSTER **State:** KY C**onstruction Deadline:** 02-23-2006

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)	73.800	88.300	72.700	87.800	81.700	80.900	73.100	79.800
Transmitting ERP (watts)	0.560	0.200	0.200	0.280	2.400	42.760	89.330	12.910

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.800	88.300	72.700	87.800	81.700	80.900	73.100	79.800
Transmitting ERP (watts)	55.080	0.490	0.200	0.200	0.200	0.200	0.200	39.900

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN871 **File Number:** 0009611092 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	37-36-46.0 N	087-29-35.0 W	118.0	91.0	1034040

Address: EASTWOOD FERRY ROAD
City: SEBREE **County:** WEBSTER **State:** KY **Construction Deadline:** 02-23-2006

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.800	88.300	72.700	87.800	81.700	80.900	73.100	79.800
Transmitting ERP (watts)	0.200	0.200	0.200	5.380	97.950	4.910	0.210	0.200

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	36-46-54.2 N	088-03-28.1 W	199.0	126.5	1205551

Address: SR 80/US 68 & Trace
City: Golden Pond **County:** TRIGG **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)	165.000	178.000	160.000	175.000	171.000	167.000	177.000	184.000
Transmitting ERP (watts)	96.610	96.610	96.610	96.610	96.610	96.610	96.610	96.610

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	37-14-55.1 N	088-20-42.2 W	175.8	108.8	1231318

Address: 738 Mitchell Road
City: Burna **County:** LIVINGSTON **State:** KY **Construction Deadline:** 02-23-2006

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)	116.800	144.900	144.500	172.100	154.500	163.300	146.900	139.500
Transmitting ERP (watts)	50.060	6.450	0.130	0.130	0.130	1.990	13.790	50.060

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	116.800	144.900	144.500	172.100	154.500	163.300	146.900	139.500
Transmitting ERP (watts)	4.780	26.880	61.590	32.320	2.880	0.130	0.130	0.600

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	116.800	144.900	144.500	172.100	154.500	163.300	146.900	139.500
Transmitting ERP (watts)	0.130	0.130	0.130	2.750	15.470	52.420	46.720	5.120

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN871 **File Number:** 0009611092 **Print Date:** 08-31-2021

Control Points:

Control Pt. No. 2

Address: 500 West Dove Road

City: Southlake **County:** TARRANT **State:** TX **Telephone Number:** (800)264-6620

Waivers/Conditions:

NONE

ULS Application

Cellular - 0009611092 - Cellco Partnership

File Number	0009611092	Radio Service	CL - Cellular
Call Sign	KNKN871	Application Status	G - Granted

General Information

Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	07/06/2021	Action Date	08/31/2021
Entered Date	07/06/2021	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	No	Grandfathered Privileges	No
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			
Use Question			

Market Data

Market	CMA444 - Kentucky 2 - Union	Channel Block	B
Submarket Designator	0	Phase	2

Applicant Information

FRN	0003290673	Type	General Partnership
Name	Cellco Partnership 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022 ATTN Licensing Manager		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com
Real Party in Interest		FRN of Real Party in Interest	

Contact Information

Name	Verizon Wireless Licensing Manager 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022 ATTN Regulatory	P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com

Qualifications, Ownership

Radio Service Type	Mobile		
Regulatory Status	Common Carrier	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Demographics

Race

Ethnicity Sex

Additional Certifications

Operation/Performance Requirement Certification

For a site-based license

Applicant certifies that it is continuing to operate consistent with its most recently filed construction notification (or most recent authorization, if no construction notification was required).

For a geographic license, commercial service - licensee in its initial license term with an interim performance requirement

Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance requirement, it continues to use its facilities to provide at least the level of service required by its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.

For a geographic license, commercial service - licensee in its initial license term with no interim performance requirement

Applicant certifies that it has met its final performance requirement and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.

For a geographic license, commercial service - licensee in any subsequent term

Applicant certifies that it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of any subsequent license terms.

For a geographic license, private systems - licensee in its initial license term with an interim performance requirement

Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.

For a geographic license, private systems - licensee in its initial license term with no interim performance requirement

Applicant certifies that it has met its final performance requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.

For a geographic license, private systems - licensee in any subsequent term

Applicant certifies that it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its final performance requirement through the end of any subsequent license terms.

For a partitioned or disaggregated license without a performance requirement, for the first renewal application filed after 05/30/2020.

Applicant certifies that the partitioned and/or disaggregated license that is the subject of this renewal application has no separate performance requirement and that this is the first renewal of this license filed subsequent 10/01/2020.

For a partitioned or disaggregated license without a performance requirement, for any subsequent renewal filings

Applicant certifies that it continues to use its facilities to provide service or to further the applicant's private business or public interest/public safety needs.

Discontinuance of Service Certification

Applicant certifies that no permanent discontinuance of service or operation, as applicable, occurred during its current license term.

Regulatory Compliance Certification

Applicant certifies that it has substantially complied with all applicable FCC rules, policies, and the Communications Act of 1934, as amended.

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: KENTUCKY RSA NO. 1 PARTNERSHIP

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

Call Sign	File Number
KNKQ306	0009611390
Radio Service CL - Cellular	
Market Numer CMA443	**Channel Block** B
Sub-Market Designator 0	

FCC Registration Number (FRN): 0001836709

Market Name
Kentucky 1 - Fulton

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
08-31-2021	08-31-2021	10-01-2031		08-31-2021

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
1	36-20-59.2 N	089-22-12.3 W	98.0		

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

Antenna: 1
Maximum Transmitting ERP in Watts: 135.800

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

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

FCC 601-C
March 2018

Licensee Name: KENTUCKY RSA NO. 1 PARTNERSHIP

Call Sign: KNKQ306 **File Number:** 0009611390 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	36-45-58.0 N	088-38-50.0 W	143.0	147.8	1043917

Address: 416 Jimtown Road
City: MAYFIELD **County:** GRAVES **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)	124.300	120.000	100.800	92.100	88.300	103.100	108.600	100.800
Transmitting ERP (watts)	91.200	87.100	85.110	85.110	89.130	87.100	89.130	89.130

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	36-54-35.5 N	089-04-01.6 W	110.3	121.0	1030662

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

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	107.500	98.100	119.800	96.700	86.900	133.300	130.900	130.400
Transmitting ERP (watts)	189.230	48.640	1.690	0.930	0.930	0.930	1.810	52.120

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	107.500	98.100	119.800	96.700	86.900	133.300	130.900	130.400
Transmitting ERP (watts)	1.710	64.860	368.980	174.580	8.750	0.930	0.930	0.930

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	107.800	98.100	119.800	96.700	86.900	133.300	130.900	130.400
Transmitting ERP (watts)	0.350	0.350	1.230	35.330	112.440	35.270	1.000	0.350

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
6	36-31-12.4 N	088-50-41.5 W	144.2	122.2	1030665

Address: (Fulton) 550 Powell Road
City: Fulton **County:** HICKMAN **State:** KY **Construction Deadline:**

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.200	122.800	123.200	135.200	147.500	157.200	143.900	141.700
Transmitting ERP (watts)	110.570	412.100	98.560	4.220	1.510	0.920	0.920	6.530

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.200	122.800	123.200	135.200	147.500	157.200	143.900	141.700
Transmitting ERP (watts)	0.550	0.550	0.550	0.550	1.480	16.430	11.480	0.700

Licensee Name: KENTUCKY RSA NO. 1 PARTNERSHIP

Call Sign: KNKQ306 **File Number:** 0009611390 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
6	36-31-12.4 N	088-50-41.5 W	144.2	122.2	1030665

Address: (Fulton) 550 Powell Road
City: Fulton **County:** HICKMAN **State:** KY **Construction Deadline:**

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.200	122.800	123.200	135.200	147.500	157.200	143.900	141.700
Transmitting ERP (watts)	135.480	5.650	2.230	0.920	1.320	5.450	78.640	402.820

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	36-38-26.2 N	088-16-00.1 W	165.8	90.8	1030663

Address: (Murray) 1431 Van Cleave Road
City: Murray **County:** CALLOWAY **State:** KY **Construction Deadline:**

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	106.900	107.100	115.000	106.900	87.400	91.300	86.200	97.500
Transmitting ERP (watts)	124.240	6.420	0.560	0.560	0.560	0.830	39.630	251.940

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	106.900	107.100	115.000	106.900	87.400	91.300	86.200	97.500
Transmitting ERP (watts)	3.450	96.460	263.070	57.230	1.700	0.560	0.560	0.560

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	106.900	107.100	115.000	106.900	87.400	91.300	86.200	97.500
Transmitting ERP (watts)	0.370	0.370	0.370	12.730	121.110	104.340	9.310	0.370

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	37-03-51.4 N	088-57-23.6 W	116.4	92.4	1030664

Address: (La Center) 220 RICHARDSON LN
City: LA CENTER **County:** BALLARD **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)	85.600	78.400	71.900	66.000	65.300	67.000	87.700	96.100
Transmitting ERP (watts)	2.110	71.430	167.460	63.670	0.330	0.640	0.330	0.330

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)	85.600	78.400	71.900	66.000	65.300	67.000	87.700	96.100
Transmitting ERP (watts)	1.230	1.000	1.380	23.440	338.840	457.090	66.070	2.240

Licensee Name: KENTUCKY RSA NO. 1 PARTNERSHIP

Call Sign: KNKQ306 **File Number:** 0009611390 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	37-03-51.4 N	088-57-23.6 W	116.4	92.4	1030664

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

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	85.600	78.400	71.900	66.000	65.300	67.000	87.700	96.100
Transmitting ERP (watts)	165.960	6.610	0.910	0.500	0.500	0.890	45.710	223.870

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
10	36-44-07.9 N	088-58-29.2 W	131.9	92.9	1030723

Address: 3975 State Route 2206
City: CLINTON **County:** HICKMAN **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)	100.500	101.900	98.900	84.700	107.900	118.900	119.900	100.400
Transmitting ERP (watts)	96.610	96.610	96.610	96.610	96.610	96.610	96.610	96.610

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
11	37-02-00.0 N	088-22-10.0 W	105.5	106.7	1040303

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

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	78.900	77.600	88.100	83.000	68.600	85.300	97.900	93.100
Transmitting ERP (watts)	23.380	330.300	378.360	36.130	0.970	0.970	0.970	0.970

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	78.900	77.600	88.100	83.000	68.600	85.300	97.900	93.100
Transmitting ERP (watts)	0.970	0.970	0.970	14.730	240.930	357.480	49.940	1.230

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)	78.900	77.600	88.100	83.000	68.600	85.300	97.900	93.100
Transmitting ERP (watts)	63.740	2.060	0.660	0.660	0.660	4.020	107.530	274.970

Licensee Name: KENTUCKY RSA NO. 1 PARTNERSHIP

Call Sign: KNKQ306 **File Number:** 0009611390 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	36-34-49.2 N	088-31-45.2 W	155.5	91.4	1202399

Address: 12201 SR 97

City: TriCity **County:** GRAVES **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)	75.100	73.400	74.100	70.100	102.600	100.900	74.700	81.300
Transmitting ERP (watts)	0.280	4.680	67.610	91.200	13.180	0.450	0.250	0.200

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.100	73.400	74.100	70.100	102.600	100.900	74.700	81.300
Transmitting ERP (watts)	0.360	0.200	0.200	0.350	18.200	89.130	66.070	2.630

Antenna: 4

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	75.100	73.400	74.100	70.100	102.600	100.900	74.700	81.300
Transmitting ERP (watts)	100.000	38.020	0.200	0.380	0.200	0.200	1.260	42.660

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	37-05-47.2 N	088-42-35.2 W	104.2	63.4	1200593

Address: (Paducah West) 4415 Merredith Rd.

City: Paducah **County:** MCCRACKEN **State:** KY **Construction Deadline:** 07-08-2014

Antenna: 4

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	59.900	55.900	65.200	50.700	38.200	34.700	42.800	64.600
Transmitting ERP (watts)	24.580	50.820	50.310	19.100	0.840	0.330	0.330	1.370

Antenna: 5

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	59.900	55.900	65.200	50.700	38.200	34.700	42.800	64.600
Transmitting ERP (watts)	0.440	0.440	12.210	76.570	112.800	57.980	5.460	0.440

Antenna: 6

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	59.900	55.900	65.200	50.700	38.200	34.700	42.800	64.600
Transmitting ERP (watts)	20.830	0.780	0.440	0.440	2.790	42.940	108.040	89.900

Licensee Name: KENTUCKY RSA NO. 1 PARTNERSHIP

Call Sign: KNKQ306 **File Number:** 0009611390 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	36-46-54.2 N	088-03-28.1 W	199.0	126.5	1205551

Address: 14664 Canton Road
City: Golden Pond **County:** TRIGG **State:** KY C**onstruction Deadline:** 05-19-2006

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)	165.000	178.000	160.400	174.500	170.600	167.000	177.000	183.900
Transmitting ERP (watts)	96.610	96.610	96.610	96.610	96.610	96.610	96.610	96.610

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	36-34-03.0 N	089-10-30.9 W	109.4	91.4	1282534

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

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.500	102.800	96.700	89.300	75.700	68.400	107.900	107.300
Transmitting ERP (watts)	141.700	118.910	1.140	0.580	0.580	0.580	0.580	4.050

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.500	102.800	96.700	89.300	75.700	68.400	107.900	107.300
Transmitting ERP (watts)	0.580	4.050	141.730	118.910	1.140	0.580	0.580	0.580

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.500	102.800	96.700	89.300	75.700	68.400	107.900	107.300
Transmitting ERP (watts)	0.460	0.460	0.460	0.460	0.460	7.710	45.610	24.600

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	37-10-55.4 N	088-56-43.7 W	102.7	99.1	1252613

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

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	85.900	83.500	90.600	69.600	74.300	84.600	86.500	83.200
Transmitting ERP (watts)	7.080	125.890	478.630	112.200	4.570	1.580	1.000	1.000

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)	85.900	83.500	90.600	69.600	74.300	84.600	86.500	83.200
Transmitting ERP (watts)	1.000	1.410	12.020	213.800	446.680	64.570	2.820	1.000

Licensee Name: KENTUCKY RSA NO. 1 PARTNERSHIP

Call Sign: KNKQ306 **File Number:** 0009611390 **Print Date:** 08-31-2021

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	37-10-55.4 N	088-56-43.7 W	102.7	99.1	1252613

Address: (Monkey's Eyebrow) 4625 Odgen Colvin Circle

City: Kevil **County:** BALLARD **State:** KY C**onstruction Deadline:** 10-24-2014

Antenna: 4

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	85.900	83.500	90.600	69.600	74.300	84.600	86.500	83.200
Transmitting ERP (watts)	2.000	2.000	2.000	2.000	2.000	398.110	549.540	4.900

Control Points:

Control Pt. No. 3

Address: 500 W. Dove Rd.

City: Southlake **County:** TARRANT **State:** TX **Telephone Number:** (800)264-6620

Waivers/Conditions:

NONE

ULS Application

Cellular - 0009611390 - KENTUCKY RSA NO. 1 PARTNERSHIP

HELP

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File Number	0009611390	Radio Service	CL - Cellular
Call Sign	KNKQ306	Application Status	G - Granted

General Information

Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	07/06/2021	Action Date	08/31/2021
Entered Date	07/06/2021	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	No	Grandfathered Privileges	No
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			
Use Question			

Market Data

Market	CMA443 - Kentucky 1 - Fulton	Channel Block	B (View Frequencies)
Submarket Designator	0	Phase	2

Applicant Information

FRN	0001836709 (View Ownership Filing)	Type	General Partnership
Name	KENTUCKY RSA NO. 1 PARTNERSHIP 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022 ATTN Licensing Manager		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com
Real Party in Interest		FRN of Real Party in Interest	

Contact Information			
Name	Verizon Wireless Licensing Manager 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022 ATTN Regulatory		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com

Qualifications, Ownership			
Radio Service Type	Mobile		
Regulatory Status	Common Carrier	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Demographics			
Race			
Ethnicity		Sex	

Additional Certifications	
Operation/Performance Requirement Certification	
For a site-based license	
Applicant certifies that it is continuing to operate consistent with its most recently filed construction notification (or most recent authorization, if no construction notification was required).	
For a geographic license, commercial service - licensee in its initial license term with an interim performance requirement	
Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance requirement, it continues to use its facilities to provide at least the level of service required by its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.	
For a geographic license, commercial service - licensee in its initial license term with no interim performance requirement	
Applicant certifies that it has met its final performance requirement and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.	
For a geographic license, commercial service - licensee in any subsequent term	
Applicant certifies that it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of any subsequent license terms.	
For a geographic license, private systems - licensee in its initial license term with an interim performance requirement	
Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its interim performance requirement, it has met its final	

performance requirement, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.	
For a geographic license, private systems - licensee in its initial license term with no interim performance requirement	
Applicant certifies that it has met its final performance requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.	
For a geographic license, private systems - licensee in any subsequent term	
Applicant certifies that it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its final performance requirement through the end of any subsequent license terms.	
For a partitioned or disaggregated license without a performance requirement, for the first renewal application filed after 05/30/2020.	
Applicant certifies that the partitioned and/or disaggregated license that is the subject of this renewal application has no separate performance requirement and that this is the first renewal of this license filed subsequent 10/01/2020.	
For a partitioned or disaggregated license without a performance requirement, for any subsequent renewal filings	
Applicant certifies that it continues to use its facilities to provide service or to further the applicant's private business or public interest/public safety needs.	
Discontinuance of Service Certification	
Applicant certifies that no permanent discontinuance of service or operation, as applicable, occurred during its current license term.	
Regulatory Compliance Certification	
Applicant certifies that it has substantially complied with all applicable FCC rules, policies, and the Communications Act of 1934, as amended.	

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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	File Number
KNLH404	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
04-24-2017	11-30-2017	04-28-2027	01-10-2018

Market Number	Channel Block	Sub-Market Designator
BTA339	D	0

Market Name
Paducah-Murray-Mayfield, KY

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

Waivers/Conditions:

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

Conditions:

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

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

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNLH404 **File Number:** **Print Date:** 01-10-2018

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

ULS Application

0009135432 - Verizon Communications Inc.

HELP

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File Number	0009135432	Application Status	Q - Accepted

General Information

Application Purpose	TC - Transfer of Control		
Receipt Date	07/21/2020		
Entered Date	07/21/2020	Action Date	08/13/2020
Waiver	No	Number of Rules	
Attachments	Yes		
Application Fee Exempt	No	Waiver/Deferral Fee	No

Licensee Information

FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership ATTN Regulatory 5055 North Point Pkwy, NP2NE Engineering Alpharetta, GA 30022		P:(770)797-1070 E:Licensing.Compliance@verizonwireless.com
Race		Sex	
Ethnicity			

Licensee Contact Information

Name	Verizon Sarah Trosch 1300 I Street, NW - Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com

Transferor Information

FRN	0003257094 (View Ownership Filing)	Type	Corporation
Name	Verizon Communications Inc. ATTN Sarah Trosch		P:(202)515-2453 E:sarah.trosch@verizon.com

	1300 I Street, NW - Suite 500 East Washington, DC 20005		
Race		Sex	
Ethnicity			

Transferor Contact Information			
Name	Wilkinson Barker Knauer, LLP ATTN Jennifer L. Kostyu 1800 M. St., NW, Suite 800N Washington, DC 20036		P:(202)783-4141 F:(202)783-5851 E:jkostyu@wbklaw.com

Transferee Information			
FRN	0003257094 (View Ownership)	Type	Corporation
Name	Verizon Communications Inc. ATTN Sarah Trosch 1300 I Street, NW - Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com
Real Party In Interest	Cellco Partnership	FRN of Real Party in Interest	0003290673
Race		Sex	
Ethnicity			

Transferee Contact Information			
Name	Wilkinson Barker Knauer, LLP ATTN Jennifer L. Kostyu 1800 M. St., NW, Suite 800N Washington, DC 20036		P:(202)783-4141 F:(202)783-5851 E:jkostyu@wbklaw.com

Transferee Qualifications and Ownership Information
Alien Ownership The Applicant answered "No" to each of the Alien Ownership questions.
Basic Qualifications The Applicant answered "No" to each of the Basic Qualification questions.

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FEDERAL COMMUNICATIONS COMMISSION
Wireless Telecommunications Bureau

Spectrum Leasing Arrangement

09/29/2025

ATTN: REGULATORY
KENTUCKY RSA NO. 1 PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30009

Reference Number:

This approval allows the Lessee to lease spectrum from the Licensee pursuant to the provisions and requirements of Subpart X of Part 1 of the Commission's Rules, 47 C.F.R. Part 1, and as described in the associated spectrum leasing application or notification.

Type of Lease Arrangement	Lease Term	Lease Identifier
Spectrum Manager Lease	Long Term	L000008155

Lease Grant/Accepted Date	Lease Commencement Date	Lease Expiration Date
03/17/2011	03/25/2011	06/13/2029

Call Sign	Radio Service
WQJQ692	WU - 700 MHz Upper Band (Block C)

Lessee Information
0001836709
KENTUCKY RSA NO. 1 PARTNERSHIP
Attn: REGULATORY
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30009

Licensee Information
0003290673
CELLCO PARTNERSHIP
Attn: REGULATORY
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Geographically-Licensed Services		
Market Number	Market Name	Channel Block
REA004	Mississippi Valley	C

Condition:
This lease may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum associated with this leasing agreement, 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 https://www.fcc.gov/wireless/universal-licensing-system and select "License Search". Follow the instructions on how to search for license information.

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.

ULS Application

0008616845 - Kentucky RSA No. 1 Partnership

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MAIN | ADMIN | LEASE INFO | DATES

File Number	0008616845	Application Status	Q - Accepted
Application Purpose	LE - Extend Term of a Lease	Classification of Lease	Spectrum Manager

General Information

Application Purpose	LE - Extend Term of a Lease		
Receipt Date	04/25/2019		
Entered Date	04/25/2019	Action Date	01/16/2020
Waiver	No	Number of Rules	
Attachments	No		
Application Fee Exempt	No	Waiver/Deferral Fee	No

Licensee Information

FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership ATTN Regulatory 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022		P:(770)797-1070 E:LicensingCompliance@verizonwireless.com
Race		Sex	
Ethnicity			

Licensee Contact Information

Name	Verizon Sarah Trosch 1300 I St NW - Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com

Lessee Information

FRN	0001836709 (View Ownership)	Type	General Partnership

Name	Kentucky RSA No. 1 Partnership ATTN Cellco Partnership 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022		P:(770)797-1070 E:LicensingCompliance@verizonwireless.com
Real Party In Interest	Cellco Partnership	FRN of Real Party in Interest	0003290673
Race		Sex	
Ethnicity			

Lessee Contact Information

Name	Verizon Sarah Trosch 1300 I Street, NW - Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com

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RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

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

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
02-22-2022	02-22-2022	11-29-2036	02-23-2022

Market Number	Channel Block	Sub-Market Designator
REA004	F	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.

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

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGA718 **File Number:** 0009793647 **Print Date:** 02-23-2022

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

ULS Application

0011624449 - Trace-Tek

HELP

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MAIN | ADMIN | LEASE INFO | LEASES | DATES | REVENUE

File Number	0011624449	Application Status	G - Granted
Application Purpose	LN - New Lease	Classification of Lease	*De Facto* Transfer

General Information

Application Purpose	LN - New Lease		
Receipt Date	06/27/2025		
Entered Date	06/27/2025	Action Date	07/09/2025
Waiver	No	Number of Rules	
Attachments	Yes		
Application Fee Exempt	No	Waiver/Deferral Fee	No

Licensee Information

FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership ATTN Network Engineering 5055 North Point Pkwy, NP2NE Engineering Alpharetta, GA 30022		P:(770)797-1070 E:Licensing.Compliance@verizonwireless.com
Race		Sex	
Ethnicity			

Licensee Contact Information

Name	Verizon Sarah Trosch 1300 I St, NW- Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com

Lessee Information

FRN	0030856223 (View Ownership)	Type	Limited Liability Company

Name	Trace-Tek ATTN licenses@trace-tek.com 2625 Commons Boulevard Beavercreek, OH 45341		P:(972)672-0477 E:licenses@trace-tek.com
Real Party In Interest	Trace-Tek	FRN of Real Party in Interest	0030856223
Race		Sex	
Ethnicity			

Lessee Contact Information

Name	Trace-Tek Garrett Loo 2625 Commons Boulevard Beavercreek, OH 45341		P:(972)672-0477 E:licenses@trace-tek.com

Lessee Qualifications and Ownership Information

Radio Service Type			
Regulatory Status		Interconnected	

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

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

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
01-03-2022	01-03-2022	11-29-2036	01-05-2022

Market Number	Channel Block	Sub-Market Designator
BEA071	B	0

Market Name
Nashville, TN-KY

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

Waivers/Conditions:

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

Conditions:

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

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

Licensee Name: CELLCO PARTNERSHIP

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

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

ULS Application

AWS (1710-1755 MHz and 2110-2155 MHz) - 0009775569 - Cellco Partnership

HELP

New Search | Refine Search | Printable Page | Reference Copy

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File Number	0009775569	Radio Service	AW - AWS (1710-1755 MHz and 2110-2155 MHz)
Call Sign	WQGA959	Application Status	G - Granted
General Information			
Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	10/26/2021	Action Date	01/03/2022
Entered Date	10/26/2021	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	Yes	Grandfathered Privileges	No
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			
Use Question			

Market Data			
Market	BEA071 - Nashville, TN-KY	Channel Block	B
Submarket Designator	0	Associated Frequencies (MHz)	001720.00000000-001730.00000000 002120.00000000-002130.00000000

Applicant Information			
FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com

Real Party in Interest		FRN of Real Party in Interest	

Contact Information			
Name	Cellco Partnership Licensing Manager 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com

Qualifications, Ownership			
Radio Service Type	Mobile		
Regulatory Status	Common Carrier	Interconnected	Yes
Alien Ownership The Applicant answered "No" to each of the Alien Ownership questions.			
Basic Qualifications The Applicant answered "No" to each of the Basic Qualification questions.			

Demographics			
Race			
Ethnicity		Sex	

Additional Certifications	
Operation/Performance Requirement Certification	
For a site-based license	
Applicant certifies that it is continuing to operate consistent with its most recently filed construction notification (or most recent authorization, if no construction notification was required).	
For a geographic license, commercial service - licensee in its initial license term with an interim performance requirement	
Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance requirement, it continues to use its facilities to provide at least the level of service required by its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.	
For a geographic license, commercial service - licensee in its initial license term with no interim performance requirement	
Applicant certifies that it has met its final performance requirement and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.	
For a geographic license, commercial service - licensee in any subsequent term	
Applicant certifies that it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of any subsequent license terms.	
For a geographic license, private systems - licensee in its initial license term with an interim performance requirement	
Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance	

requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.	
For a geographic license, private systems - licensee in its initial license term with no interim performance requirement	
Applicant certifies that it has met its final performance requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.	
For a geographic license, private systems - licensee in any subsequent term	
Applicant certifies that it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its final performance requirement through the end of any subsequent license terms.	
For a partitioned or disaggregated license without a performance requirement, for the first renewal application filed after 05/30/2020.	
Applicant certifies that the partitioned and/or disaggregated license that is the subject of this renewal application has no separate performance requirement and that this is the first renewal of this license filed subsequent 10/01/2020.	
For a partitioned or disaggregated license without a performance requirement, for any subsequent renewal filings	
Applicant certifies that it continues to use its facilities to provide service or to further the applicant's private business or public interest/public safety needs.	
Discontinuance of Service Certification	
Applicant certifies that no permanent discontinuance of service or operation, as applicable, occurred during its current license term.	
Regulatory Compliance Certification	
Applicant certifies that it has substantially complied with all applicable FCC rules, policies, and the Communications Act of 1934, as amended.	

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ASL Videophone:1-844-432-2275
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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	File Number
WQGA960	0009775572
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
01-03-2022	01-03-2022	11-29-2036	01-05-2022

Market Number	Channel Block	Sub-Market Designator
BEA072	B	0

Market Name
Paducah, KY-IL

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

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 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.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGA960 **File Number:** 0009775572 **Print Date:** 01-05-2022

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

ULS Application

AWS (1710-1755 MHz and 2110-2155 MHz) - 0009775572 - Cellco Partnership

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File Number	0009775572	Radio Service	AW - AWS (1710-1755 MHz and 2110-2155 MHz)
Call Sign	WQGA960	Application Status	G - Granted
General Information			
Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	10/26/2021	Action Date	01/03/2022
Entered Date	10/26/2021	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	Yes	Grandfathered Privileges	No
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			
Use Question			

Market Data			
Market	BEA072 - Paducah, KY-IL	Channel Block	B
Submarket Designator	0	Associated Frequencies (MHz)	001720.00000000-001730.00000000 002120.00000000-002130.00000000

Applicant Information			
FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com

Real Party in Interest		FRN of Real Party in Interest	

Contact Information			
Name	Cellco Partnership Licensing Manager 5055 North Point Pkwy, NP2NE Network Engineering Alpharetta, GA 30022		P:(770)797-1070 F:(770)797-1036 E:LicensingCompliance@VerizonWireless.com

Qualifications, Ownership			
Radio Service Type	Mobile		
Regulatory Status	Common Carrier	Interconnected	Yes
Alien Ownership The Applicant answered "No" to each of the Alien Ownership questions.			
Basic Qualifications The Applicant answered "No" to each of the Basic Qualification questions.			

Demographics			
Race			
Ethnicity		Sex	

Additional Certifications	
Operation/Performance Requirement Certification	
For a site-based license	
Applicant certifies that it is continuing to operate consistent with its most recently filed construction notification (or most recent authorization, if no construction notification was required).	
For a geographic license, commercial service - licensee in its initial license term with an interim performance requirement	
Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance requirement, it continues to use its facilities to provide at least the level of service required by its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.	
For a geographic license, commercial service - licensee in its initial license term with no interim performance requirement	
Applicant certifies that it has met its final performance requirement and it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of the license term.	
For a geographic license, commercial service - licensee in any subsequent term	
Applicant certifies that it continues to use its facilities to provide at least the level of service required by its final performance requirement through the end of any subsequent license terms.	
For a geographic license, private systems - licensee in its initial license term with an interim performance requirement	
Applicant certifies that it has met its interim performance requirement, that over the portion of the license term following the interim performance	

requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its interim performance requirement, it has met its final performance requirement, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.	
For a geographic license, private systems - licensee in its initial license term with no interim performance requirement	
Applicant certifies that it has met its final performance requirement, it continues to use its facilities to further its private business or public interest/public safety communications needs, and it continues to use its facilities to provide at least the level of operation required by its final performance requirement through the end of the license term.	
For a geographic license, private systems - licensee in any subsequent term	
Applicant certifies that it continues to use its facilities to further its private business or public interest/public safety communications needs at or above the level required to meet its final performance requirement through the end of any subsequent license terms.	
For a partitioned or disaggregated license without a performance requirement, for the first renewal application filed after 05/30/2020.	
Applicant certifies that the partitioned and/or disaggregated license that is the subject of this renewal application has no separate performance requirement and that this is the first renewal of this license filed subsequent 10/01/2020.	
For a partitioned or disaggregated license without a performance requirement, for any subsequent renewal filings	
Applicant certifies that it continues to use its facilities to provide service or to further the applicant's private business or public interest/public safety needs.	
Discontinuance of Service Certification	
Applicant certifies that no permanent discontinuance of service or operation, as applicable, occurred during its current license term.	
Regulatory Compliance Certification	
Applicant certifies that it has substantially complied with all applicable FCC rules, policies, and the Communications Act of 1934, as amended.	

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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
WQGD606	0009565676

Radio Service
AW - AWS (1710-1755 MHz and 2110-2155 MHz)

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
12-16-2021	12-16-2021	12-18-2036	07-09-2022

Market Number	Channel Block	Sub-Market Designator
BEA072	C	0

Market Name
Paducah, KY-IL

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

Waivers/Conditions:

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

Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station islicensed under the prior name.

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

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

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGD606 **File Number:** 0009565676 **Print Date:** 07-09-2022

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

ULS Application

0010093348 - Cellco Partnership

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File Number	0010093348	Application Status	Q - Accepted

General Information

Application Purpose	NT - Required Notification		
Existing Radio Service			
Authorization Type		Emergency STA	
Receipt Date	06/16/2022	Action Date	06/17/2022
Entered Date	06/16/2022	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments		Grandfathered Privileges	
Application Fee Exempt	No	Regulatory Fee Exempt	
Major Request			

Applicant Information

FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership 5055 North Point Pkwy, NP2NE Engineering Alpharetta, GA 30022 ATTN Regulatory		P:(770)797-1070 E:Licensing.Compliance@verizonwireless.com
Real Party in Interest		FRN of Real Party in Interest	

Contact Information

Name	Verizon Sarah Trosch 1300 I Street, NW - Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com

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RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

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

Call Sign	File Number
WQJQ692	0008587218
Radio Service	
WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
01-10-2020	06-25-2025	06-13-2029	01-14-2020

Market Number	Channel Block	Sub-Market Designator
REA004	C	0

Market Name
Mississippi Valley

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-13-2013	06-13-2019		

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.

FCC 601-MB
August 2021

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQJQ692 **File Number:** 0008587218 **Print Date:** 01-14-2020

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

ULS Application

0011715806 - Trace-Tek

HELP

New Search | Refine Search | Printable Page | Reference Copy

MAIN | ADMIN | LEASE INFO | LEASES | DATES | REVENUE

File Number	0011715806	Application Status	G - Granted
Application Purpose	LN - New Lease	Classification of Lease	*De Facto* Transfer

General Information

Application Purpose	LN - New Lease		
Receipt Date	09/04/2025		
Entered Date	09/04/2025	Action Date	09/11/2025
Waiver	No	Number of Rules	
Attachments	Yes		
Application Fee Exempt	No	Waiver/Deferral Fee	No

Licensee Information

FRN	0003290673 (View Ownership Filing)	Type	General Partnership
Name	Cellco Partnership ATTN Network Engineering 5055 North Point Pkwy, NP2NE Engineering Alpharetta, GA 30022		P:(770)797-1070 E:Licensing.Compliance@verizonwireless.com
Race		Sex	
Ethnicity			

Licensee Contact Information

Name	Verizon Sarah Trosch 1300 I St, NW- Suite 500 East Washington, DC 20005		P:(202)515-2453 E:sarah.trosch@verizon.com

Lessee Information

FRN	0030856223 (View Ownership)	Type	Limited Liability Company

Name	Trace-Tek ATTN licenses@trace-tek.com 2625 Commons Boulevard Beavercreek, OH 45341		P:(972)672-0477 E:licenses@trace-tek.com
Real Party In Interest	Trace-Tek	FRN of Real Party in Interest	0030856223
Race		Sex	
Ethnicity			

Lessee Contact Information

Name	Trace-Tek ATTN licenses@trace-tek.com 2625 Commons Boulevard Beavercreek, OH 45341		P:(972)672-0477 E:licenses@trace-tek.com

Lessee Qualifications and Ownership Information

Radio Service Type			
Regulatory Status		Interconnected	

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

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EXHIBIT B

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

TIM ROAD
US-KY-5231
1429 JB COPELAND ROAD
SYMSONIA, KY 42082
MARSHALL COUNTY
TENANT: KENTUCKY RSA 1 PSHP
d/b/a VERIZON WIRELESS
"EV TIM ROAD"

FROM EVANSVILLE MTSO: 800 RUSSELL ROAD, CHANDLER, IN 47610: HEAD WEST ON RUSSELL RD (0.2 MI). TURN RIGHT (NORTH) AT THE 1ST CROSS STREET TO STAY ON RUSSELL RD (0.3 MI). TURN LEFT (WEST) ONTO GARDNER RD (1.6 MI). TURN LEFT (EAST) ONTO IN-62 (4.2 MI). USE THE RIGHT LANE TO TAKE THE RAMP ONTO I-69 S (0.3 MI). MERGE ONTO I-69 S (8.1 MI). TAKE EXIT 0 FOR VETERENS MEM PKWY TOWARDS VINCINEES (0.1 MI). TAKE THE RAMP ONTO US-41 S (7.6 MI). SLIGHT LEFT TO STAY ON US-41 S (3.8 MI). CONTINUE ONTO I-69 (80.2 MI). TAKE EXIT 68B TO MERGE ONTO I-24 W/I-69 S TOWARD PADUCAH (16.2 MI). USE THE LEFT TWO LANES TO TAKE EXIT 25A FOR I-69 S TOWARD FULTON. (0.9 MI). CONTINUE ONTO I-69 (8.0 MI). TAKE EXIT 43 TOWARDS KY-348 W (0.4 MI).TURN RIGHT (WEST) ONTO KY-348 W (4.3 MI) TURN LEFT (SOUTH) ONTO JB COPELAND RD. (1.4 MI). TURN LEFT ONTO ARANT ROAD (0.3 MI). DESTINATION WILL BE ON THE RIGHT (WEST).

FROM: MARSHALL COUNTY SEAT: 1101 MAIN STREET, BENTON, KY 42025: HEAD NORTH ON POPLAR ST TOWARD E 11TH ST (0.5 MI). POPLAR ST. TURNS SLIGHTLY LEFT AND BECOMES E 5TH ST (0.6 MI). CONTINUE ONTO KY-348 W (4.7 MI). TURN LEFT (SOUTH) ONTO JB COPELAND ROAD (1.4 MI). TURN LEFT ONTO ARANT ROAD (0.3 MI). DESTINATION WILL BE ON THE RIGHT (WEST).

DIRECTIONS PREPARED BY AUSTIN MILLER (317)-295-3197

NEW 255' SELF SUPPORT TOWER
w/10' LIGHTNING ROD
TOTAL TOWER HEIGHT 265'

750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

PROJECT SUMMARY

TOWER OWNER SITE
TIM ROAD
US-KY-5231

VERIZON WIRELESS SITE
EV TIM ROAD
PROJECT#: 17361069
MARKET ID: INDIANAPOLIS
MDG#: 5000341707

SITE ADDRESS
1429 JB COPELAND ROAD
SYMSONIA, KY 42082
MARSHALL COUNTY
E911 ADDRESS: TBD

TOWER OWNER
THE TOWERS, LLC
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487
CONTACT: ROBERT RODRIGUEZ
PHONE: 561-596-9780
MOBILE: TBD
E-MAIL: ROBERT.RODRIGUEZ
@VERTICALBRIDGE.COM

PROPERTY OWNER
PENNINGTON FAMILY TRUST
1429 JB COPELAND ROAD
SYMSONIA, KY 42082
CONTACT: SCARLETT PENNINGTON
PHONE: 270-493-0600
E-MAIL: SCARLETT.PENNINGTON@GMAIL.COM

POLICE
MARSHALL COUNTY SHERIFF
202 W 5TH ST
BENTON, KY 42025
PHONE: (270) 527-3112

FIRE
MARSHALL COUNTY FIRE DEPT.
301 JACKSON SCHOOL RD,
BENTON, KY 42025
PHONE: (270) 527-7770

GENERAL INFORMATION
LATITUDE - 36° 52' 45.31" N
LONGITUDE - 88° 27' 27.72" W
1983 (NAD83)

ELEVATION - 507.25' AMSL
1988 (NAVD88)

TOWER OWNER LEASE AREA
100'-0" x 100'-0"
(10000 SF)

VERIZON WIRELESS LEASE AREA
16'-8" x 30'-0"
(500 SF)

PROJECT TOTAL DISTURBED AREA
COMPOUND: (6,400 SF) = (.15 ACRE)
ACCESS DRIVE: (3,000 SF) = (.07 ACRE)
GROSS AREA: (9,400 SF) = (.22 ACRE)

PROJECT DESCRIPTION

PROJECT DESCRIPTION:
NOTE: ALL ITEMS WITHIN THESE CONSTRUCTION DOCUMENTS ARE BY TOWER OWNER'S GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS UNLESS NOTED AS (VZW GC) WHICH SHALL INCLUDE VERIZON WIRELESS GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS. GENERALLY DESCRIBED BELOW:

VERTICAL BRIDGE SCOPE:
- INSTALL A NEW 255' SELF SUPPORT TOWER w/ 10' LIGHTNING ROD (TOTAL 265')
- INSTALL A NEW TOWER FOUNDATION SYSTEM
- INSTALL A NEW 80'X80' FENCED GRAVEL COMPOUND
- INSTALL A NEW ELECTRICAL SERVICE RUN TO SITE UTILITY H-FRAME
- INSTALL A NEW GRAVEL ACCESS DRIVE
- NO WATER OR SEWAGE SERVICES RUN TO SITE
- INSTALL NEW TOWER & SITE GROUNDING SYSTEM
- INSTALL NEW VZW SUBSURFACE GROUNDING SYSTEM
- INSTALL A NEW VZW CONCRETE EQUIPMENT AND GENERATOR PADS
- INSTALL VZW ICE BRIDGE AND FOUNDATIONS
- INSTALL VZW EQUIPMENT H-FRAME AND FOUNDATIONS
- INSTALL ELECTRICAL SERVICE CONDUIT WITH PULL TAPES FROM ILC ENCLOSURE STUB-UP TO UTILITY H-FRAME
- INSTALL NEW CONDUITS WITH PULL TAPES FROM VZW ILC STUB-UP LOCATION TO THE GENERATOR STUB-UP AT VZW GENERATOR PAD
- INSTALL (2) 1-1/4" SMOOTHWALL SDR-11 HDPE FIBER OPTIC CONDUITS w/PULL TAPES AND TRACER WIRE FROM "VERIZON WIRELESS ONLY" HAND HOLE OUTSIDE COMPOUND TO VZW EQUIPMENT PAD
- INSTALL (3) NEW "VERIZON WIRELESS ONLY" 1-1/4" SMOOTHWALL SDR-11 HDPE FIBER OPTIC CONDUITS WITH PULL TAPES AND TRACER WIRE FROM NEW "VERIZON WIRELESS ONLY" 24"X36" HAND HOLE OUTSIDE COMPOUND TO NEW "VERIZON WIRELESS ONLY" 24"X36" HAND HOLE AT R.O.W.
- PERMANENT ELECTRIC POWER MUST BE AVAILABLE FOR VERIZON WIRELESS AT THE METER BASE PRIOR TO THE SITE BEING RELEASED AS TENANT READY

VERIZON WIRELESS SCOPE (VZW GC):
- INSTALL VZW PREFABRICATED CANOPY AND FOUNDATIONS
- INSTALL VZW ANTENNA MOUNTING SUPPORT STRUCTURE ON TOWER
- INSTALL VZW ANTENNAS, LINES, COAX, GPS ANTENNA AND RADIO EQUIPMENT
- INSTALL EXISTING SUBSURFACE GROUND LEADS TO VZW EQUIPMENT & FACILITIES
- INSTALL VZW ELECTRIC SERVICE CONDUCTORS FROM UTILITY H-FRAME TO VZW ILC ENCLOSURE
- INSTALL NEW CONDUITS WITH PULL TAPES FROM RF CABINET TO OVP H-FRAME LIT FIBER LOCATION
- INSTALL NEW CONDUITS AND CIRCUITS FROM VZW ILC ENCLOSURE TO EQUIPMENT ENCLOSURES AT VZW EQUIPMENT PAD
- INSTALL VZW GENERATOR CIRCUITS FROM VZW ILC & EQUIPMENT ENCLOSURES TO VZW GENERATOR
- INSTALL NEW OUTDOOR OVPs AND CABLING ON VERIZON EQUIPMENT H-FRAME

APPLICABLE CODES

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 WORK NOT CONFORMING TO THESE CODES.

BUILDING CODE	2018 KENTUCKY BUILDING CODE (IBC 2015)
STRUCTURAL CODE	TIA/EIA-222 - REVISION G (INCLUDES ADDENDUM #2)
MECHANICAL CODE	2015 INTERNATIONAL MECHANICAL CODE (IMC 2015)
PLUMBING CODE	KENTUCKY STATE PLUMBING CODE (815 KAR CHAP. 20)
ELECTRICAL CODE	2023 NATIONAL ELECTRICAL CODE (NEC) - NFPA 70
FIRE/LIFE SAFETY CODE	2015 INTERNATIONAL FIRE CODE (2015 IFC)
ENERGY CODE	2012 INTERNATIONAL ENERGY CODE (COMMERCIAL)
GAS CODE	2012 NATIONAL FUEL GAS CODE (NFPA 54)

ACCESSIBILITY REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2015 IBC BUILDING CODE.

CONSULTANT TEAM

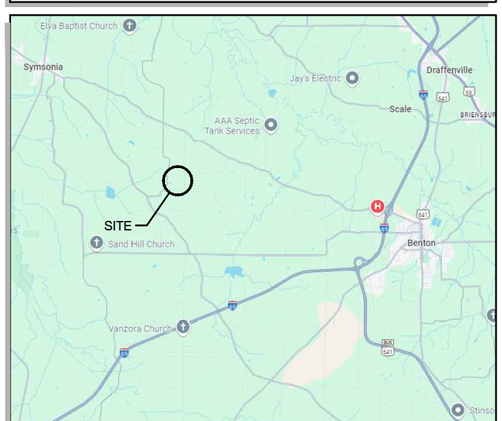
SURVEYOR
BENCHMARK SERVICES, INC.
318 NORTH MAIN ST
HUNTINGBURG, IN 47542
PHONE: 812-683-3049

ENGINEER
GPD GROUP, INC
520 SOUTH MAIN STREET, SUITE 2531
AKRON, OH 44311
CONTACT: TRACI PREBLE,
317-299-2996

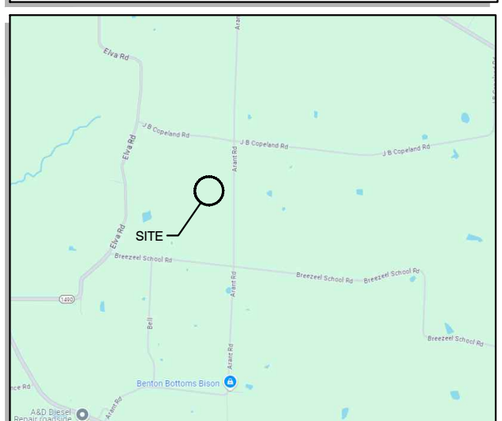
ELECTRICAL
WKRECC
CONTACT: SERVICE INSTALLATION
PHONE: 877-495-7322
EMAIL: TBD

ELECTRICAL UTILITY COORDINATION IS NOT FINALIZED. DO NOT PROCEED WITH CONSTRUCTION.

SHEET NUMBER	DESCRIPTION
T-1	PROJECT INFORMATION, SITE MAPS, SHEET INDEX
	SURVEY PLAN
CIVIL	
P-1	PROPOSED OVERALL SITE PLAN w/AERIAL OVERLAY
P-2	PROPOSED OVERALL SITE PLAN w/EQUIPMENT PAD & TOWER DISTANCE TO PROPERTY LINES
P-3	PROPOSED DETAILED SITE PLAN
P-4	PROPOSED TOWER ELEVATION



VICINITY MAP (© GOOGLE 2025)



LOCATION MAP (© GOOGLE 2025)

AERIAL (© GOOGLE 2025)

GPD GROUP, INC.
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

REV.	DATE	DESCRIPTION
1	03/26/2025	PRELIMINARY DRAWINGS
2	07/29/25	REVISED PER TOWER HEIGHT
3	09/02/25	REVISED PER PIKE LEGAL
4	10/16/25	REVISED PER PIKE LEGAL

STATE OF KENTUCKY
CHRISTOPHER J. SCHEKS
29760
LICENSED PROFESSIONAL ENGINEER
OFFICIAL SEAL
10/17/2025

EV TIM ROAD
1429 JB COPELAND ROAD
SYMSONIA, KY 42082

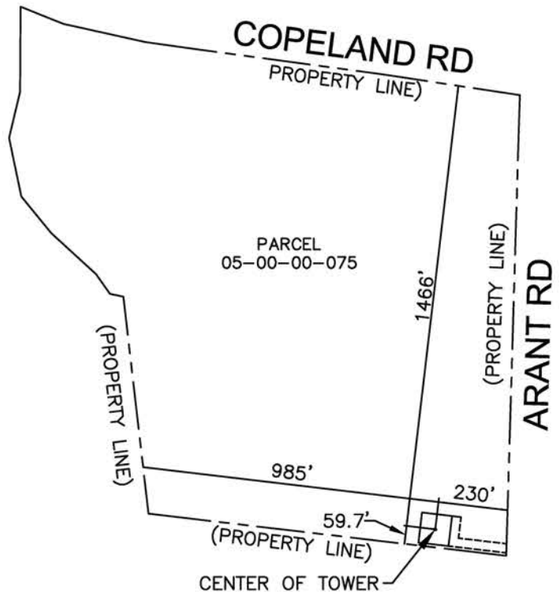
TITLE SHEET

ISSUED FOR:	
REVIEW	---
PERMIT	---
CONSTRUCTION	---
RECORD	---

JOB NO.
2025705.08

T-1

Drawing Name: O:\Telecom\Verizon\5000341707\01 2025705.08 NSB CD VB4_AE\01_Dwg\EV Tim Road LEASE EXHIBIT (US-KY-5231).dwg
October 17, 2025 2:7 PM - skirschner



PARENT PARCEL DETAIL

SCALE: NONE

CENTER OF TOWER COORDINATE POINT LOCATION
NAD 1983
LATITUDE: 36°52'45.31" N (36.87925370)
LONGITUDE: 88°27'27.72" W (-88.45769907)
NAVD 1988
ELEVATION 507.25 AMSL

UTILITIES
TELEPHONE COMPANY: AT&T/MEDIACOM
POWER COMPANY: WKRECC
FIBER PROVIDER: TELCO UG/MEDIACOM FIBER
FIRE CONTACTS: MARSHALL COUNTY FIRE DEPARTMENT
POLICE DEPARTMENT: MARSHALL COUNTY SHERIFF DEPARTMENT

LANDOWNER:
PHILLIP PENNINGTON
SCARLETT PENNINGTON
TRUSTEES OF THE
PENNINGTON FAMILY TRUST
1429 JB COPELAND RD.
SYMSONIA, KY 42082

DEED BOOK 385, PAGE 159

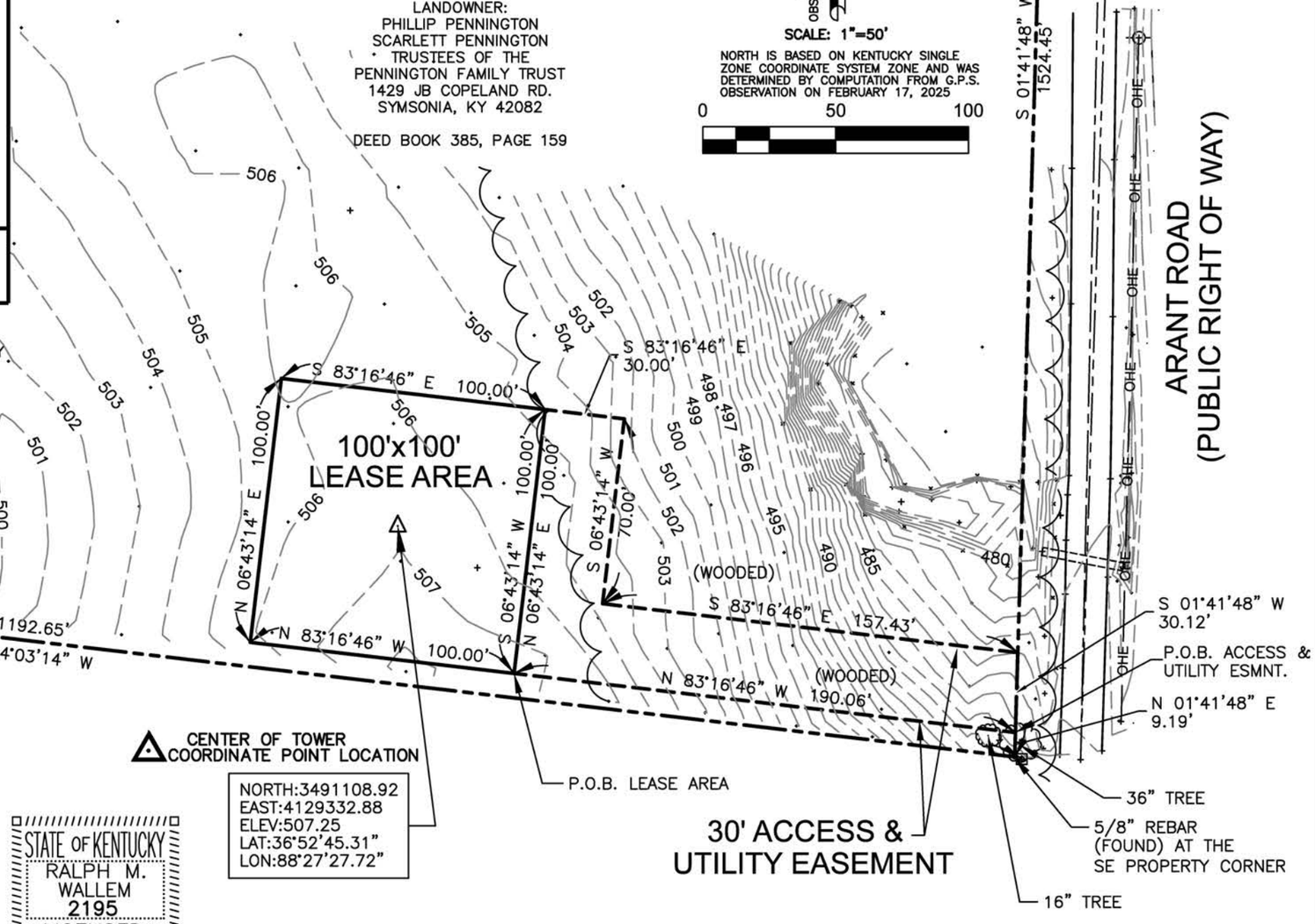
POINT OF COMMENCEMENT
1/2" ROUND STEEL REBAR
25' FROM C/L ARANT RD & 25' FROM
C/L COPELAND RD AT THE NE PROPERTY
CORNER MARSHALL COUNTY, KY

GRID NORTH BY G.P.S. OBSERVATION +/- 10 SECONDS

SCALE: 1"=50'

NORTH IS BASED ON KENTUCKY SINGLE ZONE COORDINATE SYSTEM ZONE AND WAS DETERMINED BY COMPUTATION FROM G.P.S. OBSERVATION ON FEBRUARY 17, 2025

0 50 100



CENTER OF TOWER COORDINATE POINT LOCATION
NORTH:3491108.92
EAST:4129332.88
ELEV:507.25
LAT:36°52'45.31"
LON:88°27'27.72"

GENERAL NOTES:

THE ACCESS & UTILITY EASEMENT TERMINATE AT THE RIGHT OF WAY LINE OF AND ALSO BEING THE PROPERTY LINE OF PARCEL #05-00-00-075

THE LEASE AREA AND EASEMENT LIE ENTIRELY WITHIN THE PARENT PARCEL NO. 05-00-00-075

AT THE TIME OF THE SURVEY, THERE WERE NO VISIBLE ENCROACHMENTS LOCATED ON THE LEASE AREA OR EASEMENTS.

FLOOD NOTE:

THIS PROPERTY APPEARS TO BE IN ZONE "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 21157C0075E WHICH HAS AN EFFECTIVE DATE OF JUNE 2, 2011.

NOTE: FLOOD ZONE INFORMATION SHOWN HEREON IS BASED ON INFORMATION FROM A FEMA SCALED MAP AND GPS OBSERVATION.

LAND SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAT AND SURVEY WERE MADE UNDER MY SUPERVISION AND THAT THE ANGULAR AND LINEAR MEASUREMENTS AS WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Ralph M. Wallem

RALPH M. WALLEM — KY PLS NO. 2195

STATE OF KENTUCKY
RALPH M. WALLEM
2195
LICENSED PROFESSIONAL LAND SURVEYOR

NOTE: THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

verticalbridge
THE TOWERS, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, 33487

BENCHMARK SERVICES, INC.
Consulting Engineers
Land Surveyors
318 North Main Street
Huntingburg, IN 47542
(812) 683-3049
benchmark@mw.twcbc.com

SITE NUMBER: US-KY-5231

SITE NAME: TIM ROAD KY

PARCEL ID NUMBER: 05-00-00-075

LANDOWNER: PHILLIP PENNINGTON, SCARLETT PENNINGTON, TRUSTEES OF THE PENNINGTON FAMILY TRUST, 1429 JB COPELAND RD. SYMSONIA, KY 42082

SITE ADDRESS: 1429 JB COPELAND RD. SYMSONIA, KY 42082

LEASE AREA: 10000 SQ. FT.

DEED BOOK-PAGE DB 385, PG 159

COUNTY: MARSHALL COUNTY

LATITUDE: 36°52'45.31" N
LONGITUDE: 88°27'27.72" W

DWG BY:	CHKD BY:	DATE:
GVW	RMW	3.3.25

NO.	REVISION/ISSUE	DATE:
1.	REVIEW ITEMS	9.23.25
		10.16.25

TITLE: SURVEY PLAN

SHEET: 1 OF 2

DESCRIPTION OF PARENT PARCEL DESCRIPTION-EXHIBIT A

EXHIBIT "A"
Legal Description
The following described land lying in Marshall County, Kentucky, viz,
A 51.18 acre parcel of land located approximately 5 miles west of the Benton community of Marshall County, Kentucky, at the southwest intersection of Arant Road and Copeland Road, and more particularly described as beginning at the northeast comer of the property herein described, said corner being a½" round steel rebar set 25 feet west of the centerline of the Arant Road and 25 feet south of the Copeland Road; thence, South 00° 55' 20" West 1,524.45 feet to a½" round steel rebar set 25 feet west of the Arant Road centerline at the southeast corner of the property herein conveyed; thence, North 84° 03' 14" West 1,192.65 feet along the north line of the Cope property and Joe E. Bell property as described in Deed Book 174, page 38, to a ½" round steel rebar set in the centerline of a ditch at a fence comer. Said point being the southwest corner of the property herein described: thence, North 07° 24' 47" West 722.55 feet and following the meanders of the centerline of the ditch to the intersection of the centerline of two ditches and along the east line of the Charles Vaughn property as described in Deed Book 191, page 529; thence, North 78° 49' 58" West 45.00 feet to a nail in the 24" tree in the ditch; thence, North 36° 11' 14" West 79.85 feet to a point in the centerline of the ditch west of a½" round steel rebar set at a fence comer post; thence, North 48° 13' 40" West 201.17 feet to a point in the centerline of the ditch, 35 feet west of a nail in a fence post in the centerline of an easement granted to the Texas Gas Transmission Corporation as recorded in Deed Book 81, page 535, and an easement granted to the Texas Gas Transmission Corporation recorded in Deed Book 112, page 519; thence, North 40° 03' 05" West 156.85 feet to a point in the centerline of the ditch on the west side of a fence; thence, North 12° 36' 43" West 197.10 feet to a point in the centerline of the ditch; thence, North 12° 32' 13" East 157.01 feet to a ½" round steel rebar set in the centerline of a ditch; thence, North 00° 22' 16" West 282.03 feet to a½" round steel rebar set 25 feet south of the centerline of the Copeland Road, approximately 545 feet east of the intersection of the Copeland Road and the New Harmony Road (Joe Bell Road): thence, South 68° 52' 04" East 152.62 feet to a point in the south right-of-way of the Copeland Road; thence, South 78° 13' 20" East 278.02-feet to a point in the south right-of-way of the Copeland Road; thence, South 82° 46' 14" East 155.67 feet to a point in the south right-of-way of the Copeland Road in the centerline of the previously mentioned Texas Gas Transmission Corporation easement; thence, South 83° 05' 16" East 632.34 feet to a point in the south right-of-way of the Copeland Road; thence, South 82° 10' 47" East 464.65 feet to the point of beginning.

Parcel ID: 05-00-00-075

Being the same property conveyed to Phillip Pennington and Scarlett Pennington, Trustees, of the Pennington Family Trust U/A Dated July 30, 2008 in Deed from Phillip O. Pennington and Scarlett M. Pennington, his wife dated July 30, 2008 and recorded August 1, 2008 in Book 385 Page 159. Phillip Pennington having departed this life on or about February 13, 2020.

Issuing Agent: Tower Title, LLC
Loan ID Number: US-KY-5231
Commitment Number: VTB-185363-C
Issuing Office File Number: VTB-185363-C
Property Address: 1429 J B Copeland Road, Symsonia, KY 42082
Commitment Date: July 30, 2024
The Title is, at the Commitment Date, vested in: Scarlett Pennington, surviving Trustee of the Pennington Family Trust U/A Dated July 30, 2008

SURVEYOR CERTIFICATE

I hereby certify to: Vertical Bridge REIT, LLC, a Delaware limited liability company, its subsidiaries, and their respective successors and/or assigns; and (ii) Toronto Dominion (Texas) LLC, as Administrative Agent, for itself and on behalf of the lenders parties from time to time to that certain Second Amended and Restated Loan Agreement dated June 17, 2016 with Vertical Bridge Holdco, LLC, as borrower, and Vertical Bridge Holdco Parent, LLC, as parent, as may be amended, restated, modified or renewed, their successors and assigns as their interests may appear; and Tower Title, LLC

EFFECTIVE DATE: MAY 6, 2024
RALPH M. WALLEM INDIANA LAND SURVEYOR

RALPH M. WALLEM

DESCRIPTION OF LEASE AREA

A PART OF A PARCEL OF LAND LOCATED ON PARCEL 05-00-00-075, APPROXIMATELY 5 MILES WEST OF THE BENTON COMMUNITY, MARSHALL COUNTY, KENTUCKY, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER, SAID POINT BEING 25 FEET SOUTH OF COPELAND ROAD AND 25 FEET WEST OF ARANT ROAD; THENCE SOUTH 01 DEGREES 41 MINUTES 48 SECONDS (KENTUCKY STATE PLANE COORDINATES SINGLE ZONE) 1524.45 FEET TO AN IRON PIN FOUND AT THE SOUTHEAST PROPERTY CORNER; THENCE NORTH 01 DEGREES 41 MINUTES 48 SECONDS EAST 9.19 FEET; THENCE NORTH 83 DEGREES 16 MINUTES 46 SECONDS WEST 190.06 FEET TO THE SOUTHEAST LEASE CORNER AND BEING THE TRUE PLACE OF BEGINNING; THENCE CONTINUING NORTH 83 DEGREES 16 MINUTES 46 SECONDS WEST 100.00 FEET; THENCE NORTH 06 DEGREES 43 MINUTES 14 SECONDS EAST 100.00 FEET; THENCE SOUTH 83 DEGREES 16 MINUTES 46 SECONDS EAST 100.00 FEET; THENCE SOUTH 06 DEGREES 43 MINUTES 14 SECONDS WEST 100.00 FEET TO THE TRUE PLACE OF BEGINNING AND CONTAINING 10,000 SQUARE FEET, (0.23 ACRES), MORE OR LESS.

DESCRIPTION OF 30' NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT

A PART OF A PARCEL OF LAND LOCATED ON PARCEL 05-00-00-075, APPROXIMATELY 5 MILES WEST OF THE BENTON COMMUNITY, MARSHALL COUNTY, KENTUCKY, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER, SAID POINT BEING 25 FEET SOUTH OF COPELAND ROAD AND 25 FEET WEST OF ARANT ROAD; THENCE SOUTH 01 DEGREES 41 MINUTES 48 SECONDS (KENTUCKY STATE PLANE COORDINATES SINGLE ZONE) 1524.45 FEET TO AN IRON PIN FOUND AT THE SOUTHEAST PROPERTY CORNER; THENCE NORTH 01 DEGREES 41 MINUTES 48 SECONDS EAST 9.19 FEET TO THE TRUE PLACE OF BEGINNING OF THIS ACCESS AND UTILITY EASEMENT; THENCE NORTH 83 DEGREES 16 MINUTES 46 SECONDS WEST 190.06 FEET TO THE SOUTHEAST LEASE CORNER; THENCE NORTH 06 DEGREES 43 MINUTES 14 SECONDS EAST 100.00 FEET TO THE NORTHEAST LEASE CORNER; THENCE SOUTH 83 DEGREES 16 MINUTES 46 SECONDS EAST 30.00 FEET; THENCE SOUTH 06 DEGREES 43 MINUTES 14 SECONDS WEST 70.00 FEET; THENCE SOUTH 83 DEGREES 16 MINUTES 46 SECONDS 157.43 FEET TO THE RIGHT OF WAY LINE; THENCE ALONG SAID RIGHT OF WAY LINE BEARING SOUTH 01 DEGREES 41 MINUTES 48 SECONDS WEST 30.12 FEET TO THE TRUE PLACE OF BEGINNING AND CONTAINING 7762 SQUARE FEET, (0.18 ACRES), MORE OR LESS.

THE ABOVE DESCRIBED PARCELS ARE SUBJECT TO ALL LEGAL RIGHTS OF WAYS AND EASEMENTS OF RECORD.

I CERTIFY THAT THIS PLAT AND SURVEY WERE MADE BY ME UNDER MY SUPERVISION, AND THAT THE ANGULAR AND LINEAR MEASUREMENTS, AS WITNESSED BY MONUMENTS SHOWN HEREON, ARE TRUE AND CORRECT TO THE BEST OF MY ABILITY AND BELIEF. THIS SURVEY AND PLAT MEETS OR EXCEEDS THE MINIMUM STANDARDS OF THE GOVERNING AUTHORITIES.

SURVEYOR STATEMENT-MY COMMENTS ARE BASED SOLELY ON THE TITLE DOCUMENT THAT HAVE BEEN SUPPLIED TO ME BY THE TITLE COMPANY. SINCE THE TITLE DOCUMENTS ARE FURNISHED FOR THE PARENT TRACT, OUR TOPOGRAPHIC SURVEY IS OF A PORTION OF THAT TRACT. MY COMMENTS ARE RESTRICTED TO EXCLUSIONS THAT I CAN DETERMINE AFFECT ONLY OUR PORTION OF THE PARENT TRACT. NO BOUNDARY SURVEY WAS PERFORMED ON THE PARENT TRACT. THUS IT IS NOT POSSIBLE TO DETERMINE WITH CERTAINTY EXCLUSIONS REFERENCING THE PARENT TRACT.

SCHEDULE "B" ITEMS
ITEMS 1 THRU 3 (NOT SURVEYOR RELATED ITEMS)

4. Discrepancies, conflicts in boundary lines, encroachments, overlaps, variations or shortage in area or content, party walls and any other matters that would be disclosed by a correct survey and/or physical inspection of the land. (BENCHMARK SERVICES, INC WAS HIRE TO CREATE LEASE AREA AND ACCESS AND UTILITY EASEMENTS. M=NO BOUNARDY SURVEY WAS PERFORMED)

ITEMS 5 THRU 9 (NOT SURVEYOR RELATED ITEMS)

10. Right of Way Agreement between Van Jelley and Florence Kelley Elva, husband & wife; and Texas Gas
Transmission Corporation, a Delaware corporation, dated May 20, 1948 and recorded June 24, 1948 in (book) 81 (page) 535, in Marshall County, Kentucky. (EASEMENT LIES NORTHEAST OF SITE. DOES NOT AFFECT THE ACCESS & UTILITY EASEMENT,, DOES NOT AFFECT THE LEASE AREA).

11. Agreement between Van Kelley and Florence Kelley, his wife; and Texas Gas Transmission Corporation,
dated January 8, 1964 and recorded January 20, 1964 in (book) 112 (page) 519 (instrument) NA, in Marshall County, Kentucky. (EASEMENT LIES NORTHEAST OF SITE. DOES NOT AFFECT THE ACCESS & UTILITY EASEMENT,, DOES NOT AFFECT THE LEASE AREA).

END OF SCHEDULE B-II

NOTE: THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

vertical bridge
THE TOWERS, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, 33487

BENCHMARK SERVICES, INC.
Consulting Engineers
Land Surveyors
318 North Main Street
Huntingburg, IN 47542
(812) 683-3049
benchmark@mw.twcbc.com

SITE NUMBER: US-KY-5231
SITE NAME: TIM ROAD KY
PARCEL ID NUMBER: 05-00-00-075
LANDOWNER: PHILLIP PENNINGTON SCARLETT PENNINGTON TRUSTEES OF THE PENNINGTON FAMILY TRUST 1429 JB COPELAND RD. SYMSONIA, KY 42082
SITE ADDRESS: 1429 JB COPELAND RD. SYMSONIA, KY 42082
LEASE AREA: 10000 SQ. FT.
DEED BOOK-PAGE DB 385, PG 159
COUNTY: MARSHALL COUNTY
LATITUDE: 36°52'45.31" N
LONGITUDE: 88°27'27.72" W

DWG BY:	CHKD BY:	DATE:
GVW	RMW	3.3.25

NO.	REVISION/ISSUE	DATE:
1.	REVIEW ITEMS	9.23.25
		10.16.25

TITLE: SURVEY PLAN
SHEET: 2 OF 2

LAND SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAT AND SURVEY WERE MADE UNDER MY SUPERVISION AND THAT THE ANGULAR AND LINEAR MEASUREMENTS AS WITNESSED BY MONUMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RALPH M. WALLEM — KY PLS NO. 2195

STATE OF KENTUCKY
RALPH M. WALLEM
2195
LICENSED PROFESSIONAL LAND SURVEYOR

Map Number
05-00-00-061.01
Ownership
DUNIGAN RHONDA A
MAILING ADDRESS
723 BREEZEEL SCHOOL RD
BENTON, KY 42025

Map Number
05-00-00-062.
Ownership
DARDEN BENJAMIN D
MAILING ADDRESS
1585 ELVA RD
SYMSONIA, KY 42082

PROPERTY LINE

Map Number
05-00-00-075.

LANDOWNER:
PHILLIP PENNINGTON
SCARLETT PENNINGTON
TRUSTEES OF THE
PENNINGTON FAMILY TRUST
1429 JB COPELAND RD.
SYMSONIA, KY 42082

DEED BOOK 385, PAGE 159

PROPERTY LINE

Map Number
05-00-00-076.
Ownership
COPE LYNN
MAILING ADDRESS
5049 SLICKBACK RD
BENTON, KY 42025

500'RADIUS

30' ACCESS & UTILITY EASEMENT

100'x100' LEASE AREA

CENTER OF TOWER

500'RADIUS

500'RADIUS

200'R

200'R

PROPERTY LINE

ARANT ROAD

GRID NORTH BY G.P.S.
OBSERVATION +/- 10 SECONDS

SCALE: 1"=200'

NORTH IS BASED ON KENTUCKY SINGLE ZONE COORDINATE SYSTEM ZONE AND WAS DETERMINED BY COMPUTATION FROM G.P.S. OBSERVATION ON FEBRUARY 17, 2025

0 200 400

1
2
3
4
5
6
7
8
9
10

vertical bridge
THE TOWERS, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, 33487

BENCHMARK SERVICES, INC.
Consulting Engineers
Land Surveyors
318 North Main Street
Huntingburg, IN 47542
(812) 683-3049
benchmark@mw.twcbc.com

SITE NUMBER: US-KY-5231

SITE NAME: TIM ROAD KY

PARCEL ID NUMBER: 05-00-00-075

LANDOWNER: PHILLIP PENNINGTON SCARLETT PENNINGTON TRUSTEES OF THE PENNINGTON FAMILY TRUST 1429 JB COPELAND RD. SYMSONIA, KY 42082

SITE ADDRESS: 1429 JB COPELAND RD. SYMSONIA, KY 42082

LEASE AREA: 10000 SQ. FT.

DEED BOOK-PAGE DB 385 PAGE 159

COUNTY: MARSHALL COUNTY

LATITUDE: 36°52'45.31" N
LONGITUDE: 88°27'27.72" W

DWG BY:	CHKD BY:	DATE:
GVW	RMW	3.31.25

NO.	REVISION/ISSUE	DATE:
1.	REVIEW	9.23.25
2.	REVIEW	10.3.25

TITLE: 500' RADIUS & ADJOINER MAP

SHEET: 1 OF 2

1

Map Number
05-00-00-017.01
Ownership
WATKINS GENE AND SHARON
MAILING ADDRESS
639 ARANT RD
BENTON, KY 42025

2

Map Number
05-00-00-016.01
Ownership
WATKINS GENE AND SHARON
MAILING ADDRESS
639 ARANT RD
BENTON, KY 42025

3

Map Number
05-00-00-074.00M00
Ownership
CASE MARLANA
MAILING ADDRESS
1610 J B COPELAND RD
SYMSONIA, KY 42082

4

Map Number
05-00-00-073.
Ownership
ABANATHA LINDA AND LARRY
MAILING ADDRESS
7412 BENTON RD
PADUCAH, KY 42003

5

Map Number
05-00-00-072.03
Ownership
FEEZOR TOMMIE L AND MARILEE ET AL
C/O RALPH T AND ROSEMARY NELSON
MAILING ADDRESS
3795 WADESBORO RD S
BENTON, KY 42025

6

Map Number
05-00-00-079.02
Ownership
TRUSTEE
FISK, KEVIN L

LANNY AND ELLEN FISK IRREVOCABLE TRUST
851 ARANT RD
BENTON, KY 42025

7

Map Number
05-00-00-072.02
NELSON JAMES ZACHARY
MAILING ADDRESS
4525 LOVELACEVILLE FLORENCE STATION RD
PADUCAH, KY 42001

8

Map Number
05-00-00-072
Ownership
FEEZOR TOMMIE L AND
MARILEE ET AL
C/O RALPH T AND
ROSEMARY NELSON
MAILING ADDRESS
3795 WADESBORO RD S
BENTON, KY 42025

9

Map Number
05-00-00-078.01
Ownership
FISK JENNIFER
MAILING ADDRESS
1111 ARANT RD
BENTON, KY 42025

10

Map Number
05-00-00-078
Ownership
FISK JENNIFER
MAILING ADDRESS
1111 ARANT RD
BENTON, KY 42025

SURVEYOR NOTE:

THE OWNER INFORMATION LISTED ON THIS ADJOINER DRAWING WAS OBTAINED FROM THE RECORDS FROM THE MARSHALL COUNTY PVA WEBSITE AS OF 2:00 P.M. MARCH 31, 2025. IF THIS INFORMATION IS TO BE USED FOR LEGAL PURPOSES SUCH AS A LEGAL NOTICE, THE INFORMATION SHOULD BE VERIFIED BY THE PERSON SENDING SAID NOTICE. BENCHMARK SERVICES, INC. ASSUMES NO LIABILITY FOR CHANGES IN INFORMATION AFTER THE LISTED DATE AND TIME.

ADDITIONALLY, ALL BUILDINGS AND STRUCTURES SHOWN HEREON WERE IDENTIFIED FROM GOOGLE EARTH IMAGES. IF SAID STRUCTURES ARE REQUIRED TO BE LABELED FURTHER OR DIMENSIONED A VISIT TO THE SITE WILL BE REQUIRED.

NOTE: THERE ARE NO STRUCTURES WITHIN 500' OF THE CENTER OF THE TOWER LEGS

NOTE: THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

verticalbridge
THE TOWERS, LLC
750 PARK OF COMMERCE DRIVE
SUITE 200
BOCA RATON, 33487

BENCHMARK SERVICES, INC.
Consulting Engineers
Land Surveyors
318 North Main Street
Huntingburg, IN 47542
(812) 683-3049
benchmark@mw.twcbc.com

SITE NUMBER: US-KY-5231

SITE NAME: TIM ROAD KY

PARCEL ID NUMBER: 05-00-00-075

LANDOWNER: PHILLIP PENNINGTON
SCARLETT PENNINGTON
TRUSTEES OF THE
PENNINGTON FAMILY TRUST
1429 JB COPELAND RD.
SYMSONIA, KY 42082

SITE ADDRESS: 1429 JB COPELAND RD.
SYMSONIA, KY 42082

LEASE AREA: 10000 SQ. FT.

DEED BOOK-PAGE DB 385 PAGE 159

COUNTY: MARSHALL COUNTY

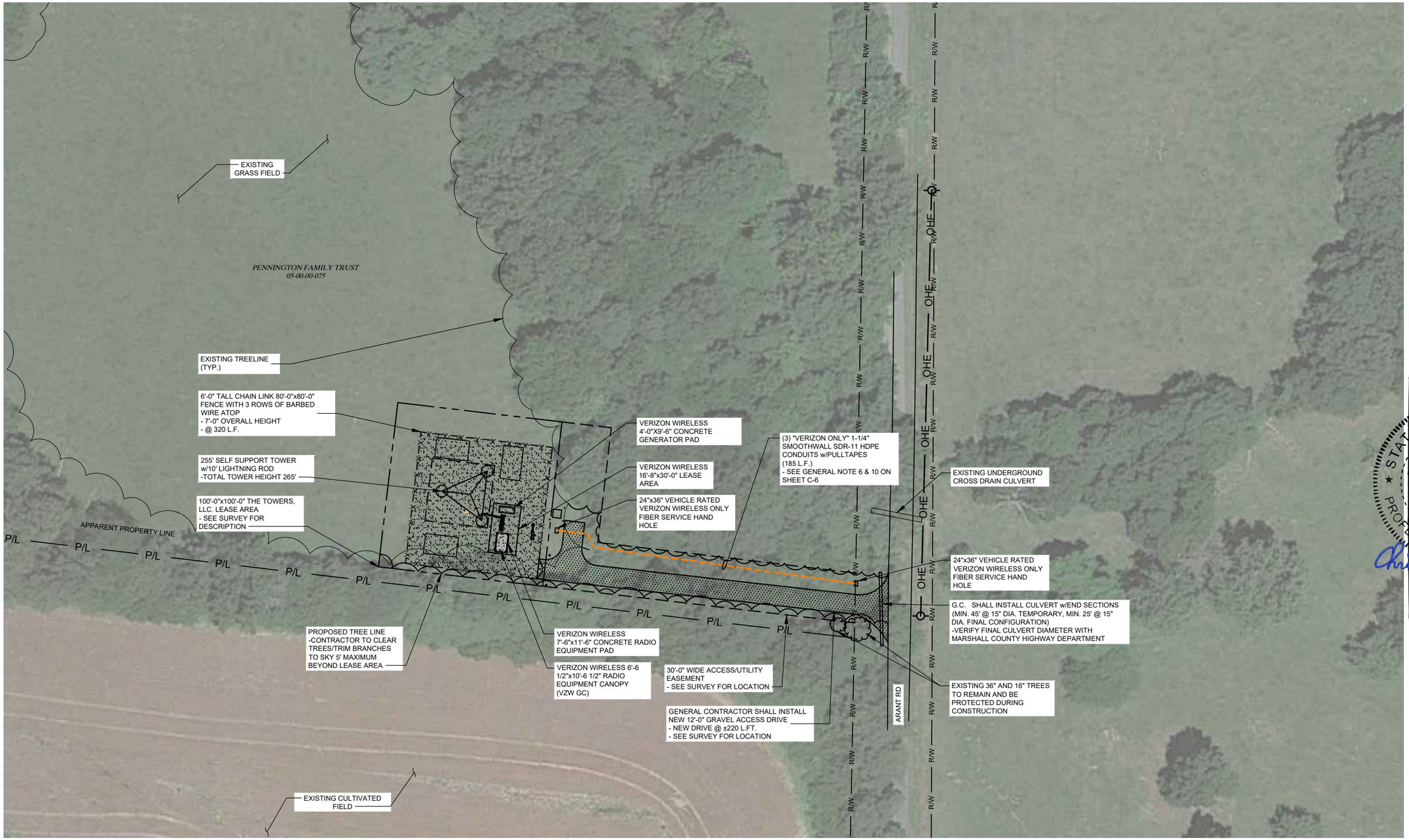
LATITUDE: 36°52'45.31" N
LONGITUDE: 88°27'27.72" W

DWG BY:	CHKD BY:	DATE:
GVW	RMW	3.31.25

NO.	REVISION/ISSUE	DATE:
1.	REVIEW	9.23.25
2.	REVIEW	10.3.25

TITLE: 500' RADIUS & ADJOINER MAP

SHEET: 2 OF 2



Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday - 7 am. to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

GRAPHIC SCALE
60 0 30 60 120

PROPOSED OVERALL SITE PLAN w/AERIAL OVERLAY
SCALE: 1" = 60'

NORTH

GPD GROUP, INC.
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

vertical bridge
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

REV.	DATE	DESCRIPTION
1	03/26/25	PRELIMINARY DRAWINGS
2	07/29/25	REVISED PER TOWER HEIGHT
3	09/02/25	REVISED PER PIKE LEGAL
4	10/16/25	REVISED PER PIKE LEGAL

STATE OF KENTUCKY
CHRISTOPHER J. SCHEKS
29760
LICENSED PROFESSIONAL ENGINEER
SIGNATURE & SEAL
10/17/2025

EV TIM ROAD
1429 JB COPELAND ROAD
SYMSONIA, KY 42082

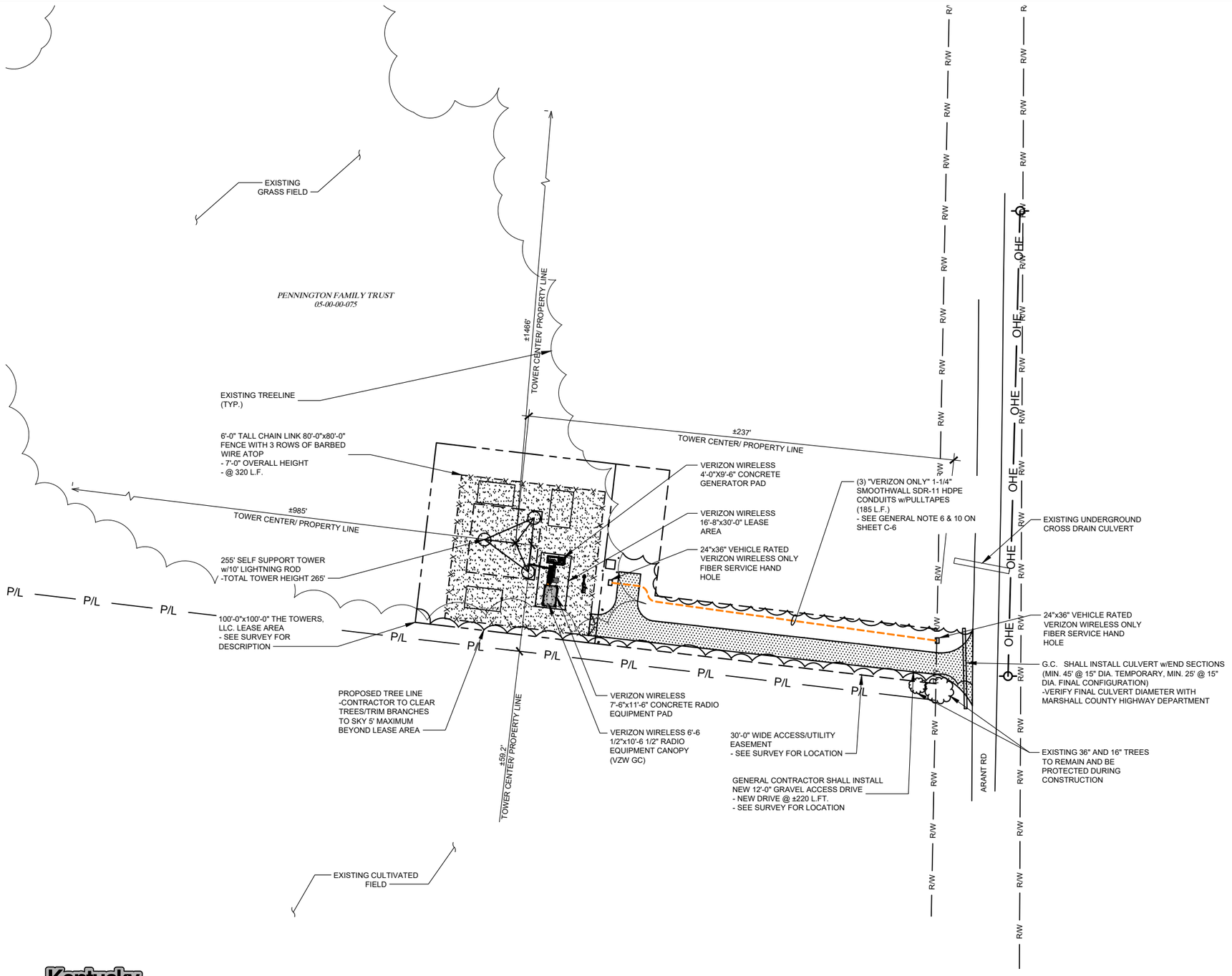
PROPOSED OVERALL SITE PLAN w/ AERIAL OVERLAY

ISSUED FOR:	
REVIEW	---
PERMIT	---
CONSTRUCTION	---
RECORD	---

JOB NO. 2025705.08

P-1

Drawing Name: O:\Telecom\Verizon\500034170701 2025705.08 NSB CD VB4_AE\01_Dwg\EV Tim Road LEASE EXHIBIT (USKY 52311).dwg
October 17, 2025 2:8 PM - skirschner



Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday - 7 am. to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

GRAPHIC SCALE
60 0 30 60 120

PROPOSED OVERALL SITE PLAN w/TOWER DISTANCE TO PROPERTY LINES

SCALE: 1" = 60'

NORTH

GPD GROUP, INC.
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

vertical bridge
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

REV.	DATE	DESCRIPTION
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STATE OF KENTUCKY
CHRISTOPHER J. SCHECKS
29760
LICENSED PROFESSIONAL ENGINEER
10/17/2025

EV TIM ROAD
1429 JB COPELAND ROAD
SYMSONIA, KY 42082

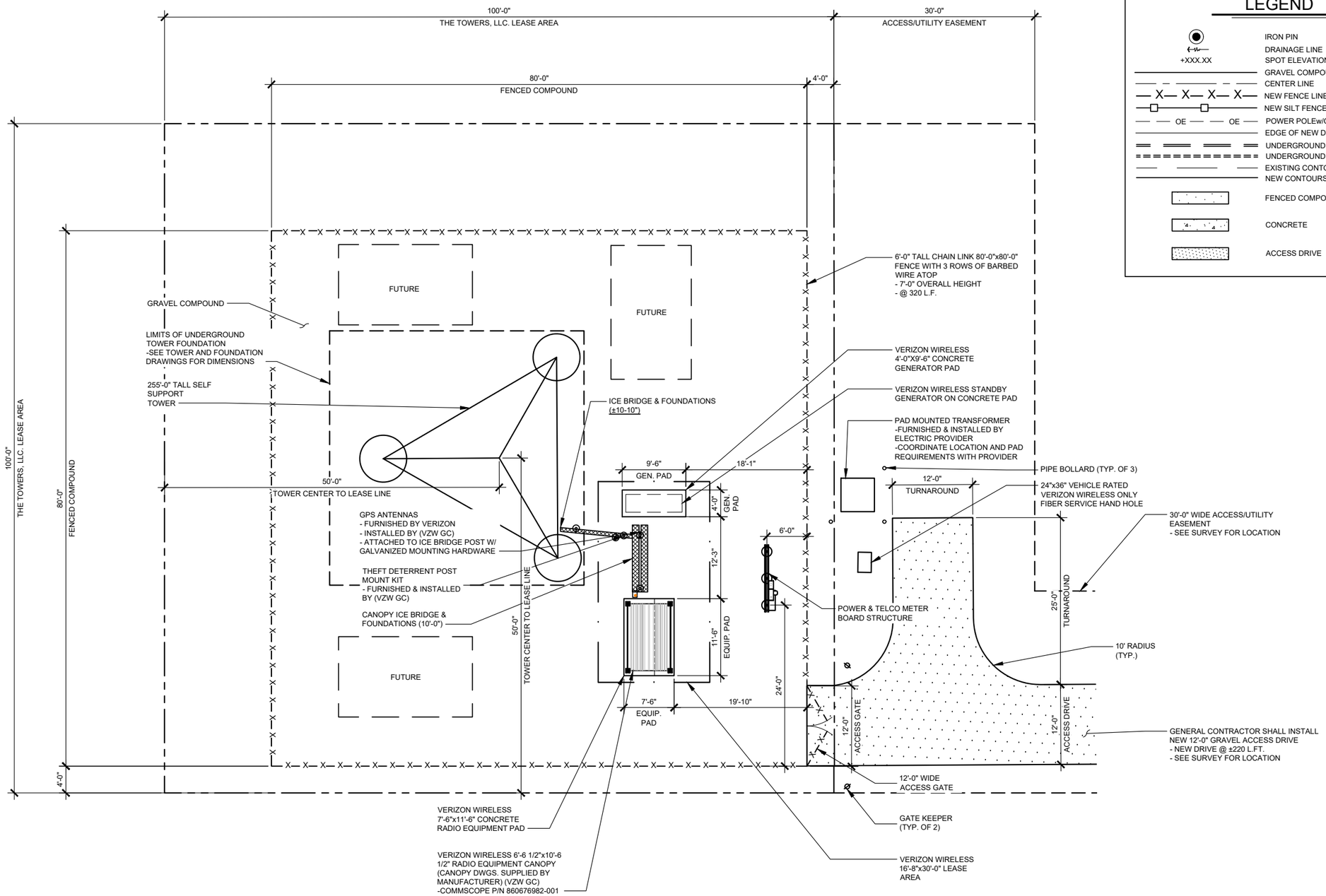
PROPOSED OVERALL SITE PLAN w/EQUIMENT PAD & TOWER DISTANCE TO PROPERTY LINES

ISSUED FOR:	
REVIEW	---
PERMIT	---
CONSTRUCTION	---
RECORD	---

JOB NO. 2025705.08

P-2

Drawing Name: O:\Telecom\Verizon\500034170701 2025705.08 NSB CD VB4_AE01_Dwg\EV Tim Road LEASE EXHIBIT (US-KY-5231).dwg
October 17, 2025 2:8 PM - skirschner



LEGEND

- IRON PIN
- DRAINAGE LINE
- +XXX.XX — SPOT ELEVATION
- GRAVEL COMPOUND
- CENTER LINE
- NEW FENCE LINE
- NEW SILT FENCE LINE
- OE — OE — POWER POLE w/OVERHEAD ELEC./TELE.
- EDGE OF NEW DRIVE
- UNDERGROUND ELECTRICAL CONDUIT
- UNDERGROUND TELEPHONE CONDUIT
- EXISTING CONTOURS
- NEW CONTOURS
- FENCED COMPOUND
- CONCRETE
- ACCESS DRIVE

Kentucky 811
Know what's below. Call before you dig.
Call Monday thru Friday - 7 am. to 6 pm.
1-800-752-6007
PER KENTUCKY STATE LAW, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

*NOTE:
GENERAL CONTRACTOR IS TO INSURE THERE IS NO DISTURBANCE OF PROPERTY, SOIL, ETC. OUTSIDE OF THE STAKED LEASE AREA WITHOUT APPROVAL FROM VERIZON WIRELESS CONSTRUCTION MANAGER

PROPOSED
DETAILED SITE PLAN
SCALE: 1/16" = 1'-0"

NORTH

GPD GROUP, INC.
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

verticalbridge
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

REV.	DATE	DESCRIPTION
1	03/26/25	PRELIMINARY DRAWINGS
2	07/29/25	REVISED PER TOWER HEIGHT
3	09/02/25	REVISED PER PIKE LEGAL
4	10/16/25	REVISED PER PIKE LEGAL

COMMONWEALTH OF KENTUCKY
CHRISTOPHER SCHEKS
29760
LICENSED PROFESSIONAL ENGINEER
OFFICIAL SEAL
10/17/2025

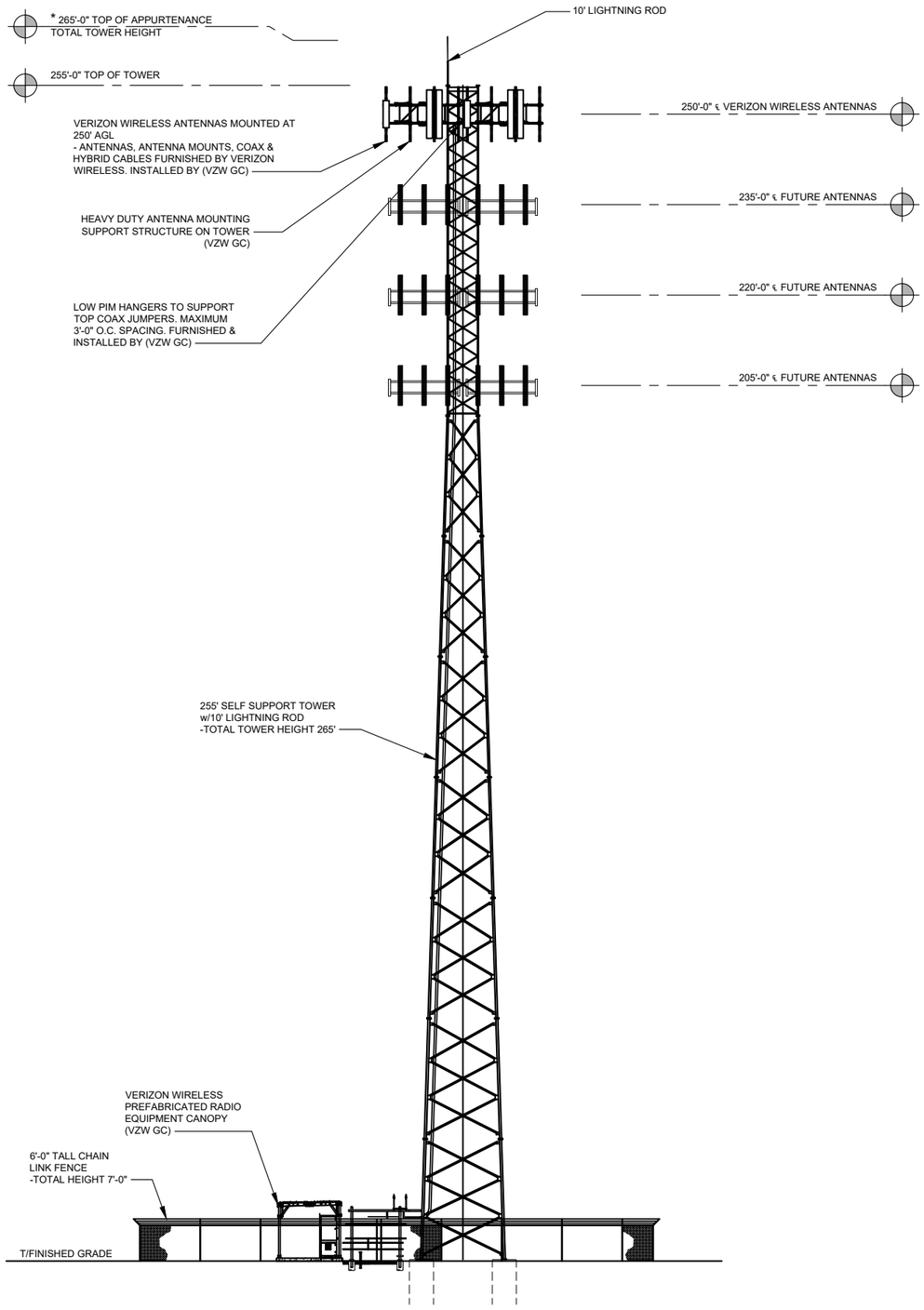
EV TIM ROAD
1429 JB COPELAND ROAD
SYMSONIA, KY 42082

PROPOSED DETAILED SITE PLAN

ISSUED FOR:	
REVIEW	---
PERMIT	---
CONSTRUCTION	---
RECORD	---

JOB NO.
2025705.08

P-3



PROPOSED TOWER ELEVATION

SCALE: N.T.S.

GPD GROUP, INC.
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

verticalbridge
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

REV.	DATE	DESCRIPTION
1	03/26/25	PRELIMINARY DRAWINGS
2	07/29/25	REVISED PER TOWER HEIGHT
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STATE OF KENTUCKY
CHRISTOPHER J. SCHEKS
29760
LICENSED PROFESSIONAL ENGINEER
OFFICIAL SEAL
10/17/2025

EV TIM ROAD
1429 JB COPELAND ROAD
SYMSONIA, KY 42082

PROPOSED TOWER ELEVATION

ISSUED FOR:	
REVIEW	---
PERMIT	---
CONSTRUCTION	---
RECORD	---

JOB NO.
2025705.08

P-4

EXHIBIT C

CONSTRUCTION MANAGER LETTER
LIST OF QUALIFIED PROFESSIONALS
TOWER AND FOUNDATION DESIGN

October 21, 2025

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

RE: Site Name – Tim Road KY (US-KY-5231)
Proposed Cell Tower
36° 52’ 45.31” North Latitude, 88° 27’ 27.72” West Longitude

Dear Commissioners:

The Construction Manager for the proposed new communications facility will be Adam Johnson. His contact information is (843) 817-8279 or adam.johnson@verticalbridge.com

Adam has been in the industry completing civil construction and constructing towers since 2017. He has worked at Vertical Bridge since 2017 completing project and construction management on new site build projects.

Thank you,

Adam Johnson

Adam Johnson, Construction Manager – KY/TN/NC/SC/VA Market
The Towers, LLC
(843) 817-8279

Tim Road – List of Qualified Professionals

Jason M. Lambert
Licensed Professional Engineer, License No. 28217
Professional Engineer
Nello Corporation
1201 S Sheridan St
South Bend, IN 46619

Joseph V. Borrelli
Licensed Professional Engineer, License No. 30809
Geotechnical Engineer
Delta Oaks Group
2724 Discovery Dr, Suite 110 & 120
Raleigh, NC 27616

Ralph M. Wallen
Licensed Professional Land Surveyor, License No. 2195
Benchmark Services, Inc.
318 North Main St
Huntingburg, IN 47542

Antonino Ramos
RF Engineer
2421 Holloway Road
Louisville, KY 40299

Adam Johnson
Construction Manager
The Towers, LLC
750 Park of Commerce Drive, Suite 200
Boca Raton, FL 33487

Christopher Scheks
Licensed Professional Engineer, License No. 29760
GPD Group, Inc.
520 South Main Street, Suite 2531
Akron, OH 44311

N E L L O

1201 S Sheridan St
South Bend, IN 46619

Phone: 574-288-3632
Fax: 574-288-5860
www.nelloinc.com

August 20, 2025

Vertical Bridge, LLC
750 Park of Commerce Drive, Suite 200
Boca Raton, FL 33487

Re: Nello Tower Fall Radius - Nello 255.3' NSX Lattice Self-Support Tower
Project Name: US-KY-5231 / Tim Road KY, Marshall Co., Kentucky
Nello Job #: SO33750
Tower Drawing #: 804382

To Whom It May Concern:

This letter is regarding your inquiry about the expected performance of your proposed tower designed by Nello based on site-specific criteria.

Our towers are designed to meet or exceed industry standards defined by TIA-222-H, "Structural Standards for Antenna Supporting Structures and Antennas" (TIA Standard). It is our opinion that the possibility of a tower collapse is very unlikely. The tower is designed using extreme wind and ice conditions. In fact, wind speeds specified by the TIA Standard are 50-year wind speeds. That is, they have only a 2% statistical chance of occurring in any given year.

This tower has been designed using the following wind conditions as a minimum: a 106 mph 3-second gust wind speed with no ice and a 30 mph 3-second gust wind with 1.5" ice. The TIA Standard specifies 106 mph as the wind speed required for this site in Marshall County, Kentucky. The "3-second gust wind speed" refers to a wind measured at 33 feet above the ground. Equations in the TIA Standard take into account that wind speed escalates with increasing height of the tower.

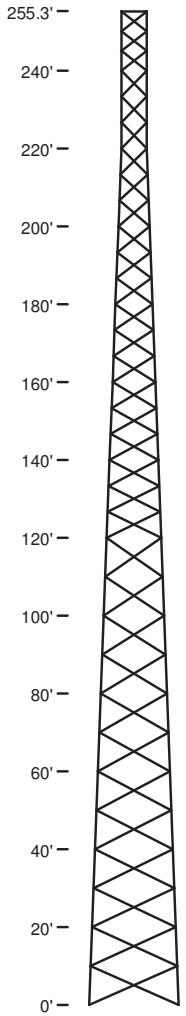
Although we cannot guarantee exactly how a tower would fall if it were to fail, the most likely mode of failure would be a buckling failure of one of the tower sections due to excessive wind loading. The tower leg with the highest stress ratio is located at the 160' – 180' level. The stress ratio in that leg is calculated to be 97.0% of the code-permitted design loading. Given that the tower section with the highest stress ratio will most likely fail first, the proposed tower would fail at the 160' level with the top 95.3' of the tower collapsing. Depending on the conditions at the time of failure and the stress levels in structural material below, the top 95.3' of the tower would likely fall within a 0' fall radius.

The fall radius statement above assumes proper foundation construction and tower installation. The foundation design should be reviewed to ensure that no foundation limit state governs the entire structural system and negates the fall radius design. The fall radius expectancy requires that the foundation be designed with a capacity greater than that of the tower capacity. If the foundation design used in association with this tower is performed by a third party, Nello must be provided the opportunity to review the design in order to confirm that the fall radius remains satisfactory. If for some reason Nello does not provide the tower design, or is not given the opportunity to design or review the foundation for this specific project, the content of this letter becomes void.

If you have any other questions or concerns regarding the design of your site-specific tower, please contact our engineering or sales department.

Sincerely,

Jason M. Lambert, PE
Vice President of Engineering



Self-Supporting Tower Section Data

Section Number	Bottom Elevation (ft)	Top Elevation (ft)	Model	Bottom Face Width (ft)	Top Face Width (ft)	Number of Panels	Leg Size (in)	Diagonal Size (in)	Girt Size (in)	Mid-Horizontal Size (in)	Redundant Horizontal Size (in)	Redundant Diagonal Size (in)
13	240	255.3	NSX	6.5	6.5	3	P2x.154	L2x2x1/8	L2x2x1/8			
12	220	240	NSX	6.5	6.5	3	P3.5x.226	L2x2x3/16				
11	200	220	NSX	8.0	6.5	3	P5x.258	L2x2x3/16				
10	180	200	NSX	9.5	8.0	3	P6x.28	L2x2x3/16				
9	160	180	NSX	11.0	9.5	3	P6x.28	L2 1/2x2 1/2x3/16				
8	140	160	NSX	12.5	11.0	3	P8x.322	L2 1/2x2 1/2x3/16				
7	120	140	NSX	14.0	12.5	3	P8x.322	L2 1/2x2 1/2x3/16				
6	100	120	NSX	15.5	14.0	2	P10x.365	L3x3x3/16				
5	80	100	NSX	17.0	15.5	2	P10x.365	L3x3x1/4				
4	60	80	NSX	18.5	17.0	2	P10x.365	L3 1/2x3 1/2x1/4				
3	40	60	NSX	20.0	18.5	2	P10x.365	L3 1/2x3 1/2x1/4				
2	20	40	NSX	21.5	20.0	2	P12x.375	L3 1/2x3 1/2x1/4				
1	0	20	NSX	23.0	21.5	2	P12x.375	L4x4x1/4				

Tower Reactions

No Ice
Shear: 58.7 kips
Moment: 9399.60 ft-kips
Weight: 71.4 kips

With Ice
Shear: 7.5 kips
Moment: 1262.60 ft-kips
Weight: 160.5 kips

Leg Reactions
Compression: 495.7 kips
Uplift: -433.2 kips
Shear: 37.5 kips

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
PROFESSIONAL ENGINEER

08/22/2025

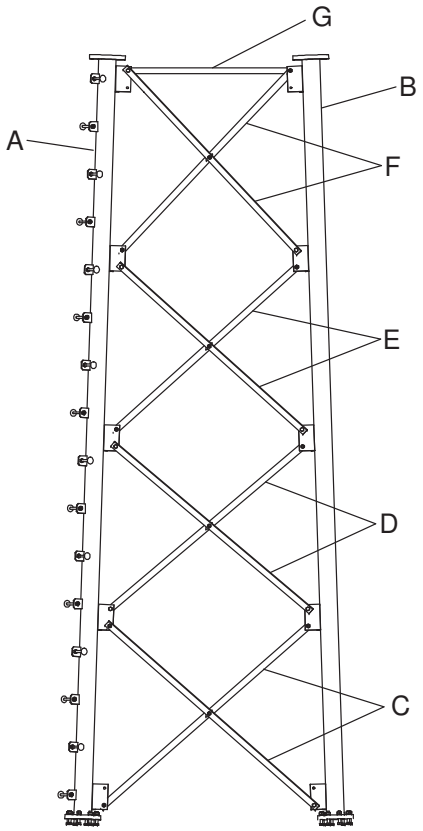
REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/20/2025 | DWG NO: 804382
DWG. PROG: v2.05 | SHEET: 1 OF 6

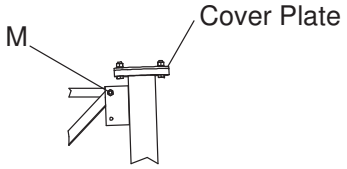
TITLE:
The Towers, LLC
NSX 23' X 255.3'
US-KY-5231 / Tim Road KY
Marshall Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

NSX Section Legend:
A. Climbing Leg
B. Non-Climbing Leg
C. Diag., Panel 1
D. Diag., Panel 2
E. Diag., Panel 3
F. Diag., Panel 4
G. Top Girt
H. Spacer
J. Leg Bolts
K. Diagonal Bolts
L. Stitch Bolts
M. Top Girt Bolts



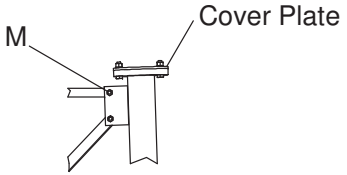
NSX Section Detail



One plain nut and one lockwasher per bolt.

Detail A: NSX Top Connection

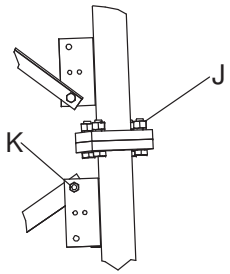
*Applicable to all 20 ft Sections.
*Applicable to all Sections Shorter than 20 ft and are Straight.



One plain nut and one lockwasher per bolt.

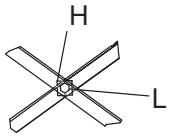
Detail B: NSX Top Connection

*Applicable to all Sections Shorter than 20 ft that are Tapered Sections.



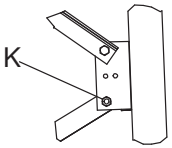
One plain nut and one lockwasher per bolt.

NSX Leg Connection



One plain nut and one lockwasher per bolt.

NSX Spacer Detail



One plain nut and one lockwasher per bolt.

NSX Bracing Detail

1. A part number is stamped on the bottom footpad of each leg.
2. A part number is stamped and /or labeled on the bottom end of each angle.
3. Be sure to place diagonal bracing angles in correct positions, angles in the top panel may be longer than they are in the middle panel.
4. The bolt head must bear against the angle bracing.

08/22/2025

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/20/2025
DWG NO: 804382
DWG. PROG: v2.05
SHEET: 2 OF 6

TITLE:
The Towers, LLC
NSX 23' X 255.3'
US-KY-5231 / Tim Road KY
Marshall Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

NSX Section Part Numbers

Item	Elevation	Climbing Leg (A)	Non-Climbing Leg (B)	Diagonal - Panel 1 (C)	Diagonal - Panel 2 (D)	Diagonal - Panel 3 (E)	Diagonal - Panel 4 (F)	Top Girt (G)	Spacer (H)
13	240' - 255.3'	141464		167372	167373	167372		167279	132233
12	220' - 240'	141518		634710	634711	634710			132233
11	200' - 220'	141264		167216	167217	167218			132233
10	180' - 200'	141267		166855	166856	166857			132233
9	160' - 180'	129729		167243	167244	167245			132233
8	140' - 160'	129695		168102	168103	168104			132233
7	120' - 140'	129705		167978	167979	167980			132233
6	100' - 120'	129736		167034	167035				132233
5	80' - 100'	129736		166977	166978				132233
4	60' - 80'	129736		166966	166967				132233
3	40' - 60'	129744		166964	166965				132233
2	20' - 40'	129751		167620	167621				132233
1	0' - 20'	757740		167501	167502				132233

NSX Section Hardware

Item	Elevation	Leg Bolts (J)	Diagonal Bolts (K)	Stitch Bolts (L)	Top Girt Bolts (M)	Section Weight (Lbs.)
13	240' - 255.3'	(24) 3/4" x 3-1/2"	(36) 1/2" x 1-1/2"	(9) 1/2" x 1-1/2"	(6) 1/2" x 1-1/2"	740
12	220' - 240'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		1340
11	200' - 220'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		1690
10	180' - 200'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		2020
9	160' - 180'	(24) 1" x 3-3/4"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		2280
8	140' - 160'	(24) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		3030
7	120' - 140'	(30) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		3200
6	100' - 120'	(30) 1" x 3-3/4"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		3880
5	80' - 100'	(30) 1" x 3-3/4"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		4210
4	60' - 80'	(30) 1" x 3-3/4"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		4510
3	40' - 60'	(48) 1" x 4-1/2"	(24) 3/4" x 2-1/4"	(6) 3/4" x 2-1/4"		4740
2	20' - 40'	(48) 1" x 4-1/2"	(24) 1" x 2-1/4"	(6) 1" x 2-3/4"		5410
1	0' - 20'	0	(24) 1" x 2-1/4"	(6) 1" x 2-3/4"		5890

STATE OF KENTUCKY
JASON MARK LAMBERT
No. 28217
PROFESSIONAL ENGINEER

08/22/2025

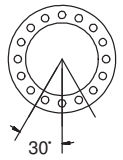
REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/20/2025 | DWG NO: 804382

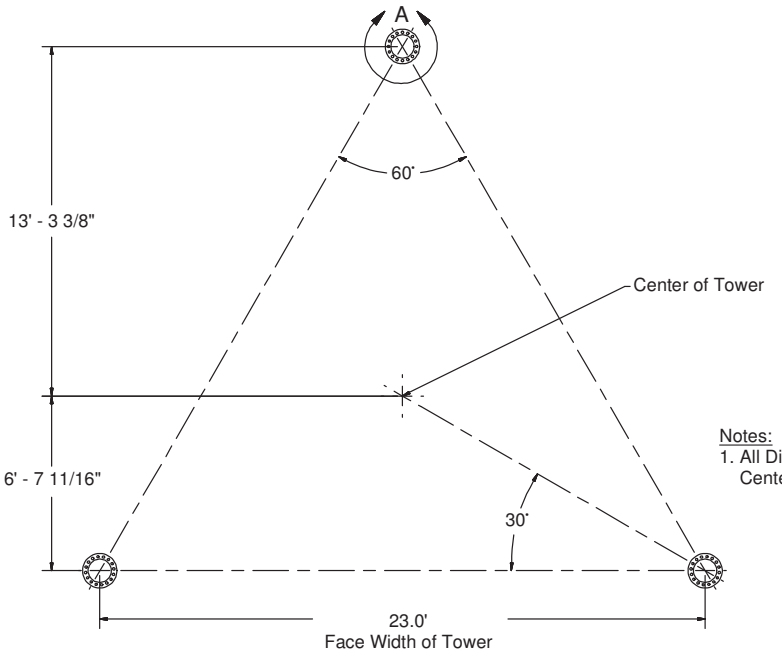
DWG. PROG: v2.05 | SHEET: 3 OF 6

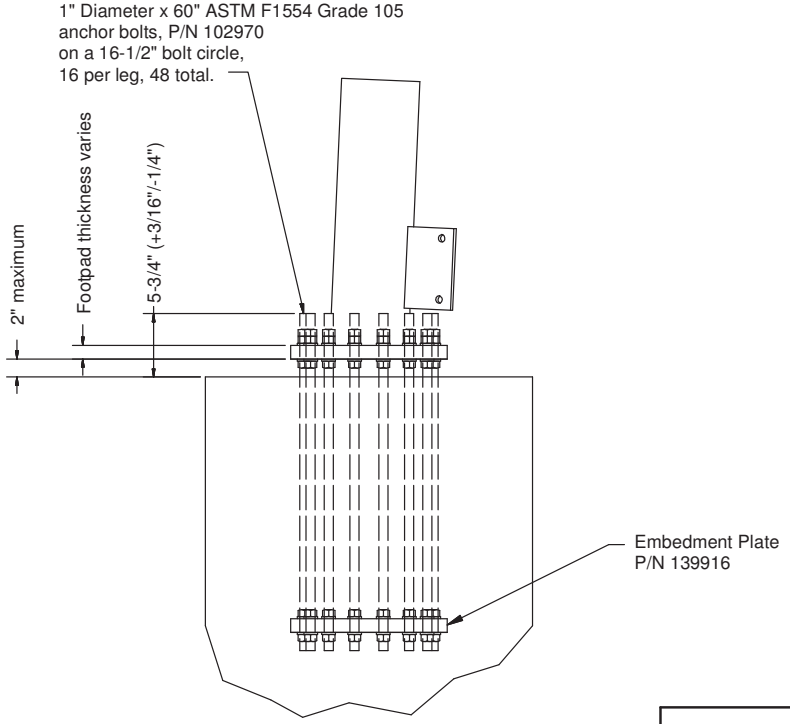
TITLE:
The Towers, LLC
NSX 23' X 255.3'
US-KY-5231 / Tim Road KY
Marshall Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



DETAIL A
Bolt hole must be aligned with center of tower.





Notes:
1. All Dimensions are from Center of Bolt Circles.

STATE OF KENTUCKY
JASON MARK LAMBERT
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PROFESSIONAL ENGINEER

08/22/2025

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/20/2025	DWG NO: 804382
DWG. PROG: v2.05	SHEET: 4 OF 6

TITLE:
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NSX 23' X 255.3'
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Marshall Co., KY

NELLO
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South Bend, IN 46619
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Fax: (574)288-5860

Antenna Loading

Height	Qty.	Description
250'	1	42,000 sq in CaAa
239'	1	30,000 sq in CaAa
229'	1	30,000 sq in CaAa
205'	1	Dish Pipe Mount

Feedline Loading

Height	Qty.	Description
0' - 255'	1	1'' Conduit
0' - 250'	18	LDF7-50A (1-5/8 FOAM)
0' - 239'	12	LDF7-50A (1-5/8 FOAM)
0' - 229'	12	LDF7-50A (1-5/8 FOAM)
0' - 205'	1	EW63

Dish Loading

Height	Qty.	Description
205'	1	6' Dish with Radome

08/22/2025

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/20/2025 | DWG NO: 804382

DWG. PROG: v2.05 | SHEET: 5 OF 6

TITLE:
The Towers, LLC
NSX 23' X 255.3'
US-KY-5231 / Tim Road KY
Marshall Co., KY

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Tower Notes:

1. Tower is designed per TIA-222-H, “Structural Standard for Antenna Supporting Structures, Anennas and Small Wind Turbine Support Structures,” for the following loading conditions:
   106 mph 3-second gust ultimate wind speed with no ice per ASCE 7-16
   30 mph 3-second gust basic wind speed with 1-1/2 inch basic ice thickness per ASCE 7-16
   Risk Category: II
   Exposure Category: C
   Topographic Category: 1
   Crest Height: 0 feet
2. A tower field inspection shall be performed in order to verify that design exposure and topographic parameters are consistent with the existing tower site conditions.
3. Tower design includes the antennas, dishes, and/or lines listed in the appurtenance loading tables on sheet 5.
4. Antenna mounting pipes may need to be field cut to match the lengths listed in the appurtenance loading tables on sheet 5.
5. Tower member design does not include stresses due to erection since erection equipment and procedures are unknown. Tower installation shall be performed by competent and qualified erectors in accordance with TIA-222-H and OSHA standards and all applicable building codes.
6. Field connections shall be bolted. No field welds shall be allowed unless otherwise noted.
7. Structural bolts shall conform to ASTM A325, except for 1/2 inch diameter and smaller bolts, which shall conform to ASTM A449 or SAE J429 Grade 5.
8. Structural steel and connection bolts shall be galvanized after fabrication in accordance with TIA-222-H.
9. All high strength bolts shall be tightened to a "snug tight" condition as defined in the RCSC "Specification for Structural Joints Using ASTM A325 or A490 Bolts."
10. Tower shall be marked and lighted in conformance with local building codes, FAA regulations, and TIA-222-H.
11. Tower shall be grounded in conformance with local building codes and TIA-222-H. Evaluation of protective grounding and consideration for special grounding systems shall be performed by others.
12. Allowable tolerance on as-built tower steel height is plus 1% or minus 1/2%.
13. Maintenance and inspection shall be performed over the life of the structure in accordance with TIA-222-H.
14. Material specifications:
    Self Supporting Pipe Legs - ASTM A500 Grade 50
    Angle Bracing - ASTM A529 Grade 50
    Leg Footpads - ASTM A572 Grade 50
    Leg Side Plates - ASTM A36 (Min)
15. Remove anchor bolt template before erecting tower.
16. Concrete contractor shall be responsible for properly aligning anchor bolts and materials before and after placing concrete, regardless of whether an anchor bolt template is provided.

08/22/2025

REV	BY	DATE	DESCRIPTION

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DWG. PROG: v2.05 | SHEET: 6 OF 6

TITLE:
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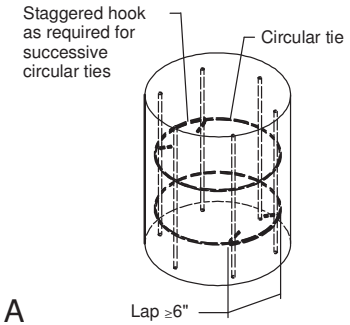
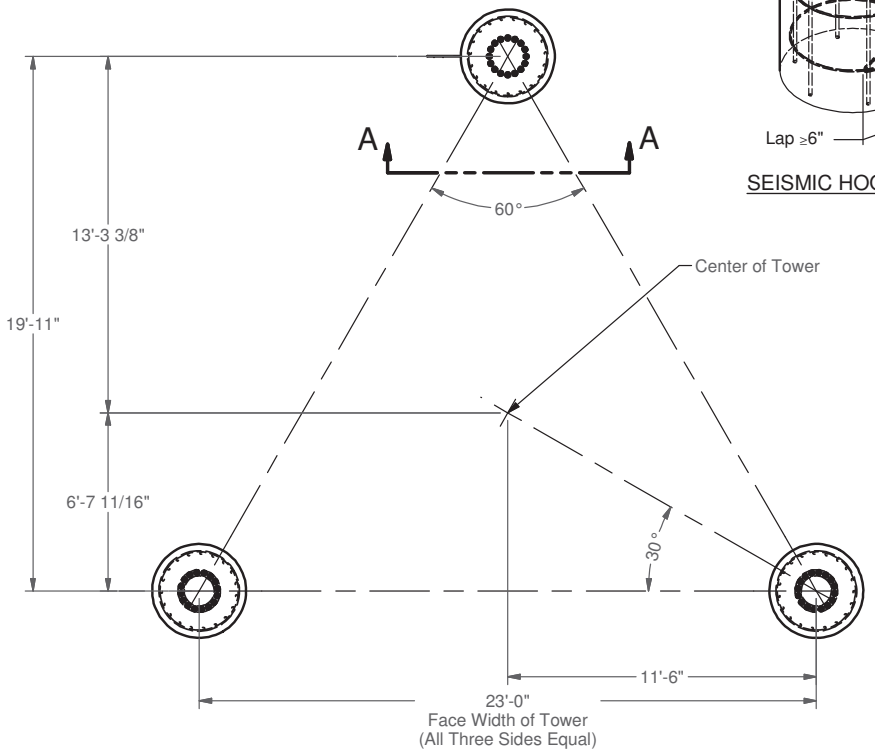
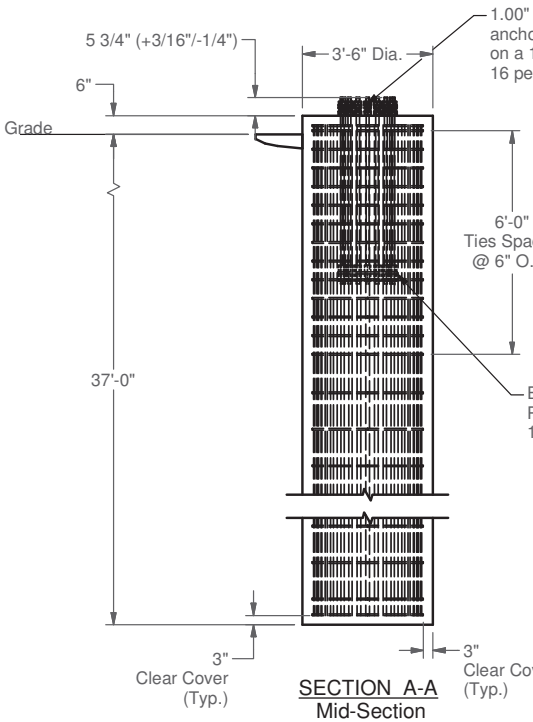


SEISMIC HOOK DETAIL



PLAN VIEW
DRILLED PIER FOUNDATION
ONE PIER PER LEG, THREE TOTAL
(CONCRETE VOLUME: 13.4 CU. YD. PER PIER, 40.1 CU. YD. TOTAL)



SECTION A-A
Mid-Section
on One Pier

CAUTION:
1. Ensure that all anchor bolt nuts are tightened.
2. Ensure that all three face width dimensions
(pier center to pier center)
are measured and verified before pouring concrete.

Concrete Compressive Strength, f'c = 4500 psi

#9 reinforcing bars,
444.00" long,
spaced at 5.6" O.C. around inside of ties.
19 per pier, 57 total.

#4 reinforcing bars,
130.00" long before being bent into circle with
36.00" outer diameter and 6.00" overlap
w/ 3" long 135 degree seismic hooks
alternated each successive tie,
Top 2 ties spaced at 1.625" O.C.
Next 12 ties spaced at 6" O.C.
Bottom 2 ties spaced at 5" O.C.
Remainder of ties spaced at 11.75" O.C.
46 per pier, 138 total.

08/22/2025

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/21/2025	DWG NO: 804383
DWG. PROG: v2.05	SHEET: 1 OF 3

TITLE:
The Towers, LLC
NSX 23' X 255.3'
US-KY-5231 / Tim Road KY
Marshall Co., KY

NELLO
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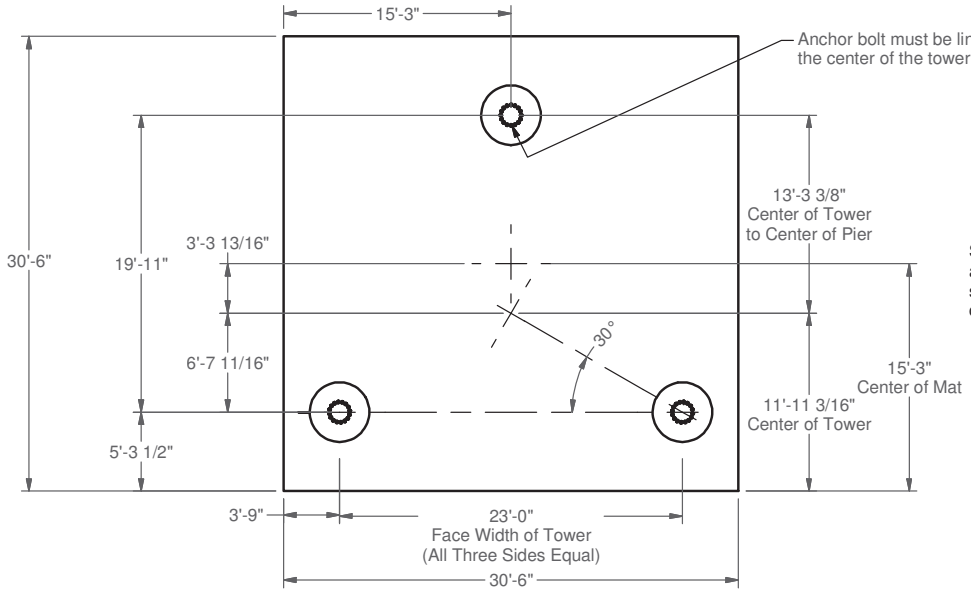
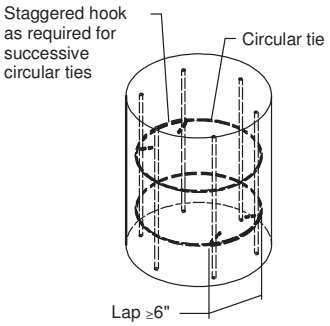
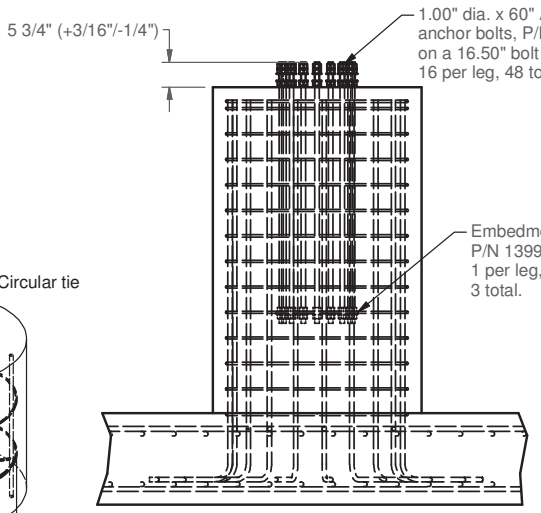


PLAN VIEW
(Reinforcement not shown for clarity)



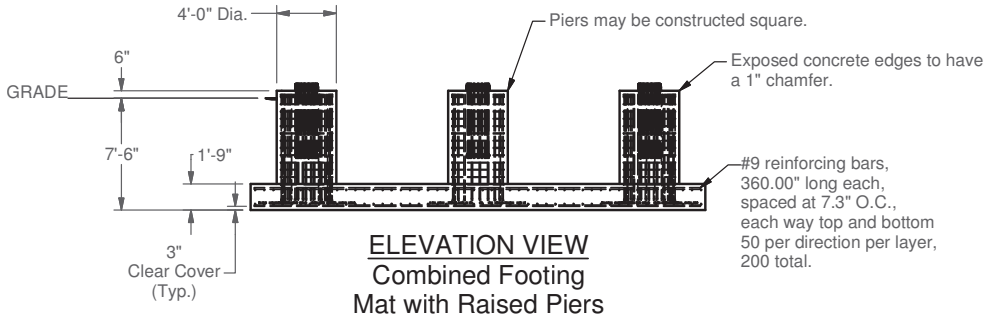
SEISMIC HOOK DETAIL



PIER DETAIL

CAUTION:
1. Ensure that all anchor bolt nuts are tightened.
2. Ensure that all three face width dimensions (pier center to pier center) are measured and verified before pouring concrete.

Concrete Compressive Strength, f'c = 4500 psi



ELEVATION VIEW
Combined Footing
Mat with Raised Piers
(Concrete Volume: 69.1 cu. yd.)

#8 reinforcing bars,
102.00" long before being bent with
(3.00" bend radius)
15.00" long 90 degree standard hook
spaced at 6.6" O.C. around inside of ties.
19 per pier,
57 total.

#4 reinforcing ties,
148.00" long before being bent into
42.00" outer diameter circle with 6.00" overlap
w/ 3" long 135 degree seismic hooks
alternated each successive tie,
top 2 spaced at 1.625" with the remainder
spaced at 5.9" O.C. to the top of pad.
14 per pier,
42 total.

08/22/2025

REV	BY	DATE	DESCRIPTION

ORIG. DATE: 8/21/2025	DWG NO: 804383
DWG. PROG: v2.05	SHEET: 2 OF 3

TITLE:
The Towers, LLC
NSX 23' X 255.3'
US-KY-5231 / Tim Road KY
Marshall Co., KY

NELLO
1201 S. Sheridan St.
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Bus: (574)288-3632
Fax: (574)288-5860

Foundation Notes:

1. This foundation has been designed for the following tower reactions:
   - Leg Compression: 495.7 Kips
   - Leg Uplift: 433.2 Kips
   - Leg Shear: 37.5 Kips
   - Tower Shear: 58.7 Kips
   - Tower Moment: 9399.6 Ft-Kips
   - Tower Weight: 71.4 Kips
2. Foundation design is based on the Geotechnical Report dated 07/23/2025, by Delta Oaks Group; Project No. GEO25-26348-08.
3. A field inspection shall be performed in order to verify that the actual site soil parameters meet or exceed the assumed soil parameters and that the depth of standard foundations are adequate based on the frost penetration and groundwater depth. Local frost depth must be no deeper than the bottom of the base foundation or the top of the anchor.
4. Reinforcement shall be deformed and conform to the requirements of ASTM A615 Grade 60 unless otherwise noted. Splices in reinforcement shall not be allowed unless otherwise indicated.
5. Welding is prohibited on reinforcing steel and anchorage.
6. Structural backfill placed below pad must be compacted in 8" loose lifts to 98% of maximum dry density at optimum moisture content in accordance with ASTM D698. Backfill must be clean and free of organic and frozen soils and foreign materials.
7. Backfill above foundation should be compacted to 95% of maximum dry density at water content within 2 percent of optimum. Backfill must be clean and free of organic and frozen soils and foreign materials.
8. Finished grade shall be leveled over the entire foundation footprint. Backfill is recommended to slope to native grade using a 2:1 (H:V) slope.
9. Loose material shall be removed from bottom of excavation prior to concrete placement.
10. Concrete cover from exposed surface of concrete to surface of reinforcement shall not be less than 3".
11. Concrete and reinforcement installation must conform to ACI 318, “Building Code Requirements for Structural Concrete.”
12. Concrete shall develop a minimum compressive strength of 4500 psi at 28 days.
13. Concrete shall be placed as soon as practical after excavating to avoid disturbance of bearing and side wall surfaces
14. Concrete contractor shall be responsible for properly aligning anchor bolts before and after placing concrete, regardless of whether an anchor bolt template is provided.
15. Positive drainage shall be maintained during construction and throughout the life of the facility to minimize the potential for surface water infiltration.
16. If unsuitable soils are encountered, overexcavation of unsuitable soils for compacted backfill placement below footings should extend laterally beyond all edges of the footings at least 12 inches per foot of overexcavation depth below footing base elevation.
17. It shall be the contractor's responsibility to locate and prevent damage to any existing underground utilities, foundations or other buried objects that might be damaged or interfered with during construction of the foundation.
18. It is permissible to utilize a cold joint during construction of a pier and pad type foundation. The cold joint must be located at the interface of the piers with the pad, and contractor shall use a bonding agent suitable for cold joints.
19. It is permissible for the top of the vertical reinforcement cage alignment to fluctuate slightly, allowing for a minimum clear cover of 2” to a maximum clear cover of 3” over the top of any individual vertical bar.
20. Earthwork operations and foundation installation methods shall be in accordance with the geotechnical report and all applicable American Concrete Institute (ACI) Standards.
21. Temporary steel casing or drilling slurry techniques may be required for installation of the drilled pier foundation. Permanent casing on drilled piers may not be used.
22. Concrete shall be placed by tremie methods if drilling slurry is used or if there is more than 1 inch of water at the bottom of the shaft excavation.
23. Groundwater may be encountered at 35 feet bgs at this site based on the geotechnical investigation. The need for dewatering should be anticipated below this depth.
24. All foundation concrete shall be in accordance with the latest ACI-318 exposure class requirements for corrosive soils.
25. This mat design assumes an ultimate bearing capacity of 6400 psf (allowable bearing capacity of 6400 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.
26. During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

08/22/2025

REV	BY	DATE	DESCRIPTION

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DWG. PROG: v2.05 | SHEET: 3 OF 3

TITLE:
The Towers, LLC
NSX 23' X 255.3'
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NELLO
1201 S. Sheridan St.
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NELLO

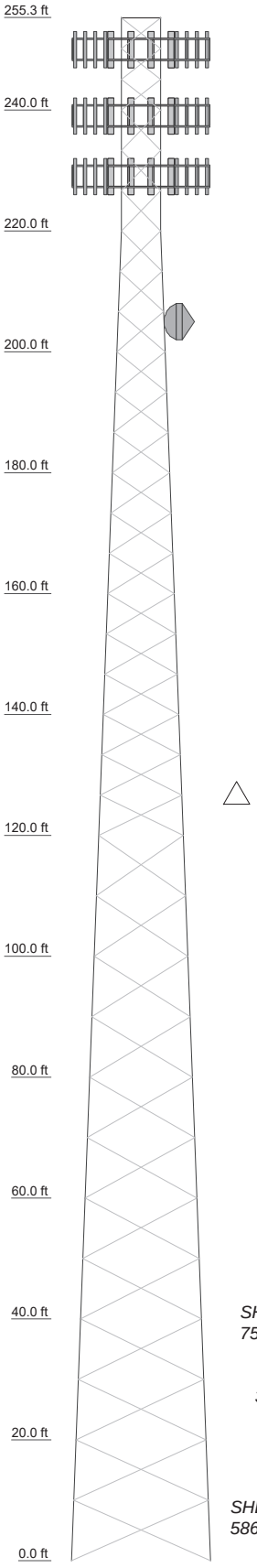
Design Supporting Calculations

Sales Order:	SO33750
Drawing Number(s)	
Tower:	804382
Foundation:	804383
Order Description:	NSX 23' x 255.3'
Site Name:	US-KY-5231 / Tim Road KY
Location:	Marshall County, KY
	Prepared For:
Customer:	The Towers, LLC
Contact:	Christopher Molloy
Date:	8/21/2025

08/22/2025

Table of Contents

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Legs	P2x.154	P3.5x.226	P5x.258	P6x.28		P8x.322		P10x.365				P12x.375	
Leg Grade	A500-50												
Diagonals	L2x2x1/8		L2x2x3/16			L2 1/2x2 1/2x3/16		L3x3x3/16	L3x3x1/4		L3 1/2x3 1/2x1/4		L4x4x1/4
Diagonal Grade	A529-50												
Top Girts	L2x2x1/8												
Face Width (ft)	6.5		8		9.5	11	12.5	14	15.5	17	18.5	20	21.5
# Panels @ (ft)	3 @ 5.07222				18 @ 6.66667					12 @ 10			
Weight (lb) 38699.2	489.0	1050.3	1441.3	1784.8	1997.9	2709.3	2789.6	3549.5	3911.2	4223.6	4323.7	5025.9	5403.1



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
42,000 sq in CaAa	250	Dish Pipe Mount	205
30,000 sq in CaAa	239	6' Solid w/Radome	205
30,000 sq in CaAa	229		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

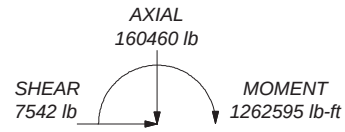
TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 106 mph ultimate wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 30 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 98.5%

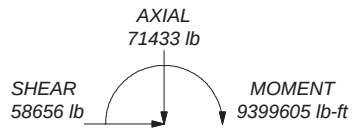
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 495712 lb
SHEAR: 37523 lb

UPLIFT: -433200 lb
SHEAR: 33448 lb



TORQUE 252 lb-ft
30 mph WIND - 1.5000 in ICE



TORQUE 2661 lb-ft
REACTIONS - 106 mph WIND

Nello Corporation
1201 S. Sheridan Street
South Bend, IN 46619
Phone: 800-806-3556
FAX:

Job:	***SO33750; Tower 804382; Foundation 804383***
Project:	***NS 255.3' - US-KY-5231 / Tim Road KY - Marshall Co., K***
Client: The Towers, LLC	Drawn by: AJK / App'd:
Code: TIA-222-H	Date: 08/20/25 / Scale: NTS
Path: N:\eri\8043\804382.eri	Dwg No. E-1

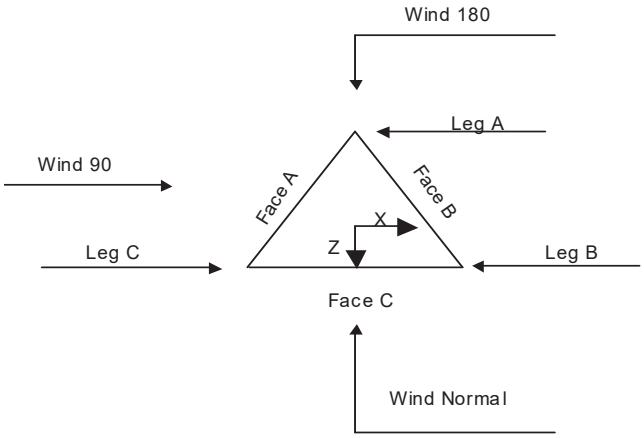
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 255.30 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 6.50 ft at the top and 23.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.
Ultimate 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: 0.00 ft.
Nominal ice thickness of 1.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 30 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	255.30-240.00			6.50	1	15.30
T2	240.00-220.00			6.50	1	20.00
T3	220.00-200.00			6.50	1	20.00
T4	200.00-180.00			8.00	1	20.00
T5	180.00-160.00			9.50	1	20.00
T6	160.00-140.00			11.00	1	20.00
T7	140.00-120.00			12.50	1	20.00
T8	120.00-100.00			14.00	1	20.00
T9	100.00-80.00			15.50	1	20.00
T10	80.00-60.00			17.00	1	20.00
T11	60.00-40.00			18.50	1	20.00
T12	40.00-20.00			20.00	1	20.00
T13	20.00-0.00			21.50	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	255.30-240.00	5.07	X Brace	No	No	1.0000	0.0000
T2	240.00-220.00	6.67	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T3	220.00-200.00	6.67	X Brace	No	No	0.0000	0.0000
T4	200.00-180.00	6.67	X Brace	No	No	0.0000	0.0000
T5	180.00-160.00	6.67	X Brace	No	No	0.0000	0.0000
T6	160.00-140.00	6.67	X Brace	No	No	0.0000	0.0000
T7	140.00-120.00	6.67	X Brace	No	No	0.0000	0.0000
T8	120.00-100.00	10.00	X Brace	No	No	0.0000	0.0000
T9	100.00-80.00	10.00	X Brace	No	No	0.0000	0.0000
T10	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T11	60.00-40.00	10.00	X Brace	No	No	0.0000	0.0000
T12	40.00-20.00	10.00	X Brace	No	No	0.0000	0.0000
T13	20.00-0.00	10.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 255.30-240.00	Pipe	P2x.154	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T2 240.00-220.00	Pipe	P3.5x.226	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T3 220.00-200.00	Pipe	P5x.258	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T4 200.00-180.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T5 180.00-160.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T6 160.00-140.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T7 140.00-120.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T8 120.00-100.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3x3x3/16	A529-50 (50 ksi)
T9 100.00-80.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3x3x1/4	A529-50 (50 ksi)
T10 80.00-60.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T11 60.00-40.00	Pipe	P10x.365	A500-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T12 40.00-20.00	Pipe	P12x.375	A500-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T13 20.00-0.00	Pipe	P12x.375	A500-50 (50 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 255.30-240.00	Equal Angle	L2x2x1/8	A529-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 255.30-240.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T2 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T3 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T4 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T5 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T6 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T7 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T8 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T9 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T10 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T11 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T12 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T13 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	No	Yes	1	1	1	1	1	1	1	1
255.30-240.00				1	1	1	1	1	1	1
T2	No	Yes	1	1	1	1	1	1	1	1
240.00-220.00				1	1	1	1	1	1	1
T3	No	Yes	1	1	1	1	1	1	1	1
220.00-200.00				1	1	1	1	1	1	1
T4	No	Yes	1	1	1	1	1	1	1	1
200.00-180.00				1	1	1	1	1	1	1
T5	No	Yes	1	1	1	1	1	1	1	1
180.00-160.00				1	1	1	1	1	1	1
T6	No	Yes	1	1	1	1	1	1	1	1
160.00-140.00				1	1	1	1	1	1	1
T7	No	Yes	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
140.00-120.00				1	1	1	1	1	1	1
T8	No	Yes	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T9	No	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T10	No	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T11	No	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T12	No	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T13	No	Yes	1	1	1	1	1	1	1	1
20.00-0.00				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
255.30-240.00														
T2	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
240.00-220.00														
T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
220.00-200.00														
T4	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
200.00-180.00														
T5	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
180.00-160.00														
T6	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
160.00-140.00														
T7	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
140.00-120.00														
T8	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
120.00-100.00														
T9	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
100.00-80.00														
T10	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
80.00-60.00														
T11	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
60.00-40.00														
T12	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
40.00-20.00														
T13 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 255.30-240.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 240.00-220.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 220.00-200.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 200.00-180.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 180.00-160.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 160.00-140.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 140.00-120.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 120.00-100.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 100.00-80.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1" Conduit	B	No	Yes	Ar (CaAa)	255.00 - 0.00	1	1	2.2400 0.0000	0.0100		0.50
LDF7-50A (1-5/8 FOAM)	C	No	Yes	Ar (CaAa)	250.00 - 0.00	18	6	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	No	Yes	Ar (CaAa)	239.00 - 0.00	12	4	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Yes	Ar (CaAa)	229.00 - 0.00	12	4	0.2700 0.0000	1.9800		0.82
EW63	C	No	Yes	Ar (CaAa)	205.00 - 0.00	1	1	0.6758 0.0000	1.5742		0.51

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	255.30-240.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.015	0.000	7.50

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		C	0.000	0.000	35.640	0.000	147.60
T2	240.00-220.00	A	0.000	0.000	21.384	0.000	88.56
		B	0.000	0.000	45.164	0.000	196.96
		C	0.000	0.000	71.280	0.000	295.20
T3	220.00-200.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	72.067	0.000	297.75
T4	200.00-180.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T5	180.00-160.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T6	160.00-140.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T7	140.00-120.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T8	120.00-100.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T9	100.00-80.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T10	80.00-60.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T11	60.00-40.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T12	40.00-20.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40
T13	20.00-0.00	A	0.000	0.000	47.520	0.000	196.80
		B	0.000	0.000	47.540	0.000	206.80
		C	0.000	0.000	74.428	0.000	305.40

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	255.30-240.00	A	1.835	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	5.520	0.000	69.54
		C		0.000	0.000	24.301	0.000	537.00
T2	240.00-220.00	A	1.821	0.000	0.000	17.606	0.000	350.48
		B		0.000	0.000	44.474	0.000	831.41
		C		0.000	0.000	48.511	0.000	1068.95
T3	220.00-200.00	A	1.805	0.000	0.000	39.009	0.000	773.83
		B		0.000	0.000	46.249	0.000	863.87
		C		0.000	0.000	50.990	0.000	1102.59
T4	200.00-180.00	A	1.787	0.000	0.000	38.883	0.000	768.39
		B		0.000	0.000	46.051	0.000	856.85
		C		0.000	0.000	58.572	0.000	1213.05
T5	180.00-160.00	A	1.767	0.000	0.000	38.744	0.000	762.42
		B		0.000	0.000	45.833	0.000	849.16
		C		0.000	0.000	58.358	0.000	1203.22

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T6	160.00-140.00	A	1.745	0.000	0.000	38.590	0.000	755.81
		B		0.000	0.000	45.591	0.000	840.66
		C		0.000	0.000	58.121	0.000	1192.34
T7	140.00-120.00	A	1.720	0.000	0.000	38.416	0.000	748.38
		B		0.000	0.000	45.318	0.000	831.12
		C		0.000	0.000	57.852	0.000	1180.12
T8	120.00-100.00	A	1.692	0.000	0.000	38.216	0.000	739.88
		B		0.000	0.000	45.004	0.000	820.24
		C		0.000	0.000	57.544	0.000	1166.15
T9	100.00-80.00	A	1.658	0.000	0.000	37.981	0.000	729.90
		B		0.000	0.000	44.634	0.000	807.50
		C		0.000	0.000	57.181	0.000	1149.77
T10	80.00-60.00	A	1.617	0.000	0.000	37.692	0.000	717.76
		B		0.000	0.000	44.181	0.000	792.05
		C		0.000	0.000	56.737	0.000	1129.87
T11	60.00-40.00	A	1.564	0.000	0.000	37.317	0.000	702.10
		B		0.000	0.000	43.592	0.000	772.22
		C		0.000	0.000	56.159	0.000	1104.25
T12	40.00-20.00	A	1.486	0.000	0.000	36.771	0.000	679.55
		B		0.000	0.000	42.734	0.000	743.86
		C		0.000	0.000	55.318	0.000	1067.46
T13	20.00-0.00	A	1.331	0.000	0.000	35.689	0.000	635.68
		B		0.000	0.000	41.033	0.000	689.31
		C		0.000	0.000	53.651	0.000	996.18

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	1" Conduit	240.00 - 255.00	0.6000	0.6000
T1	2	LDF7-50A (1-5/8 FOAM)	240.00 - 250.00	0.6000	0.6000
T2	1	1" Conduit	220.00 - 240.00	0.6000	0.6000
T2	2	LDF7-50A (1-5/8 FOAM)	220.00 - 240.00	0.6000	0.6000
T2	3	LDF7-50A (1-5/8 FOAM)	220.00 - 239.00	0.6000	0.6000
T2	4	LDF7-50A (1-5/8 FOAM)	220.00 - 229.00	0.6000	0.6000
T3	1	1" Conduit	200.00 - 220.00	0.6000	0.6000
T3	2	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.6000
T3	3	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.6000
T3	4	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.6000
T3	5	EW63	200.00 - 205.00	0.6000	0.6000
T4	1	1" Conduit	180.00 - 200.00	0.6000	0.6000
T4	2	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	3	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.6000
T4	4	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.6000
T4	5	EW63	180.00 - 200.00	0.6000	0.6000
T5	1	1" Conduit	160.00 - 180.00	0.6000	0.6000
T5	2	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.6000
T5	3	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.6000
T5	4	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.6000
T5	5	EW63	160.00 - 180.00	0.6000	0.6000
T6	1	1" Conduit	140.00 - 160.00	0.6000	0.6000
T6	2	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.6000
T6	3	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.6000
T6	4	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.6000
T6	5	EW63	140.00 - 160.00	0.6000	0.6000
T7	1	1" Conduit	120.00 - 140.00	0.6000	0.6000
T7	2	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.6000
T7	3	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.6000
T7	4	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.6000
T7	5	EW63	120.00 - 140.00	0.6000	0.6000
T8	1	1" Conduit	100.00 - 120.00	0.6000	0.6000
T8	2	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T8	3	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T8	4	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T8	5	EW63	100.00 - 120.00	0.6000	0.6000
T9	1	1" Conduit	80.00 - 100.00	0.6000	0.6000
T9	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T9	3	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T9	4	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T9	5	EW63	80.00 - 100.00	0.6000	0.6000
T10	1	1" Conduit	60.00 - 80.00	0.6000	0.6000
T10	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T10	3	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T10	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T10	5	EW63	60.00 - 80.00	0.6000	0.6000
T11	1	1" Conduit	40.00 - 60.00	0.6000	0.6000
T11	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T11	3	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T11	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T11	5	EW63	40.00 - 60.00	0.6000	0.6000
T12	1	1" Conduit	20.00 - 40.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T12	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T12	3	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T12	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T12	5	EW63	20.00 - 40.00	0.6000	0.6000
T13	1	1" Conduit	0.00 - 20.00	0.6000	0.6000
T13	2	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T13	3	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T13	4	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T13	5	EW63	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
42,000 sq in CaAa	C	None		0.0000	250.00	No Ice	292.00	292.00	4964.00
						1/2" Ice	350.00	350.00	6652.00
						1" Ice	408.00	408.00	8340.00
						2" Ice	524.00	524.00	11716.00
30,000 sq in CaAa	B	None		0.0000	239.00	No Ice	208.00	208.00	3536.00
						1/2" Ice	250.00	250.00	4738.00
						1" Ice	292.00	292.00	5940.00
						2" Ice	376.00	376.00	8344.00
30,000 sq in CaAa	A	None		0.0000	229.00	No Ice	208.00	208.00	3536.00
						1/2" Ice	250.00	250.00	4738.00
						1" Ice	292.00	292.00	5940.00
						2" Ice	376.00	376.00	8344.00
Dish Pipe Mount	B	From Leg	0.00 0.00 0.00	0.0000	205.00	No Ice	0.00	1.80	103.00
						1/2" Ice	0.00	2.10	119.00
						1" Ice	0.00	2.40	135.00
						2" Ice	0.00	3.00	167.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
6' Solid w/Radome	B	Paraboloid w/Radome	From Leg	0.00 0.00 0.00	0.0000		205.00	6.00	No Ice	28.27	162.00
									1/2" Ice	29.07	321.00
									1" Ice	29.86	480.00
									2" Ice	31.44	798.00

Tower Pressures - No Ice

G_H = 0.850

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	247.65	1.532	37	102.478	A	9.044	6.056	6.056	40.11	0.000	0.000
255.30-240.00					B	9.044	6.056		40.11	0.015	0.000
					C	9.044	6.056		40.11	35.640	0.000
T2	230.00	1.508	37	136.667	A	8.833	13.333	13.333	60.15	21.384	0.000
240.00-220.00					B	8.833	13.333		60.15	45.164	0.000
					C	8.833	13.333		60.15	71.280	0.000
T3	210.00	1.48	36	154.278	A	9.223	18.561	18.561	66.80	47.520	0.000
220.00-200.00					B	9.223	18.561		66.80	47.540	0.000
					C	9.223	18.561		66.80	72.067	0.000
T4	190.00	1.449	35	186.049	A	10.309	22.104	22.104	68.19	47.520	0.000
200.00-180.00					B	10.309	22.104		68.19	47.540	0.000
					C	10.309	22.104		68.19	74.428	0.000
T5	170.00	1.415	35	216.049	A	14.464	22.104	22.104	60.45	47.520	0.000
180.00-160.00					B	14.464	22.104		60.45	47.540	0.000
					C	14.464	22.104		60.45	74.428	0.000
T6	150.00	1.378	34	249.385	A	15.856	28.777	28.777	64.47	47.520	0.000
160.00-140.00					B	15.856	28.777		64.47	47.540	0.000
					C	15.856	28.777		64.47	74.428	0.000
T7	130.00	1.337	33	279.385	A	17.537	28.777	28.777	62.13	47.520	0.000
140.00-120.00					B	17.537	28.777		62.13	47.540	0.000
					C	17.537	28.777		62.13	74.428	0.000
T8	110.00	1.291	32	312.929	A	16.740	35.867	35.867	68.18	47.520	0.000
120.00-100.00					B	16.740	35.867		68.18	47.540	0.000
					C	16.740	35.867		68.18	74.428	0.000
T9	90.00	1.238	30	342.929	A	18.031	35.867	35.867	66.55	47.520	0.000
100.00-80.00					B	18.031	35.867		66.55	47.540	0.000
					C	18.031	35.867		66.55	74.428	0.000
T10	70.00	1.174	29	372.929	A	22.571	35.867	35.867	61.38	47.520	0.000
80.00-60.00					B	22.571	35.867		61.38	47.540	0.000
					C	22.571	35.867		61.38	74.428	0.000
T11	50.00	1.094	27	402.929	A	24.132	35.867	35.867	59.78	47.520	0.000
60.00-40.00					B	24.132	35.867		59.78	47.540	0.000
					C	24.132	35.867		59.78	74.428	0.000
T12	30.00	0.982	24	436.265	A	25.499	42.540	42.540	62.52	47.520	0.000
40.00-20.00					B	25.499	42.540		62.52	47.540	0.000
					C	25.499	42.540		62.52	74.428	0.000
T13 20.00-0.00	10.00	0.85	21	466.265	A	30.974	42.540	42.540	57.87	47.520	0.000
					B	30.974	42.540		57.87	47.540	0.000
					C	30.974	42.540		57.87	74.428	0.000

Tower Pressure - With Ice

G_H = 0.850

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	247.65	1.532	3	1.8349	107.157	A	9.044	32.010	15.414	37.55	0.000	0.000
255.30-240.00						B	9.044	32.010		37.55	5.520	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	9.044	32.010		37.55	24.301	0.000
T2	230.00	1.508	3	1.8214	142.738	A	8.833	41.566	25.476	50.55	17.606	0.000
240.00-220.00						B	8.833	41.566		50.55	44.474	0.000
						C	8.833	41.566		50.55	48.511	0.000
T3	210.00	1.48	3	1.8049	160.299	A	9.223	47.252	30.605	54.19	39.009	0.000
220.00-200.00						B	9.223	47.252		54.19	46.249	0.000
						C	9.223	47.252		54.19	50.990	0.000
T4	190.00	1.449	3	1.7870	192.010	A	10.309	52.451	34.028	54.22	38.883	0.000
200.00-180.00						B	10.309	52.451		54.22	46.051	0.000
						C	10.309	52.451		54.22	58.572	0.000
T5	170.00	1.415	3	1.7672	221.944	A	14.464	54.345	33.896	49.26	38.744	0.000
180.00-160.00						B	14.464	54.345		49.26	45.833	0.000
						C	14.464	54.345		49.26	58.358	0.000
T6	150.00	1.378	3	1.7452	255.207	A	15.856	62.561	40.423	51.55	38.590	0.000
160.00-140.00						B	15.856	62.561		51.55	45.591	0.000
						C	15.856	62.561		51.55	58.121	0.000
T7	130.00	1.337	3	1.7204	285.124	A	17.537	64.394	40.257	49.14	38.416	0.000
140.00-120.00						B	17.537	64.394		49.14	45.318	0.000
						C	17.537	64.394		49.14	57.852	0.000
T8	110.00	1.291	3	1.6919	318.573	A	16.740	66.039	47.157	56.97	38.216	0.000
120.00-100.00						B	16.740	66.039		56.97	45.004	0.000
						C	16.740	66.039		56.97	57.544	0.000
T9 100.00-80.00	90.00	1.238	2	1.6583	348.461	A	18.031	66.866	46.933	55.28	37.981	0.000
						B	18.031	66.866		55.28	44.634	0.000
						C	18.031	66.866		55.28	57.181	0.000
T10 80.00-60.00	70.00	1.174	2	1.6171	378.324	A	22.571	67.516	46.658	51.79	37.692	0.000
						B	22.571	67.516		51.79	44.181	0.000
						C	22.571	67.516		51.79	56.737	0.000
T11 60.00-40.00	50.00	1.094	2	1.5636	408.145	A	24.132	67.863	46.301	50.33	37.317	0.000
						B	24.132	67.863		50.33	43.592	0.000
						C	24.132	67.863		50.33	56.159	0.000
T12 40.00-20.00	30.00	0.982	2	1.4858	441.221	A	25.499	74.103	52.454	52.66	36.771	0.000
						B	25.499	74.103		52.66	42.734	0.000
						C	25.499	74.103		52.66	55.318	0.000
T13 20.00-0.00	10.00	0.85	2	1.3312	470.705	A	30.974	72.039	51.423	49.92	35.689	0.000
						B	30.974	72.039		49.92	41.033	0.000
						C	30.974	72.039		49.92	53.651	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	247.65	1.532	12	102.478	A	9.044	6.056	6.056	40.11	0.000	0.000
255.30-240.00					B	9.044	6.056		40.11	0.015	0.000
					C	9.044	6.056		40.11	35.640	0.000
T2	230.00	1.508	12	136.667	A	8.833	13.333	13.333	60.15	21.384	0.000
240.00-220.00					B	8.833	13.333		60.15	45.164	0.000
					C	8.833	13.333		60.15	71.280	0.000
T3	210.00	1.48	12	154.278	A	9.223	18.561	18.561	66.80	47.520	0.000
220.00-200.00					B	9.223	18.561		66.80	47.540	0.000
					C	9.223	18.561		66.80	72.067	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T4	190.00	1.449	11	186.049	A	10.309	22.104	22.104	68.19	47.520	0.000
200.00-180.00					B	10.309	22.104		68.19	47.540	0.000
					C	10.309	22.104		68.19	74.428	0.000
T5	170.00	1.415	11	216.049	A	14.464	22.104	22.104	60.45	47.520	0.000
180.00-160.00					B	14.464	22.104		60.45	47.540	0.000
					C	14.464	22.104		60.45	74.428	0.000
T6	150.00	1.378	11	249.385	A	15.856	28.777	28.777	64.47	47.520	0.000
160.00-140.00					B	15.856	28.777		64.47	47.540	0.000
					C	15.856	28.777		64.47	74.428	0.000
T7	130.00	1.337	10	279.385	A	17.537	28.777	28.777	62.13	47.520	0.000
140.00-120.00					B	17.537	28.777		62.13	47.540	0.000
					C	17.537	28.777		62.13	74.428	0.000
T8	110.00	1.291	10	312.929	A	16.740	35.867	35.867	68.18	47.520	0.000
120.00-100.00					B	16.740	35.867		68.18	47.540	0.000
					C	16.740	35.867		68.18	74.428	0.000
T9	90.00	1.238	10	342.929	A	18.031	35.867	35.867	66.55	47.520	0.000
100.00-80.00					B	18.031	35.867		66.55	47.540	0.000
					C	18.031	35.867		66.55	74.428	0.000
T10	70.00	1.174	9	372.929	A	22.571	35.867	35.867	61.38	47.520	0.000
80.00-60.00					B	22.571	35.867		61.38	47.540	0.000
					C	22.571	35.867		61.38	74.428	0.000
T11	50.00	1.094	9	402.929	A	24.132	35.867	35.867	59.78	47.520	0.000
60.00-40.00					B	24.132	35.867		59.78	47.540	0.000
					C	24.132	35.867		59.78	74.428	0.000
T12	30.00	0.982	8	436.265	A	25.499	42.540	42.540	62.52	47.520	0.000
40.00-20.00					B	25.499	42.540		62.52	47.540	0.000
					C	25.499	42.540		62.52	74.428	0.000
T13 20.00-0.00	10.00	0.85	7	466.265	A	30.974	42.540	42.540	57.87	47.520	0.000
					B	30.974	42.540		57.87	47.540	0.000
					C	30.974	42.540		57.87	74.428	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	155.10	489.04	A	0.147	2.781	37	1	1	12.480	1421.15	92.89	C
255.30-240.00			B	0.147	2.781		1	1	12.480			
			C	0.147	2.781		1	1	12.480			
T2	580.72	1050.32	A	0.162	2.727	37	1	1	16.203	2444.23	122.21	C
240.00-220.00			B	0.162	2.727		1	1	16.203			
			C	0.162	2.727		1	1	16.203			
T3	701.35	1441.29	A	0.18	2.664	36	1	1	18.475	2750.71	137.54	C
220.00-200.00			B	0.18	2.664		1	1	18.475			
			C	0.18	2.664		1	1	18.475			
T4	709.00	1784.76	A	0.174	2.684	35	1	1	20.441	2906.29	145.31	C
200.00-180.00			B	0.174	2.684		1	1	20.441			
			C	0.174	2.684		1	1	20.441			
T5	709.00	1997.92	A	0.169	2.702	35	1	1	24.611	3180.92	159.05	C
180.00-160.00			B	0.169	2.702		1	1	24.611			
			C	0.169	2.702		1	1	24.611			
T6	709.00	2709.25	A	0.179	2.668	34	1	1	28.345	3359.50	167.97	C
160.00-140.00			B	0.179	2.668		1	1	28.345			
			C	0.179	2.668		1	1	28.345			
T7	709.00	2789.64	A	0.166	2.714	33	1	1	29.822	3407.87	170.39	C
140.00-120.00			B	0.166	2.714		1	1	29.822			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
			C	0.166	2.714		1	1	29.822			
T8	709.00	3549.51	A	0.168	2.706	32	1	1	32.096	3448.58	172.43	C
120.00-100.00			B	0.168	2.706		1	1	32.096			
			C	0.168	2.706		1	1	32.096			
T9	709.00	3911.19	A	0.157	2.745	30	1	1	33.180	3414.96	170.75	C
100.00-80.00			B	0.157	2.745		1	1	33.180			
			C	0.157	2.745		1	1	33.180			
T10	709.00	4223.58	A	0.157	2.747	29	1	1	37.712	3544.10	177.21	C
80.00-60.00			B	0.157	2.747		1	1	37.712			
			C	0.157	2.747		1	1	37.712			
T11	709.00	4323.72	A	0.149	2.776	27	1	1	39.130	3415.64	170.78	C
60.00-40.00			B	0.149	2.776		1	1	39.130			
			C	0.149	2.776		1	1	39.130			
T12	709.00	5025.89	A	0.156	2.75	24	1	1	43.440	3288.69	164.43	C
40.00-20.00			B	0.156	2.75		1	1	43.440			
			C	0.156	2.75		1	1	43.440			
T13	709.00	5403.05	A	0.158	2.743	21	1	1	48.953	3108.30	155.41	C
20.00-0.00			B	0.158	2.743		1	1	48.953			
			C	0.158	2.743		1	1	48.953			
Sum Weight:	8527.17	38699.16						OTM	4766972.32 lb-ft	39690.94		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	155.10	489.04	A	0.147	2.781	37	0.8	1	10.671	1260.99	82.42	A
255.30-240.00			B	0.147	2.781		0.8	1	10.671			
			C	0.147	2.781		0.8	1	10.671			
T2	580.72	1050.32	A	0.162	2.727	37	0.8	1	14.436	2293.22	114.66	A
240.00-220.00			B	0.162	2.727		0.8	1	14.436			
			C	0.162	2.727		0.8	1	14.436			
T3	701.35	1441.29	A	0.18	2.664	36	0.8	1	16.631	2599.61	129.98	A
220.00-200.00			B	0.18	2.664		0.8	1	16.631			
			C	0.18	2.664		0.8	1	16.631			
T4	709.00	1784.76	A	0.174	2.684	35	0.8	1	18.379	2739.65	136.98	A
200.00-180.00			B	0.174	2.684		0.8	1	18.379			
			C	0.174	2.684		0.8	1	18.379			
T5	709.00	1997.92	A	0.169	2.702	35	0.8	1	21.718	2951.05	147.55	A
180.00-160.00			B	0.169	2.702		0.8	1	21.718			
			C	0.169	2.702		0.8	1	21.718			
T6	709.00	2709.25	A	0.179	2.668	34	0.8	1	25.174	3117.15	155.86	A
160.00-140.00			B	0.179	2.668		0.8	1	25.174			
			C	0.179	2.668		0.8	1	25.174			
T7	709.00	2789.64	A	0.166	2.714	33	0.8	1	26.314	3143.25	157.16	A
140.00-120.00			B	0.166	2.714		0.8	1	26.314			
			C	0.166	2.714		0.8	1	26.314			
T8	709.00	3549.51	A	0.168	2.706	32	0.8	1	28.748	3205.46	160.27	A
120.00-100.00			B	0.168	2.706		0.8	1	28.748			
			C	0.168	2.706		0.8	1	28.748			
T9	709.00	3911.19	A	0.157	2.745	30	0.8	1	29.574	3160.28	158.01	A
100.00-80.00			B	0.157	2.745		0.8	1	29.574			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
			C	0.157	2.745		0.8	1	29.574			
T10	709.00	4223.58	A	0.157	2.747	29	0.8	1	33.198	3241.54	162.08	A
80.00-60.00			B	0.157	2.747		0.8	1	33.198			
			C	0.157	2.747		0.8	1	33.198			
T11	709.00	4323.72	A	0.149	2.776	27	0.8	1	34.303	3111.14	155.56	A
60.00-40.00			B	0.149	2.776		0.8	1	34.303			
			C	0.149	2.776		0.8	1	34.303			
T12	709.00	5025.89	A	0.156	2.75	24	0.8	1	38.340	3002.44	150.12	A
40.00-20.00			B	0.156	2.75		0.8	1	38.340			
			C	0.156	2.75		0.8	1	38.340			
T13	709.00	5403.05	A	0.158	2.743	21	0.8	1	42.758	2808.08	140.40	A
20.00-0.00			B	0.158	2.743		0.8	1	42.758			
			C	0.158	2.743		0.8	1	42.758			
Sum Weight:	8527.17	38699.16						OTM	4421694.2 0 lb-ft	36633.85		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	155.10	489.04	A	0.147	2.781	37	0.85	1	11.123	1257.51	82.19	B
255.30-240.00			B	0.147	2.781		0.85	1	11.123			
			C	0.147	2.781		0.85	1	11.123			
T2	580.72	1050.32	A	0.162	2.727	37	0.85	1	14.878	2292.84	114.64	A
240.00-220.00			B	0.162	2.727		0.85	1	14.878			
			C	0.162	2.727		0.85	1	14.878			
T3	701.35	1441.29	A	0.18	2.664	36	0.85	1	17.092	2585.50	129.27	B
220.00-200.00			B	0.18	2.664		0.85	1	17.092			
			C	0.18	2.664		0.85	1	17.092			
T4	709.00	1784.76	A	0.174	2.684	35	0.85	1	18.895	2730.50	136.53	B
200.00-180.00			B	0.174	2.684		0.85	1	18.895			
			C	0.174	2.684		0.85	1	18.895			
T5	709.00	1997.92	A	0.169	2.702	35	0.85	1	22.441	2958.89	147.94	B
180.00-160.00			B	0.169	2.702		0.85	1	22.441			
			C	0.169	2.702		0.85	1	22.441			
T6	709.00	2709.25	A	0.179	2.668	34	0.85	1	25.967	3129.40	156.47	B
160.00-140.00			B	0.179	2.668		0.85	1	25.967			
			C	0.179	2.668		0.85	1	25.967			
T7	709.00	2789.64	A	0.166	2.714	33	0.85	1	27.191	3162.50	158.12	B
140.00-120.00			B	0.166	2.714		0.85	1	27.191			
			C	0.166	2.714		0.85	1	27.191			
T8	709.00	3549.51	A	0.168	2.706	32	0.85	1	29.585	3220.96	161.05	B
120.00-100.00			B	0.168	2.706		0.85	1	29.585			
			C	0.168	2.706		0.85	1	29.585			
T9	709.00	3911.19	A	0.157	2.745	30	0.85	1	30.475	3180.54	159.03	B
100.00-80.00			B	0.157	2.745		0.85	1	30.475			
			C	0.157	2.745		0.85	1	30.475			
T10	709.00	4223.58	A	0.157	2.747	29	0.85	1	34.326	3276.00	163.80	B
80.00-60.00			B	0.157	2.747		0.85	1	34.326			
			C	0.157	2.747		0.85	1	34.326			
T11	709.00	4323.72	A	0.149	2.776	27	0.85	1	35.510	3148.91	157.45	B
60.00-40.00			B	0.149	2.776		0.85	1	35.510			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
			C	0.149	2.776		0.85	1	35.510			
T12	709.00	5025.89	A	0.156	2.75	24	0.85	1	39.615	3039.55	151.98	B
40.00-20.00			B	0.156	2.75		0.85	1	39.615			
			C	0.156	2.75		0.85	1	39.615			
T13	709.00	5403.05	A	0.158	2.743	21	0.85	1	44.307	2853.32	142.67	B
20.00-0.00			B	0.158	2.743		0.85	1	44.307			
			C	0.158	2.743		0.85	1	44.307			
Sum Weight:	8527.17	38699.16						OTM	4431110.4 5 lb-ft	36836.42		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	606.54	2677.61	A	0.383	2.098	3	1	1	29.182	196.91	12.87	C
255.30-240.00			B	0.383	2.098		1	1	29.182			
			C	0.383	2.098		1	1	29.182			
T2	2250.83	3561.78	A	0.353	2.164	3	1	1	34.489	316.15	15.81	C
240.00-220.00			B	0.353	2.164		1	1	34.489			
			C	0.353	2.164		1	1	34.489			
T3	2740.30	4229.33	A	0.352	2.166	3	1	1	38.375	357.19	17.86	C
220.00-200.00			B	0.352	2.166		1	1	38.375			
			C	0.352	2.166		1	1	38.375			
T4	2838.29	4883.52	A	0.327	2.227	3	1	1	42.185	386.50	19.33	C
200.00-180.00			B	0.327	2.227		1	1	42.185			
			C	0.327	2.227		1	1	42.185			
T5	2814.81	5606.46	A	0.31	2.27	3	1	1	47.185	407.89	20.39	C
180.00-160.00			B	0.31	2.27		1	1	47.185			
			C	0.31	2.27		1	1	47.185			
T6	2788.81	6775.62	A	0.307	2.277	3	1	1	53.469	430.19	21.51	C
160.00-140.00			B	0.307	2.277		1	1	53.469			
			C	0.307	2.277		1	1	53.469			
T7	2759.62	7045.44	A	0.287	2.33	3	1	1	55.857	435.40	21.77	C
140.00-120.00			B	0.287	2.33		1	1	55.857			
			C	0.287	2.33		1	1	55.857			
T8	2726.26	7717.68	A	0.26	2.408	3	1	1	55.537	427.23	21.36	C
120.00-100.00			B	0.26	2.408		1	1	55.537			
			C	0.26	2.408		1	1	55.537			
T9	2687.17	8158.63	A	0.244	2.457	2	1	1	57.045	421.78	21.09	C
100.00-80.00			B	0.244	2.457		1	1	57.045			
			C	0.244	2.457		1	1	57.045			
T10	2639.68	8863.23	A	0.238	2.474	2	1	1	61.878	424.18	21.21	C
80.00-60.00			B	0.238	2.474		1	1	61.878			
			C	0.238	2.474		1	1	61.878			
T11	2578.56	8975.69	A	0.225	2.513	2	1	1	63.451	405.50	20.28	C
60.00-40.00			B	0.225	2.513		1	1	63.451			
			C	0.225	2.513		1	1	63.451			
T12	2490.87	9806.96	A	0.226	2.512	2	1	1	68.438	382.77	19.14	C
40.00-20.00			B	0.226	2.512		1	1	68.438			
			C	0.226	2.512		1	1	68.438			
T13	2321.17	10105.45	A	0.219	2.534	2	1	1	72.615	345.32	17.27	C
20.00-0.00			B	0.219	2.534		1	1	72.615			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
Sum Weight:	32242.93	88407.39	C	0.219	2.534		1	1 OTM	72.615 610255.44 lb-ft	4937.01		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	606.54	2677.61	A	0.383	2.098	3	0.8	1	27.373	187.23	12.24	A
255.30-240.00			B	0.383	2.098		0.8	1	27.373			
			C	0.383	2.098		0.8	1	27.373			
T2	2250.83	3561.78	A	0.353	2.164	3	0.8	1	32.722	306.55	15.33	A
240.00-220.00			B	0.353	2.164		0.8	1	32.722			
			C	0.353	2.164		0.8	1	32.722			
T3	2740.30	4229.33	A	0.352	2.166	3	0.8	1	36.530	347.35	17.37	A
220.00-200.00			B	0.352	2.166		0.8	1	36.530			
			C	0.352	2.166		0.8	1	36.530			
T4	2838.29	4883.52	A	0.327	2.227	3	0.8	1	40.124	375.43	18.77	A
200.00-180.00			B	0.327	2.227		0.8	1	40.124			
			C	0.327	2.227		0.8	1	40.124			
T5	2814.81	5606.46	A	0.31	2.27	3	0.8	1	44.293	392.42	19.62	A
180.00-160.00			B	0.31	2.27		0.8	1	44.293			
			C	0.31	2.27		0.8	1	44.293			
T6	2788.81	6775.62	A	0.307	2.277	3	0.8	1	50.298	413.62	20.68	A
160.00-140.00			B	0.307	2.277		0.8	1	50.298			
			C	0.307	2.277		0.8	1	50.298			
T7	2759.62	7045.44	A	0.287	2.33	3	0.8	1	52.350	417.20	20.86	A
140.00-120.00			B	0.287	2.33		0.8	1	52.350			
			C	0.287	2.33		0.8	1	52.350			
T8	2726.26	7717.68	A	0.26	2.408	3	0.8	1	52.189	409.89	20.49	A
120.00-100.00			B	0.26	2.408		0.8	1	52.189			
			C	0.26	2.408		0.8	1	52.189			
T9	2687.17	8158.63	A	0.244	2.457	2	0.8	1	53.439	403.52	20.18	A
100.00-80.00			B	0.244	2.457		0.8	1	53.439			
			C	0.244	2.457		0.8	1	53.439			
T10	2639.68	8863.23	A	0.238	2.474	2	0.8	1	57.364	402.35	20.12	A
80.00-60.00			B	0.238	2.474		0.8	1	57.364			
			C	0.238	2.474		0.8	1	57.364			
T11	2578.56	8975.69	A	0.225	2.513	2	0.8	1	58.625	383.42	19.17	A
60.00-40.00			B	0.225	2.513		0.8	1	58.625			
			C	0.225	2.513		0.8	1	58.625			
T12	2490.87	9806.96	A	0.226	2.512	2	0.8	1	63.339	361.82	18.09	A
40.00-20.00			B	0.226	2.512		0.8	1	63.339			
			C	0.226	2.512		0.8	1	63.339			
T13	2321.17	10105.45	A	0.219	2.534	2	0.8	1	66.420	323.11	16.16	A
20.00-0.00			B	0.219	2.534		0.8	1	66.420			
			C	0.219	2.534		0.8	1	66.420			
Sum Weight:	32242.93	88407.39						OTM	586967.58 lb-ft	4723.92		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	606.54	2677.61	A	0.383	2.098	3	0.85	1	27.825	186.17	12.17	B
255.30-240.00			B	0.383	2.098		0.85	1	27.825			
			C	0.383	2.098		0.85	1	27.825			
T2	2250.83	3561.78	A	0.353	2.164	3	0.85	1	33.164	305.90	15.29	A
240.00-220.00			B	0.353	2.164		0.85	1	33.164			
			C	0.353	2.164		0.85	1	33.164			
T3	2740.30	4229.33	A	0.352	2.166	3	0.85	1	36.991	345.66	17.28	B
220.00-200.00			B	0.352	2.166		0.85	1	36.991			
			C	0.352	2.166		0.85	1	36.991			
T4	2838.29	4883.52	A	0.327	2.227	3	0.85	1	40.639	374.13	18.71	B
200.00-180.00			B	0.327	2.227		0.85	1	40.639			
			C	0.327	2.227		0.85	1	40.639			
T5	2814.81	5606.46	A	0.31	2.27	3	0.85	1	45.016	392.31	19.62	B
180.00-160.00			B	0.31	2.27		0.85	1	45.016			
			C	0.31	2.27		0.85	1	45.016			
T6	2788.81	6775.62	A	0.307	2.277	3	0.85	1	51.090	413.89	20.69	B
160.00-140.00			B	0.307	2.277		0.85	1	51.090			
			C	0.307	2.277		0.85	1	51.090			
T7	2759.62	7045.44	A	0.287	2.33	3	0.85	1	53.227	417.99	20.90	B
140.00-120.00			B	0.287	2.33		0.85	1	53.227			
			C	0.287	2.33		0.85	1	53.227			
T8	2726.26	7717.68	A	0.26	2.408	3	0.85	1	53.026	410.60	20.53	B
120.00-100.00			B	0.26	2.408		0.85	1	53.026			
			C	0.26	2.408		0.85	1	53.026			
T9	2687.17	8158.63	A	0.244	2.457	2	0.85	1	54.340	404.61	20.23	B
100.00-80.00			B	0.244	2.457		0.85	1	54.340			
			C	0.244	2.457		0.85	1	54.340			
T10	2639.68	8863.23	A	0.238	2.474	2	0.85	1	58.492	404.51	20.23	B
80.00-60.00			B	0.238	2.474		0.85	1	58.492			
			C	0.238	2.474		0.85	1	58.492			
T11	2578.56	8975.69	A	0.225	2.513	2	0.85	1	59.831	385.86	19.29	B
60.00-40.00			B	0.225	2.513		0.85	1	59.831			
			C	0.225	2.513		0.85	1	59.831			
T12	2490.87	9806.96	A	0.226	2.512	2	0.85	1	64.614	364.30	18.22	B
40.00-20.00			B	0.226	2.512		0.85	1	64.614			
			C	0.226	2.512		0.85	1	64.614			
T13	2321.17	10105.45	A	0.219	2.534	2	0.85	1	67.969	326.27	16.31	B
20.00-0.00			B	0.219	2.534		0.85	1	67.969			
			C	0.219	2.534		0.85	1	67.969			
Sum Weight:	32242.93	88407.39						OTM	586629.61 lb-ft	4732.20		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	155.10	489.04	A	0.147	2.781	12	1	1	12.480	455.33	29.76	C

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
255.30-240.00			B	0.147	2.781		1	1	12.480			
			C	0.147	2.781		1	1	12.480			
T2	580.72	1050.32	A	0.162	2.727	12	1	1	16.419	789.05	39.45	C
240.00-220.00			B	0.162	2.727		1	1	16.419			
			C	0.162	2.727		1	1	16.419			
T3	701.35	1441.29	A	0.18	2.664	12	1	1	19.827	916.78	45.84	C
220.00-200.00			B	0.18	2.664		1	1	19.827			
			C	0.18	2.664		1	1	19.827			
T4	709.00	1784.76	A	0.174	2.684	11	1	1	22.850	993.55	49.68	C
200.00-180.00			B	0.174	2.684		1	1	22.850			
			C	0.174	2.684		1	1	22.850			
T5	709.00	1997.92	A	0.169	2.702	11	1	1	27.026	1080.65	54.03	C
180.00-160.00			B	0.169	2.702		1	1	27.026			
			C	0.169	2.702		1	1	27.026			
T6	709.00	2709.25	A	0.179	2.668	11	1	1	31.114	1144.18	57.21	C
160.00-140.00			B	0.179	2.668		1	1	31.114			
			C	0.179	2.668		1	1	31.114			
T7	709.00	2789.64	A	0.166	2.714	10	1	1	32.778	1163.34	58.17	C
140.00-120.00			B	0.166	2.714		1	1	32.778			
			C	0.166	2.714		1	1	32.778			
T8	709.00	3549.51	A	0.168	2.706	10	1	1	34.298	1156.15	57.81	C
120.00-100.00			B	0.168	2.706		1	1	34.298			
			C	0.168	2.706		1	1	34.298			
T9	709.00	3911.19	A	0.157	2.745	10	1	1	35.622	1149.41	57.47	C
100.00-80.00			B	0.157	2.745		1	1	35.622			
			C	0.157	2.745		1	1	35.622			
T10	709.00	4223.58	A	0.157	2.747	9	1	1	40.367	1192.55	59.63	C
80.00-60.00			B	0.157	2.747		1	1	40.367			
			C	0.157	2.747		1	1	40.367			
T11	709.00	4323.72	A	0.149	2.776	9	1	1	42.121	1154.83	57.74	C
60.00-40.00			B	0.149	2.776		1	1	42.121			
			C	0.149	2.776		1	1	42.121			
T12	709.00	5025.89	A	0.156	2.75	8	1	1	45.807	1096.25	54.81	C
40.00-20.00			B	0.156	2.75		1	1	45.807			
			C	0.156	2.75		1	1	45.807			
T13	709.00	5403.05	A	0.158	2.743	7	1	1	52.009	1043.35	52.17	C
20.00-0.00			B	0.158	2.743		1	1	52.009			
			C	0.158	2.743		1	1	52.009			
Sum Weight:	8527.17	38699.16						OTM	1597278.7 6 lb-ft	13335.42		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	155.10	489.04	A	0.147	2.781	12	0.8	1	10.671	404.02	26.41	A
255.30-240.00			B	0.147	2.781		0.8	1	10.671			
			C	0.147	2.781		0.8	1	10.671			
T2	580.72	1050.32	A	0.162	2.727	12	0.8	1	14.652	740.66	37.03	A
240.00-220.00			B	0.162	2.727		0.8	1	14.652			
			C	0.162	2.727		0.8	1	14.652			
T3	701.35	1441.29	A	0.18	2.664	12	0.8	1	17.982	868.37	43.42	A

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
220.00-200.00			B	0.18	2.664		0.8	1	17.982			
			C	0.18	2.664		0.8	1	17.982			
T4	709.00	1784.76	A	0.174	2.684	11	0.8	1	20.788	940.15	47.01	A
200.00-180.00			B	0.174	2.684		0.8	1	20.788			
			C	0.174	2.684		0.8	1	20.788			
T5	709.00	1997.92	A	0.169	2.702	11	0.8	1	24.133	1007.00	50.35	A
180.00-160.00			B	0.169	2.702		0.8	1	24.133			
			C	0.169	2.702		0.8	1	24.133			
T6	709.00	2709.25	A	0.179	2.668	11	0.8	1	27.943	1066.53	53.33	A
160.00-140.00			B	0.179	2.668		0.8	1	27.943			
			C	0.179	2.668		0.8	1	27.943			
T7	709.00	2789.64	A	0.166	2.714	10	0.8	1	29.270	1078.55	53.93	A
140.00-120.00			B	0.166	2.714		0.8	1	29.270			
			C	0.166	2.714		0.8	1	29.270			
T8	709.00	3549.51	A	0.168	2.706	10	0.8	1	30.950	1078.26	53.91	A
120.00-100.00			B	0.168	2.706		0.8	1	30.950			
			C	0.168	2.706		0.8	1	30.950			
T9	709.00	3911.19	A	0.157	2.745	10	0.8	1	32.016	1067.82	53.39	A
100.00-80.00			B	0.157	2.745		0.8	1	32.016			
			C	0.157	2.745		0.8	1	32.016			
T10	709.00	4223.58	A	0.157	2.747	9	0.8	1	35.853	1095.61	54.78	A
80.00-60.00			B	0.157	2.747		0.8	1	35.853			
			C	0.157	2.747		0.8	1	35.853			
T11	709.00	4323.72	A	0.149	2.776	9	0.8	1	37.294	1057.27	52.86	A
60.00-40.00			B	0.149	2.776		0.8	1	37.294			
			C	0.149	2.776		0.8	1	37.294			
T12	709.00	5025.89	A	0.156	2.75	8	0.8	1	40.707	1004.54	50.23	A
40.00-20.00			B	0.156	2.75		0.8	1	40.707			
			C	0.156	2.75		0.8	1	40.707			
T13	709.00	5403.05	A	0.158	2.743	7	0.8	1	45.814	947.16	47.36	A
20.00-0.00			B	0.158	2.743		0.8	1	45.814			
			C	0.158	2.743		0.8	1	45.814			
Sum Weight:	8527.17	38699.16						OTM	1486652.1 0 lb-ft	12355.94		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	155.10	489.04	A	0.147	2.781	12	0.85	1	11.123	402.91	26.33	B
255.30-240.00			B	0.147	2.781		0.85	1	11.123			
			C	0.147	2.781		0.85	1	11.123			
T2	580.72	1050.32	A	0.162	2.727	12	0.85	1	15.094	740.54	37.03	A
240.00-220.00			B	0.162	2.727		0.85	1	15.094			
			C	0.162	2.727		0.85	1	15.094			
T3	701.35	1441.29	A	0.18	2.664	12	0.85	1	18.443	863.85	43.19	B
220.00-200.00			B	0.18	2.664		0.85	1	18.443			
			C	0.18	2.664		0.85	1	18.443			
T4	709.00	1784.76	A	0.174	2.684	11	0.85	1	21.303	937.22	46.86	B
200.00-180.00			B	0.174	2.684		0.85	1	21.303			
			C	0.174	2.684		0.85	1	21.303			
T5	709.00	1997.92	A	0.169	2.702	11	0.85	1	24.856	1009.51	50.48	B

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
180.00-160.00			B	0.169	2.702		0.85	1	24.856			
			C	0.169	2.702		0.85	1	24.856			
T6	709.00	2709.25	A	0.179	2.668	11	0.85	1	28.736	1070.46	53.52	B
160.00-140.00			B	0.179	2.668		0.85	1	28.736			
			C	0.179	2.668		0.85	1	28.736			
T7	709.00	2789.64	A	0.166	2.714	10	0.85	1	30.147	1084.72	54.24	B
140.00-120.00			B	0.166	2.714		0.85	1	30.147			
			C	0.166	2.714		0.85	1	30.147			
T8	709.00	3549.51	A	0.168	2.706	10	0.85	1	31.787	1083.22	54.16	B
120.00-100.00			B	0.168	2.706		0.85	1	31.787			
			C	0.168	2.706		0.85	1	31.787			
T9	709.00	3911.19	A	0.157	2.745	10	0.85	1	32.918	1074.31	53.72	B
100.00-80.00			B	0.157	2.745		0.85	1	32.918			
			C	0.157	2.745		0.85	1	32.918			
T10	709.00	4223.58	A	0.157	2.747	9	0.85	1	36.982	1106.65	55.33	B
80.00-60.00			B	0.157	2.747		0.85	1	36.982			
			C	0.157	2.747		0.85	1	36.982			
T11	709.00	4323.72	A	0.149	2.776	9	0.85	1	38.501	1069.37	53.47	B
60.00-40.00			B	0.149	2.776		0.85	1	38.501			
			C	0.149	2.776		0.85	1	38.501			
T12	709.00	5025.89	A	0.156	2.75	8	0.85	1	41.982	1016.43	50.82	B
40.00-20.00			B	0.156	2.75		0.85	1	41.982			
			C	0.156	2.75		0.85	1	41.982			
T13	709.00	5403.05	A	0.158	2.743	7	0.85	1	47.363	961.65	48.08	B
20.00-0.00			B	0.158	2.743		0.85	1	47.363			
			C	0.158	2.743		0.85	1	47.363			
Sum Weight:	8527.17	38699.16						OTM	1489669.05 lb-ft	12420.84		

Mast Vectors - No Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	255.30-240.00	0	Wind Normal	1421.15	0.00	-1421.15	-351946.86	0.00	0.00
		30	Wind 90	1257.51	628.76	-1089.04	-269700.50	-155711.66	0.00
		60	Wind 60	1130.45	978.99	-565.22	-139977.42	-242447.99	0.00
		90	Wind 90	1126.97	1126.97	0.00	0.00	-279094.17	0.00
		120	Wind Normal	1290.60	1117.69	645.30	159808.86	-276797.06	0.00
		150	Wind 90	1257.51	628.76	1089.04	269700.50	-155711.66	0.00
		180	Wind 60	1260.99	0.00	1260.99	312283.97	0.00	0.00
		210	Wind 90	1257.51	-628.76	1089.04	269700.50	155711.66	0.00
		240	Wind Normal	1290.60	-1117.69	645.30	159808.86	276797.06	0.00
		270	Wind 90	1126.97	-1126.97	0.00	0.00	279094.17	0.00
		300	Wind 60	1130.45	-978.99	-565.22	-139977.42	242448.00	0.00
		330	Wind 90	1257.51	-628.76	-1089.04	-269700.50	155711.66	0.00
T2	240.00-220.00	0	Wind Normal	2444.23	0.00	-2444.23	-562173.27	0.00	0.00
		30	Wind 90	2292.84	1146.42	-1985.66	-456700.68	-263676.26	0.00
		60	Wind 60	2129.62	1844.31	-1064.81	-244906.79	-424191.00	0.00
		90	Wind 90	2080.05	2080.05	0.00	0.00	-478412.14	0.00
		120	Wind Normal	2231.45	1932.49	1115.72	256616.44	-444472.72	0.00
		150	Wind 90	2243.65	1121.82	1943.06	446902.83	-258019.47	0.00
		180	Wind 60	2293.22	0.00	2293.22	527440.37	0.00	0.00
		210	Wind 90	2292.84	-1146.42	1985.66	456700.68	263676.26	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		240	Wind Normal	2280.64	-1975.09	1140.32	262273.24	454270.57	0.00
		270	Wind 90	2080.05	-2080.05	0.00	0.00	478412.14	0.00
		300	Wind 60	2080.43	-1801.71	-1040.22	-239249.99	414393.15	0.00
		330	Wind 90	2243.65	-1121.82	-1943.06	-446902.83	258019.47	0.00
T3	220.00-200.00	0	Wind Normal	2750.71	0.00	-2750.71	-577648.53	0.00	0.00
		30	Wind 90	2585.50	1292.75	-2239.11	-470212.29	-271477.19	0.00
		60	Wind 60	2443.95	2116.52	-1221.97	-256614.33	-444469.06	0.00
		90	Wind 90	2429.83	2429.83	0.00	0.00	-510264.57	0.00
		120	Wind Normal	2595.04	2247.37	1297.52	272479.36	-471948.10	0.00
		150	Wind 90	2585.50	1292.75	2239.11	470212.29	-271477.19	0.00
		180	Wind 60	2599.61	0.00	2599.61	545918.47	0.00	0.00
		210	Wind 90	2585.50	-1292.75	2239.11	470212.29	271477.19	0.00
		240	Wind Normal	2595.04	-2247.37	1297.52	272479.36	471948.10	0.00
		270	Wind 90	2429.83	-2429.83	0.00	0.00	510264.57	0.00
		300	Wind 60	2443.95	-2116.52	-1221.97	-256614.33	444469.06	0.00
		330	Wind 90	2585.50	-1292.75	-2239.11	-470212.29	271477.19	0.00
T4	200.00-180.00	0	Wind Normal	2906.29	0.00	-2906.29	-552195.32	0.00	0.00
		30	Wind 90	2730.50	1365.25	-2364.69	-449290.44	-259397.96	0.00
		60	Wind 60	2587.23	2240.61	-1293.62	-245786.99	-425715.55	0.00
		90	Wind 90	2578.08	2578.08	0.00	0.00	-489836.08	0.00
		120	Wind Normal	2753.87	2384.92	1376.94	261617.75	-453135.23	0.00
		150	Wind 90	2730.50	1365.25	2364.69	449290.44	-259397.96	0.00
		180	Wind 60	2739.65	0.00	2739.65	520533.81	0.00	0.00
		210	Wind 90	2730.50	-1365.25	2364.69	449290.44	259397.96	0.00
		240	Wind Normal	2753.87	-2384.92	1376.94	261617.75	453135.23	0.00
		270	Wind 90	2578.08	-2578.08	0.00	0.00	489836.08	0.00
		300	Wind 60	2587.23	-2240.61	-1293.62	-245786.99	425715.55	0.00
		330	Wind 90	2730.50	-1365.25	-2364.69	-449290.44	259397.96	0.00
T5	180.00-160.00	0	Wind Normal	3180.92	0.00	-3180.92	-540757.07	0.00	0.00
		30	Wind 90	2958.89	1479.44	-2562.47	-435619.94	-251505.29	0.00
		60	Wind 60	2802.15	2426.74	-1401.08	-238183.17	-412545.35	0.00
		90	Wind 90	2809.99	2809.99	0.00	0.00	-477698.84	0.00
		120	Wind Normal	3032.03	2625.82	1516.02	257722.66	-446388.75	0.00
		150	Wind 90	2958.89	1479.44	2562.47	435619.94	-251505.29	0.00
		180	Wind 60	2951.05	0.00	2951.05	501678.07	0.00	0.00
		210	Wind 90	2958.89	-1479.44	2562.47	435619.94	251505.29	0.00
		240	Wind Normal	3032.03	-2625.82	1516.02	257722.66	446388.75	0.00
		270	Wind 90	2809.99	-2809.99	0.00	0.00	477698.84	0.00
		300	Wind 60	2802.15	-2426.74	-1401.08	-238183.17	412545.35	0.00
		330	Wind 90	2958.89	-1479.44	-2562.47	-435619.94	251505.29	0.00
T6	160.00-140.00	0	Wind Normal	3359.50	0.00	-3359.50	-503924.77	0.00	0.00
		30	Wind 90	3129.40	1564.70	-2710.14	-406520.61	-234704.78	0.00
		60	Wind 60	2972.13	2573.94	-1486.06	-222909.73	-386090.97	0.00
		90	Wind 90	2984.38	2984.38	0.00	0.00	-447656.49	0.00
		120	Wind Normal	3214.48	2783.82	1607.24	241085.85	-417572.94	0.00
		150	Wind 90	3129.40	1564.70	2710.14	406520.61	-234704.78	0.00
		180	Wind 60	3117.15	0.00	3117.15	467572.53	0.00	0.00
		210	Wind 90	3129.40	-1564.70	2710.14	406520.61	234704.78	0.00
		240	Wind Normal	3214.48	-2783.82	1607.24	241085.85	417572.94	0.00
		270	Wind 90	2984.38	-2984.38	0.00	0.00	447656.49	0.00
		300	Wind 60	2972.13	-2573.94	-1486.06	-222909.73	386090.98	0.00
		330	Wind 90	3129.40	-1564.70	-2710.14	-406520.61	234704.78	0.00
T7	140.00-120.00	0	Wind Normal	3407.87	0.00	-3407.87	-443023.25	0.00	0.00
		30	Wind 90	3162.50	1581.25	-2738.80	-356044.55	-205562.42	0.00
		60	Wind 60	3002.53	2600.27	-1501.27	-195164.58	-338034.97	0.00
		90	Wind 90	3021.78	3021.78	0.00	0.00	-392831.67	0.00
		120	Wind Normal	3267.15	2829.44	1633.58	212365.04	-367827.04	0.00
		150	Wind 90	3162.50	1581.25	2738.80	356044.55	-205562.42	0.00
		180	Wind 60	3143.25	0.00	3143.25	408622.33	0.00	0.00
		210	Wind 90	3162.50	-1581.25	2738.80	356044.55	205562.42	0.00
		240	Wind Normal	3267.15	-2829.44	1633.58	212365.04	367827.04	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		270	Wind 90	3021.78	-3021.78	0.00	0.00	392831.67	0.00
		300	Wind 60	3002.53	-2600.27	-1501.27	-195164.58	338034.97	0.00
		330	Wind 90	3162.50	-1581.25	-2738.80	-356044.55	205562.42	0.00
T8	120.00-100.00	0	Wind Normal	3448.58	0.00	-3448.58	-379343.90	0.00	0.00
		30	Wind 90	3220.96	1610.48	-2789.43	-306837.28	-177152.59	0.00
		60	Wind 60	3069.61	2658.36	-1534.80	-168828.38	-292419.33	0.00
		90	Wind 90	3085.10	3085.10	0.00	0.00	-339361.26	0.00
		120	Wind Normal	3312.73	2868.91	1656.36	182199.99	-315579.65	0.00
		150	Wind 90	3220.96	1610.48	2789.43	306837.28	-177152.59	0.00
		180	Wind 60	3205.46	0.00	3205.46	352600.67	0.00	0.00
		210	Wind 90	3220.96	-1610.48	2789.43	306837.28	177152.59	0.00
		240	Wind Normal	3312.73	-2868.91	1656.36	182199.99	315579.65	0.00
		270	Wind 90	3085.10	-3085.10	0.00	0.00	339361.26	0.00
		300	Wind 60	3069.61	-2658.36	-1534.80	-168828.38	292419.33	0.00
		330	Wind 90	3220.96	-1610.48	-2789.43	-306837.28	177152.59	0.00
T9	100.00-80.00	0	Wind Normal	3414.96	0.00	-3414.96	-307346.53	0.00	0.00
		30	Wind 90	3180.54	1590.27	-2754.43	-247898.77	-143124.42	0.00
		60	Wind 60	3030.05	2624.10	-1515.03	-136352.29	-236169.10	0.00
		90	Wind 90	3050.31	3050.31	0.00	0.00	-274527.79	0.00
		120	Wind Normal	3284.73	2844.66	1642.36	147812.74	-256019.17	0.00
		150	Wind 90	3180.54	1590.27	2754.43	247898.77	-143124.42	0.00
		180	Wind 60	3160.28	0.00	3160.28	284425.64	0.00	0.00
		210	Wind 90	3180.54	-1590.27	2754.43	247898.77	143124.42	0.00
		240	Wind Normal	3284.73	-2844.66	1642.36	147812.74	256019.17	0.00
		270	Wind 90	3050.31	-3050.31	0.00	0.00	274527.79	0.00
		300	Wind 60	3030.05	-2624.10	-1515.03	-136352.29	236169.10	0.00
		330	Wind 90	3180.54	-1590.27	-2754.43	-247898.77	143124.42	0.00
T10	80.00-60.00	0	Wind Normal	3544.10	0.00	-3544.10	-248087.30	0.00	0.00
		30	Wind 90	3276.00	1638.00	-2837.10	-198597.18	-114660.13	0.00
		60	Wind 60	3118.01	2700.28	-1559.01	-109130.47	-189019.51	0.00
		90	Wind 90	3152.48	3152.48	0.00	0.00	-220673.68	0.00
		120	Wind Normal	3420.58	2962.31	1710.29	119720.36	-207361.74	0.00
		150	Wind 90	3276.00	1638.00	2837.10	198597.18	-114660.13	0.00
		180	Wind 60	3241.54	0.00	3241.54	226907.52	0.00	0.00
		210	Wind 90	3276.00	-1638.00	2837.10	198597.18	114660.13	0.00
		240	Wind Normal	3420.58	-2962.31	1710.29	119720.36	207361.74	0.00
		270	Wind 90	3152.48	-3152.48	0.00	0.00	220673.68	0.00
		300	Wind 60	3118.01	-2700.28	-1559.01	-109130.47	189019.51	0.00
		330	Wind 90	3276.00	-1638.00	-2837.10	-198597.18	114660.13	0.00
T11	60.00-40.00	0	Wind Normal	3415.64	0.00	-3415.64	-170781.95	0.00	0.00
		30	Wind 90	3148.91	1574.45	-2727.03	-136351.60	-78722.64	0.00
		60	Wind 60	2996.06	2594.67	-1498.03	-74901.58	-129733.35	0.00
		90	Wind 90	3033.83	3033.83	0.00	0.00	-151691.50	0.00
		120	Wind Normal	3300.56	2858.37	1650.28	82514.09	-142918.59	0.00
		150	Wind 90	3148.91	1574.45	2727.03	136351.60	-78722.64	0.00
		180	Wind 60	3111.14	0.00	3111.14	155556.94	0.00	0.00
		210	Wind 90	3148.91	-1574.45	2727.03	136351.60	78722.64	0.00
		240	Wind Normal	3300.56	-2858.37	1650.28	82514.09	142918.59	0.00
		270	Wind 90	3033.83	-3033.83	0.00	0.00	151691.50	0.00
		300	Wind 60	2996.06	-2594.67	-1498.03	-74901.58	129733.35	0.00
		330	Wind 90	3148.91	-1574.45	-2727.03	-136351.60	78722.64	0.00
T12	40.00-20.00	0	Wind Normal	3288.69	0.00	-3288.69	-98660.59	0.00	0.00
		30	Wind 90	3039.55	1519.78	-2632.33	-78969.86	-45593.27	0.00
		60	Wind 60	2899.09	2510.69	-1449.55	-43486.41	-75320.68	0.00
		90	Wind 90	2936.21	2936.21	0.00	0.00	-88086.28	0.00
		120	Wind Normal	3185.34	2758.59	1592.67	47780.16	-82757.67	0.00
		150	Wind 90	3039.55	1519.78	2632.33	78969.86	-45593.27	0.00
		180	Wind 60	3002.44	0.00	3002.44	90073.09	0.00	0.00
		210	Wind 90	3039.55	-1519.78	2632.33	78969.86	45593.27	0.00
		240	Wind Normal	3185.34	-2758.59	1592.67	47780.16	82757.67	0.00
		270	Wind 90	2936.21	-2936.21	0.00	0.00	88086.28	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		300	Wind 60	2899.09	-2510.69	-1449.55	-43486.41	75320.68	0.00
		330	Wind 90	3039.55	-1519.78	-2632.33	-78969.86	45593.27	0.00
T13	20.00-0.00	0	Wind Normal	3108.30	0.00	-3108.30	-31082.97	0.00	0.00
		30	Wind 90	2853.32	1426.66	-2471.05	-24710.51	-14266.62	0.00
		60	Wind 60	2718.65	2354.42	-1359.33	-13593.25	-23544.20	0.00
		90	Wind 90	2763.90	2763.90	0.00	0.00	-27638.96	0.00
		120	Wind Normal	3018.87	2614.42	1509.43	15094.34	-26144.17	0.00
		150	Wind 90	2853.32	1426.66	2471.05	24710.51	-14266.62	0.00
		180	Wind 60	2808.08	0.00	2808.08	28080.78	0.00	0.00
		210	Wind 90	2853.32	-1426.66	2471.05	24710.51	14266.62	0.00
		240	Wind Normal	3018.87	-2614.42	1509.43	15094.34	26144.17	0.00
		270	Wind 90	2763.90	-2763.90	0.00	0.00	27638.96	0.00
		300	Wind 60	2718.65	-2354.42	-1359.33	-13593.25	23544.20	0.00
		330	Wind 90	2853.32	-1426.66	-2471.05	-24710.51	14266.62	0.00

Mast Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-39690.94	-4766972.32	0.00	0.00
30	18418.21	-31901.27	-3837454.21	-2215555.22	0.00
60	30223.89	-17449.77	-2089835.38	-3619701.06	0.00
90	35052.92	0.00	0.00	-4177773.43	0.00
120	32828.81	18953.72	2256817.65	-3908922.83	0.00
150	18393.61	31858.67	3827656.36	-2209898.43	0.00
180	0.00	36633.85	4421694.20	0.00	0.00
210	-18418.21	31901.27	3837454.21	2215555.22	0.00
240	-32871.40	18978.31	2262474.44	3918720.69	0.00
270	-35052.92	0.00	0.00	4177773.43	0.00
300	-30181.29	-17425.18	-2084178.59	3609903.21	0.00
330	-18393.61	-31858.67	-3827656.36	2209898.43	0.00

Mast Vectors - With Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	255.30-240.00	0	Wind Normal	196.91	0.00	-196.91	-48765.37	0.00	0.00
		30	Wind 90	186.17	93.08	-161.23	-39927.64	-23052.24	0.00
		60	Wind 60	176.78	153.09	-88.39	-21889.43	-37913.61	0.00
		90	Wind 90	175.71	175.71	0.00	0.00	-43514.92	0.00
		120	Wind Normal	186.46	161.48	93.23	23087.91	-39989.43	0.00
		150	Wind 90	186.17	93.08	161.23	39927.64	-23052.24	0.00
		180	Wind 60	187.23	0.00	187.23	46368.42	0.00	0.00
		210	Wind 90	186.17	-93.08	161.23	39927.64	23052.24	0.00
		240	Wind Normal	186.46	-161.48	93.23	23087.91	39989.43	0.00
		270	Wind 90	175.71	-175.71	0.00	0.00	43514.92	0.00
		300	Wind 60	176.78	-153.09	-88.39	-21889.43	37913.61	0.00
		330	Wind 90	186.17	-93.08	-161.23	-39927.64	23052.24	0.00
T2	240.00-220.00	0	Wind Normal	316.15	0.00	-316.15	-72715.31	0.00	0.00
		30	Wind 90	305.90	152.95	-264.92	-60930.74	-35178.38	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		60	Wind 60	293.45	254.13	-146.72	-33746.71	-58451.02	0.00
		90	Wind 90	288.85	288.85	0.00	0.00	-66436.64	0.00
		120	Wind Normal	299.11	259.04	149.55	34397.60	-59578.39	0.00
		150	Wind 90	301.96	150.98	261.50	60145.93	-34725.27	0.00
		180	Wind 60	306.55	0.00	306.55	70507.31	0.00	0.00
		210	Wind 90	305.90	-152.95	264.92	60930.74	35178.38	0.00
		240	Wind Normal	303.05	-262.45	151.52	34850.71	60363.19	0.00
		270	Wind 90	288.85	-288.85	0.00	0.00	66436.64	0.00
		300	Wind 60	289.51	-250.72	-144.75	-33293.60	57666.21	0.00
		330	Wind 90	301.96	-150.98	-261.50	-60145.93	34725.27	0.00
T3	220.00-200.00	0	Wind Normal	357.19	0.00	-357.19	-75010.81	0.00	0.00
		30	Wind 90	345.66	172.83	-299.35	-62863.02	-36293.98	0.00
		60	Wind 60	334.88	290.02	-167.44	-35162.83	-60903.80	0.00
		90	Wind 90	333.19	333.19	0.00	0.00	-69969.52	0.00
		120	Wind Normal	344.73	298.54	172.36	36196.18	-62693.63	0.00
		150	Wind 90	345.66	172.83	299.35	62863.02	-36293.98	0.00
		180	Wind 60	347.35	0.00	347.35	72944.10	0.00	0.00
		210	Wind 90	345.66	-172.83	299.35	62863.02	36293.98	0.00
		240	Wind Normal	344.73	-298.54	172.36	36196.18	62693.63	0.00
		270	Wind 90	333.19	-333.19	0.00	0.00	69969.52	0.00
		300	Wind 60	334.88	-290.02	-167.44	-35162.83	60903.80	0.00
		330	Wind 90	345.66	-172.83	-299.35	-62863.02	36293.98	0.00
T4	200.00-180.00	0	Wind Normal	386.50	0.00	-386.50	-73435.11	0.00	0.00
		30	Wind 90	374.13	187.06	-324.00	-61560.46	-35541.95	0.00
		60	Wind 60	363.22	314.56	-181.61	-34505.73	-59765.67	0.00
		90	Wind 90	361.92	361.92	0.00	0.00	-68764.22	0.00
		120	Wind Normal	374.29	324.15	187.15	35557.72	-61587.78	0.00
		150	Wind 90	374.13	187.06	324.00	61560.46	-35541.95	0.00
		180	Wind 60	375.43	0.00	375.43	71331.13	0.00	0.00
		210	Wind 90	374.13	-187.06	324.00	61560.46	35541.95	0.00
		240	Wind Normal	374.29	-324.15	187.15	35557.72	61587.78	0.00
		270	Wind 90	361.92	-361.92	0.00	0.00	68764.22	0.00
		300	Wind 60	363.22	-314.56	-181.61	-34505.73	59765.67	0.00
		330	Wind 90	374.13	-187.06	-324.00	-61560.46	35541.95	0.00
T5	180.00-160.00	0	Wind Normal	407.89	0.00	-407.89	-69340.59	0.00	0.00
		30	Wind 90	392.31	196.15	-339.75	-57757.54	-33346.33	0.00
		60	Wind 60	380.49	329.52	-190.25	-32341.83	-56017.69	0.00
		90	Wind 90	380.38	380.38	0.00	0.00	-64665.21	0.00
		120	Wind Normal	395.96	342.91	197.98	33656.56	-58294.88	0.00
		150	Wind 90	392.31	196.15	339.75	57757.54	-33346.33	0.00
		180	Wind 60	392.42	0.00	392.42	66711.12	0.00	0.00
		210	Wind 90	392.31	-196.15	339.75	57757.54	33346.33	0.00
		240	Wind Normal	395.96	-342.91	197.98	33656.56	58294.88	0.00
		270	Wind 90	380.38	-380.38	0.00	0.00	64665.21	0.00
		300	Wind 60	380.49	-329.52	-190.25	-32341.83	56017.69	0.00
		330	Wind 90	392.31	-196.15	-339.75	-57757.54	33346.33	0.00
T6	160.00-140.00	0	Wind Normal	430.19	0.00	-430.19	-64527.97	0.00	0.00
		30	Wind 90	413.89	206.94	-358.44	-53765.71	-31041.65	0.00
		60	Wind 60	402.00	348.14	-201.00	-30150.20	-52221.68	0.00
		90	Wind 90	402.27	402.27	0.00	0.00	-60340.89	0.00
		120	Wind Normal	418.57	362.49	209.29	31392.78	-54373.88	0.00
		150	Wind 90	413.89	206.94	358.44	53765.71	-31041.65	0.00
		180	Wind 60	413.62	0.00	413.62	62042.82	0.00	0.00
		210	Wind 90	413.89	-206.94	358.44	53765.71	31041.65	0.00
		240	Wind Normal	418.57	-362.49	209.29	31392.78	54373.88	0.00
		270	Wind 90	402.27	-402.27	0.00	0.00	60340.89	0.00
		300	Wind 60	402.00	-348.14	-201.00	-30150.20	52221.68	0.00
		330	Wind 90	413.89	-206.94	-358.44	-53765.71	31041.65	0.00
T7	140.00-120.00	0	Wind Normal	435.40	0.00	-435.40	-56601.78	0.00	0.00
		30	Wind 90	417.99	209.00	-361.99	-47059.12	-27169.59	0.00
		60	Wind 60	405.93	351.55	-202.97	-26385.48	-45700.98	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		90	Wind 90	406.72	406.72	0.00	0.00	-52873.91	0.00
		120	Wind Normal	424.13	367.30	212.06	27568.25	-47749.61	0.00
		150	Wind 90	417.99	209.00	361.99	47059.12	-27169.59	0.00
		180	Wind 60	417.20	0.00	417.20	54236.23	0.00	0.00
		210	Wind 90	417.99	-209.00	361.99	47059.12	27169.59	0.00
		240	Wind Normal	424.13	-367.30	212.06	27568.25	47749.61	0.00
		270	Wind 90	406.72	-406.72	0.00	0.00	52873.91	0.00
		300	Wind 60	405.93	-351.55	-202.97	-26385.48	45700.98	0.00
		330	Wind 90	417.99	-209.00	-361.99	-47059.12	27169.59	0.00
T8	120.00-100.00	0	Wind Normal	427.23	0.00	-427.23	-46994.85	0.00	0.00
		30	Wind 90	410.60	205.30	-355.59	-39114.89	-22582.99	0.00
		60	Wind 60	399.01	345.55	-199.51	-21945.68	-38011.04	0.00
		90	Wind 90	399.72	399.72	0.00	0.00	-43968.99	0.00
		120	Wind Normal	416.34	360.56	208.17	22898.92	-39662.10	0.00
		150	Wind 90	410.60	205.30	355.59	39114.89	-22582.99	0.00
		180	Wind 60	409.89	0.00	409.89	45088.37	0.00	0.00
		210	Wind 90	410.60	-205.30	355.59	39114.89	22582.99	0.00
		240	Wind Normal	416.34	-360.56	208.17	22898.92	39662.10	0.00
		270	Wind 90	399.72	-399.72	0.00	0.00	43968.99	0.00
		300	Wind 60	399.01	-345.55	-199.51	-21945.68	38011.04	0.00
		330	Wind 90	410.60	-205.30	-355.59	-39114.89	22582.99	0.00
T9	100.00-80.00	0	Wind Normal	421.78	0.00	-421.78	-37959.77	0.00	0.00
		30	Wind 90	404.61	202.30	-350.40	-31535.95	-18207.29	0.00
		60	Wind 60	393.09	340.42	-196.54	-17688.97	-30638.19	0.00
		90	Wind 90	394.17	394.17	0.00	0.00	-35475.73	0.00
		120	Wind Normal	411.34	356.23	205.67	18510.46	-32061.05	0.00
		150	Wind 90	404.61	202.30	350.40	31535.95	-18207.29	0.00
		180	Wind 60	403.52	0.00	403.52	36316.79	0.00	0.00
		210	Wind 90	404.61	-202.30	350.40	31535.95	18207.29	0.00
		240	Wind Normal	411.34	-356.23	205.67	18510.46	32061.05	0.00
		270	Wind 90	394.17	-394.17	0.00	0.00	35475.73	0.00
		300	Wind 60	393.09	-340.42	-196.54	-17688.97	30638.19	0.00
		330	Wind 90	404.61	-202.30	-350.40	-31535.95	18207.29	0.00
T10	80.00-60.00	0	Wind Normal	424.18	0.00	-424.18	-29692.35	0.00	0.00
		30	Wind 90	404.51	202.26	-350.32	-24522.15	-14157.87	0.00
		60	Wind 60	392.46	339.88	-196.23	-13736.05	-23791.54	0.00
		90	Wind 90	394.62	394.62	0.00	0.00	-27623.15	0.00
		120	Wind Normal	414.28	358.78	207.14	14499.88	-25114.53	0.00
		150	Wind 90	404.51	202.26	350.32	24522.15	-14157.87	0.00
		180	Wind 60	402.35	0.00	402.35	28164.69	0.00	0.00
		210	Wind 90	404.51	-202.26	350.32	24522.15	14157.87	0.00
		240	Wind Normal	414.28	-358.78	207.14	14499.88	25114.53	0.00
		270	Wind 90	394.62	-394.62	0.00	0.00	27623.15	0.00
		300	Wind 60	392.46	-339.88	-196.23	-13736.05	23791.54	0.00
		330	Wind 90	404.51	-202.26	-350.32	-24522.15	14157.87	0.00
T11	60.00-40.00	0	Wind Normal	405.50	0.00	-405.50	-20275.11	0.00	0.00
		30	Wind 90	385.86	192.93	-334.17	-16708.43	-9646.62	0.00
		60	Wind 60	374.20	324.07	-187.10	-9354.95	-16203.25	0.00
		90	Wind 90	376.65	376.65	0.00	0.00	-18832.36	0.00
		120	Wind Normal	396.28	343.19	198.14	9907.12	-17159.63	0.00
		150	Wind 90	385.86	192.93	334.17	16708.43	-9646.62	0.00
		180	Wind 60	383.42	0.00	383.42	19170.78	0.00	0.00
		210	Wind 90	385.86	-192.93	334.17	16708.43	9646.62	0.00
		240	Wind Normal	396.28	-343.19	198.14	9907.12	17159.63	0.00
		270	Wind 90	376.65	-376.65	0.00	0.00	18832.36	0.00
		300	Wind 60	374.20	-324.07	-187.10	-9354.95	16203.25	0.00
		330	Wind 90	385.86	-192.93	-334.17	-16708.43	9646.62	0.00
T12	40.00-20.00	0	Wind Normal	382.77	0.00	-382.77	-11483.21	0.00	0.00
		30	Wind 90	364.30	182.15	-315.50	-9464.86	-5464.54	0.00
		60	Wind 60	353.55	306.18	-176.77	-5303.21	-9185.42	0.00
		90	Wind 90	356.03	356.03	0.00	0.00	-10680.75	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		120	Wind Normal	374.50	324.32	187.25	5617.44	-9729.69	0.00
		150	Wind 90	364.30	182.15	315.50	9464.86	-5464.54	0.00
		180	Wind 60	361.82	0.00	361.82	10854.74	0.00	0.00
		210	Wind 90	364.30	-182.15	315.50	9464.86	5464.54	0.00
		240	Wind Normal	374.50	-324.32	187.25	5617.44	9729.69	0.00
		270	Wind 90	356.03	-356.03	0.00	0.00	10680.75	0.00
		300	Wind 60	353.55	-306.18	-176.77	-5303.21	9185.42	0.00
		330	Wind 90	364.30	-182.15	-315.50	-9464.86	5464.54	0.00
T13	20.00-0.00	0	Wind Normal	345.32	0.00	-345.32	-3453.22	0.00	0.00
		30	Wind 90	326.27	163.14	-282.56	-2825.62	-1631.37	0.00
		60	Wind 60	315.95	273.62	-157.97	-1579.73	-2736.17	0.00
		90	Wind 90	319.11	319.11	0.00	0.00	-3191.11	0.00
		120	Wind Normal	338.16	292.85	169.08	1690.79	-2928.54	0.00
		150	Wind 90	326.27	163.14	282.56	2825.62	-1631.37	0.00
		180	Wind 60	323.11	0.00	323.11	3231.09	0.00	0.00
		210	Wind 90	326.27	-163.14	282.56	2825.62	1631.37	0.00
		240	Wind Normal	338.16	-292.85	169.08	1690.79	2928.54	0.00
		270	Wind 90	319.11	-319.11	0.00	0.00	3191.11	0.00
		300	Wind 60	315.95	-273.62	-157.97	-1579.73	2736.17	0.00
		330	Wind 90	326.27	-163.14	-282.56	-2825.62	1631.37	0.00

Mast Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-4937.01	-610255.44	0.00	0.00
30	2366.10	-4098.21	-508036.15	-293314.81	0.00
60	3970.73	-2292.50	-283790.79	-491540.06	0.00
90	4589.34	0.00	0.00	-566337.40	0.00
120	4151.85	2397.07	294981.61	-510923.14	0.00
150	2364.13	4094.79	507251.34	-292861.70	0.00
180	0.00	4723.92	586967.58	0.00	0.00
210	-2366.10	4098.21	508036.15	293314.81	0.00
240	-4155.27	2399.04	295434.72	511707.94	0.00
270	-4589.34	0.00	0.00	566337.40	0.00
300	-3967.32	-2290.53	-283337.68	490755.26	0.00
330	-2364.13	-4094.79	-507251.34	292861.70	0.00

Mast Vectors - Service

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	255.30-240.00	0	Wind Normal	455.33	0.00	-455.33	-112763.32	0.00	0.00
		30	Wind 90	402.91	201.45	-348.93	-86411.69	-49889.82	0.00
		60	Wind 60	362.19	313.67	-181.10	-44848.58	-77680.03	0.00
		90	Wind 90	361.08	361.08	0.00	0.00	-89421.42	0.00
		120	Wind Normal	413.51	358.11	206.75	51202.55	-88685.42	0.00
		150	Wind 90	402.91	201.45	348.93	86411.69	-49889.82	0.00
		180	Wind 60	404.02	0.00	404.02	100055.38	0.00	0.00
		210	Wind 90	402.91	-201.45	348.93	86411.69	49889.82	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		240	Wind Normal	413.51	-358.11	206.75	51202.55	88685.42	0.00
		270	Wind 90	361.08	-361.08	0.00	0.00	89421.42	0.00
		300	Wind 60	362.19	-313.67	-181.10	-44848.58	77680.03	0.00
		330	Wind 90	402.91	-201.45	-348.93	-86411.69	49889.82	0.00
T2	240.00-220.00	0	Wind Normal	789.05	0.00	-789.05	-181480.63	0.00	0.00
		30	Wind 90	740.54	370.27	-641.33	-147505.01	-85162.06	0.00
		60	Wind 60	688.25	596.04	-344.12	-79148.34	-137088.95	0.00
		90	Wind 90	672.36	672.36	0.00	0.00	-154643.68	0.00
		120	Wind Normal	720.87	624.29	360.44	82900.10	-143587.19	0.00
		150	Wind 90	724.78	362.39	627.68	144365.79	-83349.63	0.00
		180	Wind 60	740.66	0.00	740.66	170352.26	0.00	0.00
		210	Wind 90	740.54	-370.27	641.33	147505.01	85162.06	0.00
		240	Wind Normal	736.63	-637.94	368.32	84712.53	146726.40	0.00
		270	Wind 90	672.36	-672.36	0.00	0.00	154643.68	0.00
		300	Wind 60	672.49	-582.39	-336.24	-77335.91	133949.73	0.00
		330	Wind 90	724.78	-362.39	-627.68	-144365.79	83349.63	0.00
T3	220.00-200.00	0	Wind Normal	916.78	0.00	-916.78	-192524.44	0.00	0.00
		30	Wind 90	863.85	431.92	-748.12	-157104.35	-90704.24	0.00
		60	Wind 60	818.50	708.84	-409.25	-85942.20	-148856.25	0.00
		90	Wind 90	813.97	813.97	0.00	0.00	-170934.71	0.00
		120	Wind Normal	866.91	750.76	433.45	91025.33	-157660.50	0.00
		150	Wind 90	863.85	431.92	748.12	157104.35	-90704.24	0.00
		180	Wind 60	868.37	0.00	868.37	182358.17	0.00	0.00
		210	Wind 90	863.85	-431.92	748.12	157104.35	90704.24	0.00
		240	Wind Normal	866.91	-750.76	433.45	91025.33	157660.50	0.00
		270	Wind 90	813.97	-813.97	0.00	0.00	170934.71	0.00
		300	Wind 60	818.50	-708.84	-409.25	-85942.20	148856.25	0.00
		330	Wind 90	863.85	-431.92	-748.12	-157104.35	90704.24	0.00
T4	200.00-180.00	0	Wind Normal	993.55	0.00	-993.55	-188773.66	0.00	0.00
		30	Wind 90	937.22	468.61	-811.66	-154215.34	-89036.27	0.00
		60	Wind 60	891.32	771.91	-445.66	-84675.33	-146661.97	0.00
		90	Wind 90	888.39	888.39	0.00	0.00	-168793.84	0.00
		120	Wind Normal	944.71	818.14	472.36	89747.48	-155447.20	0.00
		150	Wind 90	937.22	468.61	811.66	154215.34	-89036.27	0.00
		180	Wind 60	940.15	0.00	940.15	178629.35	0.00	0.00
		210	Wind 90	937.22	-468.61	811.66	154215.34	89036.27	0.00
		240	Wind Normal	944.71	-818.14	472.36	89747.48	155447.20	0.00
		270	Wind 90	888.39	-888.39	0.00	0.00	168793.84	0.00
		300	Wind 60	891.32	-771.91	-445.66	-84675.33	146661.97	0.00
		330	Wind 90	937.22	-468.61	-811.66	-154215.34	89036.27	0.00
T5	180.00-160.00	0	Wind Normal	1080.65	0.00	-1080.65	-183710.52	0.00	0.00
		30	Wind 90	1009.51	504.75	-874.26	-148624.33	-85808.30	0.00
		60	Wind 60	959.29	830.77	-479.65	-81539.91	-141231.26	0.00
		90	Wind 90	961.80	961.80	0.00	0.00	-163506.75	0.00
		120	Wind Normal	1032.95	894.56	516.47	87800.34	-152074.64	0.00
		150	Wind 90	1009.51	504.75	874.26	148624.33	-85808.30	0.00
		180	Wind 60	1007.00	0.00	1007.00	171189.66	0.00	0.00
		210	Wind 90	1009.51	-504.75	874.26	148624.33	85808.30	0.00
		240	Wind Normal	1032.95	-894.56	516.47	87800.34	152074.64	0.00
		270	Wind 90	961.80	-961.80	0.00	0.00	163506.75	0.00
		300	Wind 60	959.29	-830.77	-479.65	-81539.91	141231.26	0.00
		330	Wind 90	1009.51	-504.75	-874.26	-148624.33	85808.30	0.00
T6	160.00-140.00	0	Wind Normal	1144.18	0.00	-1144.18	-171627.24	0.00	0.00
		30	Wind 90	1070.46	535.23	-927.04	-139056.50	-80284.31	0.00
		60	Wind 60	1020.07	883.41	-510.03	-76505.19	-132510.87	0.00
		90	Wind 90	1023.99	1023.99	0.00	0.00	-153598.96	0.00
		120	Wind Normal	1097.72	950.65	548.86	82328.79	-142597.65	0.00
		150	Wind 90	1070.46	535.23	927.04	139056.50	-80284.31	0.00
		180	Wind 60	1066.53	0.00	1066.53	159980.03	0.00	0.00
		210	Wind 90	1070.46	-535.23	927.04	139056.50	80284.31	0.00
		240	Wind Normal	1097.72	-950.65	548.86	82328.79	142597.65	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		270	Wind 90	1023.99	-1023.99	0.00	0.00	153598.96	0.00
		300	Wind 60	1020.07	-883.41	-510.03	-76505.19	132510.87	0.00
		330	Wind 90	1070.46	-535.23	-927.04	-139056.50	80284.31	0.00
T7	140.00-120.00	0	Wind Normal	1163.34	0.00	-1163.34	-151233.94	0.00	0.00
		30	Wind 90	1084.72	542.36	-939.40	-122121.47	-70506.86	0.00
		60	Wind 60	1033.47	895.01	-516.73	-67175.41	-116351.22	0.00
		90	Wind 90	1039.64	1039.64	0.00	0.00	-135152.62	0.00
		120	Wind Normal	1118.25	968.44	559.13	72686.42	-125896.57	0.00
		150	Wind 90	1084.72	542.36	939.40	122121.47	-70506.86	0.00
		180	Wind 60	1078.55	0.00	1078.55	140211.93	0.00	0.00
		210	Wind 90	1084.72	-542.36	939.40	122121.47	70506.86	0.00
		240	Wind Normal	1118.25	-968.44	559.13	72686.42	125896.57	0.00
		270	Wind 90	1039.64	-1039.64	0.00	0.00	135152.62	0.00
		300	Wind 60	1033.47	-895.01	-516.73	-67175.41	116351.22	0.00
		330	Wind 90	1084.72	-542.36	-939.40	-122121.47	70506.86	0.00
T8	120.00-100.00	0	Wind Normal	1156.15	0.00	-1156.15	-127176.89	0.00	0.00
		30	Wind 90	1083.22	541.61	-938.10	-103190.84	-59577.26	0.00
		60	Wind 60	1034.73	896.10	-517.37	-56910.19	-98571.34	0.00
		90	Wind 90	1039.70	1039.70	0.00	0.00	-114366.50	0.00
		120	Wind Normal	1112.63	963.56	556.31	61194.44	-105991.88	0.00
		150	Wind 90	1083.22	541.61	938.10	103190.84	-59577.26	0.00
		180	Wind 60	1078.26	0.00	1078.26	118608.39	0.00	0.00
		210	Wind 90	1083.22	-541.61	938.10	103190.84	59577.26	0.00
		240	Wind Normal	1112.63	-963.56	556.31	61194.44	105991.88	0.00
		270	Wind 90	1039.70	-1039.70	0.00	0.00	114366.50	0.00
		300	Wind 60	1034.73	-896.10	-517.37	-56910.19	98571.34	0.00
		330	Wind 90	1083.22	-541.61	-938.10	-103190.84	59577.26	0.00
T9	100.00-80.00	0	Wind Normal	1149.41	0.00	-1149.41	-103447.21	0.00	0.00
		30	Wind 90	1074.31	537.15	-930.38	-83733.87	-48343.77	0.00
		60	Wind 60	1026.09	888.62	-513.04	-46173.99	-79975.69	0.00
		90	Wind 90	1032.58	1032.58	0.00	0.00	-92932.13	0.00
		120	Wind Normal	1107.69	959.28	553.84	49845.90	-86335.63	0.00
		150	Wind 90	1074.31	537.15	930.38	83733.87	-48343.77	0.00
		180	Wind 60	1067.82	0.00	1067.82	96103.39	0.00	0.00
		210	Wind 90	1074.31	-537.15	930.38	83733.87	48343.77	0.00
		240	Wind Normal	1107.69	-959.28	553.84	49845.90	86335.63	0.00
		270	Wind 90	1032.58	-1032.58	0.00	0.00	92932.13	0.00
		300	Wind 60	1026.09	-888.62	-513.04	-46173.99	79975.69	0.00
		330	Wind 90	1074.31	-537.15	-930.38	-83733.87	48343.77	0.00
T10	80.00-60.00	0	Wind Normal	1192.55	0.00	-1192.55	-83478.42	0.00	0.00
		30	Wind 90	1106.65	553.32	-958.39	-67087.08	-38732.75	0.00
		60	Wind 60	1056.03	914.55	-528.01	-36961.05	-64018.41	0.00
		90	Wind 90	1067.07	1067.07	0.00	0.00	-74695.14	0.00
		120	Wind Normal	1152.97	998.50	576.49	40354.03	-69895.24	0.00
		150	Wind 90	1106.65	553.32	958.39	67087.08	-38732.75	0.00
		180	Wind 60	1095.61	0.00	1095.61	76692.45	0.00	0.00
		210	Wind 90	1106.65	-553.32	958.39	67087.08	38732.75	0.00
		240	Wind Normal	1152.97	-998.50	576.49	40354.03	69895.24	0.00
		270	Wind 90	1067.07	-1067.07	0.00	0.00	74695.14	0.00
		300	Wind 60	1056.03	-914.55	-528.01	-36961.05	64018.41	0.00
		330	Wind 90	1106.65	-553.32	-958.39	-67087.08	38732.75	0.00
T11	60.00-40.00	0	Wind Normal	1154.83	0.00	-1154.83	-57741.43	0.00	0.00
		30	Wind 90	1069.37	534.68	-926.10	-46304.97	-26734.19	0.00
		60	Wind 60	1020.40	883.69	-510.20	-25509.93	-44184.49	0.00
		90	Wind 90	1032.50	1032.50	0.00	0.00	-51624.87	0.00
		120	Wind Normal	1117.96	968.18	558.98	27948.96	-48409.03	0.00
		150	Wind 90	1069.37	534.68	926.10	46304.97	-26734.19	0.00
		180	Wind 60	1057.27	0.00	1057.27	52863.36	0.00	0.00
		210	Wind 90	1069.37	-534.68	926.10	46304.97	26734.19	0.00
		240	Wind Normal	1117.96	-968.18	558.98	27948.96	48409.03	0.00
		270	Wind 90	1032.50	-1032.50	0.00	0.00	51624.87	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		300	Wind 60	1020.40	-883.69	-510.20	-25509.93	44184.49	0.00
		330	Wind 90	1069.37	-534.68	-926.10	-46304.97	26734.19	0.00
T12	40.00-20.00	0	Wind Normal	1096.25	0.00	-1096.25	-32887.58	0.00	0.00
		30	Wind 90	1016.43	508.22	-880.25	-26407.63	-15246.45	0.00
		60	Wind 60	971.43	841.28	-485.71	-14571.42	-25238.44	0.00
		90	Wind 90	983.32	983.32	0.00	0.00	-29499.58	0.00
		120	Wind Normal	1063.14	920.71	531.57	15947.13	-27621.24	0.00
		150	Wind 90	1016.43	508.22	880.25	26407.63	-15246.45	0.00
		180	Wind 60	1004.54	0.00	1004.54	30136.16	0.00	0.00
		210	Wind 90	1016.43	-508.22	880.25	26407.63	15246.45	0.00
		240	Wind Normal	1063.14	-920.71	531.57	15947.13	27621.24	0.00
		270	Wind 90	983.32	-983.32	0.00	0.00	29499.58	0.00
		300	Wind 60	971.43	-841.28	-485.71	-14571.42	25238.44	0.00
		330	Wind 90	1016.43	-508.22	-880.25	-26407.63	15246.45	0.00
T13	20.00-0.00	0	Wind Normal	1043.35	0.00	-1043.35	-10433.46	0.00	0.00
		30	Wind 90	961.65	480.83	-832.82	-8328.16	-4808.27	0.00
		60	Wind 60	918.50	795.45	-459.25	-4592.52	-7954.48	0.00
		90	Wind 90	933.00	933.00	0.00	0.00	-9330.00	0.00
		120	Wind Normal	1014.69	878.75	507.35	5073.47	-8787.50	0.00
		150	Wind 90	961.65	480.83	832.82	8328.16	-4808.27	0.00
		180	Wind 60	947.16	0.00	947.16	9471.56	0.00	0.00
		210	Wind 90	961.65	-480.83	832.82	8328.16	4808.27	0.00
		240	Wind Normal	1014.69	-878.75	507.35	5073.47	8787.50	0.00
		270	Wind 90	933.00	-933.00	0.00	0.00	9330.00	0.00
		300	Wind 60	918.50	-795.45	-459.25	-4592.52	7954.48	0.00
		330	Wind 90	961.65	-480.83	-832.82	-8328.16	4808.27	0.00

Mast Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-13335.42	-1597278.76	0.00	0.00
30	6210.42	-10756.76	-1290091.24	-744834.52	0.00
60	10219.33	-5900.13	-704554.05	-1220323.41	0.00
90	11849.41	0.00	0.00	-1408500.19	0.00
120	11053.94	6382.00	758054.95	-1312989.69	0.00
150	6202.54	10743.11	1286952.02	-743022.10	0.00
180	0.00	12355.94	1486652.10	0.00	0.00
210	-6210.42	10756.76	1290091.24	744834.53	0.00
240	-11067.59	6389.88	759867.38	1316128.91	0.00
270	-11849.41	0.00	0.00	1408500.19	0.00
300	-10205.68	-5892.25	-702741.62	1217184.19	0.00
330	-6202.54	-10743.11	-1286952.02	743022.10	0.00

Discrete Appurtenance Pressures - No Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
42,000 sq in CaAa	0.0000	4964.00	0.00	0.00	250.00	1.535	38	292.00	292.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	239.00	1.520	37	208.00	208.00

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	229.00	1.507	37	208.00	208.00
Dish Pipe Mount	120.0000	103.00	3.81	2.20	205.00	1.472	36	0.00	1.80
	Sum Weight:	12139.00							

Discrete Appurtenance Vectors - No Ice

42,000 sq in CaAa - Elevation 250 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7637.76	0.00	0.00	-7637.76	-1909439.93	0.00	0.00
30	7637.76	0.00	3818.88	-6614.49	-1653623.49	-954719.97	0.00
60	7637.76	0.00	6614.49	-3818.88	-954719.97	-1653623.49	0.00
90	7637.76	0.00	7637.76	0.00	0.00	-1909439.93	0.00
120	7637.76	0.00	6614.49	3818.88	954719.97	-1653623.49	0.00
150	7637.76	0.00	3818.88	6614.49	1653623.49	-954719.97	0.00
180	7637.76	0.00	0.00	7637.76	1909439.93	0.00	0.00
210	7637.76	0.00	-3818.88	6614.49	1653623.49	954719.97	0.00
240	7637.76	0.00	-6614.49	3818.88	954719.97	1653623.49	0.00
270	7637.76	0.00	-7637.76	0.00	0.00	1909439.93	0.00
300	7637.76	0.00	-6614.49	-3818.88	-954719.97	1653623.49	0.00
330	7637.76	0.00	-3818.88	-6614.49	-1653623.49	954719.97	0.00

30,000 sq in CaAa - Elevation 239 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	5389.30	0.00	0.00	-5389.30	-1288042.67	0.00	0.00
30	5389.30	0.00	2694.65	-4667.27	-1115477.67	-644021.33	0.00
60	5389.30	0.00	4667.27	-2694.65	-644021.33	-1115477.67	0.00
90	5389.30	0.00	5389.30	0.00	0.00	-1288042.67	0.00
120	5389.30	0.00	4667.27	2694.65	644021.33	-1115477.67	0.00
150	5389.30	0.00	2694.65	4667.27	1115477.67	-644021.33	0.00
180	5389.30	0.00	0.00	5389.30	1288042.67	0.00	0.00
210	5389.30	0.00	-2694.65	4667.27	1115477.67	644021.33	0.00
240	5389.30	0.00	-4667.27	2694.65	644021.33	1115477.67	0.00
270	5389.30	0.00	-5389.30	0.00	0.00	1288042.67	0.00
300	5389.30	0.00	-4667.27	-2694.65	-644021.33	1115477.67	0.00
330	5389.30	0.00	-2694.65	-4667.27	-1115477.67	644021.33	0.00

30,000 sq in CaAa - Elevation 229 - None A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	5341.02	0.00	0.00	-5341.02	-1223094.33	0.00	0.00
30	5341.02	0.00	2670.51	-4625.46	-1059230.76	-611547.17	0.00
60	5341.02	0.00	4625.46	-2670.51	-611547.17	-1059230.76	0.00
90	5341.02	0.00	5341.02	0.00	0.00	-1223094.33	0.00
120	5341.02	0.00	4625.46	2670.51	611547.17	-1059230.76	0.00
150	5341.02	0.00	2670.51	4625.46	1059230.76	-611547.17	0.00
180	5341.02	0.00	0.00	5341.02	1223094.33	0.00	0.00
210	5341.02	0.00	-2670.51	4625.46	1059230.76	611547.17	0.00
240	5341.02	0.00	-4625.46	2670.51	611547.17	1059230.76	0.00

30,000 sq in CaAa - Elevation 229 - None A							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
270	5341.02	0.00	-5341.02	0.00	0.00	1223094.33	0.00
300	5341.02	0.00	-4625.46	-2670.51	-611547.17	1059230.76	0.00
330	5341.02	0.00	-2670.51	-4625.46	-1059230.76	611547.17	0.00

Dish Pipe Mount - Elevation 205 - From Leg B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	47.69	23.85	-41.30	-8239.95	-5280.92	209.95
30	0.00	55.07	27.53	-47.69	-9549.75	-6037.13	242.42
60	0.00	47.69	23.85	-41.30	-8239.95	-5280.92	209.95
90	0.00	27.53	13.77	-23.85	-4661.51	-3214.91	121.21
120	0.00	0.00	0.00	0.00	226.72	-392.69	0.00
150	0.00	27.53	-13.77	23.85	5114.95	2429.53	-121.21
180	0.00	47.69	-23.85	41.30	8693.38	4495.54	-209.95
210	0.00	55.07	-27.53	47.69	10003.18	5251.76	-242.42
240	0.00	47.69	-23.85	41.30	8693.38	4495.54	-209.95
270	0.00	27.53	-13.77	23.85	5114.95	2429.53	-121.21
300	0.00	0.00	0.00	0.00	226.72	-392.69	0.00
330	0.00	27.53	13.77	-23.85	-4661.51	-3214.91	121.21

Discrete Appurtenance Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	23.85	-18409.38	-4428816.88	-5280.92	209.95
30	9211.58	-15954.92	-3837881.67	-2216325.60	242.42
60	15931.07	-9225.34	-2218528.41	-3833612.84	209.95
90	18381.85	-23.85	-4661.51	-4423791.84	121.21
120	15907.23	9184.04	2210515.18	-3828724.61	0.00
150	9170.27	15931.07	3833446.87	-2207858.93	-121.21
180	-23.85	18409.38	4429270.32	4495.54	-209.95
210	-9211.58	15954.92	3838335.10	2215540.22	-242.42
240	-15931.07	9225.34	2218981.85	3832827.47	-209.95
270	-18381.85	23.85	5114.95	4423006.47	-121.21
300	-15907.23	-9184.04	-2210061.75	3827939.23	0.00
330	-9170.27	-15931.07	-3832993.44	2207073.56	121.21

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
42,000 sq in CaAa	0.0000	11164.64	0.00	0.00	250.00	1.535	3	505.06	505.06	1.8367
30,000 sq in CaAa	0.0000	7931.56	0.00	0.00	239.00	1.520	3	361.59	361.59	1.8284
30,000 sq in CaAa	0.0000	7912.81	0.00	0.00	229.00	1.507	3	360.93	360.93	1.8206
Dish Pipe Mount	120.0000	160.62	3.81	2.20	205.00	1.472	3	0.00	2.88	1.8006
	Sum	27169.63								

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
	Weight:									

Discrete Appurtenance Vectors - With Ice

42,000 sq in CaAa - Elevation 250 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1058.16	0.00	0.00	-1058.16	-264540.80	0.00	0.00
30	1058.16	0.00	529.08	-916.40	-229099.05	-132270.40	0.00
60	1058.16	0.00	916.40	-529.08	-132270.40	-229099.05	0.00
90	1058.16	0.00	1058.16	0.00	0.00	-264540.80	0.00
120	1058.16	0.00	916.40	529.08	132270.40	-229099.05	0.00
150	1058.16	0.00	529.08	916.40	229099.05	-132270.40	0.00
180	1058.16	0.00	0.00	1058.16	264540.80	0.00	0.00
210	1058.16	0.00	-529.08	916.40	229099.05	132270.40	0.00
240	1058.16	0.00	-916.40	529.08	132270.40	229099.05	0.00
270	1058.16	0.00	-1058.16	0.00	0.00	264540.80	0.00
300	1058.16	0.00	-916.40	-529.08	-132270.40	229099.05	0.00
330	1058.16	0.00	-529.08	-916.40	-229099.05	132270.40	0.00

30,000 sq in CaAa - Elevation 239 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	750.44	0.00	0.00	-750.44	-179354.55	0.00	0.00
30	750.44	0.00	375.22	-649.90	-155325.60	-89677.28	0.00
60	750.44	0.00	649.90	-375.22	-89677.28	-155325.60	0.00
90	750.44	0.00	750.44	0.00	0.00	-179354.55	0.00
120	750.44	0.00	649.90	375.22	89677.28	-155325.60	0.00
150	750.44	0.00	375.22	649.90	155325.60	-89677.28	0.00
180	750.44	0.00	0.00	750.44	179354.55	0.00	0.00
210	750.44	0.00	-375.22	649.90	155325.60	89677.28	0.00
240	750.44	0.00	-649.90	375.22	89677.28	155325.60	0.00
270	750.44	0.00	-750.44	0.00	0.00	179354.55	0.00
300	750.44	0.00	-649.90	-375.22	-89677.28	155325.60	0.00
330	750.44	0.00	-375.22	-649.90	-155325.60	89677.28	0.00

30,000 sq in CaAa - Elevation 229 - None A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	742.37	0.00	0.00	-742.37	-170002.23	0.00	0.00
30	742.37	0.00	371.18	-642.91	-147226.25	-85001.12	0.00
60	742.37	0.00	642.91	-371.18	-85001.12	-147226.25	0.00
90	742.37	0.00	742.37	0.00	0.00	-170002.23	0.00
120	742.37	0.00	642.91	371.18	85001.12	-147226.25	0.00
150	742.37	0.00	371.18	642.91	147226.25	-85001.12	0.00
180	742.37	0.00	0.00	742.37	170002.23	0.00	0.00
210	742.37	0.00	-371.18	642.91	147226.25	85001.12	0.00
240	742.37	0.00	-642.91	371.18	85001.12	147226.25	0.00
270	742.37	0.00	-742.37	0.00	0.00	170002.23	0.00
300	742.37	0.00	-642.91	-371.18	-85001.12	147226.25	0.00
330	742.37	0.00	-371.18	-642.91	-147226.25	85001.12	0.00

Dish Pipe Mount - Elevation 205 - From Leg B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	6.11	3.06	-5.29	-731.67	-1238.91	26.91
30	0.00	7.06	3.53	-6.11	-899.56	-1335.84	31.07
60	0.00	6.11	3.06	-5.29	-731.67	-1238.91	26.91
90	0.00	3.53	1.76	-3.06	-273.00	-974.10	15.54
120	0.00	0.00	0.00	0.00	353.55	-612.36	0.00
150	0.00	3.53	-1.76	3.06	980.10	-250.62	-15.54
180	0.00	6.11	-3.06	5.29	1438.76	14.19	-26.91
210	0.00	7.06	-3.53	6.11	1606.65	111.12	-31.07
240	0.00	6.11	-3.06	5.29	1438.76	14.19	-26.91
270	0.00	3.53	-1.76	3.06	980.10	-250.62	-15.54
300	0.00	0.00	0.00	0.00	353.55	-612.36	0.00
330	0.00	3.53	1.76	-3.06	-273.00	-974.10	15.54

Discrete Appurtenance Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	3.06	-2556.26	-614629.25	-1238.91	26.91
30	1279.01	-2215.32	-532550.45	-308284.63	31.07
60	2212.26	-1280.78	-307680.46	-532889.81	26.91
90	2552.73	-3.06	-273.00	-614871.68	15.54
120	2209.20	1275.48	307302.34	-532263.26	0.00
150	1273.72	2212.26	532631.00	-307199.41	-15.54
180	-3.06	2556.26	615336.34	14.19	-26.91
210	-1279.01	2215.32	533257.55	307059.91	-31.07
240	-2212.26	1280.78	308387.55	531665.09	-26.91
270	-2552.73	3.06	980.10	613646.96	-15.54
300	-2209.20	-1275.48	-306595.24	531038.54	0.00
330	-1273.72	-2212.26	-531923.90	305974.69	15.54

Discrete Appurtenance Pressures - Service $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
42,000 sq in CaAa	0.0000	4964.00	0.00	0.00	250.00	1.535	12	292.00	292.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	239.00	1.520	12	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	229.00	1.507	12	208.00	208.00
Dish Pipe Mount	120.0000	103.00	3.81	2.20	205.00	1.472	12	0.00	1.80
	Sum Weight:	12139.00							

Discrete Appurtenance Vectors - Service

42,000 sq in CaAa - Elevation 250 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2447.13	0.00	0.00	-2447.13	-611782.11	0.00	0.00
30	2447.13	0.00	1223.56	-2119.28	-529818.85	-305891.05	0.00
60	2447.13	0.00	2119.28	-1223.56	-305891.05	-529818.85	0.00
90	2447.13	0.00	2447.13	0.00	0.00	-611782.11	0.00
120	2447.13	0.00	2119.28	1223.56	305891.05	-529818.85	0.00
150	2447.13	0.00	1223.56	2119.28	529818.85	-305891.05	0.00
180	2447.13	0.00	0.00	2447.13	611782.11	0.00	0.00
210	2447.13	0.00	-1223.56	2119.28	529818.85	305891.05	0.00
240	2447.13	0.00	-2119.28	1223.56	305891.05	529818.85	0.00
270	2447.13	0.00	-2447.13	0.00	0.00	611782.11	0.00
300	2447.13	0.00	-2119.28	-1223.56	-305891.05	529818.85	0.00
330	2447.13	0.00	-1223.56	-2119.28	-529818.85	305891.05	0.00

30,000 sq in CaAa - Elevation 239 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1726.72	0.00	0.00	-1726.72	-412687.22	0.00	0.00
30	1726.72	0.00	863.36	-1495.39	-357397.62	-206343.61	0.00
60	1726.72	0.00	1495.39	-863.36	-206343.61	-357397.62	0.00
90	1726.72	0.00	1726.72	0.00	0.00	-412687.22	0.00
120	1726.72	0.00	1495.39	863.36	206343.61	-357397.62	0.00
150	1726.72	0.00	863.36	1495.39	357397.62	-206343.61	0.00
180	1726.72	0.00	0.00	1726.72	412687.22	0.00	0.00
210	1726.72	0.00	-863.36	1495.39	357397.62	206343.61	0.00
240	1726.72	0.00	-1495.39	863.36	206343.61	357397.62	0.00
270	1726.72	0.00	-1726.72	0.00	0.00	412687.22	0.00
300	1726.72	0.00	-1495.39	-863.36	-206343.61	357397.62	0.00
330	1726.72	0.00	-863.36	-1495.39	-357397.62	206343.61	0.00

30,000 sq in CaAa - Elevation 229 - None A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1711.26	0.00	0.00	-1711.26	-391877.86	0.00	0.00
30	1711.26	0.00	855.63	-1481.99	-339376.18	-195938.93	0.00
60	1711.26	0.00	1481.99	-855.63	-195938.93	-339376.18	0.00
90	1711.26	0.00	1711.26	0.00	0.00	-391877.86	0.00
120	1711.26	0.00	1481.99	855.63	195938.93	-339376.18	0.00
150	1711.26	0.00	855.63	1481.99	339376.18	-195938.93	0.00
180	1711.26	0.00	0.00	1711.26	391877.86	0.00	0.00
210	1711.26	0.00	-855.63	1481.99	339376.18	195938.93	0.00
240	1711.26	0.00	-1481.99	855.63	195938.93	339376.18	0.00
270	1711.26	0.00	-1711.26	0.00	0.00	391877.86	0.00
300	1711.26	0.00	-1481.99	-855.63	-195938.93	339376.18	0.00
330	1711.26	0.00	-855.63	-1481.99	-339376.18	195938.93	0.00

Dish Pipe Mount - Elevation 205 - From Leg B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	15.28	7.64	-13.23	-2485.99	-1958.87	67.27
30	0.00	17.64	8.82	-15.28	-2905.65	-2201.16	77.67
60	0.00	15.28	7.64	-13.23	-2485.99	-1958.87	67.27
90	0.00	8.82	4.41	-7.64	-1339.47	-1296.92	38.84

Dish Pipe Mount - Elevation 205 - From Leg B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
120	0.00	0.00	0.00	0.00	226.72	-392.69	0.00
150	0.00	8.82	-4.41	7.64	1792.90	511.55	-38.84
180	0.00	15.28	-7.64	13.23	2939.43	1173.50	-67.27
210	0.00	17.64	-8.82	15.28	3359.08	1415.79	-77.67
240	0.00	15.28	-7.64	13.23	2939.43	1173.50	-67.27
270	0.00	8.82	-4.41	7.64	1792.90	511.55	-38.84
300	0.00	0.00	0.00	0.00	226.72	-392.69	0.00
330	0.00	8.82	4.41	-7.64	-1339.47	-1296.92	38.84

Discrete Appurtenance Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7.64	-5898.34	-1418833.17	-1958.87	67.27
30	2951.38	-5111.93	-1229498.29	-710374.75	77.67
60	5104.29	-2955.79	-710659.58	-1228551.51	67.27
90	5889.52	-7.64	-1339.47	-1417644.11	38.84
120	5096.65	2942.56	708400.31	-1226985.33	0.00
150	2938.14	5104.29	1228385.54	-707662.04	-38.84
180	-7.64	5898.34	1419286.61	1173.50	-67.27
210	-2951.38	5111.93	1229951.73	709589.38	-77.67
240	-5104.29	2955.79	711113.02	1227766.14	-67.27
270	-5889.52	7.64	1792.90	1416858.73	-38.84
300	-5096.65	-2942.56	-707946.87	1226199.95	0.00
330	-2938.14	-5104.29	-1227932.11	706876.67	38.84

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
205.00	6' Solid w/Radome	120.0000	162.00	3.81	2.20	1.472	28.27	36
		Sum Weight:	162.00					

Dish Vectors - No Ice

6' Solid w/Radome - Elevation 205 - From Leg B											
Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.001070	0.001280	-0.000002	361.49	432.43	-4.05	-96.84	-555.24	-113468.39	19234.74	1899.65
30	0.000340	0.001040	0.000390	114.87	351.35	790.54	76.20	-361.71	-73794.71	-16238.67	2337.31
60	-0.000420	0.000890	0.000404	-141.89	300.68	818.92	273.22	-189.45	-38480.23	-56628.00	2142.59
90	-0.001330	0.000700	0.000132	-449.33	236.49	267.57	507.37	19.86	4427.67	-104628.95	1308.66
120	-0.001770	0.000000	0.000000	-597.98	0.00	0.00	517.86	298.99	61649.15	-106779.47	0.00
150	-0.001330	-0.000700	-0.000132	-449.33	-236.49	-267.57	270.88	429.47	88397.49	-56148.95	-1308.66
180	-0.000420	-0.000890	-0.000404	-141.89	-300.68	-818.92	-27.46	331.34	68281.40	5010.86	-2142.59
210	0.000340	-0.001040	-0.000390	114.87	-351.35	-790.54	-275.15	246.85	50960.45	55788.76	-2337.31

6' Solid w/Radome - Elevation 205 - From Leg B											
Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
240	0.001070	-0.001280	0.000002	361.49	-432.43	4.05	-529.28	193.76	40076.42	107883.88	-1899.65
270	0.001950	-0.001050	0.000277	658.79	-354.73	561.49	-747.89	-22.19	-4191.76	152700.33	-1000.14
300	0.002210	0.000000	0.000000	746.63	0.00	0.00	-646.60	-373.31	-76172.55	131934.73	0.00
330	0.001950	0.001050	-0.000277	658.79	354.73	-561.49	-393.16	-636.60	-130146.49	79980.34	1000.14

Dish Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-96.84	-555.24	-113468.39	19234.74	1899.65
30	76.20	-361.71	-73794.71	-16238.67	2337.31
60	273.22	-189.45	-38480.23	-56628.00	2142.59
90	507.37	19.86	4427.67	-104628.95	1308.66
120	517.86	298.99	61649.15	-106779.47	0.00
150	270.88	429.47	88397.49	-56148.95	-1308.66
180	-27.46	331.34	68281.40	5010.86	-2142.59
210	-275.15	246.85	50960.45	55788.76	-2337.31
240	-529.28	193.76	40076.42	107883.88	-1899.65
270	-747.89	-22.19	-4191.76	152700.33	-1000.14
300	-646.60	-373.31	-76172.55	131934.73	0.00
330	-393.16	-636.60	-130146.49	79980.34	1000.14

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf	t_z in
205.00	6' Solid w/Radome	120.0000	734.59	3.81	2.20	1.472	31.12	3	1.8006
		Sum Weight:	734.59						

Dish Vectors - With Ice

6' Solid w/Radome - Elevation 205 - From Leg B											
Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.001070	0.001280	-0.000002	31.88	38.14	-0.36	-8.54	-48.97	-8421.15	-1049.86	167.53
30	0.000340	0.001040	0.000390	10.13	30.99	69.72	6.72	-31.90	-4922.38	-4178.22	206.12
60	-0.000420	0.000890	0.000404	-12.51	26.52	72.22	24.10	-16.71	-1808.03	-7740.10	188.95
90	-0.001330	0.000700	0.000132	-39.63	20.86	23.60	44.74	1.75	1975.96	-11973.25	115.41
120	-0.001770	0.000000	0.000000	-52.73	0.00	0.00	45.67	26.37	7022.25	-12162.90	0.00
150	-0.001330	-0.000700	-0.000132	-39.63	-20.86	-23.60	23.89	37.87	9381.16	-7697.86	-115.41
180	-0.000420	-0.000890	-0.000404	-12.51	-26.52	-72.22	-2.42	29.22	7607.14	-2304.25	-188.95
210	0.000340	-0.001040	-0.000390	10.13	-30.99	-69.72	-24.27	21.77	6079.63	2173.79	-206.12
240	0.001070	-0.001280	0.000002	31.88	-38.14	0.36	-46.68	17.09	5119.78	6768.00	-167.53
270	0.001950	-0.001050	0.000277	58.10	-31.28	49.52	-65.96	-1.96	1215.82	10720.31	-88.20
300	0.002210	0.000000	0.000000	65.84	0.00	0.00	-57.02	-32.92	-5132.08	8889.02	0.00
330	0.001950	0.001050	-0.000277	58.10	31.28	-49.52	-34.67	-56.14	-9891.97	4307.22	88.20

Dish Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-8.54	-48.97	-8421.15	-1049.86	167.53
30	6.72	-31.90	-4922.38	-4178.22	206.12
60	24.10	-16.71	-1808.03	-7740.10	188.95
90	44.74	1.75	1975.96	-11973.25	115.41
120	45.67	26.37	7022.25	-12162.90	0.00
150	23.89	37.87	9381.16	-7697.86	-115.41
180	-2.42	29.22	7607.14	-2304.25	-188.95
210	-24.27	21.77	6079.63	2173.79	-206.12
240	-46.68	17.09	5119.78	6768.00	-167.53
270	-65.96	-1.96	1215.82	10720.31	-88.20
300	-57.02	-32.92	-5132.08	8889.02	0.00
330	-34.67	-56.14	-9891.97	4307.22	88.20

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
205.00	6' Solid w/Radome	120.0000	162.00	3.81	2.20	1.472	28.27	12
		Sum Weight:	162.00					

Dish Vectors - Service

6' Solid w/Radome - Elevation 205 - From Leg B

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.001070	0.001280	-0.000002	115.82	138.55	-1.30	-31.03	-177.90	-36112.79	5743.05	608.65
30	0.000340	0.001040	0.000390	36.80	112.57	253.29	24.41	-115.89	-23401.39	-5622.59	748.87
60	-0.000420	0.000890	0.000404	-45.46	96.34	262.38	87.54	-60.70	-12086.68	-18563.28	686.48
90	-0.001330	0.000700	0.000132	-143.96	75.77	85.73	162.56	6.36	1660.96	-33942.72	419.29
120	-0.001770	0.000000	0.000000	-191.59	0.00	0.00	165.92	95.80	19994.65	-34631.74	0.00
150	-0.001330	-0.000700	-0.000132	-143.96	-75.77	-85.73	86.79	137.60	28564.78	-18409.79	-419.29
180	-0.000420	-0.000890	-0.000404	-45.46	-96.34	-262.38	-8.80	106.16	22119.61	1185.73	-686.48
210	0.000340	-0.001040	-0.000390	36.80	-112.57	-253.29	-88.16	79.09	16570.00	17454.91	-748.87
240	0.001070	-0.001280	0.000002	115.82	-138.55	1.30	-169.58	62.08	13082.77	34146.12	-608.65
270	0.001950	-0.001050	0.000277	211.07	-113.66	179.90	-239.62	-7.11	-1100.70	48505.25	-320.44
300	0.002210	0.000000	0.000000	239.22	0.00	0.00	-207.17	-119.61	-24163.25	41851.98	0.00
330	0.001950	0.001050	-0.000277	211.07	113.66	-179.90	-125.97	-203.97	-41456.43	25205.86	320.44

Dish Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-31.03	-177.90	-36112.79	5743.05	608.65
30	24.41	-115.89	-23401.39	-5622.59	748.87

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
60	87.54	-60.70	-12086.68	-18563.28	686.48
90	162.56	6.36	1660.96	-33942.72	419.29
120	165.92	95.80	19994.65	-34631.74	0.00
150	86.79	137.60	28564.78	-18409.79	-419.29
180	-8.80	106.16	22119.61	1185.73	-686.48
210	-88.16	79.09	16570.00	17454.91	-748.87
240	-169.58	62.08	13082.77	34146.12	-608.65
270	-239.62	-7.11	-1100.70	48505.25	-320.44
300	-207.17	-119.61	-24163.25	41851.98	0.00
330	-125.97	-203.97	-41456.43	25205.86	320.44

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	25300.74					
Bracing Weight	13398.43					
Total Member Self-Weight	38699.16			583.30	-1010.31	
Total Weight	59527.33			583.30	-1010.31	
Wind 0 deg - No Ice		-73.00	-58655.57	-9309257.58	13953.82	2109.60
Wind 30 deg - No Ice		27705.98	-48217.90	-7749130.59	-4448119.49	2579.73
Wind 60 deg - No Ice		46428.18	-26864.56	-4346844.02	-7509941.90	2352.54
Wind 90 deg - No Ice		53942.14	-3.99	-233.84	-8706194.22	1429.87
Wind 120 deg - No Ice		49253.89	28436.75	4528981.99	-7844426.91	0.00
Wind 150 deg - No Ice		27834.77	48219.21	7749500.72	-4473906.31	-1429.87
Wind 180 deg - No Ice		-51.30	55374.58	8919245.91	9506.40	-2352.54
Wind 210 deg - No Ice		-27904.94	48103.04	7726749.77	4486884.20	-2579.73
Wind 240 deg - No Ice		-49331.75	28397.41	4521532.71	7859432.03	-2109.60
Wind 270 deg - No Ice		-54182.66	1.66	923.19	8753480.22	-1121.36
Wind 300 deg - No Ice		-46735.11	-26982.53	-4370412.89	7569777.17	0.00
Wind 330 deg - No Ice		-27957.05	-48426.35	-7790796.28	4496952.32	1121.36
Member Ice	49708.22					
Total Weight Ice	148554.53			1970.48	-3412.98	
Wind 0 deg - Ice		-5.48	-7542.24	-1233305.84	-2288.77	194.44
Wind 30 deg - Ice		3651.83	-6345.42	-1045508.98	-605777.65	237.20
Wind 60 deg - Ice		6207.08	-3589.99	-593279.28	-1032169.98	215.86
Wind 90 deg - Ice		7186.82	-1.31	1702.96	-1193182.33	130.95
Wind 120 deg - Ice		6406.73	3698.93	609306.20	-1055349.30	0.00
Wind 150 deg - Ice		3661.74	6344.93	1049263.50	-607758.97	-130.95
Wind 180 deg - Ice		-5.48	7309.40	1209911.06	-2290.06	-215.86
Wind 210 deg - Ice		-3669.38	6335.29	1047373.33	602548.51	-237.20
Wind 240 deg - Ice		-6414.20	3696.91	608942.05	1050141.03	-194.44
Wind 270 deg - Ice		-7208.03	1.10	2195.92	1190704.67	-103.74
Wind 300 deg - Ice		-6233.54	-3598.94	-595065.00	1030682.81	0.00
Wind 330 deg - Ice		-3672.52	-6363.19	-1049067.22	603143.61	103.74
Total Weight	59527.33			583.30	-1010.31	
Wind 0 deg - Service		-23.39	-19411.66	-3052224.73	3784.18	675.91
Wind 30 deg - Service		9186.21	-15984.59	-2542990.92	-1460831.86	826.54
Wind 60 deg - Service		15411.16	-8916.62	-1427300.31	-2467438.20	753.75
Wind 90 deg - Service		17901.49	-1.28	321.49	-2860087.02	458.13
Wind 120 deg - Service		16316.52	9420.35	1486449.91	-2574606.77	0.00
Wind 150 deg - Service		9227.47	15985.01	2543902.34	-1469093.93	-458.13
Wind 180 deg - Service		-16.44	18360.44	2928058.32	2359.23	-753.75
Wind 210 deg - Service		-9249.95	15947.78	2536612.97	1471878.81	-826.54
Wind 240 deg - Service		-16341.46	9407.74	1484063.17	2578041.17	-675.91

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Wind 270 deg - Service		-17978.55	0.53	692.20	2873864.18	-359.28
Wind 300 deg - Service		-15509.50	-8954.42	-1434851.75	2485236.12	0.00
Wind 330 deg - Service		-9266.65	-16051.37	-2556340.56	1475104.62	359.28

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service

Comb. No.	Description
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	255.3 - 240	Leg	Max Tension	15	9945.26	-0.12	-0.59
			Max. Compression	2	-13948.57	0.10	214.99
			Max. Mx	8	-1992.48	290.51	-0.58
			Max. My	14	-3813.23	-77.68	261.26
			Max. Vy	20	2581.44	174.95	56.42
			Max. Vx	2	2600.75	0.06	210.17
		Diagonal	Max Tension	24	3814.08	0.00	0.00
			Max. Compression	24	-3714.94	0.00	0.00
			Max. Mx	2	280.40	26.92	1.29
			Max. My	4	-3563.35	-0.18	15.61
			Max. Vy	32	-27.02	26.63	0.03
			Max. Vx	4	3.79	0.00	0.00
		Top Girt	Max Tension	7	1174.23	0.00	0.00
			Max. Compression	18	-1244.77	0.00	0.00
			Max. Mx	26	-128.60	-66.70	0.00
			Max. My	14	-652.22	0.00	0.00
			Max. Vy	26	41.05	0.00	0.00
			Max. Vx	14	-0.00	0.00	0.00
T2	240 - 220	Leg	Max Tension	15	61034.23	3.23	-1109.99
			Max. Compression	2	-71344.51	6.53	179.18
			Max. Mx	20	-40094.00	-1724.56	72.06
			Max. My	2	-46792.20	0.01	-1735.31
			Max. Vy	20	1451.55	170.58	85.07
			Max. Vx	14	-1465.22	0.21	-218.91
		Diagonal	Max Tension	4	10592.26	0.00	0.00
			Max. Compression	4	-10903.96	0.00	0.00
			Max. Mx	27	1055.64	39.02	-0.42
			Max. My	4	-6603.48	-3.94	11.69
			Max. Vy	27	-30.51	39.02	0.41
			Max. Vx	4	2.52	0.00	0.00
T3	220 - 200	Leg	Max Tension	15	119480.64	-647.71	57.80
			Max. Compression	2	-132619.43	909.94	-63.97
			Max. Mx	22	116366.96	-961.23	-0.05
			Max. My	16	-6646.27	-41.79	958.11
			Max. Vy	22	-218.31	-700.23	0.06
			Max. Vx	4	-295.59	-0.31	-877.34
		Diagonal	Max Tension	4	7720.30	0.00	0.00
			Max. Compression	16	-8041.42	0.00	0.00
			Max. Mx	31	799.33	38.31	-3.55
			Max. My	27	-35.02	31.89	-4.66
			Max. Vy	33	33.74	35.96	4.34
			Max. Vx	27	1.71	0.00	0.00
T4	200 - 180	Leg	Max Tension	15	163982.89	-1057.52	1.20
			Max. Compression	2	-180727.00	1410.30	-10.52
			Max. Mx	2	-180727.00	1410.30	-10.52
			Max. My	16	-7386.06	-1.49	1355.27
			Max. Vy	2	-114.64	1410.30	-10.52
			Max. Vx	4	86.99	-20.44	-1178.02
		Diagonal	Max Tension	24	7329.00	0.00	0.00
			Max. Compression	24	-7482.83	0.00	0.00
			Max. Mx	33	777.12	46.98	-5.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. My	27	58.78	42.06	-5.49
			Max. Vy	33	39.63	46.98	-5.00
			Max. Vx	27	-1.83	0.00	0.00
T5	180 - 160	Leg	Max Tension	15	201727.36	-1105.16	-0.60
			Max. Compression	2	-222021.83	1454.28	-0.94
			Max. Mx	2	-222021.83	1454.28	-0.94
			Max. My	24	-8424.32	-1.71	1408.94
			Max. Vy	2	-112.64	1454.28	-0.94
			Max. Vx	16	-105.90	-18.27	1361.81
		Diagonal	Max Tension	24	6851.32	0.00	0.00
			Max. Compression	24	-7166.30	0.00	0.00
			Max. Mx	31	795.78	73.60	-6.43
			Max. My	27	71.45	63.83	-7.69
			Max. Vy	33	53.63	70.94	-7.26
			Max. Vx	27	-2.31	0.00	0.00
T6	160 - 140	Leg	Max Tension	15	235480.70	-1958.36	-2.35
			Max. Compression	2	-259947.17	2126.80	-1.98
			Max. Mx	2	-235170.33	2367.50	-1.45
			Max. My	24	-9331.40	-23.45	2198.04
			Max. Vy	2	-211.14	2367.50	-1.45
			Max. Vx	24	-133.37	-23.45	2198.04
		Diagonal	Max Tension	24	6838.26	0.00	0.00
			Max. Compression	24	-7075.87	0.00	0.00
			Max. Mx	33	692.97	85.82	-8.45
			Max. My	27	103.62	78.70	-9.04
			Max. Vy	33	59.94	85.82	-8.45
			Max. Vx	27	-2.48	0.00	0.00
T7	140 - 120	Leg	Max Tension	15	266916.89	-1890.84	-4.34
			Max. Compression	2	-295598.26	3399.43	-22.09
			Max. Mx	2	-295598.26	3399.43	-22.09
			Max. My	4	-10697.85	-17.25	-3105.83
			Max. Vy	3	-290.41	3391.48	-22.18
			Max. Vx	4	284.66	-17.25	-3105.83
		Diagonal	Max Tension	24	7001.09	0.00	0.00
			Max. Compression	24	-7261.28	0.00	0.00
			Max. Mx	33	670.71	102.78	9.89
			Max. My	27	142.39	95.35	-10.46
			Max. Vy	33	66.08	102.78	9.89
			Max. Vx	27	-2.64	0.00	0.00
T8	120 - 100	Leg	Max Tension	15	293913.79	-3012.77	-8.28
			Max. Compression	2	-326779.23	4412.51	-21.48
			Max. Mx	2	-326779.23	4412.51	-21.48
			Max. My	24	-12043.90	-73.62	3868.03
			Max. Vy	2	-268.09	4412.51	-21.48
			Max. Vx	24	-201.76	-73.62	3868.03
		Diagonal	Max Tension	24	7915.70	0.00	0.00
			Max. Compression	24	-8265.98	0.00	0.00
			Max. Mx	33	788.27	155.60	-15.87
			Max. My	27	110.85	140.57	-16.50
			Max. Vy	33	83.29	155.60	-15.87
			Max. Vx	27	-3.55	0.00	0.00
T9	100 - 80	Leg	Max Tension	15	322349.15	-3082.85	-7.38
			Max. Compression	2	-360225.29	3971.86	-12.55
			Max. Mx	2	-342952.30	4412.51	-21.48
			Max. My	4	-12553.42	26.94	-3628.80
			Max. Vy	3	257.01	4392.08	-21.57
			Max. Vx	4	-148.34	26.94	-3628.80
		Diagonal	Max Tension	24	8190.39	0.00	0.00
			Max. Compression	24	-8589.64	0.00	0.00
			Max. Mx	33	752.72	195.35	-19.36
			Max. My	27	136.59	178.36	-20.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Vy	33	98.02	195.35	-19.36
			Max. Vx	27	-4.04	0.00	0.00
T10	80 - 60	Leg	Max Tension	15	349780.99	-3232.29	-5.20
			Max. Compression	2	-392926.85	3599.33	-4.77
			Max. Mx	2	-376032.49	3971.86	-12.55
			Max. My	24	-15188.52	18.26	3586.81
			Max. Vy	3	191.09	3956.98	-12.69
			Max. Vx	24	141.18	-48.94	3419.49
		Diagonal	Max Tension	24	8578.30	0.00	0.00
			Max. Compression	24	-8958.84	0.00	0.00
			Max. Mx	33	721.00	252.75	-24.39
			Max. My	27	181.90	232.90	-25.05
			Max. Vy	33	119.05	252.75	-24.39
			Max. Vx	27	-4.76	0.00	0.00
T11	60 - 40	Leg	Max Tension	15	376395.17	-3142.07	-4.12
			Max. Compression	2	-424956.35	3897.70	-5.53
			Max. Mx	2	-424956.35	3897.70	-5.53
			Max. My	24	-18760.37	6.38	3842.56
			Max. Vy	3	-183.19	3884.18	-5.69
			Max. Vx	24	-147.74	6.38	3842.56
		Diagonal	Max Tension	24	8831.16	0.00	0.00
			Max. Compression	24	-9268.43	0.00	0.00
			Max. Mx	33	720.39	282.47	-26.77
			Max. My	27	-251.62	277.93	-27.25
			Max. Vy	33	125.33	282.47	-26.77
			Max. Vx	27	-4.89	0.00	0.00
T12	40 - 20	Leg	Max Tension	15	402049.42	-4781.51	-6.30
			Max. Compression	2	-456501.77	5705.44	-12.12
			Max. Mx	33	8974.29	-6323.31	1.76
			Max. My	24	-19929.08	-94.21	4418.90
			Max. Vy	33	823.99	-6323.31	1.76
			Max. Vx	24	-174.49	-94.21	4418.90
		Diagonal	Max Tension	24	9208.77	0.00	0.00
			Max. Compression	24	-9635.34	0.00	0.00
			Max. Mx	33	1564.87	300.01	25.66
			Max. My	27	30.21	269.77	-28.34
			Max. Vy	33	128.81	300.01	25.66
			Max. Vx	27	-4.89	0.00	0.00
T13	20 - 0	Leg	Max Tension	15	426663.10	-4500.10	-9.93
			Max. Compression	2	-487294.91	-0.00	0.15
			Max. Mx	27	-109487.86	9177.98	2.68
			Max. My	24	-22340.55	-330.84	8118.59
			Max. Vy	33	-1454.66	-6323.31	1.76
			Max. Vx	24	914.88	-330.85	8118.59
		Diagonal	Max Tension	25	10165.24	0.00	0.00
			Max. Compression	2	-10813.09	0.00	0.00
			Max. Mx	33	-1576.19	377.87	39.65
			Max. My	28	-2583.57	348.45	-40.41
			Max. Vy	33	142.55	377.87	39.65
			Max. Vx	28	-5.98	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	483460.82	31629.36	-18199.57

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
	Max. H_x	18	483460.82	31629.36	-18199.57
	Max. H_z	7	-420974.85	-28077.49	16141.21
	Min. Vert	7	-420974.85	-28077.49	16141.21
	Min. H_x	7	-420974.85	-28077.49	16141.21
	Min. H_z	18	483460.82	31629.36	-18199.57
Leg B	Max. Vert	10	483009.05	-31576.57	-18230.74
	Max. H_x	23	-424198.35	28232.10	16299.81
	Max. H_z	23	-424198.35	28232.10	16299.81
	Min. Vert	23	-424198.35	28232.10	16299.81
	Min. H_x	10	483009.05	-31576.57	-18230.74
	Min. H_z	10	483009.05	-31576.57	-18230.74
Leg A	Max. Vert	2	495711.66	53.35	37522.77
	Max. H_x	21	17816.21	2475.87	1074.17
	Max. H_z	2	495711.66	53.35	37522.77
	Min. Vert	15	-433200.08	-60.11	-33447.79
	Min. H_x	9	17874.58	-2463.66	1078.81
	Min. H_z	15	-433200.08	-60.11	-33447.79

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	59527.33	0.00	-0.00	583.29	-1010.29	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	71432.80	-73.00	-58655.57	-9399594.37	13855.52	2142.02
0.9 Dead+1.0 Wind 0 deg - No Ice	53574.60	-73.00	-58655.57	-9376659.56	14132.65	2133.90
1.2 Dead+1.0 Wind 30 deg - No Ice	71432.80	27706.02	-48217.88	-7824953.77	-4492026.56	2660.67
0.9 Dead+1.0 Wind 30 deg - No Ice	53575.43	27706.50	-48218.04	-7805741.95	-4480566.48	2651.79
1.2 Dead+1.0 Wind 60 deg - No Ice	71432.80	46428.19	-26864.56	-4389586.27	-7584258.77	2383.45
0.9 Dead+1.0 Wind 60 deg - No Ice	53574.60	46428.19	-26864.56	-4378825.26	-7565044.18	2375.75
1.2 Dead+1.0 Wind 90 deg - No Ice	71432.80	53942.13	-4.03	-154.98	-8792134.95	1406.66
0.9 Dead+1.0 Wind 90 deg - No Ice	53575.39	53942.50	-4.41	-321.09	-8769947.81	1401.80
1.2 Dead+1.0 Wind 120 deg - No Ice	71432.80	49253.90	28436.75	4573288.93	-7921167.13	0.01
0.9 Dead+1.0 Wind 120 deg - No Ice	53574.60	49253.89	28436.75	4561825.07	-7901311.55	0.01
1.2 Dead+1.0 Wind 150 deg - No Ice	71432.80	27834.73	48219.23	7825626.14	-4517945.37	-1403.76
0.9 Dead+1.0 Wind 150 deg - No Ice	53574.60	27834.75	48219.23	7806043.17	-4506443.65	-1397.19
1.2 Dead+1.0 Wind 180 deg - No Ice	71432.80	-51.30	55374.58	9006984.39	9363.07	-2384.10
0.9 Dead+1.0 Wind 180 deg - No Ice	53574.60	-51.30	55374.58	8984442.44	9651.23	-2376.23
1.2 Dead+1.0 Wind 210 deg - No Ice	71432.80	-27904.89	48103.06	7802685.17	4530596.88	-2660.66
0.9 Dead+1.0 Wind 210 deg - No Ice	53575.43	-27904.80	48103.55	7783154.73	4519688.65	-2651.78
1.2 Dead+1.0 Wind 240 deg -	71432.80	-49331.75	28397.41	4565789.03	7935887.96	-2141.40

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
No Ice						
0.9 Dead+1.0 Wind 240 deg - No Ice	53574.60	-49331.75	28397.41	4554341.48	7916614.92	-2133.44
1.2 Dead+1.0 Wind 270 deg - No Ice	71432.80	-54182.65	1.61	1010.61	8839439.80	-1097.48
0.9 Dead+1.0 Wind 270 deg - No Ice	53575.39	-54183.02	1.24	841.65	8817758.69	-1092.62
1.2 Dead+1.0 Wind 300 deg - No Ice	71432.80	-46735.12	-26982.53	-4413388.40	7644211.36	0.00
0.9 Dead+1.0 Wind 300 deg - No Ice	53574.60	-46735.12	-26982.53	-4402570.89	7625475.26	0.00
1.2 Dead+1.0 Wind 330 deg - No Ice	71432.80	-27957.09	-48426.32	-7867017.29	4540862.57	1094.54
0.9 Dead+1.0 Wind 330 deg - No Ice	53574.60	-27957.08	-48426.33	-7847701.98	4529909.23	1087.95
1.2 Dead+1.0 Ice+1.0 Temp	160459.99	-0.00	-0.00	2108.15	-3651.42	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	160459.99	-5.48	-7542.22	-1262592.66	-2653.58	207.54
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	160459.99	3651.83	-6345.41	-1070423.67	-620629.87	252.34
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	160459.99	6207.07	-3589.98	-607379.90	-1057323.27	228.72
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	160459.99	7186.80	-1.31	1920.75	-1222197.68	138.21
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	160459.99	6406.71	3698.92	624074.80	-1080929.25	0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	160459.99	3661.73	6344.91	1074624.83	-622652.77	-138.29
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	160459.99	-5.48	7309.39	1239139.88	-2655.23	-228.87
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	160459.99	-3669.37	6335.28	1072693.06	616699.16	-252.34
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	160459.99	-6414.19	3696.90	623703.87	1074979.63	-207.39
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	160459.99	-7208.01	1.10	2425.21	1219040.67	-111.03
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	160459.99	-6233.53	-3598.93	-609206.84	1055177.19	-0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	160459.99	-3672.51	-6363.18	-1074063.70	617310.65	111.11
Dead+Wind 0 deg - Service	59527.33	-23.39	-19411.66	-3076953.32	3802.68	684.68
Dead+Wind 30 deg - Service	59527.33	9186.21	-15984.59	-2563744.95	-1472776.46	829.26
Dead+Wind 60 deg - Service	59527.33	15411.16	-8916.62	-1439001.39	-2487691.86	762.00
Dead+Wind 90 deg - Service	59527.33	17901.49	-1.28	326.85	-2883531.64	469.77
Dead+Wind 120 deg - Service	59527.33	16316.52	9420.35	1498539.94	-2595547.27	0.00
Dead+Wind 150 deg - Service	59527.33	9227.47	15985.01	2564676.80	-1481094.07	-470.15
Dead+Wind 180 deg - Service	59527.33	-16.44	18360.44	2951995.77	2365.75	-762.17
Dead+Wind 210 deg - Service	59527.33	-9249.95	15947.78	2557334.29	1483880.06	-829.26
Dead+Wind 240 deg - Service	59527.33	-16341.46	9407.74	1496138.22	2598992.82	-684.51
Dead+Wind 270 deg - Service	59527.33	-17978.55	0.53	700.16	2897401.78	-370.96
Dead+Wind 300 deg - Service	59527.33	-15509.50	-8954.42	-1446614.76	2505610.23	-0.00
Dead+Wind 330 deg - Service	59527.33	-9266.65	-16051.37	-2577202.00	1487140.04	371.34

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	0.00	-59527.33	-0.00	0.00	59527.33	0.00	0.000%
2	-73.00	-71432.80	-58655.57	73.00	71432.80	58655.57	0.000%
3	-73.00	-53574.60	-58655.57	73.00	53574.60	58655.57	0.000%
4	27705.98	-71432.80	-48217.90	-27706.02	71432.80	48217.88	0.000%
5	27705.98	-53574.60	-48217.90	-27706.50	53575.43	48218.04	0.001%
6	46428.18	-71432.80	-26864.56	-46428.19	71432.80	26864.56	0.000%
7	46428.18	-53574.60	-26864.56	-46428.19	53574.60	26864.56	0.000%
8	53942.14	-71432.80	-3.99	-53942.13	71432.80	4.03	0.000%
9	53942.14	-53574.60	-3.99	-53942.50	53575.39	4.41	0.001%
10	49253.89	-71432.80	28436.75	-49253.90	71432.80	-28436.75	0.000%
11	49253.89	-53574.60	28436.75	-49253.89	53574.60	-28436.75	0.000%
12	27834.77	-71432.80	48219.21	-27834.73	71432.80	-48219.23	0.000%
13	27834.77	-53574.60	48219.21	-27834.75	53574.60	-48219.23	0.000%
14	-51.30	-71432.80	55374.58	51.30	71432.80	-55374.58	0.000%
15	-51.30	-53574.60	55374.58	51.30	53574.60	-55374.58	0.000%
16	-27904.94	-71432.80	48103.04	27904.89	71432.80	-48103.06	0.000%
17	-27904.94	-53574.60	48103.04	27904.80	53575.43	-48103.55	0.001%
18	-49331.75	-71432.80	28397.41	49331.75	71432.80	-28397.41	0.000%
19	-49331.75	-53574.60	28397.41	49331.75	53574.60	-28397.41	0.000%
20	-54182.66	-71432.80	1.66	54182.65	71432.80	-1.61	0.000%
21	-54182.66	-53574.60	1.66	54183.02	53575.39	-1.24	0.001%
22	-46735.11	-71432.80	-26982.53	46735.12	71432.80	26982.53	0.000%
23	-46735.11	-53574.60	-26982.53	46735.12	53574.60	26982.53	0.000%
24	-27957.05	-71432.80	-48426.35	27957.09	71432.80	48426.32	0.000%
25	-27957.05	-53574.60	-48426.35	27957.08	53574.60	48426.33	0.000%
26	0.00	-160460.00	-0.00	0.00	160459.99	0.00	0.000%
27	-5.48	-160460.00	-7542.24	5.48	160459.99	7542.22	0.000%
28	3651.83	-160460.00	-6345.42	-3651.83	160459.99	6345.41	0.000%
29	6207.08	-160460.00	-3589.99	-6207.07	160459.99	3589.98	0.000%
30	7186.82	-160460.00	-1.31	-7186.80	160459.99	1.31	0.000%
31	6406.73	-160460.00	3698.93	-6406.71	160459.99	-3698.92	0.000%
32	3661.74	-160460.00	6344.93	-3661.73	160459.99	-6344.91	0.000%
33	-5.48	-160460.00	7309.40	5.48	160459.99	-7309.39	0.000%
34	-3669.38	-160460.00	6335.29	3669.37	160459.99	-6335.28	0.000%
35	-6414.20	-160460.00	3696.91	6414.19	160459.99	-3696.90	0.000%
36	-7208.03	-160460.00	1.10	7208.01	160459.99	-1.10	0.000%
37	-6233.54	-160460.00	-3598.94	6233.53	160459.99	3598.93	0.000%
38	-3672.52	-160460.00	-6363.19	3672.51	160459.99	6363.18	0.000%
39	-23.39	-59527.33	-19411.66	23.39	59527.33	19411.66	0.000%
40	9186.21	-59527.33	-15984.59	-9186.21	59527.33	15984.59	0.000%
41	15411.16	-59527.33	-8916.62	-15411.16	59527.33	8916.62	0.000%
42	17901.49	-59527.33	-1.28	-17901.49	59527.33	1.28	0.000%
43	16316.52	-59527.33	9420.35	-16316.52	59527.33	-9420.35	0.000%
44	9227.47	-59527.33	15985.01	-9227.47	59527.33	-15985.01	0.000%
45	-16.44	-59527.33	18360.44	16.44	59527.33	-18360.44	0.000%
46	-9249.95	-59527.33	15947.78	9249.95	59527.33	-15947.78	0.000%
47	-16341.46	-59527.33	9407.74	16341.46	59527.33	-9407.74	0.000%
48	-17978.55	-59527.33	0.53	17978.55	59527.33	-0.53	0.000%
49	-15509.50	-59527.33	-8954.42	15509.50	59527.33	8954.42	0.000%
50	-9266.65	-59527.33	-16051.37	9266.65	59527.33	16051.37	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001

2	Yes	4	0.00000001	0.00000160
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000345
5	Yes	4	0.00000001	0.00000270
6	Yes	4	0.00000001	0.00000248
7	Yes	4	0.00000001	0.00000062
8	Yes	4	0.00000001	0.00000323
9	Yes	4	0.00000001	0.00000247
10	Yes	4	0.00000001	0.00000166
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000330
13	Yes	4	0.00000001	0.00000251
14	Yes	4	0.00000001	0.00000228
15	Yes	4	0.00000001	0.00000054
16	Yes	4	0.00000001	0.00000340
17	Yes	4	0.00000001	0.00000270
18	Yes	4	0.00000001	0.00000167
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000324
21	Yes	4	0.00000001	0.00000250
22	Yes	4	0.00000001	0.00000247
23	Yes	4	0.00000001	0.00000060
24	Yes	4	0.00000001	0.00000337
25	Yes	4	0.00000001	0.00000254
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00003303
28	Yes	4	0.00000001	0.00003306
29	Yes	4	0.00000001	0.00003313
30	Yes	4	0.00000001	0.00003303
31	Yes	4	0.00000001	0.00003311
32	Yes	4	0.00000001	0.00003324
33	Yes	4	0.00000001	0.00003334
34	Yes	4	0.00000001	0.00003306
35	Yes	4	0.00000001	0.00003283
36	Yes	4	0.00000001	0.00003273
37	Yes	4	0.00000001	0.00003289
38	Yes	4	0.00000001	0.00003294
39	Yes	4	0.00000001	0.00000196
40	Yes	4	0.00000001	0.00000206
41	Yes	4	0.00000001	0.00000213
42	Yes	4	0.00000001	0.00000206
43	Yes	4	0.00000001	0.00000197
44	Yes	4	0.00000001	0.00000205
45	Yes	4	0.00000001	0.00000212
46	Yes	4	0.00000001	0.00000206
47	Yes	4	0.00000001	0.00000197
48	Yes	4	0.00000001	0.00000206
49	Yes	4	0.00000001	0.00000213
50	Yes	4	0.00000001	0.00000205

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	255.3 - 240	15.091	39	0.6031	0.0109
T2	240 - 220	13.147	39	0.5916	0.0109
T3	220 - 200	10.692	39	0.5363	0.0109
T4	200 - 180	8.534	39	0.4632	0.0100
T5	180 - 160	6.680	39	0.3944	0.0067

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	160 - 140	5.141	39	0.3188	0.0049
T7	140 - 120	3.866	39	0.2670	0.0034
T8	120 - 100	2.804	39	0.2141	0.0023
T9	100 - 80	1.941	39	0.1765	0.0016
T10	80 - 60	1.245	39	0.1384	0.0011
T11	60 - 40	0.711	39	0.1002	0.0008
T12	40 - 20	0.335	39	0.0620	0.0005
T13	20 - 0	0.101	39	0.0309	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
250.00	42,000 sq in CaAa	39	14.416	0.6010	0.0109	333533
239.00	30,000 sq in CaAa	39	13.021	0.5899	0.0109	75502
229.00	30,000 sq in CaAa	39	11.771	0.5660	0.0109	21785
205.00	6' Solid w/Radome	39	9.044	0.4811	0.0104	15921

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	255.3 - 240	46.565	2	1.8706	0.0343
T2	240 - 220	40.537	2	1.8344	0.0343
T3	220 - 200	32.925	2	1.6615	0.0343
T4	200 - 180	26.245	2	1.4327	0.0313
T5	180 - 160	20.516	2	1.2178	0.0212
T6	160 - 140	15.769	2	0.9824	0.0154
T7	140 - 120	11.843	2	0.8215	0.0109
T8	120 - 100	8.581	2	0.6576	0.0072
T9	100 - 80	5.934	2	0.5415	0.0049
T10	80 - 60	3.801	2	0.4243	0.0035
T11	60 - 40	2.169	2	0.3068	0.0024
T12	40 - 20	1.020	2	0.1896	0.0015
T13	20 - 0	0.306	2	0.0946	0.0007

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
250.00	42,000 sq in CaAa	2	44.473	1.8640	0.0343	106180
239.00	30,000 sq in CaAa	2	40.145	1.8292	0.0343	24095
229.00	30,000 sq in CaAa	2	36.269	1.7543	0.0344	6973
205.00	6' Solid w/Radome	2	27.822	1.4889	0.0329	5087

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	255.3 - 240	P2x.154	15.30	5.07	77.3 K=1.00	1.0745	-13948.60	31228.70	0.447 [1] ✔
T2	240 - 220	P3.5x.226	20.00	6.67	59.8 K=1.00	2.6795	-71344.50	92796.60	0.769 [1] ✔
T3	220 - 200	P5x.258	20.02	6.67	42.6 K=1.00	4.2999	-132619.00	169405.00	0.783 [1] ✔
T4	200 - 180	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-180727.00	228860.00	0.790 [1] ✔
T5	180 - 160	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-222022.00	228860.00	0.970 [1] ✔
T6	160 - 140	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-259947.00	357982.00	0.726 [1] ✔
T7	140 - 120	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-295598.00	357982.00	0.826 [1] ✔
T8	120 - 100	P10x.365	20.02	10.01	32.7 K=1.00	11.9083	-326779.00	495588.00	0.659 [1] ✔
T9	100 - 80	P10x.365	20.02	10.01	32.7 K=1.00	11.9083	-360225.00	495588.00	0.727 [1] ✔
T10	80 - 60	P10x.365	20.02	10.01	32.7 K=1.00	11.9083	-392927.00	495588.00	0.793 [1] ✔
T11	60 - 40	P10x.365	20.02	10.01	32.7 K=1.00	11.9083	-424956.00	495588.00	0.857 [1] ✔
T12	40 - 20	P12x.375	20.02	10.01	27.4 K=1.00	14.5790	-456502.00	620910.00	0.735 [1] ✔
T13	20 - 0	P12x.375	20.02	10.01	27.4 K=1.00	14.5790	-487295.00	620910.00	0.785 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	255.3 - 240	L2x2x1/8	8.24	4.00	120.6 K=1.00	0.4844	-3714.94	9524.39	0.390 [1] ✔
T2	240 - 220	L2x2x3/16	9.31	4.42	134.5 K=1.00	0.7150	-10904.00	11309.10	0.964 [1] ✔
T3	220 - 200	L2x2x3/16	10.22	4.97	151.4 K=1.00	0.7150	-7709.09	8927.43	0.864 [1] ✔
T4	200 - 180	L2x2x3/16	11.40	5.52	168.0	0.7150	-7145.19	7252.55	0.985 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T5	180 - 160	L2 1/2x2 1/2x3/16	12.65	6.15	149.0 K=1.00	0.9020	-7012.19	11624.40	0.603 [1] ✔
T6	160 - 140	L2 1/2x2 1/2x3/16	13.95	6.71	162.6 K=1.00	0.9020	-7075.87	9765.99	0.725 [1] ✔
T7	140 - 120	L2 1/2x2 1/2x3/16	15.28	7.38	178.9 K=1.00	0.9020	-7056.81	8064.89	0.875 [1] ✔
T8	120 - 100	L3x3x3/16	18.13	8.75	176.3 K=1.00	1.0900	-8265.98	10041.50	0.823 [1] ✔
T9	100 - 80	L3x3x1/4	19.40	9.40	190.5 K=1.00	1.4400	-8551.94	11359.30	0.753 [1] ✔
T10	80 - 60	L3 1/2x3 1/2x1/4	20.70	10.05	173.8 K=1.00	1.6900	-8958.84	16007.00	0.560 [1] ✔
T11	60 - 40	L3 1/2x3 1/2x1/4	22.03	10.72	185.4 K=1.00	1.6900	-9268.43	14075.10	0.658 [1] ✔
T12	40 - 20	L3 1/2x3 1/2x1/4	23.37	11.31	195.5 K=1.00	1.6900	-9635.34	12656.00	0.761 [1] ✔
T13	20 - 0	L4x4x1/4	24.74	11.99	181.0 K=1.00	1.9400	-10813.10	16944.40	0.638 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	255.3 - 240	L2x2x1/8	6.50	6.30	190.2 K=1.00	0.4844	-1244.77	3831.03	0.325 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	255.3 - 240	P2x.154	15.30	5.07	77.3	1.0745	9945.26	48353.90	0.206 [1] ✔
T2	240 - 220	P3.5x.226	20.00	6.67	59.8	2.6795	61034.20	120579.00	0.506 [1] ✔
T3	220 - 200	P5x.258	20.02	6.67	42.6	4.2999	119481.00	193494.00	0.617 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	200 - 180	P6x.28	20.02	6.67	35.7	5.5813	163983.00	251161.00	0.653 [1] ✔
T5	180 - 160	P6x.28	20.02	6.67	35.7	5.5813	201727.00	251161.00	0.803 [1] ✔
T6	160 - 140	P8x.322	20.02	6.67	27.3	8.3993	235481.00	377967.00	0.623 [1] ✔
T7	140 - 120	P8x.322	20.02	6.67	27.3	8.3993	266917.00	377967.00	0.706 [1] ✔
T8	120 - 100	P10x.365	20.02	10.01	32.7	11.9083	293914.00	535873.00	0.548 [1] ✔
T9	100 - 80	P10x.365	20.02	10.01	32.7	11.9083	322349.00	535873.00	0.602 [1] ✔
T10	80 - 60	P10x.365	20.02	10.01	32.7	11.9083	349781.00	535873.00	0.653 [1] ✔
T11	60 - 40	P10x.365	20.02	10.01	32.7	11.9083	376395.00	535873.00	0.702 [1] ✔
T12	40 - 20	P12x.375	20.02	10.01	27.4	14.5790	402049.00	656053.00	0.613 [1] ✔
T13	20 - 0	P12x.375	20.02	10.01	27.4	14.5790	426663.00	656053.00	0.650 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	255.3 - 240	L2x2x1/8	8.24	4.00	76.6	0.3633	3814.08	17710.00	0.215 [1] ✔
T2	240 - 220	L2x2x3/16	9.31	4.42	85.9	0.5363	10592.30	26142.20	0.405 [1] ✔
T3	220 - 200	L2x2x3/16	9.49	4.61	89.7	0.5363	7720.30	26142.20	0.295 [1] ✔
T4	200 - 180	L2x2x3/16	10.61	5.12	99.7	0.5363	7329.00	26142.20	0.280 [1] ✔
T5	180 - 160	L2 1/2x2 1/2x3/16	11.81	5.73	88.4	0.6765	6851.32	32979.40	0.208 [1] ✔
T6	160 - 140	L2 1/2x2 1/2x3/16	13.95	6.71	103.4	0.6765	6838.26	32979.40	0.207 [1] ✔
T7	140 - 120	L2 1/2x2 1/2x3/16	14.83	7.16	110.4	0.6765	7001.09	32979.40	0.212 [1] ✔
T8	120 - 100	L3x3x3/16	18.13	8.75	111.9	0.8175	7915.70	39853.10	0.199 [1] ✔
T9	100 - 80	L3x3x1/4	19.40	9.40	121.3	1.0800	8190.39	52650.00	0.156 [1] ✔
T10	80 - 60	L3 1/2x3 1/2x1/4	20.70	10.05	110.7	1.2675	8578.30	61790.60	0.139 [1] ✔
T11	60 - 40	L3 1/2x3 1/2x1/4	22.03	10.72	118.0	1.2675	8831.16	61790.60	0.143 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	40 - 20	L3 1/2x3 1/2x1/4	23.37	11.31	124.5	1.2675	9208.77	61790.60	0.149 [1]
T13	20 - 0	L4x4x1/4	24.74	11.99	115.1	1.4550	10165.20	70931.30	0.143 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	255.3 - 240	L2x2x1/8	6.50	6.30	120.8	0.3633	1174.23	17710.00	0.066 [1]

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	255.3 - 240	Leg	P2x.154	3	-13948.60	31228.70	44.7	Pass
		Diagonal	L2x2x1/8	10	-3714.94	9524.39	39.0	Pass
		Top Girt	L2x2x1/8	5	-1244.77	3831.03	32.5	Pass
T2	240 - 220	Leg	P3.5x.226	27	-71344.50	92796.60	76.9	Pass
		Diagonal	L2x2x3/16	32	-10904.00	11309.10	96.4	Pass
T3	220 - 200	Leg	P5x.258	48	-132619.00	169405.00	78.3	Pass
		Diagonal	L2x2x3/16	52	-7709.09	8927.43	86.4	Pass
T4	200 - 180	Leg	P6x.28	69	-180727.00	228860.00	79.0	Pass
		Diagonal	L2x2x3/16	73	-7145.19	7252.55	98.5	Pass
T5	180 - 160	Leg	P6x.28	90	-222022.00	228860.00	97.0	Pass
		Diagonal	L2 1/2x2 1/2x3/16	94	-7012.19	11624.40	60.3	Pass
T6	160 - 140	Leg	P8x.322	111	-259947.00	357982.00	72.6	Pass
		Diagonal	L2 1/2x2 1/2x3/16	115	-7075.87	9765.99	72.5	Pass
T7	140 - 120	Leg	P8x.322	132	-295598.00	357982.00	82.6	Pass
		Diagonal	L2 1/2x2 1/2x3/16	136	-7056.81	8064.89	87.5	Pass
T8	120 - 100	Leg	P10x.365	153	-326779.00	495588.00	65.9	Pass
		Diagonal	L3x3x3/16	157	-8265.98	10041.50	82.3	Pass
T9	100 - 80	Leg	P10x.365	168	-360225.00	495588.00	72.7	Pass
		Diagonal	L3x3x1/4	172	-8551.94	11359.30	75.3	Pass
T10	80 - 60	Leg	P10x.365	183	-392927.00	495588.00	79.3	Pass
		Diagonal	L3 1/2x3 1/2x1/4	187	-8958.84	16007.00	56.0	Pass
T11	60 - 40	Leg	P10x.365	198	-424956.00	495588.00	85.7	Pass
		Diagonal	L3 1/2x3 1/2x1/4	202	-9268.43	14075.10	65.8	Pass
T12	40 - 20	Leg	P12x.375	213	-456502.00	620910.00	73.5	Pass
		Diagonal	L3 1/2x3 1/2x1/4	217	-9635.34	12656.00	76.1	Pass
T13	20 - 0	Leg	P12x.375	228	-487295.00	620910.00	78.5	Pass
		Diagonal	L4x4x1/4	232	-10813.10	16944.40	63.8	Pass
							Summary	

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Leg (T5)	97.0	Pass
						Diagonal (T4)	98.5	Pass
						Top Girt (T1)	32.5	Pass
						RATING =	**98.5**	**Pass**

Drilled Pier Foundation Design

Order/Quote Number:	**SO33750**
Part Number:	**804383**
Tower Model:	**NSX 23' x 255.3'**
Company:	**The Towers, LLC**
Site:	**NS 255.3' - US-KY-5231 / Tim Road KY - Marshall Co., KY**

N E L L O
1201 South Sheridan St. South Bend, IN 46619
574-288-3632 (phone) 574-288-5860 (fax) www.nelloinc.com

TIA-222-H 9.7

Tower Reactions (Factored)

Leg Compression:	**495.712**	kips
Leg Uplift:	**433.200**	kips
Leg Shear:	**37.523**	kips
Tower Shear:	58.656	kips
Tower Moment:	9399.605	ft-kips
Tower Weight:	71.433	kips

Foundation Design Reactions

Additional Load Factor:	1.00	
Compression:	495.712	kips
Uplift:	433.200	kips
Shear:	37.523	kips

ANSI/TIA-222-H - Design Factors

Uplift Resistance Factor, Phi:	0.75
Compressive Resistance Factor, Phi:	0.75
Bearing Capacity Resistance, Phi:	0.75
Lateral Resistance Factor, Phi:	0.75

Foundation Dimensions

Pier Diameter:	3.5	ft
Pier Extension:	0.5	ft
Pier Depth:	37	ft
Total Pier Length:	37.5	ft
Volume per Pier:	13.4	yd^3
Total Volume:	40.1	yd^3

Site Details

Rock Depth:	-	ft
Frost Depth:	1.67	ft
Water Depth:	35	ft
Upper Pier Neglected:	3.5	ft
Minimum Pier Depth:		ft
Soil Induced Uplift Load:		kips
Seismic Site Class:	D	TIA-222-H 2-10
Mapped Response Acc., S_s:	0.889	g
Design Response Acc., S_{DS}:	0.678	g
Design Response Acc., S_{D1}:	0.398	g
Seismic Design Category:	D	
	☐	
Soil Corrosion Risk:	Moderate	
Soil Weight:	110	pcf

Foundation LPILE Loads (Divided by Φ_s)

Shear Load:	50,031	lb
Moment Load:	0	lb-in
Axial Load:	660,949	lb

Tower Dimensions

Tower Base Width:	23	ft
Base Leg Diameter (Nom.):	12	in
Base Leg Member:	Pipe	
Bracing System:	X-Braced	

Material Specifications

Concrete Strength:	4500	psi
Concrete Weight:	150	pcf
Rebar Yield Strength:	60	ksi
Clear Cover:	3	in
Clear Cover (Top of Pier):	3	in

Geotechnical Report

Company:	Delta Oaks Group
Date:	7/23/2025
Project:	GEO25-26348-08

Summary Check

Uplift:	**OK**	**90.5%**
Uplift Cone Check:	**OK**	**23.8%**
Compression:	**OK**	**91.6%**
Minimum 3 Pier Diameter Spacing:	**OK**	
Max Pier Length / Diameter Ratio:	**OK**	
Neglect Frost Depth:	**OK**	
Neglect Top Portion of Pier:	**OK**	
Minimum Depth:	**OK**	
Pier Compressive Strength:	**OK**	**16.5%**
Pier Tensile Strength:	**OK**	**42.2%**
Minimum Vertical Reinforcement:	**OK**	
Rebar Strength:	**OK**	
Rebar Spacing:	**OK**	
Compressive Shear:	**OK**	
Anchor Bolt Strength:	**OK**	**50.2%**
Anchor Bolt Development:	**OK**	
Embedment Plate Fit:	**OK**	
Seismic Lateral Restraint:	**OK**	

Max. Foundation Capacity Rating
91.6%

Compression/Uplift Resistance Design

Layer	Depth (ft)	Depth (ft)	Length (ft)	Diameter (ft)	Allowable Skin Friction Uplift (ksf)	Allowable Skin Friction Uplift Safety Factor	Allowable Skin Friction Compression (ksf)	Allowable Skin Friction Compression Safety Factor	Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Uplift (kips)	Ultimate Skin Friction Compression (ksf)	Ultimate Skin Friction Compression (kips)	Net Concrete Weight[1] Weight (pcf)	Net Concrete Weight[1] Compression (kips)	Net Concrete Weight[1] Uplift (kips)	Ultimate Bearing (ksf)	Ultimate Bearing (kips)	Friction Resistance Uplift (kips)	Friction Resistance Comp. (kips)
1	-0.5	0	0.5	3.5	0.000		0.000		0.000	0.00	0.000	0.00	150	0.72	0.72	Allowable	FS	0.00	0.00
2	0	3.5	3.5	3.5	0.000	1.0	0.000	1.0	0.000	0.00	0.000	0.00	150	1.35	5.05	13.44	1.0	0.00	0.00
3	3.5	6	2.5	3.5	0.380	1.0	0.380	1.0	0.380	10.45	0.380	10.45	150	0.96	3.61	0.00	0.00	10.45	10.45
4	6	8	2	3.5	0.540	1.0	0.540	1.0	0.540	11.88	0.540	11.88	150	0.77	2.89	0.00	0.00	11.88	11.88
5	8	13	5	3.5	1.370	1.0	1.370	1.0	1.370	75.32	1.370	75.32	150	1.92	7.22	0.00	0.00	75.32	75.32
6	13	18	5	3.5	1.310	1.0	1.740	1.0	1.310	72.02	1.740	95.66	150	1.92	7.22	0.00	0.00	72.02	95.66
7	18	23	5	3.5	1.610	1.0	2.140	1.0	1.610	88.51	2.140	117.65	150	1.92	7.22	0.00	0.00	88.51	117.65
8	23	28	5	3.5	1.870	1.0	2.500	1.0	1.870	102.81	2.500	137.44	150	1.92	7.22	0.00	0.00	102.81	137.44
9	28	33	5	3.5	2.090	1.0	2.790	1.0	2.090	114.90	2.790	153.39	150	1.92	7.22	0.00	0.00	114.90	153.39
10	33	37	4	3.5	2.240	1.0	2.980	1.0	2.240	98.52	2.980	16.38	87.6	1.54	4.57	0.00	0.00	98.52	16.38
11	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
12	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
13	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
14	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
15	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
16	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
17	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
18	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
19	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
20	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
21	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	0.00	0.00	0.00	0.00
22	37	37	0	3.5		0.0	0.000	0.0	0.000	0.00	0.000	0.00	87.6	0.00	0.00	**13.44**	129.31	0.00	129.31
Total										574.41		618.17		14.96	52.92		129.31	**478.43**	**560.61**
																		OK	**OK**
	Extended Pier:																	**90.5%**	**91.6%**

Uplift Cone Resistance - Weight of Soil Cone **Prominent Subsurface Material Type:** Cohesionless Soil / Rock

Pier Depth (ft)	Pier Depth (ft)	Pier Diameter (ft)	Pier Volume (ft^3)	Pier Weight (kips)	Friction Angle (deg)	Soil Weight (kcf)	Cone Frustum Height (ft)	Cone Frustum Radius (ft)	Cone Frustum Radius (ft)	Cone Frustum Volume (ft^3)	Soil Volume (ft^3)	Soil Weight (kips)	Uplift Capacity (kips)
0	3.5	3.5	33.67	5.05	0	0.110	3.50	21.09	21.09	4891	4858	534.34	404.54
3.5	37	3.5	322.31	48.35	30	0.110	33.50	1.75	21.09	17008	16685	1835.40	1412.81
37	37	3.5	0.00	0.00	30	0.110	0.00	1.75	1.75	0	0	0.00	0.00
												OK	**1817.35**

24%

Vertical Reinforcement Design

Number of Bars	Bar Size	Bar Length (in)	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Total Bar Area (sq in)	Minimum Bar Area Required (sq in)	Rebar Circle Diameter (in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)	Equivalent Pipe Outer Diameter (in)	Equivalent Pipe Inner Diameter (in)	Equivalent Pipe Thickness (in)	Equivalent Pipe Section Modulus (in ^ 3)	Induced Moment (ft-kips)*	Induced Stress (ksi)	Design Stress (ksi)
19	9	444	1.128	3.400	2390	1.00	19.00	6.93	33.872	5.6	4.5	34.05	33.69	0.357	160.1	**344.96**	48.66	54
							OK	TIA-222 H-9.4.1			**OK**						**OK**	**90.1%**

Pier Axial Strength - Compression and Tension

Pier Gross Area (in^2)	Nominal Compressive Strength (kip)	Compressive Strength Reduction Factor	Design Compressive Strength (kip)	Mislocation Overload Factor	Check Compressive Strength Ratio	Nominal Tensile Strength (kip)	Tensile Strength Reduction Factor	Design Tensile Strength (kip)	Check Tensile Strength Ratio
1385.44	6366.64	0.65	**3310.65**	1.10	**0.165**	1140.00	0.90	**1026.00**	**0.422**
	ACI-318-14 22.4.2.2 -318-14 Table 21.ACI-318-14 22.4.2.1				**OK**	ACI-318-14 22.4.3.1-318-14 Table 21.2.2			**OK**

Development Length - Vertical Rebar

Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_{tr}	Develop. Length ℓ_d (in)
9	1.0	1.0	1.0	1.0	2.80	0.0	30.5

ACI-318-14 25.4.2.4 318-14 Table 25.4318-14 Table 25.4.2.4 ACI-318-14 25.4.-318-14 Table 25.4.2.2

Tie Reinforcement Design

Number of Bars	Bar Size	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Min. Seismic Hook Extension (in)	Total Length (in)	Zone	Maximum Tie Spacing (in)	Zone Distance (in)	Number of Tie Spaces	Actual Tie Spacing (in)	Number of Ties per Zone	Standard Confinement Applied

46	4	0.500	0.668	333	0.20	3.0	130.0	End	1.625	1.625	1	1 10/16	2	
								Top	6	72	12	6	12	
								Middle	12	364.875	31	11 3/4	30	
								End	5	5	1	5	2	
						6.0	overlap (min)							

ACI-318-14 2.3

Shear (Compression) **Shear (Uplift)**

Distance to Max. Shear $d_{maxshear}$ (in)	Compressive Shear V (kip)	Factored Axial Force N_u (lb)	Distance to Tension Reinf. d (in)	Ratio of A_s to $b_w d$ ρ_w	Concrete Weight W_c (lb)	Pier Gross Area A_g (in^2)	Nom. Strength Concrete V_c (kip)	Minimum Bar Area A_{vmin} (in^2)	Total Bar Area A_v (in^2)	Nom. Strength Reinforcement V_s (kip)	Des. Shear Strength ϕV_n (kip)	Factored Axial Force N_u (lb)	Nom. Shear Concrete V_c (kip)	Des. Shear Strength ϕV_n (kip)
	37.52	**495712**	33.600	0.013	0.000	1385.442	223.204	0.000	0.400	134.400	268.203	**433200**	70.932	153.999
		ACI-318-14 22.5.1;ACI-318-14 2.2					*ACI-318-14 22.5.6*	**OK**	**OK**	*ACI-318-14 22.5.1*	**OK**		*ACI-318-14 22.*	**OK**
								ACI-318-14 18.			**14.0%**			**24.4%**
									ACI-318-14 22.5.10.6		*ACI-318-14 22.9.3.1*			*ACI-318-14 22.9.3.1*

Splice Length - Ties

Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_{tr}	Development Length ℓ_d (in)	Splice Length Tolerance (in)	Splice Length $1.3 * \ell_d$ (in)
4	1.0	1.0	0.8	1.0	3.25	0.0	12.0	1.0	18.0

ACI-318-14 25.4.2.4;318-14 Table 25.;ACI-408-03- 4.5.2 318-14 Table 25.4.2.4 *ACI-318-14 25.4.2.;-318-14 Table 25.4.2.2* *ACI-318-14 Table 25.5.2.1*

Anchor Bolts and Embedment Plate

Number of Bolts	Bolt Diameter (in)	Bolt Length (in)	Anchor Bolt P/N	Bolt Projection (in)	Projection Tolerance Above (in)	Projection Tolerance Below (in)	Plate PN	Plate O.D. / Width	Plate I.D.	Bolt Circle Diameter (in)	Plate Thickness (in)
16	1.00	60	102970	5.75	0.1875	-0.25	139916	19	14	16.5	0.5

Std. Pattern

Anchor Bolt Design

Bolt Threads per Inch	Gross Area (in^2)	Bolt Net Area (in^2)	Bolt Yield Strength (ksi)	Ultimate Tensile Stress (ksi)	Bolt Resistance Factor	Bolt Nominal Tensile Strength (kip)	Bolt Design Tensile Strength (kip)	Nominal Shear Rupture Strength (kip)	Nominal Compression Yield Strength (kip)	Nominal Shear Yield Strength (kip)	Anchor Bolt Interaction Equation	Anchor Bolt Embedded Length (in)	Rebar Engaged by Bolts (in)	Length Required (in)	Gap Between Rebar & Plate (in)
8	0.785	0.606	105	125	0.75	75.718	56.788	49.087	63.603	19.081	0.502	54.06	39.38	30.48	6.87
		TIA-222-H 4.9.6.1			*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	*TIA-222-H 4.9.9*	**OK**		**OK**		**OK**
											50.2%				
											TIA-222-H 4.9.9				

Notes

- Foundation design is based on the Geotechnical Report dated 07/23/2025, by Delta Oaks Group; Project No. GEO25-26348-08.
- Groundwater may be encountered at 35 feet bgs at this site based on the geotechnical investigation. The need for dewatering should be anticipated below this depth.
-All foundation concrete shall be in accordance with the latest ACI-318 exposure class requirements for corrosive soils.

SST Drilled Pier Foundation Design Summary

Max. Foundation Capacity Rating:	91.6%

FOUNDATION DIMENSIONS		
Tower Width:	23	ft
Pier Extension:	0.5	ft
Pier Depth:	37	ft
Pier Diameter:	3.5	ft
Clear Cover:	3	in
Clear Cover (Top of Pier):	3	in
Volume per Pier:	13.4	yd^3
Total Volume:	40.1	yd^3

PIER REINFORCEMENT		
Bar Size:	9	
Bar Length:	444	in
On Center Spacing:	5.6	in
Quantity per Pier:	19	
Total Quantity:	57	
Weight per Pier:	2390	lbs
Total Weight:	7170	lbs

TIE REINFORCEMENT		
Bar Size:	4	
Bar Length:	130	in
Circular Tie Outer Diameter:	36	in
Overlap:	6	in
Tie Termination Type:	3" Seismic Hooks	
Quantity per Pier:	46	
Total Quantity:	138	
Top Zone - Quantity:	2	
Top Zone - Spacing:	1.625	in
Anchor Zone - Quantity:	12	
Anchor Zone - Spacing:	6	in
Middle Zone - Quantity:	30	
Middle Zone - Spacing:	11.75	in
Bottom Zone - Quantity:	2	
Bottom Zone - Spacing:	5	in
Weight per Pier:	333	lbs
Total Weight:	999	lbs

TOWER REACTIONS		
Leg Compression:	495.7	kip
Leg Uplift:	433.2	kip
Leg Shear:	37.5	kip
Tower Shear:	58.7	kip
Tower Moment:	9399.6	ft-kip
Tower Weight:	71.4	kip

MATERIAL SPECIFICATIONS		
Concrete Strength:	4500	psi
Concrete Weight:	150	pcf
Rebar Yield Strength:	60	ksi

ANCHORING DETAILS		
Anchor P/N:	102970	
Anchor Diameter:	1	in
Anchor Length:	60	in
Anchor Quantity per Leg:	16	
	Std. Pattern	
Anchor Projection:	5.75	in
	+ 0.1875"	-0.25"
Bolt Circle Diameter:	16.5	in
Template P/N	139916	

BACKFILL CRITERIA (NON-STRUCTURAL)		
Loose Lift Thickness:	8	in
Percent Compaction:	95%	
ASTM Standard:	D698	
Optimum Moisture Content:	2%	
	-2%	

ECO #:		

ADDITIONAL NOTES

- Foundation design is based on the Geotechnical Report dated 07/23/2025, by Delta Oaks Group; Project No. GEO25-26348-08.

- Groundwater may be encountered at 35 feet bgs at this site based on the geotechnical investigation. The need for dewatering should be anticipated below this depth.

-All foundation concrete shall be in accordance with the latest ACI-318 exposure class requirements for corrosive soils.

Combined Foundation Design

Order/Quote Number: SO33750
Part Number: 804383
Tower Model: NSX 23' x 255.3'
Company: The Towers, LLC
Site: NS 255.3' - US-KY-5231 / Tim Road KY - Marshall Co., KY

NELLO
1201 South Sheridan St.
South Bend, IN 46619
574-288-3632 (phone)
574-288-5860 (fax)
www.nelloinc.com

Tower Reactions (Factored)

Shear:	58.656	kips
Moment:	9399.605	ft-kips
Weight:	71.433	kips
Leg Compression:	**495.712**	kips
Leg Uplift:	**433.200**	kips
Leg Shear:	**37.523**	kips

Site Details

SoilType:	Clay	
Soil Unit Weight (Backfill):	110	pcf
Allowable Bearing Pressure:	6400	psf
Factor of Safety:	1	
Ultimate Bearing Pressure:	6,400	psf
Bearing Pressure Type:	Net Bearing Pressure	
Angle of Internal Friction:	0	degrees
Cohesion:	1000	psf
Sliding Friction Coefficient:	0.35	
Frost Depth (Neglected):	1.67	ft
Min. Bearing Depth:	1.67	ft
Water Depth:	35	ft
Rock Depth:	-	ft
Passive Pressure Coefficient:	1.00	
Active Pressure Coefficient:	1.00	

Design Dimensions

Tower Base Width:	23	ft
Base Leg Diameter (Nominal):	12	in
Base Leg Member:		
Tower Bracing System:		
Pier Extension:	0.5	ft
Pier Diameter:	4	ft
Depth:	7.5	ft
Pad Thickness:	1.75	ft
Pad Width:	30.5	ft

Tower Offset: ☑ Tower Center is Offset

Eccentricity:	3.32	ft
Distance Between Piers	19.92	ft
Edge 1	3.75	ft
Edge 2	5.29	ft
Edge 3	5.29	ft
Soil Corrosion Risk:	Moderate	

Foundation Design Reactions

Additional Load Factor:	1.00	
Shear:	58.656	kips
Moment:	9399.605	ft-kips
Weight:	71.433	kips
Compression:	495.712	kips
Uplift:	433.200	kips
Individual Shear:	37.523	kips

Geotechnical Report

Company:	Delta Oaks Group	
Date:	7/23/2025	
Project:	GEO25-26348-08	
Seismic Site Class:	D	TIA-222-H 2-10
Design Response Acc., S_{DS}:	0.678	g
Design Response Acc., S_{D1}:	0.398	g
Seismic Design Category:	D	

Material Specifications

Concrete Unit Weight:	150	pcf
Concrete Strength:	4500	psi
Rebar Yield Strength:	60	ksi
Clear Cover:	3	in
Clear Cover (Top of Pier):	3	in
Clear Cover Tolerance, +/- (Top of Piers):	1	in

Development Length Requirements

Pad Reinforcement Location Factor:	1.0	ACI-318-14 R25.4.2.2
Pier Reinforcement Location Factor:	1.0	ACI-318-14 R25.4.2.2
Coating Factor:	1.0	ACI-318-14 R25.4.2.2
Lightweight Concrete Factor:	1.0	ACI-318-14 R25.4.2.2
Transverse Reinforcement Index:	0.0 in	ACI-318-14 25.4.2.3
Pad Development Length Reduction:	☐	No Reduction
Compressive Development Length Red:	☑	Yes; Utilize Reduction
Tension Development Length Reduction:	☐	No Reduction
Pad Ties Development Length Reduction:	☐	No Ties in Pad

ACI-318-14 25.4.10 (Compressive Development Length Red)
ACI-318-14 25.4.10 (Tension Development Length Reduction)
ACI-318-14 25.4.10 (Pad Ties Development Length Reduction)

Maximum Foundation Capacity Rating: **91.8%**

ANSI/TIA-222-H - Design Factors TIA-222-H 9.7

Uplift Resistance Factor, Phi:	0.75
Compressive Resistance Factor, Phi:	0.75
Bearing Capacity Resistance, Phi:	0.75
Lateral Resistance Factor, Phi:	0.75

Summary Check

Minimum Depth: TIA-222-H 9.3	**OK**
Lateral Check:	**OK**
Overturning Check:	**OK**
Maximum Eccentricity Check:	**OK**
Bearing Check:	**OK**
Concrete Strength Check:	**OK**
Max Pad Reinforcement Spacing:	**OK**
Min. Pad Reinforcement Spacing:	**OK**
Pad Constructability Check:	**OK**
Min. Pad Reinforcement Check:	**OK**
Pad Reinforcement Yield Check:	**OK**
Pad Flexural Check:	**OK**
Pad Development Length:	**OK**
One Way Shear Check:	**OK**
Two-Way Shear Check:	**OK**
Vertical Bar Quantity Check:	**OK**
Min/Max Vertical Bar Spacing Check:	**OK**
Pier Constructability Check:	**OK**
Minimum Vertical Reinforcement:	**OK**
Pier Compressive Strength:	**OK**
Pier Reinforcement Stress:	**OK**
Compressive Development in Pier:	**OK**
Compressive Development in Footing:	**OK**
Tensile Development in Pier:	**OK**
Tensile Development in Footing:	**HOOK REQ'D**
Hook Development Length:	**OK**
Space of Hook:	**OK**
Rebar Engaged by Anchors:	**OK**
Plate & Rebar Spacing Check:	**OK**
Anchor Embedment Clearance:	**PIER ONLY**
Anchor Strength Check:	**OK**
Anchor Concrete Punching Check:	**OK**

Weight

Concrete Pad Volume (cubic yd)	Concrete Pier Volume (cubic yd)	Total Concrete Volume (cubic yd)	Concrete Weight (kips)	Soil Volume (cubic yd)	Soil Weight (kips)	Soil Weight Removed (kips)	Total Dead Load (kips)	Total Factored Dead Load (LC:0.9D controls) (kips)
60.29	2.91	69.02	279.53	190.08	564.54	767.46	897.65	813.24
							TIA-222-H 9.4	TIA-222-H 9.4

Lateral Capacity

Minimum Depth Required (ft)	Soil Unit Weight Below GWT (pcf)	Ultimate Passive Pressure: @ Depth Neglected (ksf)	@ Top of Footing (ksf)	@ Bottom of Footing (ksf)	@ Top of Pressure Zone (ksf)	@ GWT (ksf)	Average (ksf)	Ultimate Active Pressure: @ Top of Footing (ksf)	@ Bottom of Footing (ksf)	@ GWT (ksf)	Average (ksf)
1.67	47.6	2.18	2.63	2.83	2.63	5.85	2.73	0.00	0.00	1.85	0.00
OK											

Effective Pad Thickness (ft)	Effective Pad Area (sq ft)	Nominal Passive Resistance (kips)	Nominal Active Loading (kips)	Nominal Friction Resistance (kips)	Design Lateral Resistance (kips)
1.75	53.375	145.65	0.00	314.18	344.87
					OK
					17.0%

Overturning TIA-H-222 9.4 TIA-H-222 9.4 TIA-H-222 9.4.1

Weight of Soil Wedge on Back Face (kips)	Moment Resistance From Weight (ft-kips)	Moment Resistance from Soil Wedge (ft-kips)	Moment Resistance from Passive Pressure (ft-kips)	Moment Loading from Active Pressure (ft-kips)	Overturning Moment (ft-kips)	Design Overturning Resistance (ft-kips)	Maximum Eccentricity (LC: 0.9D) (ft)
0.00	12224.05	0.00	84.96	0.00	10046.71	12287.77	12.4
						OK	**OK**
						81.8%	**90.0%**

Solve for Min. Pressure

Bearing Pressure 0.000 This Cell = 0 when spreadsheet is solved.

Case 1: Entire Mat is in Positive Bearing: Minimum Pressure (ksf)	Maximum Pressure (ksf)	Entire Mat is in Positive Bearing (TRUE/FALSE)	Case 2: Back Edge of Mat is Uplifting: Adjusted Bearing Width (ft)	Minimum Pressure (ksf)	Maximum Pressure (ksf)	Back Edge of Mat is Uplifting (TRUE/FALSE)	Maximum Gross Bearing Pressure (ksf)	Maximum Net Bearing Pressure (ksf)	Width of Bearing Section ft	Net Bearing Pressure at Pier 1 (ksf)	Net Bearing Pressure at Pier 2 (ksf)	Maximum Bearing Pressure (ksf)
-1.19	3.12	FALSE	11.58	0.00	5.08	TRUE	5.08	4.26	11.58	1.58	0.00	4.26
												OK
												88.7%

Pad Reinforcement Design Flexural Strength Reduction Factor = 0.9 ACI-318-14 21.2.2 ACI-318-14 8.6.1.1

Number of Bars	Bar Size	Bar Length (in)	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Total Bar Area per Layer per Direction (sq in)	Minimum Bar Area Required (sq in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)
50	9	360	1.13	3.40	20400	1.00	50.00	6.92	7.3	6.2
							OK		**OK**	**OK**
									Constructability:	**OK**

ACI-318-14 22.2.2.4.1

Flexural Strength									Required Development Length (in)	Available Development Length (in)
Effective Depth (in)	Effective Width (in)	Compressive Zone Depth (in)	Concrete Strength Factor	Edge Unbraced Length (ft)	Inner Unbraced Length (ft)	Corner Unbraced Length (ft)	Factored Moment (ft-kips)	Design Moment (ft-kips)		
16.87	366.00	2.143	0.83	5.29	15.92	7.93	3264.82	3555.12	30.27	36.49
ACI-318-14 2.3		Yield Check:	OK					OK	ACI-318-14 25.4.2.3a	OK
			ACI-318-14 Table 22.2.2.4.3					91.8%		

ACI-318-14 21.2.1

Concrete Shear Capacity Shear Strength Reduction Factor = 0.75

One-Way Shear					Two-Way Shear				
Effective Shear Depth (ft)	Effective Shear Width (ft)	Factored Shear Force (kips)	Nominal Concrete Shear Strength (kips)	Nominal Rebar Shear Strength (kips)	Design Shear Strength (kips)	Shear Perimeter (ft)	Factored Shear Force (kips)	Nominal Concrete Shear Strength (kips)	Nominal Rebar Shear Strength (kips)	Design Shear Strength (kips)
1.36	30.50	250.91	800.79	0.00	600.59	13.25	460.14	695.75	0.00	521.81
ACI-318-14 2.3			ACI -318-14 22.5.5.1	ACI -318-14 22.5.1.1	OK			ACI-318-14 22.6.5.2	ACI-318-14 22.6.1.2	OK
					41.8%	ACI-318-14 22.6.4.1				88.2%
					ACI-318-14 22.5.1.1					ACI-318-14 22.6.1.3

Tie Reinforcement Design

Number of Bars	Bar Size	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Min. Seismic Hook Extension (in)	Total Length (in)	Zone	Maximum Tie Spacing (in)	Zone Distance (in)	Number of Tie Spaces	Actual Tie Spacing (in)	Number of Ties per Zone
14	4	0.50	0.67	115	0.20	3.0	147.9	End	1.625	1.625	1	1 10/16	2
								Top	0	0	0	0	0
								Middle	6	70.375	12	5 14/16	12
								Pad	N/A	N/A	N/A	N/A	N/A
						6.0	overlap (min)						
						ACI-318-14 2.3							

Shear (Compression) **Shear (Uplift)**

Factored Axial Force N_u (lb)	Distance to Tension Reinf. d (in)	Ratio of A_s to $b_w d$ ρ_w	Concrete Weight W_c (lb)	Pier Gross Area A_g (in^2)	Nom. Strength Concrete V_c (kip)	Minimum Bar Area A_{vmin} (in^2)	Total Bar Area A_v (in^2)	Nom. Strength Reinforcement V_s (kip)	Des. Shear Strength ϕV_n (kip)	Factored Axial Force N_u (lb)	Nom. Shear Concrete V_c (kip)	Des. Shear Strength ϕV_n (kip)
495869	38.400	0.008	157.080	1809.557	281.174	0.000	0.400	307.200	441.280	**495555**	111.848	314.286
	ACI-318-14 22.5.2.2 ACI-318-14 2.2				ACI-318-14 22.5.6.1	OK	OK	ACI-318-14 22.5.10.5.3	OK		ACI-318-14 22.5.7.1	OK
							ACI-318-14 22.5.10.6		8.5%			11.9%
						ACI-318-14 18.12.7.6			ACI-318-14 22.9.3.1			ACI-318-14 22.9.3.1

Splice Length - Ties

Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_{tr}	Development Length ℓ_d (in)	Splice Length Tolerance (in)	Splice Length 1.3 * ℓ_d (in)
4	1.0	1.0	0.8	1.0	2.94	0.0	12.0	1.0	18.0
	ACI-318-14 25.4.2.4	CI-318-14 Table 25.4.2.4	ACI-318-14 Table 25.4.2.4	CI-318-14 Table 25.4.2.4		ACI-318-14 25.4.2.3b	ACI-318-14 Table 25.4.2.2		ACI-318-14 Table 25.5.2.1

Pier Vertical Reinforcement Design

Number of Bars	Bar Size	Bar Diameter (in)	Hook Bend Radius (in)	Hook Extension Length (in)	90 degree Std. Hook Length (in)	Bar Length (in)	Bar Area (sq in)	Pier Gross Area (sq in)	Total Bar Area (sq in)	Minimum Bar Area Required (sq in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)
19	8	1.00	3.00	12.00	15.00	102.00	0.79	1809.56	15.01	9.05	6.6	5.6
OK			ACI 318-14 Table 25.3.1	ACI 318-14 Table 25.3.1	ACI 318-14 Table 25.3.1					OK		OK
										TIA-222-H 9.4.1	Constructability:	OK
												ACI-318-14 25.2.3

Development Length - Vertical Pier Reinforcement TIA-222-H 9.4.1

Compressive Development				Tension Development			Basic Development Length (in)	Concrete Cover Factor	Required Development Length (in)	Development Length Available (in)
Required Length (in)	Required Length Adj. (in)	Available in Pier (in)	Available in Footing (in)	Required Length (in)	Available in Pier (in)	Available in Footing (in)				
18.00	8.00	72.00	15.74	26.83	72.00	15.74	17.89	0.7	12.5	15.74
ACI-318-14 25.4.9.2	ACI-318-14 22.4.3.b	OK	OK	ACI-318-14 25.4.2.3.a	OK	HOOK REQ'D	ACI-318-14 25.4.3.1	ACI-318-14 Table 25.4.3.2	ACI-318-14 25.4.3.1	OK
			ACI-318-14 25.3.1							

Hook Development Length

Space for Hook

Hook Orientation	Space Available for Hook (in)	Space Required for Hook (in)
Hooks Extend Outward	21.50	15.0
		OK

ACI-318-14 18.13.2.2

Pier Axial Strength - Compression and Tension

Reinforcement Stress

Pier Gross Area (in^2)	Nominal Compressive Strength (kip)	Compressive Strength Reduction Factor	Design Compressive Strength (kip)	Nominal Tensile Strength (kip)	Tensile Strength Reduction Factor	Design Tensile Strength (kip)	Diameter of Reinforcement Circle (in)	Equivalent Pipe: Outer Diameter (in)	Equivalent Pipe: Inner Diameter (in)	Equivalent Pipe: Thickness (in)	Equivalent Pipe: Section Modulus (in ^ 3)	Reinforcement Stress (ksi)	Design Stress (ksi)
1809.56	7764.74	0.65	4037.67	900.60	0.90	810.54	40.00	40.12	39.88	0.239	149.7	47.67	54
	ACI-318-14 22.4.2.2	CI-318-14 Table 21.2	OK	ACI-318-14 22.4.3.1	ACI-318-14 Table 21.2.2	OK							OK
			12.3%			53.4%							88.3%
			ACI-318-14 22.4.2.1										

Anchor Bolt Design

Bolt Threads per Inch	Gross Area (in^2)	Bolt Net Area (in^2)	Ultimate Tensile Stress (ksi)	Bolt Yield Strength (ksi)	Bolt Nominal Tensile Strength (kip)	Nominal Shear Rupture Strength (kip)	Nominal Compression Yield Strength (kip)	Nominal Shear Yield Strength (kip)	Anchor Bolt Interaction Equation	Embedment Depth of Anchor (in)	Pier Allowable Embedment Depth (in)	Footing Embedment Top Limit (in)	Footing Embedment Bot. Limit (in)
8	0.785	0.606	125	105	75.718	49.087	63.603	19.081	0.502	54.500	75.000	82.256	88.744
		TIA-222-H 4.9.6.1			TIA-222-H 4.9.9	TIA-222-H 4.9.9	TIA-222-H 4.9.9	TIA-222-H 4.9.9	OK		PIER ONLY		
									TIA-222-H 4.9.9				

Anchor Bolts and Embedment Plate

Anchor Bolt PN	Number of Bolts	Bolt Diameter (in)	Bolt Length (in)	Length Protruding From Concrete: Specified (in)	Length Protruding From Concrete: Tolerance Above (in)	Length Protruding From Concrete: Tolerance Below (in)	Plate PN	Plate O.D. or Width (in)	Plate Thickness (in)	Bolt Circle Diameter (in)	Rebar Engaged by Bolts (in)	Length Required (in)	Gap Btwn Rebar & Plate (in)
102970	16	1.00	60	5.75	0.1875	-0.25	139916	19.00	0.5	16.5	36.31	26.83	10.00
	Std. Pattern										OK	ACI-318-14 25.4.2.3.	OK

Notes

- Foundation design is based on the Geotechnical Report dated 07/23/2025, by Delta Oaks Group; Project No. GEO25-26348-08.

- Groundwater may be encountered at 35 feet bgs at this site based on the geotechnical investigation. The need for dewatering should be anticipated below this depth.

- This mat design assumes an ultimate bearing capacity of 6400 psf (allowable bearing capacity of 6400 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.

- During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

- All foundation concrete shall be in accordance with the latest ACI-318 exposure class requirements for corrosive soils.

Combined (MAT) Foundation Design Summary

Max. Foundation Capacity Rating:	91.8%

FOUNDATION DIMENSIONS		
Tower Width:	23	ft
Pier Extension:	0.5	ft
Depth:	7.5	ft
Pad Width:	30.5	ft
Pad Thickness:	1.75	ft
Pier Diameter:	4	ft
Clear Cover:	3	in
Volume:	69.1	yd^3

MAT REINFORCEMENT		
Bar Size:	9	
Bar Length:	360	in
Bar Center to Center Spacing:	7.3	in
Quantity per Layer per Direction:	50	
Total Quantity:	200	
Weight per Bar:	102.0	lbs
Total Weight:	20400	lbs

PIER REINFORCEMENT		
Bar Size:	8	
Bar Length:	102	in
Bend Radius:	3	in
Standard Hook Length:	15	in
Hook Orientation:	Hooks Extend Outward	
Bar Center to Center Spacing:	6.6	in
Quantity per Pier:	19	
Total Quantity:	57	
Weight per Pier:	431	lbs
Total Weight:	1294	lbs

TIE REINFORCEMENT		
Bar Size:	4	
Bar Length:	148	in
Circular Tie Outer Diameter:	42	in
Overlap:	6	in
Tie Termination Type:	3" Seismic Hooks	
Quantity of Ties in Pad:	N/A	
Quantity per Pier:	14	
Bar Center to Center Spacing:	5.9	in
Total Quantity:	42	
Weight per Pier:	115	lbs
Total Weight:	345	lbs

TOWER REACTIONS		
Tower Shear:	58.7	kip
Tower Moment:	9399.6	ft-kip
Tower Weight:	71.4	kip
Leg Compression:	495.7	kip
Leg Uplift:	433.2	kip
Leg Shear:	37.5	kip

MATERIAL SPECIFICATIONS		
Concrete Strength:	4500	psi
Concrete Weight:	150	pcf
Soil Strength (Ultimate Bearing):	6,400	psf
Rebar Yield Strength:	60	ksi

ANCHORING DETAILS		
Anchor P/N:	102970	
Anchor Diameter:	1	in
Anchor Length:	60	in
Anchor Quantity per Leg:	16	
	Std. Pattern	
Anchor Projection:	5.75	in
	+ 0.1875"	-0.25"
Bolt Circle Diameter:	16.5	in
Template P/N	139916	

STRUCTURAL FILL CRITERIA		
Loose Lift Thickness:	8	in
Percent Compaction:	98%	
ASTM Standard:	D698	
Optimum Moisture Content	2%	
Tolerance:	-2%	

BACKFILL CRITERIA (NON-STRUCTURAL)		
Loose Lift Thickness:	8	in
Percent Compaction:	95%	
ASTM Standard:	D698	
Optimum Moisture Content	2%	
Tolerance:	-2%	

ECO #:		

ADDITIONAL NOTES

- Foundation design is based on the Geotechnical Report dated 07/23/2025, by Delta Oaks Group; Project No. GEO25-26348-08.

- Groundwater may be encountered at 35 feet bgs at this site based on the geotechnical investigation. The need for dewatering should be anticipated below this depth.

- This mat design assumes an ultimate bearing capacity of 6400 psf (allowable bearing capacity of 6400 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.

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- All foundation concrete shall be in accordance with the latest ACI-318 exposure class requirements for corrosive soils.

TOWER SEISMIC ANALYSIS

EARTHQUAKE LOADING

ANSI/TIA-222-H / SEI/ASCE 7

Tower Parameters

Tower Type:	Latticed Self-Support		
Structure Class:	II		
Seismic Site Class:	D		
Height of Structure:	H =	255.0	ft
Design Base Shear Due to Wind:	V_w =	58.656	kips
Design Base Moment Due to Wind:	M_w =	9399.61	kip-ft
Total Weight of Structure:	W =	59.527	kips
Height to Level under Consideration:	H_z =		ft
Weight of Level under Consideration:	W_z =	0.000	kips
Spectral Response Acceleration at Short Periods (0.2-Second) - Mapped:	S_S =	0.889	
		88.9% g	
Spectral Response Acceleration at 1-Second Periods - Mapped:	S_1 =	0.298	
		29.8% g	

Latticed Self-Support Parameters

Base Face Width of Structure:	w_o =	23	ft
Top Face Width of Structure:	w_t =	6.5	ft
Length of Straight Section:	L_s =	35	ft
N/A	I_{bot} =		in^4
N/A	I_{top} =		in^4
N/A	n_g =		
N/A	N_i =		
N/A	G_r =		ft

Steel Guy Cables [None]

Guy Level i (Elevation) (ft)	Guy Diameter (in)	Average Chord Length @ Level i (ft)	Initial Tension (%)

Guy Level i (ft)	Wires per Strand	Guy Tensile Area (in^2)	Tension (lbs)

Guy Level i (ft)	Guy Weight (lbs)	Equivalent Guy Stiffness
Total:	0.00	0.00000

Table of Weights

	Level i [Elevation] (ft)	Structure Weight (lbs)	Transmission[Feed] Line Weight (lbs)	Microwave Dish Weight (lbs)	Appurtenance Weight (lbs)	Total Weight (lbs)
1	10.0	5403.1	709.0			6112.1
2	20.0					
3	30.0	5025.9	709.0			5734.9
4	40.0					
5	50.0	4323.7	709.0			5032.7
6	60.0					
7	70.0	4223.6	709.0			4932.6
8	80.0					
9	90.0	3911.2	709.0			4620.2
10	100.0					
11	110.0	3549.5	709.0			4258.5
12	120.0					
13	130.0	2789.6	709.0			3498.6
14	140.0					
15	150.0	2709.3	709.0			3418.3
16	160.0					
17	170.0	1997.9	709.0			2706.9
18	180.0					
19	190.0	1784.8	709.0			2493.8
20	200.0					
21	210.0	1441.3	701.4	162.0	103.0	2407.7
22	220.0					
23	230.0	1050.3	580.7		3536.0	8703.0
24	240.0				3536.0	
25	250.0	489.0	155.1		4964.0	5608.1
26	255.0					
27						0.0
28						
29						0.0
30						
	Total (lbs):	38699.2 +	8527.17 +	162 +	12139 =	59,527.4

~ Earthquake Effects May Be Ignored ~

> Use Seismic Analysis Procedure Method 2

Computed Earthquake Design Data

Importance Factor:	I =	1.00		
Steel Modulus of Elasticity:	E =	29000	ksi	
Acceleration Due to Gravity:	g =	32.174	ft/s^2	
Number of Tower Levels (10' Sections):	n =	26		
Weight for Fundamental Frequencies:	W_1 =	29.796	kips	
Weight within Top 5% of Structure:	W_2 =	5.511	kips	
Average Face Width of Structure:	w_a =	13.618	ft	
Number of Levels@ Top Third of Tower:	n_u =			
Weight of Apprt. @ Top Third of Tower:	W_u =		kips	
Weight of Structure Excluding App.:	W_L =		kips	
Average Moment of Inertia of Pole:	I_{avg} =		in^4	
Equivalent Stiffness of Guy Cables:	K_g =			
Fundamental Frequency of Structure:	f_1 =	0.873	Hertz	

Response Modification Coefficient:	R =	3.0
Acceleration-Based Site Coefficient at Short Periods (0.2-Second):	F_a =	1.144
Design Spectral Response Acceleration at Short Periods (0.2-Second):	S_{DS} =	0.678
Velocity-Based Site Coefficient for a 1-Second Period:	F_v =	2.004
Design Spectral Response Acceleration for a 1-Second Period:	S_{D1} =	0.398
Natural Frequency Conversion Factor for Guyed Masts:	C_g =	
Simplified Natural Frequency Conversion Factor for Guyed Masts:	K_m =	
Coefficient for Fundamental Frequencies of Latticed Self-Supports:	K_s =	4540

Seismic Analysis Results: Induced Earthquake Loading

Distribution of Seismic Forces (lbs)

20 ft	Eh1 = 152.6	157423
40 ft	Eh2 = 195.2	lbs
60 ft	Eh3 = 204.3	lbs
80 ft	Eh4 = 235.5	lbs
100 ft	Eh5 = 246.1	lbs
120 ft	Eh6 = 226.8	lbs
140 ft	Eh7 = 163.0	lbs
160 ft	Eh8 = 135.3	lbs
180 ft	Eh9 = 129.0	lbs
200 ft	Eh10 = 223.7	lbs
220 ft	Eh11 = 433.2	lbs
240 ft	Eh12 = 2832.4	lbs
255 ft	Eh13 = 2651.3	lbs

Equivalent Lateral Force Procedure (Method 1)

Seismic Force Distribution Exponent:	k_e = 1.704	
Lateral Seismic Force @ ft:	F_{SZ} = 0.000	kips
Total Seismic Shear at Base:	**V_S = 6.900**	**kips**
Seismic Overturning Moment:	**M_S =**	**kip-ft**

~ PERMITTED ~

<<<<<<<

Equivalent Modal Analysis Procedure (Method 2)

Modal Acceleration Coefficient:	a = 0.000	
Modal Acceleration Coefficient:	b = 0.000	
Modal Acceleration Coefficient:	c = 0.000	
Design Spectral Response Acceleration:	S_A = 0.348	
Acceleration Coefficient at height z:	S_{az} = 0.000	
Lateral Seismic Force @ ft:	F_{SZ} = 0.000	kips
Total Seismic Shear at Base:	**V_S = 7.828**	**kips**
Seismic Overturning Moment:	**M_S = 1657.37**	**kip-ft**

Corporate Headquarters
1201 South Sheridan St.
South Bend, IN 46619
Phone: (800) 806-3556
Fax: 574-288-5860
www.nelloinc.com

Date:	8/21/2025
Engineer:	KYW
SO#:	33750
Client:	The Towers, LLC
Project:	NS 255.3' - US-KY-5231 / Tim Road KY - Marshall Co., KY
Site Address:	Marshall County, KY
Coordinates:	Latitude: 36.8792537 Longitude: -88.45769907

TOWER SEISMIC ANALYSIS - RESULTS SUMMARY

ANSI/TIA-222-H / SEI/ASCE 7

Equivalent Modal Analysis Procedure

Tower Type / Seismic Force Resisting System:		Latticed Self-Support	
Construction Type:		Type IIB	
Use Group:		Group U	
Risk (Occupancy) Category:		II	
Seismic Site Class:		D	
Seismic Design Category:		D	
Structure Class:		II	
Height of Structure:	H =	255.0	ft
Design Base Shear Due to Wind:	V_w =	58.656	kips
Design Base Moment Due to Wind:	M_w =	9399.61	kip-ft
Total Weight of Structure:	W =	59.527	kips
Importance Factor:	I =	1.00	
Mapped Spectral Response Acceleration at Short Periods (0.2-Second):	S_S =	0.889	
		88.9% g	
Mapped Spectral Response Acceleration at 1-Second Periods:	S_1 =	0.298	
		29.8% g	
Response Modification Coefficient:	R =	3.0	
Design Spectral Response Acceleration at Short Periods (0.2-Second):	S_{DS} =	0.678	
Design Spectral Response Acceleration for a 1-Second Period:	S_{D1} =	0.398	
Total Axial Load at Base:	**P_S =**	**71.433**	**kips**
Total Seismic Shear at Base:	**V_S =**	**7.828**	**kips**
Seismic Shear Check:		**OK**	
TNX: Total Seismic Shear at Base:	**V_S =**		**kips**
TNX Full Structural Analysis Seismic Check:		**OK**	
Seismic Overturning Moment at Base:	**M_S =**	**1657.37**	**kip-ft**
Seismic OTM Check:		**OK**	

RESULT: **- WIND is the Controlling Load Case for Structural Design**
- Tower is adequately designed to resist lateral seismic forces

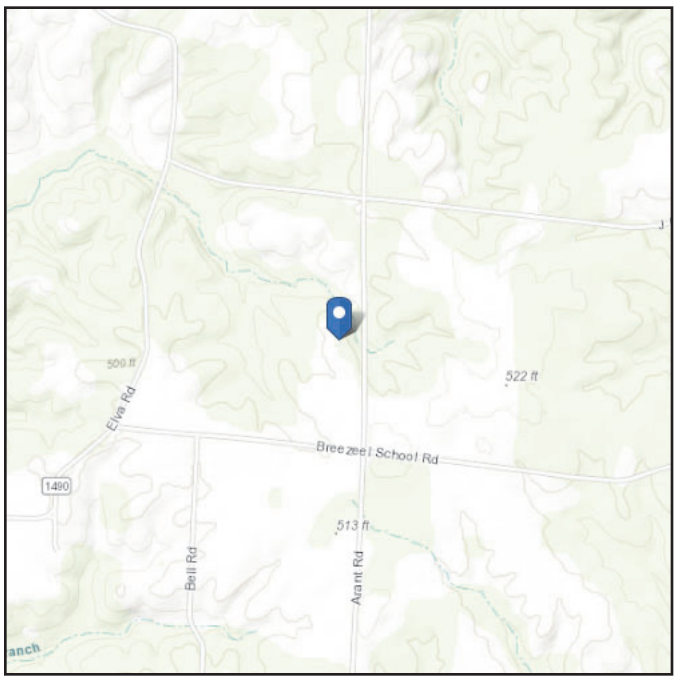
~ Earthquake Effects May Be Ignored ~

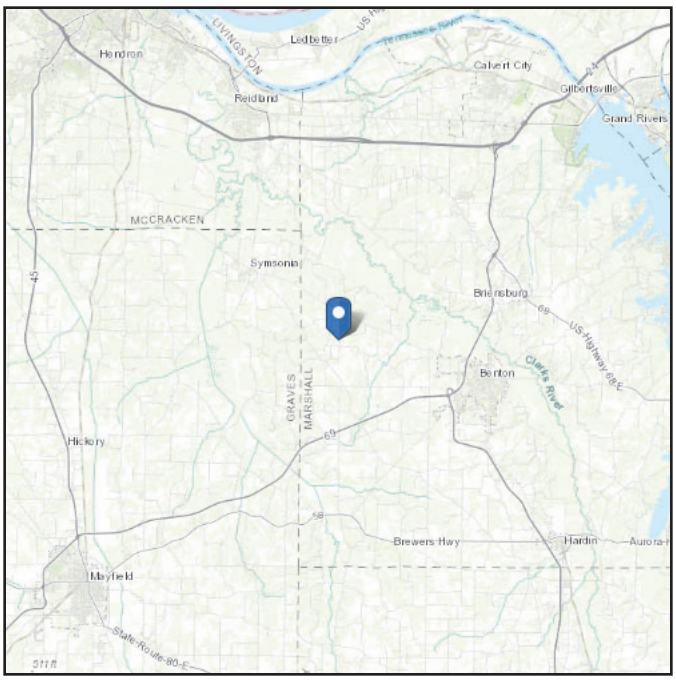
Full Structural Analysis is NOT required per TIA-222-H 2.7.3

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	36.879254
Risk Category:	II	**Longitude:**	-88.457699
Soil Class:	D - Stiff Soil	**Elevation:**	504.96866435453484 ft (NAVD 88)





ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.889	S_{D1} :	N/A
S_1 :	0.298	T_L :	12
F_a :	1.144	PGA :	0.53
F_v :	N/A	PGA_M :	0.583
S_{MS} :	1.018	F_{PGA} :	1.1
S_{M1} :	N/A	I_e :	1
S_{DS} :	0.678	C_v :	1.245

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Wed Aug 20 2025

Date Source: USGS Seismic Design Maps

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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EXHIBIT D

COMPETING UTILITIES, CORPORATIONS, OR PERSONS LIST

KY Public Service Commission

Master Utility Search

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

Utility ID	Utility Name	Address/City/Contact	Utility Type	Status
				Active

Search

	Utility ID	Utility Name	Utility Type	Class	City	State
View	4002000	1GLOBAL Operations (US) Inc.	Cellular	D	Durham	NC
View	4115150	ACN Communication Services, LLC dba Flash Wireless dba Flash Mobile	Cellular	D	Charlotte	NC
View	4115750	Affiniti Ventures, Inc.	Cellular	C	New York	NY
View	4113600	AFNET, LLC	Cellular	D	Alpharetta	GA
View	4108300	Air Voice Wireless, LLC d/b/a AirTalk Wireless	Cellular	A	Houston	TX
View	4115200	Airespring, Inc.	Cellular	D	Clearwater	FL
View	4111900	ALLNETAIR, INC.	Cellular	D	West Palm Beach	FL
View	44451184	Alltel Corporation d/b/a Verizon Wireless	Cellular	A	Lisle	IL
View	4110850	AltaWorx, LLC	Cellular	D	Fairhope	AL
View	4107800	American Broadband and Telecommunications Company	Cellular	D	Toledo	OH
View	4108650	AmeriMex Communications Corp.	Cellular	D	Safety Harbor	FL

View	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
View	4114250	Approved Contact LLC	Cellular	D	Reno	NV
View	4115050	Aquarius Silver LLC	Cellular	D	Sheridan	WY
View	4105700	Assurance Wireless USA, L.P.	Cellular	D	Atlanta	GA
View	4113100	BARK TECHNOLOGIES, INC.	Cellular	D	Charlotte	NC
View	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
View	4106000	Best Buy Health, Inc. d/b/a GreatCall d/b/a Jitterbug	Cellular	A	San Diego	CA
View	4111050	BlueBird Communications, LLC	Cellular	D	New York	NY
View	4107600	Boomerang Wireless, LLC	Cellular	A	Dallas	TX
View	4115500	CALL CENTERS INDIA INCORPORATED d/b/a Blueconnects	Cellular	D	Seattle	WA
View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4106600	Cintex Wireless, LLC	Cellular	D	Houston	TX
View	4114550	Cliq Communications LLC d/b/a Cliq Mobile	Cellular	D	Coral Gables	FL
View	4111150	Comcast OTR1, LLC	Cellular	A	Phoeniexville	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4112700	Cox Wireless, LLC	Cellular	D	Atlanta	GA
View	4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
View	4111500	CSC Wireless, LLC d/b/a Altice Wireless	Cellular	A	Long Island City	NY
View	4114000	Daywalker Mobile Inc.	Cellular	D	Bartlesville	OK
View	4112000	DISH Wireless L.L.C.	Cellular	A	Littleton	CO
View	4111200	Dynalink Communications, Inc.	Cellular	C	Brooklyn	NY
View	4111800	Earthlink, LLC	Cellular	C	Atlanta	GA
View	4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
View	4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
View	4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
View	4113800	EVOLVE WIRELESS LLC	Cellular	D	Maumee	OH

View	4110450	Excellus Communications, LLC	Cellular	D	Harrisburg	SD
View	4112400	Excess Telecom Inc.	Cellular	D	Beverly Hills	CA
View	4116100	Fierce Data Solutions, LLC	Cellular	C	Las Vegas	NV
View	4116050	Flex Mobile, Inc.	Cellular	C	Las Vegas	NV
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Herndon	VA
View	4111750	Gabb Wireless, Inc.	Cellular	A	Lehi	UT
View	4109350	Global Connection Inc. of America	Cellular	D	Miami	FL
View	4102200	Globalstar USA, LLC	Cellular	C	Covington	LA
View	4112850	GO TECHNOLOGY MANAGEMENT, LLC	Cellular	D	Atlanta	GA
View	4109600	Google North America Inc.	Cellular	A	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	4114300	Group F Consulting, LLC	Cellular	D		
View	4114050	Helix Wireless Inc.	Cellular	D	Monmouth Junction	NJ
View	4111350	HELLO MOBILE TELECOM LLC	Cellular	D	Dania Beach	FL
View	4112950	Hoop Wireless, LLC	Cellular	D	Lakewood	NJ
View	4103100	i-Wireless, LLC	Cellular	D	Newport	KY
View	4112550	IDT Domestic Telecom, Inc.	Cellular	D	Newark	NJ
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Plano	TX
View	4112650	Insight Mobile, Inc.	Cellular	D	Los Angeles	CA
View	4111950	J Rhodes Enterprises LLC	Cellular	D	Gulf Breeze	FL
View	22215360	KDDI America, Inc.	Cellular	D	Staten Island	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	4112200	Lexvor Inc.	Cellular	D	Irvine	CA
View	4111250	Liberty Mobile Wireless, LLC	Cellular	B	Sunny Isles Beach	FL
View	4114750	Link Mobile, Inc.	Cellular	D	New York	NY
View	4111400	Locus Telecommunications, LLC	Cellular	B	Fort Lee	NJ
View	4114500	Lux Mobile USA, Inc	Cellular	D	Baton Rouge	LA
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4112500	Marconi Wireless Holdings, LLC	Cellular	B	Westlake Village	CA
View	4113850	MAXSIP TEL KENTUCKY LLC d/b/a Maxsip	Cellular	D	Woodmere	NY

		Telecom				
View	4114800	Mediacom Wireless LLC	Cellular	D	Mediacom Park	NY
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
View	4111700	Mint Mobile, LLC	Cellular	A	Costa Mesa	CA
View	4115100	Mobile 13, Inc	Cellular	D	South Jordan	UT
View	4114950	Moxee Technologies LLC dba COLLEGIATE MOBILE	Cellular	D	Sparks	NV
View	4114100	MVNO Connect LLC	Cellular	D	St. Petersburg	FL
View	4113350	NatWireless, LLC	Cellular	D	Houston	TX
View	4202400	New Cingular Wireless PCS, LLC	Cellular	A	San Antonio	TX
View	4110700	Norcell, LLC	Cellular	D	Clayton	WA
View	4113700	Nova Labs, Inc. dba Helium Mobile	Cellular	D	San Francisco	CA
View	4110750	Onvoy Spectrum, LLC	Cellular	D	Chicago	IL
View	4109050	Patriot Mobile LLC	Cellular	A	Grapevine	TX
View	4116150	Peak Data Solutions, LLC	Cellular	C	Camden	DE
View	4115600	PHREELI COMPANY	Cellular	D	Lewes	DE
View	4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
View	4115650	PLUG MOBILE LLC	Cellular	D	St. Louis	MO
View	33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
View	4114850	POWER MOBILE LLC	Cellular	D	Rockville Centre	NY
View	4112800	Prepaid Wireless Group, LLC dba Prepaid Wireless Wholesale	Cellular	D	Rockville	MD
View	4114350	PRESTO WIRELESS Corp.	Cellular	D	Fair Lawn	NJ
View	4107700	Puretalk Holdings, Inc.	Cellular	B	Covington	GA
View	4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
View	4115900	RABONA CORPORATION	Cellular	C	New York	NY
View	4113200	Red Pocket Inc.	Cellular	D	Thousand Oaks	CA
View	4116000	Ringer Mobile, LLC	Cellular	C	Peachtree Corners	GA
View	4114200	Roccstar Wireless LLC	Cellular	D	Bedford	TX
View	4114700	Rocket Mobile LLC	Cellular	D	West Palm Beach	FL
View	4115400	RSCU Mobile, LLC	Cellular	D	Alpine	UT

View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	A	Los Angeles	CA
View	4113050	Sarver Corporation	Cellular	D	Rancho Cucamonga	CA
View	4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	A	Fremont	NE
View	4110150	Spectrotel of the South LLC dba Touch Base Communications	Cellular	D	Neptune	NJ
View	4111450	Spectrum Mobile, LLC	Cellular	A	St. Louis	MO
View	4114400	Splash Cellular Inc.	Cellular	D	Bountiful	UT
View	4111600	STX Group LLC dba Twigby	Cellular	D	Murfreesboro	TN
View	4115450	Surf Telecom, LLC	Cellular	D	Key Bixcayne	FL
View	4115950	Switch Mobile, LLC	Cellular	C	Layton	UT
View	4113450	Syntegra North America, LLC	Cellular	D	Denton	TX
View	4202200	T-Mobile Central, LLC dba T-Mobile	Cellular	A	Bellevue	WA
View	4002500	TAG Mobility, LLC d/b/a TAG Mobile	Cellular	D	Plano	TX
View	4115850	TELCO Communications LLC dba TELCO CELLULAR	Cellular	C	Oceanside	NY
View	4107200	Telefonica Global Solutions USA, Inc.	Cellular	D	Miami	FL
View	4112100	Tello LLC	Cellular	A	Atlanta	GA
View	4108900	Telrite Corporation	Cellular	D	Covington	GA
View	4108450	Tempo Telecom, LLC	Cellular	D	Dallas	TX
View	4113900	TERRACOM Inc. d/b/a Maxsip Tel	Cellular	D	Chattanooga	TN
View	4113950	THE LIGHT PHONE INC.	Cellular	D	Brooklyn	NY
View	4113250	Thrive Health Tech, Inc.	Cellular	D	Nashville	TN
View	4110400	Torch Wireless Corp.	Cellular	C	Bartlett	TN
View	4103300	Touchtone Communications, Inc.	Cellular	D	Cedar Knolls	NJ
View	4115350	TREK CELLULAR, LLC	Cellular	D	Stevensville	MD
View	4112250	TROOMI WIRELESS, Inc.	Cellular	B	Orem	UT
View	4114600	TruConnect Communications, Inc.	Cellular	D	Los Angeles	CA
View	4112600	Tube Incorporated dba Reach Mobile	Cellular	D	Atlanta	GA
View	4112750	Unity Wireless, Inc.	Cellular	D	Pembroke Pines	FL

View	4115800	USA Mobile LLC	Cellular	C	Laguna Beach	CA
View	4110300	UVNV, Inc. d/b/a Mint Mobile	Cellular	C	Costa Mesa	CA
View	10630	Verizon Americas LLC dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4104200	Verizon Value, Inc.	Cellular	D	Miami	FL
View	4113300	Via Wireless, LLC	Cellular	D	Houston	TX
View	4110800	Visible Service LLC	Cellular	D	Basking Ridge	NJ
View	4115700	Viva-US Communications, Inc.	Cellular	C	San Diego	CA
View	4113750	VOLT MOBILE Inc	Cellular	D	Delray Beach	FL
View	4114450	WeIncentivize LLC d/b/a ChosenWireless	Cellular	D	San Diego	CA
View	4113000	Whoop Connect Inc.	Cellular	D	Melbourne	FL
View	4115250	WHOOP MOBILE INC.	Cellular	D	Melbourne	FL
View	4106500	WiMacTel, Inc.	Cellular	D	Calgary, AB	CA
View	4110950	Wing Tel Inc.	Cellular	C	New York	NY
View	4113650	XCHANGE TELECOM LLC	Cellular	D	Brooklyn	NY
View	4112150	Zefcom, LLC	Cellular	C	Wichita Falls	TX

EXHIBIT E

FEDERAL AVIATION ADMINISTRATION DOCUMENTATION

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

Aeronautical Study No.
2025-ASO-7060-OE

Issued Date: 07/16/2025

THE TOWERS, LLC
JULIE HEFFERNAN
7500 Park of Commerce Dr
Suite 200
Boca Raton, FL 33487

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

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

Structure: Antenna Tower US-KY-5231 - Tim Road KY
County, State: Marshall, Kentucky

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
US-KY-5231 - Tim Road KY	36-52-45.31N	88-27-27.72W	507 Ft	265 Ft	772 Ft

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

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

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

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

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

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.
This determination expires on 01/16/2027 unless:

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at 1-817-222-4832, or Michael.J-CTR.Costanzi@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-ASO-7060-OE.

Signature Control No: 652866516-670277417 (DNE)
michael.j-ctr.costanzi@faa.gov
Technician

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

cc: FCC

***Part 77 authorizes the FAA to evaluate a structure or object's potential electromagnetic effects on air navigation, communication facilities, and other surveillance systems. It also authorizes study of impact on arrival, departure, and en route procedures for aircraft operating under visual or instrument flight rules, as well as the impact on airport traffic capacity at existing public use airports. Broadcast in the 3.7 to 3.98 GHz frequency (5G C band) currently causes errors in certain aircraft radio altimeters and the FAA has determined they cannot be relied upon to perform their intended function when experiencing interference from wireless broadband operations in the 5G C band. The FAA has adopted Airworthiness Directives for all transport and commuter category aircraft equipped with radio altimeters that prohibit certain operations when in the presence of 5G C band.

This determination of no hazard is based upon those mitigations implemented by the FAA and operators of transport and commuter category aircraft, and helicopters operating in the vicinity of your proposed location. It is also based on telecommunication industry and FAA collaboration on acceptable power levels and other parameters as reflected in the FAA 5G C band evaluation process. The FAA 5G C band compatibility evaluation is a data analytics system used by FAA to evaluate operational hazards related to aircraft design.

The FAA 5G C band compatibility evaluation process refers to the process in which the telecommunication companies and the FAA have set parameters, such as power output, locations, frequencies, and tilt angles for antenna that mitigate the hazard to aviation. As the telecommunication companies and FAA refine the tools and methodology, the allowable frequencies and power levels may change in the FAA 5G C band compatibility evaluation process. Therefore, your proposal will not have a substantial adverse effect on the safe and efficient use of the navigable airspace by aircraft provided the equipment and emissions are in compliance with the parameters established through the FAA 5G C band compatibility evaluation process.
Any future changes that are not consistent with the parameters listed in the FAA 5G C band compatibility evaluation process will void this determination of no hazard.

Frequency Data for ASN 2025-ASO-7060-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	42	dBW
10	11.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	42	dBW
21.2	23.6	GHz	55	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	824	MHz	500	W
806	901	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2310	MHz	2000	W
2305	2360	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W
3700	3980	MHz	3280	W

Verified Map for ASN 2025-ASO-7060-OE

EXHIBIT F

KENTUCKY AIRPORT ZONING COMMISSION DOCUMENTATION

KENTUCKY AIRPORT ZONING COMMISSION

ANDY BESHEAR
Governor

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

JIM GRAY
Secretary

APPROVAL OF APPLICATION

Thursday, October 9, 2025

Vertical Bridge
22 West Atlantic Ave, Suite 310
Delray Beach, FL 33444

AS-2025-068-M25	**Mayfield Graves County Airport**
APPLICANTS NAME:	The Towers, LLC
NEAREST CITY:	Symsonia, KY
LATITUDE/LONGITUDE:	36°52'45.31" N, 88°27'27.72" W
HEIGHT (In Feet):	265' AGL/772' AMSL
CONSTRUCTION PROPOSED:	Communications Tower

NOTES: The tower is located approx 6 nm NE of M25 and penetrates no protected air surfaces.

FAA DETERMINATION: 2025-ASO-7060-OE. No Hazard to Air Navigation. Marked & lighted IAW FAA AC 70/7460-1 M C1; med-dual system-Chapters 4,8(M-Dual) &15. Emissions must comply with FAA 5G C band compatibility evaluation process.

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

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

An email of this letter was also sent to your representative, Robert Rodriguez, at robert.rodriguez@verticalbridge.com. If you have any questions, please contact us.

Respectfully,
Anthony Adams
Airport Zoning Administrator
Department of Aviation
502-564-0151 office
AirportZoning@ky.gov

TEAM KENTUCKY
TRANSPORTATION CABINET

EXHIBIT G

GEOTECHNICAL REPORT

GEOTECHNICAL INVESTIGATION REPORT

August 29, 2025

Prepared For:

Vertical Bridge Holdings, LLC

Tim Road
US-KY-5231
Proposed 255-Foot Self-Supporting Tower
1429 JB Copeland Road, Symsonia (Marshall County), Kentucky 42082
Latitude N 36° 52' 45.31" Longitude W 88° 27' 27.72"

Delta Oaks Group Project GEO25-26348-08
Revision 1

geotech@deltaoaksgroup.com

Performed By:

Michael Thomas

Reviewed By:

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

DocuSigned by:
Joseph V. Borrelli
2CA6B6CF1AE54C1...

COMMONWEALTH OF KENTUCKY
JOSEPH V. BORRELLI
30809
LICENSED PROFESSIONAL ENGINEER
8/29/2025

INTRODUCTION

This geotechnical investigation report has been completed for the proposed 255-foot self-supporting tower located at 1429 JB Copeland Road in Symsonia (Marshall County), Kentucky. The purpose of this investigation was to provide engineering recommendations and subsurface condition data at the proposed tower location. A geotechnical engineering interpretation of the collected information was completed and utilized to suggest design parameters regarding the adequacy of the structure's proposed foundation capacity under various loading conditions. This report provides the scope of the geotechnical investigation; geologic material identification; results of the geotechnical laboratory testing; and design parameter recommendations for use in the design of the telecommunication facility's foundation and site development.

SITE CONDITION SUMMARY

The proposed tower and compound are located on a grass field adjacent to a tree line, exhibiting a generally flat topography across the tower compound and a downward and away sloping topography to the east and west of the compound.

REFERENCES

- Lease Exhibit, prepared by GDP Group, Inc., dated March 26, 2025
- 1A Certification, provided by Benchmark Services, Inc., dated March 3, 2025
- NRCS Web Soil Survey, Marshall County KY
- TIA Standard (TIA-222-G), dated August 2005

SUBSURFACE FIELD INVESTIGATION SUMMARY

The subsurface field investigation was conducted through the advancement of seven (7) mechanical soil test borings, denoted B-1 through B-7, to the termination depths of 10.0, 10.0, 10.0, 49.7, 50.0, 10.0 and 50.0 feet bgs, respectively. Samples were obtained at selected intervals in accordance with ASTM D 1586. SPT sampling was conducted at the coordinates provided for the proposed tower legs (B-4, B-5, B-7), the northeastern and southwestern corners of the proposed compound (B-3, B-6), and along the proposed access drive (B-1, B-2). Soil samples were transported to our laboratory and classified by a geotechnical engineer in accordance with ASTM D 2487. A detailed breakdown of the material encountered in our subsurface field investigation can be found in the boring logs presented in the Appendix of this report.

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

SUBSURFACE CONDITION SUMMARY

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

FILL

Fill material was not encountered during the subsurface field investigation.

SOIL

The residual soil encountered in the subsurface field investigation began at the existing ground surface in the boring and consisted of silty sand, clayey sand, clayey sand with silt, poorly graded sand, sandy gravel with silt, sandy lean clay, silty clay and silt. The materials ranged from a medium dense to very dense relative density and a medium stiff to hard consistency.

Auger advancement refusal was not encountered during the subsurface field investigation.

ROCK

Rock was not encountered during the subsurface field investigation.

SUBSURFACE WATER

At the end of drilling, subsurface water was measured in borings B-4, B-5 and B-7 at depths of 40.0, 42.0 and 35.0 feet bgs, respectively. However, subsurface water elevations can fluctuate throughout the year due to variations in climate, hydraulic parameters, nearby construction activity and other factors.

FROST PENETRATION

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

CORROSIVITY

Soil resistivity was performed in accordance with ASTM G187 using the surface level sample of boring B-4. with a test result of 10,100 ohms-cm.

FOUNDATION DESIGN SUMMARY

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

GENERAL SUBSURFACE STRENGTH PARAMETERS

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-1	0.0 - 3.0	ML	120	0	800
	3.0 - 6.0	SM	115	31	0
	6.0 - 8.0	SC-SM	120	34	0
	8.0 - 10.0	SC-SM	120	35	0

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-2	0.0 - 3.0	ML	120	0	800
	3.0 - 6.0	ML	120	0	2,700
	6.0 - 8.0	SC	125	36	0
	8.0 - 10.0	SM	125	38	0

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-3	0.0 - 3.0	ML	120	0	800
	3.0 - 6.0	ML	120	0	1,300
	6.0 - 8.0	ML	120	0	2,300
	8.0 - 10.0	CL	125	0	3,300

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-4	0.0 - 3.0	ML	110	0	500
	3.0 - 6.0	ML	120	0	1,000
	6.0 - 8.0	CL	120	0	1,500
	8.0 - 13.0	SC	120	34	0
	13.0 - 18.0	SC	130	45	0
	18.0 - 23.0	SC-SM	120	33	0
	23.0 - 28.0	SP	130	45	0
	28.0 - 33.0	GM	130	45	0
	33.0 – 49.7	SM	130 / 68	45	0

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-5	0.0 - 3.0	ML	120	0	1,000
	3.0 - 6.0	ML	115	0	700
	6.0 - 8.0	ML	120	0	1,000
	8.0 - 13.0	CL	120	0	2,500
	13.0 - 18.0	SC	120	34	0
	18.0 - 28.0	SC	130	45	0
	28.0 - 33.0	SM	130	45	0
	33.0 - 38.0	SM	130 / 68	43	0
	38.0 - 43.0	SM	120 / 58	33	0
	43.0 - 48.0	SM	115 / 53	30	0
	48.0 - 50.0	SM	115 / 53	31	0

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-6	0.0 - 3.0	ML	120	0	900
	3.0 - 6.0	ML	120	0	1,100
	6.0 - 8.0	ML	120	0	1,200
	8.0 - 10.0	CL-ML	120	0	1,900

Boring	Depth (bgs)	USCS	Moist/Buoyant Unit Weight (pcf)	Phi Angle (degrees)	Cohesion (psf)
B-7	0.0 - 3.0	ML	120	0	900
	3.0 - 6.0	ML	120	0	1,000
	6.0 - 8.0	SM	115	32	0
	8.0 - 13.0	SC	125	38	0
	13.0 - 18.0	SM	125	40	0
	18.0 - 23.0	SM	115	32	0
	23.0 - 33.0	SM	130	45	0
	33.0 - 38.0	SM	130 / 68	42	0
	38.0 - 48.0	SM	130 / 68	45	0
	48.0 - 50.0	SM	125 / 63	36	0

- The buoyant unit weight of soil should be utilized below a depth of 35.0 feet bgs.
- The unit weight provided assumes overburden soil was compacted to a minimum of 95% of the maximum dry density as obtained by the standard Proctor method (ASTM D 698) and maintained a moisture content within 3 percent of optimum
- The values provided for phi angle and cohesion should be considered ultimate.

SUBSURFACE STRENGTH PARAMETERS – SHALLOW FOUNDATION

Boring	Dimensions (feet)	Depth (feet bgs)	Net Ultimate Bearing Capacity (psf)
B-4	5.0 x 5.0	3.0	6,910
		4.0	7,150
		5.0	7,400
		6.0	11,470
	10.0 x 10.0	3.0	6,540
		4.0	6,660
		5.0	6,780
		6.0	10,360
	15.0 x 15.0	3.0	6,410
		4.0	6,500
		5.0	6,580
		6.0	9,990
	20.0 x 20.0	3.0	6,350
		4.0	6,410
		5.0	6,480
		6.0	9,810
	25.0 x 25.0	3.0	6,320
		4.0	6,370
		5.0	6,410
		6.0	9,700

Boring	Dimensions (feet)	Depth (feet bgs)	Net Ultimate Bearing Capacity (psf)
B-5	5.0 x 5.0	3.0	4,840
		4.0	5,010
		5.0	5,180
		6.0	7,650
	10.0 x 10.0	3.0	4,580
		4.0	4,660
		5.0	4,750
		6.0	6,910
	15.0 x 15.0	3.0	4,490
		4.0	4,550
		5.0	4,610
		6.0	6,660
	20.0 x 20.0	3.0	4,450
		4.0	4,490
		5.0	4,530
		6.0	6,540
	25.0 x 25.0	3.0	4,420
		4.0	4,460
		5.0	4,490
		6.0	6,460

Boring	Dimensions (feet)	Depth (feet bgs)	Net Ultimate Bearing Capacity (psf)
B-7	5.0 x 5.0	3.0	6,910
		4.0	7,150
		5.0	7,400
		6.0	30,000
	10.0 x 10.0	3.0	6,540
		4.0	6,660
		5.0	6,780
		6.0	30,000
	15.0 x 15.0	3.0	6,410
		4.0	6,500
		5.0	6,580
		6.0	30,000
	20.0 x 20.0	3.0	6,350
		4.0	6,410
		5.0	6,480
		6.0	30,000
	25.0 x 25.0	3.0	6,320
		4.0	6,370
		5.0	6,410
		6.0	30,000

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

ULTIMATE PASSIVE PRESSURE VS. DEPTH - TOWER FOUNDATION [B-4]

Soil Layers (feet)		Moist Unit Weight	Phi Angle	Cohesion	PV	KP	Ph
Top	0.0	110	0	500	0.00	1.00	500.00
Bottom	1.7	110	0	500	187.00	1.00	593.50
Top	1.7	110	0	500	187.00	1.00	1,187.00
Bottom	3.0	110	0	500	330.00	1.00	1,330.00
Top	3.0	120	0	1,000	330.00	1.00	2,330.00
Bottom	6.0	120	0	1,000	690.00	1.00	2,690.00
Top	6.0	120	0	1,500	690.00	1.00	3,690.00
Bottom	8.0	120	0	1,500	930.00	1.00	3,930.00
Top	8.0	120	34	0	930.00	3.54	3,289.53
Bottom	10.0	120	34	0	1,170.00	3.54	4,138.44

ULTIMATE PASSIVE PRESSURE VS. DEPTH - TOWER FOUNDATION [B-5]

Soil Layers (feet)		Moist Unit Weight	Phi Angle	Cohesion	PV	KP	Ph
Top	0.0	120	0	1,000	0.00	1.00	1,000.00
Bottom	1.7	120	0	1,000	204.00	1.00	1,102.00
Top	1.7	120	0	1,000	204.00	1.00	2,204.00
Bottom	3.0	120	0	1,000	360.00	1.00	2,360.00
Top	3.0	115	0	700	360.00	1.00	1,760.00
Bottom	6.0	115	0	700	705.00	1.00	2,105.00
Top	6.0	120	0	1,000	705.00	1.00	2,705.00
Bottom	8.0	120	0	1,000	945.00	1.00	2,945.00
Top	8.0	120	0	2,500	945.00	1.00	5,945.00
Bottom	10.0	120	0	2,500	1,185.00	1.00	6,185.00

ULTIMATE PASSIVE PRESSURE VS. DEPTH - TOWER FOUNDATION [B-7]

Soil Layers (feet)		Moist Unit Weight	Phi Angle	Cohesion	PV	KP	Ph
Top	0.0	120	0	900	0.00	1.00	900.00
Bottom	1.7	120	0	900	204.00	1.00	1,002.00
Top	1.7	120	0	900	204.00	1.00	2,004.00
Bottom	3.0	120	0	900	360.00	1.00	2,160.00
Top	3.0	120	0	1,000	360.00	1.00	2,360.00
Bottom	6.0	120	0	1,000	720.00	1.00	2,720.00
Top	6.0	115	32	0	720.00	3.25	2,343.30
Bottom	8.0	115	32	0	950.00	3.25	3,091.86
Top	8.0	125	38	0	950.00	4.20	3,993.56
Bottom	10.0	125	38	0	1,200.00	4.20	5,044.50

SUBSURFACE STRENGTH PARAMETERS - DRILLED SHAFT FOUNDATION [B-4]

Boring	Depth (bgs)	Net Ultimate Bearing Capacity (psf)	Ultimate Skin Friction - Compression (psf)	Ultimate Skin Friction - Uplift (psf)
B-4	0.0 – 3.0	--	--	--
	3.0 – 6.0	6,680	550	550
	6.0 – 8.0	10,870	820	820
	8.0 – 13.0	16,340	1,320	990
	13.0 – 18.0	10,670	1,790	1,340
	18.0 – 23.0	28,810	2,200	1,650
	23.0 – 28.0	43,540	2,530	1,900
	28.0 – 33.0	50,940	2,820	2,110
	33.0 – 38.0	57,640	3,010	2,260
	38.0 – 43.0	58,470	3,000	2,250
	43.0 – 48.0	58,060	2,960	2,220
	48.0 – 49.7	57,890	2,910	2,180

Boring	Depth (bgs)	Net Ultimate Bearing Capacity (psf)	Ultimate Skin Friction - Compression (psf)	Ultimate Skin Friction - Uplift (psf)
B-5	0.0 – 3.0	--	--	--
	3.0 – 6.0	17,800	380	380
	6.0 – 8.0	14,960	540	540
	8.0 – 13.0	10,280	1,370	1,370
	13.0 – 18.0	23,720	1,740	1,310
	18.0 – 23.0	36,110	2,140	1,610
	23.0 – 28.0	43,510	2,500	1,870
	28.0 – 33.0	34,810	2,790	2,090
	33.0 – 38.0	13,440	2,980	2,240
	38.0 – 43.0	7,650	2,970	2,230
	43.0 – 48.0	3,230	2,120	1,590
	48.0 – 50.0	3,030	2,830	2,120

Boring	Depth (bgs)	Net Ultimate Bearing Capacity (psf)	Ultimate Skin Friction - Compression (psf)	Ultimate Skin Friction - Uplift (psf)
B-7	0.0 – 3.0	--	--	--
	3.0 – 6.0	8,620	550	550
	6.0 – 8.0	14,530	940	710
	8.0 – 13.0	13,840	1,310	980
	13.0 – 18.0	7,930	1,800	1,350
	18.0 – 23.0	27,900	2,190	1,640
	23.0 – 28.0	43,510	2,500	1,870
	28.0 – 33.0	50,910	2,790	2,090
	33.0 – 38.0	57,610	2,980	2,240
	38.0 – 43.0	44,430	2,980	2,230
	43.0 – 48.0	30,020	2,940	2,200
	48.0 – 50.0	29,850	2,900	2,170

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

CONSTRUCTION

SITE DEVELOPMENT

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

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

STRUCTURAL FILL PLACEMENT

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

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

SHALLOW FOUNDATIONS

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

DRILLED SHAFT FOUNDATIONS

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

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

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

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

QUALIFICATIONS

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

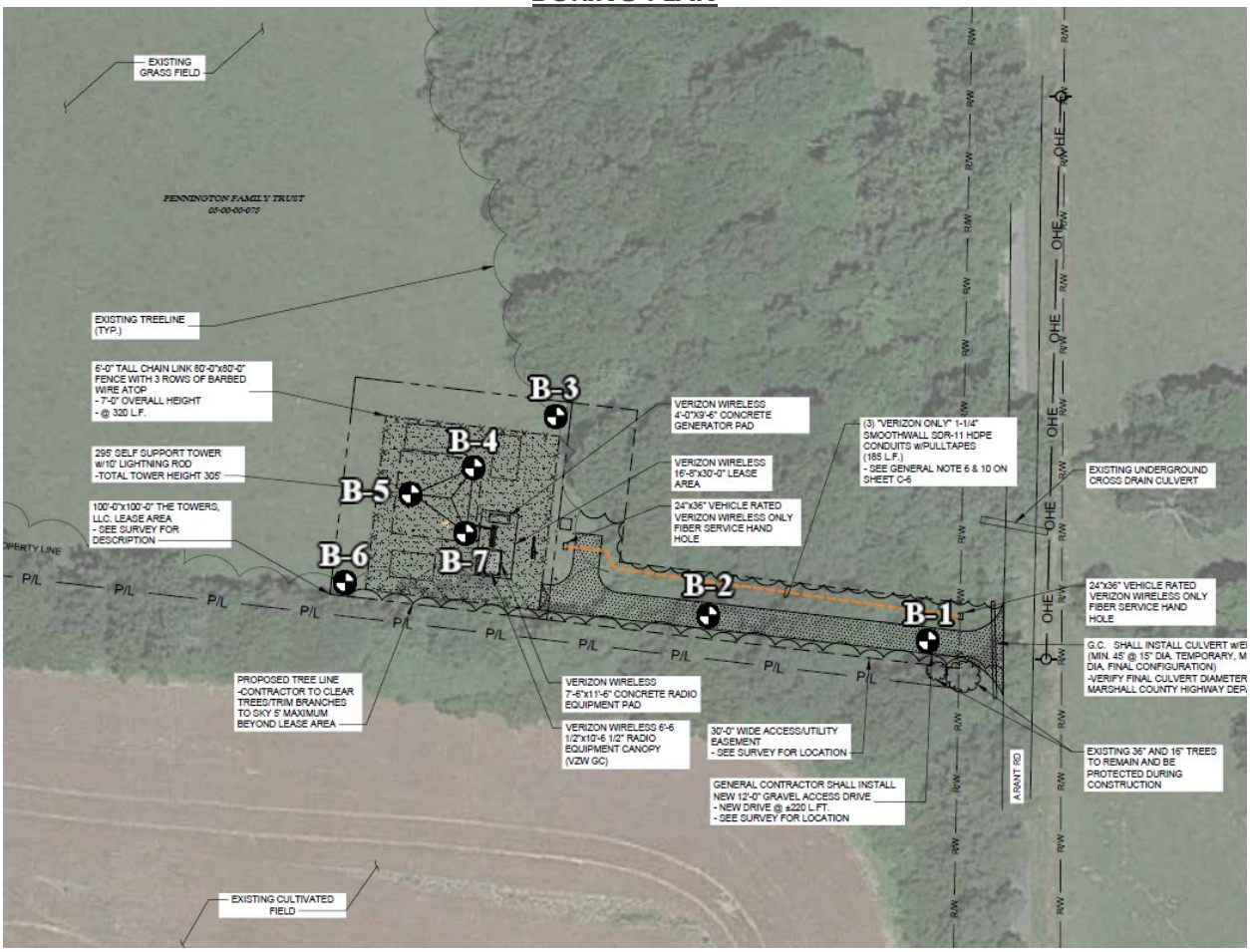
The subsurface conditions used in the determination of the design recommendations contained in this report are based on interpretation of subsurface data obtained at specific boring locations. Irrespective of the thoroughness of the subsurface investigation, the potential exists that conditions between borings will differ from those at the specific boring locations, that conditions are not as anticipated during the original analysis, or that the construction process has altered the soil conditions. That potential is significantly increased in locations where existing fill materials are encountered. Additionally, the nature and extent of these variations may not be evident until the commencement of construction. Therefore, a geotechnical engineer, or their representative, should observe construction practices to confirm that the site conditions do not differ from those conditions anticipated in design. If such variations are encountered, Delta Oaks Group should be contacted immediately in order to provide revisions and/or additional site exploration as necessary.

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

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

APPENDIX

BORING PLAN



PROJECT NAME Tim Road KY (US-KY-5231)

CLIENT Vertical Bridge Holdings, LLC

PROJECT NUMBER GEO25-26348-08

Boring No.: B-1 PAGE 1 OF 1

PROJECT LOCATION Symsonia, Kentucky

DATE DRILLED : 7/14/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 10

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not encountered

AT END OF DRILLING : --- Not encountered

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, stiff, SILT (ML), with sand, with organics, moist		ML		4	4	4	8
5	Brown, orange, medium dense, fine to coarse grained, silty SAND (SM), with silt seams, trace gravel, moist		SM		4	5	8	13
10	Brown, medium dense, fine to coarse grained, clayey SAND with silt (SC-SM), with gravel, moist		SC-SM		3	15	10	25
	-- dark brown, dense				5	11	19	30
15	Bottom of borehole at 10.0 feet.							
20								

▲ SPT N VALUE ▲

10 20 30 40 50 60 70 80 90

PROJECT NAME Tim Road KY (US-KY-5231)

CLIENT Vertical Bridge Holdings, LLC

PROJECT NUMBER GEO25-26348-08

Boring No.: B-2 PAGE 1 OF 1

PROJECT LOCATION Symsonia, Kentucky

DATE DRILLED : 7/14/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 10

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not encountered

AT END OF DRILLING : --- Not encountered

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, orange, stiff, SILT (ML), with sand, trace organics, moist		ML		3	3	5	8
	-- medium dense, trace gravel, dry				6	11	16	27
5	Red, dense, fine to coarse grained, clayey SAND (SC), with silt seams, trace gravel, dry		SC		9	18	17	35
	Orange, dense, fine to medium grained, silty SAND (SM), with red clayey sand seams, trace mica, moist		SM		11	21	20	41
10	Bottom of borehole at 10.0 feet.							
15								
20								

▲ SPT N VALUE ▲

10 20 30 40 50 60 70 80 90

PROJECT NAME Tim Road KY (US-KY-5231)

CLIENT Vertical Bridge Holdings, LLC

PROJECT NUMBER GEO25-26348-08

Boring No.: B-3 PAGE 1 OF 1

PROJECT LOCATION Symsonia, Kentucky

DATE DRILLED : 7/14/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 10

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not encountered

AT END OF DRILLING : --- Not encountered

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, stiff, SILT (ML), with sand, trace organics, moist		ML		3	4	4	8
5					4	6	7	13
	-- very stiff				6	11	12	23
10	Red, brown, hard, sandy lean CLAY (CL), with silt, moist		CL		8	13	20	33
	Bottom of borehole at 10.0 feet.							
15								
20								

▲ SPT N VALUE ▲

10 20 30 40 50 60 70 80 90

PROJECT NAME Tim Road KY (US-KY-5231)

CLIENT Vertical Bridge Holdings, LLC

PROJECT NUMBER GEO25-26348-08

Boring No.: B-4 PAGE 1 OF 1

PROJECT LOCATION Symsonia, Kentucky

DATE DRILLED : 7/14/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 49.7

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not measured

AT END OF DRILLING : 40.00 ft

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, medium stiff, SILT (ML), with red silty sand seams, trace organics, moist		ML		1	2	3	5
					3	5	5	10
	Brown, red, very stiff, sandy lean CLAY (CL), with silt, moist		CL		3	6	9	15
10	Red, brown, medium dense, fine to coarse grained, clayey SAND (SC), with clay seams, with silt, trace mica, moist		SC		7	12	15	27
	-- very dense, with silt seams				6	12	50/2"	100
20	Brown, orange, medium dense, fine to coarse grained, clayey SAND with silt (SC-SM), trace gravel, moist		SC-SM		6	12	10	22
	Brown, very dense, fine to coarse grained, poorly graded SAND (SP), with gravel, with silt, moist		SP		12	50/5"		100
30	Orange, very dense, sandy GRAVEL with silt (GM), moist		GM		24	50/2"		100
	Orange, very dense, fine to medium grained, silty SAND (SM), trace gravel, moist		SM		17	50/5"		100
40	-- with silt seams				18	28	50/3"	100
	-- wet				25	50/5"		100
50					4	26	50/2"	100
	Bottom of borehole at 49.7 feet.							

▲ SPT N VALUE ▲

10 20 30 40 50 60 70 80 90

PROJECT NAME Tim Road KY (US-KY-5231)

CLIENT Vertical Bridge Holdings, LLC

PROJECT NUMBER GEO25-26348-08

Boring No.: B-5 PAGE 1 OF 1

PROJECT LOCATION Symsonia, Kentucky

DATE DRILLED : 7/15/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 50

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not measured

AT END OF DRILLING : 42.00 ft

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, stiff, SILT (ML), trace sand, moist		ML		3	4	6	10
	-- medium stiff				3	3	4	7
	-- stiff				1	4	6	10
10	Brown, orange, very stiff, sandy lean CLAY (CL), with silt, moist		CL		5	12	13	25
	Red, brown, medium dense, fine to coarse grained, clayey SAND (SC), with silt, moist		SC		10	13	14	27
20	-- very dense, with gravel				21	32	50/2"	100
	*no recovery				50/2"			100
30	Brown, very dense, fine to coarse grained, silty SAND (SM), with gravel, moist		SM		50/5"			100
	Red, orange, very dense, fine to medium grained, silty SAND (SM), with gravel, moist		SM		15	31	29	60
40	-- medium dense, wet				5	10	13	23
					5	5	6	11
50					4	2	11	13
	Bottom of borehole at 50.0 feet.							

▲ SPT N VALUE ▲

10 20 30 40 50 60 70 80 90

PROJECT NAME Tim Road KY (US-KY-5231)

PROJECT NUMBER GEO25-26348-08

PROJECT LOCATION Symsonia, Kentucky

CLIENT Vertical Bridge Holdings, LLC

Boring No.: B-6

DATE DRILLED : 7/15/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 10

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not encountered

AT END OF DRILLING : --- Not encountered

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, grey, stiff, SILT (ML), trace sand, trace organics, moist		ML		4	4	5	9
					3	5	6	11
5					4	5	7	12
	Brown, red, very stiff, silty CLAY (CL-ML), with sand, moist		CL-ML		5	8	11	19
10	Bottom of borehole at 10.0 feet.							
15								
20								

▲ SPT N VALUE ▲

10 20 30 40 50 60 70 80 90

PROJECT NAME Tim Road KY (US-KY-5231)

CLIENT Vertical Bridge Holdings, LLC

PROJECT NUMBER GEO25-26348-08

Boring No.: B-7 PAGE 1 OF 1

PROJECT LOCATION Symsonia, Kentucky

DATE DRILLED : 7/15/2025

DRILLING METHOD : Hollow Stem Auger

GROUND ELEVATION :

BORING DEPTH (ft) : 50

GROUND WATER LEVELS:

AT TIME OF DRILLING : --- Not measured

AT END OF DRILLING : 35.00 ft

AFTER DRILLING : --- Not measured

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE	MATERIAL CLASSIFICATION	Pocket Penetrometer (tsf)	BLOWS 1st	BLOWS 2nd	BLOWS 3rd	N VALUE
0	Brown, stiff, SILT (ML), with red silty sand seams, trace organics, moist		ML		2	4	5	9
					3	5	5	10
	Brown, red, medium dense, fine to coarse grained, silty SAND (SM), with clay, trace gravel, moist		SM		4	5	11	16
10	Red, brown, dense, fine to coarse grained, clayey SAND (SC), with silt seams, trace gravel, moist		SC		10	18	22	40
	Orange, dense, fine to medium grained, silty SAND (SM), trace glay, trace gravel, moist		SM		16	24	24	48
20	-- brown, orange, medium dense, with gravel				5	6	12	18
	-- very dense				41	50/3"		100
30	*no recovery				50/2"			100
	-- fine to medium grained, wet				14	26	31	57
40					6	32	50/1"	100
					14	31	50/2"	100
50	-- dense, with silt seams				14	16	19	35
	Bottom of borehole at 50.0 feet.							

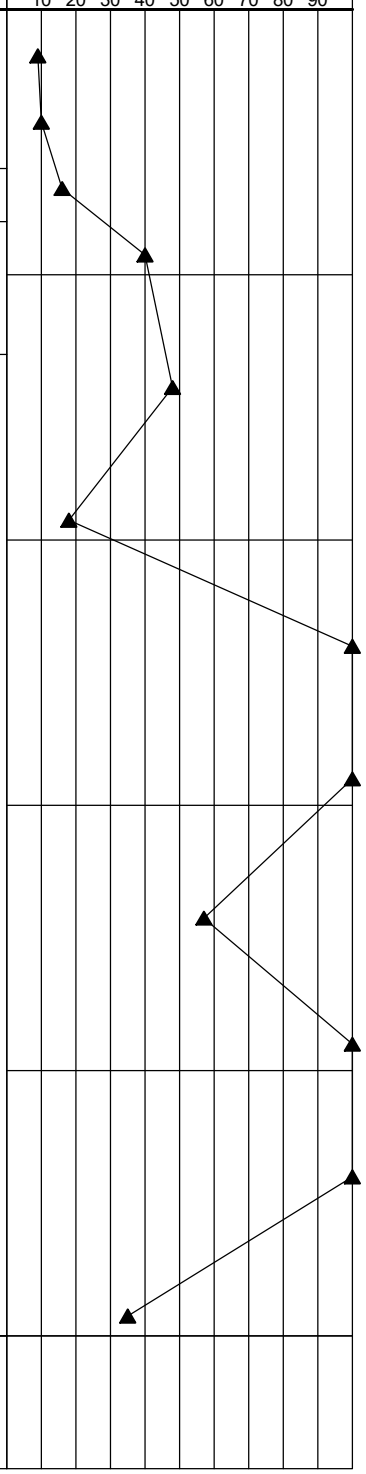


EXHIBIT H

DIRECTIONS TO WCF SITE

Driving Directions to Proposed Tower Site

1. Beginning at 1101 Main St., Benton, KY 42025, travel south towards E 12th Street for approximately 125 feet.
2. Turn left onto E 12th St. and travel approximately 262 feet.
3. Turn left onto Poplar St. and travel approximately 0.5 miles.
4. Poplar St. turns slightly left and becomes E 5th St. Travel approximately 0.6 miles.
5. Continue onto KY-348 W and travel approximately 4.7 miles.
6. Turn left onto JB Copeland Rd. and travel approximately 1.4 miles.
7. Turn left onto Arant Rd. and travel approximately 0.3 miles.
8. Site is on the right.
9. The site coordinates are
    a. North 36 deg 52 min 45.31 sec
    b. West 88 deg 27 min 27.72 sec

Prepared by:
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P.O. Box 369
Shepherdsville, KY 40165-3069
Telephone: 502-955-4400 or 800-516-4293

EXHIBIT I

COPY OF REAL ESTATE AGREEMENT

Landlord:
Pennington Family Trust
1429 J B Copeland Road
Symsonia, Kentucky 42082

Tenant:
The Towers, LLC
750 Park of Commerce Drive, Suite 200
Boca Raton, Florida 33487

Site #: US-KY-5231
Site Name: Tim Road KY

OPTION AND LEASE AGREEMENT

THIS OPTION AND LEASE AGREEMENT (this "**Agreement**") is made this 12th day of March, 2025 (the "**Effective Date**") by and between **Scarlett Pennington, surviving Trustee of the Pennington Family Trust U/A Dated July 30, 2008** ("**Landlord**"), whose address is 1429 J B Copeland Road, Symsonia, Kentucky 42082, and **The Towers, LLC**, a Delaware limited liability company ("**Tenant**"), whose address is 750 Park of Commerce Drive, Suite 200, Boca Raton, Florida 33487.

WHEREAS, Landlord owns certain real property located in the County of Marshall, in the State or Commonwealth of Kentucky, that is more particularly described and/or depicted in **Exhibit 1** attached hereto (the "**Property**"); and,

WHEREAS, Tenant desires to lease from Landlord a certain portion of the Property measuring approximately 10,000 square feet and to obtain easements for landscape buffer, utilities and access (collectively, the "**Premises**"), which Premises is more particularly described and/or depicted in **Exhibit 2** attached hereto, for the placement of Communications Facilities (defined below).

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree:

1. OPTION TO LEASE.

(a) As of the Effective Date, Landlord grants to Tenant the exclusive option to lease the Premises (the "**Option**") during the Option Period (defined below). At any time during the Option Period and Term (defined below), Tenant and its agents, engineers, surveyors and other representatives will have the right to enter upon the Property to inspect, examine, conduct soil borings, drainage testing, material sampling, and other geological or engineering tests or studies of the Property (collectively, the "**Tests**"), to apply for and obtain licenses, permits, approvals, or other relief required of or deemed necessary or appropriate at Tenant's sole discretion for its use of the Premises including, without limitation, applications for zoning variances, zoning ordinances, amendments, special use permits, construction permits and any other permits and approvals deemed necessary by Tenant (collectively, the "**Government Approvals**"), initiate the ordering and/or scheduling of necessary utilities, obtain a title report with respect to the Property, and otherwise to do those things on or off the Property that, in the opinion of Tenant, are necessary in Tenant's sole discretion to determine the physical condition of the Property, the environmental history of the Property, and the feasibility or suitability of the Property for Tenant's permitted use under this Agreement, all at Tenant's expense. Tenant shall be authorized to apply for the Government Approvals on

behalf of Landlord and Landlord agrees to reasonably cooperate with such applications. Tenant will not be liable to Landlord or any third party on account of any pre-existing defect or condition on or with respect to the Property, whether or not such defect or condition is disclosed by Tenant's Tests. Tenant will restore the Property to its condition as it existed prior to conducting any Tests, reasonable wear and tear and casualty not caused by Tenant excepted. In addition, Tenant shall indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or claims arising directly out of Tenant's Tests.

(b) In consideration of Landlord granting Tenant the Option, Tenant agrees to pay Landlord the sum of [redacted] within thirty (30) days of the full execution of this Agreement. The Option Period will be for a term of four (4) years from the Effective Date (the "**Option Period**").

(c) Tenant may exercise the Option at any time during the Option Period by delivery of written notice to Landlord (the "**Notice of Exercise of Option**"). The Notice of Exercise of Option shall set forth the commencement date (the "**Commencement Date**") of the Initial Term (defined below). If Tenant does not provide a Notice of Exercise of Option during the Option Period, this Agreement will terminate and the parties will have no further liability to each other.

(d) During the Option Period or the Term, Landlord shall not take any action to change the zoning status or land use of the Property which would diminish, impair, or adversely affect the use of the Premises by Tenant for its permitted uses hereunder.

2. TERM.

(a) Effective as of the Commencement Date, Landlord leases the Premises to Tenant subject to the terms and conditions of this Agreement for an initial term of five (5) years (the "**Initial Term**").

(b) Tenant shall have the option to extend the Initial Term for nine (9) successive terms of five (5) years each (each a "**Renewal Term**"). Each Renewal Term shall commence automatically, unless Tenant delivers notice to Landlord, not less than thirty (30) days prior to the end of the then-current Term, of Tenant's intent not to renew. For purposes of this Agreement, "**Term**" shall mean the Initial Term and any applicable Renewal Term(s).

3. RENT

(a) Beginning on the first (1st) day of the third (3rd) month after the Commencement Date ("**Rent Commencement Date**"), Tenant shall pay to Landlord a monthly rent payment of [redacted] ("**Rent**") at the address set forth in Section 29 above on or before the fifth (5th) day of each calendar month in advance. The initial payment of Rent will be forwarded by Tenant to Landlord within thirty (30) days after the Rent Commencement Date.

(b) Beginning on the first anniversary of the Rent Commencement Date of the first Renewal Term and each five-year anniversary of the Rent Commencement Date of each Renewal Term thereafter throughout the remainder of the Term and Renewal Term(s), if any, the Rent shall be increased by an amount equal to [redacted] of the amount of the Rent for the previous Term or previous Renewal Term, as the case may be, which sum shall be payable in equal monthly installments in advance as herein set forth.

4. TAXES. Tenant shall pay any personal property taxes assessed on, or any portion of such taxes attributable to, the Communications Facilities located on the Premises. Landlord shall pay when due all real property taxes and all other fees and assessments attributable to the Property and the Premises. Tenant

shall pay as additional rent any increase in real property taxes levied against the Premises, which are directly attributable to Tenant's use of the Premises (but not, however, taxes attributable to periods prior to the Commencement Date such as roll-back or greenbelt assessments) if Landlord furnishes proof of such increase to Tenant (such increase, the "**Landlord Tax Reimbursement**"). In the event that Landlord fails to pay when due any taxes affecting the Premises or any easement relating to the Premises, Tenant shall have the right, but not the obligation, to pay such taxes and any applicable interest, penalties or similar charges, and deduct the full amount of the taxes and such charges paid by Tenant on Landlord's behalf from future installments of Rent. Notwithstanding the foregoing, Tenant shall not have the obligation to pay any tax, assessment, or charge that Tenant is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed, provided that no lien attaches to the Property. In addition, Tenant shall not have the obligation to pay or reimburse Landlord for the Landlord Tax Reimbursement if Landlord has not provided proof of such amount and demand therefor within one (1) year of the date such amount is due and payable by Landlord.

5. **USE**. The Premises are being leased for the purpose of erecting, installing, operating, maintaining, repairing and replacing radio or communications towers, transmitting and receiving equipment, antennas, dishes, satellite dishes, mounting structures, equipment shelters and buildings, solar energy conversion and electrical power generation system, fencing and other supporting structures and related equipment (collectively, the "**Communications Facilities**"), and to alter, supplement and/or modify same. Tenant may, subject to the foregoing, make any improvements, alterations or modifications to the Premises as are deemed appropriate by Tenant for the permitted use herein. Tenant shall have the right to clear the Premises of any trees, vegetation, or undergrowth which interferes with the use of the Premises for the intended purposes by Tenant and/or its subtenants and licensees, as applicable. Tenant shall have the exclusive right to install and operate the Communications Facilities upon the Premises.

6. **ACCESS AND UTILITIES**. During the Term, Tenant and its guests, agents, employees, customers, invitees, subtenants, licensees and assigns shall have the unrestricted, exclusive right to use, and shall have free and unfettered access to, the Premises seven (7) days a week, twenty-four (24) hours a day. Landlord for itself, its successors and assigns, hereby grants and conveys unto Tenant, its customers, employees, agents, invitees, subtenants, licensees, successors and assigns a non-exclusive easement throughout the Term to a public right of way (a) for ingress and egress, and (b) for the construction, installation, operation, maintenance, repair and replacement of overhead and underground electric and other utility facilities (including fiber, backhaul, wires, poles, guys, cables, conduits and appurtenant equipment), with the right to reconstruct, improve, add to, enlarge, change and remove such facilities, over, across and through any easement for the benefit of and access to the Premises, subject to the terms and conditions herein set forth. Landlord agrees to coordinate, cooperate and assist Tenant with obtaining the required access and utility easements to the Premises from a public right of way up to and including negotiating and obtaining such access and utility rights from any applicable neighbor parcel. If there are utilities already existing on the Premises which serve the Premises, Tenant may utilize such utilities and services. The rights granted to Tenant herein shall also include the right to partially assign its rights hereunder to any public or private utility company or authority to facilitate the uses contemplated herein, and all other rights and privileges reasonably necessary for Tenant's safe and efficient use and enjoyment of the easements for the purposes described above. Upon Tenant's request, Landlord shall execute and deliver to Tenant requisite recordable documents evidencing the easements contemplated hereunder within fifteen (15) days of Tenant's request, and Landlord shall obtain the consent and joinder of Landlord's mortgagee to any such grant, if applicable.

7. **EQUIPMENT, FIXTURES AND REMOVAL**. The Communications Facilities shall at all times be the personal property of Tenant and/or its subtenants and licensees, as applicable. Tenant or its customers, subtenants or licensees shall have the right to erect, install, maintain, repair, replace and operate

on the Premises such equipment, structures, fixtures, signs, and personal property as Tenant, its customers, subtenants or licensees may deem necessary or appropriate, and such property, including the equipment, structures, fixtures, signs, and personal property currently on the Premises, shall not be deemed to be part of the Premises, but shall remain the property of Tenant or its customers, subtenants or licensees. Within ninety (90) days after the expiration or earlier termination of this Agreement (the "**Removal Period**"), Tenant, customers, subtenants or licensees shall remove its improvements and personal property and restore the Premises to grade and perform all obligations under this Agreement during the Removal Period, including, without limitation, the payment of Rent at the rate in effect upon the expiration or termination of this Agreement.

8. ASSIGNMENT AND SUBLEASE. Tenant may transfer or assign this Agreement to Tenant's Lender (defined below), principal, affiliates, subsidiaries, subsidiaries of its principal or to any entity which acquires all of or substantially all of Tenant's assets or ownership interests by reasons of merger, acquisition or other business reorganization without Landlord's consent (a "**Permitted Assignment**"). As to transfers or assignments which do not constitute a Permitted Assignment, Tenant is required to obtain Landlord's written consent prior to effecting such transfer or assignment, which consent shall not be unreasonably withheld, conditioned or delayed. Upon such assignment, including a Permitted Assignment, Tenant will be relieved and released of all obligations and liabilities hereunder. Tenant shall have the exclusive right to sublease or grant licenses without Landlord's consent to use all or part of the Premises and/or the Communications Facilities, but no such sublease or license shall relieve or release Tenant from its obligations under this Agreement. Landlord may assign this Agreement only in its entirety and only to any person or entity who or which acquires fee title to the Property, subject to Section 15. Landlord may subdivide the Property without Tenant's prior written consent provided the resulting parcels from such subdivision are required to afford Tenant the protections set forth in Section 14 hereof.

9. COVENANTS, WARRANTIES AND REPRESENTATIONS.

(a) Landlord warrants and represents that it is the owner in fee simple of the Property, free and clear of all liens and encumbrances except as to those which may have been disclosed to Tenant in writing prior to the execution hereof, and that it alone has full right to lease the Premises for the Term.

(b) Landlord shall pay promptly, when due, any other amounts or sums due and owing with respect to its ownership and operation of the Property, including, without limitation, judgments, taxes, liens, mortgage payments and other similar encumbrances. If Landlord fails to make any payments required under this Agreement, or breaches any other obligation or covenant under this Agreement, Tenant may (without obligation), after providing ten (10) days written notice to Landlord, make such payment or perform such obligation on behalf of Landlord and offset such payment (including any reasonable attorneys' fees incurred in connection with Tenant performing such obligation) against payments of Rent.

(c) Landlord shall not do or knowingly permit anything that will interfere with or negate any special use permit or approval pertaining to the Premises or cause Tenant's use of the Premises to be in nonconformance with applicable local, state, or federal laws. Landlord shall cooperate with Tenant in any effort by Tenant to obtain certificates, permits, licenses and other approvals that may be required by any governmental authorities. Landlord agrees to execute any necessary applications, consents or other documents as may be reasonably necessary for Tenant to apply for and obtain the Government Approvals required to use and maintain the Premises and the Communications Facilities.

(d) To the best of Landlord's knowledge, Landlord has complied and shall comply with all laws with respect to the Property. No asbestos-containing thermal insulation or products containing PCB, formaldehyde, chlordane, or heptachlor or other hazardous materials have been placed on or in the Property

by Landlord or, to the knowledge of Landlord, by any prior owner or user of the Property. There has been no release of or contamination by hazardous materials on the Property by Landlord, or to the knowledge of Landlord, any prior owner or user of the Property.

(e) Tenant shall have access to all utilities required for the operation of Tenant's improvements on the Premises that are existing on the Property.

(f) Landlord warrants and represents that there currently exist no licenses, sublicenses, or other agreements, written or oral, granting to any party or parties the right of use or occupancy of any portion of the Property; there are no outstanding options or rights of first refusal to purchase the Property or any portion thereof or interest therein, or any equity or interest in Landlord if Landlord is an entity; and there are no parties (other than Landlord) in possession of the Property except as to those that may have been disclosed to Tenant in writing prior to the execution hereof.

10. HOLD OVER TENANCY. Should Tenant or any assignee, sublessee or licensee of Tenant hold over the Premises or any part thereof after the expiration of this Agreement, such holdover shall constitute and be construed as a tenancy from month-to-month only, but otherwise upon the same terms and conditions.

11. INDEMNITIES. Each party agrees to indemnify, defend and hold harmless the other party, its parent company or other affiliates, successors, assigns, officers, directors, shareholders, managers, members, agents and employees (collectively, "**Indemnified Persons**") from and against all claims, actions, judgments, damages, liabilities, losses, expenses and costs (including, without limitation, reasonable attorneys' fees and court costs) (collectively, "**Losses**") caused by or arising out of (a) such party's breach of any of its obligations, covenants, representations or warranties contained herein, or (b) such party's acts or omissions with regard to this Agreement; provided, however, in no event shall a party indemnify the other party for any such Losses to the extent arising from the gross negligence or willful misconduct of the party seeking indemnification. However, in the event of an Indemnified Person's contributory negligence or other fault, the Indemnified Person shall not be indemnified hereunder to the extent that the Indemnified Person's negligence or other fault caused such Losses. Tenant will indemnify Landlord from and against any mechanic's liens or liens of contractors and subcontractors engaged by or through Tenant.

12. WAIVERS.

(a) Landlord hereby waives any and all lien rights it may have, statutory or otherwise, in and to the Communications Facilities or any portion thereof, regardless of whether or not such is deemed real or personal property under applicable laws. Landlord will not assert any claim whatsoever against Tenant for loss of anticipatory profits or any other indirect, special, incidental or consequential damages incurred by Landlord as a result of the construction, maintenance, operation or use of the Premises by Tenant.

(b) EACH PARTY HERETO WAIVES ANY AND ALL CLAIMS AGAINST THE OTHER FOR ANY LOSS, COST, DAMAGE, EXPENSE, INJURY OR OTHER LIABILITY WHICH IS IN THE NATURE OF INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES WHICH ARE SUFFERED OR INCURRED AS THE RESULT OF, ARISE OUT OF, OR ARE IN ANY WAY CONNECTED TO THE PERFORMANCE OF THE OBLIGATIONS UNDER THIS AGREEMENT.

13. INSURANCE. Tenant shall insure against property damage and bodily injury arising by reason of occurrences on or about the Premises in the amount of not less than [redacted] The insurance coverage

provided for herein may be maintained pursuant to master policies of insurance covering other communication facilities of Tenant and its corporate affiliates. All insurance policies required to be maintained by Tenant hereunder shall be with responsible insurance companies, authorized to do business in the State or Commonwealth where the Premises are located if required by law, and shall provide for cancellation only upon ten (10) days' prior written notice to Landlord. Tenant shall evidence such insurance coverage by delivering to Landlord, if requested, a copy of a certificate of insurance of such policies issued by the insurance companies underwriting such risks.

14. INTERFERENCE. During the Option Period and the Term, Landlord, its successors and assigns, will not grant any ground lease, license, or easement with respect to the Property (outside of the Premises) and any property adjacent or contiguous to the Property or in the immediate vicinity of the Property that is fee owned by Landlord: (a) for any of the uses contemplated in Section 5 herein; or (b) if such lease, license, or easement would detrimentally impact the Communications Facilities or Tenant's economic opportunities at the Premises, or the use thereof. Landlord shall not cause or permit the construction of communications or broadcast towers or structures, fiber optic backhaul facilities, or satellite facilities on the Property or on any other property of Landlord adjacent or contiguous to or in the immediate vicinity of the Property, except for the Communications Facilities constructed by Tenant. Landlord and Tenant intend by this Agreement for Tenant (and persons deriving rights by, through, or under Tenant) to be the sole parties to market, use, or sublease any portion of the Property for Communications Facilities during the Option Period and the Term. Landlord agrees that this restriction on the use of the Property is commercially reasonable, not an undue burden on Landlord, not injurious to the public interest, and shall be specifically enforceable by Tenant (and persons deriving rights by, through or under Tenant) in a court of competent jurisdiction. The foregoing restriction shall run with the land and be binding on the successors and assigns of Landlord.

15. RIGHT OF FIRST REFUSAL. In the event Landlord determines to sell, transfer, license or otherwise convey any interest, whether fee simple interest, easement interest, leasehold, or otherwise, and whether direct or indirect by way of transfer of ownership interests in Landlord if Landlord is an entity, which interest underlies or affects any or all of the Premises (the "**ROFR Property**") to any third party that is a Third Party Competitor (as defined below), Landlord shall offer Tenant a right of first refusal to purchase the Premises (or such larger portion of the Property that encompasses the Premises, if applicable). For purposes herein, a "**Third Party Competitor**" is any person or entity directly or indirectly engaged in the business of owning, acquiring, operating, managing, investing in or leasing communications infrastructure or any person or entity directly or indirectly engaged in the business of owning, acquiring, or investing in real property leases or easements underlying communications infrastructure. In such event, Landlord shall send a written notice to Tenant in accordance with Section 29 below that shall contain an offer to Tenant of a right of first refusal to purchase the ROFR Property, together with a copy of any offer to purchase, or any executed purchase agreement or letter of intent (each, an "**Offer**"), which copy shall include, at a minimum, the purchase price or acquisition price, proposed closing date, and financing terms (collectively, the "**Minimum Terms**"). Within thirty (30) days of receipt of such Offer, Tenant shall provide written notice to Landlord of Tenant's election to purchase the ROFR Property on the same Minimum Terms, provided: (a) the closing date shall be no sooner than sixty (60) days after Tenant's purchase election notice; (b) given Landlord's direct relationship and access to Tenant, Tenant shall not be responsible for payment of any broker fees associated with an exercise of Tenant's rights to acquire the ROFR Property; and, (c) Tenant shall not be required to match any components of the purchase price which are speculative or incalculable at the time of the Offer. In such event, Landlord agrees to sell the ROFR Property to Tenant subject to Tenant's payment of the purchase price and compliance with a purchase and sale agreement to be negotiated in good faith between Landlord and Tenant. If Tenant provides written notice that it does not elect to exercise its right of first refusal to purchase the ROFR Property, or if Tenant does not provide notice of its election within the thirty (30) day period, Tenant shall be deemed to have

waived such right of first refusal only with respect to the specific Offer presented (and any subsequent Offers shall again be subject to Tenant's continuing right of first refusal hereunder), and Landlord shall be permitted to consummate the sale of the ROFR Property in accordance with the strict terms of the Offer ("**Permitted Sale**"). If Landlord does not consummate the Permitted Sale within ninety (90) days of the date of Tenant's waiver of its right of first refusal, including if the Minimum Terms are modified between Landlord and the Third Party Competitor, Landlord shall be required to reissue a New Offer to Tenant.

16. SECURITY. The parties recognize and agree that Tenant shall have the right to safeguard and protect its improvements located upon or within the Premises. Consequently, Tenant may elect, at its expense, to construct such enclosures and/or fences as Tenant reasonably determines to be necessary to secure the Communications Facilities. Tenant may also undertake any other appropriate means to restrict access to the Communications Facilities including, without limitation, if applicable, installing security systems, locks and posting signs for security purposes and as may otherwise be required by law.

17. FORCE MAJEURE. The time for performance by Landlord or Tenant of any term, provision, or covenant of this Agreement shall be deemed extended by time lost due to delays resulting from acts of God, strikes, civil riots, floods, pandemics, material or labor restrictions by governmental authority, government shutdowns, quarantines, and/or other disease control measures and any other cause not within the control of Landlord or Tenant, as the case may be.

18. CONDEMNATION; CASUALTY.

(a) In the event Landlord receives any notice of any condemnation proceedings, or other proceedings in the nature of eminent domain related to the Property or the Premises, it will forthwith send a copy of such notice to Tenant. If all or any part of the Premises is taken by eminent domain, Tenant may, upon written notice to Landlord, elect to terminate this Agreement, whereupon neither party shall have any further liability or obligation hereunder. Notwithstanding any provision of this Agreement to the contrary, in the event of condemnation of all or any part of the Premises, Landlord and Tenant shall be entitled to separate awards with respect to the Premises, in the amount determined by the court conducting such condemnation proceedings based upon Landlord's and Tenant's respective interests in the Premises. If a separate condemnation award is not determined by such court, Landlord shall permit Tenant to participate in the allocation and distribution of the award. In no event shall the condemnation award to Landlord exceed the unimproved value of the Premises, without taking into account the improvements located thereon.

(b) In case of damage to the Premises or the Communications Facilities by fire or other casualty, Landlord shall, at its expense, cause any damage to the Property (excluding the Communications Facilities) to be repaired to a condition as nearly as practicable to that existing prior to the damage, with reasonable speed and diligence, subject to delays which may arise by reason of adjustment of loss under insurance policies, governmental regulations, and for delays beyond the control of Landlord, including a force majeure. Landlord shall coordinate with Tenant as to the completion of Landlord's work to restore the Property so as not to adversely impact Tenant's use of the Premises and the Communications Facilities. Landlord shall not be liable for any inconvenience or annoyance to Tenant, or injury to Tenant's business or for any consequential damages resulting in any way from such damage or the repair thereof, except to the extent and for the time that the Communications Facilities or the Premises are thereby rendered unusable for Tenant's intended purpose the Rent shall proportionately abate. In the event the damage shall be so extensive that Tenant shall decide, in its sole discretion, not to repair or rebuild the Communications Facilities, or if the casualty shall not be of a type insured against under standard fire policies with extended type coverage, or if the holder of any mortgage, deed of trust or similar security interest covering the Communications Facilities shall not permit the application of adequate insurance proceeds for repair or

restoration, this Agreement shall, at the sole option of Tenant, exercisable by written notice to Landlord, be terminated as of the date of such casualty, and the obligation to pay Rent (taking into account any abatement as aforesaid) shall cease as of the termination date and Tenant shall thereupon promptly vacate the Premises.

19. DEFAULT. The failure of Tenant or Landlord to perform any of the covenants of this Agreement shall constitute a default. The non-defaulting party shall give the other written notice of such default, and the defaulting party shall cure such default within thirty (30) days after receipt of such notice. In the event any such default cannot reasonably be cured within such thirty (30) day period, if the defaulting party shall proceed promptly after the receipt of such notice to cure such default, and shall pursue curing such default with due diligence, the time for curing shall be extended for such period of time as may be necessary to complete such curing, however, in no event shall this extension of time be in excess of sixty (60) days, unless agreed upon by the non-defaulting party.

20. REMEDIES. Should the defaulting party fail to cure a default under this Agreement, the other party shall have all remedies available either at law or in equity, and the right to terminate this Agreement. In the event Landlord elects to terminate this Agreement due to a default by Tenant (which remains uncured by Lender), Landlord shall continue to honor all sublease and license commitments made by Tenant through the expiration of the term of any such commitment and shall be entitled to collect and retain the rents or license fees associated with such subleases or license commitments, it being intended hereby that each such commitment shall survive the early termination of this Agreement.

21. ATTORNEYS' FEES. If there is any legal proceeding between Landlord and Tenant arising from or based on this Agreement, the unsuccessful party to such action or proceeding shall pay to the prevailing party all costs and expenses, including, without limitation, reasonable attorneys' fees and disbursements, incurred by such prevailing party in such action or proceeding and in any appeal in connection therewith. If such prevailing party recovers a judgment in any such action, proceeding or appeal, such costs, expenses and attorneys' fees and disbursements shall be included in and as a part of such judgment.

22. ADDITIONAL TERMINATION RIGHT. If at any time during the Term, Tenant determines, in Tenant's sole and absolute discretion, with or without cause, that the Premises is no longer suitable or desirable for Tenant's intended use and/or purposes, Tenant shall have the right to terminate this Agreement upon sixty (60) days prior written notice to Landlord.

23. PRIOR AGREEMENTS. The parties hereby covenant, recognize and agree that the terms and provisions of this Agreement shall constitute the sole embodiment of the arrangement between the parties with regard to the Premises, and that all other written or unwritten agreements, contracts, or leases by and between the parties with regard to the Premises are hereby terminated, superseded and replaced by the terms hereof.

24. SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT. In the event the Property is encumbered by a mortgage or deed of trust or other security instrument of any kind (a "**Landlord Mortgage**"), Landlord, within fifteen (15) days following Tenant's request or immediately prior to the creation of any encumbrance created after the date this Agreement is fully executed, will obtain from the holder of each such Landlord Mortgage a fully-executed subordination, non-disturbance and attornment agreement (an "**SNDA**") in recordable form, which shall be prepared or approved by Tenant. The holder of every such Landlord Mortgage shall, in the SNDA, agree that in the event of a foreclosure, or conveyance in lieu of foreclosure of Landlord's interest in the Premises, such Landlord Mortgage holder shall recognize and confirm the validity and existence of this Agreement, not disturb the tenancy of Tenant (and its customers, subtenants, and licensees) and Tenant (and its customers, subtenants, and licensees) shall have

the right to continue its use and occupancy of the Premises in accordance with the provisions of this Agreement, provided Tenant is not in default of this Agreement beyond applicable notice and cure periods.

25. LENDER'S RIGHTS.

(a) Landlord agrees to recognize the subleases and licenses of all subtenants and licensees and will permit each of them to remain in occupancy of its premises notwithstanding any default hereunder by Tenant so long as each such respective subtenant or licensee is not in default under the lease/license covering its premises. Landlord agrees to execute such documents as any such subtenant and/or licensee might reasonably require, including customary subordination, non-disturbance and attornment agreements and/or Landlord recognition agreements, to further memorialize the foregoing, and further agrees to use Landlord's best efforts to also cause its lenders to similarly acknowledge, in writing, subtenant's and licensee's right to continue to occupy its premises as provided above.

(b) Tenant shall have the right from time to time to mortgage or otherwise encumber Tenant's interest in this Agreement, the Communications Facilities and/or leasehold estate in the Premises (a "**Tenant Mortgage**") and Landlord consents to the granting by Tenant of a lien and security interest in Tenant's interest in this Agreement and/or leasehold estate of the Premises and all of Tenant's personal property and fixtures attached to the real property described herein, and furthermore consents to the exercise by any such lender of Tenant ("**Lender**") of its rights of foreclosure with respect to its lien and security interest. Landlord agrees to recognize Lender as Tenant hereunder upon any such exercise by Lender of its rights of foreclosure. The term "**Lender**" as used in this Agreement shall mean the lender identified in Section 29 hereof and its successors, assigns, designees or nominees.

(c) Landlord hereby agrees to give Lender written notice of any breach or default of Tenant of the terms of this Agreement within fifteen (15) days after the occurrence thereof at the address set forth in Section 29. Landlord further agrees that no default under this Agreement by Tenant shall be deemed to have occurred unless such notice to Lender is also given and that, in the event of any such breach or default under the terms of this Agreement, Lender shall have the right, to the same extent, for the same period and with the same effect, as Tenant, plus an additional ninety (90) days after any applicable grace period to cure or correct any such default.

(d) Landlord acknowledges that nothing contained herein shall be deemed or construed to obligate Lender to take any action hereunder, or to perform or discharge any obligation, duty or liability of Tenant under this Agreement. Lender shall not become liable under the provisions of this Agreement or any lease executed pursuant to Section 26 hereof unless and until such time as it becomes, and then only for as long as it remains, the owner of the leasehold estate created hereby or thereby.

(e) This Agreement shall not be amended or modified without the consent of Lender. In the event that Lender shall become the owner of such leasehold estate, Lender shall not be bound by any modification or amendment of this Agreement made subsequent to the date of a Tenant Mortgage unless Lender shall have consented to such modification or amendment at the time it was made.

26. RIGHT TO NEW LEASE.

(a) In the case of termination of this Agreement for any reason, or in the event this Agreement is rejected or disaffirmed pursuant to any bankruptcy, insolvency or other law affecting creditor's rights, Landlord shall give prompt notice thereof to Lender at the address set forth in Section 29 or as may be provided to Landlord by Tenant following the Commencement Date. Thereafter, Landlord, upon written request of Lender, and within thirty (30) days after the receipt of such request, shall promptly execute and

deliver a new lease of the Premises and assignment of all subleases and licenses to Lender or its designee or nominee, for the remainder of the Term upon all the covenants, conditions, limitations and agreements contained herein (including, without limitation, options to extend the Term) except for such provisions which must be modified to reflect such termination, rejection or disaffirmance and the passage of time, provided that Lender (i) shall pay to Landlord, simultaneously with the delivery of such new lease, all unpaid rent due under this Agreement up to and including the date of the commencement of the term of such new lease and all reasonable expenses, including, without limitation, reasonable attorneys' fees and disbursements and court costs, incurred by Landlord in connection with the default by Tenant, the termination of this Agreement and the preparation of the new lease, and (ii) shall cure all defaults existing under this Agreement which are susceptible to being cured by Lender promptly and with due diligence after the delivery of such new lease. Notwithstanding anything to the contrary contained herein, provided Lender shall have otherwise complied with the provisions of this Section, Lender shall have no obligation to cure any defaults which are not susceptible to being cured by Lender (for example, the bankruptcy of Tenant).

(b) For so long as Lender shall have the right to enter into a new lease with Landlord pursuant to this Section, Landlord shall not enter into a new lease of the Premises with any person or entity other than Lender, without the prior written consent of Lender.

27. ADDITIONAL PROVISIONS.

(a) The parties hereto agree that (i) Tenant is in possession of the Premises notwithstanding the fact that Tenant has subleased or licensed, or may in the future sublease or license, certain of the improvements thereon or portions of the Premises to third parties, and (ii) the requirements of Section 365(h) of Title 11 of the United States Code (the Bankruptcy Code) with respect to Tenant's possession of the leasehold under this Agreement are satisfied. Accordingly, the right of Tenant to remain in possession of the leasehold under this Agreement shall continue notwithstanding any rejection of this Agreement in any bankruptcy proceeding involving Landlord, or any other actions by any party in such a proceeding. This provision, while included in this Agreement, has been separately negotiated and shall constitute a separate contract between the parties as well as a part of this Agreement. The provisions of this Section are for the benefit of Tenant and its assigns, including, without limitation, Lender. The parties hereto also agree that Lender is a party in interest and shall have the right to appear as a party in any proceeding brought under any bankruptcy law or under any other law which may affect this Agreement.

(b) The provisions of Section 25 and Section 26 hereof shall survive the termination, rejection or disaffirmance of this Agreement and shall continue in full force and effect thereafter to the same extent as if such Sections were a separate and independent contract made by Landlord, Tenant and Lender and, from the effective date of such termination, rejection or disaffirmance of this Agreement to the date of execution and delivery of such new lease, Lender may use and enjoy the leasehold estate created by this Agreement without hindrance by Landlord. The aforesaid agreement of Landlord to enter into a new lease with Lender shall be deemed a separate agreement between Landlord and Lender, separate and apart from this Agreement as well as a part of this Agreement, and shall be unaffected by the rejection of this Agreement in any bankruptcy proceeding by any party.

(c) Landlord shall have no right, and expressly waives any right arising under applicable law, in and to the rentals or other fees payable to Tenant, if any, under any sublease or license of the Premises by Tenant, which rentals or fees may be assigned by Tenant to Lender.

(d) If a Tenant Mortgage is in effect, this Agreement shall not be modified or amended by the parties hereto, or terminated or surrendered by Tenant, nor shall Landlord accept any such termination or surrender of this Agreement by Tenant, without the prior written consent of Lender.

(e) The provisions of Section 25 and Section 26 hereof are for the benefit of Lender and may be relied upon and shall be enforceable by Lender as if Lender were a party to this Agreement.

(f) Landlord shall, within ten (10) days of the request of Tenant or any Lender or prospective Lender, provide an estoppel certificate as to any matters reasonably requested by Tenant or Lender.

(g) The right to extend or renew this Agreement and any right of first refusal to purchase the Premises may be exercisable by the holder of a Tenant Mortgage and, before the expiration of any periods to exercise such a right, Landlord must provide to Lender at least thirty (30) days prior written notice before the expiration of the right to so extend or renew in order to extinguish Lender's right to so extend, renew or purchase.

(h) Under no circumstances shall the fee estate of Landlord and the leasehold estate created hereby merge, even though owned by the same party, without the written consent of the holder of a Tenant Mortgage.

28. QUIET ENJOYMENT. So long as Tenant is not in default under this Agreement beyond the applicable notice and cure period, Landlord covenants and agrees that Tenant shall peaceably and quietly hold and enjoy the Premises throughout the Term, without any hindrance, molestation or ejection by Landlord, its successors or assigns or by those claiming by, through or under them.

29. NOTICES. All notices, requests, claims, demands, and other communications hereunder shall be in writing and may be hand delivered (provided the deliverer provides proof of delivery) or sent by nationally established overnight courier that provides proof of delivery, or certified or registered mail (postage prepaid, return receipt requested). Notice shall be deemed received on the date of delivery as demonstrated by the receipt of delivery. Notices shall be delivered to a party at the party's respective address below, or to such other address that a party below may provide from time to time:

If to Landlord:
Pennington Family Trust
1429 J B Copeland Road
Symsonia, Kentucky 42082

If to Tenant:
The Towers, LLC
750 Park of Commerce Drive,
Suite 200
Boca Raton, Florida 33487
Ref: US-KY-5231
Attn: VP Asset Management

With a copy to: General Counsel

If to Lender:
Toronto Dominion (Texas) LLC
31 West 52nd Street
New York, NY 10019
Attn: Admin Agent
Fax No. 416-982-5535

30. MISCELLANEOUS.

(a) Each party hereto warrants and represents that it has the necessary power and authority to enter into and perform its respective obligations under this Agreement.

(b) If any term of this Agreement is found to be void or invalid, such invalidity shall not affect the remaining terms of this Agreement, which shall continue in full force and effect.

(c) All attached exhibits are hereby incorporated by this reference as if fully set forth herein.

(d) Failure of a party to insist on strict performance of any of the conditions or provisions of this Agreement, or failure to exercise any of a party's rights hereunder, shall not waive such rights.

(e) This Agreement shall be governed by and construed in accordance with the laws of the State or Commonwealth in which the Premises are located.

(f) This Agreement constitutes the entire agreement and understanding of the parties and supersedes all offers, negotiations, other leases and/or agreements with regard to the Premises. There are no representations or understandings of any kind not set forth herein. Any amendment to this Agreement must be in writing and executed by both parties.

(g) This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors and assigns.

(h) A short-form Memorandum of Option to Lease (and a short-form Memorandum of Lease in the event Tenant exercises its option to lease the Premises) may be recorded at Landlord's or Tenant's option in the form as depicted in **Exhibit 3** and **Exhibit 4**, respectively, attached hereto. In addition, Tenant's subtenants and licensees shall have the right to record a memorandum of its sublease or license with Tenant.

(i) Landlord shall keep the terms of this Agreement confidential and shall not disclose any terms contained within this Agreement to any third party other than such terms as are set forth in the Memorandum of Option to Lease or Memorandum of Lease.

SIGNATURES BEGIN ON NEXT PAGE

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the Effective Date (date last signed by a party hereto).

WITNESSES:	**LANDLORD:**
Name: Joseph G. Long	**Scarlett Pennington, surviving Trustee of the Pennington Family Trust U/A Dated July 30, 2008**
Name: Matt Brooks	By: Scarlett Pennington **Scarlett Pennington, Trustee** Date: 2-3-2025

STATE OF Kentucky

COUNTY OF Marshall

The foregoing instrument was acknowledged before me this 3rd day of February, 20 25 by Scarlett Pennington, surviving Trustee of the Pennington Family Trust U/A Dated July 30, 2008, on behalf of the trust.

COREY ALAN DUNN
NOTARY PUBLIC
STATE AT LARGE - KENTUCKY
COMMISSION # KYNP68078
MY COMMISSION EXPIRES APRIL 06, 2027

Notary Public

Print Name: Corey Dunn

My Commission Expires: 4-8-27

(Tenant signature page to Option and Lease Agreement)

WITNESSES:	TENANT:
Name: Edward Davis Name: Christopher Ander	**The Towers, LLC** a Delaware limited liability company By: Name: Randy Wilson Vice President Development Title: Date: 3/12/2025

STATE OF FLORIDA

Leasing Ops DS LG

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this March 12, 2025 by Randy Wilson (name of signatory), VP Development (title of signatory) of The Towers, LLC, a Delaware limited liability company, on behalf of the company.

Notary Public

Print Name: Elise Reichbach

My Commission Expires: 7/16/2026

Notary Public State of Florida
Elise Reichbach
My Commission HH 283047
Expires 7/16/2026

EXHIBIT 1

Legal Description of the Property (Parent Parcel)
(may be updated by Tenant upon receipt of final legal description from title)

The following described land lying in Marshall County, Kentucky, viz,

A 51.18 acre parcel of land located approximately 5 miles west of the Benton community of Marshall County, Kentucky, at the southwest intersection of Arant Road and Copeland Road, and more particularly described as beginning at the northeast corner of the property herein described, said corner being a½" round steel rebar set 25 feet west of the centerline of the Arant Road and 25 feet south of the Copeland Road; thence, South 00° 55' 20" West 1,524.45 feet to a½" round steel rebar set 25 feet west of the Arant Road centerline at the southeast corner of the property herein conveyed; thence, North 84° 03' 14" West 1,192.65 feet along the north line of the Cope property and Joe E. Bell property as described in Deed Book 174, page 38, to a ½" round steel rebar set in the centerline of a ditch at a fence corner. Said point being the southwest corner of the property herein described. thence, North 07° 24' 47" West 722.55 feet and following the meanders of the centerline of the ditch to the intersection of the centerline of two ditches and along the east line of the Charles Vaughn property as described in Deed Book 191, page 529; thence, North 78° 49' 58" West 45.00 feet to a nail in the 24" tree in the ditch; thence, North 36° 11' 14" West 79.85 feet to a point in the centerline of the ditch west of a½" round steel rebar set at a fence corner post; thence, North 48° 13' 40" West 201.17 feet to a point in the centerline of the ditch, 35 feet west of a nail in a fence post in the centerline of an easement granted to the Texas Gas Transmission Corporation as recorded in Deed Book 81, page 535, and an easement granted to the Texas Gas Transmission Corporation recorded in Deed Book 112, page 519; thence, North 40° 03' 05" West 156.85 feet to a point in the centerline of the ditch on the west side of a fence; thence, North 12° 36' 43" West 197.10 feet to a point in the centerline of the ditch; thence, North 12° 32' 13" East 157.01 feet to a ½" round steel rebar set in the centerline of a ditch; thence, North 00° 22' 16" West 282.03 feet to a½" round steel rebar set 25 feet south of the centerline of the Copeland Road, approximately 545 feet east of the intersection of the Copeland Road and the New Harmony Road (Joe Bell Road); thence, South 68° 52' 04" East 152.62 feet to a point in the south right-of-way of the Copeland Road; thence, South 78° 13' 20" East 278.02-feet to a point in the south right-of-way of the Copeland Road; thence, South 82° 46' 14" East 155.67 feet to a point in the south right-of-way of the Copeland Road in the centerline of the previously mentioned Texas Gas Transmission Corporation easement; thence, South 83° 05' 16" East 632.34 feet to a point in the south right-of-way of the Copeland Road; thence, South 82° 10' 47" East 464.65 feet to the point of beginning.

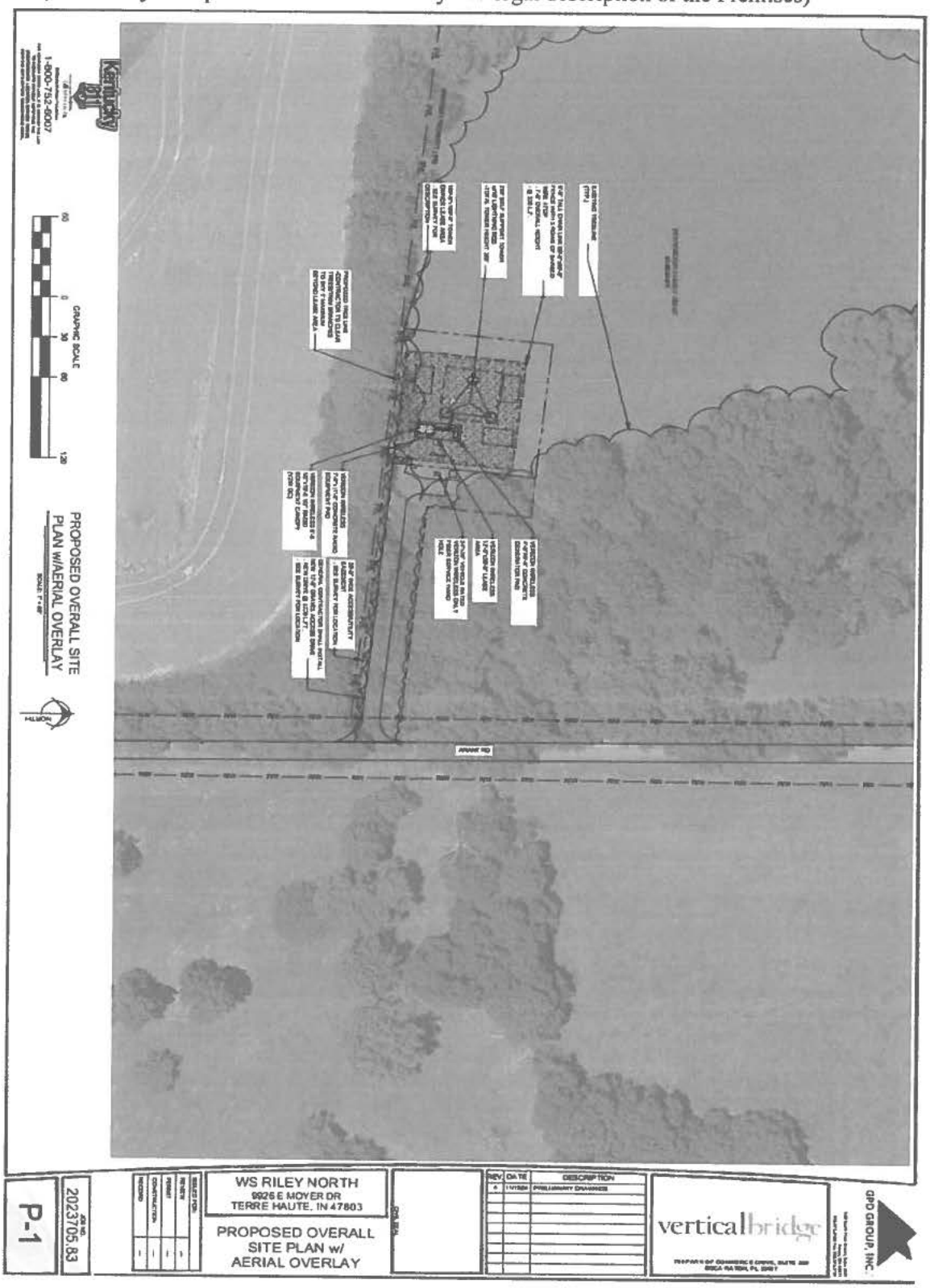
Parcel ID: 05-00-00-075

Being the same property conveyed to Phillip Pennington and Scarlett Pennington, Trustees, of the Pennington Family Trust U/A Dated July 30, 2008 in Deed from Phillip O. Pennington and Scarlett M. Pennington, his wife dated July 30, 2008 and recorded August 1, 2008 in Book 385 Page 159. Phillip Pennington having departed this life on or about February 13, 2020.

EXHIBIT 2

Premises

(below may be replaced with a final survey and legal description of the Premises)



VB Site ID: US-KY-5231
VB Site Name: Tim Road KY

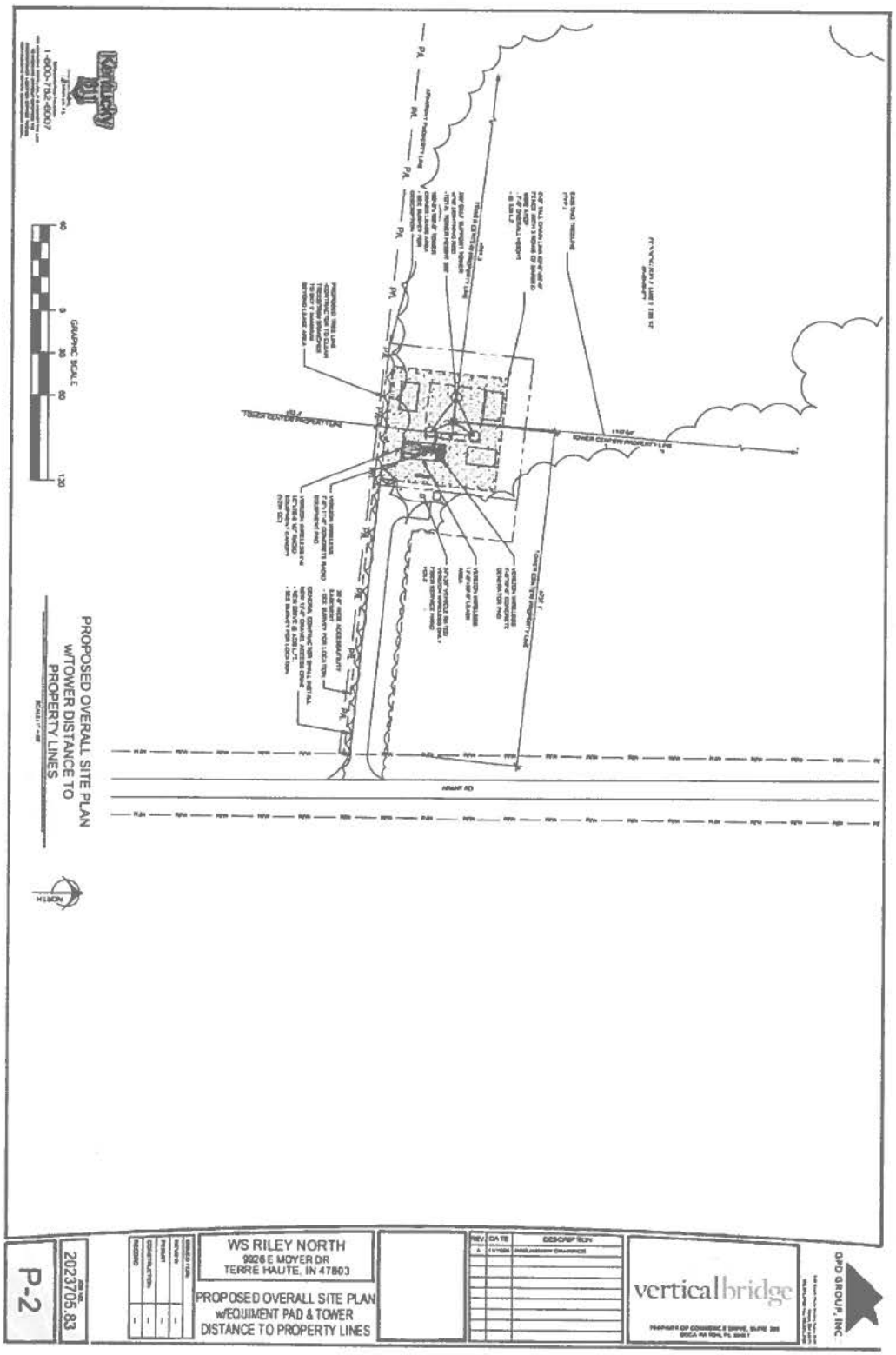

PROPOSED OVERALL SITE PLAN
w/TOWER DISTANCE TO
PROPERTY LINES
GRAPHIC SCALE
NORTH
WS RILEY NORTH
9926 E MOYER DR
TERRE HAUTE, IN 47803
PROPOSED OVERALL SITE PLAN
w/EQUIMENT PAD & TOWER
DISTANCE TO PROPERTY LINES
P-2
202305.83
vertical bridge
DD GROUP, INC.

EXHIBIT J

NOTIFICATION LIST
PVA RECORDS
PROOF OF NOTICE

Tim Road – Notice List

PENNINGTON FAMILY TRUST
1429 J B COPELAND RD
SYMSONIA, KY 42082

WATKINS GENE AND SHARON
639 ARANT RD
BENTON, KY 42025

DUNIGAN RHONDA A
723 BREEZEEL SCHOOL RD
BENTON, KY 42025

DARDEN BENJAMIN D
1585 ELVA RD
SYMSONIA, KY 42082

FEEZOR TOMMIE L AND MARILEE ET AL
C/O RALPH T AND ROSEMARY NELSON
3795 WADESBORO RD S
BENTON, KY 42025

NELSON JAMES ZACHARY
4525 LOVELACEVILLE FLORENCE STATION RD
PADUCAH, KY 42001

ABANATHA LINDA AND LARRY
7412 BENTON RD
PADUCAH, KY 42003

COPE LYNN
5049 SLICKBACK RD
BENTON, KY 42025

CASE MARLANA
1610 J B COPELAND RD
SYMSONIA, KY 42082

FISK JENNIFER
1111 ARANT RD
BENTON, KY 42025

LANNY AND ELLEN FISK IRREVOCABLE TRUST
851 ARANT RD
BENTON, KY 42025

HUCKABEE KEN
3249 ESTES LANE
PADUCAH, KY 42003

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

NEW SEARCH SEARCH RESULTS MAP SEARCH PROPERTY CARD

STREET NAMES PARCEL NUMBERS

TAX YEAR	**2026**
MAP NUMBER	**05-00-00-016.01**
ACCOUNT NUMBER	**757490**

OWNERSHIP

100	**JOINTLY WITH SURVIVORSHIP**	**WATKINS, GENE WATKINS, SHARON**

MAIL NAME	**WATKINS GENE AND SHARON**
MAILING ADDRESS	**639 ARANT RD BENTON, KY 42025**

LAND VALUE	**$10,000**
IMPROVEMENT FCV	**$0**
TOTAL FCV	**$10,000**
EXEMPTION AMOUNT	**$0**
AG EXEMPTION	**$8,925**
TOTAL TAXABLE	**$1,075**

DEED BOOK / PAGE	**240/85**
SALE PRICE	**$1,000**
TAX DISTRICT	**014**
SUBDIVISION	**NONE**
PROPERTY CODE	**FARM PROPERTY**

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CASH
05-00-00-016.01	FARM	$10,000	$0	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

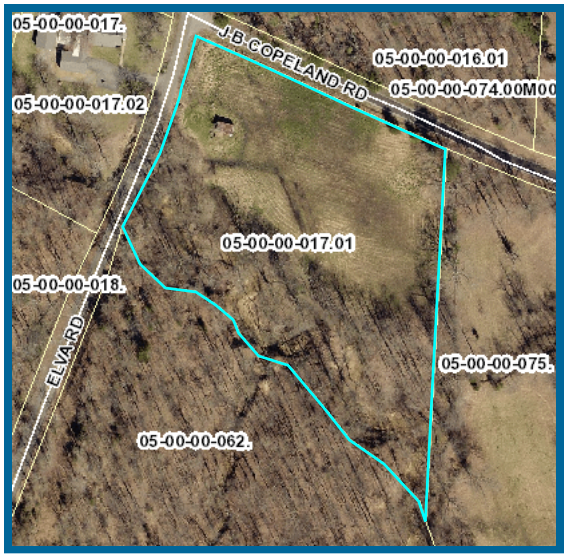
DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
240	85	10/08/1989	$1,000	NOT STATED
504	535	03/13/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	21370	1	$1,075
2022	21369	1	$1,075
2021	22186	1	$1,075
2020	22049	1	$1,262

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION



STREET NAMES PARCEL NUMBERS

TAX YEAR	**2026**
MAP NUMBER	**05-00-00-017.01**
ACCOUNT NUMBER	**767860**

OWNERSHIP

100	**JOINTLY WITH SURVIVORSHIP**	**WATKINS, GENE WATKINS, SHARON**

MAIL NAME	**WATKINS GENE AND SHARON**
MAILING ADDRESS	**639 ARANT RD BENTON, KY 42025**

LAND VALUE	**$8,000**
IMPROVEMENT FCV	**$0**
TOTAL FCV	**$8,000**
EXEMPTION AMOUNT	**$0**
AG EXEMPTION	**$0**
TOTAL TAXABLE	**$8,000**

DEED BOOK / PAGE	**357/262**
SALE PRICE	**$3,000**
TAX DISTRICT	**014**
SUBDIVISION	**NONE**
PROPERTY CODE	**RESIDENTIAL PR**

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CASH
05-00-00-017.01	RESIDENTIAL	$8,000	$0	

TOTAL TAXABLE ON ACCOUNT

ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
357	**262**	**03/21/2005**	**$3,000**	**NOT STATED**
504	**530**	**03/13/2023**	**$0**	**NOT STATED**

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	**21371**	**1**	**$8,000**
2022	**21370**	**1**	**$8,000**
2021	**22187**	**1**	**$6,000**
2020	**22050**	**1**	**$6,000**

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-061.01
ACCOUNT NUMBER	1111460

OWNERSHIP

100	FEE SIMPLE	DUNIGAN, RHONDA A

MAIL NAME	DUNIGAN RHONDA A
MAILING ADDRESS	723 BREEZEEL SCHOOL RD BENTON, KY 42025

LAND VALUE	$35,000
IMPROVEMENT FCV	$2,000
TOTAL FCV	$37,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$30,211
TOTAL TAXABLE	$6,789

DEED BOOK / PAGE	508/407
SALE PRICE	$56,000
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-061.01	FARM	$35,000	$2,000	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
508	407	08/10/2023	$56,000	NOT STATED
174	38	05/08/2002	$0	NOT STATED
395	15	12/23/2009	$0	$40,000

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	5657	1	$6,789
2022	5971	1	$53,092
2021	6131	1	$592
2020	6096	1	$3,127

IMPROVEMENT 1 OF 2 > >>

IMPROVEMENT TYPE	FARM
FAIR CASH VALUE	$1,500
YEAR BUILT	1950
FLOOD HAZARD	NONE
DRIVEWAY(S)	NONE
RANK	LOW
CONSTRUCTION CLASS	WOOD FRAME AND METAL WALLS (POLE FRAME)
TOTAL FLOOR AREA	1,260
PERIMETER	204

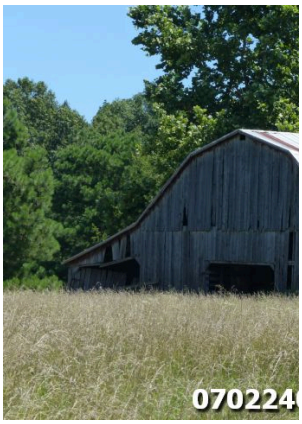
OCCUPANCY

PERCENT	CLASS	TYPE
100%	UTILITY AND MISCELLANEOUS	U-1

PHYSICAL ADDRESS(ES)
NONE

EXTERIOR WALLS 100% STUD WALL - WOOD SIDING

UTILITIES
☐ NATURAL GAS ☐ ELECTRIC
☐ SEWER ☒ NO UTILITIES



DATE TAKEN: 07/02/2024

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR 2026
MAP NUMBER 05-00-00-062.
ACCOUNT NUMBER 275960

OWNERSHIP
100 FEE SIMPLE DARDEN, BENJAMIN D

MAIL NAME DARDEN BENJAMIN D
MAILING ADDRESS 1585 ELVA RD
SYMSONIA, KY 42082

LAND VALUE $100,000
IMPROVEMENT FCV $50,500
TOTAL FCV $150,500

EXEMPTION AMOUNT $0
AG EXEMPTION $83,756
TOTAL TAXABLE $66,744

DEED BOOK / PAGE 502/632
SALE PRICE $260,000
TAX DISTRICT 014

SUBDIVISION NONE
PROPERTY CODE FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-062.	FARM	$100,000	$50,500	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
502	632	12/15/2022	$260,000	NOT STATED
239	452	09/07/1989	$63,500	NOT STATED
495	37	03/09/2022	$1	$259,500
501	513	11/04/2022	$0	$259,500
507	690	05/16/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	4514	1	$174,361
2022	22014	1	$179,517
2021	22864	1	$156,517
2020	22730	1	$161,538

IMPROVEMENT 1 OF 3 > >>

IMPROVEMENT TYPE FARM
FAIR CASH VALUE $40,000

YEAR BUILT 2005
FLOOD HAZARD NONE
DRIVEWAY(S) GRAVEL

RANK AVERAGE
CONSTRUCTION CLASS WOOD FRAME AND METAL WALLS (POLE FRAME)
TOTAL FLOOR AREA 6,000 PERIMETER 320

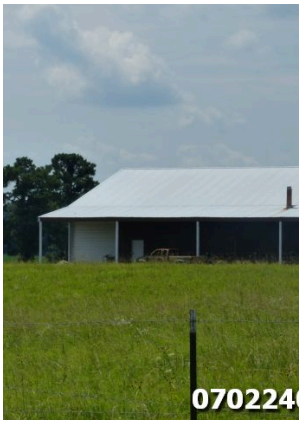
OCCUPANCY

PERCENT	CLASS	TYPE
100%	UTILITY AND MISCELLANEOUS	U-1

PHYSICAL ADDRESS(ES)
NONE

EXTERIOR WALLS 100% STUD WALL - METAL SIDING

UTILITIES
☐ NATURAL GAS ☒ ELECTRIC
☐ SEWER ☐ NO UTILITIES



DATE TAKEN: 07/02/2024

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR 2026
MAP NUMBER 05-00-00-072.
ACCOUNT NUMBER 892520

OWNERSHIP

50	JOINTLY WITH SURVIVORSHIP	FEEZOR, MARILEE FEEZOR, TOMMIE L
12.5	FEE SIMPLE	NELSON, JAMES ZACHARY
0	LIFE ESTATE	NELSON, RALPH T

LAND VALUE	$85,000
IMPROVEMENT FCV	$35,000
TOTAL FCV	$120,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$69,820
TOTAL TAXABLE	$50,180

MAIL NAME	FEEZOR TOMMIE L AND MARILEE ET AL
IN CARE OF	C/O RALPH T AND ROSEMARY NELSON
MAILING ADDRESS	3795 WADESBORO RD S BENTON, KY 42025
LABEL	LABEL

DEED BOOK / PAGE	501/288
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 3

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-072.	FARM	$85,000	$35,000	
05-00-00-072.03	FARM	$50,000	$0	
16-00-00-060.	FARM	$30,000	$0	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
501	288	10/25/2022	$0	$100,000
218	698	09/23/1986	$0	NOT STATED
410	275	01/23/2012	$0	$115,700
429	532	07/08/2014	$0	NOT STATED
504	587	03/09/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	6467	3	$64,980
2022	6487	3	$64,980
2021	6675	3	$56,980
2020	6648	3	$64,093

IMPROVEMENT 1 OF 4 > >>

IMPROVEMENT TYPE			SITE BUILT
FAIR CASH VALUE			$30,000
YEAR BUILT	1948	NUMBER OF UNITS	1
QUALITY	AVERAGE	FLOOD HAZARD	NONE
DRIVEWAY(S)			GRAVEL
STYLE			ONE STORY
TYPE			SINGLE-FAMILY RESIDENCE
FIREPLACE(S)			NONE
FIRST FLOOR AREA	1,072	BEDROOMS	2
HALF STORY AREA	0	FULL BATHROOMS	1
SECOND FLOOR AREA	0	HALF BATHROOMS	0
THIRD FLOOR AREA	0	TOTAL ROOMS	UNKNOWN
BASEMENT AREA	0	PERCENT FINISHED	N/A

ATTACHED GARAGE(S)

AREA	TYPE
	NONE

PHYSICAL ADDRESS(ES)
1301 J B COPELAND RD BENTON

FOUNDATION	100%	CONCRETE BLOCK
ROOF COVER	100%	COMPOSITION SHINGLE
EXTERIOR WALLS	100%	SIDING, WOOD

PORCHES, BREEZEWAYS, DECKS

AREA	TYPE
	RAISED SLAB PORCH WITH ROOF

HEATING / COOLING
HVAC

UTILITIES

☐ NATURAL GAS	☒ ELECTRIC	☒
☐ SEWER	☐ NO UTILITIES	☐

DATE TAKEN: 07/02/2024

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-072.02
ACCOUNT NUMBER	1116180

OWNERSHIP

100	FEE SIMPLE	NELSON, JAMES ZACHARY

MAIL NAME	NELSON JAMES ZACHARY
MAILING ADDRESS	4525 LOVELACEVILLE FLORENCE STATION RD PADUCAH, KY 42001

LAND VALUE	$5,000
IMPROVEMENT FCV	$500
TOTAL FCV	$5,500
EXEMPTION AMOUNT	$0
AG EXEMPTION	$0
TOTAL TAXABLE	$5,500

DEED BOOK / PAGE	511/563
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	RESIDENTIAL PF

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-072.02	RESIDENTIAL	$5,000	$500	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
511	563	12/07/2023	$0	$5,500
278	581	06/15/1995	$0	$1,500
495	444	03/29/2022	$0	NOT STATED
507	683	05/22/2023	$0	NOT STATED
507	686	05/17/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	14508	1	$5,500
2022	14522	1	$5,500
2021	15025	1	$4,500
2020	14966	1	$4,500

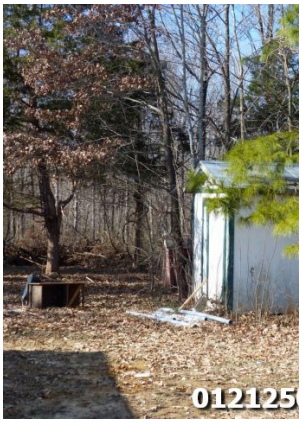
IMPROVEMENT 1 OF 2 > >>

IMPROVEMENT TYPE	STORAGE
FAIR CASH VALUE	$500
YEAR BUILT	UNKNOWN
QUALITY	FAIR
FLOOD HAZARD	NONE
DRIVEWAY(S)	NONE
AREA	140

PHYSICAL ADDRESS(ES)
NONE

UTILITIES
☐ NATURAL GAS ☐ ELECTRIC ☐
☐ SEWER ☒ NO UTILITIES ☐

FOUNDATION	100%	NON PERMANENT
ROOF COVER	100%	RIBBED METAL
EXTERIOR WALLS	100%	SIDING, METAL



DATE TAKEN: 01/21/2025

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

NEW SEARCH SEARCH RESULTS MAP SEARCH PROPERTY CARD

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-072.03
ACCOUNT NUMBER	892520

OWNERSHIP

50	JOINTLY WITH SURVIVORSHIP	FEEZOR, MARILEE FEEZOR, TOMMIE L
12.5	FEE SIMPLE	NELSON, JAMES ZACHARY
0	LIFE ESTATE	NELSON, RALPH T

LAND VALUE	$50,000
IMPROVEMENT FCV	$0
TOTAL FCV	$50,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$40,995
TOTAL TAXABLE	$9,005

MAIL NAME	FEEZOR TOMMIE L AND MARILEE ET AL
IN CARE OF	C/O RALPH T AND ROSEMARY NELSON
MAILING ADDRESS	3795 WADESBORO RD S BENTON, KY 42025
LABEL	LABEL

DEED BOOK / PAGE	501/288
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERTY

PROPERTIES ON THIS ACCOUNT: 3

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CASH
05-00-00-072.	FARM	$85,000	$35,000	$
05-00-00-072.03	FARM	$50,000	$0	
16-00-00-060.	FARM	$30,000	$0	

TOTAL TAXABLE ON ACCOUNT

ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
501	288	10/25/2022	$0	$100,000
218	698	09/23/1986	$0	NOT STATED
410	275	01/23/2012	$0	$115,700
429	534	05/19/2014	$0	NOT STATED
504	587	03/09/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	6467	3	$64,980
2022	6487	3	$64,980
2021	6675	3	$56,980
2020	6648	3	$64,093

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

STREET NAMES PARCEL NUMBERS

TAX YEAR	**2026**
MAP NUMBER	**05-00-00-073.**
ACCOUNT NUMBER	**371280**

OWNERSHIP

100	**JOINTLY WITH SURVIVORSHIP**	**ABANATHA, LARRY** **ABANATHA, LINDA**

LAND VALUE	**$70,000**
IMPROVEMENT FCV	**$0**
TOTAL FCV	$70,000
EXEMPTION AMOUNT	**$0**
AG EXEMPTION	**$59,928**
TOTAL TAXABLE	$10,072

MAIL NAME	**ABANATHA LINDA AND LARRY**
MAILING ADDRESS	**7412 BENTON RD** **PADUCAH, KY 42003**

DEED BOOK / PAGE	**264/280**
SALE PRICE	$0
TAX DISTRICT	**014**
SUBDIVISION	**NONE**
PROPERTY CODE	**FARM PROPERTY**

PROPERTIES ON THIS ACCOUNT: 3

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CASH
05-00-00-023.	FARM	$180,000	$0	$
05-00-00-023.01	FARM	$50,000	$0	
05-00-00-073.	FARM	$70,000	$0	

TOTAL TAXABLE ON ACCOUNT

ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
264	**280**	**07/12/1993**	**$0**	**NOT STATED**
504	**602**	**03/09/2023**	**$0**	**NOT STATED**

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	**42**	**3**	**$36,831**
2022	**50**	**3**	**$36,831**
2021	**43**	**3**	**$36,831**
2020	**41**	**3**	**$44,340**

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR 2026
MAP NUMBER 05-00-00-074.00M00
ACCOUNT NUMBER 740330

OWNERSHIP
100 FEE SIMPLE CASE, MARLANA

MAIL NAME CASE MARLANA
MAILING ADDRESS 1610 J B COPELAND RD
SYMSONIA, KY 42082

LAND VALUE	$13,000
IMPROVEMENT FCV	$46,000
TOTAL FCV	$59,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$0
TOTAL TAXABLE	$59,000

DEED BOOK / PAGE	347/212
SALE PRICE	$67,900
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	RESIDENTIAL PF

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-074.00M00	RESIDENTIAL	$13,000	$46,000	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
347	212	02/11/2004	$67,900	NOT STATED
341	17	05/08/2003	UNKNOWN	UNKNOWN
504	511	03/15/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	2769	1	$59,000
2022	2797	1	$59,000
2021	2875	1	$52,000
2020	2851	1	$52,000

IMPROVEMENT 1 OF 2 > >>

IMPROVEMENT TYPE MOBILE HOME
FAIR CASH VALUE $38,000

YEAR BUILT	2000	LOT NUMBER	UNKNOWN
QUALITY	FAIR	FLOOD HAZARD	NONE
LENGTH	80	WIDTH	28

DRIVEWAY(S) GRAVEL

MANUFACTURER UNKNOWN
TRADE NAME UNKNOWN
TRAILER PARK NAME NONE

FIREPLACE(S) NONE

FIRST FLOOR AREA	2,240	BEDROOMS	4
HALF STORY AREA	0	FULL BATHROOMS	3
SECOND FLOOR AREA	0	HALF BATHROOMS	0
THIRD FLOOR AREA	0	TOTAL ROOMS	UNKNOWN

ATTACHED GARAGE(S)

AREA	TYPE
	NONE

PHYSICAL ADDRESS(ES)
1610 J B COPELAND RD SYMSONIA

FOUNDATION	100%	NON PERMANENT
ROOF COVER	100%	RIBBED METAL
EXTERIOR WALLS	100%	VINYL LAP

PORCHES, BREEZEWAYS, DECKS

AREA	TYPE
	WOOD PORCH WITH ROOF

HEATING / COOLING
HVAC

UTILITIES

☐ NATURAL GAS	☒ ELECTRIC	☒
☐ SEWER	☐ NO UTILITIES	☐

DATE TAKEN: 07/02/2024

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-076.
ACCOUNT NUMBER	13810

OWNERSHIP

100 FEE SIMPLE COPE, LYNN

MAIL NAME	COPE LYNN
MAILING ADDRESS	5049 SLICKBACK RD
	BENTON, KY 42025

LAND VALUE	$80,000
IMPROVEMENT FCV	$45,000
TOTAL FCV	$125,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$67,568
TOTAL TAXABLE	$57,432

DEED BOOK / PAGE	213/185
SALE PRICE	$10,000
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-076.	FARM	$80,000	$45,000	

TOTAL TAXABLE ON ACCOUNT

ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
213	185	01/23/1986	$10,000	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	3846	1	$57,432
2022	3896	1	$16,932
2021	3990	1	$1,932
2020	3967	1	$5,782

IMPROVEMENT 1 OF 1

IMPROVEMENT TYPE			SITE BUILT
FAIR CASH VALUE			$45,000
YEAR BUILT	1977	NUMBER OF UNITS	1
QUALITY	AVERAGE	FLOOD HAZARD	NONE
DRIVEWAY(S)			GRAVEL
STYLE			ONE STORY
TYPE			SINGLE-FAMILY RESIDENCE
FIREPLACE(S)			NONE
FIRST FLOOR AREA	972	BEDROOMS	2
HALF STORY AREA	0	FULL BATHROOMS	1
SECOND FLOOR AREA	0	HALF BATHROOMS	0
THIRD FLOOR AREA	0	TOTAL ROOMS	UNKNOWN
BASEMENT AREA	0	PERCENT FINISHED	N/A

ATTACHED GARAGE(S)

AREA	TYPE
224	CARPORT - GABLE ROOF

PHYSICAL ADDRESS(ES)

1418 ARANT RD BENTON

FOUNDATION	100%	CONCRETE BLOCK
ROOF COVER	100%	COMPOSITION SHINGLE
EXTERIOR WALLS	100%	SIDING, VINYL

PORCHES, BREEZEWAYS, DECKS

AREA	TYPE
	NONE

HEATING / COOLING

GAS HEAT

WINDOW UNIT

UTILITIES

☐	NATURAL GAS	☒	ELECTRIC
☐	SEWER	☐	NO UTILITIES

DATE TAKEN: 07/02/2024

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

STREET NAMES PARCEL NUMBERS

TAX YEAR 2026
MAP NUMBER 05-00-00-078.
ACCOUNT NUMBER 915580

OWNERSHIP
100 FEE SIMPLE FISK, JENNIFER

MAIL NAME FISK JENNIFER
MAILING ADDRESS 1111 ARANT RD
BENTON, KY 42025

LAND VALUE	$156,000
IMPROVEMENT FCV	$14,000
TOTAL FCV	$170,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$130,146
TOTAL TAXABLE	$39,854

DEED BOOK / PAGE	421/588
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-078.	FARM	$156,000	$14,000	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
421	588	07/15/2013	$0	$114,000
166	451	11/01/1976	$0	NOT STATED
429	586	05/13/2014	$0	NOT STATED
439	224	10/07/2015	$0	NOT STATED
505	131	03/22/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	6633	1	$39,854
2022	6641	1	$39,854
2021	6844	1	$39,854
2020	6817	1	$45,557

IMPROVEMENT 1 OF 2 > >>

IMPROVEMENT TYPE FARM
FAIR CASH VALUE $2,000

YEAR BUILT 1960
FLOOD HAZARD NONE
DRIVEWAY(S) GRAVEL

RANK AVERAGE
CONSTRUCTION CLASS WOOD FRAME AND METAL WALLS (POLE FRAME)
TOTAL FLOOR AREA 2,300 PERIMETER 160

OCCUPANCY

PERCENT	CLASS	TYPE
100%	UTILITY AND MISCELLANEOUS	U-1

PHYSICAL ADDRESS(ES)
NONE

EXTERIOR WALLS 100% STUD WALL - METAL SIDING

UTILITIES
☐ NATURAL GAS ☐ ELECTRIC
☐ SEWER ☒ NO UTILITIES

DATE TAKEN: 07/02/2024

REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-078.01
ACCOUNT NUMBER	857300

OWNERSHIP

100 FEE SIMPLE FISK, JENNIFER

MAIL NAME	FISK JENNIFER
MAILING ADDRESS	1111 ARANT RD
	BENTON, KY 42025

LAND VALUE	$33,500
IMPROVEMENT FCV	$75,500
TOTAL FCV	$109,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$27,988
TOTAL TAXABLE	$81,012

DEED BOOK / PAGE	396/317
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-078.01	FARM	$33,500	$75,500	

TOTAL TAXABLE ON ACCOUNT

ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
396	317	02/26/2010	$0	$35,000
429	584	05/13/2014	$0	NOT STATED
505	133	03/22/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	6632	1	$81,012
2022	6640	1	$81,012
2021	6845	1	$68,012
2020	6818	1	$69,249

IMPROVEMENT 1 OF 2 > >>

IMPROVEMENT TYPE			SITE BUILT
FAIR CASH VALUE			$75,000
YEAR BUILT	2010	NUMBER OF UNITS	1
QUALITY	VERY GOOD	FLOOD HAZARD	NONE
DRIVEWAY(S)			GRAVEL
STYLE			ONE STORY
TYPE			SINGLE-FAMILY RESIDENCE
FIREPLACE(S)			NONE
FIRST FLOOR AREA	756	BEDROOMS	1
HALF STORY AREA	0	FULL BATHROOMS	1
SECOND FLOOR AREA	0	HALF BATHROOMS	1
THIRD FLOOR AREA	0	TOTAL ROOMS	UNKNOWN
BASEMENT AREA	0	PERCENT FINISHED	N/A

ATTACHED GARAGE(S)

AREA	TYPE
312	ATTACHED GARAGE

PHYSICAL ADDRESS(ES)

1111 ARANT RD BENTON

FOUNDATION	100%	CONCRETE BLOCK
ROOF COVER	100%	COMPOSITION SHINGLE
EXTERIOR WALLS	100%	SIDING, VINYL

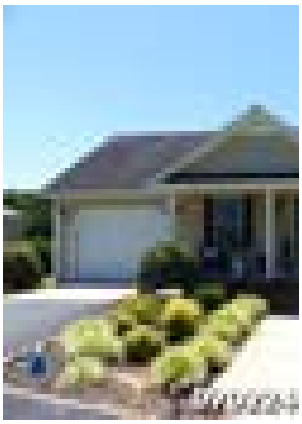
PORCHES, BREEZEWAYS, DECKS

AREA	TYPE
	SLAB PORCH WITH ROOF

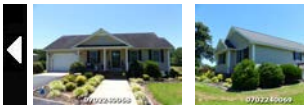
HEATING / COOLING
HVAC

UTILITIES

☐ NATURAL GAS	☒ ELECTRIC	☒
☐ SEWER	☐ NO UTILITIES	☐



DATE TAKEN: 07/02/2024



REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-079.02
ACCOUNT NUMBER	981400

OWNERSHIP

100	TRUST	LANNY AND ELLEN FISK IRREVOCABLE TRUST
0	TRUSTEE	FISK, KEVIN L ROPER, APRIL R

MAIL NAME	LANNY AND ELLEN FISK IRREVOCABLE TRUST
MAILING ADDRESS	851 ARANT RD BENTON, KY 42025

LAND VALUE	$30,000
IMPROVEMENT FCV	$110,000
TOTAL FCV	$140,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$25,271
TOTAL TAXABLE	$114,729

DEED BOOK / PAGE	449/150
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-079.02	FARM	$30,000	$110,000	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
449	150	01/19/2017	$0	$114,000
417	140	12/13/2012	$0	$135,000
429	590	05/12/2014	$0	NOT STATED
504	573	03/09/2023	$0	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	11642	1	$114,729
2022	11674	1	$114,729
2021	12104	1	$100,729
2020	12041	1	$101,821

IMPROVEMENT 1 OF 5 > >>

IMPROVEMENT TYPE	SITE BUILT
FAIR CASH VALUE	$85,000
YEAR BUILT	1980
QUALITY	AVERAGE
DRIVEWAY(S)	GRAVEL
STYLE	ONE STORY
TYPE	SINGLE-FAMILY RESIDENCE
FIREPLACE(S)	SINGLE 1 STORY FIREPLACE
FIRST FLOOR AREA	1,353
HALF STORY AREA	0
SECOND FLOOR AREA	0
THIRD FLOOR AREA	0
BASEMENT AREA	1,353
NUMBER OF UNITS	1
FLOOD HAZARD	NONE
BEDROOMS	3
FULL BATHROOMS	2
HALF BATHROOMS	0
TOTAL ROOMS	UNKNOWN
PERCENT FINISHED	100%

ATTACHED GARAGE(S)

AREA	TYPE
648	ATTACHED GARAGE

PHYSICAL ADDRESS(ES)
851 ARANT RD BENTON

FOUNDATION	100%	CONCRETE BLOCK
ROOF COVER	100%	COMPOSITION SHINGLE
EXTERIOR WALLS	100%	BRICK VENEER

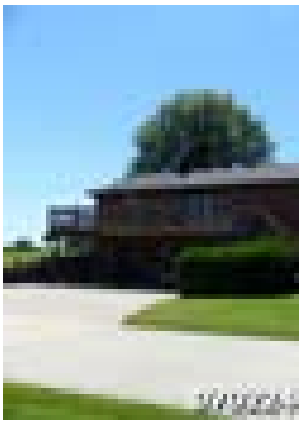
PORCHES, BREEZEWAYS, DECKS

AREA	TYPE
	WOOD DECK
	SLAB PORCH WITH ROOF

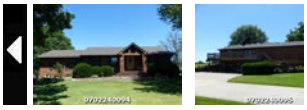
HEATING / COOLING
HVAC

UTILITIES

☐ NATURAL GAS	☒ ELECTRIC	☒
☐ SEWER	☐ NO UTILITIES	☐



DATE TAKEN: 07/02/2024



REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P

STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-075.
ACCOUNT NUMBER	246880

OWNERSHIP

100 TRUST PENNINGTON FAMILY TRUST

LAND VALUE	$150,000
IMPROVEMENT FCV	$63,000
TOTAL FCV	$213,000
EXEMPTION AMOUNT	$49,100
AG EXEMPTION	$129,596
TOTAL TAXABLE	$34,304

MAIL NAME	PENNINGTON FAMILY TRUST
MAILING ADDRESS	1429 J B COPELAND RD SYMSONIA, KY 42082

DEED BOOK / PAGE	385/159
SALE PRICE	$0
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-075.	FARM	$150,000	$63,000	

TOTAL TAXABLE ON ACCOUNT

ESTIMATED TAX DUE (BASED ON 2024 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
385	159	07/30/2008	$0	$138,500
234	575	11/18/1988	$65,000	UNKNOWN
275	642	11/18/1988	UNKNOWN	UNKNOWN

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2024	15491	1	$37,054
2022	15507	1	$42,904
2021	16069	1	$27,904
2020	16004	1	$33,268

IMPROVEMENT 1 OF 5 > >>

IMPROVEMENT TYPE			SITE BUILT
FAIR CASH VALUE			$60,000
YEAR BUILT	1975	NUMBER OF UNITS	1
QUALITY	FAIR	FLOOD HAZARD	NONE
DRIVEWAY(S)			ASPHALT
STYLE			ONE STORY
TYPE			SINGLE-FAMILY RESIDENCE
FIREPLACE(S)			NONE
FIRST FLOOR AREA	1,548	BEDROOMS	2
HALF STORY AREA	0	FULL BATHROOMS	1
SECOND FLOOR AREA	0	HALF BATHROOMS	0
THIRD FLOOR AREA	0	TOTAL ROOMS	UNKNOWN
BASEMENT AREA	0	PERCENT FINISHED	N/A

ATTACHED GARAGE(S)

AREA	TYPE
312	ATTACHED GARAGE

PHYSICAL ADDRESS(ES)

1429 J B COPELAND RD SYMSONIA

FOUNDATION	100%	CONCRETE BLOCK
ROOF COVER	100%	COMPOSITION SHINGLE
EXTERIOR WALLS	100%	HARDBOARD LAP

PORCHES, BREEZEWAYS, DECKS

AREA	TYPE
	WOOD PORCH

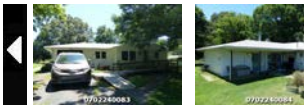
HEATING / COOLING

HVAC

UTILITIES

☐ NATURAL GAS	☒ ELECTRIC	☒
☐ SEWER	☐ NO UTILITIES	☐

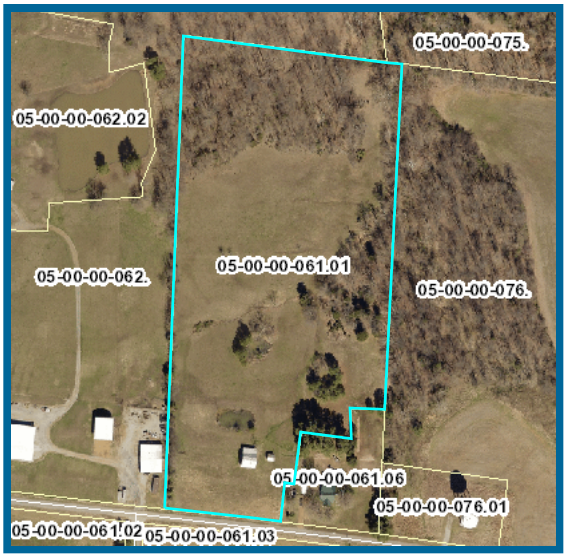
DATE TAKEN: 07/02/2024



REPORT ERRORS

MARSHALL COUNTY OFFICE OF
PROPERTY VALUATION

WELCOME P



STREET NAMES PARCEL NUMBERS

TAX YEAR	2026
MAP NUMBER	05-00-00-061.01
ACCOUNT NUMBER	1137170

OWNERSHIP

100	FEE SIMPLE	HUCKABEE, KEN

MAIL NAME	HUCKABEE KEN
MAILING ADDRESS	3249 ESTES LN
	PADUCAH, KY 42003

LAND VALUE	$67,000
IMPROVEMENT FCV	$12,000
TOTAL FCV	$79,000
EXEMPTION AMOUNT	$0
AG EXEMPTION	$62,211
TOTAL TAXABLE	$16,789

DEED BOOK / PAGE	522/134
SALE PRICE	$75,800
TAX DISTRICT	014
SUBDIVISION	NONE
PROPERTY CODE	FARM PROPERT

PROPERTIES ON THIS ACCOUNT: 1

MAP NUMBER	PROPERTY CODE	LAND VALUE	IMPROVEMENT VALUE	FAIR CAS
05-00-00-061.01	FARM	$67,000	$12,000	

TOTAL TAXABLE ON ACCOUNT
ESTIMATED TAX DUE (BASED ON 2025 TAX RATES)

DEED HISTORY

DEED BOOK	DEED PAGE	SALE DATE	SALE PRICE	STATED FCV
522	134	02/21/2025	$75,800	NOT STATED
174	38	05/08/2002	$0	NOT STATED
395	15	12/23/2009	$0	$40,000
508	407	08/10/2023	$56,000	NOT STATED

TAX BILL HISTORY

TAX YEAR	BILL NO	# PROPERTIES	TOTAL TAXABLE
2025	5687	1	$6,789
2024	5657	1	$6,789
2022	5971	1	$53,092
2021	6131	1	$592

IMPROVEMENT 1 OF 2 > >>

IMPROVEMENT TYPE	FARM
FAIR CASH VALUE	$9,000
YEAR BUILT	1950
FLOOD HAZARD	NONE
DRIVEWAY(S)	NONE
RANK	LOW
CONSTRUCTION CLASS	WOOD FRAME AND METAL WALLS (POLE FRAME)
TOTAL FLOOR AREA	1,260
PERIMETER	204

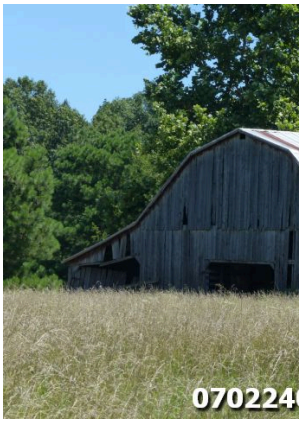
PHYSICAL ADDRESS(ES)
NONE

EXTERIOR WALLS 100% STUD WALL - WOOD SIDING

UTILITIES
☐ NATURAL GAS ☐ ELECTRIC
☐ SEWER ☒ NO UTILITIES

OCCUPANCY

PERCENT	CLASS	TYPE
100%	UTILITY AND MISCELLANEOUS	U-1



DATE TAKEN: 07/02/2024

REPORT ERRORS

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For delivery information, visit our website at www.usps.com®.
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
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SEP 08 2025
40165
FISK JENNIFER
1111 ARANT RD
BENTON, KY 42025
PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions
9589 0710 5270 3100 7743 59

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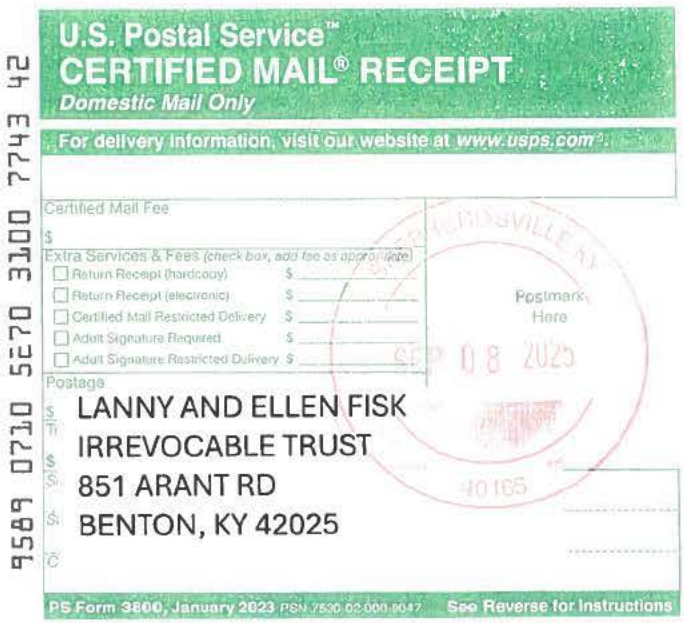
CASE MARLANA
1610 J B COPELAND RD
SYMSONIA, KY 42082
PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions
9589 0710 5270 3100 7743 66



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☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
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40165
LANNY AND ELLEN FISK
IRREVOCABLE TRUST
851 ARANT RD
BENTON, KY 42025
PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions
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☐ Adult Signature Restricted Delivery $
Postage
$
Postmark Here
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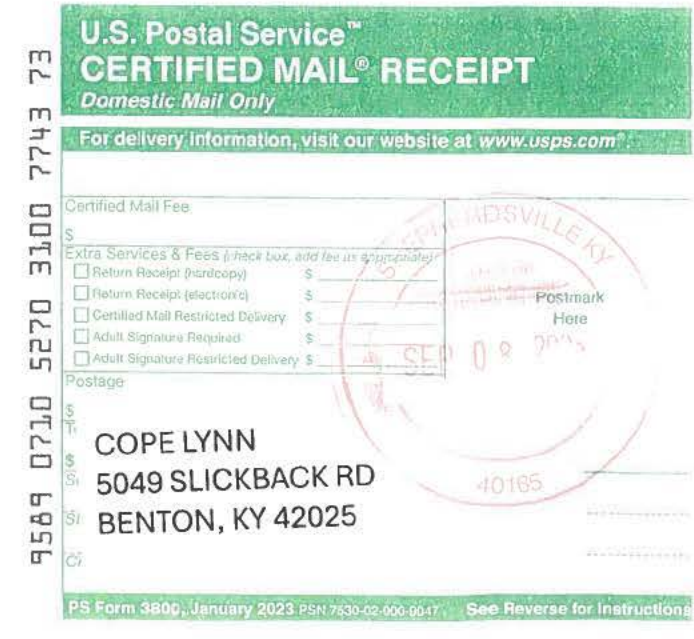
40165
ABANATHA LINDA AND LARRY
7412 BENTON RD
PADUCAH, KY 42003
PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions
9589 0710 5270 3100 7742 12



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Certified Mail Fee
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☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Postmark Here
40165
COPE LYNN
5049 SLICKBACK RD
BENTON, KY 42025
PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions
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- Adult Signature Required $
- Adult Signature Restricted Delivery $

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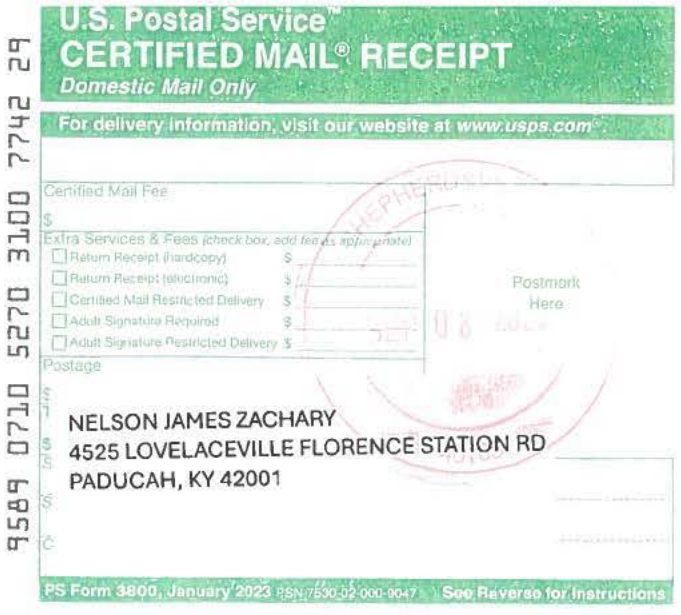
SEP 08 2025

FEEZOR TOMMIE L AND MARILEE ET AL
C/O RALPH T AND ROSEMARY NELSON
3795 WADESBORO RD S
BENTON, KY 42025

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 3100 7742 36



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- Return Receipt (electronic) $
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- Adult Signature Required $
- Adult Signature Restricted Delivery $

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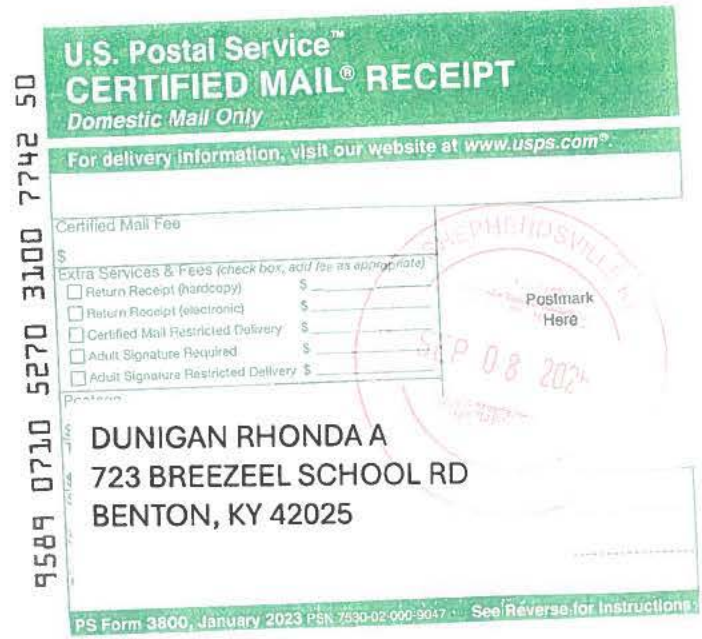
NELSON JAMES ZACHARY
4525 LOVELACEVILLE FLORENCE STATION RD
PADUCAH, KY 42001

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 3100 7742 29



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SEP 08 2025

DUNIGAN RHONDA A
723 BREEZEEL SCHOOL RD
BENTON, KY 42025

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- Adult Signature Required $
- Adult Signature Restricted Delivery $

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DARDEN BENJAMIN D
1585 ELVA RD
SYMSONIA, KY 42082

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- Return Receipt (electronic) $
- Certified Mail Restricted Delivery $
- Adult Signature Required $
- Adult Signature Restricted Delivery $

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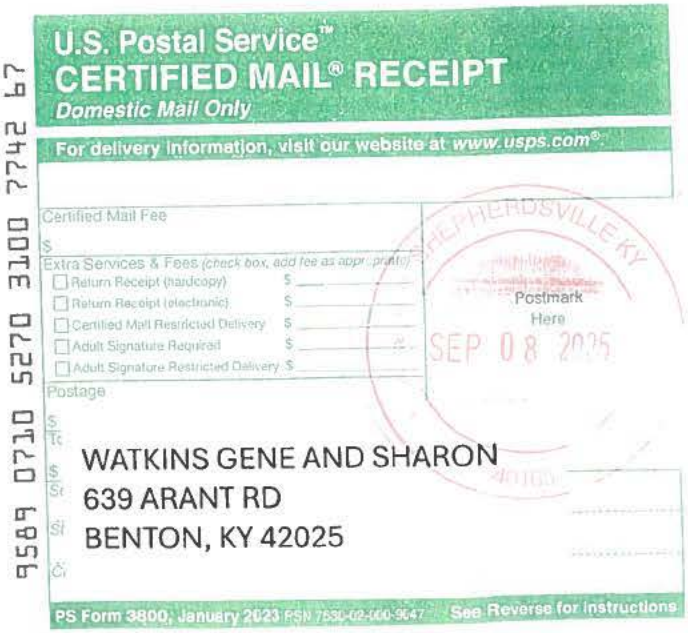
Pennington Family Trust
1429 J B Copeland Rd
Symsonia, KY 42082

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 3100 7742 74



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- Return Receipt (electronic) $
- Certified Mail Restricted Delivery $
- Adult Signature Required $
- Adult Signature Restricted Delivery $

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SEP 08 2025

WATKINS GENE AND SHARON
639 ARANT RD
BENTON, KY 42025

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 3100 7742 67

9589 0710 5270 3100 7705 11

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Extra Services & Fees (check box, add fee as appropriate)

- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postmark Here

SHEPHERDSVILLE KY

40165

Pos

$

To HUCKABEE KEN

$

Se 3249 ESTES LN

Str PADUCAH, KY 42003

City

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

NELSON JAMES ZACHARY
4525 LOVELACEVILLE FLORENCE STATION RD
PADUCAH, KY 42001

9590 9402 7926 2305 8855 48

2. Article Number *(Transfer from service label)*
9589 0710 5270 3100 7742 29

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Zach Nelson ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Zach Nelson
C. Date of Delivery 9-24-25

D. Is delivery address different from item 1? ☑ Yes
If YES, enter delivery address below: ☐ No
1384 JB Copeland Rd
Symsonia, KY 42082

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Pennington Family Trust
1429 J B Copeland Rd
Symsonia, KY 42082

9590 9402 7926 2305 8855 93

2. Article Number *(Transfer from service label)*
9589 0710 5270 3100 7742 74

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Scarlett Pennington ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* SCARLETT PENNINGTON
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

FISK JENNIFER
1111 ARANT RD
BENTON, KY 42025

9590 9402 7926 2305 8855 00

2. Article Number *(Transfer from service label)*
9589 0710 5270 3100 7743 59

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Jennifer Fisk ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* Jennifer Fisk
C. Date of Delivery 9/2/25

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

CASE MARLANA
1610 J B COPELAND RD
SYMSONIA, KY 42082

9590 9402 7926 2305 8855 17

2. Article Nu
9589 0

PS Form 3

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricte Delivery
☐ Signature Confirmation™
ifirmation
ivery

Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

FEEZOR TAMMIE L AND MARILEE ET AL
C/O RALPH T AND ROSEMARY NELSON
3795 WADESBORO RD S
BENTON, KY 42025

9590 9402 7926 2305 8855 55

2. Article Number (Transfer from service label)
9589 0710 5270 3100 7742 36

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Rosemary Nelson
☐ Agent
☐ Addressee

B. Received by (Printed Name) Rosemary Nelson | C. Date of Delivery Sept 10-

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restrict Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receip

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

WATKINS GENE AND SHARON
639 ARANT RD
BENTON, KY 42025

9590 9402 7926 2305 8855 86

2. Article Number (Transfer from service label)
9589 0710 5270 3100 7742 67

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☒ Address

B. Received by (Printed Name) | C. Date of Deliv
9/10/25

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restr Delivery
☐ Signature Confirmatic
☐ Signature Confirmatic Restricted Delivery

Domestic Return Rece

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

COPE LYNN
5049 SLICKBACK RD
BENTON, KY 42025

9590 9402 7926 2305 8855 24

2. Article Number (Transfer from service label)
9589 0710 5270 3100 7743 73

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Donna Cope ☑ Agent ☐ Address

B. Received by (Printed Name) Donna Cope
C. Date of Delive 9/10/2

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☑ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restric Delivery
- ☐ Signature Confirmatior
- ☐ Signature Confirmatior Restricted Delivery

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SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

DUNIGAN HONDA A
723 BREEZEEL SCHOOL RD
BENTON, KY 42025

9590 9402 7926 2305 8855 79

2. Article Number (Transfer from service label)
9589 0710 5270 3100 7742 50

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☑ Agent ☐ Address

B. Received by (Printed Name) Terry Dunigan
C. Date of Delive 9/10/25

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☑ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restric Delivery
- ☐ Signature Confirmation
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Recei

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

ABANATHA LINDA AND LARRY
7412 BENTON RD
PADUCAH, KY 42003

9590 9402 7926 2305 8855 31

2. Article Number (Transfer from service label)
9589 0710 5270 3100 7742 12

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Address

B. Received by (Printed Name) Linda Abanatha
C. Date of Deliv 9/10/2

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restr Delivery
- ☐ Signature Confirmatic
- ☐ Signature Confirmatic Restricted Delivery

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SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

LANNY AND ELLEN FISK
IRREVOCABLE TRUST
851 ARANT RD
BENTON, KY 42025

9590 9402 7926 2305 8854 94

2. Article Number *(Transfer from service label)*

9589 0710 5270 3100 7743 42

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Ellen Fisk ☐ Agent ☐ Address

B. Received by *(Printed Name)* Ellen Fisk

C. Date of Delive 9/11/2

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restric Delivery
- ☐ Signature Confirmatior
- ☐ Signature Confirmatior Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Recei

CERTIFIED MAIL®

Pike
P. O. Box 369
Shepherdsville, KY 40165-0369

9589 0710 5270 3100 7742 43

FIRST-CLASS

US POSTAGE PITNEY BOWES

ZIP 40165
02 7H
0006034260

$ 010.44⁰
SEP 08 2025

DARDEN BENJAMIN D
1585 ELVA RD
SYMSONIA, KY 42082

NOT | WR
9/13 | R12

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RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 40165036969 *0770-07596-02-44

INT UNC

42[illegible]

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

DARDEN BENJAMIN D
1585 ELVA RD
SYMSONIA, KY 42082

9590 9402 7926 2305 8855 62

2. Article Number (Transfer from service label)

9589 0710 5270 3100 7742 43

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
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- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

EXHIBIT K

COPY OF PROPERTY OWNER NOTIFICATION

PIKE LEGAL GROUP PLLC
1578 Highway 44 East, Unit 6
PO Box 369
Shepherdsville, KY 40165-0369
Phone: 502-955-4400
Fax: 502-543-4410

VIA CERTIFIED MAIL

Notice of Proposed Construction of Wireless Communications Facility

Dear Landowner:

The Towers, LLC and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1429 JB Copeland Road, Symsonia, KY 42082 (36° 52' 45.31" North latitude, 88° 27' 27.72" West longitude). The proposed facility will include a 255-foot tall tower with a 10-foot tall lightning arrestor attached at the top for a total height of 265 feet, plus related ground facilities. This facility is needed to provide improved service 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 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 2025-00302 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 toll free at (800) 516-4293 if you have any comments or questions about this proposal. The Applicants' site name is Tim Road.

Sincerely,
David A. Pike
F. Keith Brown
Attorneys for Applicant

enclosures

PIKE LEGAL GROUP PLLC
1578 Highway 44 East, Unit 6
PO Box 369
Shepherdsville, KY 40165-0369
Phone: 502-955-4400
Fax: 502-543-4410

EXHIBIT L

COPY OF COUNTY JUDGE/EXECUTIVE NOTICE & PROOF OF NOTICE

PIKE LEGAL GROUP PLLC
1578 Highway 44 East, Unit 6
PO Box 369
Shepherdsville, KY 40165-0369
Phone: 502-955-4400
Fax: 502-543-4410

VIA CERTIFIED MAIL

Kevin Spraggs
County Judge Executive
1101 Main Street
Suite 100
Benton, KY42025

RE: Notice of Proposal to Construct Wireless Communications Facility
Kentucky Public Service Commission Docket No. 2025-00302

Dear Judge/Executive:

The Towers, LLC and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1429 JB Copeland Road, Symsonia, KY 42082 (36° 52' 45.31" North latitude, 88° 27' 27.72" West longitude). The proposed facility will include a 255-foot tower with a 10-foot lightning arrestor attached at the top for a total height of 265-feet, plus related ground facilities. This facility is needed to provide improved service 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 2025-00302 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 at (800) 516-4293 with any comments or questions you may have. The Applicants' site name is Tim Road.

Sincerely,
David A. Pike
Attorney for Applicants

Enclosures

PIKE LEGAL GROUP PLLC
1578 Highway 44 East, Unit 6
PO Box 369
Shepherdsville, KY 40165-0369
Phone: 502-955-4400
Fax: 502-543-4410

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Kevin Spraggs
County Judge Executive
1101 Main Street
Suite 100
Benton, KY42025

9590 9402 7926 2305 8854 87

2. Article Number *(Transfer from service label)*

9589 0710 5270 3100 7743 35

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* [Daniel]

C. Date of Delivery 9/10/25

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

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- ☐ Adult Signature Restricted Delivery
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- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 — Domestic Return Receipt

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For delivery information, visit our website at *www.usps.com®*

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Extra Services & Fees *(check box, add fee as appropriate)*
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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Postmark Here

To
Kevin Spraggs
County Judge Executive
Street and Apt. No.
1101 Main Street
Suite 100
City, State, ZIP+4®
Benton, KY42025

PS Form 3800, January 2023 PSN 7530-02-000-9047 — **See Reverse for Instructions**

EXHIBIT M

COPY OF POSTED NOTICES &
NEWSPAPER NOTICE ADVERTISEMENT TEAR SHEET

SITE NAME: TIM ROAD
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.

The Towers, LLC and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, propose to construct a telecommunications **tower** on this site. If you have questions, please contact Pike Legal Group, PLLC, P.O. Box 369, Shepherdsville, KY 40165; (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2025-00302 in your correspondence.

The Towers, LLC and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, propose to construct a telecommunications **tower** near this site. If you have questions, please contact Pike Legal Group, PLLC, P.O. Box 369, Shepherdsville, KY 40165; (800) 516-4293, or the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2025-00302 in your correspondence.

CFSB partners with Paducah to support Southside Revitalization Plan

BENTON — Community Financial Services Bank (CFSB) is excited to announce a partnership with the City of Paducah in support of the Southside Revitalization Plan, officially adopted by the Paducah Board of Commissioners during the City Commission Meeting on Aug. 12, 2025.

"This landmark initiative, starting immediately with Phase 1, aims to restore one of Paducah's earliest neighborhoods, addressing housing shortages, encouraging commercial growth, and fostering community pride," CFSB said in a press release.

The ordinance, approved by the Board of Commissioners, establishes the Southside Program Area and grants the Urban Renewal and Community Development Agency (URCDA) the authority to implement and oversee the plan in accordance with Kentucky state statutes. The plan received favorable recommendations following public presentations to the Planning Commission and URCDA earlier this summer.

The Southside Program overall spans 3.3 square miles and includes eight historic neighborhoods: Walter Jetton, Uppertown, River Park, Kolb Park, Farley Place, Littleville, Dolly McNutt, and Ella Munal. Given the scale of the project, revitalization will occur in phases, beginning with the area between Kentucky Avenue and Caldwell Street, from South 3rd Street to the Illinois Central Railroad track.

CFSB chose to join the Southside Revitalization Plan by offering exclusive loan programs, providing up to 100% financing for primary residences, new construction, and select investor opportunities in hopes that it will make it easier for individuals and developers to invest in the future of these neighborhoods.

Photo courtesy of CFSB

Community Financial Services Bank (CFSB) is excited to announce a partnership with the City of Paducah in support of the Southside Revitalization Plan, officially adopted by the Paducah Board of Commissioners during the City Commission Meeting on Aug. 12.

"CFSB has deep roots in Paducah and McCracken County, and we're honored to play an active role in this transformative effort," said Angela Meyer, CFSB McCracken County Market President. "This initiative is about more than buildings, it's about creating opportunities, strengthening community connections, and preserving the rich history of the Southside for generations to come."

In addition to financial support, the City's plan includes an updated incentive program to encourage development, as well as robust community engagement efforts such as developer breakfasts, neighborhood walks, educational workshops, and the "I am Southside" initiative to highlight local pride.

TROOPS

FROM PAGE B12

child were also killed when a strike hit their tent in the Muwasi area west of the city of Khan Younis, said officials from Nasser Hospital, where the bodies were brought.

In a statement, the Israeli military said it took steps to mitigate harm to civilians and that it would continue to operate against "terrorist organizations" in Gaza.

The war in Gaza began when Hamas-led militants stormed into southern Israel in the 2023 attack, killing around 1,200 people, mostly civilians, and abducting 251 others. Forty-eight hostages remain in Gaza, with fewer than half believed to be alive.

The Gaza Health Ministry said multiple Israeli strikes hit the Rantisi Hospital for children in Gaza City on Tuesday night. It posted pictures on Facebook showing the damaged roof, water tanks and rubble in a hospital hallway.

The ministry said the strikes forced half of some 80 patients to flee the facility. About 40 patients, including four children in intensive care and eight premature babies, remained in the hospital with 30 medical workers, the ministry said.

"This attack has once again shattered the illusion that hospitals or any place in Gaza are safe from Israel's genocide," said Fikr Shalltoot, Gaza director for the aid group Medical Aid for Palestinians.

The Israeli military said it was looking into the strikes. In the past, it has accused Hamas of building military infrastructure inside civilian areas.

The military's Arabic-language spokesman, Col. Avichay Adraee, wrote on social media that a new route opened for those heading south for two days starting at noon Wednesday.

But many Palestinians in the north were cut off from the outside world. The Palestinian Telecommunications Regulatory Authority, based in the occupied West Bank, said Israeli strikes on the main network lines in northern Gaza had cut off internet and telephone services Wednesday morning. The Associated Press tried unsuccessfully to reach many people in Gaza City.

The Israeli military said it was reviewing the incident and that it does not deliberately target public communication networks.

An estimated 1 million Palestinians were living in the Gaza City region before warnings to evacuate began ahead of the offensive. The Israeli military estimates 350,000 people have left the city. The U.N. estimates that more than 238,000 Palestinians have fled northern Gaza over the past month. Hundreds of thousands more have stayed behind.

CLASSIFIEDS

Contact:
Gerry K. Gilbert,
Office Manager
(p)527-3162 (f)1527-4567
features@tribunecourier.com

Classified Deadline:
Noon Tuesday

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0100 ANNOUNCEMENTS

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0150 GARAGE /ESTATE SALES

YARD SALE
Thursday, Sept. 18 at 103 Kyabram Drive, Benton. Lots of everything! Clothes, toys, home decor, tools and more.

YARD SALE
103 Woodland, from Deatsville headed towards Aurora, turn at the green Moors Resort sign. On left, go one mile and turn left. Misc. items. Sept. 18 & 19 from 8 a.m - 4 p.m.

GREAT GARAGE SALES IN THE CLASSIFIEDS

NOTICE
The Towers, LLC and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1429 JB Copeland Road, Symsonia, KY 42082 (36° 52' 45.31" North latitude, 88° 27' 27.72" West longitude). You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2025-00302 in any correspondence sent in connection with this matter.

"AN ORDINANCE AMENDING THE ZONING MAP FOR THE CITY OF BENTON TO PROVIDE FOR A CHANGE IN THE ZONING CLASSIFICATION FOR TWO VACANT LOTS ON ELM STREET" This Ordinance is summarized as follows: The ordinance changes the zone for two (2) vacant lots located on Elm Street in Benton, KY from an I-1 zone to a R-3 zone. A complete copy of this Ordinance is available for viewing at City Hall during regular business hours.
I hereby certify that the above is a true and correct summary of an Ordinance adopted by the City of Benton on September 15, 2025.
Rob Mattingly
City Attorney

PUBLIC NOTICE
The second reading of a proposed Ordinance relating to the annual budget will be held on October 7, 2025 in the Marshall County Fiscal Courtroom, 1101 Main St, Benton, KY. A copy of the proposed ordinance with full text is available for public inspection at the Office of the County Judge/Executive during normal business hours. Kevin Spraggs, Judge/Executive

"AN ORDINANCE AMENDING THE ZONING MAP FOR THE CITY OF BENTON TO PROVIDE FOR A CHANGE IN THE ZONING CLASSIFICATION OF A 7.25 ACRE LOT LOCATED BEHIND 346 OLD SYMSONIA ROAD" This ordinance is summarized as follows: The ordinance changes the zone for a 7.25-acre tract of land located directly behind the lot located at 346 Old Symsonia Road in Benton, KY from a C-2 zone to a R-3 zone. A complete copy of this Ordinance is available for viewing at City Hall during regular business hours.
I hereby certify that the above is a true and correct summary of an Ordinance adopted by the City of Benton on September 15, 2025.
Rob Mattingly
City Attorney

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NOTICE

The Towers, LLC and Kentucky RSA 1 Partnership by Cellco Partnership d/b/a Verizon Wireless, its Managing Partner, are filing an application with the Kentucky Public Service Commission ("PSC") to construct a new wireless communications facility on a site located at 1429 JB Copeland Road, Symsonia, KY 42082 (36° 52' 45.31" North latitude, 88° 27' 27.72" West longitude). You may contact the PSC for additional information concerning this matter at: Kentucky Public Service Commission, Executive Director, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to docket number 2025-00302 in any correspondence sent in connection with this matter.

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2025.
Rob Matting
City Attorne

EXHIBIT N

COPY OF RADIO FREQUENCY DESIGN SEARCH AREA

TIM ROAD (US-KY-5231)
CITY OF SYMSONIA
MARSHALL COUNTY, KENTUCKY

GRAPHIC SCALE
1000 0 500 1000 2000

SEARCH AREA MAP / SARF MAP

SCALE: 1" = 1,000'-0"

GPD GROUP, INC.
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

vertical bridge
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

REV.	DATE	DESCRIPTION
A	09/15/25	SEARCH AREA MAP / SARF MAP

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION, BID, RELIANCE, RECORDING PURPOSES OR IMPLEMENTATION

EV TIM ROAD
1429 JB COPELAND ROAD
SYMSONIA, KY 42082

SEARCH AREA MAP / SARF MAP

ISSUED FOR:	
REVIEW	---
PERMIT	---
CONSTRUCTION	---
RECORD	---

JOB NO.
2025705.08

S-1

Drawing Name: O:\2025\2025705\08 Tim Road US-KY-5231 VB\4_AE\01_Dwg\Tim Road (US-KY-5231) SARF AREA MAP.dwg
September 15, 2025 3:38 PM - sallischler