COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of

Electronic Application of Tillman Infrastructure LLC for a Certificate of Public Convenience and Necessity to Construct a Wireless Communications Facility in Marshall County, Kentucky Site Name: Benton	))))))	Case No. 2020-00282

Application for Certificate of Public Convenience and Necessity for Construction of a Wireless Communications Facility

Tillman Infrastructure LLC, a Delaware limited liability company ("Applicant"), by counsel, pursuant to KRS 278.650, 278.665, and other statutory authority, and the rules and regulations applicable thereto, and pursuant to the Telecommunications Act of 1996, respectfully submits this Application requesting a Certificate of Public Convenience and Necessity ("CPCN") from the Kentucky Public Service Commission ("the Commission") to construct, maintain, and operate a cellular tower facility ("Facility") to provide the customers of AT&T Mobility with wireless communications services. In support of this Application, the Applicant states as follows:

1. The complete name and address of the Applicant is Tillman Infrastructure LLC, a Delaware limited liability company, having an address of 152 West 57th Street, New York, New York 10019. Email service on the Applicant of orders, filings, and other communications relating to this proceeding should be sent to John Burchfield at JBurchfield@lcctelecom.com.

2. Applicant proposes construction of a self-supporting tower for communications services, which is to be located in an area outside of the jurisdiction of a planning commission.

Thus, Applicant submits the instant application to the Commission for a certificate of public convenience and necessity pursuant to 278.650, 278.665, and other statutory authority.

3. Tillman Infrastructure LLC was organized in the state of Delaware on June 13, 2016. The Applicant attests that it is in good standing in the state of Delaware and is authorized to transact business in the Commonwealth of Kentucky. The Certificate of Formation and of Good Standing for Tillman Infrastrucure LLC and the Certificate of Authorization to transact business in Kentucky are collectively attached hereto as **Exhibit A**.

4. AT&T Mobility operates on frequencies licensed by the Federal Communications Commission ("FCC") pursuant to applicable FCC requirements, and the Facility will be constructed and operated in accord with the applicable FCC regulations. Applicant will build, own, and manage the tower and tower compound where AT&T Mobility will place its equipment, building, antennas, and equipment. Copies of AT&T Mobility's FCC licenses for providing wireless service that the AT&T Mobility radio-frequency ("RF") engineers have identified as applicable to this proposed tower are collectively attached as **Exhibit B**.

5. The public convenience and necessity require the construction of the proposed Facility. The construction of the Facility will improve AT&T Mobility's services to an area currently not served or inadequately served by AT&T Mobility by increasing coverage and capacity, and thus enhancing access to wireless communications services. The Facility will link with other AT&T Mobility sites in and around the general area, and will provide continuous coverage to other existing network sites, will provide an offload for the existing network, and would give AT&T Mobility an opportunity to grow its network and provide consistent coverage in Marshall County, as well as support the increasing demand for wireless communications services in the area.

6. To accommodate these needs and opportunities, the Applicant proposes to construct a Facility on Sunset Drive in Marshall County, Kentucky (coordinates 36.8533547, -88.3733093) on a parcel of land located wholly within Marshall County. The property where the Facility is to be located is owned by James Patrick Gordon, pursuant to a Deed recorded in Deed Book 458, Page 50 in the office of the Marshall County Clerk. The Facility will consist of a 235-foot tall, self-supporting tower, with an approximately 6-foot tall lightning arrestor on the top of the Facility, for a total height of 241 feet. The Facility will also include concrete foundations and a shelter or cabinets to accommodate AT&T Mobility's equipment. Such shelter or cabinet will be inspected by the relevant authorities and certified for use prior to occupancy. The Facility will be fenced and all access to the Facility secured. A description of the manner in which the Facility will be constructed is contained in the site development plan, drawings, and details for the Tillman and AT&T Mobiliy telecommunications facilities at the site attached hereto as collective **Exhibit C**.

7. A list of utilities, corporations, or persons with which the services to be provided from the proposed Facility are likely to compete (cellular companies) is attached hereto as **Exhibit D**. The proposed tower Facility is likely to compete with SBA Communications Corporation.

8. The site development plan and a vertical profile sketch of the Facility depicting the tower, its height, and its proposed configuration for the antennas is attached hereto as **Exhibit C.** This Facility has been designed to permit additional future co-location.

9. Tower and foundation design plans and a description of the standards according to which the Facility has been designed are included in the Structural Design Report attached hereto **Exhibit E.**

10. A copy of the Determination of No Hazard to Air Navigation issued by the Federal Aviation Administration is attached hereto as **Exhibit F**.

11. A copy of the Kentucky Airport Zoning Commission Approval to construct the tower is attached hereto as **Exhibit G**.

12. A geotechnical engineering firm has performed soil boring and geotechnical engineering studies at the Facility site. A copy of the geotechnical engineering report is attached hereto as **Exhibit H.**

13. Clear directions to the proposed Facility from the County seat (Benton), along with the name and telephone number of the preparer, are attached hereto as **Exhibit I.**

14. The Applicant, pursuant to a written agreement with the landowner, has acquired the right to use the Facility site and associated property rights. A redacted copy of this agreement is attached hereto as **Exhibit J**.[1]

15. Personnel directly responsible for the design and construction of the proposed Facility shown on **Exhibits C**, **E**, and **H** are qualified and experienced; the identity and qualifications of persons directly responsible for design and construction of the Facility (including the tower) are included in **Exhibit C**. The Construction Manager for the Facility is John Lounsbury. All the tower designs meet or exceed the minimum requirements of applicable law.

16. The Facility is not located within any flood hazard area, as described in **Exhibit C** (sheet B-1).

17. **Exhibit C** (sheet B-2), also attached as **Exhibit K** hereto, is a map drawn to appropriate scale that shows the location of the proposed tower and every property (and its owner),

[1] A contemporaneously filed Motion for Confidential Treatment addresses the redacted information in this Exhibit.

easement and existing structure within 500 feet of the proposed Facility or within 200 feet of the access drive, including intersection with the public street system.

18. The Applicant has provided notice of the proposed construction to every person who, according to the records maintained by the county's Property Valuation Administrator, owns property which is within 500 feet of the proposed Facility. Notice was sent by certified mail, return receipt requested. Each notified property owner has been provided with a map of the location of the proposed construction, the telephone number and address of the Commission, and has been informed of the right to request intervention in this matter. The notified property owners are listed on the map attached hereto as **Exhibit K**. A copy of the notice sent to these landowners is attached hereto as **Exhibit L**.

19. The Applicant has notified the Marshall County Judge/Executive by certified mail, return receipt requested, of the proposed construction. The notice included the Commission docket number under which the application will be processed and informed the Judge/Executive of his right to request intervention. A copy of this notice is attached as **Exhibit M**.

20. Notice signs meeting the requirements of 807 KAR 5:063 Section 1, that measure at least 2 feet in height and 4 feet in width and that contain all required text in letters of the required size and 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 the filing of this Application. Notice of the location of the proposed facility has also been published in a newspaper of general circulation in Marshall County. The text of these signs and the newspaper notice are collectively attached hereto as **Exhibit N**.

21. The general area where the facility is to be located is rural, sparsely populated, and largely agricultural. While there are several residences nearby, they are separated from the Facility site by a buffer of existing trees over several hundred feet of lineal space.

22. The process that was used by AT&T Mobility's RF engineers in selecting the site for the Facility was consistent with the general process used for selecting all other existing and proposed Facilities within the proposed network design area. AT&T Mobility's RF engineers have conducted studies and tests in order to develop an appropriate network 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. An RF design search area prepared in reference to these studies was considered by the Applicant when searching for sites for its antennas that would provide the coverage deemed necessary by AT&T Mobility. An aerial map of the area where 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 RF requirements is attached hereto as **Exhibit O**.

23. The Applicant has considered the likely effects of the installation of the proposed Facility on nearby land uses and values and concludes that there is no more suitable location reasonably available from which adequate services can be provided. In addition, there are no reasonably available opportunities to co-locate AT&T Mobility's antennas on an existing structure. No suitable, available, or economically feasible co-location site was found to be located in the vicinity of the proposed Facility. See Statement of Tim Brenner (Director–Network Planning for AT&T Wireless), attached hereto as **Exhibit P**.[2]

[2] In Case No. 2017-00435, the Commission addressed whether an existing tower in Marshall County made co-location "reasonably available," and found that it did not. 11/1/18 final Order p.2.

24. All Exhibits are hereby incorporated by reference as if fully set forth herein as part of the Application.

25. Any and all responses and requests related to or associated with this Application may be directed to:

Katherine K. Yunker; kyunker@mcbrayerfirm.com
Kathryn A. Eckert; keckert@mcbrayerfirm.com
McBrayer PLLC
201 E. Main Street; Suite 900
Lexington, KY 40507-1310

WHEREFORE, the Applicant respectfully requests that the PSC accept this 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 Facility at the location described herein.

Respectfully submitted,

/s/ Kathryn A. Eckert

Katherine K. Yunker
kyunker@mcbrayerfirm.com
Kathryn A. Eckert
keckert@mcbrayerfirm.com
MCBRAYER PLLC
201 East Main Street; Suite 900
Lexington, KY 40507-1310
859-231-8780
fax: 859-231-1175
Attorneys for Applicant

EXHIBITS

A. Certificates of Formation and Good Standing for Tillman Infrastrucure LLC and the Certificate of Authorization to transact business in Kentucky

B. AT&T Mobility's FCC licenses

C. Site Development Plan for tower, AT&T Mobility equipment, and other fixtures/appurtenances

D. List of utilities, corporations, or persons with whom the proposed Facility is likely to compete

E. Structural Design Report, including tower and foundation specifications and drawings

F. Determination of No Hazard to Air Navigation issued by the Federal Aviation Administration

G. Kentucky Airport Zoning Commission Approval / Permit

H. Geotechnical Engineering Exploration and Analysis prepared for the tower

I. Directions to Proposed Facility from County Seat (Benton)

J. Agreement with Landowner for Right to Use the Facility Site (Redacted)

K. List of property owners within 500 feet of proposed tower location, notified of proposed construction

L. Notice sent of proposed construction to nearby property owners

M. Notice sent of proposed construction to Marshall County Judge/Executive

N. Text of Notice Signs and Newspaper Notice

O. Depiction of Search Ring for location site

P. Statement of Tim Brenner (Director–Network Planning for AT&T Wireless)

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF FORMATION OF "TILLMAN INFRASTRUCTURE LLC", FILED IN THIS OFFICE ON THE THIRTEENTH DAY OF JUNE, A.D. 2016, AT 11:07 O`CLOCK A.M.

Jeffrey W. Bullock, Secretary of State

6067508 8100
SR# 20164424697

Authentication: 202480828
Date: 06-13-16

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

State of Delaware
Secretary of State
Division of Corporations
Delivered 11:07 AM 06/13/2016
FILED 11:07 AM 06/13/2016
SR 20164424697 - File Number 6067508

CERTIFICATE OF FORMATION

of

TILLMAN INFRASTRUCTURE LLC

A LIMITED LIABILITY COMPANY

Pursuant to Section 18-201:

FIRST: The name of the limited liability company is: TILLMAN INFRASTRUCTURE LLC

SECOND: Its registered office in the State of Delaware is to be located at: 1013 Centre Road, Suite 403S, Wilmington, DE 19805, County of New Castle and its registered agent at such address is: BlumbergExcelsior Corporate Services, Inc.

THIRD: The duration of the limited liability company is perpetual.

IN WITNESS WHEREOF, the undersigned, being the individual forming the limited liability company, has executed, signed and acknowledged this Certificate of Formation this 13th day of June, 2016

/s/ Jose Mojica
Jose Mojica
Organizer

Statement of Organizers Action

of

TILLMAN INFRASTRUCTURE LLC

The undersigned, being the initial authorized person of the within named limited liability company does hereby state that:

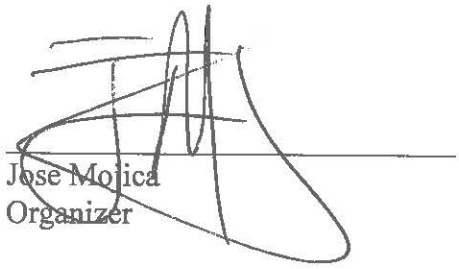
1. The Certificate of Formation of the Limited Liability Company (herein known as the "LLC") was filed by the State of Delaware on June 13, 2016. The Certificate of Formation is annexed hereto. The same hereby, is ordered filed with the Operating Agreement of the LLC.

2. At the time of its formation, the LLC had at least one member/manager, to wit: Sanjiv Ahuja, Anju Ahuja, Sachit Ahuja and Suruchi Ahuja

3. The initial organizer herein is neither a member nor a manager of the LLC.

4. From this date hence, the undersigned, effective this date, has fulfilled the duties as the initial organizer of LLC and herewith relinquishes all further duties to the LLC.

IN WITNESS WHEREOF, I have made and subscribed this Initial Election of Members, this 13th day of June, 2016



Jose Mojica
Organizer

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: 234509
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,

TILLMAN INFRASTRUCTURE LLC

, a limited liability company authorized under the laws of the state of Delaware, is authorized to transact business in the Commonwealth of Kentucky, and received the authority to transact business in Kentucky on September 27, 2017.

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 3rd day of August, 2020, in the 229th year of the Commonwealth.

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
234509/0998026

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST. RM 1015
DALLAS, TX 75202

Call Sign	File Number
WQGD606	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-18-2006	02-20-2019	12-18-2021	

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 is licensed under the prior name.

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD606 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202

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

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
12-18-2006	08-31-2018	12-18-2021	

Market Number	Channel Block	Sub-Market Designator
CMA443	A	0

Market Name
Kentucky 1 - Fulton

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

Waivers/Conditions:

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

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

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

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

FCC 601-MB
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQGD472 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Public Safety and Homeland Security Bureau

RADIO STATION AUTHORIZATION

LICENSEE: FIRST RESPONDER NETWORK AUTHORITY

ATTN: UZOMA ONYEIJE
FIRST RESPONDER NETWORK AUTHORITY
12201 SUNRISE VALLEY DRIVE
RESTON, VA 20192

Call Sign	File Number
WQQE234	
Radio Service SP - 700 MHz Public Safety Broadband Nationwide License	
Regulatory Status PMRS	

FCC Registration Number (FRN): 0025487950

Grant Date	Effective Date	Expiration Date	Print Date
11-15-2012	12-29-2017	11-15-2022	

Location: Nationwide

Frequency Bands: 000758.00000000-000769.00000000 MHz
000788.00000000-000799.00000000 MHz

Waivers/Conditions:

This authorization is subject to any rules the Commission may adopt pursuant to its authority under the Middle Class Tax Relief and Job Creation Act of 2012 or the Communications Act of 1934, as amended.

FCC 601-SP
October 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T WIRELESS SERVICES 3 LLC

ATTN: CECIL J MATHEW
AT&T WIRELESS SERVICES 3 LLC
208 S. AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign	File Number
WQVN766	
Radio Service AT - AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz)	

FCC Registration Number (FRN): 0023910920

Grant Date	Effective Date	Expiration Date	Print Date
04-08-2015	08-29-2018	04-08-2027	

Market Number	Channel Block	Sub-Market Designator
BEA072	J	0

Market Name
Paducah, KY-IL

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
04-08-2021	04-08-2027		

Waivers/Conditions:

NONE

Conditions:

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

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
October 2017

Licensee Name: AT&T WIRELESS SERVICES 3 LLC

Call Sign: WQVN766 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
WPYZ907	0008667398
Radio Service	
WZ - 700 MHz Lower Band (Blocks C, D)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
07-25-2019	07-25-2019	06-13-2029	07-26-2019

Market Number	Channel Block	Sub-Market Designator
CMA443	C	0

Market Name
Kentucky 1 - Fulton

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

Operation of the facilities authorized herein, are subject to the condition that harmful interference may not be caused to, but must be accepted from UHF TV transmitters in Canada and Mexico as identified in existing and any future agreements with those 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
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPYZ907 **File Number:** 0008667398 **Print Date:** 07-26-2019

This license is subject to compliance with the conditions set forth in the Commission's Order of Modification, WT Docket No. 12-69, DA 14-43, released January 16, 2014.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPYZ907 **File Number:** 0008667398 **Print Date:** 07-26-2019

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
WQIZ370	0008663657
Radio Service	
WY - 700 MHz Lower Band (Blocks A, B & E)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
08-02-2019	08-02-2019	06-13-2029	08-03-2019

Market Number	Channel Block	Sub-Market Designator
CMA443	B	0

Market Name
Kentucky 1 - Fulton

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
12-13-2016	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).

The interim construction benchmark deadline remains December 13, 2013, pursuant to letter from Roger S. Noel dated June 11, 2013. The extension is non-transferrable and any proposed assignee or transferee seeking Commission approval to acquire this license may independently seek relief justifying an extension of the interim construction benchmark set forth in 47 C.F.R. § 27.14(g).

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
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQIZ370 **File Number:** 0008663657 **Print Date:** 08-03-2019

This license is subject to compliance with the conditions set forth in the Commission's Order of Modification, WT Docket No. 12-69, DA 14-43, released January 16, 2014.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQIZ370 **File Number:** 0008663657 **Print Date:** 08-03-2019

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS SERVICES, INC.

ATTN: LESLIE A. WILSON
NEW CINGULAR WIRELESS SERVICES, INC.
208 S. AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign	File Number
KNLB230	
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0004122032

Grant Date	Effective Date	Expiration Date	Print Date
02-04-2020	02-04-2020	07-21-2027	

Market Number	Channel Block	Sub-Market Designator
MEA023	A	1

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-13-2017	09-13-2019		

Waivers/Conditions:

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

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

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
October 2017

Licensee Name: NEW CINGULAR WIRELESS SERVICES, INC.

Call Sign: KNLB230 **File Number:** **Print Date:**

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for thatlicense area at the 3/13/2017 construction deadline.

Licensee Name: NEW CINGULAR WIRELESS SERVICES, INC.

Call Sign: KNLB230 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS SERVICES, INC.

ATTN: LESLIE A. WILSON
NEW CINGULAR WIRELESS SERVICES, INC.
208 S. AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign	File Number
KNLB231	
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0004122032

Grant Date	Effective Date	Expiration Date	Print Date
02-04-2020	02-04-2020	07-21-2027	

Market Number	Channel Block	Sub-Market Designator
MEA023	B	1

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-13-2017	09-13-2019		

Waivers/Conditions:

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

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

Conditions:

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

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

Licensee Name: NEW CINGULAR WIRELESS SERVICES, INC.

Call Sign: KNLB231 **File Number:** **Print Date:**

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for thatlicense area at the 3/13/2017 construction deadline.

Licensee Name: NEW CINGULAR WIRELESS SERVICES, INC.

Call Sign: KNLB231 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE A. WILSON
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign	File Number
WPSL360	
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
02-07-2020	02-07-2020	07-21-2027	

Market Number	Channel Block	Sub-Market Designator
MEA023	A	2

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-13-2017	09-13-2019		

Waivers/Conditions:

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

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for thatlicense area at the 3/13/2017 construction deadline.

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
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPSL360 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE A. WILSON
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign	File Number
WPSL354	
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
02-07-2020	02-07-2020	07-21-2027	

Market Number	Channel Block	Sub-Market Designator
MEA023	B	2

Market Name
Louisville-Lexington-Evansvill

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-13-2017	09-13-2019		

Waivers/Conditions:

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

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for thatlicense area at the 3/13/2017 construction deadline.

Conditions:

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

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FCC 601-MB
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPSL354 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

Call Sign	File Number
WPZA237	
Radio Service	
WZ - 700 MHz Lower Band (Blocks C, D)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
02-20-2020	02-20-2020	06-13-2029	

Market Number	Channel Block	Sub-Market Designator
EAG703	D	1

Market Name
Southeast

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

Operation of the facilities authorized herein, are subject to the condition that harmful interference may not be caused to, but must be accepted from UHF TV transmitters in Canada and Mexico as identified in existing and any future agreements with those 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
October 2017

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPZA237 **File Number:** **Print Date:**

This application is granted pursuant to the Commission's Order In the Matter of Qualcomm Incorporated Petition for Declaratory Ruling, WT Docket No. 05-7, FCC 06-155, released October 13, 2006.

This application is granted pursuant to the Commission's Order In the Matter of Qualcomm Incorporated Petition for Declaratory Ruling, WT Docket No. 05-7, FCC 06-155, released October 13, 2006.

This application is granted pursuant to the Commission's Order In the Matter of Qualcomm Incorporated Petition for Declaratory Ruling, WT Docket No. 05-7, FCC 06-155, released October 13, 2006.

This application is granted pursuant to the Commission's Order In the Matter of Qualcomm Incorporated Petition for Declaratory Ruling, WT Docket No. 05-7, FCC 06-155, released October 13, 2006.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPZA237 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

TILLMAN INFRASTRUCTURE

TILLMAN OPP NUMBER: TI-OPP-15818
TILLMAN SITE NAME: BENTON
SITE ADDRESS: 840 SUNSET DR.
BENTON, KY 42025
PID: 0B0501056000000

CONSTRUCTION APPROVAL

TILLMAN SITE ACQUISITION MANAGER:_____ DATE:_____
TILLMAN CONSTRUCTION MANAGER:_____ DATE:_____
RF PROJECT MANAGER:_____ DATE:_____
PROJECT MANAGER:_____ DATE:_____

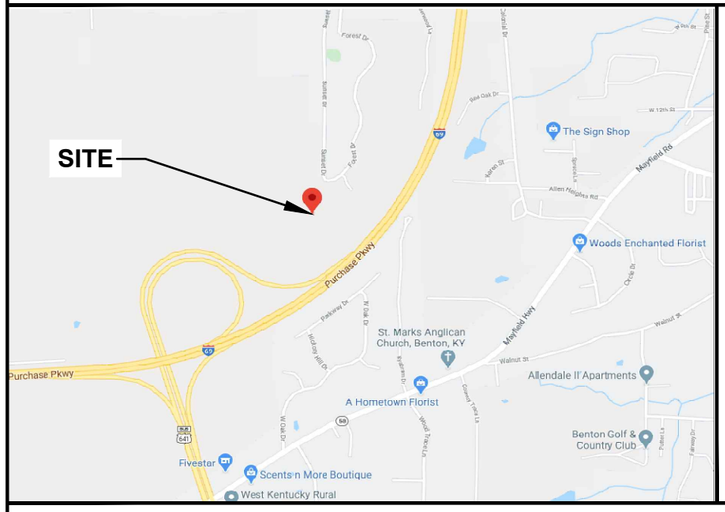
SITE INFORMATION

SITE ADDRESS:	0B0501056000000 BENTON, KY 42025
LATITUDE (NAD 83): LONGITUDE (NAD 83):	N36° 51' 12.08" (36.8533547°) W88° 22' 23.91" (-88.3733093°)
GROUND ELEVATION:	482.5' (AMSL)
JURISDICTION:	STATE OF KENTUCKY PSC
JURISDICTION CONTACT:	(502)564-3940
ZONING:	TBD
PARCEL/MAP NUMBER:	0B0501056000000
LANDLORD OWNER:	NORTHGATE ENTERPRISES INC (JAMES PATRICK "PAT" GORDON)
TOWER OWNER:	TILLMAN INFRASTRUCTURE 152 W. 57TH STREET NEW YORK, NEW YORK 1001
STRUCTURE TYPE:	SELF SUPPORT TOWER
STRUCTURE HEIGHT:	235'-0" (AGL)
POWER SUPPLIER:	WESTERN KENTICKY RURAL ELECTRIC CO-OP/BENTON ELECTRIC SYSTEM (TVA) PHONE NUMBER: TBD
FIBER SUPPLIER:	TBD PHONE NUMBER: TBD

PROJECT TEAM

APPLICANT:	TILLMAN INFRASTRUCTURE 152 W. 57TH STREET NEW YORK, NEW YORK 10019
PROJECT MANAGEMENT FIRM:	LCC TELECOM SERVICES 10700 HIGGINS ROAD, SUITE 240 ROSEMONT, IL 60018 (847) 608-6300
ARCHITECT :	JOHN M. BANKS 604 FOX GLEN BARRINGTON, IL 60010 CONTACT: JOHN M. BANKS PHONE: (847) 277-0070 EMAIL: JBANKS@WESTCHESTERSERVICES.COM
ENGINEER:	PHILIP KOZIOL 604 FOX GLEN BARRINGTON, IL 60010 CONTACT: PHILIP KOZIOL PHONE: (847) 277-0070 EMAIL: PKOZIOL@WESTCHESTERSERVICES.COM

VICINITY MAP



DRIVING DIRECTIONS

DRIVING DIRECTIONS FROM COUNTY SEAT:

HEAD SOUTH ON MAIN ST TOWARD E 12TH ST
TURN RIGHT AT THE 1ST CROSS STREET ONTO W 12TH ST
TURN RIGHT ONTO WALNUT ST
TURN LEFT ONTO W 8TH ST
CONTINUE ONTO OAK LEVEL RD
TURN LEFT ONTO SUNSET DR
ACCESS DRIVE LOCATED ON THE RIGHT HAND SIDE

CODE COMPLIANCE

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 CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2015 INTERNATIONAL BUILDING CODE
- 2017 NATIONAL ELECTRICAL CODE
- 2012 NFPA 101, LIFE SAFETY CODE
- 2012 INTERNATIONAL FIRE CODE
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 13TH EDITION
- ANSI/TIA-222-H
- TIA 607
- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEERING 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
- TELECORDIA GR-1275
- ANSI/T 311

DRAWING INDEX

DRAWING SCALE

THESE DRAWINGS ARE SCALED TO FULL SIZE AT 22"X34" AND HALF SIZE AT 11"X17". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

SCOPE OF WORK

THIS PROJECT CONSISTS OF :

- CONSTRUCTION OF A NEW UNMANNED TELECOMMUNICATIONS FACILITY
- SITE WORK: NEW TOWER, UNMANNED EQUIPMENT CABINET ON PLATFORM, AND UTILITY INSTALLATIONS

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY: DS
CHECKED BY: MC

REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"

DATE: 07/17/20

COMMONWEALTH OF KENTUCKY
PHILIP KOZIOL
35592
LICENSED PROFESSIONAL ENGINEER

EXP. DATE: 06/30/21

TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

-2° 45'
MAG-N

N

TITLE REPORT INFO

REFERENCE IS MADE TO THE TITLE REPORT ORDER # 29756888 ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED 8.9.2019.

ALL EASEMENTS CONTAINED WITHIN SAID TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED (EXCEPT FOR ROOFTOPS).

SCHEDULE B ITEMS:

9. EASEMENT IN FAVOR OF CATHY GALLAGHER SET FORTH IN INSTRUMENT, DATED JUNE 29, 2001 RECORDED ON AUGUST 8, 2001 IN DEED BOOK 327, PAGE 627. (PLOTTED AS SHOWN)

PARENT PARCEL DESCRIPTION

THE FOLLOWING DESCRIBED LAND AND MINERALS LYING IN MARSHALL COUNTY, KENTUCKY, VIZ,
"SOLOMON FARM"
BEGINNING AT A POINT IN THE NORTHWEST CORNER OF THE TRACT HEREIN CONVEYED, SAME BEING A COMMON CORNER WITH THE PROPERTY OWNED BY BOB BOWLIN ET UX AND THE PROPERTY OWNED BY HUDSON PHILLIPS ET UX; THENCE, SOUTH 89° 19' EAST, 1,220 FEET TO AN IRON PIN; THENCE, SOUTH 0° 29' WEST, 147.8 FEET TO A FENCE IN THE NORTHWESTERN BOUNDARY OF THE PURCHASE PARKWAY; THENCE, IN A SOUTHWESTERLY DIRECTION ALONG SAID FENCE FOR APPROXIMATELY 1,675 FEET TO AN IRON PIN; THENCE, NORTH 0° 16' EAST, 1,366.3 FEET ALONG HUDSON PHILLIPS' LINE TO AN IRON PIN AND THE POINT OF BEGINNING. SAID DESCRIPTION IS FROM SURVEY OF ERNEST E. BROWN, CIVIL ENGINEER, PADUCAH, KENTUCKY, DATED MAY 20, 1966.

PROPOSED LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF MARSHALL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND IRON ROD CAPPED: 1982 WHAT APPEARED TO BE THE SOUTHEAST CORNER OF LOT 31, FOREST HILLS SUBDIVISION, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT SAID SOUTHEAST CORNER OF LOT 31, FROM WHICH AN IRON PIPE BEARS NORTH 02 DEGREES 29 MINUTES 23 SECONDS EAST, A DISTANCE OF 247.94 FEET, THENCE SOUTH 14 DEGREES 22 MINUTES 45 SECONDS WEST, A DISTANCE OF 233.16 FEET , TO THE POINT OF BEGINNING;

THENCE SOUTH 53 DEGREES 35 MINUTES 36 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 53 DEGREES 35 MINUTES 36 SECONDS EAST, A DISTANCE OF 100.00 FEET;
THENCE SOUTH 36 DEGREES 24 MINUTES 24 SECONDS EAST, A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

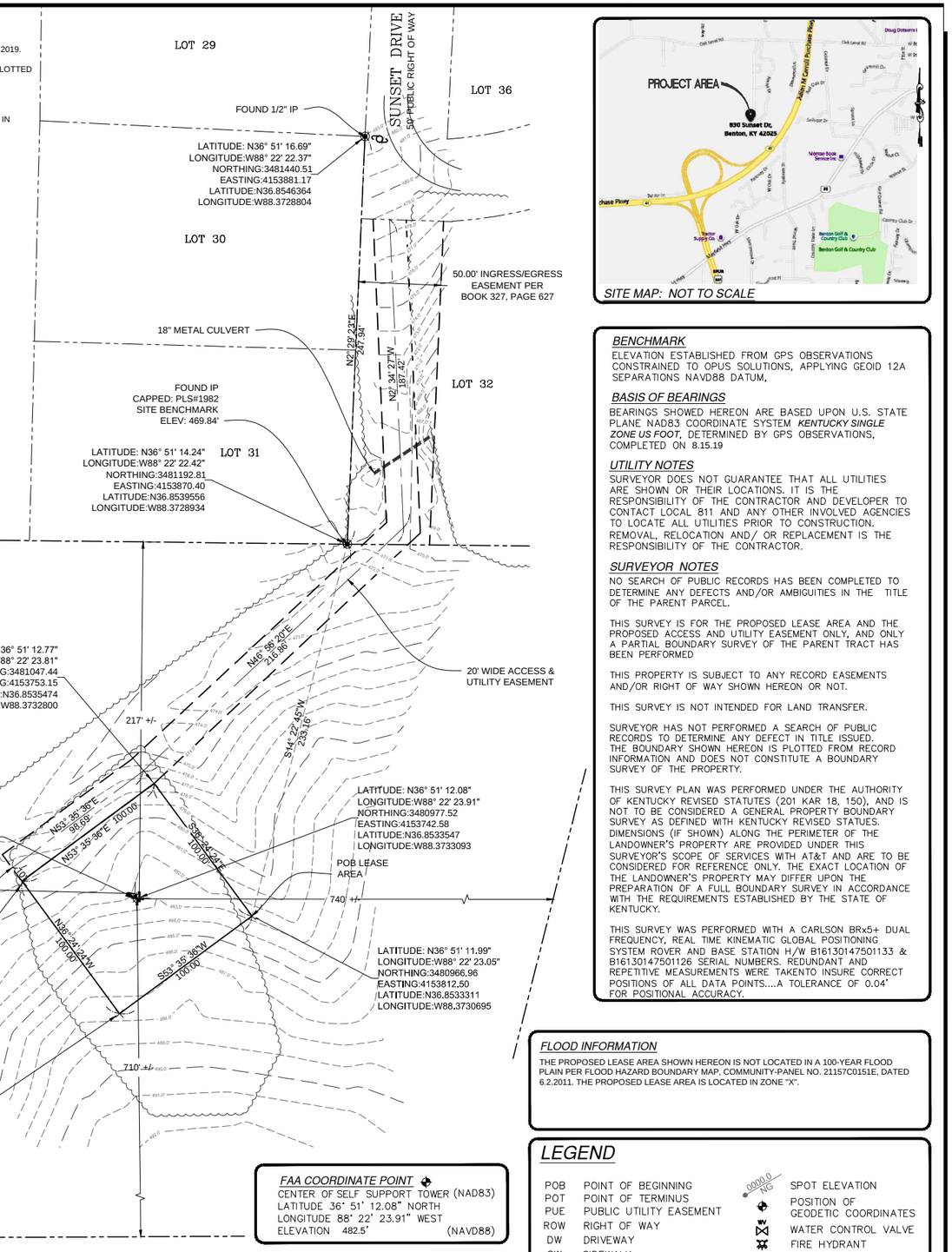
CONTAINING 10,000.00 SQUARE FEET OR 0.2296 ACRES, MORE OR LESS.

PROPOSED ACCESS & UTILITY EASEMENT

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF MARSHALL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND IRON ROD CAPPED: 1982 WHAT APPEARED TO BE THE SOUTHEAST CORNER OF LOT 31, FOREST HILLS SUBDIVISION, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT SAID SOUTHEAST CORNER OF LOT 31, FROM WHICH AN IRON PIPE BEARS NORTH 02 DEGREES 29 MINUTES 23 SECONDS EAST, A DISTANCE OF 247.94 FEET, THENCE SOUTH 14 DEGREES 22 MINUTES 45 SECONDS WEST, A DISTANCE OF 233.16 FEET;
THENCE SOUTH 53 DEGREES 35 MINUTES 36 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING OF A 20 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 10.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE;

THENCE NORTH 53 DEGREES 35 MINUTES 36 SECONDS EAST, A DISTANCE OF 98.69 FEET;
THENCE NORTH 46 DEGREES 56 MINUTES 20 SECONDS EAST, A DISTANCE OF 216.86 FEET;
THENCE NORTH 02 DEGREES 34 MINUTES 27 SECONDS WEST, A DISTANCE OF 187.42 FEET MORE OR LESS TO THE SOUTH RIGHT OF WAY LINE OF SUNSET DRIVE, AND ALSO THE POINT OF TERMINUS.



SITE MAP: NOT TO SCALE

BENCHMARK

ELEVATION ESTABLISHED FROM GPS OBSERVATIONS CONSTRAINED TO OPUS SOLUTIONS, APPLYING GEOID 12A SEPARATIONS NAVD88 DATUM,

BASIS OF BEARINGS

BEARINGS SHOWED HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM *KENTUCKY SINGLE ZONE US FOOT*, DETERMINED BY GPS OBSERVATIONS, COMPLETED ON 8.15.19

UTILITY NOTES

SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT LOCAL 811 AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. REMOVAL, RELOCATION AND/ OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

SURVEYOR NOTES

NO SEARCH OF PUBLIC RECORDS HAS BEEN COMPLETED TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE PARENT PARCEL.

THIS SURVEY IS FOR THE PROPOSED LEASE AREA AND THE PROPOSED ACCESS AND UTILITY EASEMENT ONLY, AND ONLY A PARTIAL BOUNDARY SURVEY OF THE PARENT TRACT HAS BEEN PERFORMED

THIS PROPERTY IS SUBJECT TO ANY RECORD EASEMENTS AND/OR RIGHT OF WAY SHOWN HEREON OR NOT.

THIS SURVEY IS NOT INTENDED FOR LAND TRANSFER.

SURVEYOR HAS NOT PERFORMED A SEARCH OF PUBLIC RECORDS TO DETERMINE ANY DEFECT IN TITLE ISSUED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

THIS SURVEY PLAN WAS PERFORMED UNDER THE AUTHORITY OF KENTUCKY REVISED STATUTES (201 KAR 18, 150), AND IS NOT TO BE CONSIDERED A GENERAL PROPERTY BOUNDARY SURVEY AS DEFINED WITH KENTUCKY REVISED STATUES. DIMENSIONS (IF SHOWN) ALONG THE PERIMETER OF THE LANDOWNER'S PROPERTY ARE PROVIDED UNDER THIS SURVEYOR'S SCOPE OF SERVICES WITH AT&T AND ARE TO BE CONSIDERED FOR REFERENCE ONLY. THE EXACT LOCATION OF THE LANDOWNER'S PROPERTY MAY DIFFER UPON THE PREPARATION OF A FULL BOUNDARY SURVEY IN ACCORDANCE WITH THE REQUIREMENTS ESTABLISHED BY THE STATE OF KENTUCKY.

THIS SURVEY WAS PERFORMED WITH A CARLSON BRx5+ DUAL FREQUENCY, REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM ROVER AND BASE STATION H/W B161301475011 33 & B161301475011 26 SERIAL NUMBERS. REDUNDANT AND REPETITIVE MEASUREMENTS WERE TAKENTO INSURE CORRECT POSITIONS OF ALL DATA POINTS....A TOLERANCE OF 0.04' FOR POSITIONAL ACCURACY.

FLOOD INFORMATION

THE PROPOSED LEASE AREA SHOWN HEREON IS NOT LOCATED IN A 100-YEAR FLOOD PLAIN PER FLOOD HAZARD BOUNDARY MAP, COMMUNITY-PANEL NO. 21157C0151E, DATED 6.2.2011. THE PROPOSED LEASE AREA IS LOCATED IN ZONE "X".

LEGEND

POB	POINT OF BEGINNING	0000.0 NG	SPOT ELEVATION
POT	POINT OF TERMINUS		POSITION OF GEODETIC COORDINATES
PUE	PUBLIC UTILITY EASEMENT		WATER CONTROL VALVE
ROW	RIGHT OF WAY		FIRE HYDRANT
DW	DRIVEWAY		POWER POLE
SW	SIDEWALK	EMH	ELECTRIC MANHOLE
	FOUND AS NOTED	T	TELCO MANHOLE

OVERHEAD ELECTRIC — PROPERTY LINE — BARBED WIRE FENCE

SITE INFO

TAX PARCEL NO: 0B-05-01-056

PROPERTY OWNER: KAREN GORDON BERG

SOURCE OF TITLE: BK 457 PG 494

LAND SURVEYOR'S CERTIFICATE

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

SIGNED: A Clay Robinson 9.20.19
DATE

0 15 30 60
SCALE: 1 inch = 30 ft.
PAPER SIZE 22x34
SCALE: 1 inch = 60 ft.
PAPER SIZE 11x17

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

FAA COORDINATE POINT

CENTER OF SELF SUPPORT TOWER (NAD83)
LATITUDE 36° 51' 12.08" NORTH
LONGITUDE 88° 22' 23.91" WEST
ELEVATION 482.5' (NAVD88)

1-A ACCURACY CERTIFICATION

THE HORIZONTAL ACCURACY OF THE LATITUDE AND LONGITUDE OF THE GEODETIC COORDINATES FALL WITHIN TWENTY (20) FEET. THE ELEVATIONS (NAVD88) OF THE GROUND AND FIXTURES FALL WITHIN THREE (3) FEET.

ILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DUVE CONSULTING SERVICES
MATT@DUVECONSULTING.COM

DRAWN BY: MD

CHECKED BY: JC/ACR

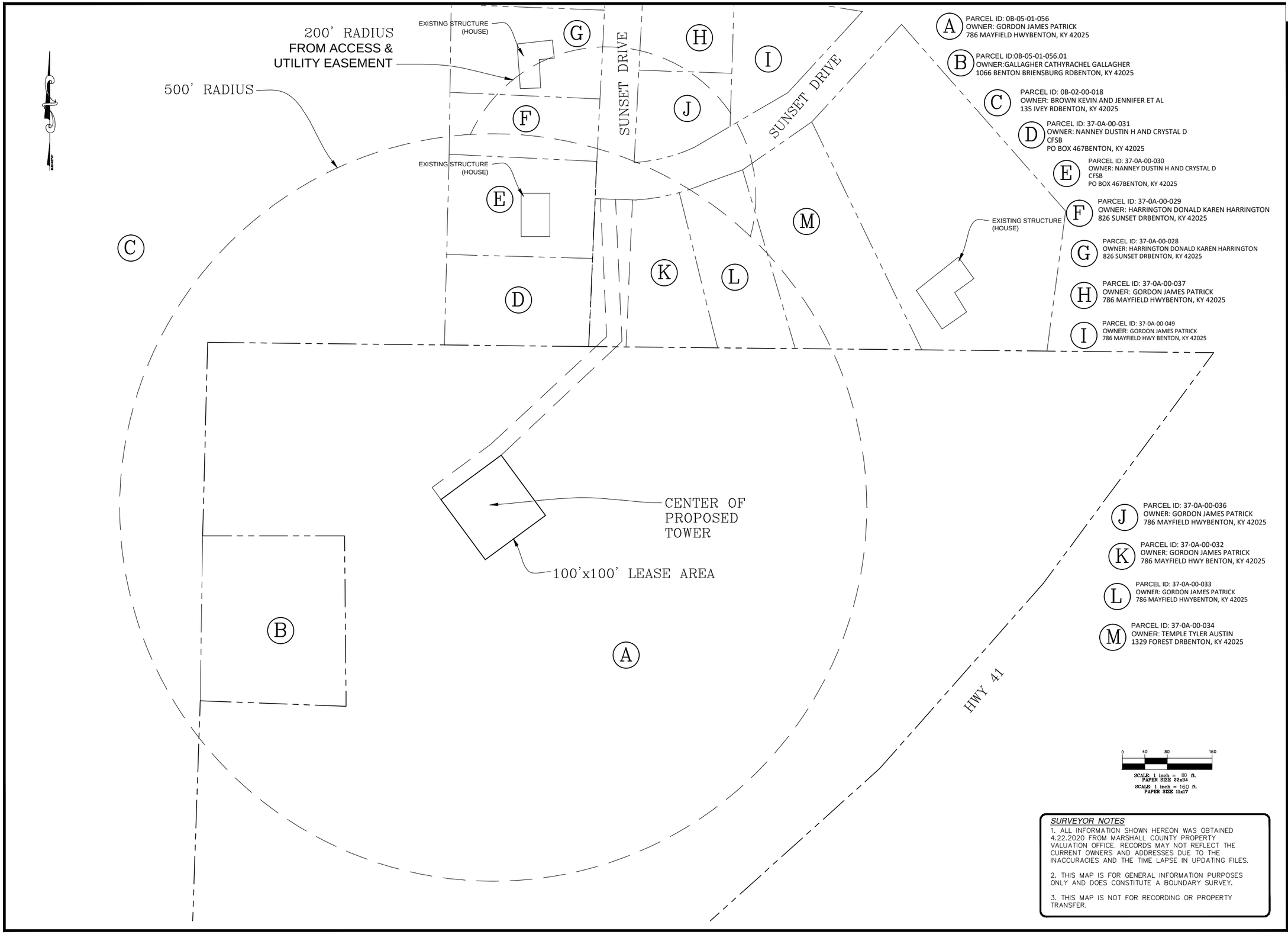
REV.	DATE	DESCRIPTION
A	8.16.19	FINAL

STATE OF KENTUCKY
A. CLAY ROBINSON
LICENSED PROFESSIONAL LAND SURVEYOR

SITE#
TI-OPP-15818
SITE NAME:
-
SITE ADDRESS:
830 SUNSET DRIVE
BENTON, KY 42025
MARSHALL COUNTY

SHEET TITLE
TOPOGRAPHIC SITE SURVEY

SHEET NUMBER
B-1



A PARCEL ID: 0B-05-01-056
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

B PARCEL ID:0B-05-01-056.01
OWNER:GALLAGHER CATHYRACHEL GALLAGHER
1066 BENTON BRIENSBURG RDBENTON, KY 42025

C PARCEL ID: 0B-02-00-018
OWNER: BROWN KEVIN AND JENNIFER ET AL
135 IVEY RDBENTON, KY 42025

D PARCEL ID: 37-0A-00-031
OWNER: NANNEY DUSTIN H AND CRYSTAL D
CFSB
PO BOX 467BENTON, KY 42025

E PARCEL ID: 37-0A-00-030
OWNER: NANNEY DUSTIN H AND CRYSTAL D
CFSB
PO BOX 467BENTON, KY 42025

F PARCEL ID: 37-0A-00-029
OWNER: HARRINGTON DONALD KAREN HARRINGTON
826 SUNSET DRBENTON, KY 42025

G PARCEL ID: 37-0A-00-028
OWNER: HARRINGTON DONALD KAREN HARRINGTON
826 SUNSET DRBENTON, KY 42025

H PARCEL ID: 37-0A-00-037
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

I PARCEL ID: 37-0A-00-049
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWY BENTON, KY 42025

J PARCEL ID: 37-0A-00-036
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

K PARCEL ID: 37-0A-00-032
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWY BENTON, KY 42025

L PARCEL ID: 37-0A-00-033
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

M PARCEL ID: 37-0A-00-034
OWNER: TEMPLE TYLER AUSTIN
1329 FOREST DRBENTON, KY 42025

0 40 80 160
SCALE 1 inch = 80 ft.
PAPER SIZE 22x34
SCALE 1 inch = 160 ft.
PAPER SIZE 11x17

SURVEYOR NOTES

1. ALL INFORMATION SHOWN HEREON WAS OBTAINED 4.22.2020 FROM MARSHALL COUNTY PROPERTY VALUATION OFFICE. RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND THE TIME LAPSE IN UPDATING FILES.

2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND DOES CONSTITUTE A BOUNDARY SURVEY.

3. THIS MAP IS NOT FOR RECORDING OR PROPERTY TRANSFER.

ILLMAN INFRASTRUCTURE

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DUVE CONSULTING SERVICES
MATT@DUVECONSULTING.COM

DRAWN BY: MD
CHECKED BY: JC/ACR

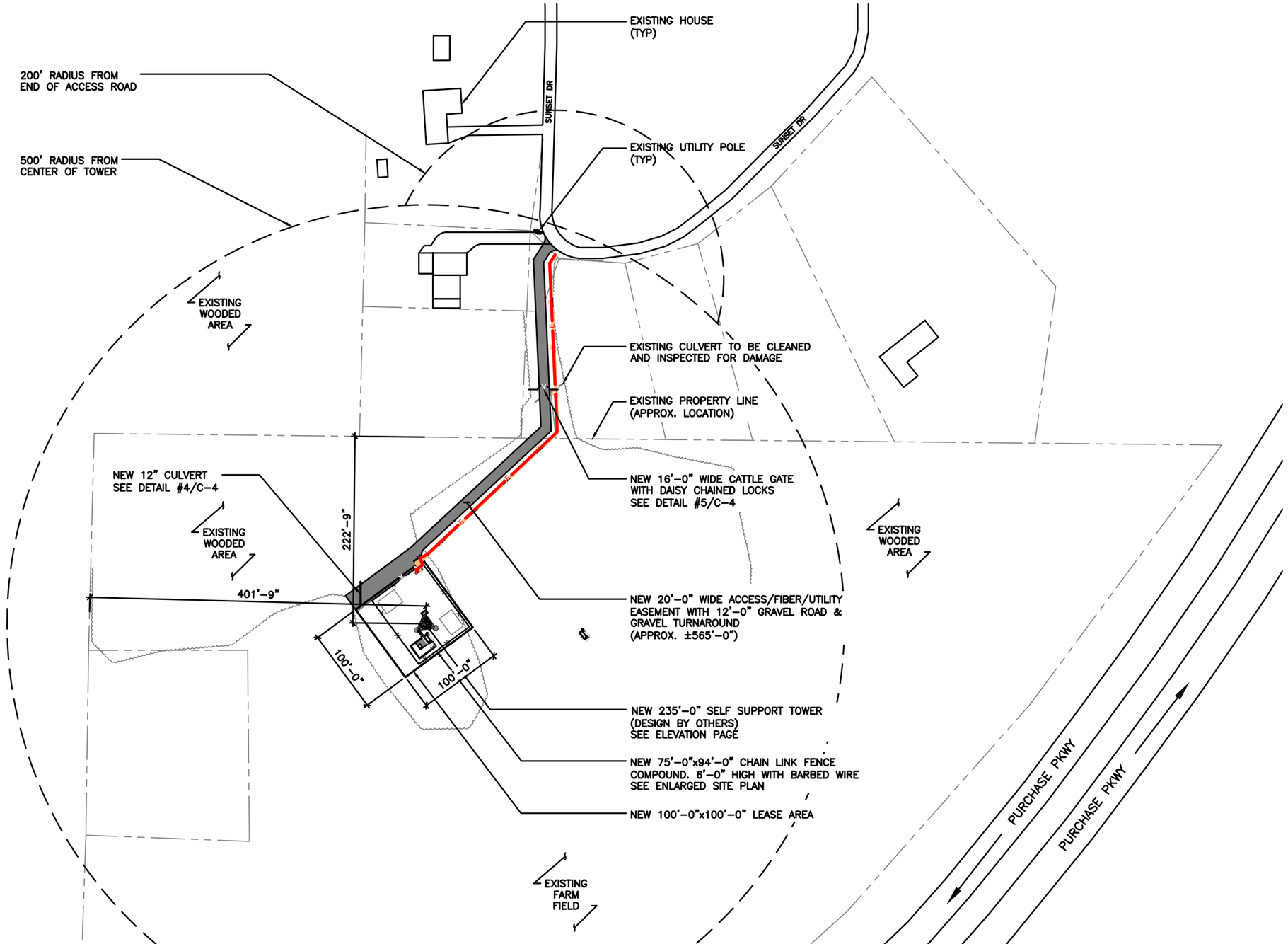
REV.	DATE	DESCRIPTION
A	4.22.2020	FINAL

STATE OF KENTUCKY
A. CLAY ROBINSON
32K
LICENSED PROFESSIONAL LAND SURVEYOR

FA #
14944231
SITE#
-
SITE NAME:
-
SITE ADDRESS:
830 SUNSET DRIVE
BENTON, KY 42025
MARSHALL COUNTY

SHEET TITLE
500' RADIUS & ABUTTER'S MAP

SHEET NUMBER
B-2



LEGEND

- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING PROPERTY LINE

60' 0 30' 60'

SCALE: 1/64" = 1'-0" (24x36)
(OR) 1/128" = 1'-0" (11x17)

1

OVERALL SITE PLAN

TILLMAN INFRASTRUCTURE

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TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY:	DS
CHECKED BY:	MC

REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"

DATE: 07/17/20

COMMONWEALTH OF KENTUCKY
PHILIP
35592
LICENSED
PROFESSIONAL ENGINEER

DATE: 08/30/21

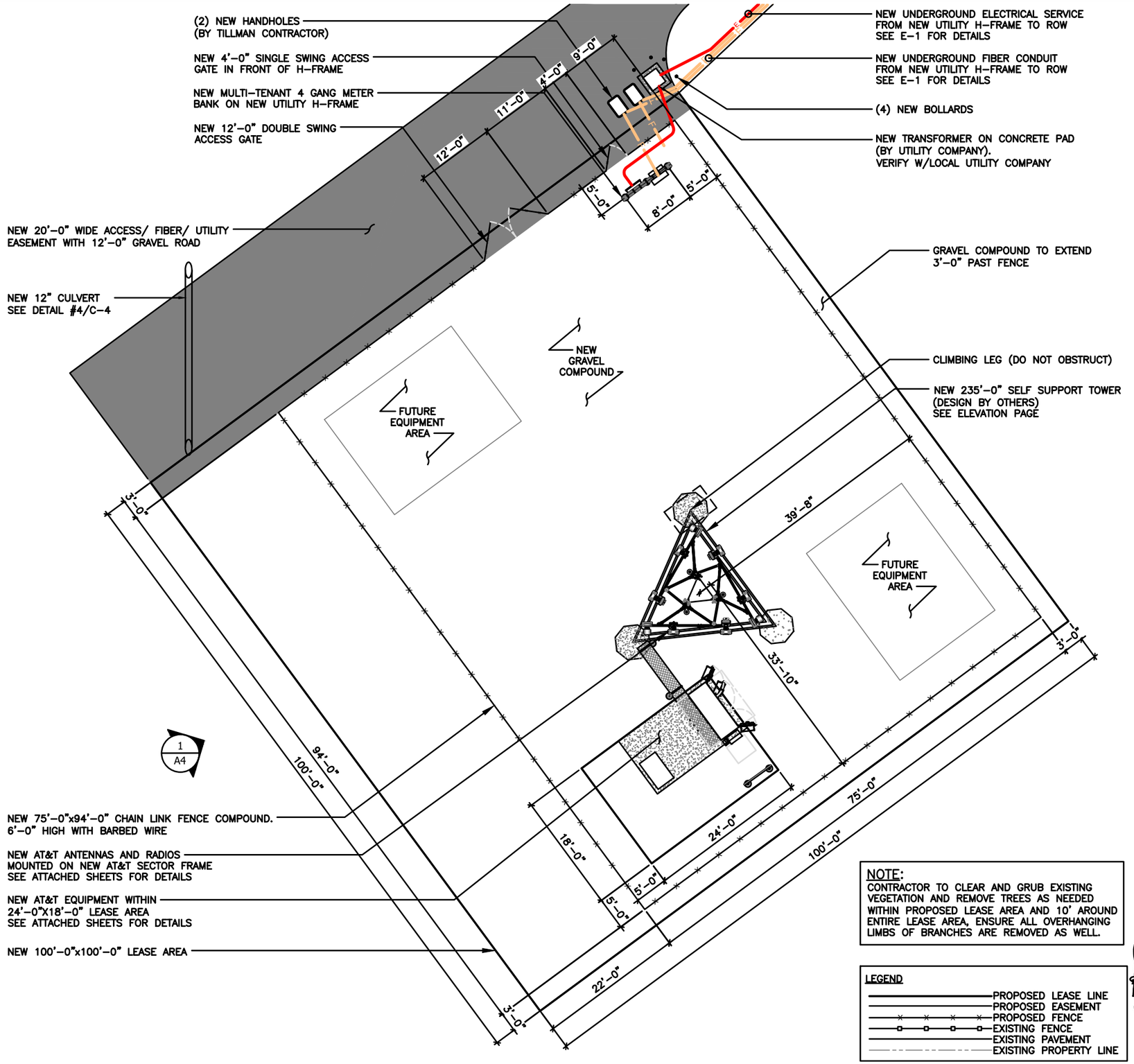
TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
C-1

GENERAL NOTES

1. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES COMPANY OR OTHER PUBLIC AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE AT&T CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES AND NOTIFY UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION AT PRIOR TO EXCAVATION AT SITE.
9. ANY UNDERGROUND UTILITIES OR STRUCTURES THAT EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE IT AND CONTACT THE APPLICANT & THE OWNER'S REPRESENTATIVE.
10. NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
11. THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
12. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
13. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
14. THERE ARE NO COMMERCIAL SIGNS PROPOSED FOR THIS INSTALLATION.
15. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
16. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
    MAXIMUM SOIL LIFTS:
    JUMPING JACK – 3"
    CROWS FOOT TRENCH ROLLER – 6"
    HOE OPERATED VIBRATORY PLATE – 8"
    WHEELED VIBRATORY SOIL COMPACTOR – 12"
    *LIFT HEIGHTS MAY NEED TO BE ADJUSTED DEPENDING ON SOIL TYPES AND MOISTURE CONTENT.
17. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY UTILITY OWNER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES.
18. THE AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITY SHALL BE GRADED AND RESTORED PER CODE/LANDLORD REQUIREMENTS (REFER TO GRADING PLAN).
19. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL, AND COORDINATED WITH THE MUNICIPALITY.
20. UTILITY WARNING TAPE SHALL BE PLACED ABOVE ALL NEW CONDUITS AT MAX 18" DEPTH BELOW GRADE.



NOTE:
CONTRACTOR TO CLEAR AND GRUB EXISTING VEGETATION AND REMOVE TREES AS NEEDED WITHIN PROPOSED LEASE AREA AND 10' AROUND ENTIRE LEASE AREA, ENSURE ALL OVERHANGING LIMBS OF BRANCHES ARE REMOVED AS WELL.

LEGEND
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING PROPERTY LINE

TRUE NORTH

ENLARGED SITE PLAN

0 2' 4' 8'
SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

1

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX : 847–277–0080
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604 FOX GLEN
BARRINGTON, IL 60010
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ae@westchesterservices.com

DRAWN BY:	DS
CHECKED BY:	MC

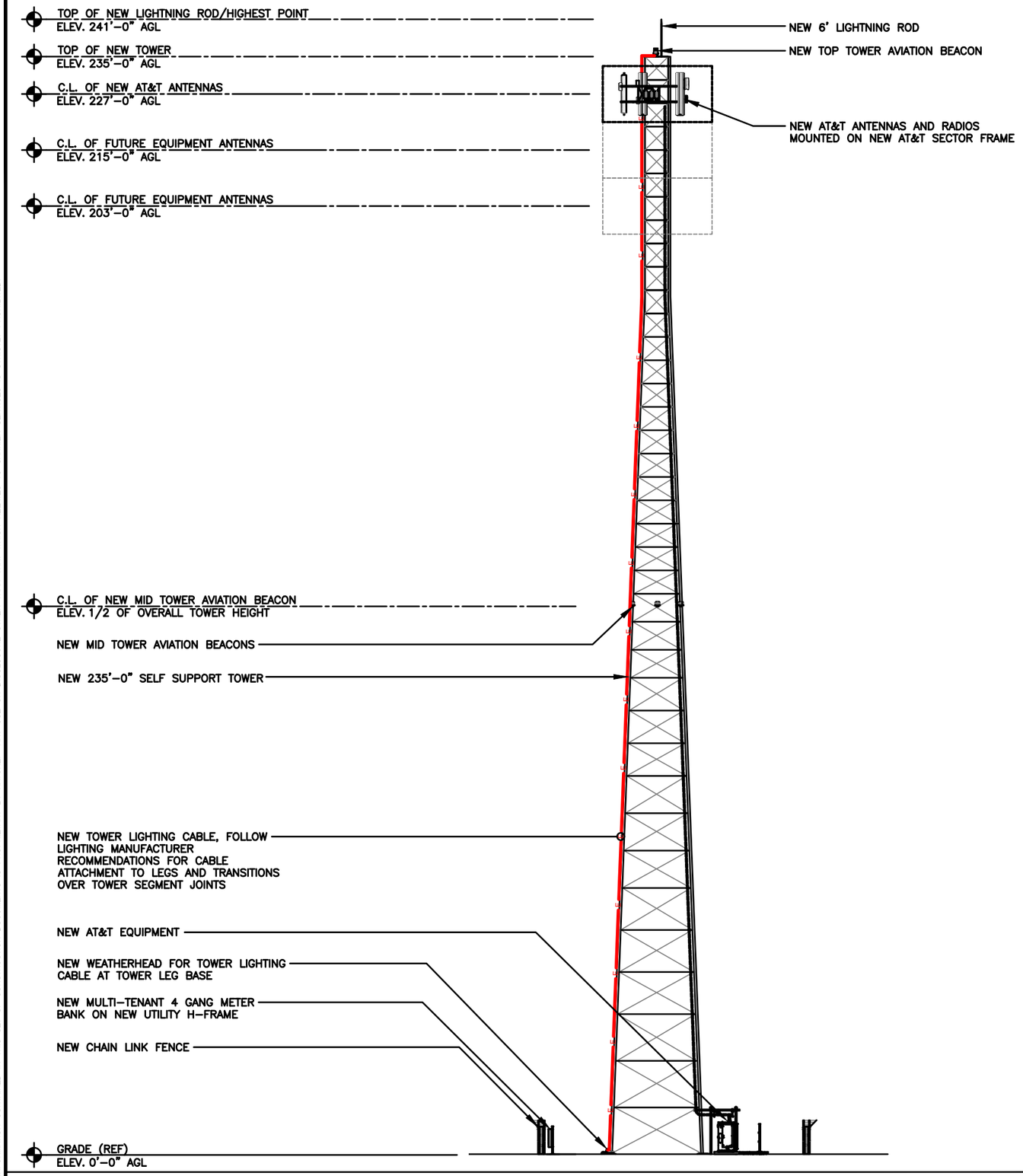
REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
DATE: 07/17/20
COMMONWEALTH OF KENTUCKY
PHILIP [illegible]
35592
LICENSED
PROFESSIONAL ENGINEER
DATE: 08/30/21

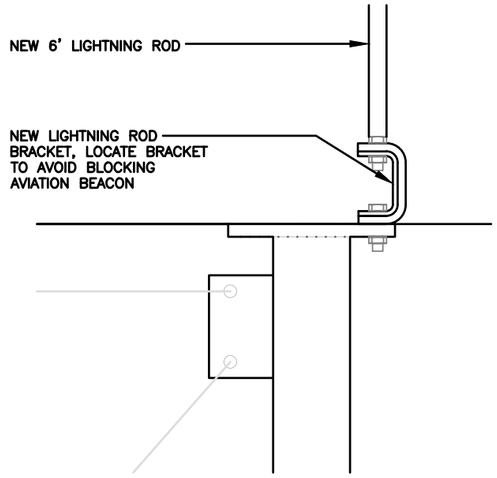
TILLMAN OPP# TI–OPP–15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
ENLARGED SITE PLAN

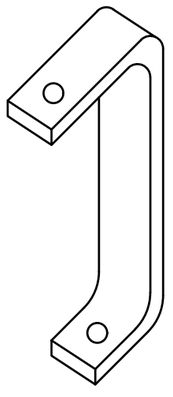
SHEET NUMBER
C-2



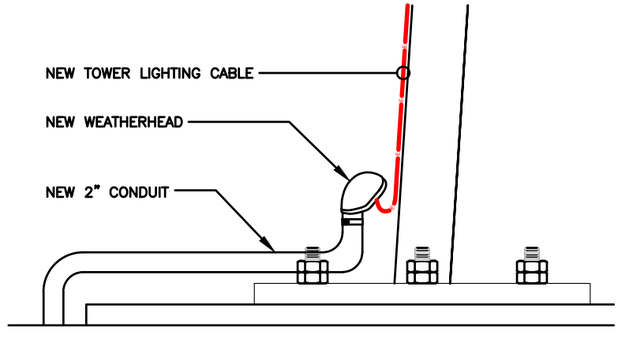
ELEVATION



LIGHTING ROD DETAIL



LIGHTING ROD BRACKET



TOWER LIGHTING CABLE AT TOWER BASE

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

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BARRINGTON, IL 60010
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DRAWN BY:	DS
CHECKED BY:	MC

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DATE: 07/17/20

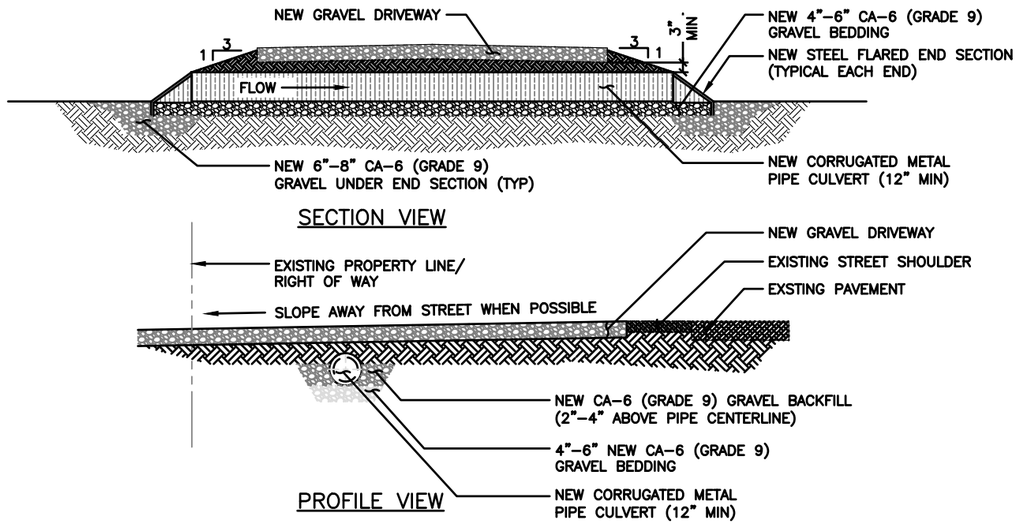
COMMONWEALTH OF KENTUCKY
PHILIP
35592
LICENSED
PROFESSIONAL ENGINEER
RE-DATE: 08/30/21

TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
ELEVATION

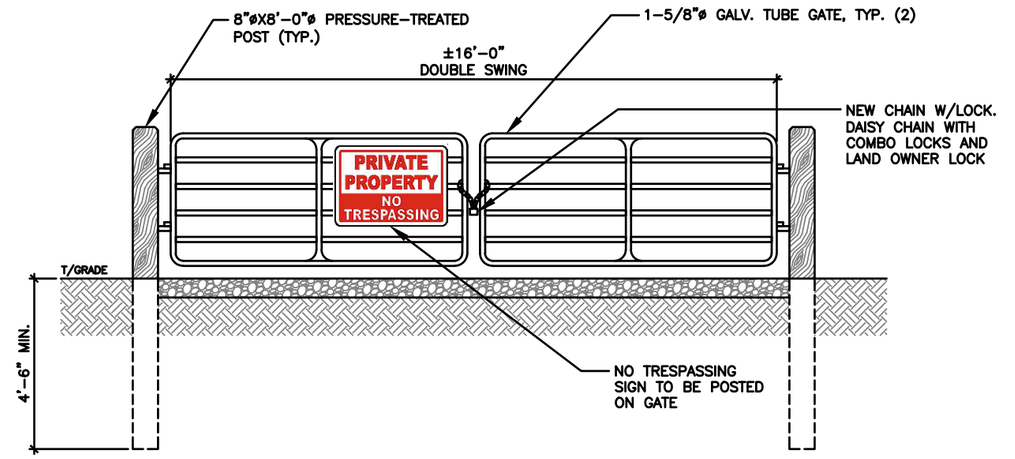
SHEET NUMBER
C-3

SCALE
N.T.S.



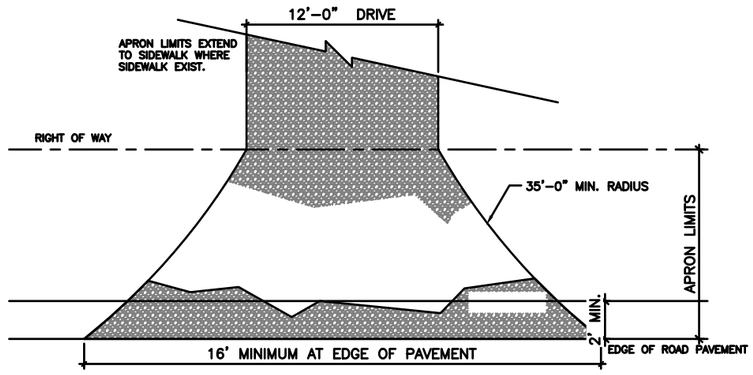
CULVERT DETAIL (IF REQUIRED)

SCALE N.T.S. 6



CATTLE GATE DETAIL

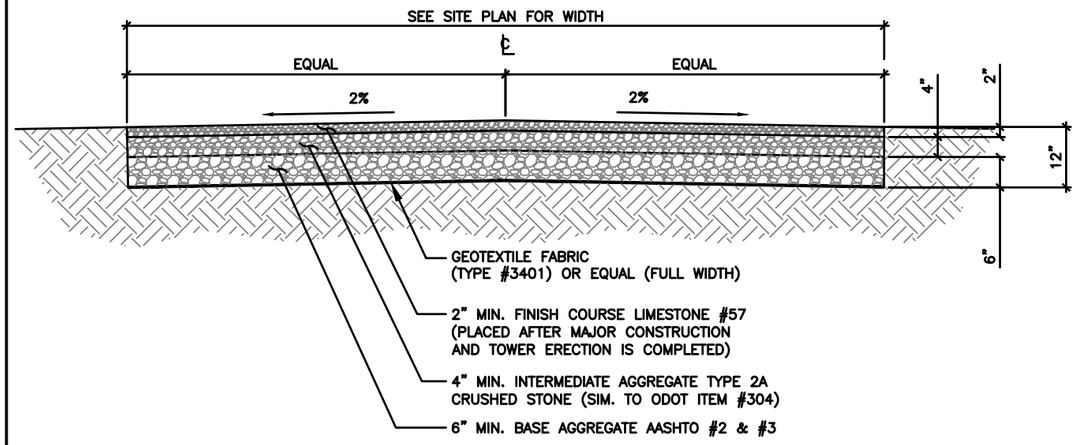
SCALE N.T.S. 5



PLAN VIEW

ACCESS DRIVEWAY @ STREET DETAIL

SCALE N.T.S. 4



ACCESS DRIVE DETAIL

SCALE N.T.S. 3

ASPHALT APRON– (IF REQUIRED)
8" OF 304 AGGREGATE STONE (2 LIFTS)
4" OF 404 BITUMINOUS ASPHALT (2 LIFTS)

CONCRETE APRON– (IF REQUIRED)
CLASS C CONCRETE IS REQUIRED FROM EDGE OF PAVEMENT TO R/W. THE SLAB MUST BE 5" THICK. ONE INCH EXPANSION MATERIAL REQUIRED AGAINST ANY EXISTING CONCRETE. NO MORE THAN 2% CALCIUM CHLORIDE ADDED TO MIX. NO MORE THAN 2 GALLONS OF WATER PER CUBIC YARD ADDED TO MIX AT THE BEGINNING OF LOAD. NO WATER SPRAY ON MIX AFTER MATERIAL IS PLAFCED IN FORMS. NO MORE THAN A 5" SLUMP IN THE CONCRETE MIX.

NOTE:
TILLMAN GC TO VERIFY WITH DRIVEWAY PERMIT/JURISDICTION

DRIVEWAY/ CULVERT NOTES

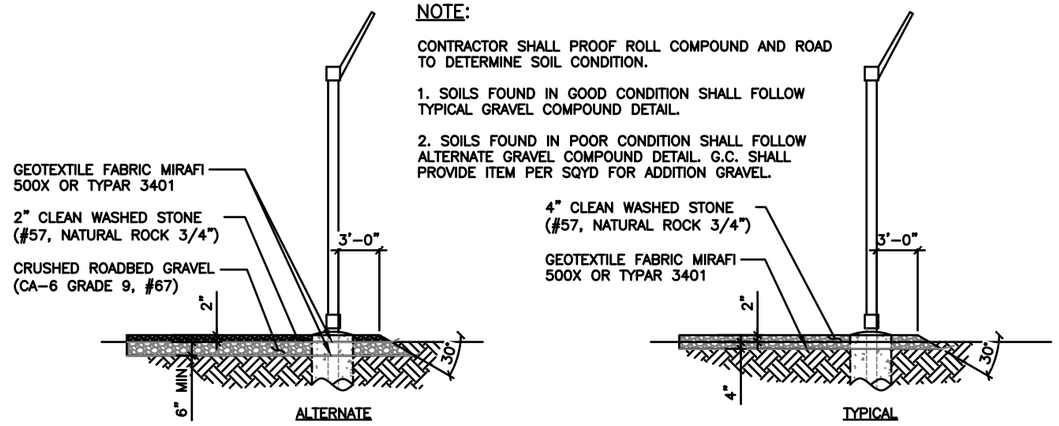
SCALE N.T.S. 2

NOTE:

CONTRACTOR SHALL PROOF ROLL COMPOUND AND ROAD TO DETERMINE SOIL CONDITION.

1. SOILS FOUND IN GOOD CONDITION SHALL FOLLOW TYPICAL GRAVEL COMPOUND DETAIL.

2. SOILS FOUND IN POOR CONDITION SHALL FOLLOW ALTERNATE GRAVEL COMPOUND DETAIL. G.C. SHALL PROVIDE ITEM PER SQYD FOR ADDITION GRAVEL.



GRAVEL COMPOUND DETAIL

SCALE N.T.S. 1

TILLMAN INFRASTRUCTURE

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DATE: 07/17/20

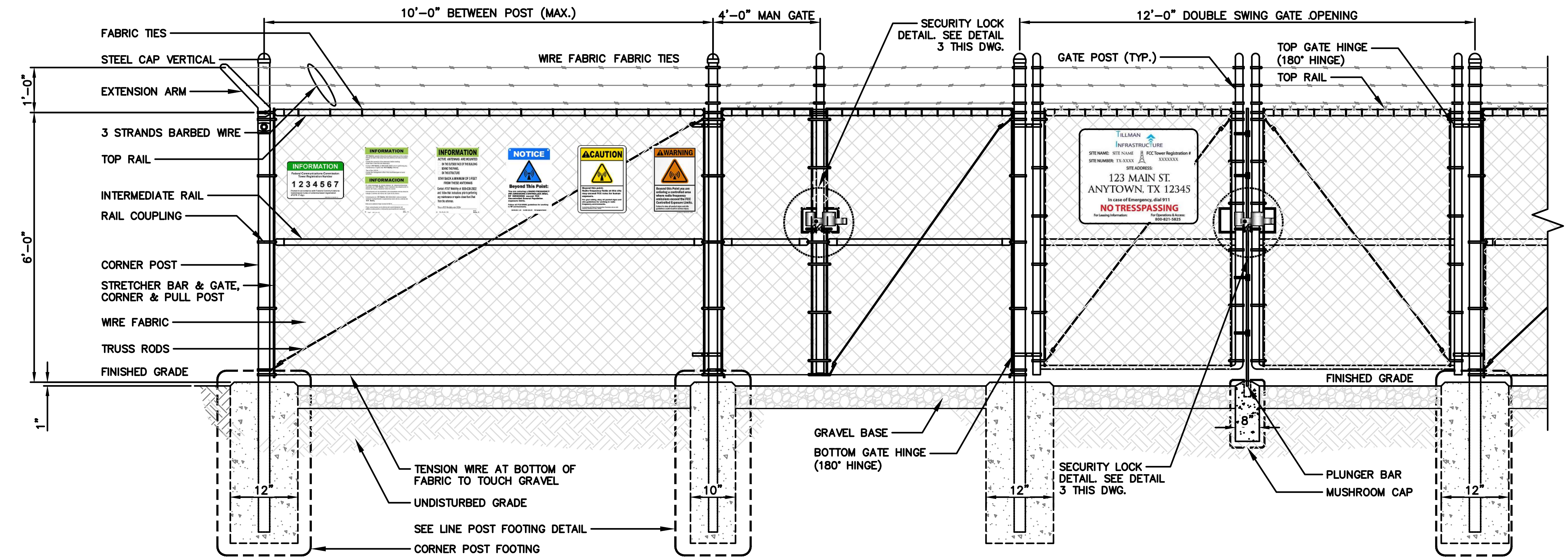
COMMONWEALTH OF KENTUCKY
PHILIP
35592
LICENSED
PROFESSIONAL ENGINEER

R1 DATE: 08/30/21

TILLMAN OPP# TI–OPP–15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

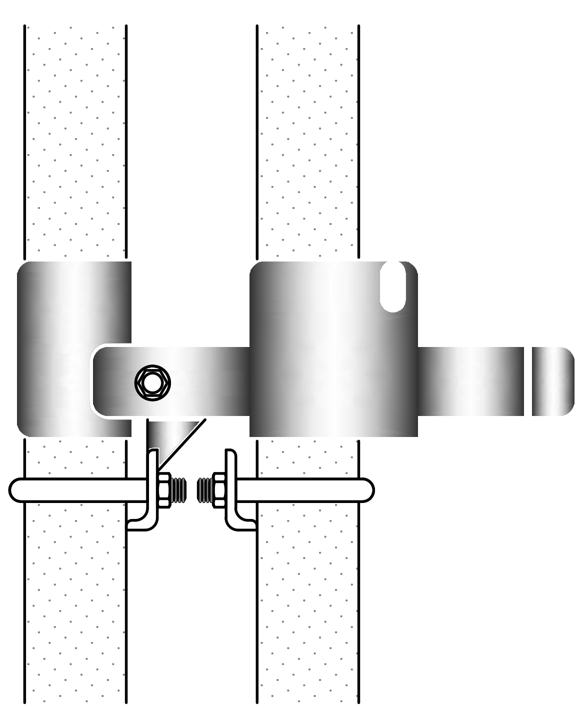
SHEET TITLE
GRADING DETAILS

SHEET NUMBER
C-4



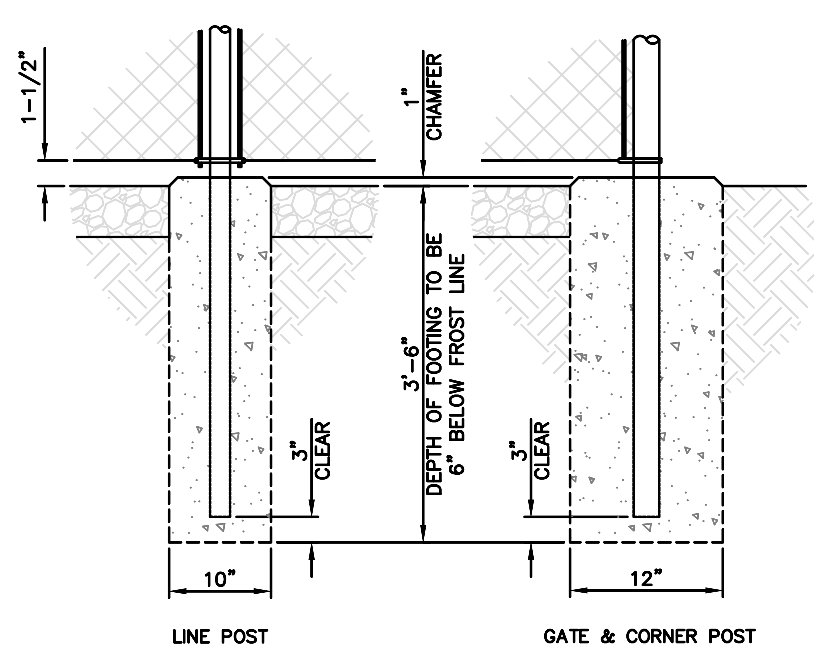
FENCE/ GATE & GATE STOP DETAIL

SCALE N.T.S. 4



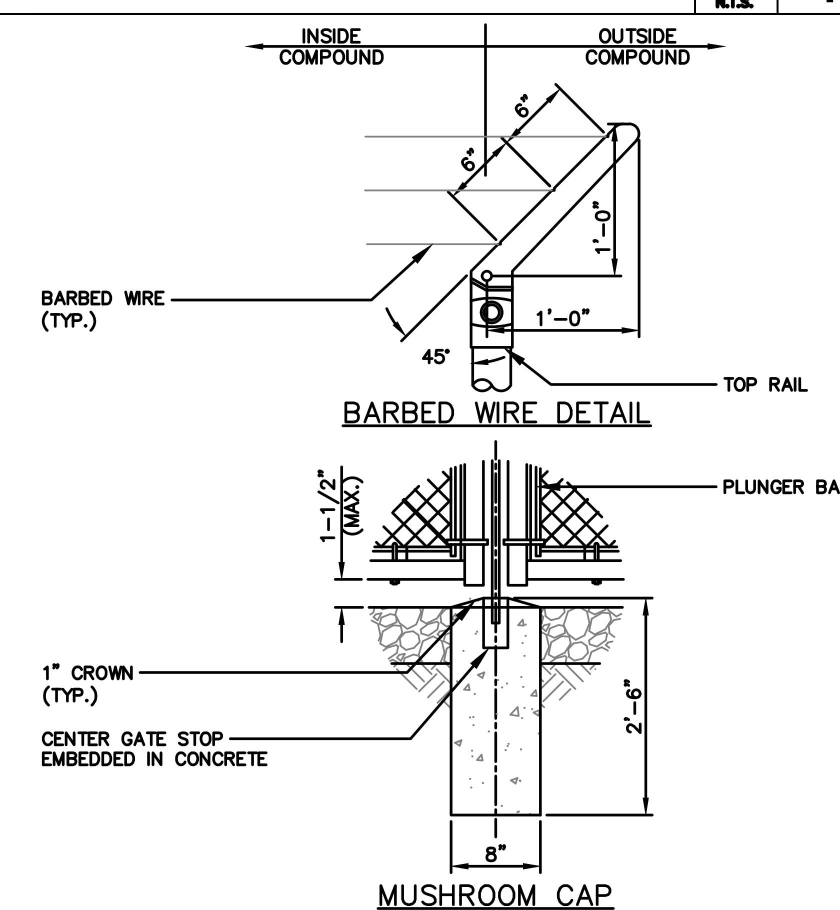
STRONGHOLD LATCH DETAIL

SCALE N.T.S. 3



POST FOOTING DETAIL

SCALE N.T.S. 2



DETAILS

SCALE N.T.S. 1

TILLMAN INFRASTRUCTURE

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"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
DATE: 07/17/20

STATE OF KENTUCKY PHILIP ... 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME: BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
C-5

WHITE BACKGROUND, RED/BLACK LETTERING
MOUNTING LOCATION: SHELTER OR TENANT IMPROVEMENT ROOM DOOR.
IF OUTDOOR CABINET SITE PLACE ON END CABINET CLOSEST TO SITE ACCESS POINT.
PLACE ON GENERATOR.
QUANTITY: 1 TO 2

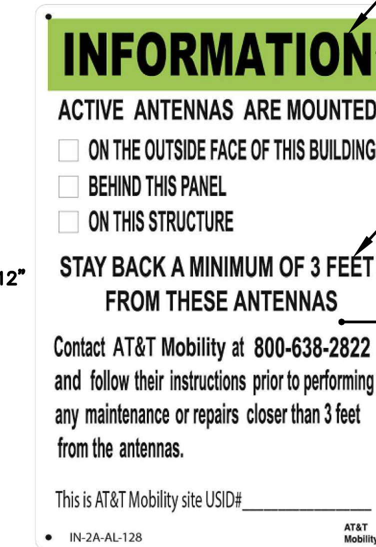
PROPERTY OF TILLMAN INFRASTRUCTURE — SCALE N.T.S. — 7

SIGNAGE NOTES:

1. SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL & PAINTED WITH LONG LASTING UV RESISTANT COATING.
2. SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE & FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (FENCE) OR BRACKETS, WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION.
3. ADDITIONAL E911 ADDRESS & FCC REGISTRATION SIGNS SHALL BE MOUNTED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS THE COMPOUND GATE ITSELF.
4. SIGNS NEED NOT BE PLACED IF ACCURATE AND APPROPRIATE SIGNAGE ALREADY EXISTS.

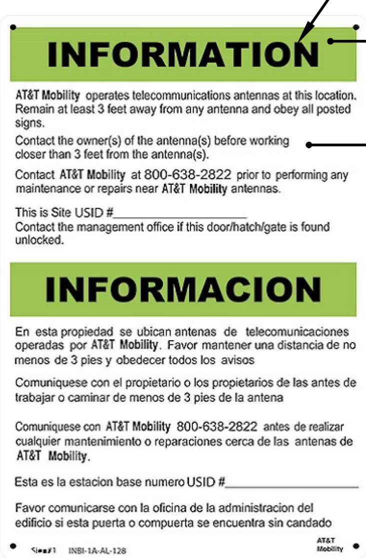
WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2

FCC REGISTRATION SIGN — SCALE N.T.S. — 6



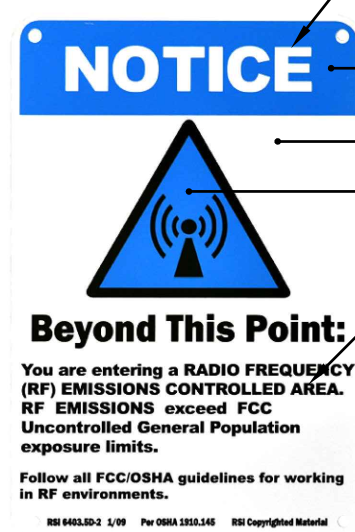
WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2

RF EXPOSURE INFORMATION SIGN — SCALE N.T.S. — 5



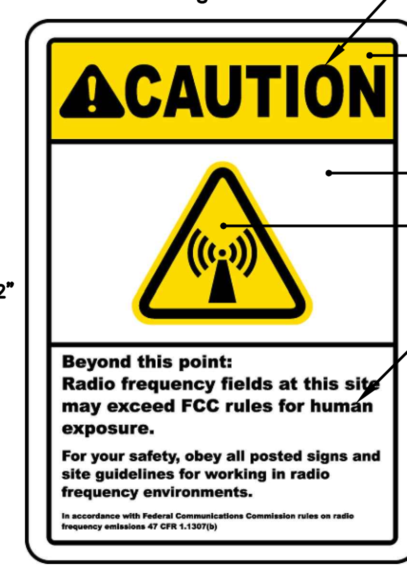
WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2

RF EXPOSURE INFORMATION SIGN — SCALE N.T.S. — 4



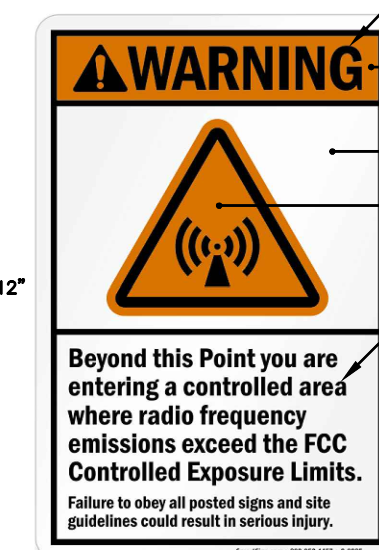
WHITE/BLUE BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1

RF EXPOSURE NOTICE SIGN — SCALE N.T.S. — 3



WHITE/YELOW BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1

RF EXPOSURE CAUTION SIGN — SCALE N.T.S. — 2



WHITE/ORANGE BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1

RF EXPOSURE WARNING SIGN — SCALE N.T.S. — 1

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
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DRAWN BY:	DS
CHECKED BY:	MC

REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
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STATE OF KENTUCKY — PHILIP [illegible] — 35592 — LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
SITE SIGNAGE

SHEET NUMBER
C-5.1

NEW 20'-0" WIDE ACCESS/FIBER/UTILITY EASEMENT WITH 12'-0" GRAVEL ROAD AND GRAVEL TURNAROUND AREA

NEW 12" CULVERT
SEE DETAIL #4/C-4

SPOILS AREA

NEW 78'-0"x78'-0" CHAIN LINK FENCE COMPOUND/LEASE AREA. 6'-0" HIGH WITH BARBED WIRE

NEW SILT FENCE.
SEE DETAIL #2/C-7

NOTE:
CONTRACTOR TO CLEAR AND GRUB EXISTING VEGETATION AND REMOVE TREES AS NEEDED WITHIN PROPOSED LEASE AREA AND 10' AROUND ENTIRE LEASE AREA, ENSURE ALL OVERHANGING LIMBS OF BRANCHES ARE REMOVED AS WELL.

LEGEND

SEF	PROPOSED SILT FENCE
	PROPOSED GRADE
	EXISTING GRADE
T/P	TOP OF PAVEMENT/PAD
T/F	TOP OF FOUNDATION
XXXXX	GRADE

TRUE NORTH

GRADING PLAN

0 5' 10'

SCALE: 1" = 10'-0" (24x36)
(OR) 1/2" = 10'-0" (11x17)

1

TILLMAN INFRASTRUCTURE

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DATE: 07/17/20

COMMONWEALTH OF KENTUCKY
PHILIP
35592
LICENSED
PROFESSIONAL ENGINEER
DATE: 08/30/21

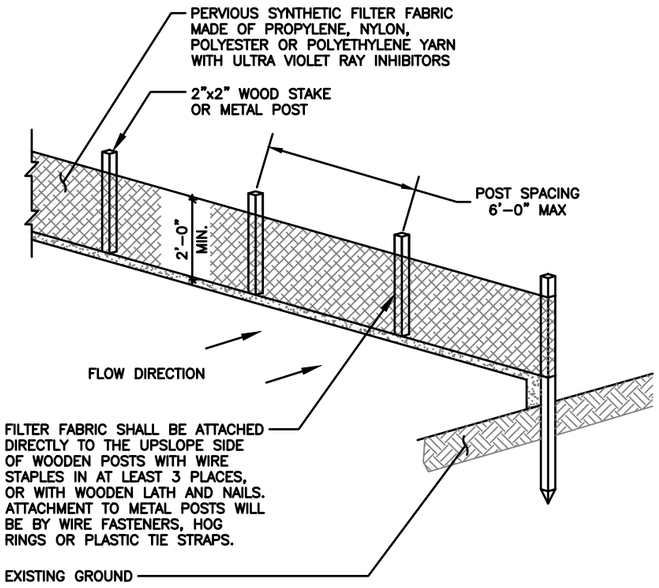
TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
GRADING PLAN

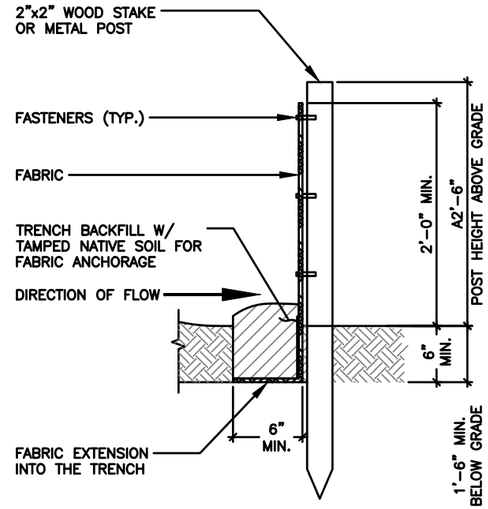
SHEET NUMBER
C-6

1. ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE APPLICABLE STATE ADOPTED "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL" AND THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" OF THE STATE ENVIRONMENTAL PROTECTION AGENCY.
2. A SOIL EROSION CONTROL FENCE SHALL BE INSTALLED BEFORE DISTURBING THE GROUND AND SHALL BE PROVIDED AS SHOWN ON THE PLAN. THE CONDITION OF THE FENCE SHALL BE INSPECTED REGULARLY AND AFTER EVERY RAINSTORM THAT MIGHT PRODUCE RUNOFF. DAMAGED OR DETERIORATED ITEMS SHALL BE REPLACED AND MAINTAINED IN AN EFFECTIVE CONDITION
3. SOIL EROSION CONTROL MEASURES SHALL BE INCLUDED IN CONTRACTOR BID AND PRICING
4. THE ENTIRE SITE SHALL BE GRADED SO THAT NO STORM WATER RUNOFF AND LIKEWISE SOIL SEDIMENT CAN FLOW UNRESTRICTED FROM THE SITE
5. ALL INLETS, STRUCTURES, PIPES, SWALES, AND ROADS SHALL BE KEPT CLEAN AND FREE OF DIRT AND SILT
6. MAINTAIN SOIL EROSION CONTROL MEASURES THROUGH THE DURATION OF THIS PROJECT
7. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN REACHING ONE HALF THE HEIGHT OF THE BARRIER
8. ALL SOIL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN PAVED OR VEGETATED
9. ANY EXCESS TOPSOIL THAT IS TO BE STOCKPILED FOR A PERIOD LONGER THAN 2 WEEKS SHALL BE PROTECTED BY EXCAVATING A TRENCH COMPLETELY AROUND THE STOCKPILE TO PREVENT THE ESCAPE OF SOIL MATERIAL THROUGH STORM WATER RUNOFF. STOCKPILES THAT ARE TO REMAIN LONGER THAN 14 DAYS SHALL BE SEEDED WITH AN APPROPRIATE GROUND COVER
10. TO PREVENT SOIL FROM LEAVING THE SITE ON CONSTRUCTION VEHICLE WHEELS, TEMPORARY GRAVEL ROADS AT WORK ENTRANCES SHALL BE CONSTRUCTED AND SHALL EXTEND INTO JOB SITE. THE EXISTING PAVEMENT SURFACES SHALL BE INSPECTED DAILY FOR SOIL DEBRIS AND SHALL BE CLEANED WHEN NECESSARY
11. REPLACE SOIL EROSION CONTROL MEASURES WITH SEED, SOD AND TOPSOIL AT THE COMPLETION OF THE PROJECT
12. SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN PROJECT IS COMPLETED

SOIL EROSION & SEDIMENT CONTROL NOTES | SCALE N.T.S. | 4

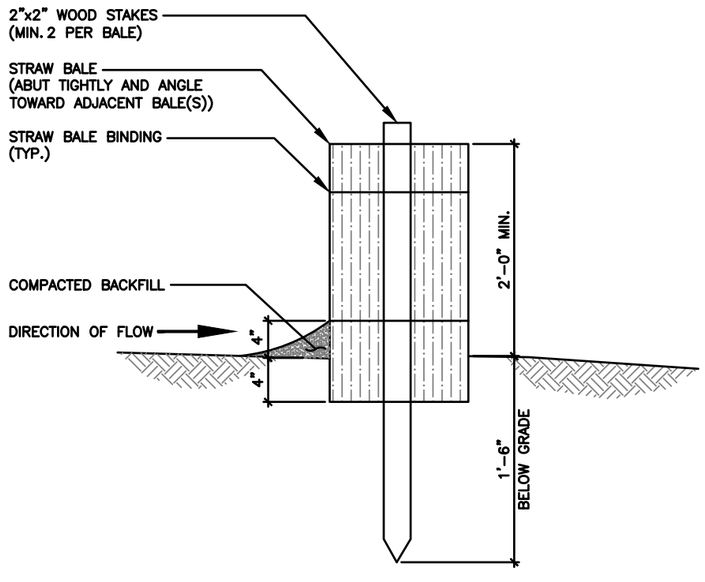


ISOMETRIC VIEW



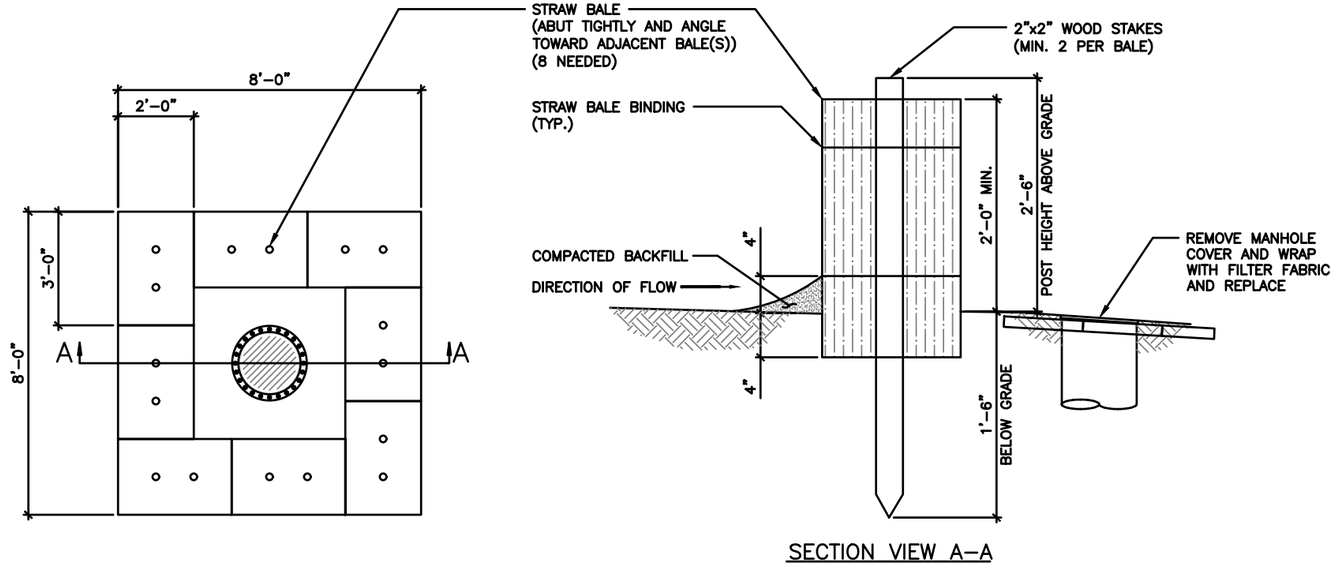
SECTION VIEW

EROSION CONTROL - SILT FENCE | SCALE N.T.S. | 2



SECTION VIEW

EROSION CONTROL - STRAW BALE (OPTIONAL) | SCALE N.T.S. | 3



SECTION VIEW A–A

EROSION CONTROL - STRAW BALE AT STORM INLET MANHOLE (IF NEEDED SEE PLANS) | SCALE N.T.S. | 1

TILLMAN INFRASTRUCTURE

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PROFESSIONAL ENGINEER
RE-DATE: 08/30/21

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SITE ADDRESS:
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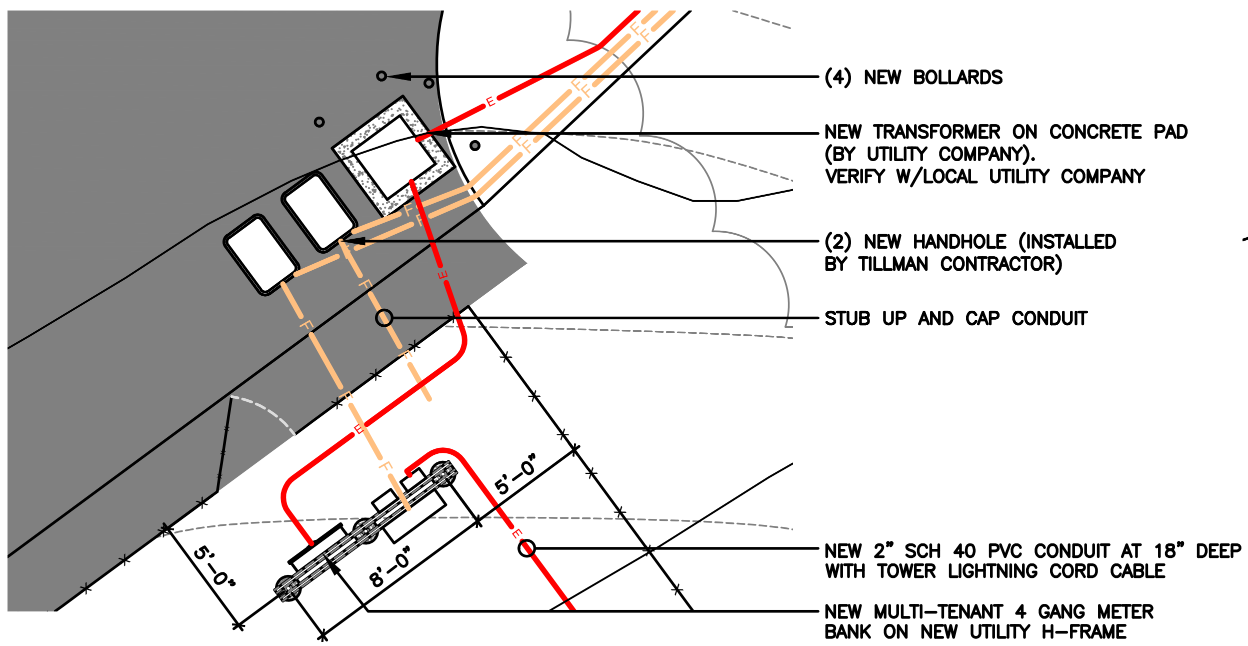
BENTON, KY 42025

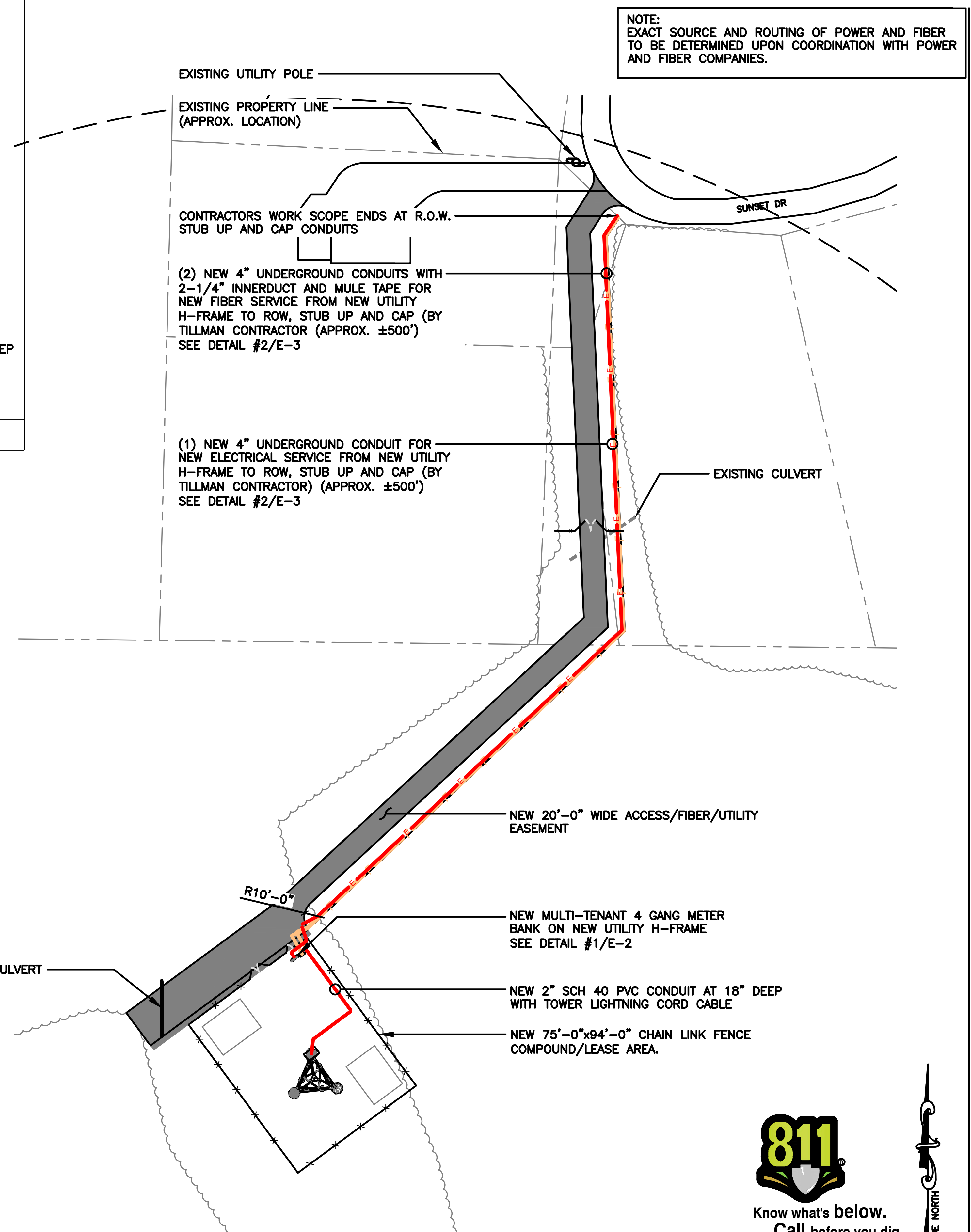
SHEET TITLE
EROSION CONTROL DETAILS

SHEET NUMBER
C-7



ENLARGED VIEW OF H-FRAME

SCALE N.T.S. | 2



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

UTILITY PLAN

0 5' 10' SCALE: 1" = 10'-0" (24x36) (OR) 1/2" = 10'-0" (11x17) | 1

TILLMAN INFRASTRUCTURE

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STATE OF KENTUCKY PHILIP KOZLOV 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

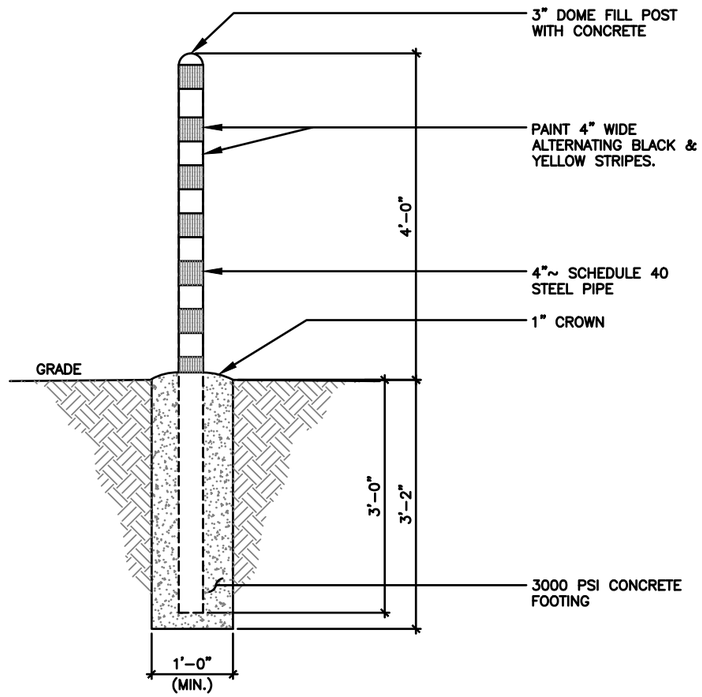
TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
UTILITY PLAN

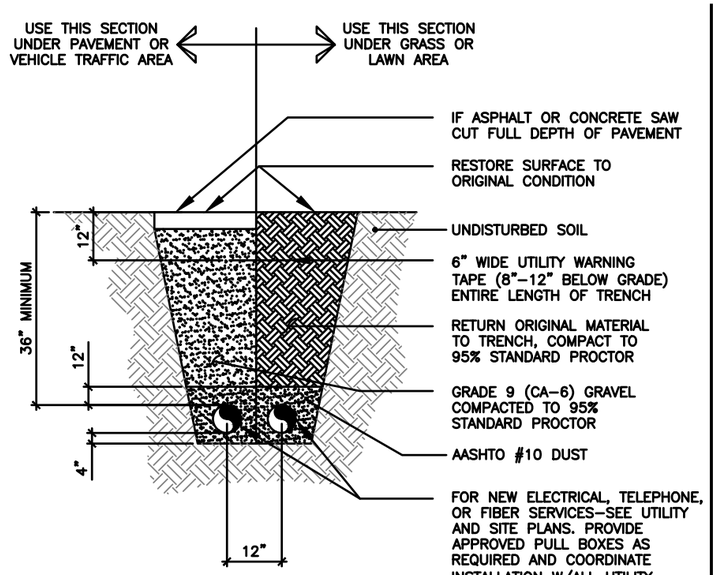
SHEET NUMBER
E-1

1. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. VERIFY HEIGHTS WITH PROJECT MANAGER PRIOR TO INSTALLATION.
4. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
5. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
6. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
8. ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
9. ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
10. PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
11. DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
12. ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHW, RATED IN ACCORDANCE WITH NEC 110-14(C).
13. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
14. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
15. CONDUIT:
    - A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
    - B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
    - C. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
    - D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
    - E. PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.
17. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
18. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
19. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
20. COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
21. VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
22. RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.

ELECTRICAL NOTES — 4



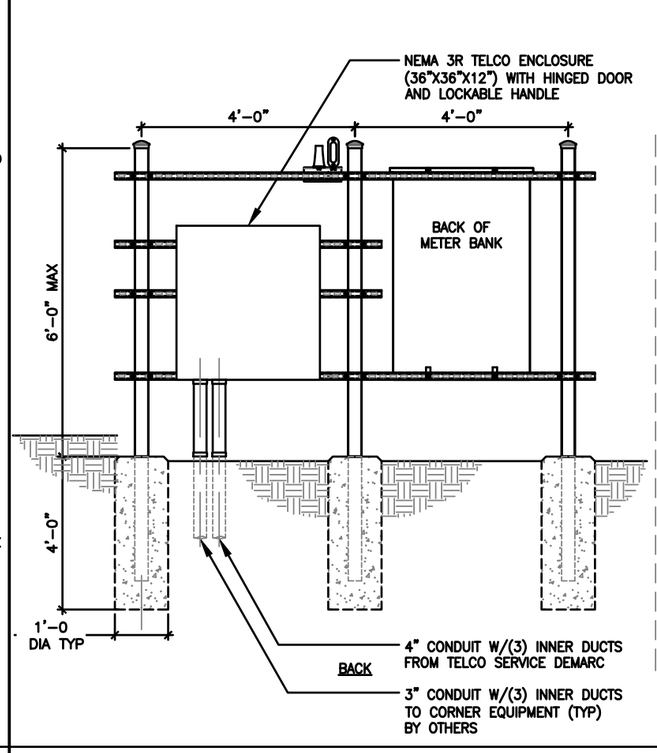
PROTECTION BOLLARD DETAIL — SCALE N.T.S. — 3

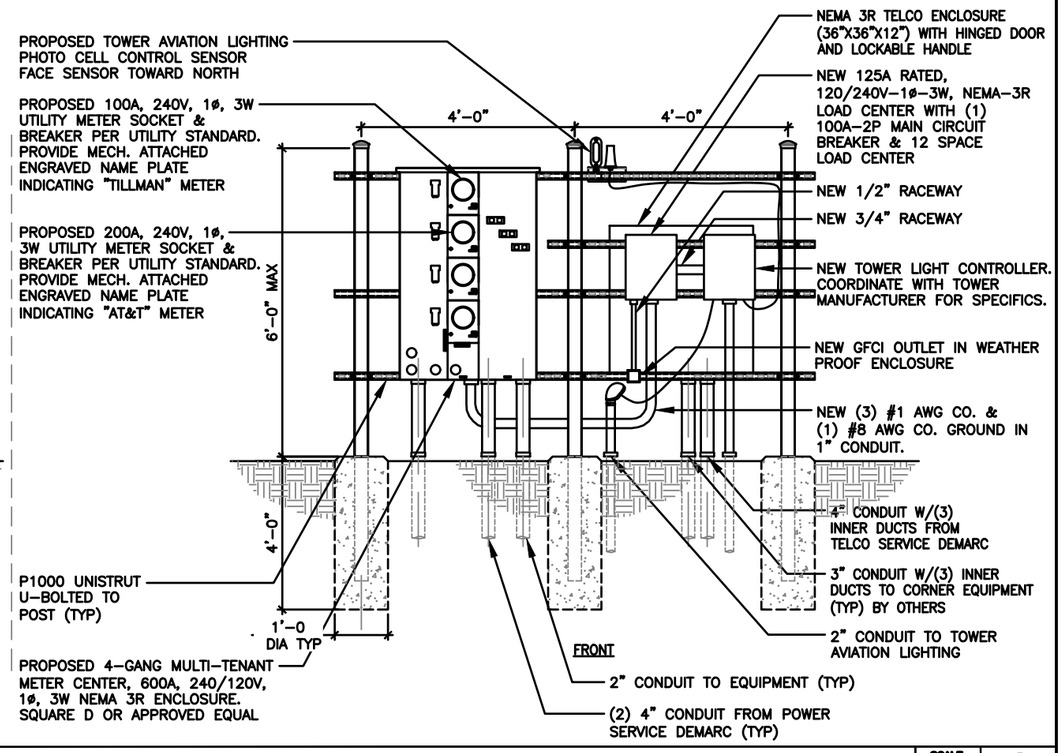


NOTE:

1. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.

TYPICAL TRENCH DETAIL — SCALE N.T.S. — 2





UTILITY FRAME DETAIL — SCALE N.T.S. — 1

TILLMAN INFRASTRUCTURE

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TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
ENLARGED UTILITY PLAN

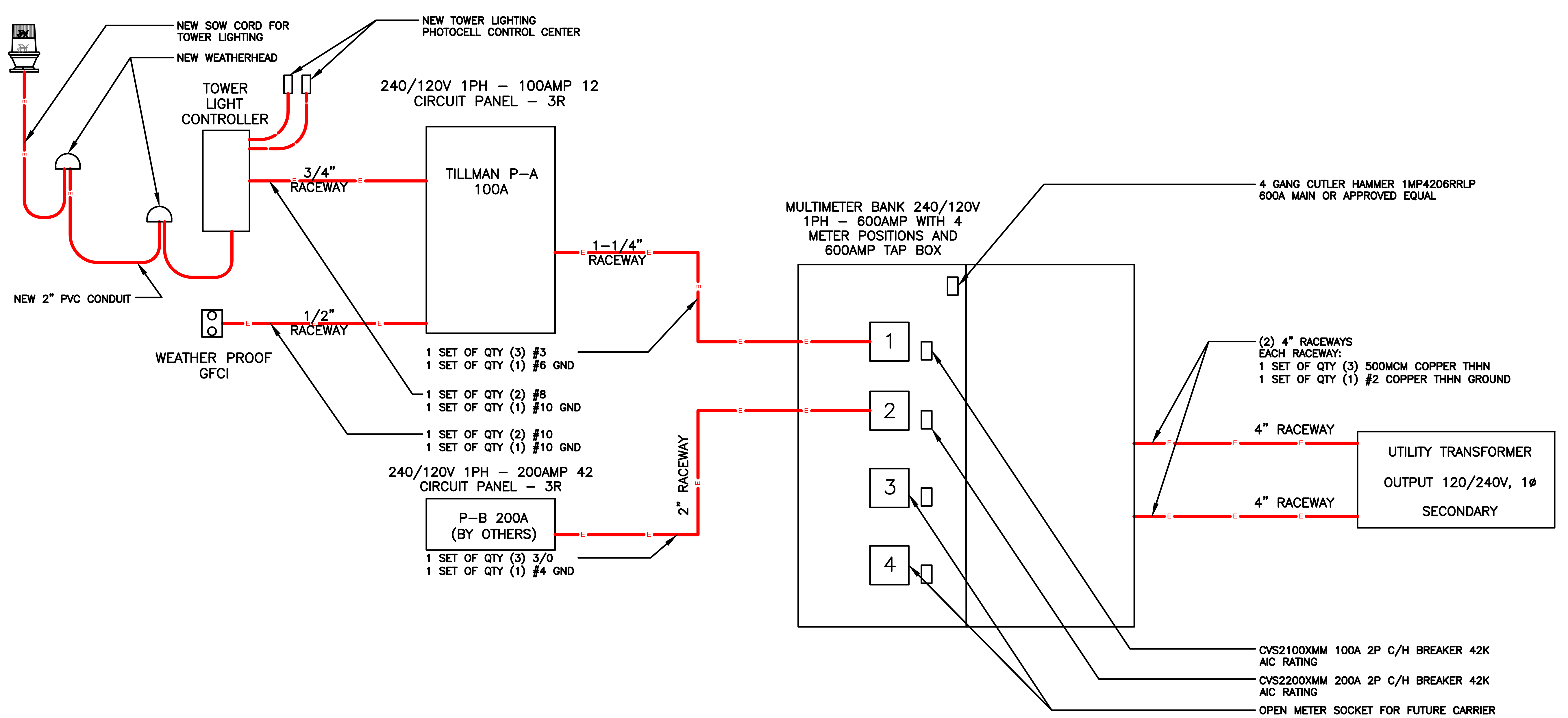
SHEET NUMBER
E-2

METER POSITION 1 — TILLMAN LOAD CENTER (P-A)

LOAD				LOAD PER PHASE (VA)																LOAD PER PHASE (VA)		LOAD			
DESCRIPTION		QTY.	UNIT V.A.	PHASE A	PHASE B	WIRE COLOR	LOADS CONTINUOUS	LOADS NON-CONTINUOUS	LOADS SUB-PANEL	WIRE SIZE	GROUNDING WIRE SIZE	TRIP	TRIP	GROUNDING WIRE SIZE	WIRE SIZE	LOADS SUB-PANEL	LOADS NON-CONTINUOUS	LOADS CONTINUOUS	WIRE COLOR	PHASE A	PHASE B	UNIT V.A.	QTY.	DESCRIPTION	
1	GFCI RECEPTACLES	1	600	600		BLK		X		10	10	20							BLK				1	SPARE	2
3	TOWER LIGHT	1	1600		1600	RED	X			8	10	20							RED				1	SPARE	4
5	TOWER LIGHT	1	1600	1600		BLK	X			8	10	20							BLK				1	SPARE	6
7	SPARE	1				RED													RED				1	SPARE	8
9	SPARE	1				BLK													BLK				1	SPARE	10
11	SPARE	1				RED													RED				1	SPARE	12
		SUBTOTAL CONTINUOUS		1600	1600																	SUBTOTAL CONTINUOUS	TOTAL AMPS CONTINUOUS x 1.25	4000	
		SUBTOTAL NON-CONTINUOUS		600	–															–	–	SUBTOTAL NON-CONTINUOUS	TOTAL AMPS NON-CONTINUOUS	600	
																				–	–	SUBTOTAL SUB-PANEL	TOTAL AMPS SUB-PANEL	4600	

PANEL DESIGNATION: ELECTRICAL PANEL (PA)	TOTAL KVA: 4.60
MAIN LUGS: N/A — MAIN BREAKER: 100 AMP — BRANCH BREAKER TYPE: SIEMENS – BL	TOTAL AMPS: 19.16
VOLTAGE: 120/240 — CYCLE: 60 — PHASE: 1 — WIRES: 3 — MAIN COPPER BUS: 100 AMPS — NEUTRAL: 100 AMPS	

TILLMAN P - A PANEL SCHEDULE 2



ELECTRICAL SINGLE LINE DIAGRAM 1

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

JOHN M. BANKS ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY: DS
CHECKED BY: MC

REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
DATE: 07/17/20

STATE OF KENTUCKY
PHILIP ... 35592
LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME: BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

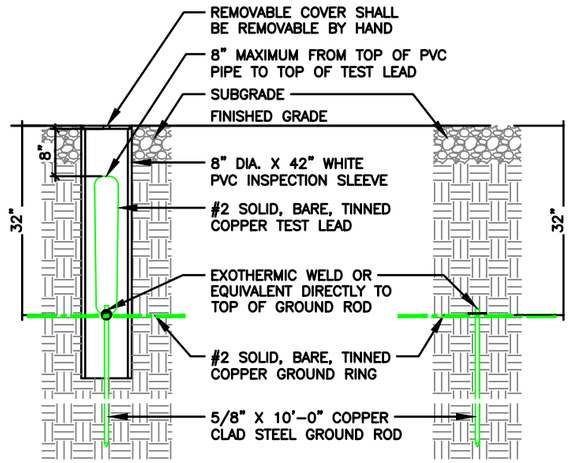
SHEET TITLE
ELECTRICAL DIAGRAM

SHEET NUMBER
E-3

GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
9. REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITION ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"X10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 BARE TINNED COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
11. IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45°.
12. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
13. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO THE VERIZON WIRELESS CONSTRUCTION MANAGER.
14. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
15. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
16. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A METROPCS REPRESENTATIVE, AND RECORDED ON THE "GROUND RESISTANCE TEST" FORM.
17. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
18. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
19. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (3) RUNS OF #2 BARE TINNED COPPER WIRE.

GROUNDING NOTES | SCALE N.T.S. | 3



GROUND WELL, ROD, AND TEST WELL DETAIL | SCALE N.T.S. | 2

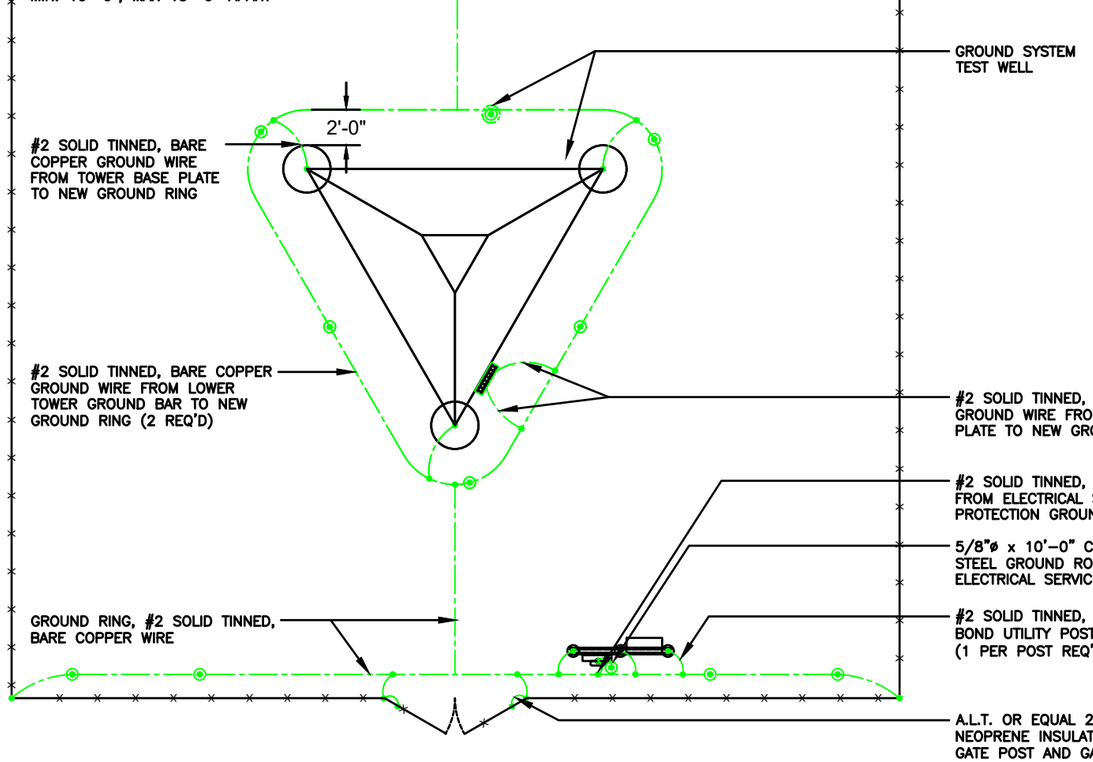
NOTE:
A LARGER CONDUCTOR SHALL BE REQUIRED IN AREAS HIGHLY PRONE TO LIGHTNING AND/OR AREAS W/HIGHLY ACIDIC SOIL

NOTE:
GROUND RODS MAY BE COPPER CLAD STEEL OR SOLID COPPER

NOTE:
GROUND RODS SHALL HAVE A RECOMMENDED SPACING TWICE THE LENGTH OF THE ROD

NOTE:
SEE RESISTIVITY REPORT FOR VERIFICATION AS AVAILABLE

NOTE:
GROUND RODS INSTALLED WITHIN CLOSE PROXIMITY TO TOWER OR WHEN SOIL IS AT OR BELOW 2,000 OHM-CM, SHALL BE GALVANIZED TO PREVENT GALVANIC CORROSION OF TOWER



GROUNDING LEGEND

▭	MECHANICAL CONNECTION
■	EXOTHERMIC WELD CONNECTION
●	COMPRESSION FITTING CONNECTION
◉	5/8"X10' COPPER-CLAD STEEL GROUND ROD
◉	5/8"X10' COPPER-CLAD STEEL GROUND ROD WITH INSPECTION WELL
———	PROPOSED GROUND WIRING
- - - - -	EXISTING GROUND WIRING
▬	TINNED COPPER GROUND BAR 1/4"X4"X12" OR 1/4"X4"X20"
CGB	COLLECTOR GROUND BAR
MGB	MAIN GROUND BAR

NOTE:
SEE COMPOUND PLAN FOR COMPOUND ORIENTATION, UTILITY H-FRAME, GATE AND TOWER LOCATION.

NOTE:
REFER TO SPECIFIC CARRIER EQUIPMENT GROUNDING PLAN FOR NEW CARRIER EQUIPMENT GROUNDING.

NOTE:
OBJECTIVE:
- RING AROUND TOWER WITH ALL TOWER LEGS GROUNDED, MONOPOLE SHALL HAVE AT LEAST TWO GROUNDS TO EARTH.
- CONNECTION TO FENCE POSTS AT ALL CORNERS OR CHANGES IN FENCE DIRECTION GREATER THE 45°.
- CONNECTIONS TO EACH SIDE OF ANY GATE POSTS.
- CONNECTIONS TO UTILITY H-FRAME.
- INSTALL ENOUGH GROUND RODS TO ENSURE 5 OHMS OR LESS RESISTANCE.

GROUNDING PLAN AND DETAILS | SCALE N.T.S. | 1

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

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DATE: 07/17/20
COMMONWEALTH OF KENTUCKY
PHILIP
35592
LICENSED
PROFESSIONAL ENGINEER
RE-DATE: 08/30/21

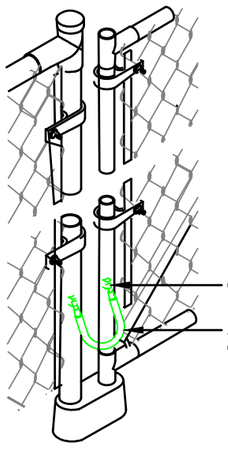
TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
GROUNDING PLAN & DETAILS

SHEET NUMBER
G-1

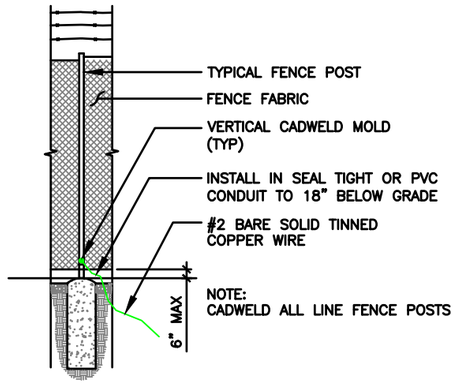
NOT USED

SCALE N.T.S. — 2



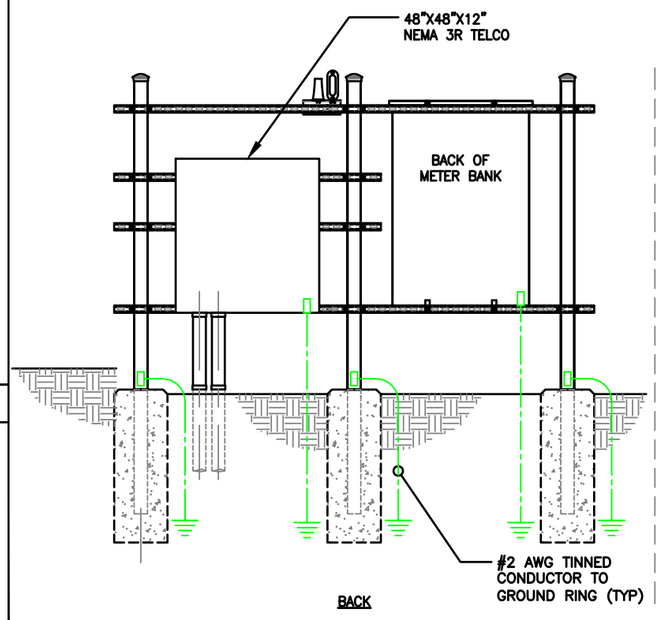
GATE GROUNDING DETAIL

SCALE N.T.S. — 4



TYPICAL FENCE POST GROUNDING

SCALE N.T.S. — 3

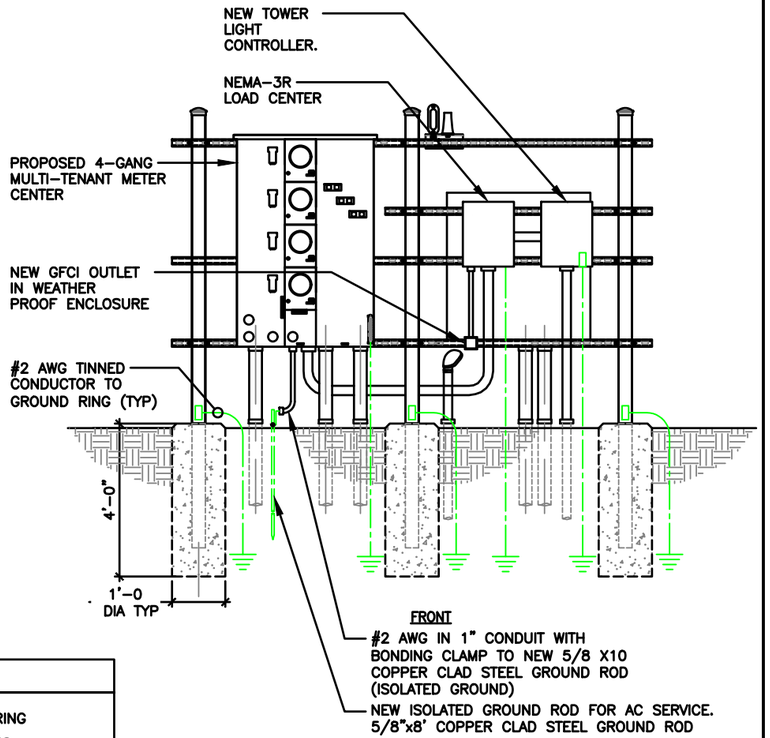


GROUNDING LEGEND

▭	MECHANICAL CONNECTION	——·——	PROPOSED GROUND WIRING
■	EXOTHERMIC WELD CONNECTION	----------	EXISTING GROUND WIRING
•	COMPRESSION FITTING CONNECTION	▪▪▪▪▪	TINNED COPPER GROUND BAR 1/4"X4"X12" OR 1/4"X4"X20"
◉	5/8"X10' COPPER-CLAD STEEL GROUND ROD	CGB	COLLECTOR GROUND BAR
◎	5/8"X10' COPPER-CLAD STEEL GROUND ROD WITH INSPECTION WELL	MGB	MAIN GROUND BAR

H-FRAME GROUNDING

SCALE N.T.S. — 1



NOTE:

2 BOLT MECHANICAL LUG CONNECTION AT ALL EQUIPMENT GROUND POINT: ADD NON OX COMPOUND

TILLMAN INFRASTRUCTURE

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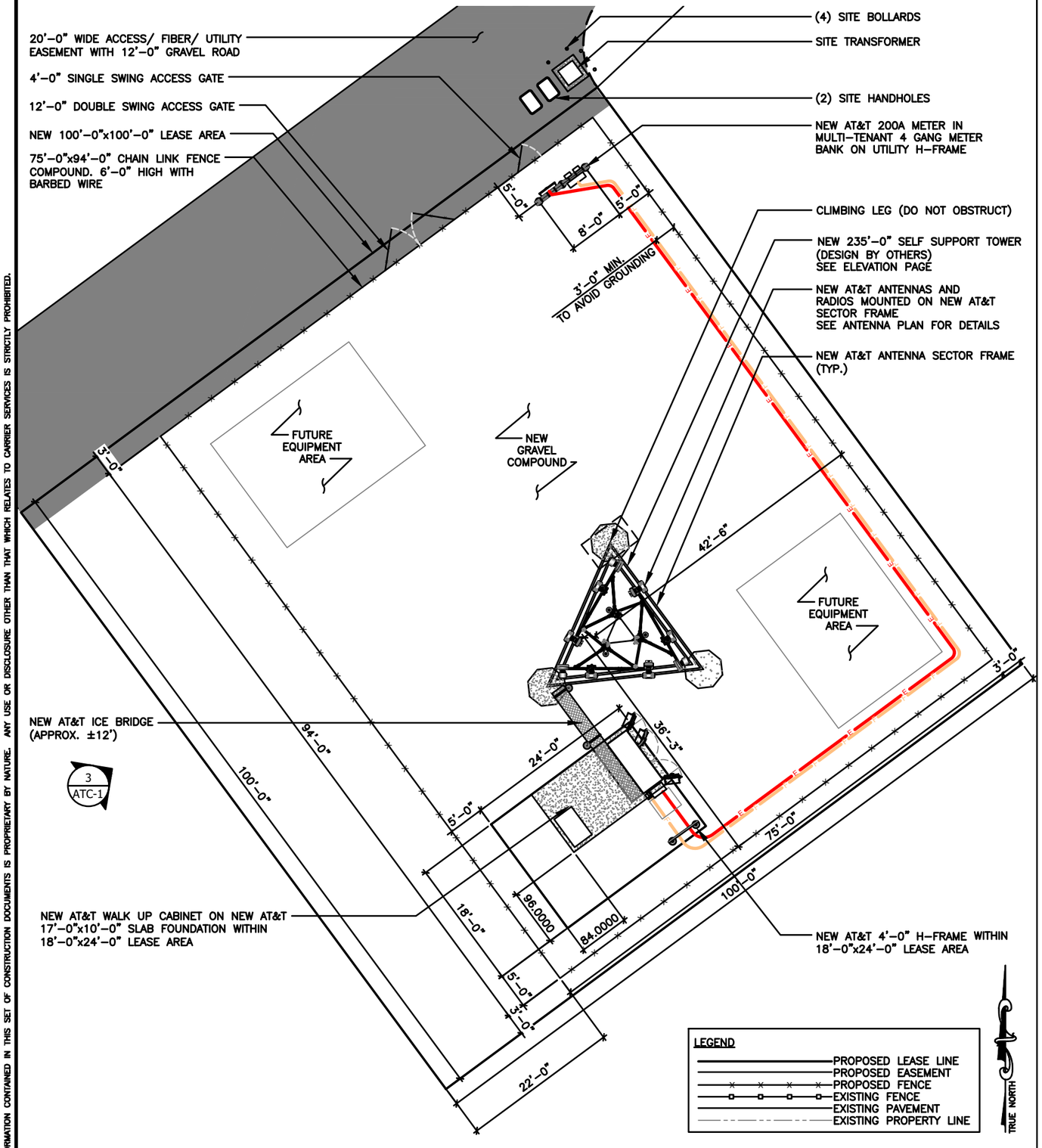
COMMONWEALTH OF KENTUCKY — PHILIP [illegible] — 35592 — LICENSED PROFESSIONAL ENGINEER
DATE: 08/30/21

TILLMAN OPP# TI-OPP-15818
TILLMAN SITE NAME:
BENTON
SITE ADDRESS:
840 SUNSET DR.
BENTON, KY 42025

SHEET TITLE
GROUNDING PLAN & RISER DIAGRAM

SHEET NUMBER
G-2



ENLARGED SITE PLAN

0 2' 4' 8'

SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

1

AT&T

AT&T SITE NUMBER: TBD
AT&T SITE NAME: BENTON
FA CODE: 14944231
SITE ADDRESS: 840 SUNSET DRIVE
BENTON, KY 42025
TILLMAN SITE # TI-OPP-15818

SITE INFORMATION

SITE ADDRESS:	840 SUNSET DRIVE BENTON, KY 42025	LANDLORD OWNER:	NORTHGATE ENTERPRISES INC (JAMES PATRICK "PAT" GORDON)
LATITUDE (NAD 83): LONGITUDE (NAD 83):	N36° 51' 12.08" (36.85933") W88° 22' 23.91" (-88.373124")	TOWER OWNER:	TILLMAN INFRASTRUCTURE 152 W. 57TH STREET NEW YORK, NEW YORK 1001
GROUND ELEVATION:	486' (AMSL)		
JURISDICTION:	STATE OF KENTUCKY PSC	STRUCTURE TYPE:	SELF SUPPORT TOWER
ZONING:	TBD	STRUCTURE HEIGHT:	235'-0" (AGL)
PARCEL/MAP NUMBER:	0B0501056000000	TILLMAN SITE #:	TI-OPP-15818

PROJECT TEAM

APPLICANT:	TILLMAN INFRASTRUCTURE 152 W. 57TH STREET NEW YORK, NEW YORK 10019
PROJECT MANAGEMENT FIRM:	LCC TELECOM SERVICES 10700 HIGGINS ROAD, SUITE 240 ROSEMONT, IL 60018 (847) 608-6300
ARCHITECT :	JOHN M. BANKS 604 FOX GLEN BARRINGTON, IL 60010 CONTACT: JOHN M. BANKS PHONE: (847) 277-0070 EMAIL: JBANKS@WESTCHESTERSERVICES.COM
ENGINEER:	PHILIP KOZIOL 604 FOX GLEN BARRINGTON, IL 60010 CONTACT: PHILIP KOZIOL PHONE: (847) 277-0070 EMAIL: PKOZIOL@WESTCHESTERSERVICES.COM

DRAWING INDEX

CODE COMPLIANCE

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 CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2012 INTERNATIONAL BUILDING CODE
- 2011 NATIONAL ELECTRICAL CODE
- 2012 NFPA 101, LIFE SAFETY CODE
- 2012 INTERNATIONAL FIRE CODE
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 13TH EDITION
- ANSI/TIA-222-H
- TIA 607
- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEERING 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
- TELECORDIA GR-1275
- ANSI/T 311

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

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CITI DATE: 08/30/21

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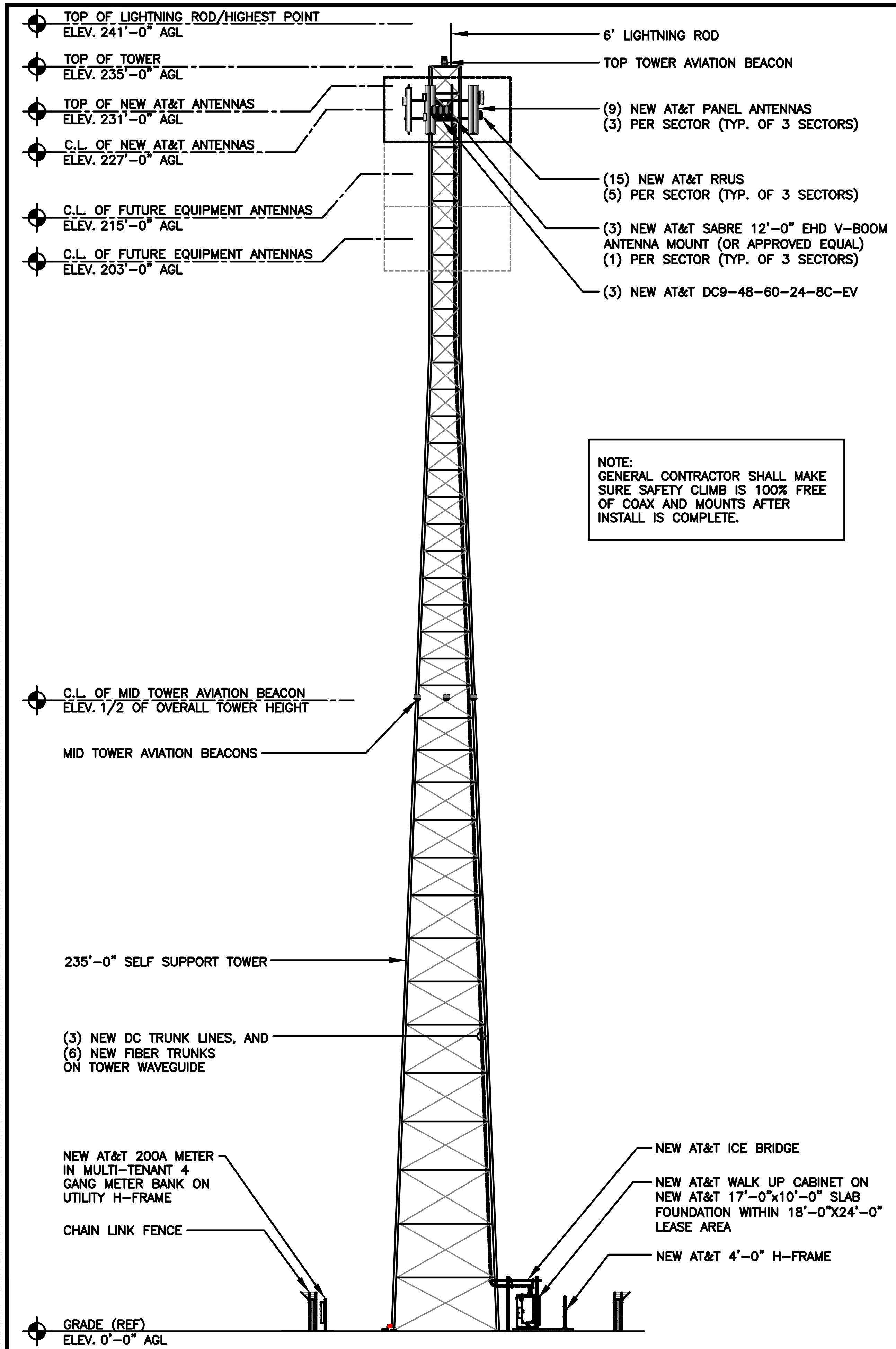
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

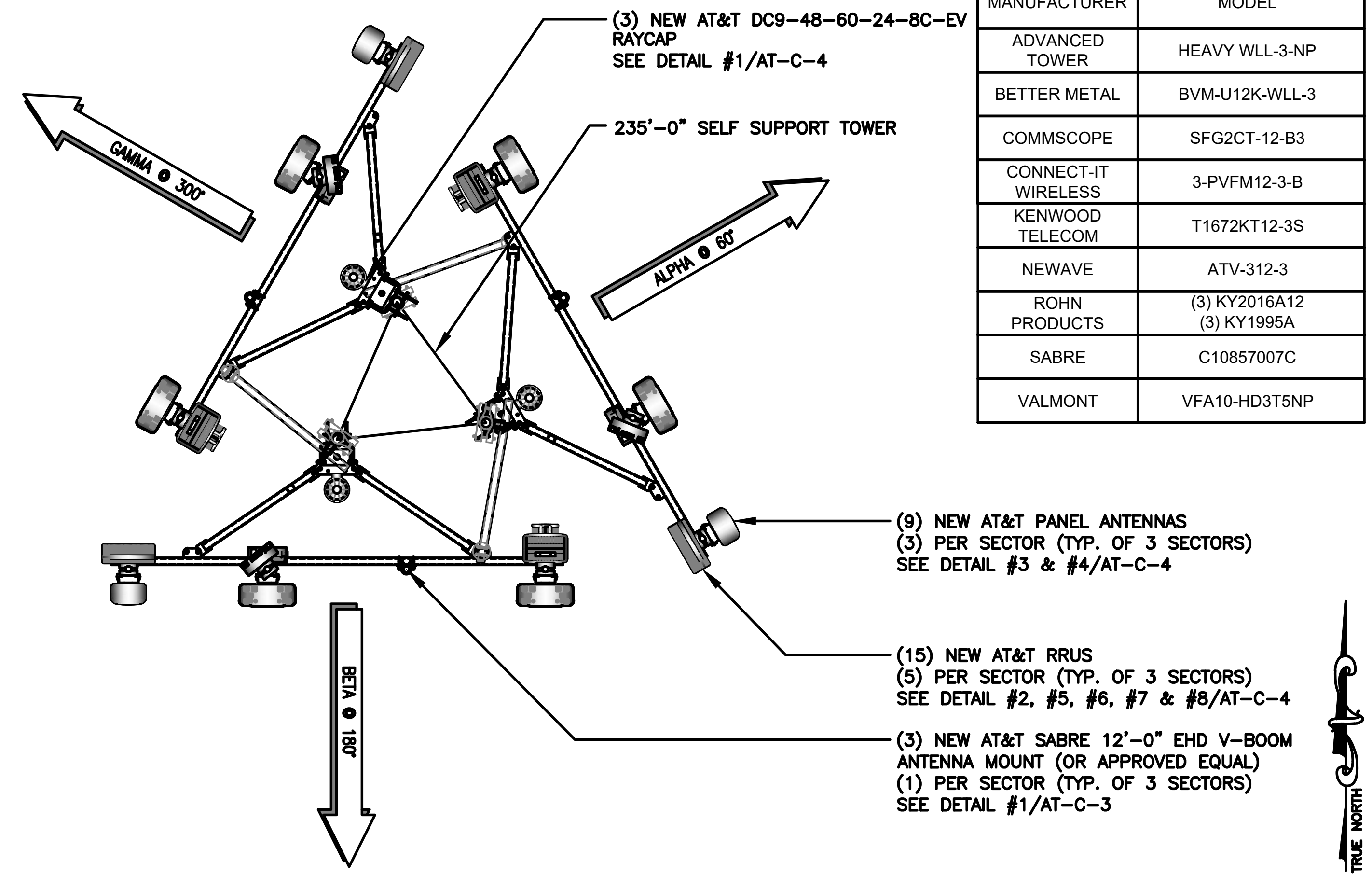
SHEET TITLE
TITLE SHEET & OVERALL SITE PLAN

SHEET NUMBER
AT-T-1



ELEVATION

SCALE N.T.S. 3



ANTENNA LAYOUT (SELF SUPPORT)

SCALE N.T.S. 2

APPROVED AT&T MOUNTS	
MANUFACTURER	MODEL
ADVANCED TOWER	HEAVY WLL-3-NP
BETTER METAL	BVM-U12K-WLL-3
COMMSCOPE	SFG2CT-12-B3
CONNECT-IT WIRELESS	3-PVFM12-3-B
KENWOOD TELECOM	T1672KT12-3S
NEWAVE	ATV-312-3
ROHN PRODUCTS	(3) KY2016A12 (3) KY1995A
SABRE	C10857007C
VALMONT	VFA10-HD3T5NP

ANTENNA AND RRH SCHEDULE BASED ON AT&T RFDS DATED: 24/02/19

SECTOR	ANTENNA	TECH	ANTENNA ℄ HEIGHT	AZIMUTH	RRU MODEL
ALPHA	COMMSCOPE NNH4-65D-R6	LTE 700 LTE 850 LTE 1900 LTE AWS	227'±	60°	RRUS 4449 B5/12 RRUS 8843 B2 B66A
	-	-	-	-	-
	COMMSCOPE NNH4-65D-R6	LTE 700 LTE WCS	227'±	60°	RRUS 4478 B14 RRUS 4415 B30
	ANDREW SBNHH-1D65C	LTE 700 5G 850	227'±	60°	RRUS E2 B29
BETA	COMMSCOPE NNH4-65D-R6	LTE 700 LTE 850 LTE 1900 LTE AWS	227'±	180°	RRUS 4449 B5/12 RRUS 8843 B2 B66A
	-	-	-	-	-
	COMMSCOPE NNH4-65D-R6	LTE 700 LTE WCS	227'±	180°	RRUS 4478 B14 RRUS 4415 B30
	ANDREW SBNHH-1D65C	LTE 700 5G 850	227'±	180°	RRUS E2 B29
GAMMA	COMMSCOPE NNH4-65D-R6	LTE 700 LTE 850 LTE 1900 LTE AWS	227'±	300°	RRUS 4449 B5/12 RRUS 8843 B2 B66A
	-	-	-	-	-
	COMMSCOPE NNH4-65D-R6	LTE 700 LTE WCS	227'±	300°	RRUS 4478 B14 RRUS 4415 B30
	ANDREW SBNHH-1D65C	LTE 700 5G 850	227'±	300°	RRUS E2 B29

CABLE COUNT	
QUANTITY	CABLE TYPE
9	6 CONDUCTOR (3 PR) 3/4" DC CABLE
3	36 FIBER (18 PR) 10MM FIBER
9	2" INNERDUCT

ANTENNA AND RRH SCHEDULE

SCALE N.T.S. 1

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

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FA # 14944231
SITE ADDRESS:
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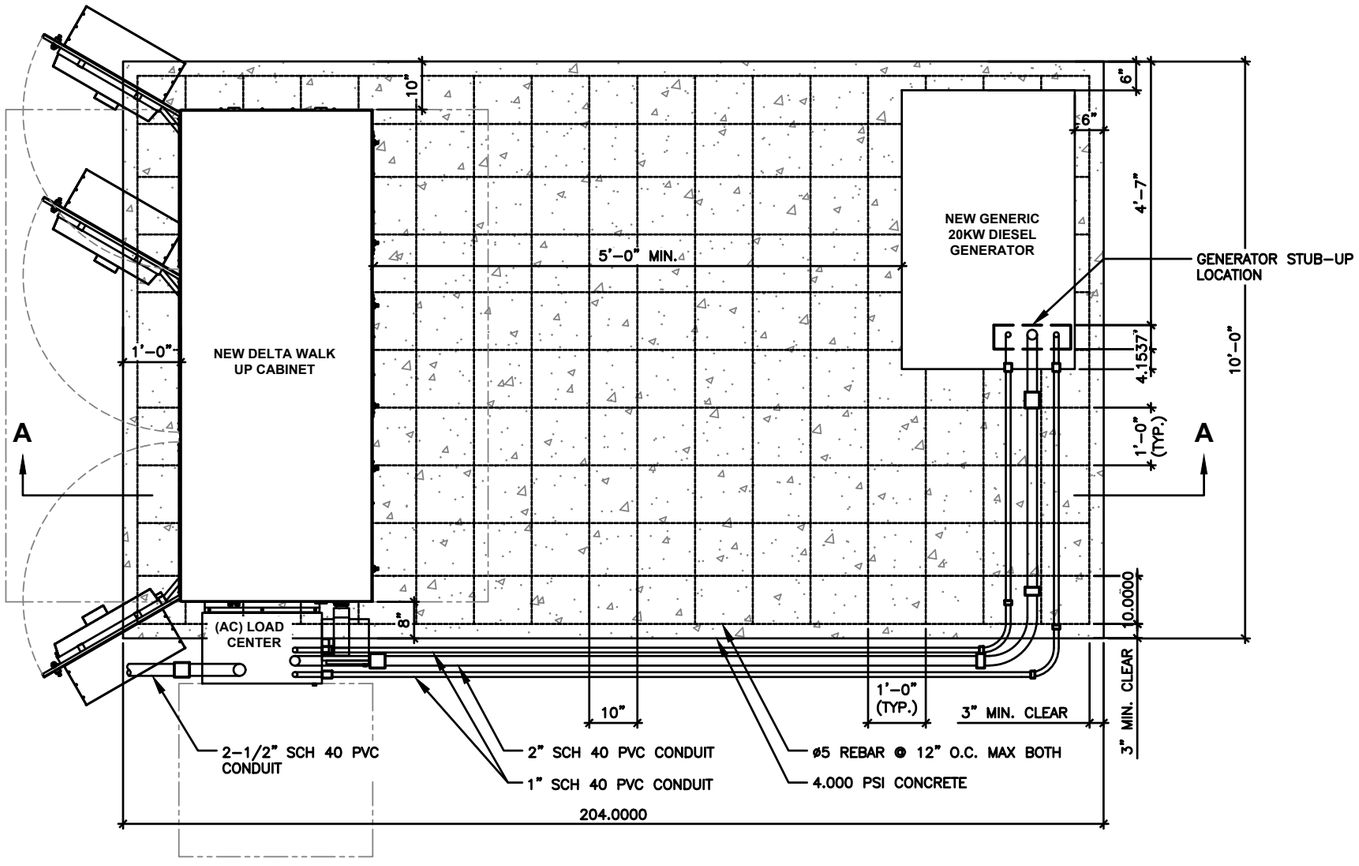
BENTON, KY 42025

SHEET TITLE
ELEVATION, ANT. PLAN & SCHEDULE

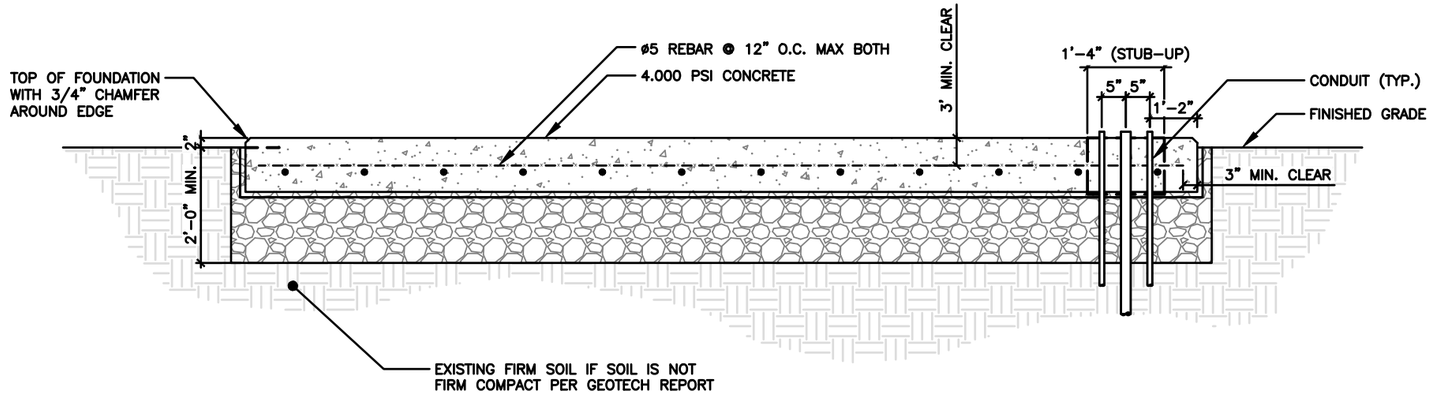
SHEET NUMBER
AT-C-1

FOUNDATION NOTES:

1. REFER TO CIVIL DRAWINGS FOR ORIENTATION OF FOUNDATION.
2. USE A HIGH–EARLY STRENGTH CONCRETE MIX SO THE CABINET MAY BE PLACED THREE DAYS FOLLOWING CONCRETE POURING. COARSE AGGREGATE USED IN THE CONCRETE SHALL BE GRADED FROM 3/4" TO NO. 4 ONLY. THE COMPRESSION STRENGTH OF THE CONCRETE MUST BE A MINIMUM OF 4000 PSI AS DETERMINED BY ASTM C39 TEST OF COMPRESSION STRENGTH OF CONCRETE CYLINDERS.
3. CURE THE PAD FOR A MINIMUM OF TREE DAYS BEFORE CABINET INSTALLATION, OR PER SPECIFICATIONS FOR THE TYPE OF CONCRETE USED AND PER LOCAL CODES AND REQUIREMENTS.
4. ALL CONCRETE SHALL HAVE 28 DAY STRENGTH OF 4000 PSI MINIMUM, WITH A SLUMP OF 3"–7" AND SHELL BE AIR ENTRAINED @ 5.5 ±1.1% 5 TEST CYLINDERS SHALL BE MADE FOR THE 3, 7, & (2) 28 DAYS TEST WITH ONE SPARE.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A615 FOR STEEL WELDED WIRE REINFORCEMENT UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "A" AND ALL HOOKS SHALL BE STANDARD UNLESS NOTED OTHERWISE.
6. CONTRACTOR TO ENSURE FOUNDATION / SLAB ARE POLISHED O MEET FLATNESS LEVEL TOLERANCES AS INDICATED IN ACI 4.5.6. AND AG 4.5.7.
7. SLAB TOLERANCE IS ±1/4".
8. THIS FOUNDATION IS DESIGNED FOR 2.000 PSF ALLOWABLE SOIL BEARING CAPACITY.
9. A CHAMFER 3/4", SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, IN ACCORDANCE WITH ACI XXX SECTION 4.2.4.
10. FOUNDATION BEARING MATERIAL SHELL BE TESTED & VERIFIED BY A LICENSED GEOTECHNICAL ENGINEERING.
11. GROUND REBAR TO GROUND RING IN (2) LOCATIONS USING #2 SOLID BARE TINNED COPPER GROUND WIRE.
12. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR ASS SHOWN ON THE DRAWING. NO XXXXXX SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
13. CONDUITS SHALL EXTEND APPROXIMATELY 2" ABOVE FINISHED SURFACE. SEAL CONDUITS TO PREVENT CONCRETE ENTRY DURING POUR.
14. CONTRACTOR SHALL VERIFY THE PLACEMENT OF CONDUITS WITH THE ACTUAL ENCLOSURE KNOCK–OUT AND STUB–UP LOCATIONS TO ENSURE THE PROPER ALIGNMENT OF ALL CONDUITS.



CABINET FOUNDATION PLAN



SECTION A-A

WUC PLATFORM DETAIL

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX : 847–277–0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY:	DS
CHECKED BY:	MC

REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

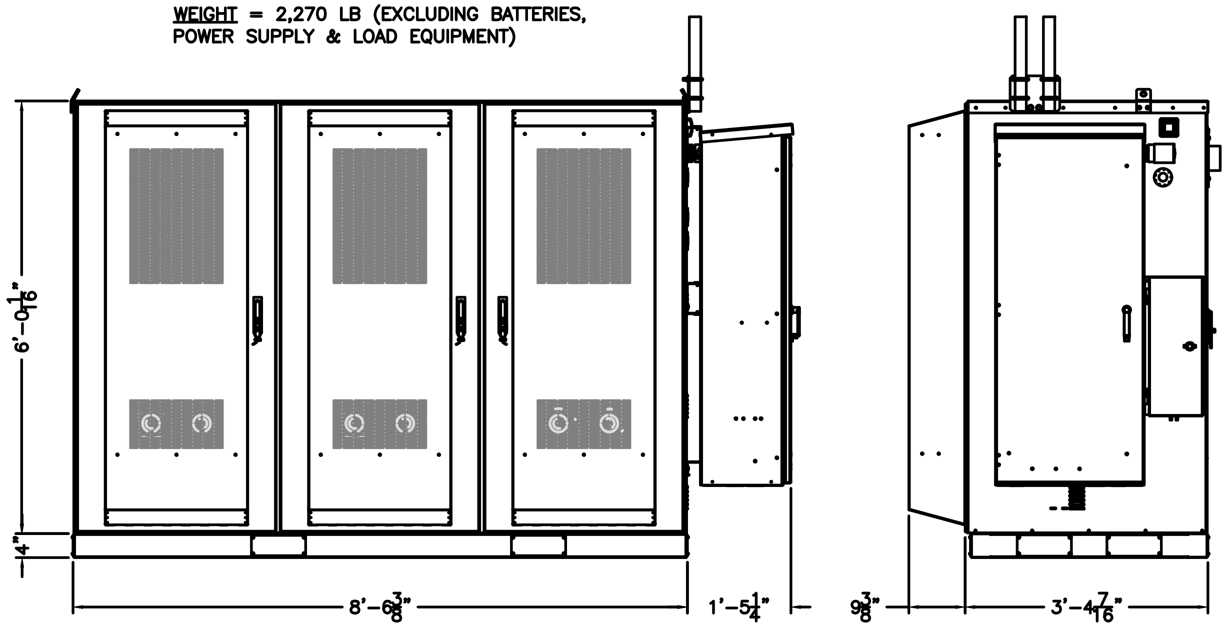
"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
DATE: 07/17/20
COMMONWEALTH OF KENTUCKY PHILIP 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
WALK UP CABINET PLATFORM DETAILS

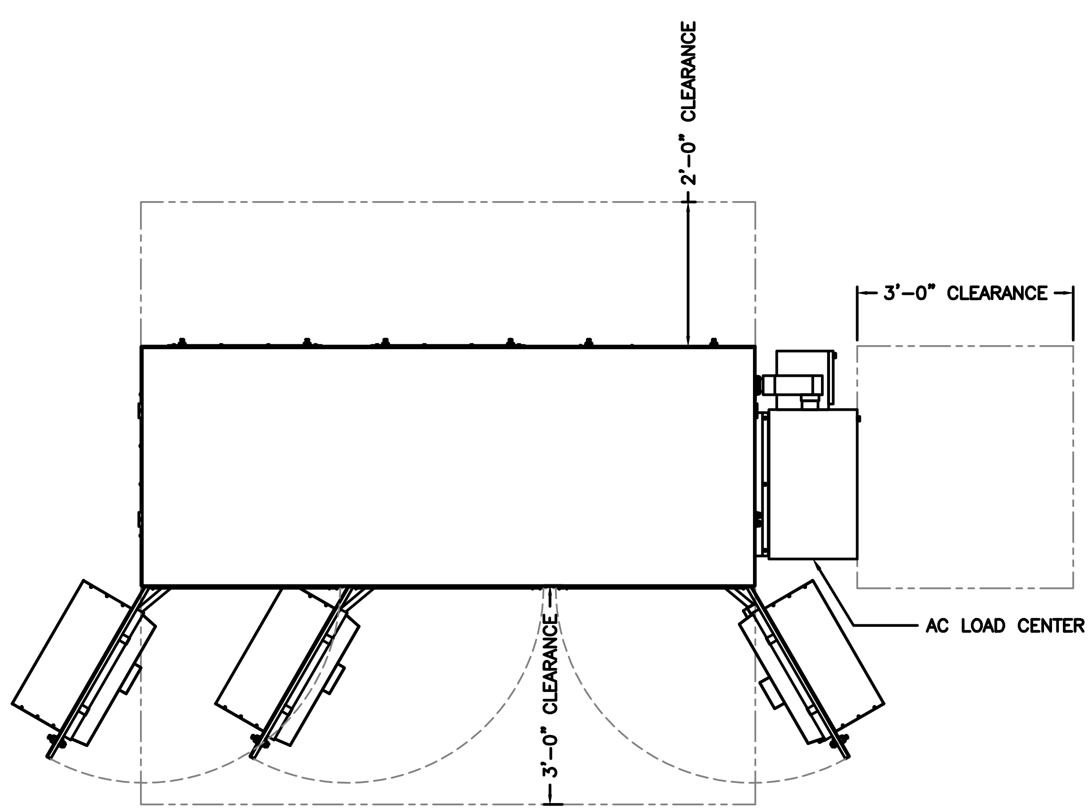
SHEET NUMBER
AT-C-2

KPSC Case No. 2020-00282
Exhibit C

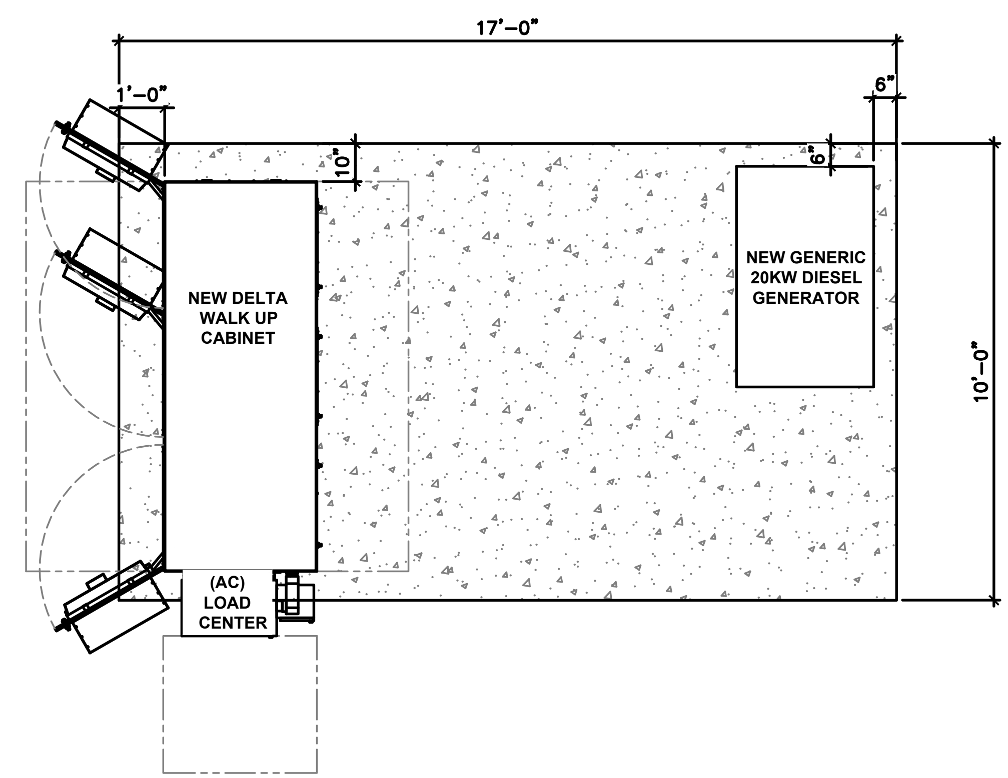


WALK UP CABINET ELEVATIONS — SCALE N.T.S. — 4

NOT USED — SCALE N.T.S. — 2



WALK UP CABINET DELTA ESOF030-HCU01 PLAN — SCALE N.T.S. — 3



WALK UP CABINET PLATFORM LAYOUT — SCALE N.T.S. — 1

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

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BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
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DATE: 07/17/20

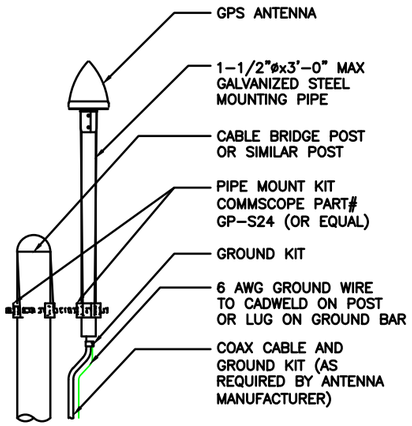
STATE OF KENTUCKY — PHILIP ... 35592 — LICENSED PROFESSIONAL ENGINEER

EXP. DATE: 06/30/21

AT&T SITE# TBD
AT&T SITE NAME: BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

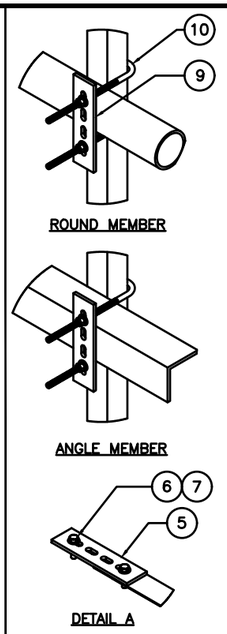
SHEET TITLE
WALK UP CABINET PLATFORM DETAILS

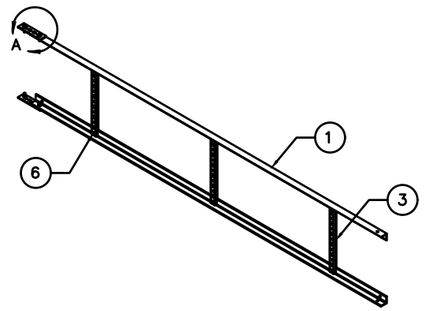
SHEET NUMBER
AT-C-2.1



GPS ANTENNA DETAIL

SCALE N.T.S. **5**

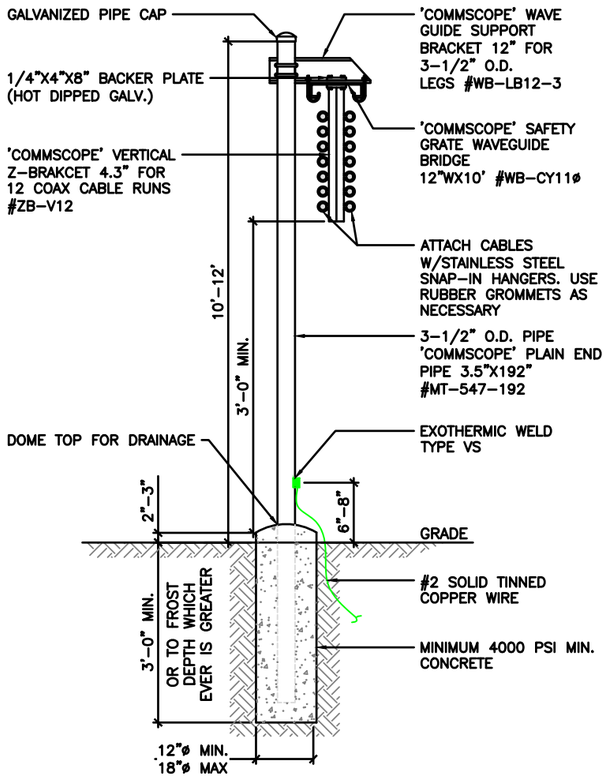




ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	CL20.01	20' ANGLE SIDE RAIL	2	49.38 LBS
2	CL0620UH	HARDWARE KIT (ITEMS 3-10)	1	–
3	CL06R.01	20" LADDER RUNG	6	1.69 LBS
4	CL20H	HARDWARE KIT (ITEMS 5-7)	1	–
5	HKCLU.02	BACKING PLATE	2	0.95 LBS
6	GB-03145	3/8" X 1-1/2" GALV BOLT KIT	16	0.07 LBS
7	GWF-03	3/8" GALV FLAT WASHER	4	0.01 LBS
8	HKCLU	LADDER HARDWARE KIT (ITEMS 9-10)	2	–
9	HKCLU.02	BACKING PLATE	4	0.95 LBS
10	JB-8K	8" GALV J-BOLT	8	0.36 LBS

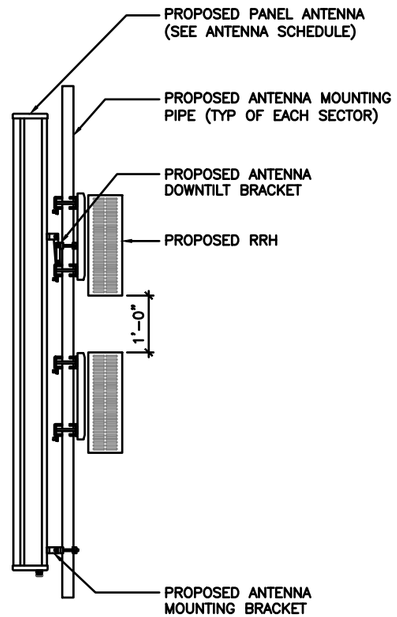
CABLE LADDER DETAIL

SCALE N.T.S. **3**



ICE BRIDGE DETAIL

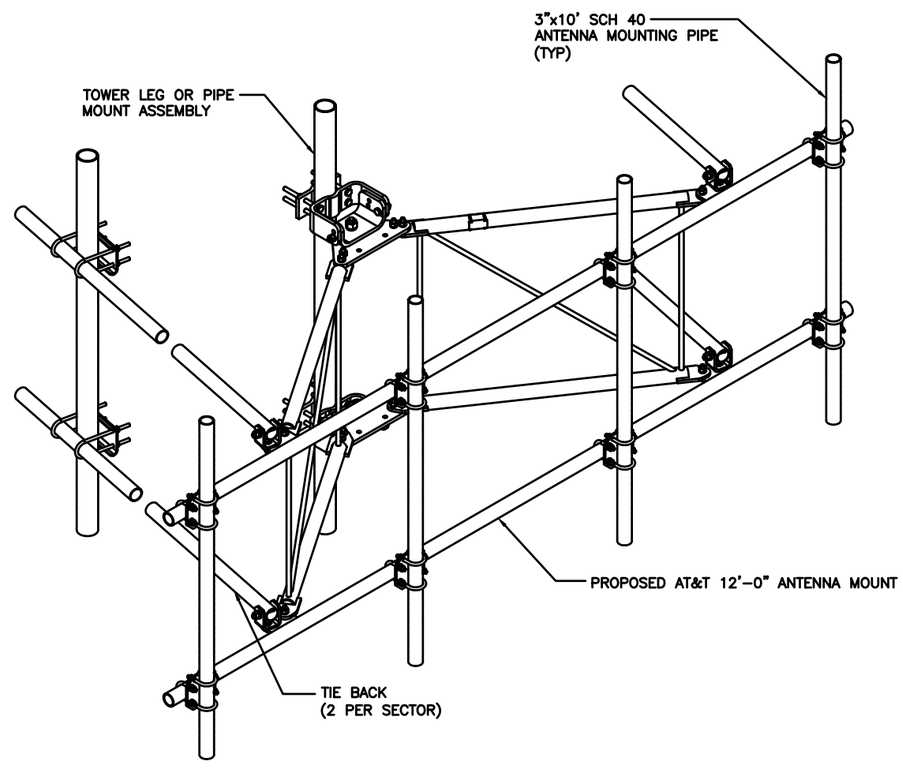
SCALE N.T.S. **4**



RRH MOUNTING DETAIL

SCALE N.T.S. **2**

APPROVED AT&T MOUNTS	
MANUFACTURER	MODEL
ADVANCED TOWER	HEAVY WLL-3-NP
BETTER METAL	BVM-U12K-WLL-3
COMMSCOPE	SFG2CT-12-B3
CONNECT-IT WIRELESS	3-PVFM12-3-B
KENWOOD TELECOM	T1672KT12-3S
NEWAVE	ATV-312-3
ROHN PRODUCTS	(3) KY2016A12 (3) KY1995A
SABRE	C10857007C
VALMONT	VFA10-HD3T5NP



ANTENNA FRAME DETAIL

SCALE N.T.S. **1**

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

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DATE: 07/17/20
COMMONWEALTH OF KENTUCKY PHILIP SCHNEIDER 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

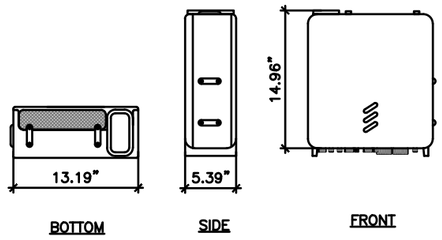
SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
AT-C-3

ERICSSON RRUS 4415 B30

DIMENSIONS, HxWxD: 14.96"x13.19"x5.39"

WEIGHT, WITHOUT MOUNTING KIT: ±21 kg (46 lbs)



REMOTE RADIO HEAD DETAIL 8

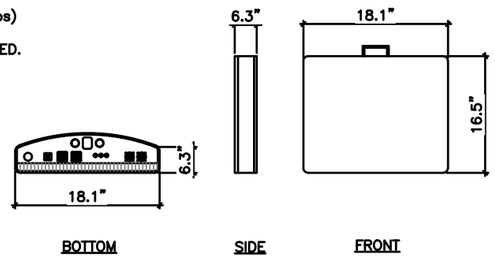
ERICCSON RRUS E2 B29

DIMENSIONS, HxWxD: 16.5"X18.1"X6.3"

WEIGHT, WITHOUT

MOUNTING KIT: 24.0 kg (53 lbs)

STACKING OF RRH'S IS NOT PERMITTED.
NO PAINTING OF RRU'S IS ALLOWED.

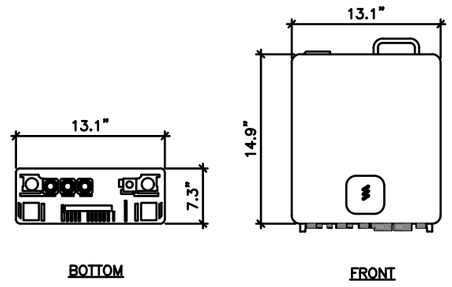


REMOTE RADIO HEAD DETAIL 7

ERICSSON RRUS B14 4478

DIMENSIONS, HxWxD: 14.9"x13.1"x7.3"

WEIGHT, WITHOUT MOUNTING KIT: 60 lbs

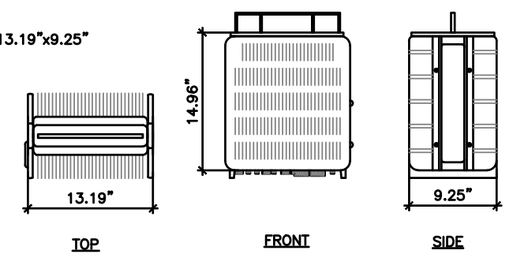


REMOTE RADIO HEAD DETAIL 6

ERICSSON RRUS 8843 B2/B66A

DIMENSIONS, HxWxD: 14.96"x13.19"x9.25"

WEIGHT, WITHOUT MOUNTING KIT: 70 lbs



REMOTE RADIO HEAD DETAIL 5

COMMSCOPE ANTENNAS SBNHH-1D65C

DIMENSIONS, HXWXD: 96"X11.9"X7.1"

SURVIVAL WIND SPEED: >150 MPH

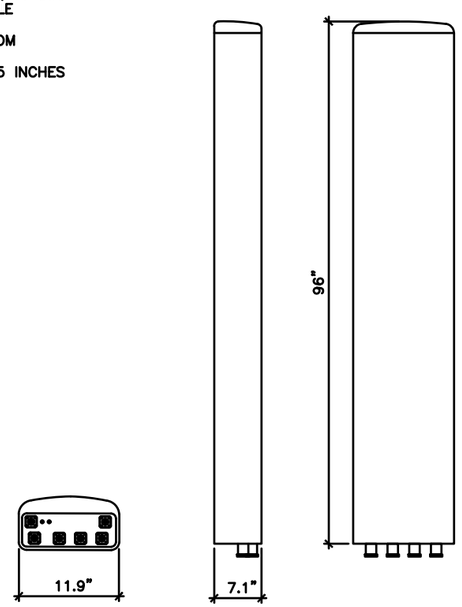
WEIGHT, WITHOUT MOUNTING: 49.6 LBS. (22.5 kg)

RET SYSTEM WEIGHT: 5.0 LBS.

CONNECTOR: (6) 7/16 DIN FEMALE

CONNECTOR POSITION: BOTTOM

MOUNTING POLE: 2-4.5 INCHES

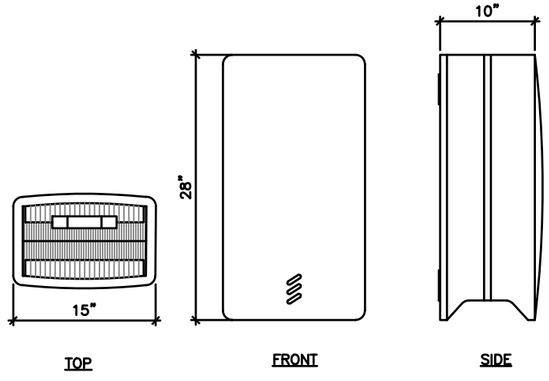


ANTENNA DETAIL 4

ERICSSON RRUS 4449 B5/12

DIMENSIONS, HxWxD: 28"x15"x10"

WEIGHT, WITHOUT MOUNTING KIT: 85 lbs



REMOTE RADIO HEAD DETAIL 2

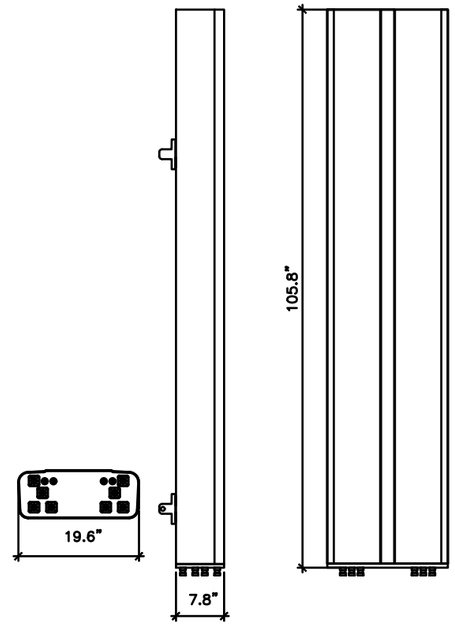
COMMSCOPE ANTENNAS NNH4-65D-R6

DIMENSIONS, HXWXD: 105.8"X19.6"X7.8"

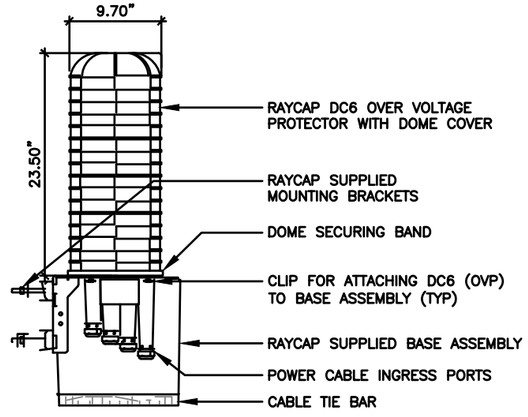
SURVIVAL WIND SPEED: >150 MPH

WEIGHT, WITHOUT MOUNTING: 82.0 LBS. (37.2 kg)

CONNECTOR POSITION: BOTTOM



ANTENNA DETAIL 3



RAYCAP DC9-48-60-24-8C-EV (SQUID) 1

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

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ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
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REV	DATE	DESCRIPTION
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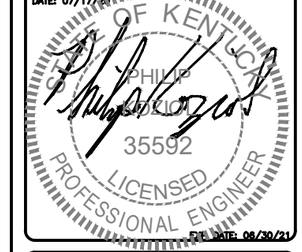
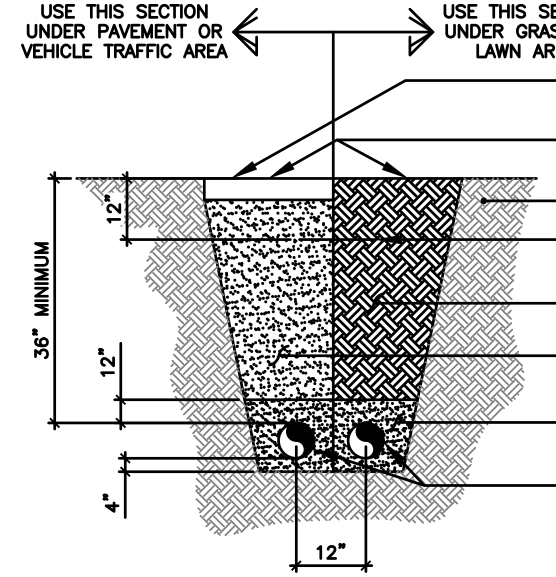


EXP. DATE: 08/30/21

AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
RRH, ANTENNA & EQUIPMENT SPECS.

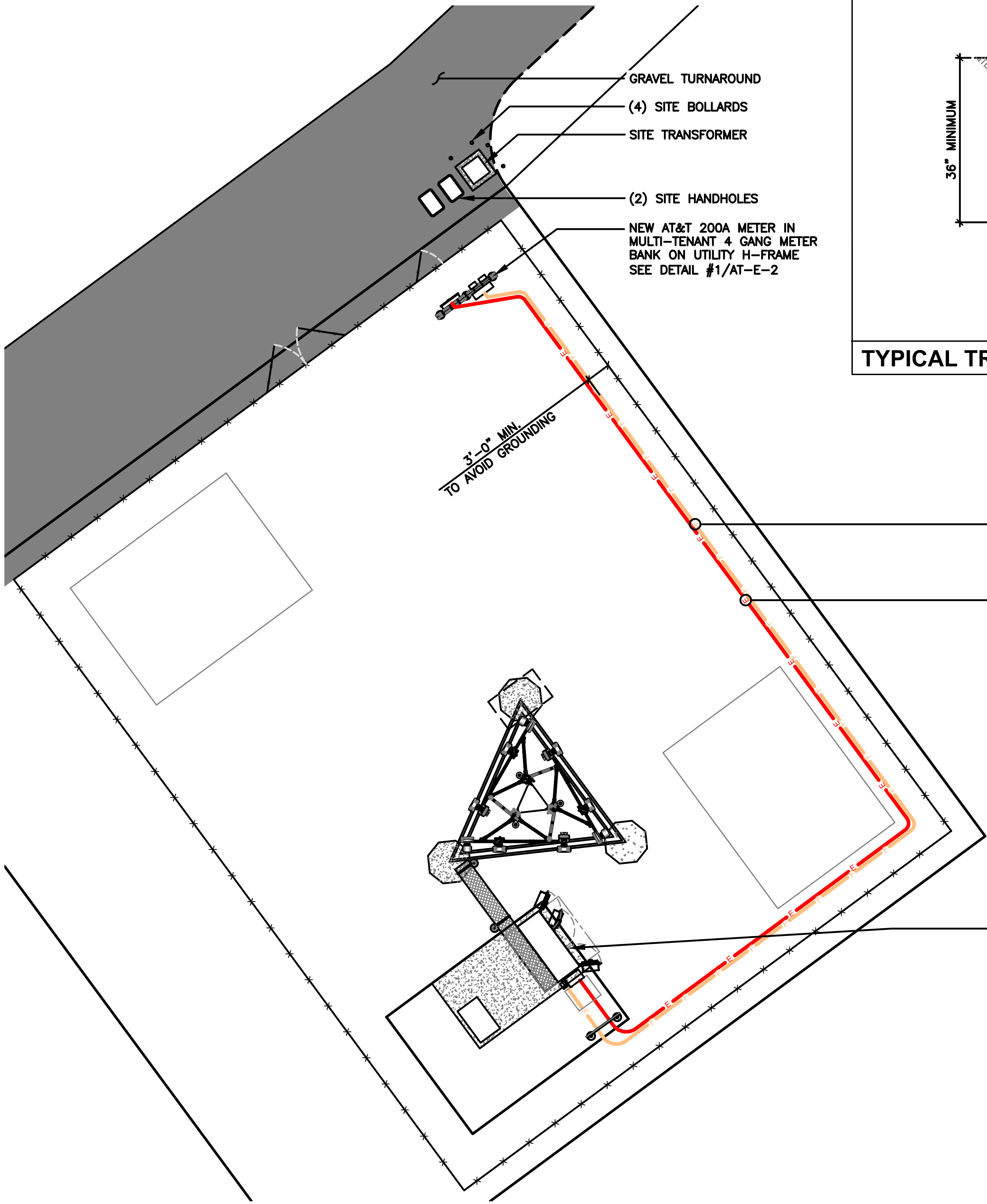
SHEET NUMBER
AT-C-4



NOTE:
1. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.

TYPICAL TRENCH DETAIL

SCALE N.T.S. 2



Know what's below. Call before you dig.

TRUE NORTH

LEGEND
- PROPOSED LEASE LINE
- PROPOSED EASEMENT
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING PROPERTY LINE

ENLARGED UTILITY PLAN

0 2' 4' 8'
SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)
1

TILLMAN INFRASTRUCTURE

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STATE OF KENTUCKY PHILIP ... 35592 LICENSED PROFESSIONAL ENGINEER

EXP. DATE: 06/30/21

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AT&T SITE NAME: BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
ENLARGED UTILITY PLAN

SHEET NUMBER
AT-E-1

1. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. VERIFY HEIGHTS WITH PROJECT MANAGER PRIOR TO INSTALLATION.
4. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
5. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
6. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
8. ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
9. ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
10. PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
11. DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
12. ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHW, RATED IN ACCORDANCE WITH NEC 110-14(C).
13. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
14. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
15. CONDUIT:

    A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
    B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
    C. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
    D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
    E. PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.
17. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
18. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
19. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
20. COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
21. VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
22. RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.

ELECTRICAL NOTES

SCALE N.T.S. 4

METER POSITION 2 – AT&T INTEGRATED LOAD CENTER

LOAD DESCRIPTION	QTY.	UNIT V.A.	LOAD PER PHASE (VA) A	LOAD PER PHASE (VA) B	WIRE COLOR	LOADS CONTINUOUS	LOADS NON-CONTINUOUS	LOADS SUB-PANEL	WIRE SIZE	GROUNDING WIRE SIZE	TRIP	TRIP	GROUNDING WIRE SIZE	WIRE SIZE	LOADS SUB-PANEL	LOADS NON-CONTINUOUS	LOADS CONTINUOUS	WIRE COLOR	LOAD PER PHASE (VA) A	LOAD PER PHASE (VA) B	LOAD UNIT V.A.	LOAD QTY.	LOAD DESCRIPTION	
1 RECTIFIER #1	1	1400	1400		BLK	X			8	(10)	40	40	(10)	8			X	BLK	1400		1400	1	RECTIFIER #5	2
3	1	1400		1400	RED													RED		1400	1400	1		4
5 RECTIFIER #2	1	1400	1400		BLK	X			8	(10)	40	40	(10)	8			X	BLK	1400		1400	1	RECTIFIER #6	6
7	1	1400		1400	RED													RED		1400	1400	1		8
9 RECTIFIER #3	1	1400	1400		BLK	X			8	(10)	40	40	(10)	8			X	BLK	1400		1400	1	RECTIFIER #7	10
11	1	1400		1400	RED													RED		1400	1400	1		12
13 RECTIFIER #4	1	1400	1400		BLK	X			8	(10)	40	40	(10)	8			X	BLK	1400		1400	1	RECTIFIER #8	14
15	1	1400		1400	RED													RED		1400	1400	1		16
17					BLK													BLK						18
19					RED	X			12	12	20							RED						20
21 GFCI RECEPTACLES	1	180	360		BLK	X			12	(12)	20							BLK						22
23 OPTIONAL FIBER BOX RECEPTACLE	1	180		180	RED	X			12	12	20							RED						24
25 BATTERY CHARGER	1	240	240		BLK	X			12	12	20							BLK						26
27 SPARE					RED	X			12	12	20							RED						28
29 SPARE					BLK	X			12	12	20							BLK						30
		SUBTOTAL CONTINUOUS	6200	5780															5,600	5,600	SUBTOTAL CONTINUOUS		TOTAL AMPS CONTINUOUS x 1.25	28975
		SUBTOTAL NON-CONTINUOUS	-	-															-	-	SUBTOTAL NON-CONTINUOUS		TOTAL AMPS NON-CONTINUOUS	-
		SUBTOTAL SUB-PANEL	-	-															-	-	SUBTOTAL SUB-PANEL			

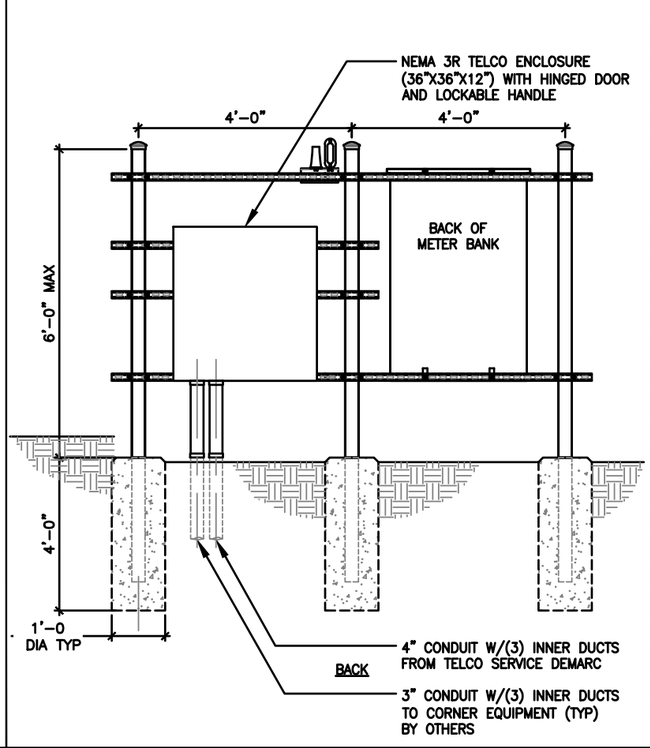
PANEL DESIGNATION: ELECTRICAL PANEL (ITEM 2)

MAIN LUGS: N/A | MAIN BREAKER: 200 AMP | BRANCH BREAKER TYPE: SIEMENS – BL | TOTAL KVA 28.97

VOLTAGE: 120/240 | CYCLE: 60 | PHASE: 1 | WIRES: 3 | MAIN COPPER BUS: 200 AMPS | NEUTRAL: 200 AMPS | TOTAL AMPS 120.72

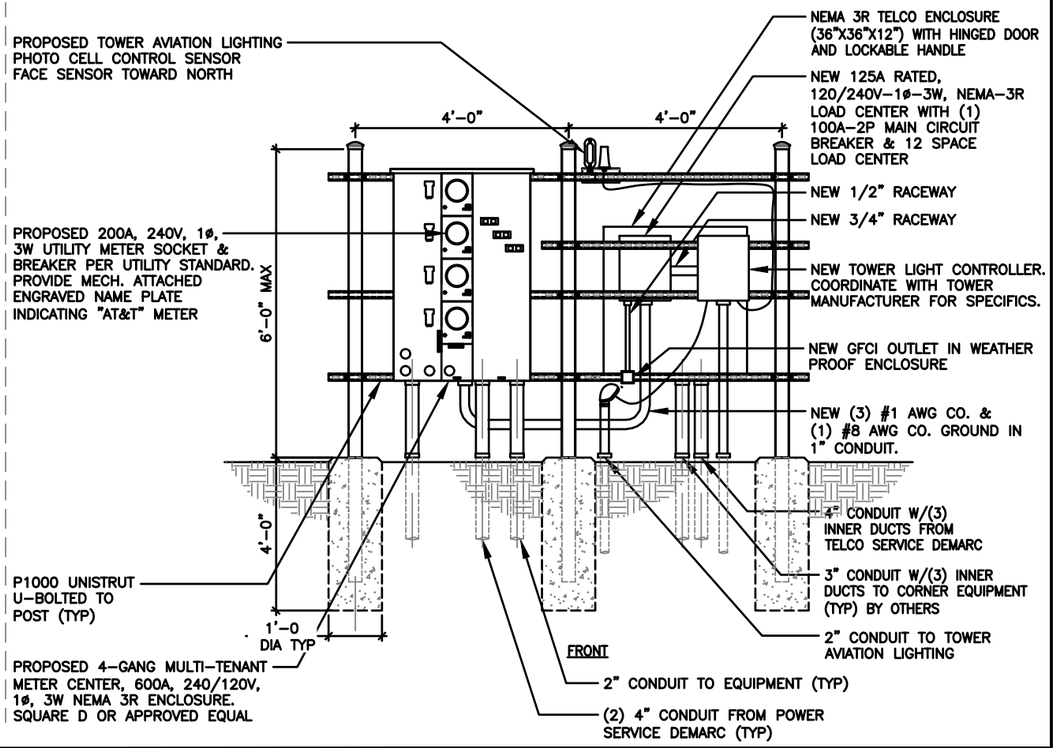
AT&T P - B PANEL SCHEDULE

SCALE N.T.S. 2



UTILITY FRAME DETAIL

SCALE N.T.S. 1



TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY: DS
CHECKED BY: MC

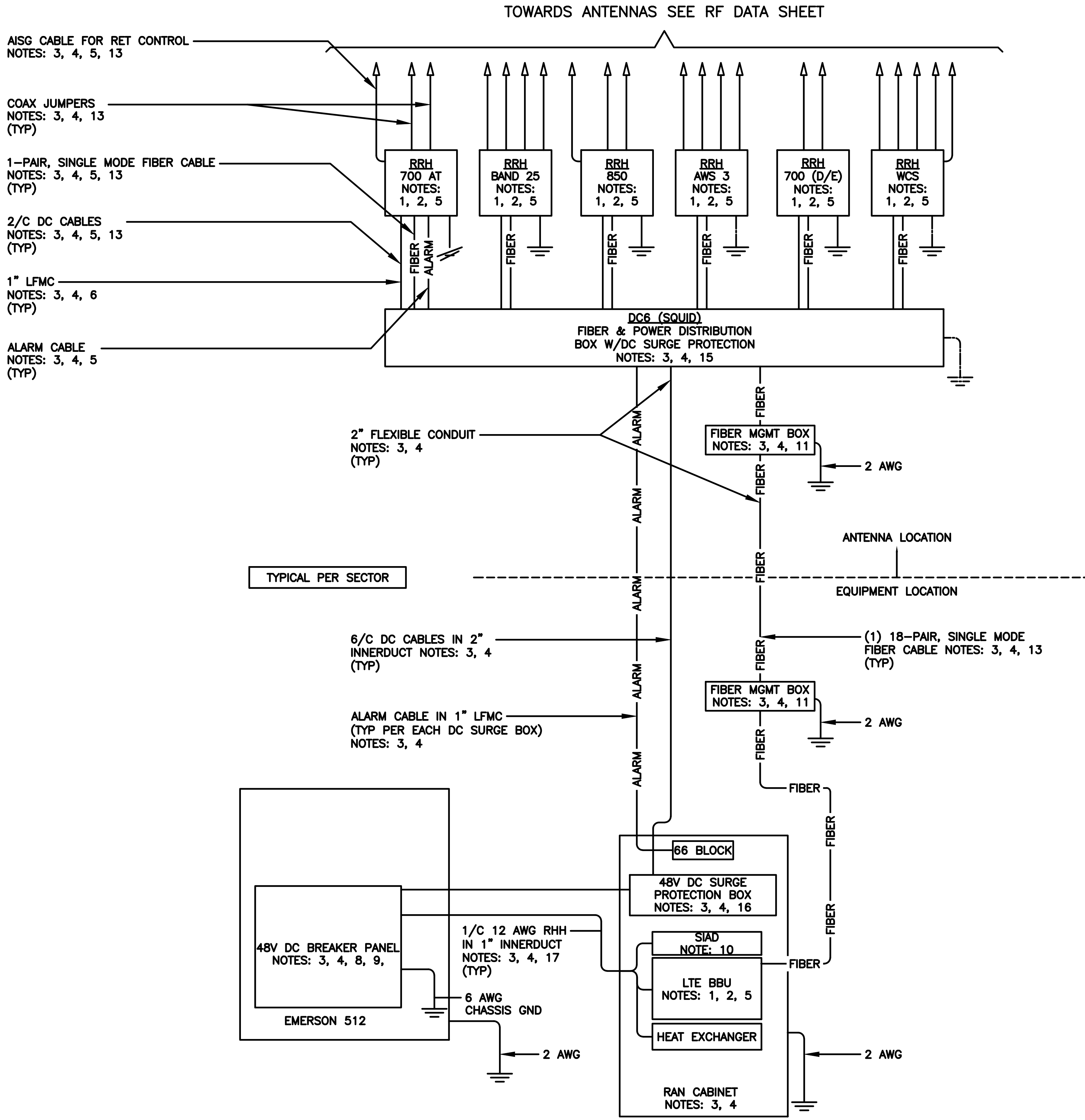
REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
DATE: 07/17/20
COMMONWEALTH OF KENTUCKY PHILIP SHELTON 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
ELECTRICAL SCHD., DIA & NOTES

SHEET NUMBER
AT-E-2



NOTES:

1. FURNISHED BY OEM/AT&T.
2. INSTALLED BY OEM OR AS SCOPED BY MARKET.
3. FURNISHED BY OTHERS
4. INSTALLED BY OTHERS
5. FINAL CONNECTION BY OEM OR AS SCOPED BY MARKET.
6. OPEN END OF LFMC TO BE LEFT WEATHERPROOFED UNTIL TERMINATED.
7. DELETED.
8. BREAKERS SPECIFIED SOLD SEPERATELY.
9. BREAKERS TO BE TAGGED AND LOCKED OUT.
10. SIAD IS FURNISHED AND INSTALLED BY OTHERS AND INCLUDES POWER CONNECTIONS AND FIBER TO THE UNIT OR AS SCOPED BY MARKET. INSTALL 10 AWG CHASSIS GROUND, PROVIDE (2) 10A BREAKERS FROM A 24V DC POWER SOURCE OR (2) 5A BREAKERS FROM A 48V DC POWER SOURCE AND CONNECT USING MFR POWER CABLE WITH SPECIAL CONNECTOR.
11. FIBER MANAGEMENT BOX IS J-SOURCE MODEL 12126FM4SEC.
12. LEC TO FURNISH AND INSTALL NETWORK INTERFACE DEVICE.
13. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
14. SEE DETAIL 1408 FOR DC POWER CABLE SIZES.
15. FIBER AND POWER DISTRIBUTION BOX 4/48V SURGE SHALL BE RAYCAP MODEL DC6-48-60-18-8F.
16. POWER DISTRIBUTION W/DC SURGE PROTECTION BOX SHALL BE RAYCAP MODEL DC6-48-60-0-18.
17. SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX OR KS24194, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER). UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS 1 (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL COPPER, CLASS B STRANDED WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
18. 10A FUSE FOR HEAT EXCHANGER FURNISHED AND INSTALLED BY OTHERS.
19. DELETED
20. GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
21. RET CONTROL FROM THE RRH IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
22. DELETED.
23. FIBER AND POWER DISTRIBUTION BOX 4/48V SURGE SHALL BE RAYCAP MODEL DC6-48-60-0-1E.
24. FIBER MANAGEMENT BOX IS COMMSCOPE MODEL FB 18188.
25. FIBER AND POWER DISTRIBUTION BOX 4/48V SURGE SHALL BE RAYCAP MODEL DC12-48-60-0-25E.

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY:	DS
CHECKED BY:	MC

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DATE: 07/17/20

STATE OF KENTUCKY
PHILIP
35592
LICENSED
PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

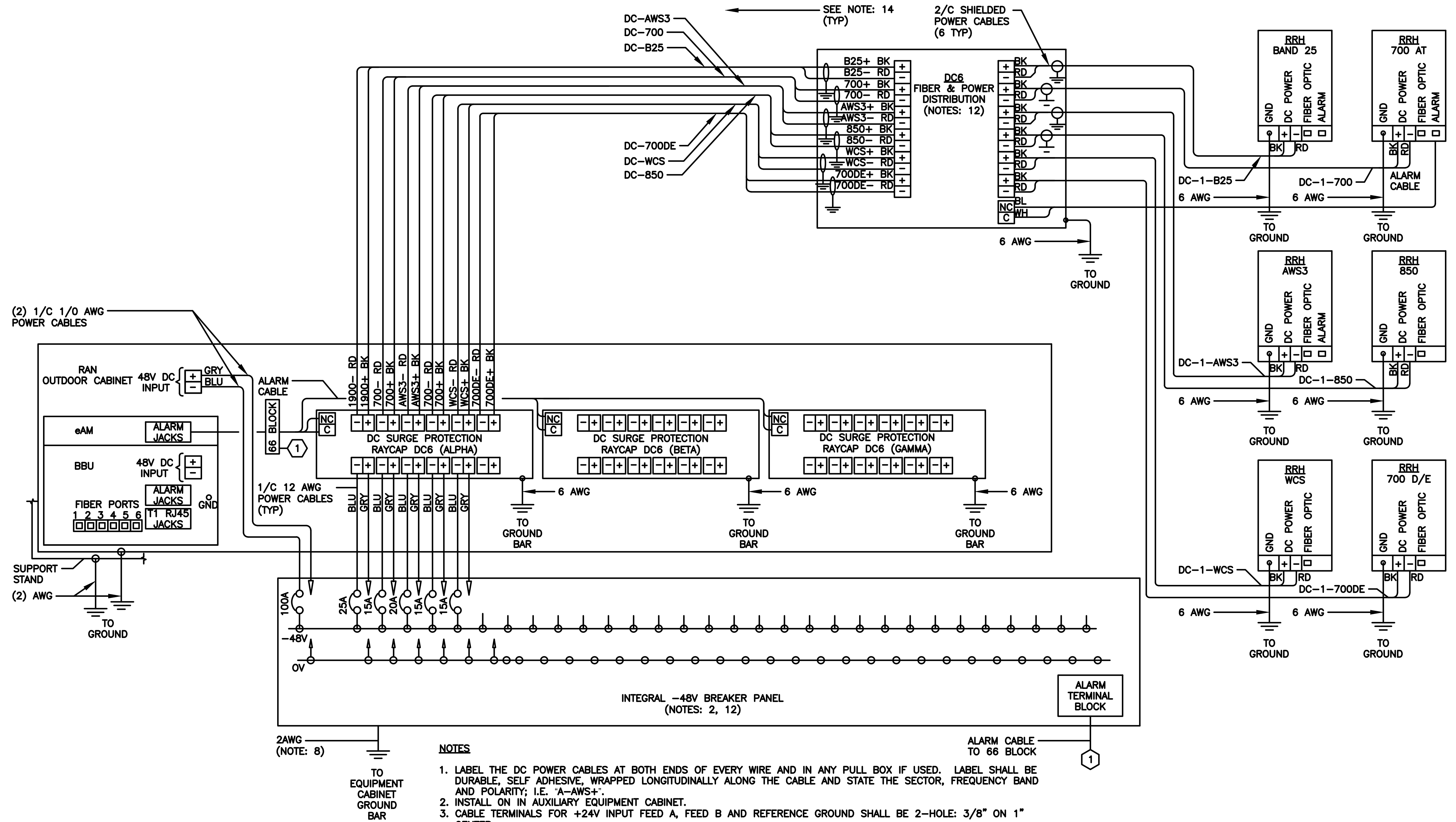
AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
DC/FIBER SYSTEM DIAGRAM

SHEET NUMBER
AT-E-3

DC/FIBER SYSTEM DIAGRAM

SCALE N.T.S. 1



NOTES

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A–AWS+".
2. INSTALL ON IN AUXILIARY EQUIPMENT CABINET.
3. CABLE TERMINALS FOR +24V INPUT FEED A, FEED B AND REFERENCE GROUND SHALL BE 2–HOLE: 3/8" ON 1" CENTER.
4. INSTALL CABLE TERMINALS FOR FEED A AND FEED B RETURN BACK–TO–BACK ON OPPOSITE SIDES OF PAD USING 1–HOLE 3/8" TERMINALS.
5. CABLE TERMINALS FOR CHASSIS GROUND SHALL BE 2–HOLE, 1/4" ON 5/8" CENTER.
6. WHEN DISTRIBUTION BOX IS NOT USED, INSTALL 3 RUNS OF (2) 2/C CABLES IN CONDUIT, 1 EACH FROM DC SURGE SHELF TO DC6s.
7. A JUNCTION BOX IS REQUIRED WHEN FIBER OPTIC CABLES ARE INSTALLED IN CONDUIT AS SCOPED BY MARKET.
8. CONVERTER REFERENCE GROUND IS NOT REQUIRED WHEN CONVERTER AND 24V DC POWER PLANT ARE ON THE SAME RACK OR ENCLOSURE.
9. THE BARE GROUND WIRE OF EACH MULTI–CONDUCTOR CABLE AND DRAIN WIRE WHEN A SHIELDED CABLE IS USED, SHALL BE CONNECTED TO THE EQUIPMENT CABINET GROUND BAR.
10. SEE ALARM BLOCK ASSIGNMENT DETAIL FOR ALARM CABLE CONNECTIONS.
11. PROVIDE A JUNCTION BOX, AS SCOPED BY MARKET, TO COIL EXCESS DC POWER AND OPTICAL FIBER CABLES (FIBER CALES NOT SHOWN FOR CLARITY)
12. NOTED EQUIPMENT MAY BE COMMON TO LTE AND UMTS SYSTEMS.
13. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN–TERMINATED AT RRH.
14. WHEN AN RRH IS USED INSTEAD OF AN AWS RRH CABLE, LABELS SHOULD REFLECT CORRECT FREQUENCY BAND.

TYPICAL PER SECTOR

DC WIRING DIAGRAM

SCALE N.T.S. 1

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

JOHN M. BANKS ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX: 847–277–0080
EMAIL: JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX: 847.277.0080
ae@westchesterservices.com

DRAWN BY: DS

CHECKED BY: MC

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DATE: 07/17/20

STATE OF KENTUCKY PHILIP ... 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

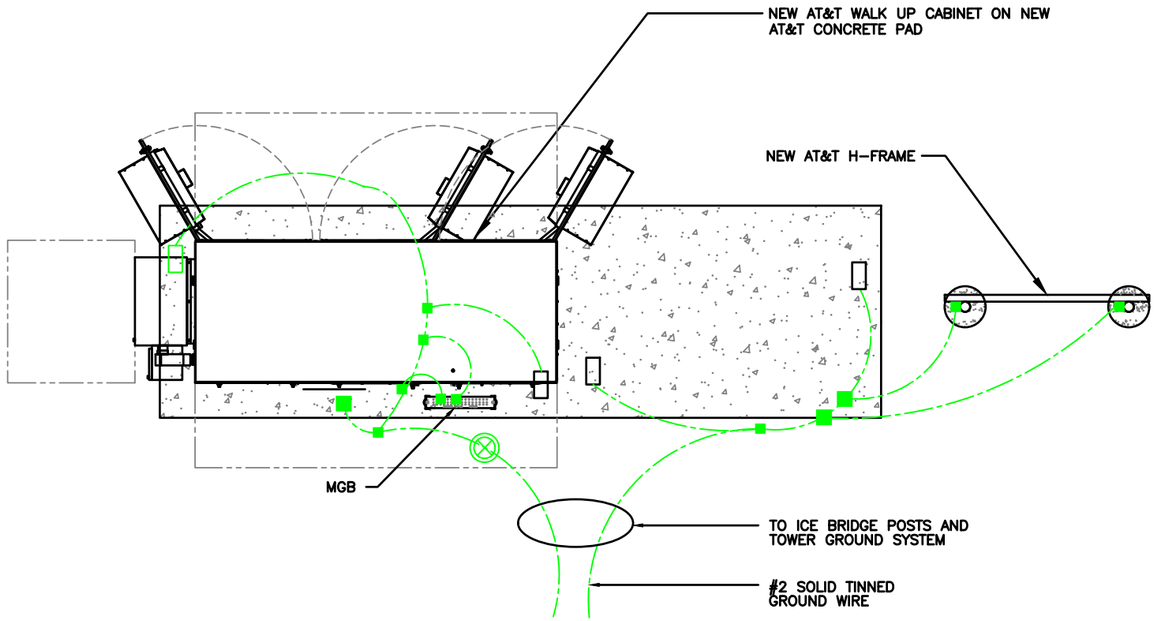
AT&T SITE# TBD
AT&T SITE NAME: BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
DC WIRING DIAGRAM

SHEET NUMBER
AT-E-4

GROUNDING LEGEND

	MECHANICAL CONNECTION
	EXOTHERMIC WELD CONNECTION
	COMPRESSION FITTING CONNECTION
	5/8"X10' COPPER-CLAD STEEL GROUND ROD
	5/8"X10' COPPER-CLAD STEEL GROUND ROD WITH INSPECTION WELL
	PROPOSED GROUND WIRING
	EXISTING GROUND WIRING
	TINNED COPPER GROUND BAR 1/4"X4"X12" OR 1/4"X4"X20"
CGB	COLLECTOR GROUND BAR
MGB	MAIN GROUND BAR



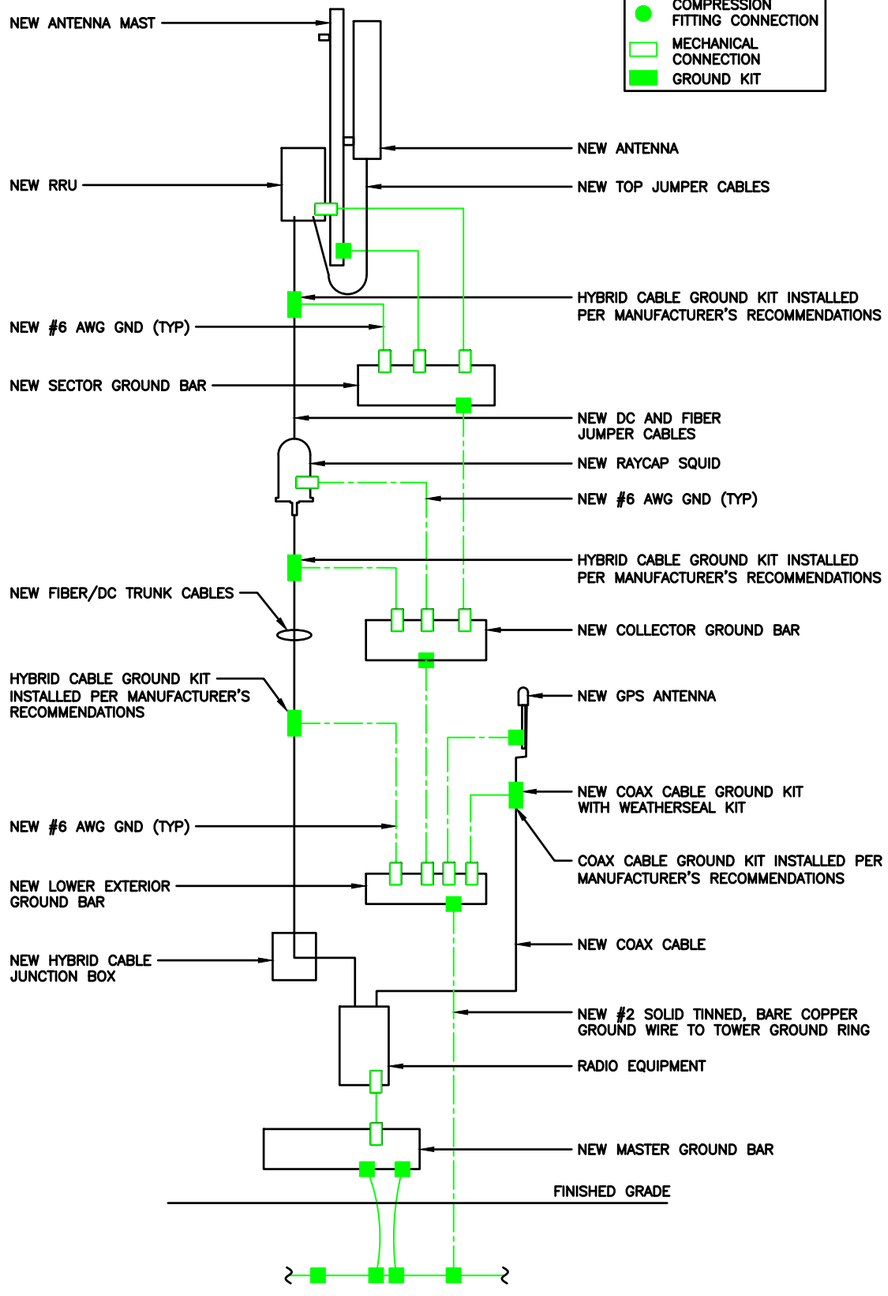
811 Know what's **below.** **Call** before you dig.

GROUNDING PLAN

SCALE N.T.S. 2

NOTE:
GROUND LEAD INSIDE RUBBER GROMMET TO BE ATTACHED WITH X-CROSS ZIP TIES TO BRACKET. DO NOT USE SNAP-IN HANGERS AROUND GROUNDS.

LEGEND
- EXOTHERMIC WELD CONNECTION
- COMPRESSION FITTING CONNECTION
- MECHANICAL CONNECTION
- GROUND KIT



RISER DIAGRAM

SCALE N.T.S. 1

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DRAWN BY:	DS
CHECKED BY:	MC

REV	DATE	DESCRIPTION
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DATE: 07/17/20
COMMONWEALTH OF KENTUCKY PHILIP CHRISTOPHER 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
GROUNDING PLAN & RISER DIAGRAM

SHEET NUMBER
AT-G-1

GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
9. REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITION ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"X10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 BARE TINNED COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
11. IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45°.
12. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
13. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO THE VERIZON WIRELESS CONSTRUCTION MANAGER.
14. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
15. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
16. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A METROPCS REPRESENTATIVE, AND RECORDED ON THE "GROUND RESISTANCE TEST" FORM.
17. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
18. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
19. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (3) RUNS OF #2 BARE TINNED COPPER WIRE.

GROUNDING NOTES — SCALE N.T.S. — 5

CABLE COLOR CODING NOTES:

1. SECTOR ORIENTATION/AZIMUTH WILL VARY FROM REGION AND IS SITE SPECIFIC. REFER TO RF REPORT FOR EACH SITE TO DETERMINE THE ANTENNA LOCATION AND FUNCTION OF EACH TOWER SECTOR FACE.
2. THE ANTENNA SYSTEM CABLES SHALL BE LABELED WITH VINYL TAPE EXCEPT IN LOCATIONS WHERE ENVIRONMENTAL CONDITIONS CAUSE PHYSICAL DAMAGE, THEN PHYSICAL TAGS ARE PREFERRED.
3. THE STANDARD IS BASED ON EIGHT COLORED TAPES – RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE & VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR SUBCONTRACTOR ON SITE.
4. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLES BY SECTOR AND NUMBER AS SHOWN ON "CABLE MARKING COLOR CONVENTION TABLE".
5. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN GSM/3G AND IS-136 TDMA IS ENCOUNTERED, THE SUBCONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING AND TAGGING STANDARD THAT IS OUTLINED IN THE CURRENT VERSION OF ND-00027. IN THE ABSENCE OF AN EXISTING COLOR CODING TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
6. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE A MINIMUM OR (3) WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
7. ALL COLOR BANDS INSTALLED AT THE TOP OF TOWER SHALL BE A MINIMUM OF 3" WIDE AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE IN BETWEEN EACH COLOR.
8. ALL COLOR CODES SHALL BE INSTALLED AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE TO SIDE.
9. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE GSM TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

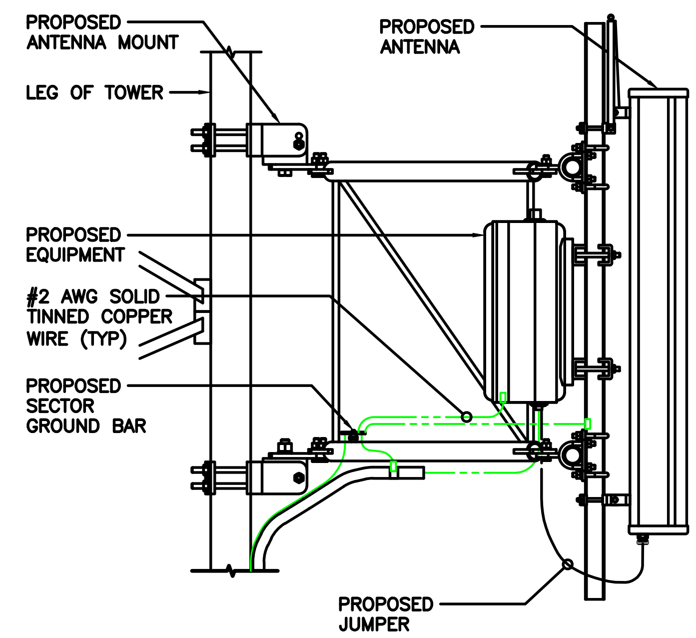
CABLE MARKING TAGS:

WHEN USING THE ALTERNATIVE LABELING METHOD, EACH RF CABLE SHALL BE IDENTIFIED WITH A METAL ID TAG MADE OF STAINLESS STEEL OR BRASS. THE TAG SHALL BE 1-1/2" IN DIAMETER WITH 1/4" STAMPED LETTERS AND NUMBERS INDICATION THE SECTOR, ANTENNA POSITION AND CABLE NUMBER. ID MARKING LOCATIONS SHOULD BE AS PER "CABLE MARKING LOCATIONS TABLE". THE TAG SHOULD BE ATTACHED WITH CORROSION PROOF WIRE AROUND THE CABLE AT THE SAME LOCATION AS DEFINED ABOVE. THE TAG SHOULD BE LABELED AS SHOWN ON THE "GSM AND UMTS LINE TAG" DETAIL.

CABLE MARKING LOCATIONS TABLE

NO.	LOCATIONS
1	EACH JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS AT THE TOP JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS PRIOR TO ENTERING THE BTS OR SHELTER.
3	CABLE ENTRY PORT ON THE INTERIOR OF SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

CABLE COLOR CODING NOTES — SCALE N.T.S. — 4



ANTENNA & CABLE GROUNDING — SCALE N.T.S. — 3

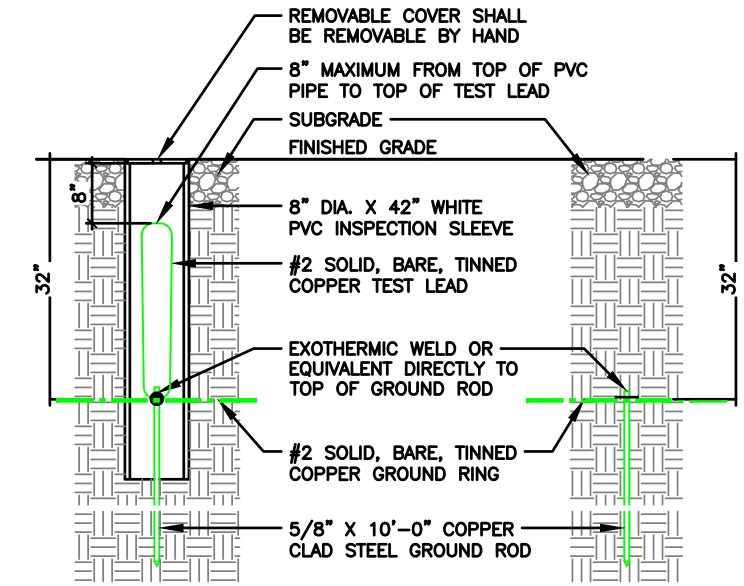
NOTE:
SEE RESISTIVITY REPORT FOR VERIFICATION AS AVAILABLE

NOTE:
GROUND RODS MAY BE COPPER CLAD STEEL OR SOLID COPPER

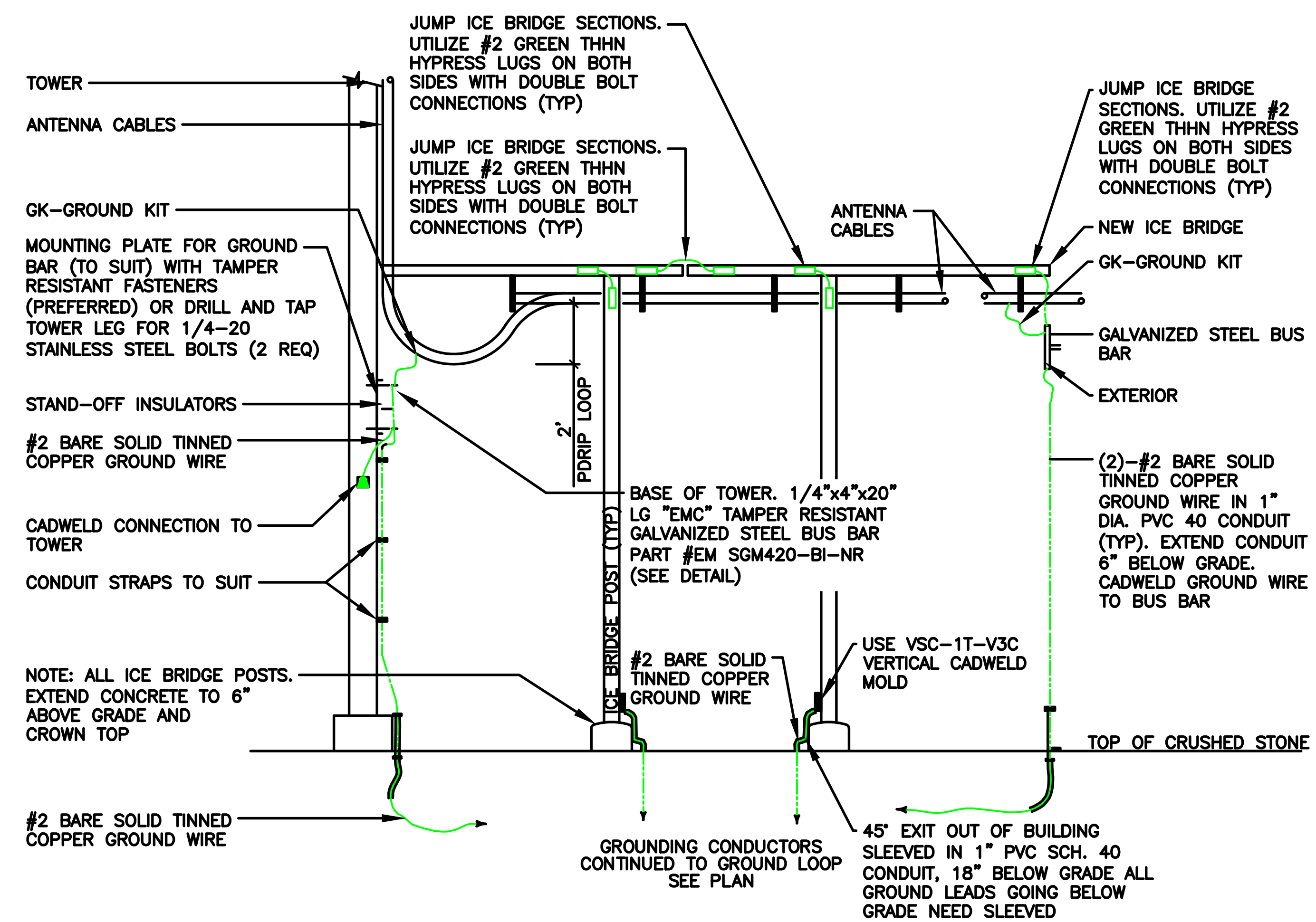
NOTE:
GROUND RODS SHALL HAVE A RECOMMENDED SPACING TWICE THE LENGTH OF THE ROD

NOTE:
A LARGER CONDUCTOR SHALL BE REQUIRED IN AREAS HIGHLY PRONE TO LIGHTNING AND/OR AREAS W/HIGHLY ACIDIC SOIL

NOTE:
GROUND RODS INSTALLED WITHIN CLOSE PROXIMITY TO TOWER OR WHEN SOIL IS AT OR BELOW 2,000 OHM-CM, SHALL BE GALVANIZED TO PREVENT GALVANIC CORROSION OF TOWER



GROUND WELL, ROD, AND TEST WELL DETAIL — SCALE N.T.S. — 2



COAXIAL GROUNDING AT ICE BRIDGE — SCALE N.T.S. — 1

TILLMAN INFRASTRUCTURE

AT&T mobility corp.

LCC TELECOM SERVICES

JOHN M. BANKS ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
EMAIL :JBANKS@WESTCHESTERSERVICES.COM

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
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REV	DATE	DESCRIPTION
0	07/17/20	PERMIT/CONSTRUCTION

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY"
DATE: 07/17/20

STATE OF KENTUCKY PHILIP ... 35592 LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 06/30/21

AT&T SITE# TBD
AT&T SITE NAME:
BENTON
FA # 14944231
SITE ADDRESS:
840 SUNSET DRIVE
BENTON, KY 42025

SHEET TITLE
GROUNDING DETAILS & NOTES

SHEET NUMBER
AT-G-2

KY Public Service Commission

Master Utility Search

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

Utility ID	Utility Name	Address/City/Contact	Utility Type	Status
				Active

Search

	Utility ID	Utility Name	Utility Type	Class	City	State
View	4111300	2600Hz, Inc. dba ZSWITCH	Cellular	D	San Francisco	CA
View	4108300	Air Voice Wireless, LLC	Cellular	B	Bloomfield Hill	MI
View	4110650	Alliant Technologies of KY, L.L.C.	Cellular	D	Morristown	NJ
View	4111900	ALLNETAIR, INC.	Cellular	C	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	Dunedin	FL
View	4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
View	4110700	Andrew David Balholm dba Norcell	Cellular	D	Buford	GA
View	4105700	Assurance Wireless USA, L.P.	Cellular	A	Atlanta	GA
View	4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
View	4106000	Best Buy Health, Inc. d/b/a GreatCall d/b/a Jitterbug	Cellular	A	San Diego	CA
View	4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
View	4111050	BlueBird Communications, LLC	Cellular	D	New York	NY
View	4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY

View	4107600	Boomerang Wireless, LLC	Cellular	D	Hiawatha	IA
View	4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
View	4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4111150	Comcast OTR1, LLC	Cellular	C	Phoeniexville	PA
View	4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
View	4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
View	4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
View	4111500	CSC Wireless, LLC d/b/a Altice Wireless	Cellular	D	Long Island City	NY
View	10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
View	4111650	DataBytes, Inc.	Cellular	D	Rogers	AR
View	4112000	DISH Wireless L.L.C.	Cellular	C	Englewood	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	4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
View	4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
View	4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Oak Hill	VA
View	4111750	Gabb Wireless, Inc.	Cellular	D	Provo	UT
View	4109350	Global Connection Inc. of America	Cellular	D	Norcross	GA
View	4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
View	4112050	GLOTELL US, Corp.	Cellular	C	Hallandale	FL
View	4109600	Google North America Inc.	Cellular	A	Mountain View	CA
View	33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
View	10630	GTE Wireless of the Midwest dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
View	4111350	HELLO MOBILE TELECOM LLC	Cellular	D	Dania Beach	FL
View	4103100	i-Wireless, LLC	Cellular	B	Newport	KY
View	4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Dallas	TX
View	4111950	J Rhodes Enterprises LLC	Cellular	C	Gulf Breeze	FL
View	22215360	KDDI America, Inc.	Cellular	D	Staten Island	NY
View	10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
View	10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY
View	10681	Kentucky RSA #4 Cellular	Cellular	A	Elizabethtown	KY

		General				
View	4109550	Kynect Communications, LLC	Cellular	D	Dallas	TX
View	4111250	Liberty Mobile Wireless, LLC	Cellular	D	Sunny Isles Beach	FL
View	4111400	Locus Telecommunications, LLC	Cellular	A	Fort Lee	NJ
View	4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
View	4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
View	4111700	Mint Mobile, LLC	Cellular	D	Costa Mesa	CA
View	4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ
View	4111850	Mobi, Inc.	Cellular	C	Honolulu	HI
View	4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
View	4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
View	4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS
View	4001800	OnStar, LLC	Cellular	A	Detroit	MI
View	4110750	Onvoy Spectrum, LLC	Cellular	D	Chicago	IL
View	4109050	Patriot Mobile LLC	Cellular	D	Irving	TX
View	4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
View	33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
View	4107700	Puretalk Holdings, LLC	Cellular	A	Covington	GA
View	4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
View	4108700	Ready Wireless, LLC	Cellular	C	Hiawatha	IA
View	4110500	Republic Wireless, Inc.	Cellular	A	Raleigh	NC
View	4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
View	4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	D	Los Angeles	CA
View	4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Fremont	NE
View	4110150	Spectrotel, Inc. d/b/a Touch Base Communications	Cellular	D	Neptune	NJ
View	4111450	Spectrum Mobile, LLC	Cellular	A	St. Louis	MO
View	4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
View	4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
View	4111600	STX Group LLC dba Twigby	Cellular	D	Murfreesboro	TN
View	4110200	T C Telephone LLC d/b/a Horizon Cellular	Cellular	D	Red Bluff	CA
View	4202200	T-Mobile Central, LLC dba T-Mobile	Cellular	A	Bellevue	WA
View	4002500	TAG Mobile, LLC	Cellular	D	Plano	TX
View	4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	Portland	ME
View	4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
View	4108900	Telrite Corporation	Cellular	D	Covington	GA

View	4108450	Tempo Telecom, LLC	Cellular	B	Atlanta	GA
View	4109000	Ting, Inc.	Cellular	A	Toronto	ON
View	4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
View	4103300	Touchtone Communications, Inc.	Cellular	D	Whippany	NJ
View	4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
View	4002000	Truphone, Inc.	Cellular	D	Durham	NC
View	4110300	UVNV, Inc. d/b/a Mint Mobile	Cellular	D	Costa Mesa	CA
View	4110800	Visible Service LLC	Cellular	D	Basking Ridge	NJ
View	4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
View	4110950	Wing Tel Inc.	Cellular	D	New York	NY

Sabre Industries™
INNOVATION DELIVERED

Structural Design Report

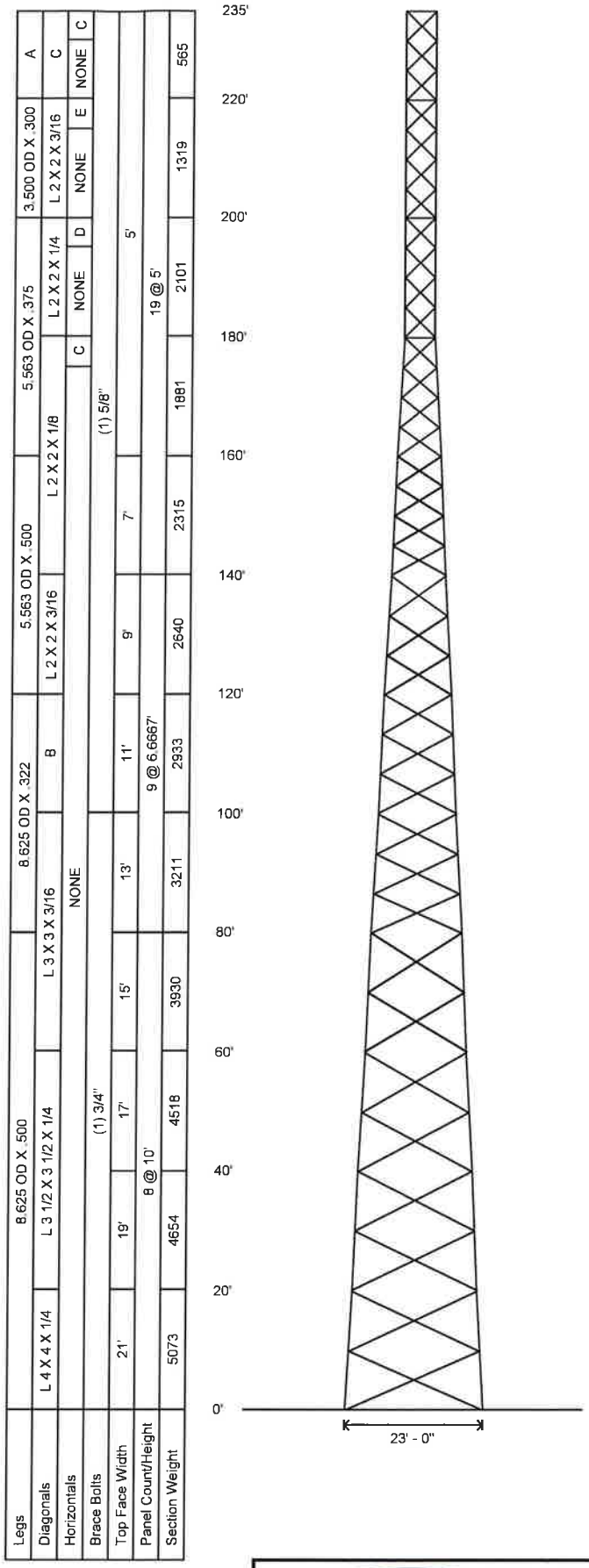
235' S3TL Series HD1 Self-Supporting Tower
Site: TI-OPP-15818/Benton, KY

Prepared for: TILLMAN INFRASTRUCTURE, LLC
by: Sabre Industries ™

Job Number: 21-1646-TJH

August 13, 2020

Digitally Signed By Robert Beacom
DN: c=US, st=Texas, l=Alvarado, o=SABRE INDUSTRIES, INC., cn=Robert Beacom, email=rebeacom@sabreindustries.com Date: 2020.08.13 16:09:03



Designed Appurtenance Loading

Elev	Description	Tx-Line
227	(1) 278 sq. ft. EPA 6000# (no Ice)	(9) 1 5/8"
215	(1) 208 sq. ft. EPA 4000# (no ice)	(9) 1 5/8"
203	(1) 208 sq. ft. EPA 4000# (no ice)	(9) 1 5/8"
183	(2) Leg Dish Mount	
183	(2) 4' Solid Dish w/ Radome	(2) 1 5/8"

Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	106 mph
Wind Speed (Ice)	30 mph
Design Ice Thickness	1.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	487 ft

Base Reactions

Total Foundation		Individual Footing	
Shear (kips)	57.41	Shear (kips)	36.31
Axial (kips)	152.53	Compression (kips)	454
Moment (ft-kips)	8622	Uplift (kips)	404
Torsion (ft-kips)	-31.38		

Material List

Display	Value
A	2.375 OD X .154
B	L 2 1/2 X 2 1/2 X 3/16
C	L 2 X 2 X 1/8
D	L 2 X 2 X 1/4
E	L 2 X 2 X 3/16

Notes

1) All legs are A500 (50 ksi Min. Yield).
2) All braces are A572 Grade 50.
3) All brace bolts are A325-X.
4) The tower model is S3TL Series HD1.
5) Transmission lines are to be attached to standard 12 hole waveguide ladders with stackable hangers.
6) Azimuths are relative (not based on true north).
7) Foundation loads shown are maximums.
8) All unequal angles are oriented with the short leg vertical.
9) Weights shown are estimates. Final weights may vary.
10) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2015 International Building Code.
11) Tower Rating: 99.94%

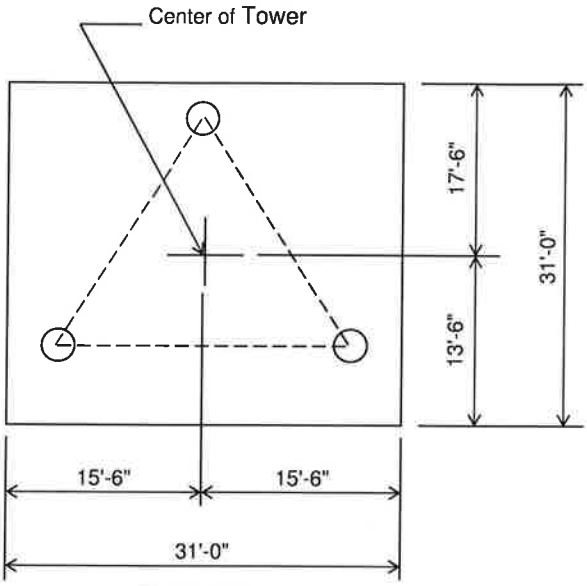
Sabre Industries
INNOVATION DELIVERED
Sabre Industries
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258-6690
Fax: (712) 279-0814

Job:	21-1646-TJH
Customer:	TILLMAN INFRASTRUCTURE, LLC
Site Name:	TI-OPP-15818/Benton, KY
Description:	235' S3TL
Date:	8/13/2020

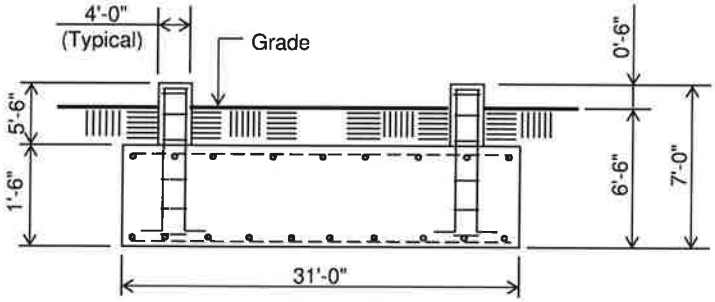
Sabre Industries
INNOVATION DELIVERED

No.: 21-1646-TJH
Date: 08/13/2020
By: DO

Customer: TILLMAN INFRASTRUCTURE, LLC
Site: TI-OPP-15818/Benton, KY
235 ft. Model S3TL Series HD1 Self Supporting Tower



PLAN VIEW



ELEVATION VIEW

(61.1 cu. yds.)
(1 REQD.; NOT TO SCALE)

CAUTION: Center of tower is not in center of slab.

Notes:

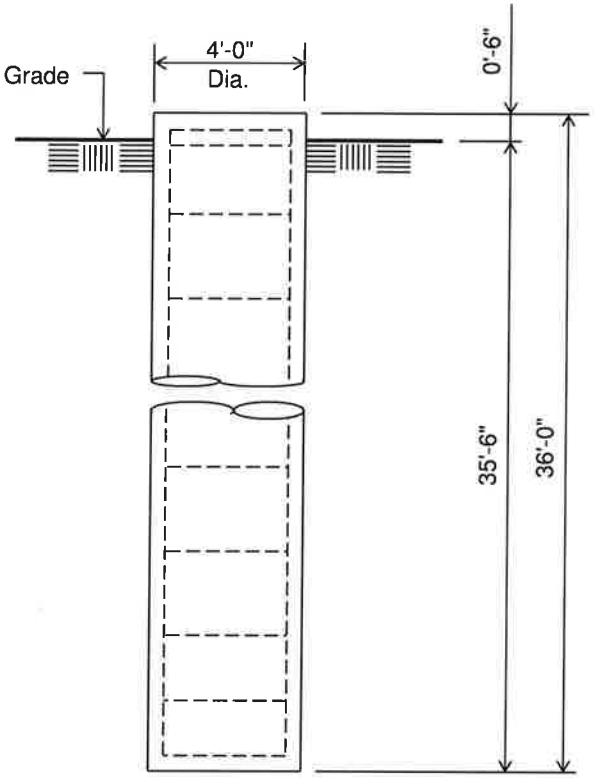
1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
2) Rebar to conform to ASTM specification A615 Grade 60.
3) All rebar to have a minimum of 3" concrete cover.
4) All exposed concrete corners to be chamfered 3/4".
5) The foundation design is based on the geotechnical report by Giles Project No: 1G-2007014, Date: 08/04/20
6) See the geotechnical report for compaction requirements, if specified.
7) 5' of soil cover is required over the entire area of the foundation slab.
8) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.

Rebar Schedule per Mat and per Pier	
Pier	(20) #7 vertical rebar w/ hooks at bottom w/ #4 rebar ties, two (2) within top 5" of pier then 4" C/C
Mat	(58) #9 horizontal rebar evenly spaced each way top and bottom. (232 total)
Anchor Bolts per Leg	
(6) 1.5" dia. x 78" F1554-105 on a 13.25" B.C. w/ 9.5" max. projection above concrete.	

Sabre Industries
INNOVATION DELIVERED

No.: 21-1646-TJH
Date: 08/13/2020
By: DO

Customer: TILLMAN INFRASTRUCTURE, LLC
Site: TI-OPP-15818/Benton, KY
235 ft. Model S3TL Series HD1 Self Supporting Tower



ELEVATION VIEW
(16.8 cu. yds.)
(3 REQUIRED; NOT TO SCALE)

Notes:

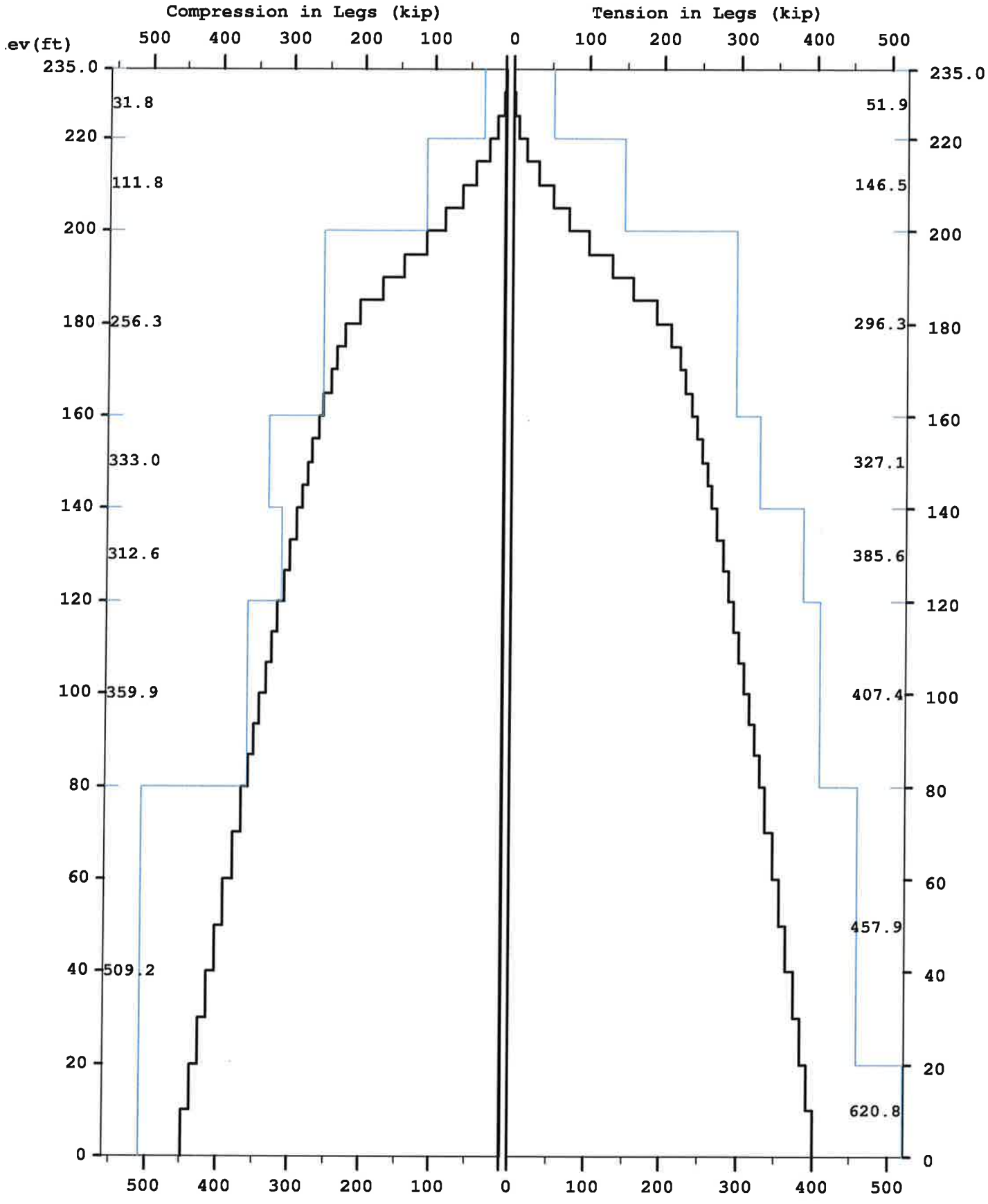
1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
2) Rebar to conform to ASTM specification A615 Grade 60.
3) All rebar to have a minimum of 3" concrete cover.
4) All exposed concrete corners to be chamfered 3/4".
5) The foundation design is based on the geotechnical report by Giles Project No: 1G-2007014, Date: 08/04/20
6) See the geotechnical report for drilled pier installation requirements, if specified.
7) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.

Rebar Schedule per Pier	
Pier	(12) #10 vertical rebar w/ #4 ties, two (2) within top 5" of pier then 12" C/C
Anchor Bolts per Leg	
(6) 1.5" dia. x 78" F1554-105 on a 13.25" B.C. w/ 9.5" max. projection above concrete.	

7101 Southbridge Dr - P.O. Box 658 - Sioux City, IA 51102-0658 - Phone 712.258.6690 - Fax 71

RAWFORCE Ver 2.2 (c) Guymast Inc. 2006-2009 Phone:(416) 736-7453 13 aug 2020
icensed to: Sabre Towers and Poles 15:47:16

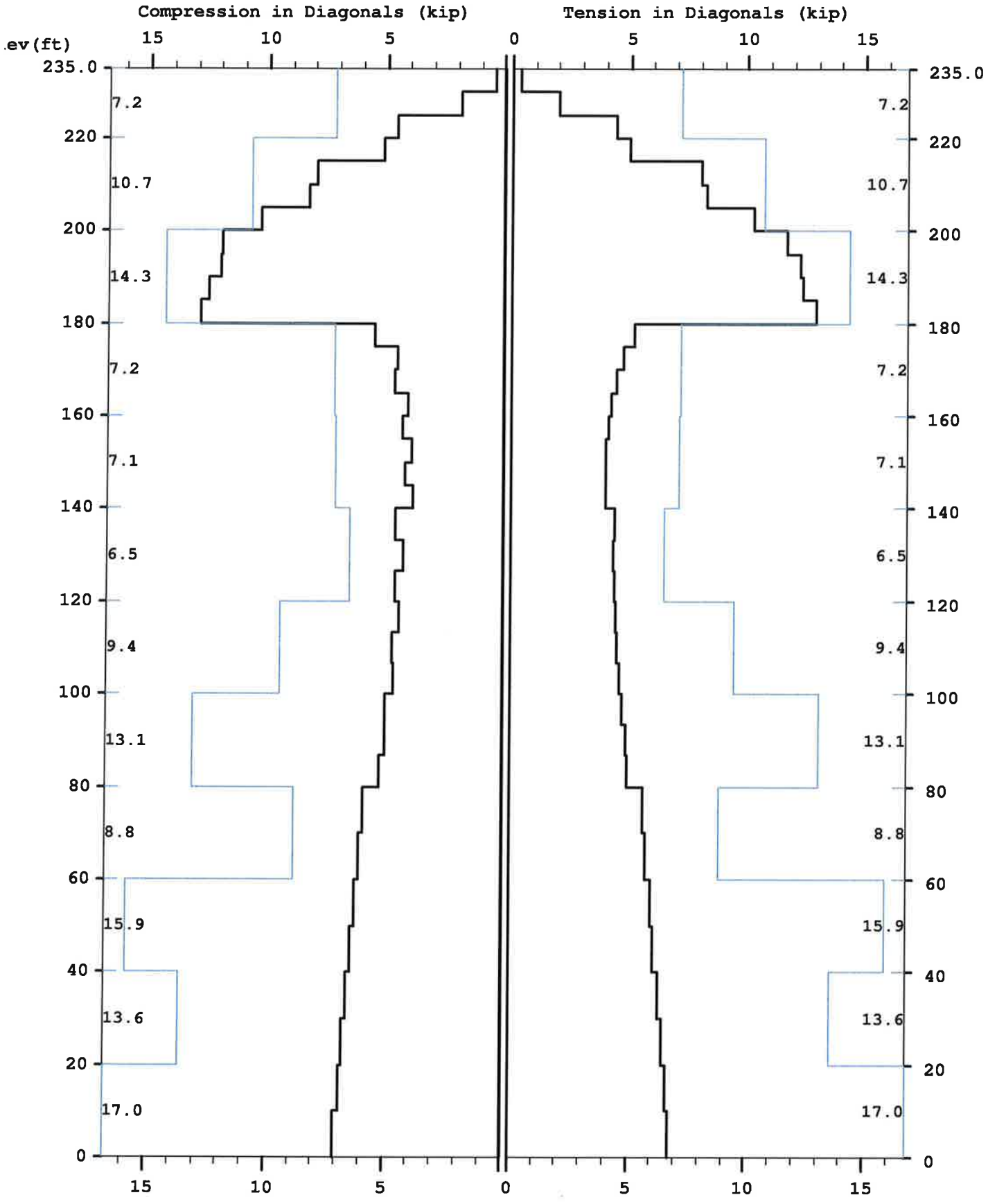
Maximum



KYPSC Case No. 2020-00282
Exhibit E

RAWFORCE Ver 2.2 (c) Guymast Inc. 2006-2009 Phone: (416) 736-7453 13 aug 2020
icensed to: Sabre Towers and Poles 15:47:16

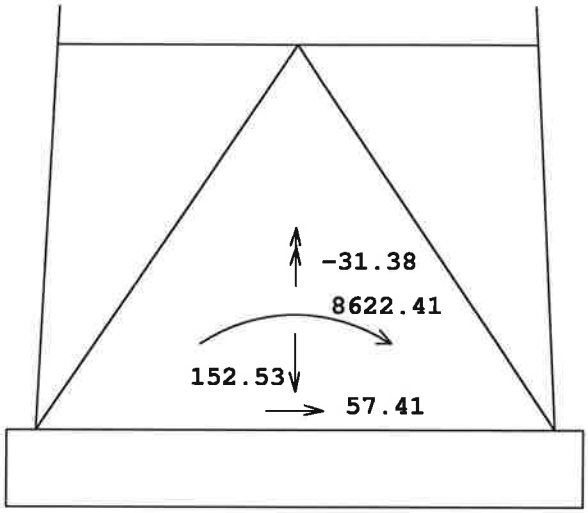
Maximum



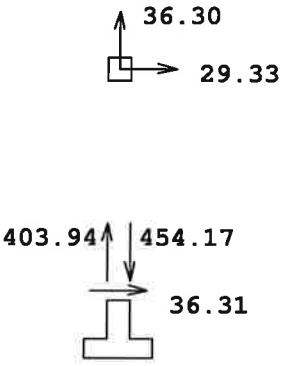
KYPSC Case No. 2020-00282
Exhibit E

Maximum

TOTAL FOUNDATION LOADS (kip, ft-kip)



INDIVIDUAL FOOTING LOADS (kip)



Latticed Tower Analysis (Unguyed)
Processed under license at:

Sabre Towers and Poles on: 13 aug 2020 at: 15:47:16

MAST GEOMETRY (ft)

PANEL TYPE	NO.OF LEGS	ELEV.AT BOTTOM	ELEV.AT TOP	F.W..AT BOTTOM	F.W..AT TOP	TYPICAL PANEL HEIGHT
X	3	230.00	235.00	5.00	5.00	5.00
X	3	220.00	230.00	5.00	5.00	5.00
X	3	215.00	220.00	5.00	5.00	5.00
X	3	200.00	215.00	5.00	5.00	5.00
X	3	195.00	200.00	5.00	5.00	5.00
X	3	180.00	195.00	5.00	5.00	5.00
X	3	175.00	180.00	5.50	5.00	5.00
X	3	160.00	175.00	7.00	5.50	5.00
X	3	140.00	160.00	9.00	7.00	5.00
X	3	120.00	140.00	11.00	9.00	6.67
X	3	100.00	120.00	13.00	11.00	6.67
X	3	80.00	100.00	15.00	13.00	6.67
X	3	60.00	80.00	17.00	15.00	10.00
X	3	40.00	60.00	19.00	17.00	10.00
X	3	20.00	40.00	21.00	19.00	10.00
X	3	0.00	20.00	23.00	21.00	10.00

MEMBER PROPERTIES

MEMBER TYPE	BOTTOM ELEV ft	TOP ELEV ft	X-SECTN AREA in.sq	RADIUS OF GYRAT in	ELASTIC MODULUS ksi	THERMAL EXPANSN /deg
LE	220.00	235.00	1.075	0.787	29000.	0.0000117
LE	200.00	220.00	3.016	0.787	29000.	0.0000117
LE	160.00	200.00	6.111	0.787	29000.	0.0000117
LE	120.00	160.00	7.952	0.787	29000.	0.0000117
LE	80.00	120.00	8.399	0.787	29000.	0.0000117
LE	0.00	80.00	12.763	0.787	29000.	0.0000117
DI	220.00	235.00	0.484	0.626	29000.	0.0000117
DI	200.00	220.00	0.715	0.626	29000.	0.0000117
DI	180.00	200.00	0.938	0.626	29000.	0.0000117
DI	140.00	180.00	0.484	0.626	29000.	0.0000117
DI	120.00	140.00	0.715	0.626	29000.	0.0000117
DI	100.00	120.00	0.902	0.626	29000.	0.0000117
DI	60.00	100.00	1.090	0.626	29000.	0.0000117
DI	20.00	60.00	1.688	0.626	29000.	0.0000117
DI	0.00	20.00	1.938	0.626	29000.	0.0000117
HO	230.00	235.00	0.484	0.626	29000.	0.0000117
HO	215.00	220.00	0.715	0.626	29000.	0.0000117
HO	195.00	200.00	0.938	0.626	29000.	0.0000117
HO	175.00	180.00	0.484	0.626	29000.	0.0000117

FACTORED MEMBER RESISTANCES

BOTTOM ELEV ft	TOP ELEV ft	LEGS COMP kip	LEGS TENS kip	DIAGONALS COMP kip	DIAGONALS TENS kip	HORIZONTALS COMP kip	HORIZONTALS TENS kip	INT BRACING COMP kip	INT BRACING TENS kip
230.0	235.0	31.84	51.90	7.16	7.16	7.16	7.16	0.00	0.00
220.0	230.0	31.84	51.90	7.16	7.16	0.00	0.00	0.00	0.00
215.0	220.0	111.82	146.47	10.74	10.74	10.72	10.72	0.00	0.00
200.0	215.0	111.82	146.47	10.74	10.74	0.00	0.00	0.00	0.00
195.0	200.0	256.32	296.33	14.32	14.32	13.88	13.88	0.00	0.00
180.0	195.0	256.32	296.33	14.32	14.32	0.00	0.00	0.00	0.00
175.0	180.0	256.32	296.33	7.16	7.16	7.16	7.16	0.00	0.00
160.0	175.0	256.32	296.33	7.16	7.16	0.00	0.00	0.00	0.00
140.0	160.0	332.98	327.10	7.13	7.13	0.00	0.00	0.00	0.00
120.0	140.0	312.59	385.58	6.51	6.51	0.00	0.00	0.00	0.00
100.0	120.0	359.86	407.40	9.45	9.45	0.00	0.00	0.00	0.00

80.0	100.0	359.86	407.40	13.10	13.10	0.00	0.00	0.00	0.00
60.0	80.0	509.22	457.90	8.84	8.84	0.00	0.00	0.00	0.00
40.0	60.0	509.22	457.90	15.88	15.88	0.00	0.00	0.00	0.00
20.0	40.0	509.22	457.90	13.59	13.59	0.00	0.00	0.00	0.00
0.0	20.0	509.22	620.80	17.02	17.02	0.00	0.00	0.00	0.00

* Only 3 condition(s) shown in full
* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

106 mph wind with no ice. Wind Azimuth: 0♦ PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	227.0	0.00	0.0	0.0	8.54	7.20	0.00	0.00
C	215.0	0.00	0.0	0.0	6.32	4.80	0.00	0.00
C	203.0	0.00	0.0	0.0	6.24	4.80	0.00	0.00
D	235.0	0.00	180.0	0.0	0.06	0.04	0.00	0.00
D	230.0	0.00	180.0	0.0	0.06	0.04	0.00	0.00
D	230.0	0.00	42.0	0.0	0.07	0.04	0.01	0.02
D	225.0	0.00	42.0	0.0	0.07	0.04	0.01	0.02
D	225.0	0.00	42.0	0.0	0.09	0.05	0.03	0.06
D	220.0	0.00	42.0	0.0	0.09	0.05	0.03	0.06
D	220.0	0.00	42.0	0.0	0.11	0.09	0.03	0.06
D	215.0	0.00	42.0	0.0	0.11	0.09	0.03	0.06
D	215.0	0.00	42.0	0.0	0.12	0.09	0.06	0.08
D	205.0	0.00	42.0	0.0	0.12	0.09	0.06	0.08
D	205.0	0.00	50.6	0.0	0.13	0.10	0.06	0.09
D	200.0	0.00	50.6	0.0	0.13	0.10	0.06	0.09
D	200.0	0.00	55.6	0.0	0.15	0.16	0.06	0.09
D	195.0	0.00	55.6	0.0	0.15	0.16	0.06	0.09
D	195.0	0.00	55.2	0.0	0.14	0.15	0.06	0.09
D	180.0	0.00	57.9	0.0	0.14	0.15	0.06	0.10
D	180.0	0.00	52.4	0.0	0.14	0.15	0.08	0.10
D	160.0	0.00	59.1	0.0	0.14	0.14	0.06	0.10
D	160.0	0.00	46.0	0.0	0.14	0.17	0.09	0.11
D	140.0	0.00	50.5	0.0	0.15	0.17	0.08	0.10
D	140.0	0.00	41.6	0.0	0.14	0.18	0.11	0.11
D	120.0	0.00	44.5	0.0	0.15	0.18	0.09	0.11
D	120.0	0.00	38.3	0.0	0.16	0.19	0.12	0.12
D	100.0	0.00	40.4	0.0	0.16	0.20	0.11	0.12
D	100.0	0.00	35.7	0.0	0.17	0.21	0.14	0.12
D	80.0	0.00	37.4	0.0	0.17	0.22	0.13	0.12
D	80.0	0.00	33.9	0.0	0.15	0.25	0.15	0.12
D	60.0	0.00	34.9	0.0	0.15	0.26	0.15	0.12
D	60.0	0.00	32.3	0.0	0.15	0.29	0.17	0.12
D	40.0	0.00	33.1	0.0	0.16	0.29	0.16	0.12
D	40.0	0.00	31.0	0.0	0.14	0.29	0.19	0.11
D	20.0	0.00	31.6	0.0	0.15	0.30	0.18	0.12
D	20.0	0.00	29.9	0.0	0.14	0.32	0.21	0.11
D	0.0	0.00	30.4	0.0	0.14	0.32	0.20	0.11

ANTENNA LOADING

.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT RAD ft	AZI	.....ANTENNA FORCES..... AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	183.0	90.0	4.4	120.0	0.05	-0.15	0.16	-0.22
STD+R	183.0	270.0	4.4	240.0	0.05	0.15	0.16	0.22

LOADING CONDITION k

106 mph wind with no ice. Wind Azimuth: 0♦ PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	227.0	0.00	0.0	0.0	8.54	5.40	0.00	0.00
C	215.0	0.00	0.0	0.0	6.32	3.60	0.00	0.00
C	203.0	0.00	0.0	0.0	6.24	3.60	0.00	0.00
D	235.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	230.0	0.00	180.0	0.0	0.06	0.03	0.00	0.00
D	230.0	0.00	42.0	0.0	0.07	0.03	0.01	0.02
D	225.0	0.00	42.0	0.0	0.07	0.03	0.01	0.02
D	225.0	0.00	42.0	0.0	0.09	0.04	0.02	0.06
D	220.0	0.00	42.0	0.0	0.09	0.04	0.02	0.06
D	220.0	0.00	42.0	0.0	0.11	0.07	0.02	0.06
D	215.0	0.00	42.0	0.0	0.11	0.07	0.02	0.06
D	215.0	0.00	42.0	0.0	0.12	0.07	0.04	0.08
D	205.0	0.00	42.0	0.0	0.12	0.07	0.04	0.08
D	205.0	0.00	50.6	0.0	0.13	0.08	0.05	0.09
D	200.0	0.00	50.6	0.0	0.13	0.08	0.05	0.09
D	200.0	0.00	55.6	0.0	0.14	0.12	0.05	0.09
D	185.0	0.00	55.6	0.0	0.14	0.11	0.05	0.09
D	185.0	0.00	55.7	0.0	0.14	0.11	0.05	0.10
D	160.0	0.00	56.4	0.0	0.15	0.11	0.05	0.10
D	160.0	0.00	46.0	0.0	0.14	0.13	0.07	0.11
D	140.0	0.00	50.5	0.0	0.15	0.13	0.06	0.10
D	140.0	0.00	41.6	0.0	0.14	0.13	0.08	0.11
D	120.0	0.00	44.5	0.0	0.15	0.13	0.07	0.11
D	120.0	0.00	38.3	0.0	0.16	0.15	0.09	0.12
D	100.0	0.00	40.4	0.0	0.16	0.15	0.08	0.12
D	100.0	0.00	35.7	0.0	0.17	0.16	0.10	0.12
D	80.0	0.00	37.4	0.0	0.17	0.16	0.10	0.12
D	80.0	0.00	33.9	0.0	0.15	0.19	0.12	0.12
D	60.0	0.00	34.9	0.0	0.15	0.19	0.11	0.12
D	60.0	0.00	32.3	0.0	0.15	0.22	0.13	0.12
D	40.0	0.00	33.1	0.0	0.16	0.22	0.12	0.12
D	40.0	0.00	31.0	0.0	0.14	0.22	0.14	0.11
D	20.0	0.00	31.6	0.0	0.15	0.22	0.14	0.12
D	20.0	0.00	29.9	0.0	0.14	0.24	0.15	0.11
D	0.0	0.00	30.4	0.0	0.14	0.24	0.15	0.11

ANTENNA LOADING

.....ANTENNA..... TYPE	ELEV ft	AZI	ATTACHMENT RAD ft	AZI	.....ANTENNA FORCES..... AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	183.0	90.0	4.4	120.0	0.05	-0.15	0.12	-0.22
STD+R	183.0	270.0	4.4	240.0	0.05	0.15	0.12	0.22

LOADING CONDITION AU

30 mph wind with 1.5 ice. Wind Azimuth: 0♦ PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	227.0	0.00	0.0	0.0	1.18	18.11	0.00	0.00
C	215.0	0.00	0.0	0.0	1.42	12.04	0.00	0.00
C	203.0	0.00	0.0	0.0	1.40	12.00	0.00	0.00
D	235.0	0.00	180.0	0.0	0.01	0.18	0.00	0.00
D	230.0	0.00	180.0	0.0	0.01	0.18	0.00	0.00
D	230.0	0.00	42.0	0.0	0.01	0.17	0.06	0.00
D	225.0	0.00	42.0	0.0	0.01	0.17	0.06	0.00
D	225.0	0.00	42.0	0.0	0.01	0.21	0.15	0.01
D	220.0	0.00	42.0	0.0	0.01	0.21	0.15	0.01

D	220.0	0.00	42.0	0.0	0.01	0.29	0.15	0.01
D	215.0	0.00	42.0	0.0	0.01	0.29	0.15	0.01
D	215.0	0.00	42.0	0.0	0.01	0.28	0.22	0.01
D	205.0	0.00	42.0	0.0	0.01	0.28	0.22	0.01
D	205.0	0.00	53.8	0.0	0.01	0.31	0.21	0.01
D	200.0	0.00	53.8	0.0	0.01	0.31	0.21	0.01
D	200.0	0.00	61.7	0.0	0.02	0.43	0.21	0.01
D	195.0	0.00	61.7	0.0	0.02	0.43	0.21	0.01
D	195.0	0.00	61.7	0.0	0.02	0.39	0.21	0.01
D	185.0	0.00	61.7	0.0	0.02	0.39	0.21	0.01
D	185.0	0.00	64.9	0.0	0.02	0.40	0.21	0.01
D	180.0	0.00	64.9	0.0	0.02	0.40	0.21	0.01
D	180.0	0.00	59.2	0.0	0.02	0.42	0.25	0.01
D	175.0	0.00	59.2	0.0	0.02	0.42	0.25	0.01
D	175.0	0.00	61.4	0.0	0.02	0.39	0.24	0.01
D	170.0	0.00	61.4	0.0	0.02	0.39	0.24	0.01
D	170.0	0.00	63.6	0.0	0.02	0.40	0.23	0.01
D	165.0	0.00	63.6	0.0	0.02	0.40	0.23	0.01
D	165.0	0.00	65.9	0.0	0.02	0.40	0.22	0.01
D	160.0	0.00	65.9	0.0	0.02	0.40	0.22	0.01
D	160.0	0.00	52.7	0.0	0.02	0.43	0.30	0.01
D	155.0	0.00	52.7	0.0	0.02	0.43	0.30	0.01
D	155.0	0.00	54.2	0.0	0.02	0.43	0.29	0.01
D	150.0	0.00	54.2	0.0	0.02	0.43	0.29	0.01
D	150.0	0.00	55.7	0.0	0.02	0.44	0.28	0.01
D	145.0	0.00	55.7	0.0	0.02	0.44	0.28	0.01
D	145.0	0.00	57.3	0.0	0.02	0.44	0.26	0.01
D	140.0	0.00	57.3	0.0	0.02	0.44	0.26	0.01
D	140.0	0.00	48.3	0.0	0.02	0.43	0.35	0.01
D	133.3	0.00	48.3	0.0	0.02	0.43	0.35	0.01
D	133.3	0.00	49.7	0.0	0.02	0.44	0.33	0.01
D	126.7	0.00	49.7	0.0	0.02	0.44	0.33	0.01
D	126.7	0.00	51.2	0.0	0.02	0.44	0.31	0.01
D	120.0	0.00	51.2	0.0	0.02	0.44	0.31	0.01
D	120.0	0.00	44.8	0.0	0.02	0.49	0.40	0.01
D	113.3	0.00	44.8	0.0	0.02	0.49	0.40	0.01
D	113.3	0.00	45.9	0.0	0.02	0.50	0.38	0.01
D	106.7	0.00	45.9	0.0	0.02	0.50	0.38	0.01
D	106.7	0.00	47.0	0.0	0.02	0.51	0.37	0.01
D	100.0	0.00	47.0	0.0	0.02	0.51	0.37	0.01
D	100.0	0.00	42.1	0.0	0.02	0.54	0.45	0.01
D	93.3	0.00	42.1	0.0	0.02	0.54	0.45	0.01
D	93.3	0.00	43.0	0.0	0.02	0.54	0.43	0.01
D	86.7	0.00	43.0	0.0	0.02	0.54	0.43	0.01
D	86.7	0.00	43.8	0.0	0.02	0.55	0.42	0.01
D	80.0	0.00	43.8	0.0	0.02	0.55	0.42	0.01
D	80.0	0.00	40.1	0.0	0.02	0.55	0.49	0.01
D	70.0	0.00	40.1	0.0	0.02	0.55	0.49	0.01
D	70.0	0.00	41.1	0.0	0.02	0.55	0.47	0.01
D	60.0	0.00	41.1	0.0	0.02	0.55	0.47	0.01
D	60.0	0.00	38.2	0.0	0.02	0.60	0.54	0.01
D	50.0	0.00	38.2	0.0	0.02	0.60	0.54	0.01
D	50.0	0.00	39.1	0.0	0.02	0.60	0.51	0.01
D	40.0	0.00	39.1	0.0	0.02	0.60	0.51	0.01
D	40.0	0.00	36.5	0.0	0.02	0.60	0.57	0.01
D	20.0	0.00	37.3	0.0	0.02	0.61	0.56	0.01
D	20.0	0.00	32.6	0.0	0.01	0.55	0.31	0.01
D	10.0	0.00	32.6	0.0	0.01	0.55	0.31	0.01
D	10.0	0.00	35.2	0.0	0.01	0.59	0.49	0.01
D	0.0	0.00	35.2	0.0	0.01	0.59	0.49	0.01

ANTENNA LOADING
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.....ANTENNA.....			ATTACHMENT		.....ANTENNA FORCES.....			
TYPE	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	183.0	90.0	4.4	120.0	0.00	-0.01	0.41	-0.02
STD+R	183.0	270.0	4.4	240.0	0.00	0.01	0.41	0.02

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MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:
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ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg)..... ROLL	YAW	PITCH	TOTAL
183.0	90.0	STD+R	1.712 b	0.236 z	-1.856 s	1.867 s
183.0	270.0	STD+R	-1.712 b	0.236 z	1.856 s	1.867 s

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
235.0			0.29 O	0.00 A
	0.26 g	0.35 AO		
230.0			0.02 AO	0.00 A
	1.12 k	1.96 A		
225.0			0.09 BO	0.00 A
	7.64 k	4.38 n		
220.0			1.90 A	0.00 A
	18.13 k	4.94 k		
215.0			0.12 A	0.00 A
	33.13 k	8.02 D		
210.0			0.04 y	0.00 A
	53.08 k	8.24 D		
205.0			0.21 A	0.00 A
	73.73 k	10.28 D		
200.0			1.72 A	0.00 A
	100.07 k	11.67 n		
195.0			0.40 A	0.00 A
	130.58 k	12.23 V		
190.0			0.11 AC	0.00 A
	159.27 k	12.38 n		
185.0			0.41 A	0.00 A
	190.53 k	12.90 D		
180.0			2.27 AC	0.00 A
	210.31 k	5.18 k		
175.0			0.44 A	0.00 A
	221.56 k	4.75 S		
170.0			0.02 A	0.00 A
	229.02 k	4.44 k		
165.0			0.30 A	0.00 A
	237.78 k	4.22 S		
160.0			0.05 A	0.00 A
	244.60 k	4.11 k		
155.0			0.17 A	0.00 A
	251.97 k	4.02 U		
150.0			0.12 A	0.00 A
	258.20 k	4.01 k		
145.0			0.13 A	0.00 A
	264.80 k	4.01 U		
140.0			0.12 A	0.00 A
	271.48 k	4.38 k		
133.3			0.16 A	0.00 A
	279.49 k	4.34 U		
126.7			0.11 A	0.00 A
	286.67 k	4.37 m		
120.0			0.13 A	0.00 A
	294.02 k	4.43 U		
113.3			0.09 A	0.00 A
	300.86 k	4.51 m		
106.7			0.11 A	0.00 A
	307.87 k	4.63 U		
100.0			0.08 A	0.00 A
	314.53 k	4.71 m		
93.3			0.12 A	0.00 A
	321.32 k	4.88 U		
86.7			0.07 A	0.00 A
	327.92 k	4.96 AE		
80.0			0.11 A	0.00 A
	336.10 k	5.63 U		
70.0			0.09 A	0.00 A
	345.71 k	5.74 AE		
60.0			0.09 A	0.00 A
	355.20 k	5.95 U		
50.0			0.08 A	0.00 A
	364.46 k	6.10 AE		
40.0			0.08 A	0.00 A
	373.64 k	6.31 U		
30.0			0.07 A	0.00 A
	382.65 k	6.46 U		
20.0			0.01 A	0.00 A
	391.55 k	6.68 U		
10.0			0.07 A	0.00 A
	400.21 k	6.75 U		

0.0	----------	0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
235.0	----------		-0.21 AQ	0.00 A
	-0.17 y	-0.45 M		
230.0	----------		-0.03 M	0.00 A
	-3.42 BM	-1.87 AC		
225.0	----------		0.00 A	0.00 A
	-12.01 S	-4.59 D		
220.0	----------		-1.65 AC	0.00 A
	-22.94 S	-5.16 S		
215.0	----------		-0.06 AC	0.00 A
	-41.50 S	-7.96 AF		
210.0	----------		-0.05 g	0.00 A
	-61.83 S	-8.28 V		
205.0	----------		-0.15 AC	0.00 A
	-84.73 S	-10.33 D		
200.0	----------		-1.51 AC	0.00 A
	-112.59 S	-11.95 D		
195.0	----------		-0.34 AC	0.00 A
	-144.60 S	-12.04 n		
190.0	----------		-0.12 M	0.00 A
	-173.66 S	-12.55 V		
185.0	----------		-0.37 AC	0.00 A
	-206.19 S	-12.89 V		
180.0	----------		-2.49 A	0.00 A
	-226.40 S	-5.50 S		
175.0	----------		-0.40 AC	0.00 A
	-238.78 S	-4.55 k		
170.0	----------		-0.02 AC	0.00 A
	-246.56 S	-4.66 S		
165.0	----------		-0.27 AC	0.00 A
	-256.17 S	-4.08 k		
160.0	----------		-0.05 AC	0.00 A
	-263.51 S	-4.28 S		
155.0	----------		-0.15 AC	0.00 A
	-271.70 S	-3.90 m		
150.0	----------		-0.11 AC	0.00 A
	-278.55 S	-4.18 S		
145.0	----------		-0.11 AC	0.00 A
	-285.96 S	-3.88 m		
140.0	----------		-0.11 AC	0.00 A
	-293.40 S	-4.58 S		
133.3	----------		-0.15 AC	0.00 A
	-302.49 S	-4.27 U		
126.7	----------		-0.10 AC	0.00 A
	-310.60 S	-4.57 U		
120.0	----------		-0.12 AC	0.00 A
	-319.06 S	-4.43 U		
113.3	----------		-0.08 AC	0.00 A
	-326.96 S	-4.73 U		
106.7	----------		-0.10 AC	0.00 A
	-335.11 S	-4.67 U		
100.0	----------		-0.07 AC	0.00 A
	-342.89 S	-4.96 U		
93.3	----------		-0.11 AC	0.00 A
	-350.90 S	-4.99 U		
86.7	----------		-0.06 AC	0.00 A
	-358.71 S	-5.22 U		
80.0	----------		-0.10 AC	0.00 A
	-368.54 S	-5.87 U		
70.0	----------		-0.08 AC	0.00 A
	-380.26 S	-6.06 U		
60.0	----------		-0.08 AC	0.00 A
	-391.97 S	-6.20 U		
50.0	----------		-0.07 AC	0.00 A
	-403.57 S	-6.40 U		
40.0	----------		-0.07 AC	0.00 A
	-415.14 S	-6.55 U		
30.0	----------		-0.06 AC	0.00 A

	-426.56 S	-6.72 U		
20.0			-0.01 AC	0.00 A
	-437.97 S	-6.84 U		
10.0			-0.06 AC	0.00 A
	-449.18 S	-7.08 U		
0.0			0.00 A	0.00 A

FORCE/RESISTANCE RATIO IN LEGS

MAST ELEV ft	-- LEG COMPRESSION - MAX COMP	COMP RESIST	FORCE/ RESIST RATIO	---- LEG TENSION --- MAX TENS	TENS RESIST	FORCE/ RESIST RATIO
235.00						
	0.17	31.84	0.01	0.26	51.90	0.01
230.00						
	3.42	31.84	0.11	1.12	51.90	0.02
225.00						
	12.01	31.84	0.38	7.64	51.90	0.15
220.00						
	22.94	111.82	0.21	18.13	146.47	0.12
215.00						
	41.50	111.82	0.37	33.13	146.47	0.23
210.00						
	61.83	111.82	0.55	53.08	146.47	0.36
205.00						
	84.73	111.82	0.76	73.73	146.47	0.50
200.00						
	112.59	256.32	0.44	100.07	296.33	0.34
195.00						
	144.60	256.32	0.56	130.58	296.33	0.44
190.00						
	173.66	256.32	0.68	159.27	296.33	0.54
185.00						
	206.19	256.32	0.80	190.53	296.33	0.64
180.00						
	226.40	256.32	0.88	210.31	296.33	0.71
175.00						
	238.78	256.32	0.93	221.56	296.33	0.75
170.00						
	246.56	256.32	0.96	229.02	296.33	0.77
165.00						
	256.17	256.32	1.00	237.78	296.33	0.80
160.00						
	263.51	332.98	0.79	244.60	327.10	0.75
155.00						
	271.70	332.98	0.82	251.97	327.10	0.77
150.00						
	278.55	332.98	0.84	258.20	327.10	0.79
145.00						
	285.96	332.98	0.86	264.80	327.10	0.81
140.00						
	293.40	312.59	0.94	271.48	385.58	0.70
133.33						
	302.49	312.59	0.97	279.49	385.58	0.72
126.67						
	310.60	312.59	0.99	286.67	385.58	0.74
120.00						
	319.06	359.86	0.89	294.02	407.40	0.72
113.33						
	326.96	359.86	0.91	300.86	407.40	0.74
106.67						
	335.11	359.86	0.93	307.87	407.40	0.76
100.00						
	342.89	359.86	0.95	314.53	407.40	0.77
93.33						
	350.90	359.86	0.98	321.32	407.40	0.79
86.67						
	358.71	359.86	1.00	327.92	407.40	0.80
80.00						
	368.54	509.22	0.72	336.10	457.90	0.73
70.00						
	380.26	509.22	0.75	345.71	457.90	0.75
60.00						
	391.97	509.22	0.77	355.20	457.90	0.78
50.00						
	403.57	509.22	0.79	364.46	457.90	0.80

40.00						
	415.14	509.22	0.82	373.64	457.90	0.82
30.00						
	426.56	509.22	0.84	382.65	457.90	0.84
20.00						
	437.97	509.22	0.86	391.55	620.80	0.63
10.00						
	449.18	509.22	0.88	400.21	620.80	0.64
0.00						

FORCE/RESISTANCE RATIO IN DIAGONALS

MAST ELEV ft	- DIAG COMPRESSION - MAX COMP	COMP RESIST	FORCE/ RESIST RATIO	--- DIAG TENSION -- MAX TENS	TENS RESIST	FORCE/ RESIST RATIO
235.00						
	0.45	7.16	0.06	0.35	7.16	0.05
230.00						
	1.87	7.16	0.26	1.96	7.16	0.27
225.00						
	4.59	7.16	0.64	4.38	7.16	0.61
220.00						
	5.16	10.74	0.48	4.94	10.74	0.46
215.00						
	7.96	10.74	0.74	8.02	10.74	0.75
210.00						
	8.28	10.74	0.77	8.24	10.74	0.77
205.00						
	10.33	10.74	0.96	10.28	10.74	0.96
200.00						
	11.95	14.32	0.83	11.67	14.32	0.82
195.00						
	12.04	14.32	0.84	12.23	14.32	0.85
190.00						
	12.55	14.32	0.88	12.38	14.32	0.86
185.00						
	12.89	14.32	0.90	12.90	14.32	0.90
180.00						
	5.50	7.16	0.77	5.18	7.16	0.72
175.00						
	4.55	7.16	0.64	4.75	7.16	0.66
170.00						
	4.66	7.16	0.65	4.44	7.16	0.62
165.00						
	4.08	7.16	0.57	4.22	7.16	0.59
160.00						
	4.28	7.13	0.60	4.11	7.13	0.58
155.00						
	3.90	7.13	0.55	4.02	7.13	0.56
150.00						
	4.18	7.13	0.59	4.01	7.13	0.56
145.00						
	3.88	7.13	0.54	4.01	7.13	0.56
140.00						
	4.58	6.51	0.70	4.38	6.51	0.67
133.33						
	4.27	6.51	0.66	4.34	6.51	0.67
126.67						
	4.57	6.51	0.70	4.37	6.51	0.67
120.00						
	4.43	9.45	0.47	4.43	9.45	0.47
113.33						
	4.73	9.45	0.50	4.51	9.45	0.48
106.67						
	4.67	9.45	0.49	4.63	9.45	0.49
100.00						
	4.96	13.10	0.38	4.71	13.10	0.36
93.33						
	4.99	13.10	0.38	4.88	13.10	0.37
86.67						
	5.22	13.10	0.40	4.96	13.10	0.38
80.00						
	5.87	8.84	0.66	5.63	8.84	0.64
70.00						
	6.06	8.84	0.69	5.74	8.84	0.65
60.00						
	6.20	15.88	0.39	5.95	15.88	0.37

50.00						
	6.40	15.88	0.40	6.10	15.88	0.38
40.00						
	6.55	13.59	0.48	6.31	13.59	0.46
30.00						
	6.72	13.59	0.49	6.46	13.59	0.48
20.00						
	6.84	17.02	0.40	6.68	17.02	0.39
10.00						
	7.08	17.02	0.42	6.75	17.02	0.40
0.00						

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

LOAD---COMPONENTS				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
36.30 S	29.33 e	454.17 S	-403.94 k	36.31 S

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL			DOWN	OVERTURNING			TORSION
NORTH	EAST	TOTAL @ 0.0		NORTH	EAST	TOTAL @ 0.0	
57.4 AC	-48.8 t	57.4 AC	152.5 BF	8622.4 S	7611.2 b	8622.4 S	-31.4 AB

Latticed Tower Analysis (Unguyed) (c)2017 Guymast Inc. 416-736-7453
Processed under license at:

Sabre Towers and Poles on: 13 aug 2020 at: 15:47:56

****
********** Service Load Condition **********
****

* Only 1 condition(s) shown in full
* Some wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

60 mph wind with no ice. Wind Azimuth: 0◆ PL - 0

MAST LOADING

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	227.0	0.00	0.0	0.0	2.74	6.00	0.00	0.00
C	215.0	0.00	0.0	0.0	2.02	4.00	0.00	0.00
C	203.0	0.00	0.0	0.0	2.00	4.00	0.00	0.00
D	235.0	0.00	180.0	0.0	0.02	0.03	0.00	0.00
D	225.0	0.00	42.0	0.0	0.02	0.03	0.01	0.01
D	225.0	0.00	42.0	0.0	0.03	0.04	0.03	0.02
D	220.0	0.00	42.0	0.0	0.03	0.04	0.03	0.02
D	220.0	0.00	42.0	0.0	0.03	0.07	0.03	0.02
D	215.0	0.00	42.0	0.0	0.03	0.07	0.03	0.02
D	215.0	0.00	40.5	0.0	0.04	0.08	0.05	0.03

D	200.0	0.00	49.2	0.0	0.04	0.08	0.05	0.03
D	200.0	0.00	55.6	0.0	0.05	0.14	0.05	0.03
D	185.0	0.00	55.6	0.0	0.05	0.13	0.05	0.03
D	185.0	0.00	58.3	0.0	0.05	0.13	0.05	0.03
D	180.0	0.00	58.3	0.0	0.05	0.13	0.05	0.03
D	180.0	0.00	52.4	0.0	0.05	0.12	0.06	0.03
D	160.0	0.00	59.1	0.0	0.05	0.12	0.05	0.03
D	160.0	0.00	46.0	0.0	0.05	0.14	0.08	0.03
D	140.0	0.00	50.5	0.0	0.05	0.14	0.07	0.03
D	140.0	0.00	41.6	0.0	0.05	0.15	0.09	0.04
D	120.0	0.00	44.5	0.0	0.05	0.15	0.08	0.04
D	120.0	0.00	38.3	0.0	0.05	0.16	0.10	0.04
D	100.0	0.00	40.4	0.0	0.06	0.17	0.09	0.04
D	100.0	0.00	35.7	0.0	0.06	0.18	0.12	0.04
D	80.0	0.00	37.4	0.0	0.06	0.18	0.11	0.04
D	80.0	0.00	33.9	0.0	0.05	0.21	0.13	0.04
D	60.0	0.00	34.9	0.0	0.05	0.21	0.12	0.04
D	60.0	0.00	32.3	0.0	0.05	0.24	0.14	0.04
D	40.0	0.00	33.1	0.0	0.05	0.24	0.14	0.04
D	40.0	0.00	31.0	0.0	0.05	0.25	0.16	0.04
D	20.0	0.00	31.6	0.0	0.05	0.25	0.15	0.04
D	20.0	0.00	29.9	0.0	0.05	0.26	0.17	0.04
D	0.0	0.00	30.4	0.0	0.05	0.27	0.16	0.04

ANTENNA LOADING

.....ANTENNA.....			ATTACHMENT		.....ANTENNA FORCES.....			
TYPE	ELEV ft	AZI	RAD ft	AZI	AXIAL kip	SHEAR kip	GRAVITY kip	TORSION ft-kip
STD+R	183.0	90.0	4.4	120.0	0.02	-0.05	0.13	-0.07
STD+R	183.0	270.0	4.4	240.0	0.02	0.05	0.13	0.07

MAXIMUM MAST DISPLACEMENTS:

ELEV	------DEFLECTIONS (ft)-----			--TILTS (DEG)---		TWIST
ft	NORTH	EAST	DOWN	NORTH	EAST	DEG
235.0	1.372 s	1.259 b	0.015 s	0.771 s	0.718 b	-0.091 R
230.0	1.305 s	1.196 b	0.014 s	0.771 s	0.718 b	-0.091 R
225.0	1.238 s	1.133 b	0.014 s	0.769 s	0.716 b	-0.091 R
220.0	1.170 s	1.070 b	0.013 s	0.759 s	0.706 b	-0.090 R
215.0	1.103 s	1.008 b	0.012 s	0.752 s	0.699 b	-0.089 R
210.0	1.037 s	0.947 b	0.012 s	0.738 s	0.686 b	-0.088 R
205.0	0.972 s	0.886 b	0.011 s	0.717 s	0.666 b	-0.086 R
200.0	0.910 s	0.828 b	0.010 s	0.688 s	0.638 b	-0.084 R
195.0	0.849 s	0.772 b	0.010 s	0.669 s	0.620 b	-0.082 R
190.0	0.791 s	0.718 b	0.009 s	0.644 s	0.596 b	-0.079 R
185.0	0.734 s	0.665 b	0.009 s	0.614 s	0.568 b	-0.077 R
180.0	0.681 s	0.616 b	0.008 s	0.579 s	0.534 b	-0.073 R
175.0	0.630 s	0.570 b	0.008 s	0.541 s	0.498 b	-0.067 R
170.0	0.585 s	0.528 b	0.008 s	0.507 s	0.466 b	-0.061 R
165.0	0.541 s	0.488 b	0.007 s	0.473 s	0.434 b	-0.056 R
160.0	0.501 s	0.451 b	0.007 s	0.441 s	0.404 b	-0.051 R
155.0	0.462 s	0.416 b	0.007 s	0.417 s	0.381 b	-0.047 R
150.0	0.426 s	0.383 b	0.006 s	0.395 s	0.360 b	-0.042 R
145.0	0.392 s	0.352 b	0.006 s	0.373 s	0.340 b	-0.038 R
140.0	0.360 s	0.323 b	0.006 s	0.352 s	0.320 b	-0.034 R
133.3	0.320 s	0.286 b	0.006 s	0.324 s	0.295 b	-0.031 R
126.7	0.283 s	0.253 b	0.005 s	0.298 s	0.270 b	-0.028 R
120.0	0.249 s	0.222 b	0.005 s	0.272 s	0.247 b	-0.025 R
113.3	0.219 s	0.195 b	0.005 s	0.249 s	0.225 b	-0.023 R
106.7	0.190 s	0.169 b	0.004 s	0.226 s	0.204 b	-0.020 R
100.0	0.165 s	0.146 b	0.004 s	0.204 s	0.184 b	-0.018 R
93.3	0.142 s	0.126 b	0.004 s	0.183 s	0.165 b	-0.016 R
86.7	0.121 s	0.107 b	0.003 s	0.162 s	0.146 b	-0.014 R
80.0	0.103 s	0.091 b	0.003 s	0.142 s	0.127 b	-0.013 R
70.0	0.079 s	0.070 b	0.003 s	0.123 s	0.110 b	-0.010 P
60.0	0.058 s	0.051 b	0.002 s	0.104 s	0.093 b	-0.008 P
50.0	0.041 s	0.036 b	0.002 s	0.086 s	0.076 b	-0.007 P
40.0	0.027 s	0.024 b	0.002 s	0.068 s	0.060 b	-0.005 P
30.0	0.016 s	0.014 b	0.001 A	0.050 s	0.045 b	-0.004 P
20.0	0.008 s	0.007 b	0.001 A	0.033 s	0.030 b	-0.002 P
10.0	0.002 s	0.002 b	0.000 A	0.016 s	0.014 b	-0.001 P
0.0	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A	0.000 A

MAXIMUM ANTENNA AND REFLECTOR ROTATIONS:

ELEV ft	AZI deg	TYPE *	.....BEAM DEFLECTIONS (deg)..... ROLL	YAW	PITCH	TOTAL
183.0	90.0	STD+R	0.554 b	0.075 R	-0.600 S	0.604 S
183.0	270.0	STD+R	-0.554 b	0.075 R	0.600 S	0.604 S

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
235.0			0.11 O	0.00 A
	0.11 g	0.07 S		
230.0			0.00 G	0.00 A
	0.00 A	0.67 A		
225.0			0.03 N	0.00 A
	1.04 A	1.34 D		
220.0			0.69 A	0.00 A
	4.33 A	1.54 A		
215.0			0.06 A	0.00 A
	8.04 A	2.60 D		
210.0			0.01 a	0.00 A
	14.42 A	2.64 D		
205.0			0.09 A	0.00 A
	20.42 A	3.29 D		
200.0			0.62 A	0.00 A
	28.50 A	3.67 D		
195.0			0.14 A	0.00 A
	37.95 A	3.99 V		
190.0			0.03 S	0.00 A
	47.21 A	3.93 D		
185.0			0.15 A	0.00 A
	57.02 A	4.16 D		
180.0			0.65 S	0.00 A
	63.37 A	1.60 A		
175.0			0.16 A	0.00 A
	66.71 A	1.57 S		
170.0			0.01 A	0.00 A
	69.10 A	1.40 A		
165.0			0.11 A	0.00 A
	71.72 A	1.38 S		
160.0			0.02 A	0.00 A
	73.84 A	1.31 A		
155.0			0.06 A	0.00 A
	76.04 A	1.32 S		
150.0			0.04 A	0.00 A
	77.94 A	1.29 A		
145.0			0.04 A	0.00 A
	79.90 A	1.31 S		
140.0			0.04 A	0.00 A
	81.91 A	1.41 A		
133.3			0.06 A	0.00 A
	84.29 A	1.42 S		
126.7			0.04 A	0.00 A
	86.43 A	1.42 A		
120.0			0.05 A	0.00 A
	88.59 A	1.45 S		
113.3			0.03 A	0.00 A
	90.61 A	1.47 A		
106.7			0.04 A	0.00 A
	92.66 A	1.52 S		
100.0			0.03 A	0.00 A
	94.63 A	1.55 A		
93.3			0.04 A	0.00 A
	96.61 A	1.62 S		
86.7			0.02 A	0.00 A
	98.54 A	1.64 A		
80.0			0.04 A	0.00 A
	100.91 A	1.87 U		
70.0			0.03 A	0.00 A
	103.66 A	1.91 U		
60.0			0.03 A	0.00 A
	106.33 A	1.98 U		
50.0			0.03 A	0.00 A
	108.92 A	2.04 U		

40.0			0.03 A	0.00 A
	111.47 A	2.11 U		
30.0			0.03 A	0.00 A
	113.97 A	2.17 U		
20.0			0.00 A	0.00 A
	116.40 A	2.24 S		
10.0			0.03 A	0.00 A
	118.76 A	2.27 U		
0.0			0.00 A	0.00 A

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	DIAG	HORIZ	BRACE
235.0			-0.04 g	0.00 A
	-0.02 a	-0.18 A		
230.0			-0.01 Y	0.00 A
	-1.63 S	-0.56 S		
225.0			0.00 A	0.00 A
	-5.10 S	-1.54 D		
220.0			-0.45 S	0.00 A
	-8.70 S	-1.70 S		
215.0			0.00 A	0.00 A
	-15.66 S	-2.55 D		
210.0			-0.02 g	0.00 A
	-22.25 S	-2.68 D		
205.0			-0.03 S	0.00 A
	-30.19 S	-3.34 D		
200.0			-0.41 S	0.00 A
	-39.50 S	-3.92 V		
195.0			-0.09 S	0.00 A
	-50.13 S	-3.82 D		
190.0			-0.04 M	0.00 A
	-59.48 S	-4.09 V		
185.0			-0.10 S	0.00 A
	-70.19 S	-4.15 V		
180.0			-0.88 A	0.00 A
	-76.75 S	-1.84 S		
175.0			-0.11 S	0.00 A
	-81.02 S	-1.43 A		
170.0			0.00 S	0.00 A
	-83.57 S	-1.54 S		
165.0			-0.07 S	0.00 A
	-86.88 S	-1.30 A		
160.0			-0.01 S	0.00 A
	-89.35 S	-1.41 S		
155.0			-0.04 S	0.00 A
	-92.20 S	-1.26 A		
150.0			-0.03 S	0.00 A
	-94.55 S	-1.38 S		
145.0			-0.03 S	0.00 A
	-97.13 S	-1.25 A		
140.0			-0.03 S	0.00 A
	-99.71 S	-1.51 S		
133.3			-0.04 S	0.00 A
	-102.92 S	-1.39 U		
126.7			-0.03 S	0.00 A
	-105.76 S	-1.51 S		
120.0			-0.03 S	0.00 A
	-108.76 S	-1.46 U		
113.3			-0.02 S	0.00 A
	-111.58 S	-1.57 S		
106.7			-0.03 S	0.00 A
	-114.51 S	-1.54 U		
100.0			-0.02 S	0.00 A
	-117.31 S	-1.65 S		
93.3			-0.03 S	0.00 A
	-120.23 S	-1.66 U		
86.7			-0.02 S	0.00 A
	-123.06 S	-1.74 S		
80.0			-0.03 S	0.00 A
	-126.68 S	-1.97 U		
70.0			-0.02 S	0.00 A

	-131.03 S	-2.04 S		
60.0	----------		-0.02 S	0.00 A
	-135.42 S	-2.09 U		
50.0	----------		-0.02 S	0.00 A
	-139.82 S	-2.16 S		
40.0	----------		-0.02 S	0.00 A
	-144.21 S	-2.22 U		
30.0	----------		-0.02 S	0.00 A
	-148.58 S	-2.28 S		
20.0	----------		0.00 S	0.00 A
	-152.96 S	-2.32 U		
10.0	----------		-0.02 S	0.00 A
	-157.29 S	-2.40 S		
0.0	----------		0.00 A	0.00 A

MAXIMUM INDIVIDUAL FOUNDATION LOADS: (kip)

LOAD---COMPONENTS				TOTAL
NORTH	EAST	DOWN	UPLIFT	SHEAR
12.58 S	10.22 e	159.25 S	-119.73 A	12.59 S

MAXIMUM TOTAL LOADS ON FOUNDATION : (kip & kip-ft)

HORIZONTAL			DOWN	OVERTURNING			TORSION
NORTH	EAST	TOTAL @ 0.0		NORTH	EAST	TOTAL @ 0.0	
18.9 S	16.2 b	18.9 S	53.2 A	2818.6 S	2494.9 b	2818.6 S	-10.1 P

Leg Connection Details												
Bottom Elevation (ft)	Top Elevation (ft)	Pipe Dimensions	Top Splice					Bottom Splice/Base				
			Bolt Qty.	Bolt Dia. (in)	Bolt Circle (in)	Plate Thickness (in)	Plate Dia. (in)	Bolt Qty.	Bolt Dia. (in)	Bolt Circle (in)	Plate Thickness (in)	Plate Dia. (in)
220	235	2.375 OD X .154						6	0.75	6.50	0.75	8.50
200	220	3.500 OD X .300	6	0.75	6.50	1.00	8.50	6	1.00	9.00	1.25	11.50
180	200	5.563 OD X .375	6	1.00	9.00	1.25	11.50	6	1.00	9.00	1.25	11.50
160	180	5.563 OD X .375	6	1.00	9.00	1.25	11.50	6	1.00	9.00	1.25	11.50
140	160	5.563 OD X .500	6	1.00	9.00	1.25	11.50	6	1.00	9.00	1.25	11.50
120	140	5.563 OD X .500	6	1.00	9.00	1.25	11.50	6	1.25	12.50	1.75	15.75
100	120	8.625 OD X .322	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
80	100	8.625 OD X .322	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
60	80	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
40	60	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
20	40	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.25	12.50	1.50	15.75
0	20	8.625 OD X .500	6	1.25	12.50	1.50	15.75	6	1.50	13.25	1.75	17.00

Diagonal Bracing Connection Details								
Bottom Elevation (ft)	Top Elevation (ft)	Angle Shape	Bolt Qty.	Bolt Dia. (in)	Bolt End Distance (in)	Bolt Spacing (in)	Gage Distance From Heel (in)	Gusset Plate Thickness (in)
220	235	L 2 X 2 X 1/8	1	0.625	1.500		1.125	0.375
200	220	L 2 X 2 X 3/16	1	0.625	1.500		1.125	0.375
180	200	L 2 X 2 X 1/4	1	0.625	1.500		1.125	0.375
160	180	L 2 X 2 X 1/8	1	0.625	1.500		1.125	0.375
140	160	L 2 X 2 X 1/8	1	0.625	1.500		1.125	0.375
120	140	L 2 X 2 X 3/16	1	0.625	1.500		1.125	0.375
100	120	L 2 1/2 X 2 1/2 X 3/16	1	0.625	1.500		1.375	0.375
80	100	L 3 X 3 X 3/16	1	0.750	1.500		1.750	0.375
60	80	L 3 X 3 X 3/16	1	0.750	1.625		1.750	0.375
40	60	L 3 1/2 X 3 1/2 X 1/4	1	0.750	1.625		1.750	0.375
20	40	L 3 1/2 X 3 1/2 X 1/4	1	0.750	1.625		1.750	0.375
0	20	L 4 X 4 X 1/4	1	0.750	1.625		2.000	0.375

MAT FOUNDATION DESIGN BY SABRE INDUSTRIES

235' S3TL Series HD1 TILLMAN INFRASTRUCTURE, LLC TI-OPP-15818/Benton, KY (21-1646-TJH) 2020-08-13 I

Overall Loads:			
Factored Moment (ft-kips)	8622.41		
Factored Axial (kips)	152.53		
Factored Shear (kips)	57.41		
Individual Leg Loads:		Tower eccentric from mat (ft)=	2
Factored Uplift (kips)	404.00		
Factored Download (kips)	454.00		
Factored Shear (kips)	36.00		
Width of Tower (ft)	23	Allowable Bearing Pressure (ksf)	**5.00**
Ultimate Bearing Pressure	10.00	Safety Factor	**2.00**
Bearing Φs	0.75		
Bearing Design Strength (ksf)	7.5	Max. Factored Net Bearing Pressure (ksf)	4.19
Water Table Below Grade (ft)	**16**		
Width of Mat (ft)	31	Minimum Mat Width (ft)	29.33
Thickness of Mat (ft)	1.5		
Depth to Bottom of Slab (ft)	6.5		
Bolt Circle Diameter (in)	13.25		
Effective Anchor Bolt Embedment	65.125		
Diameter of Pier (ft)	4	Minimum Pier Diameter (ft)	2.44
Ht. of Pier Above Ground (ft)	0.5	Equivalent Square b (ft)	3.54
Ht. of Pier Below Ground (ft)	5		
Quantity of Bars in Mat	58		
Bar Diameter in Mat (in)	1.128		
Area of Bars in Mat (in^2)	57.96		
Spacing of Bars in Mat (in)	6.40	Recommended Spacing (in)	6 to 12
Quantity of Bars Pier	20		
Bar Diameter in Pier (in)	0.875		
Tie Bar Diameter in Pier (in)	0.5		
Spacing of Ties (in)	4		
Area of Bars in Pier (in^2)	12.03	Minimum Pier A_s (in^2)	9.05
Spacing of Bars in Pier (in)	6.28	Recommended Spacing (in)	5 to 12
f'c (ksi)	4.5		
fy (ksi)	60		
Unit Wt. of Soil (kcf)	0.11		
Unit Wt. of Concrete (kcf)	0.15		
Volume of Concrete (yd^3)	61.07		

MAT FOUNDATION DESIGN BY SABRE INDUSTRIES (CONTINUED)

Two-Way Shear:

Average d (in)	13.872		
ϕv_c (ksi)	0.201	v_u (ksi)	0.143
$\phi v_c = \phi(2 + 4/\beta_c)f'_c{}^{1/2}$	0.302		
$\phi v_c = \phi(\alpha_s d/b_o+2)f'_c{}^{1/2}$	0.224		
$\phi v_c = \phi 4f'_c{}^{1/2}$	0.201		
Shear perimeter, b_o (in)	225.64		
β_c	1		

Stability:

Overturning Design Strength (ft-k)	11036.3	Factored Overturning Moment (ft-k)	9024.3

One-Way Shear:

ϕV_c (kips)	519.3	V_u (kips)	504.4

Pier Design:

Design Tensile Strength (kips)	649.4	Tu (kips)	404.0

Shear:

ϕ	0.75		
V_c (kips)	136.9		
V_s (kips)	226.2	$V_{s,max}$ (kips)	989.2
ϕV_n (kips)	272.3	V_u (kips)	36.0
Maximum Spacing (in)	9.76	(Only if Shear Ties are Required)	
Actual Hook Development (in)	12.74	Req'd Hook Development l_{dh} (in) - Tension	10.96
		Req'd Hook Development l_{dc} (in) - Compression	11.81

Anchor Bolt Pull-Out:

$N_{ua} / \phi N_n$	0.75	$V_{ua} / \phi V_n$	0.11
Pier Rebar Development Length (in)	52.72	Required Length of Development (in)	23.48

Flexure in Slab:

ϕM_n (ft-kips)	3299.4	M_u (ft-kips)	3296.3
a (in)	2.44		
Steel Ratio	0.01123		
β_1	0.825		
Maximum Steel Ratio (ρ_t)	0.0197		
Minimum Steel Ratio	0.0018		

Condition	1 is OK, 0 Fails
Minimum Mat Width	1
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Two-Way Shear	1
Overturning	1
Anchor Bolt Pull-Out	1
Flexure	1
Steel Ratio	1
One-Way Shear	1
Hook Development	1
Minimum Mat Depth	1
Anchor Bolt Punching Shear	1

DRILLED STRAIGHT PIER DESIGN BY SABRE INDUSTRIES

235' S3TL Series HD1 TILLMAN INFRASTRUCTURE, LLC TI-OPP-15818/Benton, KY (21-1646-TJH) 2020-0

Factored Uplift (kips)	404
Factored Download (kips)	454
Factored Shear (kips)	36
Ultimate Bearing Pressure	14
Bearing ϕ_s	0.75
Bearing Design Strength (ksf)	10.5
Water Table Below Grade (ft)	16
Bolt Circle Diameter (in)	13.25
Effective Anchor Bolt Embedment	65.125
Pier Diameter (ft)	4
Ht. Above Ground (ft)	0.5
Pier Length Below Ground (ft)	35.5
Quantity of Bars	12
Bar Diameter (in)	1.27
Area of Bars (in^2)	15.20
Spacing of Bars (in)	10.28
Tie Bar Diameter (in)	0.5
Spacing of Ties (in)	12
f'_c (ksi)	4.5
f_y (ksi)	60
Unit Wt. of Concrete (kcf)	0.15
Volume of Concrete (yd^3)	16.76

Minimum Pier Diameter (ft): 2.44

Minimum Area of Steel (in^2): 9.05

Length to ignore download (ft): 0

Ignore bottom length in download? ☐

Depth at Bottom of Layer (ft)	Ult. Skin Friction (ksf)	(Ult. Skin Friction)*(Uplift Factor)	γ (kcf)
4	0.00	0.00	0.11
16	1.35	1.35	0.11
40	1.13	1.13	0.11

DRILLED STRAIGHT PIER DESIGN BY SABRE INDUSTRIES (CONTINUED)

Download:

Φ_s, Download Friction	0.75		
Q_f, Skin Friction (kips)	479.2	W_s (kips)	49.1
Q_b, End Bearing Strength (kips)	175.9	W_c (kips)	67.9
Download Design Strength (kips)	491.4	Factored Net Download (kips)	476.5

Uplift (skin friction):

Φ_s, Uplift (friction)	0.75		
Q_f, Skin Friction (kips)	479.2		
W_c (kips)	67.9		
W_w (kips)	15.3		
Uplift Design Strength (kips)	406.7	Factored Uplift (kips)	404.0

Uplift (cone):

Φ_s, Uplift (cone)	0.75		
$W_{s,cone}$ (kips)	2220.7		
$W_{w,cone}$ (kips)	247.6		
W_c (kips)	67.9		
$W_{w,cyl}$ (kips)	15.3		
Uplift Design Strength (kips)	1527.2	Factored Uplift (kips)	404.0

Tension:

Design Tensile Strength (kips)	820.9	T_u (kips)	404.0

Shear:

ϕ	0.75		
V_c (kips)	136.9		
V_s (kips)	75.4	$V_{s,max}$ (kips)	989.2
ϕV_n (kips)	159.2	V_u (kips)	36.0

Anchor Bolt Pull-Out:

$N_{ua} / \phi N_n$	0.61	$V_{ua} / \phi V_n$	0.11
Rebar Development Length (in)	52.85	Required Length of Development (in)	34.08

Condition	1 is OK, 0 Fails
Download	1
Uplift	1
Area of Steel	1
Shear	1
Anchor Bolt Pull-Out	1
Interaction Diagram	1

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

Aeronautical Study No.
2019-ASO-27666-OE

Issued Date: 10/07/2019

Donna-Marie Stipo
Tillman Infrastructure, LLC
152 West 57th Street
8th Floor
New York, NY 10019

**** 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 Benton KY – TI-15818
Location:	Benton, KY
Latitude:	36-51-12.08N NAD 83
Longitude:	88-22-23.91W
Heights:	483 feet site elevation (SE)
	250 feet above ground level (AGL)
	733 feet above mean sea level (AMSL)

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

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

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

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

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 04/07/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

(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, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASO-27666-OE.

Signature Control No: 417103719-419117885 (DNE)
Angelique Eersteling
Technician

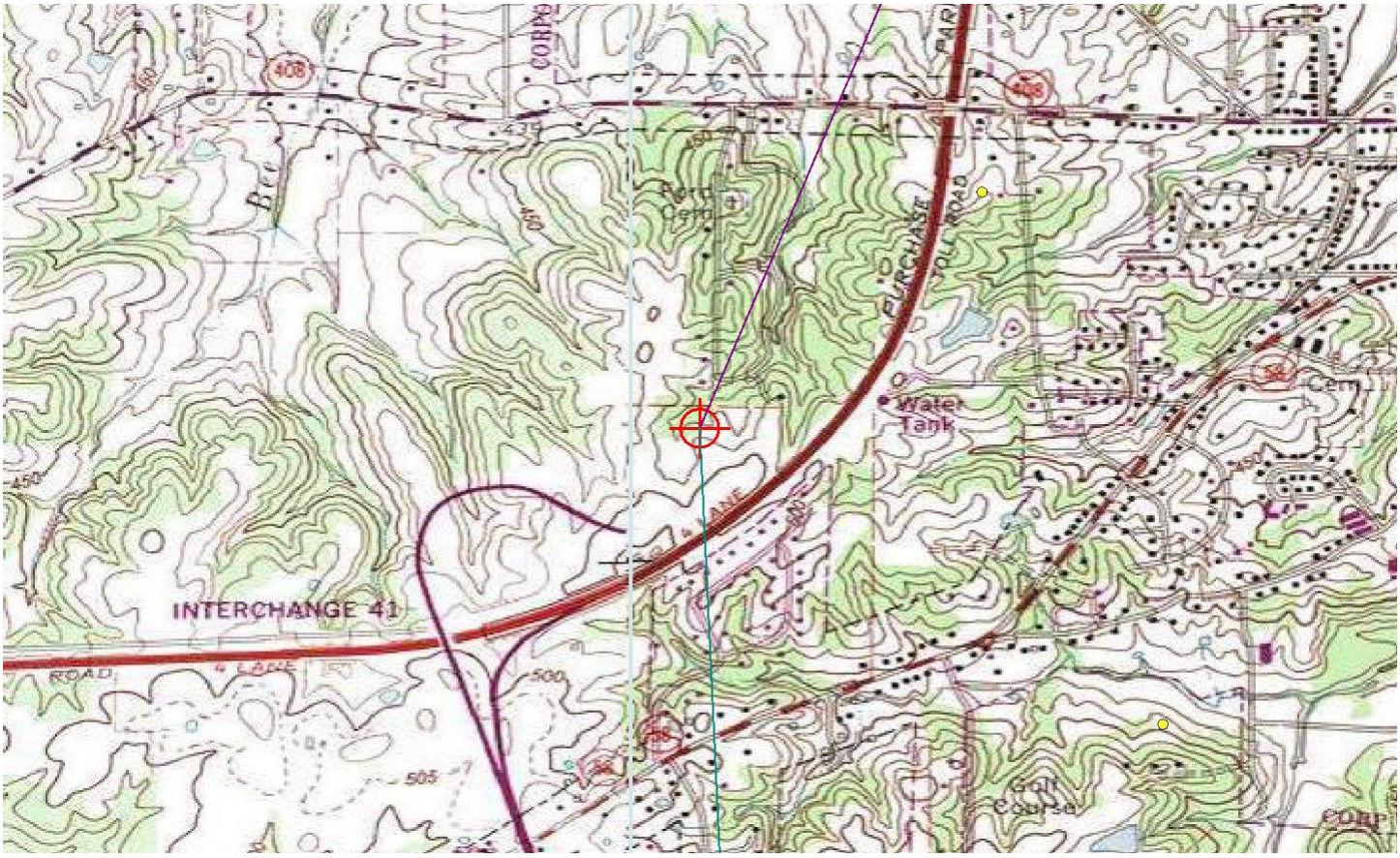
Attachment(s)
Frequency Data
Map(s)

cc: FCC

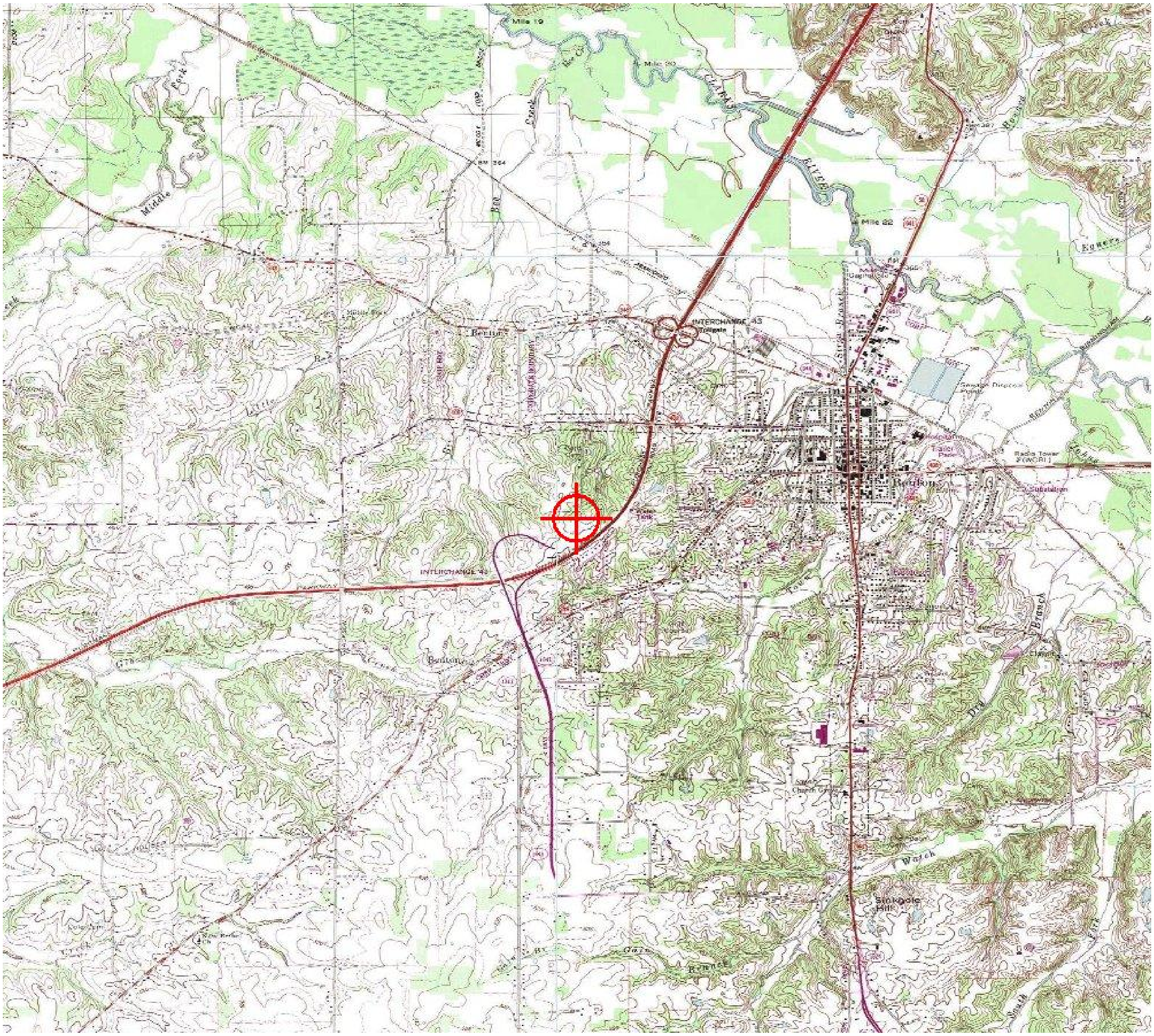
Frequency Data for ASN 2019-ASO-27666-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
614	698	MHz	2000	W
614	698	MHz	1000	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	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W

Verified Map for ASN 2019-ASO-27666-OE



TOPO Map for ASN 2019-ASO-27666-OE



KYPSC Case No. 2020-00282
Exhibit F

KENTUCKY AIRPORT ZONING COMMISSION

Andy Beshear
Governor

421 Buttermilk Pike
Covington, KY 41017
www.transportation.ky.gov
859-341-2700

January 10, 2020

APPROVAL OF APPLICATION

APPLICANT:
Tillman Infrastructure LLC
Tillman Infrastructure LLC
157 W 57th Street 8th Floor
New York, NY

SUBJECT: AS–079-M34–2019-124

STRUCTURE:	Antenna Tower
LOCATION:	Benton, KY
COORDINATES:	36° 51' 12.08" N / 88° 22' 23.91" W
HEIGHT:	250’ AGL/733’AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 250’AGL/ 733’AMSL Antenna Tower near Benton, KY 36° 51' 12.08" N / 88° 22' 23.91" W.

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

Medium Dual Obstruction Lighting is required in accordance with 602 KAR 50:100.

John Houlihan

John Houlihan
Administrator

Geotechnical Engineering Exploration and Analysis

Proposed Self-Support Tower TI-OPP-15818
840 Sunset Drive
Benton, Kentucky

Prepared for:

Westchester Services, LLC
Barrington, Illinois

August 4, 2020
Project No. 1G-2007014

GILES
ENGINEERING ASSOCIATES, INC.

GILES
ENGINEERING ASSOCIATES, INC.
GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

- Atlanta, GA
- Dallas, TX
- Los Angeles, CA
- Manassas, VA
- Milwaukee, WI

August 4, 2020

Westchester Services, LLC
604 Fox Glen
Barrington, IL 60010

Attention: Mr. Matthew Connolly
Project Manager

Subject: Geotechnical Engineering Exploration and Analysis
Proposed Self-Support Tower TI-OPP-15818
840 Sunset Drive
Benton, Kentucky
Project No. 1G-2007014

Dear Mr. Connolly:

As requested, Giles Engineering Associates, Inc. conducted a *Geotechnical Engineering Exploration and Analysis* for the proposed project. The accompanying report describes the services that were performed, and it provides geotechnical-related findings, conclusions, and recommendations that were derived from those services.

We sincerely appreciate the opportunity to provide geotechnical services for the proposed project. Please contact the undersigned if there are questions about the report, or if we may be of further service.

Very truly yours,

GILES ENGINEERING ASSOCIATES, INC.

Benjamin M. Stark

Benjamin M. Stark, E.I.T.
Staff Professional

Anthony C. Giles, P.E.
Vice President

STATE OF KENTUCKY
ANTHONY C. GILES
25952
LICENSED
PROFESSIONAL ENGINEER

Distribution: Westchester Services, LLC
Attn: Mr. Matthew Connolly (2 via USPS, 1 via email: mconnolly@westchesterservices.com)

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GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS

PROPOSED SELF-SUPPORT TOWER TI-OPP-15818
840 SUNSET DRIVE
BENTON, KENTUCKY
PROJECT NO. 1G-2007014

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS

PROPOSED SELF-SUPPORT TOWER TI-OPP-15818
840 SUNSET DRIVE
BENTON, KENTUCKY
PROJECT NO. 1G-2007014

1.0 SCOPE OF SERVICES

This report provides the results of the *Geotechnical Engineering Exploration and Analysis* that Giles Engineering Associates, Inc. ("Giles") conducted for the proposed self-support tower. The *Geotechnical Engineering Exploration and Analysis* included a geotechnical subsurface exploration program, geotechnical laboratory services, and geotechnical engineering. The scope of each service area was narrow and limited, as directed by our client, and based on our understanding and assumptions about the proposed project. Service areas are briefly discussed later. The purpose of our services was to provide geotechnical-related recommendations for design and construction of the foundation for the proposed tower. Environmental consulting was beyond our authorized scope for this project.

Evaluation of the site for the presence or potential development of sinkholes due to mining or karst conditions was beyond Giles' scope of services for this project; therefore, sinkholes are not addressed in this report.

2.0 SITE DESCRIPTION

The lease site for the proposed tower is southwest of the Sunset Drive and Forest Drive intersection in Benton, Kentucky. The location of the lease site is shown on the *Test Boring Location Plan*, enclosed as Figure 1 in Appendix A. When the test borings (discussed below) were performed, the lease site was densely wooded and sloped down to the north. Topographic contour lines on the provided *Grading Plan* (dated April 22, 2020), prepared by Westchester Services LLC, show that ground grades at the lease site generally range between ±El. 477.5 and ±El. 487.5, but ground grades in the proposed tower location range between ±El. 482.5 and ±El. 484.

3.0 PROJECT DESCRIPTION

A self-support tower will be constructed at the lease site and is planned to be 235 feet high. It is understood that the tower will be a metal-lattice structure that will have three legs. The maximum vertical load, horizontal load, and overturning moment that will be supported by the tower's foundation were not provided. It is understood that a single mat foundation or 4- to 6-foot-diameter drilled shafts are typically used for tower support. However, it is also understood that a mat is generally the preferred foundation.

The *Grading Plan* shows that the top of the tower foundation is planned to be at El. 481, and that the finished pavement/pad grades in the proposed tower area will range between ±El. 480 and ±El. 482. Based on the existing and proposed elevations shown on the *Grading Plan*, it is estimated that the tower location will be cut (lowered) between ±2 and ±3 feet.

Because this report is based on certain assumptions, it is recommended that Giles review the finalized project plans before construction. Depending on that review, this report might need to be revised.

4.0 GEOTECHNICAL SUBSURFACE EXPLORATION PROGRAM

To explore subsurface conditions, two geotechnical test borings were conducted in the proposed tower area, using a mechanical drill-rig, on July 21, 2020. A third test boring was planned to be conducted, but was eliminated due to stormy weather and trees. The test borings that were conducted are referenced as Test Borings 1 and 2, and were advanced to ±51 and ±46 feet below-ground, respectively. The test boring locations were located on-site based on measurements from apparent property lines and other site features, and by estimating right angles. Approximate locations of the test borings are shown on the *Test Boring Location Plan*.

Samples were collected from each test boring, at certain depths, using the Standard Penetration Test (SPT), conducted with the drill rig. A brief description of the SPT is given in Appendix B, along with descriptions of other field procedures. Immediately after sampling, select portions of the SPT samples were placed in containers that were labeled at the site for identification. A Standard Penetration Resistance value (N-value) was determined from each SPT. N-values are reported on the *Test Boring Logs* (in Appendix A), which are records of the test borings.

The boreholes were backfilled, but backfill materials will likely settle and/or heave, creating a hazard that can injure people and animals. The borehole areas should, therefore, be carefully and routinely monitored by the property owner or others; settlement and/or heave of backfill materials should be repaired immediately. Giles will not monitor or repair the boreholes, or the borehole areas.

The ground elevation at each test boring was estimated using the topographic contour lines on the *Grading Plan*. The estimated test boring elevations are noted on the *Test Boring Logs* and are assumed to be accurate within about one foot.

5.0 GEOTECHNICAL LABORATORY SERVICES

Soil samples that were retained from the test borings were transported to Giles' geotechnical laboratory, where they were classified using the descriptive terms and particle-size criteria shown on the *General Notes* in Appendix D, and by using the Unified Soil Classification System (ASTM D 2488) as a general guide. The classifications are shown on the *Test Boring Logs*, along with horizontal lines that show estimated depths of material change. Field-related information pertaining to the test borings is also shown on the *Test Boring Logs*. For simplicity and abbreviation, terms and symbols are used on the *Test Boring Logs*; the terms and symbols are defined on the *General Notes*.

Calibrated penetrometer resistance, unconfined compression (without controlled strain), water content, and Atterberg limits tests were performed on select SPT samples to evaluate their general engineering properties. Because SPT samples were used, which are categorized as disturbed samples, results of the calibrated penetrometer and unconfined compression tests are considered to be approximate. Results of the laboratory tests are on the *Test Boring Logs*. Laboratory procedures are briefly described in Appendix C.

6.0 MATERIAL CONDITIONS

Because material sampling at the test borings was discontinuous, it was necessary for Giles to estimate conditions between sample intervals. Estimated conditions at the test borings are briefly discussed in this section, and are described in more detail on the *Test Boring Logs*. The conclusions and recommendations in this report are only based on the estimated conditions.

6.1. Surface Materials

Sandy silt was at the ground surface at Test Boring 1, and about 8 inches of topsoil was at the ground surface at Test Boring 2. The topsoil at Test Boring 2 generally consisted of silty clay with an estimated little amount of organic matter.

6.2. Native Soil

Native soil was below the surface materials, and was encountered to the ±51- and ±46-foot termination depths at Test Borings 1 and 2, respectively. To about 16 feet below-ground, the native soil at both test borings was predominantly granular, generally consisting of sandy silt underlain by gravelly silty sand; however, silty clay was between ±8 inches and ±4 feet below-ground at Test Boring 2. The granular native soil exhibited firm to very dense relative densities, based on SPT N-values. Cohesive soil consisting of fat clay was beneath the granular soil, and was encountered to the termination depth at each test boring. The fat clay had very high plasticity characteristics; Atterberg limits tests conducted on the fat clay sample recovered between ±24½ and ±26 feet below-ground at Test Boring 1 resulted in a Liquid Limit of 114 and Plastic Index of 71; and Atterberg limits tests conducted on the fat clay sample recovered between ±19½ and ±21 feet below-ground at Test Boring 2 resulted in a Liquid Limit of 132 and Plastic Index of 96. The fat clay had relatively high strength characteristics, with comparative consistencies of very stiff and hard, based on laboratory testing.

7.0 GROUNDWATER CONDITIONS

Based on the moisture conditions and colors of the retained soil samples, it is estimated that the water table was about 16 feet below-ground at the test boring locations, when the test borings were conducted. Therefore, using the topographic contour lines on the *Grading Plan*, it is estimated that the water table was at about El. 466.5 and El. 467.5 at Test Borings 1 and 2, respectively. Also, the site is likely subject to shallower perched-groundwater, where groundwater

collects/flows above the water table, especially within the granular native soil. Groundwater conditions will likely vary and the water table could be shallower at certain times.

It is important to note that the groundwater conditions discussed above are only an estimate; the water table might be shallower or deeper. If a more detailed determination of the water table depth/elevation is needed, groundwater observation wells are recommended to be installed and monitored at the site. Giles can install and monitor observation wells.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1. Seismic Design Considerations

A soil Site Class C is recommended for seismic design. By definition, Site Class is based on the average properties of subsurface materials to 100 feet below-ground. Because a 100-foot test boring was not conducted, it was necessary to estimate the Site Class based on the test borings, presumed area geology, and the International Building Code.

8.2. Tower Foundation Recommendations

It is understood that a square-shaped mat foundation or drilled-shaft foundation is typically used for tower support. Recommendations for a mat foundation and drilled-shaft foundation are, therefore, provided below. The recommendations are based on the soil conditions at the test borings, and are also based on our understanding that the top of the tower foundation will be at El. 481, and that the finished pavement/pad grades in the proposed tower area will range between ±El. 480 and ±El. 482. The proposed elevations are shown on the *Grading Plan*.

8.2.1. Mat Foundation Recommendations

Bearing Capacity

Based on the test borings, and assuming proper subgrade preparation, a mat foundation designed for a 5,000 pound per square foot (psf) maximum, net, allowable soil bearing capacity could be used to support the proposed tower. That bearing capacity is based on the assumptions that the foundation will be square and each side (width and length) of the foundation will have an equal dimension between 20 and 35 feet. Giles must be notified if those assumptions are inaccurate; the recommended bearing capacity might need to be revised.

It is understood that the local building code requires a minimum 24-inch foundation embedment depth. Therefore, the base of the mat is recommended to bear at least 24 inches below the finished ground-grade above and adjacent to the foundation. The recommendations in this report are strictly based on the assumption that the bottom of the mat will bear at least two feet below the (finished) ground surface. Giles must be notified if the foundation-embedment depth will be less than two feet below the finished grades; this report might need to be revised. Based on the

minimum two-foot embedment depth, and the planned pavement/pad grades, it is assumed that the mat foundation will bear at or below El. 478.

Lateral Resistance

Friction at the base of the mat foundation will provide some resistance to lateral movement (of the foundation). An ultimate frictional coefficient of 0.31 is recommended to determine the ultimate lateral resistance of the foundation. The recommended frictional coefficient is only for concrete cast directly on suitable native (granular), or on new engineered fill consisting of dense-graded aggregate that has been properly placed and compacted on suitable native soil. Lateral resistance (due to friction) should be determined based on dead load only. Also, the ultimate lateral resistance determined from the frictional coefficient is to be factored to determine an allowable value. Passive resistance is recommended to be neglected to at least two feet below the finished ground-grade above and around the mat foundation.

The final design of the foundation for lateral loads should be based on a factor of safety of at least 1.5 against sliding, and factor of safety of at least 2.0 against overturning. Also, it is recommended that the resultant force of the maximum vertical force act within the middle one-third (kern) of the foundation.

Foundation Support Soil Requirements

The mat foundation is recommended to be directly and entirely supported by suitable native granular soil, or by new engineered fill (discussed below) placed on suitable native soil. **Because of its plasticity characteristics, native cohesive soil (fat clay) is not recommended for direct support of foundations, and native cohesive soil is also not recommended to be within four feet of the foundation-bearing grade. Replacing native cohesive soil with engineered fill consisting of dense-graded aggregate might, therefore, be necessary.** Native granular soil, such as gravelly silty sand, within the foundation influence zone is recommended to have a corrected N-value (determined from SPTs and correlated from other in-situ tests) of at least 17, based on the recommended 5,000 psf maximum, net, allowable soil bearing capacity. It is further recommended that the strength characteristics of soil within the foundation influence zone (determined by a geotechnical engineer during construction) meet or exceed the recommended value, unless Giles approves lower values during construction.

Full-time evaluation of foundation-support soil by a geotechnical engineer during foundation excavation and foundation construction is recommended. Without a thorough support-soil evaluation by a geotechnical engineer during construction, the proposed tower could be improperly supported. The purpose of the recommended evaluation is (1) to confirm that the foundation will be properly supported by suitable material consisting of native granular soil, (2) to determine if over-excavation of fat clay or other unsuitable soil is needed, and (3) to confirm that the subsurface conditions are similar to those described on the *Test Boring Logs*. If another firm performs the recommended evaluation, Giles must be notified if the composition or strength characteristics of foundation-support soil differ from those shown on the *Test Boring Logs*,

thereby allowing us the opportunity to revise this report, if needed. All OSHA requirements must be strictly followed when evaluating foundation-support soil; excavations that do not meet OSHA safety guidelines must not be entered.

Unsuitable soil (if any) within the foundation influence zone is recommended to be replaced with engineered fill consisting of imported well-graded aggregate. Aggregate fill is recommended to consist of dense-graded crushed stone that meets the gradation requirements of *Crushed Stone Base* (1½-inch) in Section 805 of the Kentucky Department of Transportation Standard Specifications (2019). Aggregate with other gradation characteristics can possibly be used, but must be approved by a geotechnical engineer before the material is placed. Lateral over-excavation of unsuitable materials will be required, in addition to vertical over-excavation. The width of lateral over-excavation will depend on the depth of vertical over-excavation. For budgeting purposes, the minimum lateral over-excavation could be determined by extending an imaginary line outward and downward at a ratio of 1(horizontal):2(vertical) from the bottom edges of the foundation, but the actual lateral extents of over-excavation are recommended to be approved by a geotechnical engineer during construction.

Engineered fill is recommended to be placed in relatively thin layers (lifts) that are uniform in elevation. Each layer of engineered fill is recommended to be compacted to at least 95 percent of the material's maximum dry density determined from the Standard Proctor compaction test (ASTM D698). The moisture content of engineered fill is recommended to be uniform and within a narrow range of the material's optimum moisture content, also determined from the Standard Proctor compaction test. Also, it is recommended that a geotechnical engineer observe the filling operations on a full-time basis, and perform the necessary testing to confirm that the fill materials have been properly placed and compacted.

The foundation excavation is recommended to be dug with a smooth-edge backhoe bucket to develop a relatively undisturbed bearing grade. A toothed bucket will likely disturb foundation-bearing soil more than a smooth-edge bucket, thereby making soil at the excavation base more susceptible to saturation and instability, especially during adverse weather. It is critical that contractors protect foundation-support soil and foundation construction materials (concrete, reinforcing, etc.). In addition, engineered fill is recommended to be placed and compacted in benched excavations along the foundation immediately after the foundation is capable of supporting lateral pressures from backfill, compaction, and compaction equipment. Earth-formed construction techniques will likely not be feasible, considering the granular site soil. The foundation must be protected against weather damage, both during and after construction.

Backfill Recommendations

Backfill that is placed around and above the mat foundation is recommended to consist of imported well-graded aggregate. Aggregate fill is recommended to consist of dense-graded crushed stone that meets the gradation requirements of *Crushed Stone Base* (1½-inch) in Section 805 of the Kentucky Department of Transportation Standard Specifications (2019). Aggregate with other gradation characteristics can possibly be used, but must be approved by a geotechnical

engineer before the material is placed. Backfill that is placed along and above the mat foundation is recommended to be placed in relatively thin layers (lifts) that are uniform in elevation. Each layer of backfill is recommended to be compacted to at least 95 percent of the material's maximum dry density determined from the Standard Proctor compaction test (ASTM D698). As an exception, the in-place dry density of backfill within one foot of a pavement subgrade is recommended to be compacted to at least 100 percent of the backfill material's maximum dry density. The moisture content of backfill is recommended to be uniform and within a narrow range of the material's optimum moisture content, also determined from the Standard Proctor compaction test. Excavation sidewalls might need to be benched during backfilling to develop proper support between the backfill and native soil. It is recommended that a geotechnical engineer observe the backfilling operations on a full-time basis, and perform the necessary testing to confirm that the backfill materials have been properly placed and compacted.

Estimated Mat Foundation Settlement

Settlement is dependent on the foundation dimensions, foundation rigidity, maximum loads, load eccentricity, and the foundation-support materials. Specific information is unknown at this time to provide estimates of settlement. Settlement estimates can be provided once more detailed loading and foundation information becomes available.

8.2.2. Drilled-Shaft Foundation Recommendations

The following table provides recommended geotechnical parameters for design of the drilled-shaft foundation. Although the subsurface conditions at each test boring were substantially similar, the support characteristics of soil at Test Boring 2 were somewhat less than those at Test Boring 1; therefore, the following table was prepared based on the estimated subsurface conditions at Test Boring 2. The parameters in the following table are intended to be used with the LPILE computer program. Furthermore, the parameters are strictly based on Giles' assumption that the drilled shafts will bear between 20 and 40 feet below-ground (between El. 462.5 and El. 442.5). Giles must be notified if the drilled shafts will bear above El. 462.5 or below El. 442.5; this report might need to be revised. The recommended parameters are provided assuming that all casings will be removed and concrete for the drilled shafts will be in direct contact with the surrounding soil.

TABLE 1: RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS							
Approximate Depth and Elevation	**Soil Type**	**Soil Unit Weight**	**Soil Friction Angle**	**Soil Undrained Shear Strength**	**Allowable Unit Side Resistance**	**Lateral Soil Modulus (Cyclic)**	**ε_{50}**
0 to 4 feet El. 483.5 to El. 479.5	Clay	120 pcf (moist)	Neglect due to seasonal changes including shrinkage				
4 to 16 feet El. 479.5 to El. 467.5	Sand	135 pcf (moist)	34°	N/A	450 psf	225 pci	N/A
16 to 40 feet El. 467.5 to El. 443.5	Clay	60 pcf (submerged)	0°	2,300 psf	375 psf	400 pci	0.005
• Depth is referenced to the ground surface at Test Boring 2, when that test boring was conducted. • Elevations are referenced to the topographic contour lines on the *Grading Plan*. • Allowable Unit Side Resistance values include a factor of safety of ±3.0.							

A 7,000 pound per square foot (psf) maximum, net, allowable end-bearing capacity is recommended for foundation design, assuming that the drilled shafts will bear between 20 and 40 feet below-ground (between El. 462.5 and El. 442.5). The recommended end-bearing capacity is based on the assumption that the drilled shafts will be 4 to 6 feet in diameter. It is recommended that Giles review the final foundation plans to confirm that the recommended bearing capacity is appropriate based on the specified foundation diameters and depths.

Subsurface conditions could differ away from the test borings; therefore, it is recommended that a geotechnical engineer observe the drilled-shaft excavation procedures to confirm that the support soils are similar to those encountered at the test borings, and to confirm that the recommended design parameters in Table 1 are representative of the actual subsurface conditions. If the subsurface conditions differ from those shown on the *Test Boring Logs*, Giles must be notified so that this report can be revised. Depending on the actual subsurface conditions within a shaft excavation, the drilled shaft might need to be wider and/or deeper than planned to adequately support the proposed tower.

It is understood that the local building code requires a minimum 24-inch foundation-embedment depth. It is, therefore, recommended that grade beams and other components of the foundation system extend at least 24 inches below the finished ground-grade, or to a depth required by the governing building code. Foundations and foundation elements must be protected against weather damage both during and after construction.

General Drilled-Shaft Construction Recommendations

Concrete should consist of a Portland cement mixture with proper air-entrainment and with an appropriate water/cement ratio for proper strength and durability. Concrete may be placed by free-falling or by being pumped into a shaft excavation; however, the concrete slump and maximum aggregate size must be carefully selected so that the concrete will flow easily between reinforcing bars and will completely fill all voids. Also, care must be taken so that concrete will not contact reinforcing cages during placement; otherwise, segregation of the concrete could occur. If the

concrete mixture is too stiff, reinforcing cages may accidently lift when liners are withdrawn. Concrete is recommended to be placed in accordance with "state-of-the-practice" procedures under engineering-controlled conditions.

Because of the granular soil and somewhat shallow water table, full-depth steel casing and drilling fluid are recommended to be used for drilled-shaft construction. The purpose of the full-depth steel casing and drilling fluid are to keep the shaft excavations open, and to prevent soil-heave at the base of the excavations. Severe construction and support problems will likely develop if construction proceeds without the use of steel casing and drilling fluid. Casing segments can be removed as concrete for a drilled shaft is placed, maintaining several feet of concrete head above the casing bottom. The recommended design parameters shown in Table 1 assume that all casings will be removed from the drilled-shaft excavations.

Drilled shafts should have a minimum diameter of 24 inches to help prevent arching and the development of possible voids in the concrete. Drilled-shaft construction should be done in accordance with American Concrete Institute documents (ACI 336.1R-98 and ACI 336.3 R-93) and other pertinent requirements. Concrete should be placed in shaft excavations immediately after drilling, since a time delay could result in serious construction problems, such as heaving at the base of the excavation. A clean-out bucket should be used to remove disturbed soil within the drilled-shaft excavations.

Giles does not recommend downhole inspection of drilled-shaft excavations, and downhole inspection might not be feasible, considering the somewhat shallow water table. Even so, if downhole inspection is performed, care must be taken to ensure that the shaft excavations are fully cased and tested for possible accumulation of "bad air" or toxic gas prior to permitting an individual to proceed down a shaft excavation. Testing should continue while an individual occupies a shaft excavation. Carbon Dioxide (CO_2) or Carbon Monoxide (CO) gases, being heavier than air, may accumulate in a shaft excavation from internal combustion engines, such as pumps, air compressors, and/or vehicle traffic, or may be present within the subsoil.

It is recommended that a geotechnical engineer monitor the drilling operations to confirm that proper construction techniques are used, including the use of drilling fluid and casings. Strict safety precautions must be implemented and followed when near open excavations, such as shaft excavations. An uncased shaft excavation must not be approached, as it could rapidly cave.

Estimated Drilled Shaft Foundation Settlement

Settlement of a drilled-shaft foundation is dependent on the foundation dimensions, structural loads, and foundation-support materials. Specific information is unknown at this time to provide estimates of settlement. Settlement estimates can be provided once loading and foundation information becomes available.

8.3. Generalized Construction Considerations

Adverse Weather

Site soil is moisture sensitive and will become unstable when exposed to adverse weather, such as rain, snow, and freezing temperatures. Therefore, it might be necessary to remove or stabilize the upper 6 to 12 inches (or more) of soil due to adverse weather, which commonly occurs during late fall, winter, and early spring. Some over-excavation and/or stabilization of unstable soil should be expected if construction is during or after adverse weather, especially within cohesive soil. Because site preparation depends on weather, bids for site preparation, and other earthwork activities, should consider the time of year that construction will be conducted.

To protect soil from adverse weather, the site surface is recommended to be smoothly graded and contoured during construction to divert surface water away from construction areas and excavations. Contoured subgrades are recommended to be rolled with a smooth-drum compactor, before precipitation, to "seal" the surface. Construction traffic should be restricted to certain aggregate-covered areas to reduce traffic-related soil disturbance.

Excavation Stability

Excavations are recommended to be made in accordance with current OSHA excavation and trench safety standards, and other applicable requirements. Sides of excavations might need to be sloped, benched, or braced to develop and maintain a safe work environment. Temporary shoring must be designed according to applicable regulatory requirements. Contractors are responsible for excavation safety.

Dewatering

Filtered sump pumps, drawing water from sump pits excavated in the bottom of construction trenches, are expected to be adequate to remove water that collects in shallow excavations. Excavated sump pits should be fully lined with geotextile and filled with free-draining aggregate, such as crushed stone that meets the gradation requirements of ASTM No. 57 aggregate. More specialized dewatering might be necessary to dewater deeper excavations. It is recommended that a geotechnical engineer monitor and approve dewatering methods. Improper dewatering could cause support-related problems at the site and at nearby properties.

8.4. Recommended Construction Materials Testing Services

This report was prepared assuming that a geotechnical engineer will perform Construction Materials Testing ("CMT") services during construction of the proposed development. It might be necessary for Giles to provide supplemental geotechnical recommendations based on the results of CMT services and specific details of the project not known at this time.

9.0 BASIS OF REPORT

This report is strictly based on the project description given earlier in this report. Giles must be notified if any part of the project description or our assumptions are not accurate so that this report can be amended, if needed. This report is based on the assumption that the facility will be designed and constructed according to the codes that govern construction at the site.

The conclusions and recommendations in this report are based on estimated subsurface conditions as shown on the *Test Boring Log*. Giles must be notified if the subsurface conditions that are encountered during construction of the proposed development differ from those shown on the *Test Boring Log* because this report will likely need to be revised. General comments and limitations of this report are given in the appendix.

The conclusions and recommendations presented in this report have been promulgated in accordance with generally accepted professional engineering practices in the field of geotechnical engineering. No other warranty is either expressed or implied.

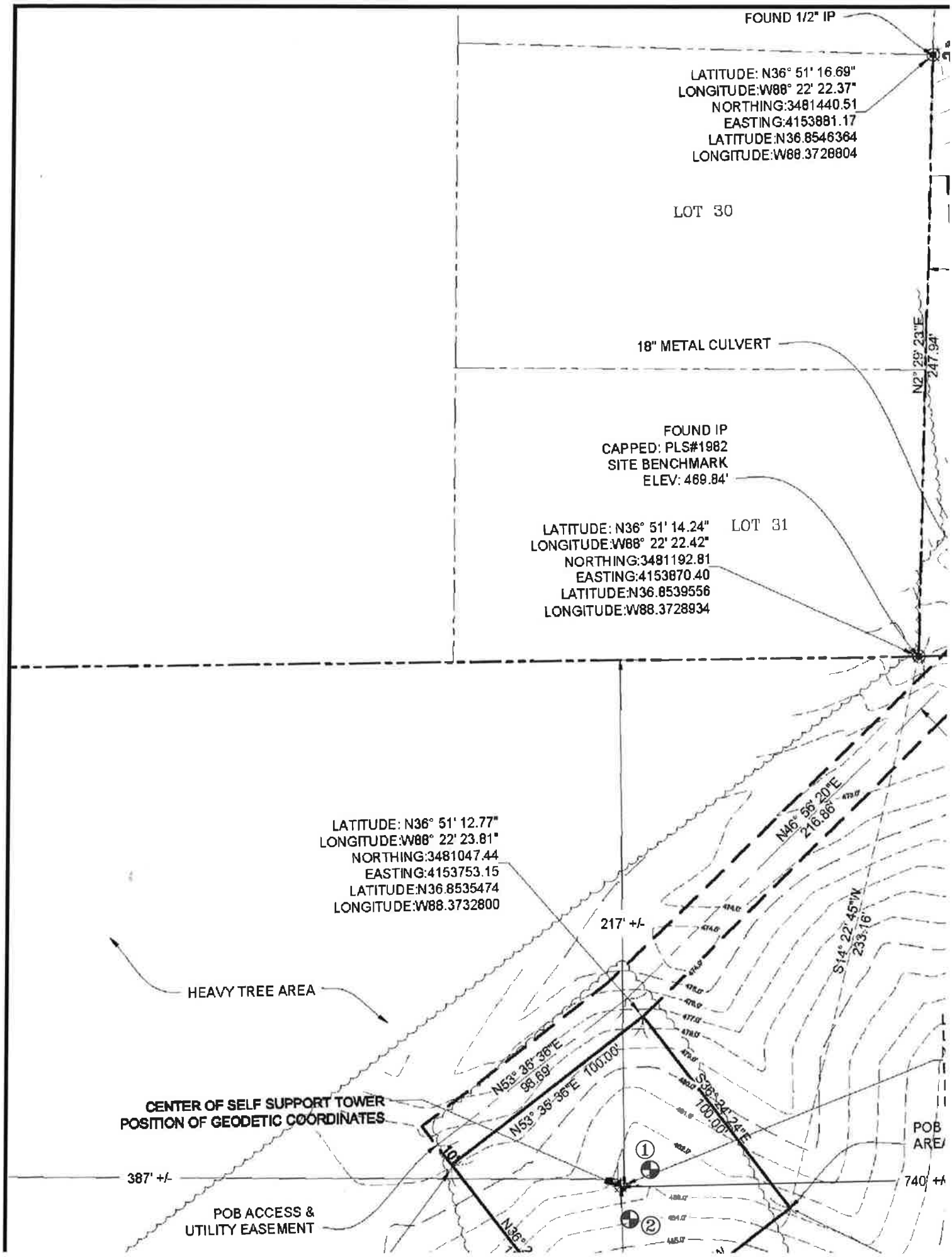
 1G-2007014/20Geo03/bms

APPENDIX A

FIGURES AND TEST BORING LOGS

The Test Boring Location Plan contained herein was prepared based upon information supplied by *Giles'* client, or others, along with *Giles'* field measurements and observations. The diagram is presented for conceptual purposes only and is intended to assist the reader in report interpretation.

The Test Boring Logs and related information enclosed herein depict the subsurface (soil and water) conditions encountered at the specific boring locations on the date that the exploration was performed. Subsurface conditions may differ between boring locations and within areas of the site that were not explored with test borings. The subsurface conditions may also change at the boring locations over the passage of time.


FOUND 1/2" IP
LATITUDE: N36° 51' 16.69"
LONGITUDE:W88° 22' 22.37"
NORTHING:3481440.51
EASTING:4153881.17
LATITUDE:N36.8546364
LONGITUDE:W88.3726804
LOT 30
18" METAL CULVERT
N2° 29' 23"E
247.94'
FOUND IP
CAPPED: PLS#1982
SITE BENCHMARK
ELEV: 469.84'
LATITUDE: N36° 51' 14.24"
LONGITUDE:W88° 22' 22.42"
NORTHING:3481192.81
EASTING:4153870.40
LATITUDE:N36.8539556
LONGITUDE:W88.3728934
LOT 31
LATITUDE: N36° 51' 12.77"
LONGITUDE:W88° 22' 23.81"
NORTHING:3481047.44
EASTING:4153753.15
LATITUDE:N36.8535474
LONGITUDE:W88.3732800
N46° 56' 20"E
216.86'
217' +/-
S14° 22' 45"W
233.16'
HEAVY TREE AREA
N53° 35' 36"E
98.69'
N53° 35' 36"E 100.00'
S36° 24' 24"E
100.00'
CENTER OF SELF SUPPORT TOWER
POSITION OF GEODETIC COORDINATES
POB
ARE
387' +/-
740' +/
POB ACCESS &
UTILITY EASEMENT
N36°
①
②

BORING NO. & LOCATION: 1	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 482.5 feet	PROPOSED SELF-SUPPORT TOWER TI-OPP #15818	
COMPLETION DATE: 07/21/20	840 SUNSET DRIVE BENTON, KENTUCKY	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-2007014	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
Brown Sandy Silt, trace Clay and Gravel-Moist		480	1-SS	7				16		
			2-SS	15				15		
			3-SS	25				13		
Brownish Gray Gravelly Silty Sand-Moist	10		4-SS	43						
		470	5-SS	33						
			6-SS	50/3"						
Brown and Dark Gray fat Clay-Very Moist	20		7-SS	16		4.5+		62		
		460	8-SS	24		4.5+		63		LL=114; PI=71
Dark Gray fat Clay-Very Moist	30		9-SS	21		4.0		67		
		450	10-SS	28		4.5+		60		
	40		11-SS	33	5.2	4.5+		59		
		440	12-SS	37	6.4	4.5+		59		
	50		13-SS	50		4.1		57		
Boring Terminated at about 51 feet (EL. 431.5')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling:	
▼	Water Level At End of Drilling:	
	Cave Depth At End of Drilling: 38 ft.	
▼	Water Level After Drilling:	
	Cave Depth After Drilling:	

GILES LOG REPORT 1G2007014.GPJ GILES.GDT 8/4/20

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 2	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 483.5 feet	PROPOSED SELF-SUPPORT TOWER TI-OPP #15818	
COMPLETION DATE: 07/21/20	840 SUNSET DRIVE BENTON, KENTUCKY	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-2007014	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
8±" Topsoil: Dark Brown Silty Clay, little Sand and Organic Matter-Moist			1-SS	9		27		26		
Brown Silty Clay, little Sand-Moist			2-SS	31				15		
		480								
Brown Sandy Silt, trace Clay-Moist			3-SS	42				11		
Brown Gravelly Silty Sand-Moist			4-SS	35						
	10		5-SS	58						
		470								
			6-AU	--						
Brown and Dark Gray fat Clay-Very Moist										
	20		7-SS	27		2.3		48		LL=132; PI=96
		460								
			8-SS	12		2.8		67		
Dark Gray fat Clay-Very Moist										
	30		9-SS	16	4.0	3.5		54		
		450								
			10-SS	20		4.5+		68		
	40		11-SS	20		2.5		32		
		440								
			12-SS	31				31		
Boring Terminated at about 46 feet (EL. 437.5')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling:	
▼	Water Level At End of Drilling:	
	Cave Depth At End of Drilling: 35 ft.	
▼	Water Level After Drilling:	
	Cave Depth After Drilling:	

GILES LOG REPORT 1G2007014.GPJ GILES.GDT 8/4/20

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

APPENDIX B

FIELD PROCEDURES

The field operations were conducted in general accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) designation D

420 entitled "Standard Guide for Sampling Rock and Rock" and/or other relevant specifications. Soil samples were preserved and transported to *Giles'* laboratory in general accordance with the procedures recommended by ASTM designation D 4220 entitled "Standard Practice for Preserving and Transporting Soil Samples." Brief descriptions of the sampling, testing and field procedures commonly performed by *Giles* are provided herein.

GENERAL FIELD PROCEDURES

Test Boring Elevations

The ground surface elevations reported on the Test Boring Logs are referenced to the assumed benchmark shown on the Boring Location Plan (Figure 1). Unless otherwise noted, the elevations were determined with a conventional hand-level and are accurate to within about 1 foot.

Test Boring Locations

The test borings were located on-site based on the existing site features and/or apparent property lines. Dimensions illustrating the approximate boring locations are reported on the Boring Location Plan (Figure 1).

Water Level Measurement

The water levels reported on the Test Boring Logs represent the depth of "free" water encountered during drilling and/or after the drilling tools were removed from the borehole. Water levels measured within a granular (sand and gravel) soil profile are typically indicative of the water table elevation. It is usually not possible to accurately identify the water table elevation with cohesive (clayey) soils, since the rate of seepage is slow. The water table elevation within cohesive soils must therefore be determined over a period of time with groundwater observation wells.

It must be recognized that the water table may fluctuate seasonally and during periods of heavy precipitation. Depending on the subsurface conditions, water may also become perched above the water table, especially during wet periods.

Borehole Backfilling Procedures

Each borehole was backfilled upon completion of the field operations. If potential contamination was encountered, and/or if required by state or local regulations, boreholes were backfilled with an "impervious" material (such as bentonite slurry). Borings that penetrated pavements, sidewalks, etc. were "capped" with Portland Cement concrete, asphaltic concrete, or a similar surface material. It must, however, be recognized that the backfill material may settle, and the surface cap may subside, over a period of time. Further backfilling and/or re-surfacing by *Giles'* client or the property owner may be required.

FIELD SAMPLING AND TESTING PROCEDURES

Auger Sampling (AU)

Soil samples are removed from the auger flights as an auger is withdrawn above the ground surface. Such samples are used to determine general soil types and identify approximate soil stratifications. Auger samples are highly disturbed and are therefore not typically used for geotechnical strength testing.

Split-Barrel Sampling (SS) – (ASTM D-1586)

A split-barrel sampler with a 2-inch outside diameter is driven into the subsoil with a 140-pound hammer free-falling a vertical distance of 30 inches. The summation of hammer-blows required to drive the sampler the final 12-inches of an 18-inch sample interval is defined as the "Standard Penetration Resistance" or N-value is an index of the relative density of granular soils and the comparative consistency of cohesive soils. A soil sample is collected from each SPT interval.

Shelby Tube Sampling (ST) – (ASTM D-1587)

A relatively undisturbed soil sample is collected by hydraulically advancing a thin-walled Shelby Tube sampler into a soil mass. Shelby Tubes have a sharp cutting edge and are commonly 2 to 5 inches in diameter.

Bulk Sample (BS)

A relatively large volume of soils is collected with a shovel or other manually-operated tool. The sample is typically transported to *Giles'* materials laboratory in a sealed bag or bucket.

Dynamic Cone Penetration Test (DC) – (ASTM STP 399)

This test is conducted by driving a 1.5-inch-diameter cone into the subsoil using a 15-pound steel ring (hammer), free-falling a vertical distance of 20 inches. The number of hammer-blows required to drive the cone 1¾ inches is an indication of the soil strength and density, and is defined as "N". The Dynamic Cone Penetration test is commonly conducted in hand auger borings, test pits and within excavated trenches.

- Continued -

Ring-Lined Barrel Sampling – (ASTM D 3550)

In this procedure, a ring-lined barrel sampler is used to collect soil samples for classification and laboratory testing. This method provides samples that fit directly into laboratory test instruments without additional handling/disturbance.

Sampling and Testing Procedures

The field testing and sampling operations were conducted in general accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) and/or other relevant specifications. Results of the field testing (i.e. N-values) are reported on the Test Boring Logs. Explanations of the terms and symbols shown on the logs are provided on the appendix enclosure entitled "General Notes".

APPENDIX C

LABORATORY TESTING AND CLASSIFICATION

The laboratory testing was conducted under the supervision of a geotechnical engineer in accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) and/or other relevant specifications. Brief descriptions of laboratory tests commonly performed by *Giles* are provided herein.

LABORATORY TESTING AND CLASSIFICATION

Photoionization Detector (PID)

In this procedure, soil samples are "scanned" in *Giles'* analytical laboratory using a Photoionization Detector (PID). The instrument is equipped with an 11.7 eV lamp calibrated to a Benzene Standard and is capable of detecting a minute concentration of **certain** Volatile Organic Compound (VOC) vapors, such as those commonly associated with petroleum products and some solvents. Results of the PID analysis are expressed in HNu (manufacturer's) units rather than actual concentration.

Moisture Content (w) (ASTM D 2216)

Moisture content is defined as the ratio of the weight of water contained within a soil sample to the weight of the dry solids within the sample. Moisture content is expressed as a percentage.

Unconfined Compressive Strength (qu) (ASTM D 2166)

An axial load is applied at a uniform rate to a cylindrical soil sample. The unconfined compressive strength is the maximum stress obtained or the stress when 15% axial strain is reached, whichever occurs first.

Calibrated Penetrometer Resistance (qp)

The small, cylindrical tip of a hand-held penetrometer is pressed into a soil sample to a prescribed depth to measure the soils capacity to resist penetration. This test is used to evaluate unconfined compressive strength.

Vane-Shear Strength (qs)

The blades of a vane are inserted into the flat surface of a soil sample and the vane is rotated until failure occurs. The maximum shear resistance measured immediately prior to failure is taken as the vane-shear strength.

Loss-on-Ignition (ASTM D 2974; Method C)

The Loss-on-Ignition (L.O.I.) test is used to determine the organic content of a soil sample. The procedure is conducted by heating a dry soil sample to 440°C in order to burn-off or "ash" organic matter present within the sample. The L.O.I. value is the ratio of the weight loss due to ignition compared to the initial weight of the dry sample. L.O.I. is expressed as a percentage.

Particle Size Distribution (ASTB D 421, D 422, and D 1140)

This test is performed to determine the distribution of specific particle sizes (diameters) within a soil sample. The distribution of coarse-grained soil particles (sand and gravel) is determined from a "sieve analysis," which is conducted by passing the sample through a series of nested sieves. The distribution of fine-grained soil particles (silt and clay) is determined from a "hydrometer analysis" which is based on the sedimentation of particles suspended in water.

Consolidation Test (ASTM D 2435)

In this procedure, a series of cumulative vertical loads are applied to a small, laterally confined soil sample. During each load increment, vertical compression (consolidation) of the sample is measured over a period of time. Results of this test are used to estimate settlement and time rate of settlement.

Classification of Samples

Each soil sample was visually-manually classified, based on texture and plasticity, in general accordance with the Unified Soil Classification System (ASTM D-2488-75). The classifications are reported on the Test Boring Logs.

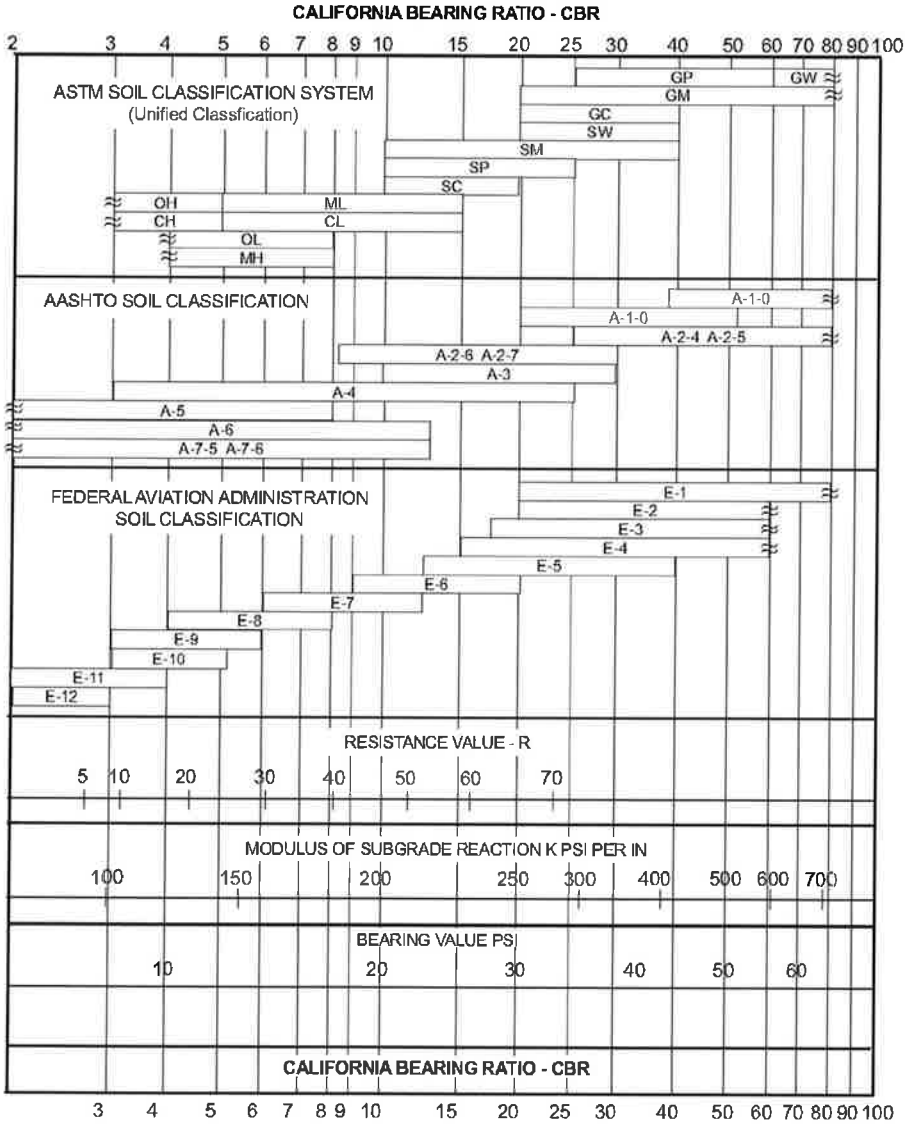
Laboratory Testing

The laboratory testing operations were conducted in general accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) and/or other relevant specifications. Results of the laboratory tests are provided on the Test Boring Logs or other appendix enclosures. Explanation of the terms and symbols used on the logs is provided on the appendix enclosure entitled "General Notes."

California Bearing Ratio (CBR) Test ASTM D-1833

The CBR test is used for evaluation of a soil subgrade for pavement design. The test consists of measuring the force required for a 3-square-inch cylindrical piston to penetrate 0.1 or 0.2 inch into a compacted soil sample. The result is expressed as a percent of force required to penetrate a standard compacted crushed stone.

Unless a CBR test has been specifically requested by the client, the CBR is estimated from published charts, based on soil classification and strength characteristics. A typical correlation chart is below.



APPENDIX D

GENERAL INFORMATION

AND
IMPORTANT INFORMATION ABOUT
YOUR GEOTECHNICAL REPORT

GENERAL COMMENTS

The soil samples obtained during the subsurface exploration will be retained for a period of thirty days. If no instructions are received, they will be disposed of at that time.

This report has been prepared exclusively for the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. Copies of this report may be provided to contractor(s), with contract documents, to disclose information relative to this project. The report, however, has not been prepared to serve as the plans and specifications for actual construction without the appropriate interpretation by the project architect, structural engineer, and/or civil engineer. Reproduction and distribution of this report must be authorized by the client and *Giles*.

This report has been based on assumed conditions/characteristics of the proposed development where specific information was not available. It is recommended that the architect, civil engineer and structural engineer along with any other design professionals involved in this project carefully review these assumptions to ensure they are consistent with the actual planned development. When discrepancies exist, they should be brought to our attention to ensure they do not affect the conclusions and recommendations provided herein. The project plans and specifications may also be submitted to *Giles* for review to ensure that the geotechnical related conclusions and recommendations provided herein have been correctly interpreted.

The analysis of this site was based on a subsoil profile interpolated from a limited subsurface exploration. If the actual conditions encountered during construction vary from those indicated by the borings, *Giles* must be contacted immediately to determine if the conditions alter the recommendations contained herein.

The conclusions and recommendations presented in this report have been promulgated in accordance with generally accepted professional engineering practices in the field of geotechnical engineering. No other warranty is either expressed or implied.

GUIDE SPECIFICATIONS FOR SUBGRADE AND GRADE PREPARATION FOR FILL, FOUNDATION, FLOOR SLAB AND PAVEMENT SUPPORT; AND SELECTION, PLACEMENT AND COMPACTION OF FILL SOILS USING STANDARD PROCTOR PROCEDURES

1. Construction monitoring and testing of subgrades and grades for fill, foundation, floor slab and pavement; and fill selection, placement and compaction shall be performed by an experienced soils engineer and/or his representatives.

2. All compaction fill, subgrades and grades shall be (a) underlain by suitable bearing material; (b) free of all organic, frozen, or other deleterious material, and (c) observed, tested and approved by qualified engineering personnel representing an experienced soils engineer. Preparation of subgrades after stripping vegetation, organic or other unsuitable materials shall consist of (a) proof-rolling to detect soil, wet yielding soils or other unstable materials that must be undercut, (b) scarifying top 6 to 8 inches, (c) moisture conditioning the soils as required, and (d) recompaction to same minimum in-situ density required for similar materials indicated under Item 5. Note: compaction requirements for pavement subgrade are higher than other areas. Weather and construction equipment may damage compacted fill surface and reworking and retesting may be necessary to assure proper performance.

3. In overexcavation and fill areas, the compacted fill must extend (a) a minimum 1 foot lateral distance beyond the exterior edge of the foundation at bearing grade or pavement subgrade and down to compacted fill subgrade on a maximum 0.5(H):1(V) slope, (b) 1 foot above footing grade outside the building, and (c) to floor subgrade inside the building. Fill shall be placed and compacted on a 5(H):1(V) slope or must be stepped or benched as required to flatten if not specifically approved by qualified personnel under the direction of an experienced soil engineer.

4. The compacted fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as "contaminated", and shall be low-expansive with a maximum Liquid Limit (ASTM D-423) and Plasticity Index (ASTM D-424) of 30 and 15, respectively, unless specifically tested and found to have low expansive properties and approved by an experienced soils engineer. The top 12 inches of compacted fill should have a maximum 3-inch-particle diameter and all underlying compacted fill a maximum 6-inch-diameter unless specifically approved by an experienced soils engineer. All fill materials must be tested and approved under the direction of an experienced soils engineer prior to placement. If the fill is to provide non-frost susceptible characteristics, it must be classified as a clean GW, GP, SW or SP per the Unified Soil Classification System (ASTM D-2487).

5. For structural fill depths less than 20 feet, the density of the structural compacted fill and scarified subgrade and grades shall not be less than 95 percent of the maximum dry density as determined by Standard Proctor (ASTM-698) with the exception of the top 12 inches of pavement subgrade which shall have a minimum in-situ density of 100 percent of maximum dry density, or 5 percent higher than underlying fill materials. Where the structural fill depth is greater than 20 feet, the portions below 20 feet should have a minimum in-place density of 100 percent of its maximum dry density of 5 percent greater than the top 20 feet. The moisture content of cohesive soil shall not vary by more than -1 to +3 percent and granular soil ±3 percent of the optimum when placed and compacted or recompacted, unless specifically recommended/approved by the soils engineer monitoring the placement and compaction. Cohesive soils with moderate to high expansion potentials (PI>15) should, however, be placed, compacted and maintained prior to construction at a moisture content 3±1 percent above optimum moisture content to limit further heave. The fill shall be placed in layers with a maximum loose thickness of 8 inches for foundations and 10 inches for floor slabs and pavement, unless specifically approved by the soils engineer taking into consideration the type of materials and compaction equipment being used. The compaction equipment should consist of suitable mechanical equipment specifically designed for soil compaction. Bulldozers or similar tracked vehicles are typically not suitable for compaction.

6. Excavation, filling, subgrade and grade preparation shall be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs and seepage water encountered shall be pumped or drained to provide a suitable working platform. Springs or water seepage encountered during grading/foundation construction must be called to the soil engineer's attention immediately for possible construction procedure revision or inclusion of an underdrain system.

7. Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below-grade walls (i.e. basement walls and retaining walls) must be properly tested and approved by an experienced soils engineer with consideration for the lateral pressure used in the wall design.

8. Whenever, in the opinion of the soils engineer or the Owner's Representatives, an unstable condition is being created either by cutting or filling, the work shall not proceed into that area until an appropriate geotechnical exploration and analysis has been performed and the grading plan revised, if found necessary.

ARACTERISTICS AND RATINGS OF UNIFIED SOIL SYSTEM CLASSES FOR SOIL CONSTRUCTION *

on stics	Max. Dry Density Standard Proctor (pcf)	Compressibility and Expansion	Drainage and Permeability	Value as an Embankment Material	Value as Subgrade When Not Subject to Frost	Value as Base Course	Value as Temporary Pavement	
							With Dust Palliative	With Bituminous Treatment
·tired, steel ler	125-135	Almost none	Good drainage, pervious	Very stable	Excellent	Good	Fair to poor	Excellent
·tired, steel ler	115-125	Almost none	Good drainage, pervious	Reasonably stable	Excellent to good	Poor to fair	Poor	
light	120-135	Slight	Poor drainage, semipervious	Reasonably stable	Excellent to good	Fair to poor	Poor	Poor to fair
ired or	115-130	Slight	Poor drainage, impervious	Reasonably stable	Good	Good to fair **	Excellent	Excellent
·tired or	110-130	Almost none	Good drainage, pervious	Very stable	Good	Fair to poor	Fair to poor	Good
·tired or	100-120	Almost none	Good drainage, pervious	Reasonably stable when dense	Good to fair	Poor	Poor	Poor to fair
sheepsfoot	110-125	Slight	Poor drainage, impervious	Reasonably stable when dense	Good to fair	Poor	Poor	Poor to fair
ired or	105-125	Slight to medium	Poor drainage, impervious	Reasonably stable	Good to fair	Fair to poor	Excellent	Excellent
·tired or	95-120	Slight to medium	Poor drainage, impervious	Poor stability, high density required	Fair to poor	Not suitable	Poor	Poor
ot or rubber-	95-120	Medium	No drainage, impervious	Good stability	Fair to poor	Not suitable	Poor	Poor
ot or rubber-	80-100	Medium to high	Poor drainage, impervious	Unstable, should not be used	Poor	Not suitable	Not suitable	Not suitable
ot or rubber-	70-95	High	Poor drainage, impervious	Poor stability, should not be used	Poor	Not suitable	Very poor	Not suitable
ot roller	80-105	Very high	No drainage, impervious	Fair stability, may soften on expansion	Poor to very poor	Not suitable	Very poor	Not suitable
ot roller	65-100	High	No drainage, impervious	Unstable, should not be used	Very poor	Not suitable	Not suitable	Not suitable
		Very high	Fair to poor drainage	Should not be used	Not suitable	Not suitable	Not suitable	Not suitable

endix A - Characteristics of Soil, Groups Pertaining to Roads and Airfields, and Appendix B - Characteristics of Soil Groups Pertaining to Embankments morandum 357, U.S. Waterways Experiment Station, Vicksburg, 1953.

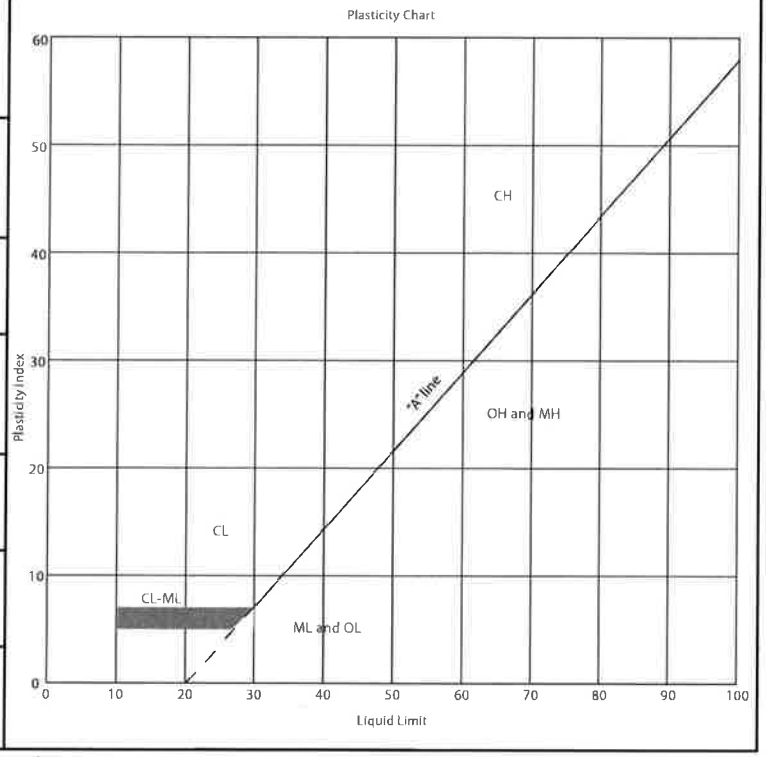
UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

Major Divisions			Group Symbols	Typical Names	Laboratory Classification Criteria
Coarse-grained soils (more than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			GP	Poorly graded gravels, gravel-sand mixtrues, little or no fines	Not meeting all gradation requirements for GW
		Gravels with fines (appreciable amount of fines)	GM[a] d, u	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4
			GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits above "A" line or P.I. greater than 7
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			SP	Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW
		Sands with fines (Appreciable amount of fines)	SM[a] d, u	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4
			SC	Clayey sands, sand-clay mixtures	Atterberg limits above "A" line or P.I. greater than 7
Fine-grained soils (More than half material is smaller than No. 200 sieve size)	Silts and clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays	
			OL	Organic silts and organic silty clays of low plasticity	
	Silts and clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
			CH	Inorganic clays of high plasticity, fat clays	
			OH	Organic clays of medium to high plasticity, organic silts	
	Highly organic soils		Pt	Peat and other highly organic soils	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:
Less than 5 percent: GW, GP, SW, SP
More than 12 percent: GM, GC, SM, SC
5 to 12 percent: *Borderline* cases requiring dual symbols[b]

Limits plotting within shaded area, above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols

Limits plotting within shaded area, above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols



[a] Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits, suffix d used when L.L. is 28 or less and the P.I. is 6 or less; the suffix u is used when L.L. is greater than 28.

[b] Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group sympols. For example GW-GC, well-graded gravel-sand mixture with clay binder.

Giles Engineering Associates, Inc.

GENERAL NOTES

SAMPLE IDENTIFICATION

All samples are visually classified in general accordance with the Unified Soil Classification System (ASTM D-2487-75 or D-2488-75)

DESCRIPTIVE TERM (% BY DRY WEIGHT)

Trace:	1-10%
Little:	11-20%
Some:	21-35%
And/Adjective	36-50%

PARTICLE SIZE (DIAMETER)

Boulders:	8 inch and larger
Cobbles:	3 inch to 8 inch
Gravel:	coarse - ¾ to 3 inch
	fine – No. 4 (4.76 mm) to ¾ inch
Sand:	coarse – No. 4 (4.76 mm) to No. 10 (2.0 mm)
	medium – No. 10 (2.0 mm) to No. 40 (0.42 mm)
	fine – No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt:	No. 200 (0.074 mm) and smaller (non-plastic)
Clay:	No 200 (0.074 mm) and smaller (plastic)

SOIL PROPERTY SYMBOLS

Dd:	Dry Density (pcf)
LL:	Liquid Limit, percent
PL:	Plastic Limit, percent
PI:	Plasticity Index (LL-PL)
LOI:	Loss on Ignition, percent
Gs:	Specific Gravity
K:	Coefficient of Permeability
w:	Moisture content, percent
qp:	Calibrated Penetrometer Resistance, tsf
qs:	Vane-Shear Strength, tsf
qu:	Unconfined Compressive Strength, tsf
qc:	Static Cone Penetrometer Resistance (correlated to Unconfined Compressive Strength, tsf)
PID:	Results of vapor analysis conducted on representative samples utilizing a Photoionization Detector calibrated to a benzene standard. Results expressed in HNU-Units. (BDL=Below Detection Limit)

DRILLING AND SAMPLING SYMBOLS

SS:	Split-Spoon
ST:	Shelby Tube – 3 inch O.D. (except where noted)
CS:	3 inch O.D. California Ring Sampler
DC:	Dynamic Cone Penetrometer per ASTM Special Technical Publication No. 399
AU:	Auger Sample
DB:	Diamond Bit
CB:	Carbide Bit
WS:	Wash Sample
RB:	Rock-Roller Bit
BS:	Bulk Sample
Note:	Depth intervals for sampling shown on Record of Subsurface Exploration are not indicative of sample recovery, but position where sampling initiated

N: Penetration Resistance per 12 inch interval, or fraction thereof, for a standard 2 inch O.D. (1⅜ inch I.D.) split spoon sampler driven with a 140 pound weight free-falling 30 inches. Performed in general accordance with Standard Penetration Test Specifications (ASTM D-1586). N in blows per foot equals sum of N-Values where plus sign (+) is shown.

Nc: Penetration Resistance per 1¾ inches of Dynamic Cone Penetrometer. Approximately equivalent to Standard Penetration Test N-Value in blows per foot.

Nr: Penetration Resistance per 12 inch interval, or fraction thereof, for California Ring Sampler driven with a 140 pound weight free-falling 30 inches per ASTM D-3550. Not equivalent to Standard Penetration Test N-Value.

SOIL STRENGTH CHARACTERISTICS

COHESIVE (CLAYEY) SOILS

COMPARATIVE CONSISTENCY	BLOWS PER FOOT (N)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
Very Soft	0 - 2	0 - 0.25
Soft	3 - 4	0.25 - 0.50
Medium Stiff	5 – 8	0.50 - 1.00
Stiff	9 – 15	1.00 - 2.00
Very Stiff	16 – 30	2.00 - 4.00
Hard	31+	4.00+

NON-COHESIVE (GRANULAR) SOILS

RELATIVE DENSITY	BLOWS PER FOOT (N)
Very Loose	0 - 4
Loose	5 - 10
Firm	11 - 30
Dense	31 - 50
Very Dense	51+

DEGREE OF PLASTICITY	PI	DEGREE OF EXPANSIVE POTENTIAL	PI
None to Slight	0 - 4	Low	0 - 15
Slight	5 - 10	Medium	15 - 25
Medium	11 - 30	High	25+
High to Very High	31+		

Important Information About Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.

ASFE
The Best People on Earth

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

Geotechnical, Environmental & Construction Materials Consultants

www.gilesengr.com

DIRECTIONS TO

BENTON SITE

FOR PROPOSED CELLULAR TOWER FACILITY

FROM MARSHALL COUNTY JUDICIAL BUILDING

80 JUDICIAL DR, BENTON, KY 42045

1. From Marshall County Judicial Building, travel northwest on W 5th ST towards Postal Dr
2. In 0.2 miles, continue straight onto KY-348 W/Symsonia Rd
3. In 0.7 miles, turn left onto Cone Dr
4. In 0.6 miles, turn right onto Oak Level Road
5. In 381 feet, turn left onto Sunset Dr
6. Continue 0.5 miles to where Sunset Dr begins to loop back to Oak Level Road. At this point there will be a gravel/dirt path through a forested area on the right-hand side of the road. Take this path through the trees and into an agricultural field. The proposed facility is located within a copse of trees contained within the field, approximately 400' south of Sunset Drive

Prepared by: John Burchfield, LCC Telecom Services (224) 567-6404, using Google Maps

Market: Southeast
Cell Site Number: _____
Cell Site Name: Benton
Search Ring Name: _____
Fixed Asset Number: 14944231
TX-CRS-16818

OPTION AND LEASE AGREEMENT

THIS OPTION AND LEASE AGREEMENT ("**Agreement**"), dated as of the latter of the signature dates below (the "**Effective Date**"), is entered into by James Patrick Gordon, a married person, having a mailing address of 786 Mayfield Hwy, Benton, KY 42025 ("**Landlord**") and Tillman Infrastructure LLC, a Delaware limited liability company, having an address at 152 West 57th Street, New York, New York 10019 ("**Tenant**").

BACKGROUND

Landlord owns or controls that certain plot, parcel or tract of land, as described on **Exhibit 1,** together with all rights and privileges arising in connection therewith, located at Sunset Dr S, Property Index Number 0B0501056000000, in the County of Marshall, State of Kentucky (collectively, the "**Property**"). Landlord desires to grant to Tenant the right to use a portion of the Property in accordance with this Agreement.

The parties agree as follows:

1. **OPTION TO LEASE.**

(a) Landlord grants to Tenant an exclusive option (the "**Option**") to lease a certain portion of the Property consisting of a 100' x 100' parcel of property including the air space above such ground space, as described on attached **Exhibit 1**, (the "**Premises**"), for the placement of a Communication Facility in accordance with the terms of this Agreement.

(b) During the Option Term, and during the Term, Tenant and its agents, engineers, surveyors and other representatives will have the right to enter upon the Property to inspect, examine, conduct soil borings, drainage testing, material sampling, radio frequency testing and other geological or engineering tests or studies of the Property (collectively, the "**Tests**"), to apply for and obtain licenses, permits, approvals, or other relief required of or deemed necessary or appropriate at Tenant's sole discretion for its use of the Premises and include, without limitation, applications for zoning variances, zoning ordinances, amendments, special use permits, registrations with the Federal Communications Commissions and construction permits (collectively, the "**Government Approvals**"), initiate the ordering and/or scheduling of necessary utilities, and otherwise to do those things on or off the Property that, in the opinion of Tenant, are necessary in Tenant's sole discretion to determine the physical condition of the Property, the environmental history of the Property, Landlord's title to the Property and the feasibility or suitability of the Property for Tenant's Permitted Use, all at Tenant's expense. Tenant will not be liable to Landlord or any third party on account of any pre-existing defect or condition on or with respect to the Property.. Tenant will restore the Property to its condition as it existed at the commencement of the Option Term, reasonable wear and tear and loss by casualty or other causes beyond Tenant's control excepted.

(c) In consideration of Landlord granting Tenant the Option, Tenant agrees to pay Landlord the sum of [redacted] Dollars [redacted] within thirty (30) business days after the Effective Date. The Option may be exercised during an initial term of [redacted] commencing on the Effective Date (the "**Initial Option Term**") which term may be renewed by Tenant for an [redacted] (the "**Renewal Option Term**") upon written notification to Landlord and the payment of an additional [redacted] Dollars [redacted] no later than five (5) days prior to the expiration date of the Initial Option Term. The Initial Option Term and any Renewal Option Term are collectively referred to as the "**Option Term**."

(d) The Option may be sold, assigned or transferred at any time by Tenant without the written consent of Landlord. Upon notification to Landlord of such sale, assignment or transfer, Tenant shall immediately be

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released from any and all liability under this Agreement, including the payment of any rental or other sums due, without any further action.

(e) During the Option Term, Tenant may exercise the Option by notifying Landlord in writing. If Tenant exercises the Option, then Landlord leases the Premises to Tenant subject to the terms and conditions of this Agreement. If Tenant does not exercise the Option during the Initial Option Term or any extension thereof, then this Agreement will terminate and the parties will have no further liability to each other.

(f) If during the Option Term, or during the Term if the Option is exercised, Landlord decides to subdivide, sell, or change the status of the zoning of the Premises, the Property or any of Landlord's contiguous, adjoining or surrounding property, identified and limited as set forth in the attached (the "**Surrounding Property**"), or in the event of a threatened foreclosure on any of the foregoing, Landlord shall immediately notify Tenant in writing. Landlord agrees that during the Option Term, or during the Term if the Option is exercised, Landlord shall not initiate or consent to any change in the zoning of the Premises, the Property or the Surrounding Property or impose or consent to any other use or restriction that would prevent or limit Tenant from using the Premises for the Permitted Use. Any and all terms and conditions of this Agreement that by their sense and context are intended to be applicable during the Option Term shall be so applicable.

2. **PERMITTED USE.** During the Term, once the Option is exercised, Tenant may use the Premises for the transmission and reception of communications signals and related activities, and the installation, construction, maintenance, operation, repair, replacement and upgrade of communications fixtures and related equipment, cables, accessories and improvements, which may include a suitable tower and support structure ("**Structure**"), associated antennas, equipment shelters or cabinets and fencing and any other items necessary to the successful and secure use of the Premises (collectively the "**Communication Facility**"), as well as the right to test, survey and review title on the Property; Tenant further has the right but not the obligation to add, modify and/or replace equipment in order to be in compliance with any current or future federal, state or local mandated application, including, but not limited to, emergency 911 communication services, at no additional cost to Tenant or Landlord (collectively, the ""**Permitted Use**"). Landlord and Tenant agree that any portion of the Communication Facility that may be conceptually described on **Exhibit 1** will not be deemed to limit Tenant's Permitted Use. If **Exhibit 1** includes drawings of the initial installation of the Communication Facility, Landlord's execution of this Agreement will signify Landlord's approval of **Exhibit 1**. For a period of ninety (90) days following the start of construction, Landlord grants Tenant, its subtenants, licensees and sublicensees, the right to use such portions of the Surrounding Property as may reasonably be required during construction and installation of the Communication Facility. Tenant has the right to install and operate transmission cables from the equipment shelters or cabinets to the antennas, electric lines from the main feed to the equipment shelters or cabinets and communication lines from the Property's main entry point to the equipment shelters or cabinets, install a generator(s) and to make other improvements, additions, alterations, upgrades or additions appropriate for Tenant's Permitted Use, including the right to construct a fence around the Premises or equipment, install warning signs to make individuals aware of risks, install protective barriers, install any other control measures reasonably required by Tenant's safety procedures or applicable law, and undertake any other appropriate means to secure the Premises or equipment at Tenant's expense. Tenant has the right to modify, supplement, replace, upgrade, expand the Communication Facility (including, for example, increasing the number of antennas or adding microwave dishes to the Structure or relocate the Communication Facility or add additional cabinets within the Premises at any time during the Term. Tenant will be allowed to make such alterations to the Property in order to ensure that the Communication Facility complies with all applicable federal, state or local laws, rules or regulations.

3. **TERM.**

(a) The initial lease term will be ten (10) years (the "**Initial Term**"), commencing on the effective date of written notification by Tenant to Landlord of Tenant's exercise of the Option (the "**Term Commencement Date**"). The Initial Term will terminate on the tenth (10th) anniversary of the Term Commencement Date.

(b) This Agreement will automatically renew for sixteen (16) additional five (5) year term(s) (each additional five (5) year term shall be defined as an "**Extension Term**"), upon the same terms and conditions set

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forth herein unless Tenant notifies Landlord in writing of Tenant's intention not to renew this Agreement at least sixty (60) days prior to the expiration of the Initial Term or the then-existing Extension Term.

(c) Unless (i) Landlord or Tenant notifies the other in writing of its intention to terminate this Agreement at least six (6) months prior to the expiration of the final Extension Term, or (ii) the Agreement is terminated as otherwise permitted by this Agreement prior to the end of the final Extension Term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of one (1) year, and for annual terms thereafter ("**Annual Term**") until terminated by either party hereto by giving to the other party hereto written notice of its intention to so terminate at least six (6) months prior to the end of any such Annual Term. Monthly rent during such Annual Terms shall be equal to the Rent paid for the last month of the final Extension Term. If Tenant remains in possession of the Premises after the termination of this Agreement, then Tenant will be deemed to be occupying the Premises on a month-to-month basis (the "**Holdover Term**"), subject to the terms and conditions of this Agreement.

(d) The Initial Term, any Extension Terms, any Annual Terms and any Holdover Term are collectively referred to as the "**Term**."

4. **RENT.**

(a) Commencing on the first day of the calendar month following the date that Tenant commences construction (the "Rent Commencement Date") , Tenant will pay Landlord on or before the tenth (10th) day of each calendar month in advance [redacted] Dollars [redacted] (the "**Rent**"), at the address set forth above. In any partial month occurring after the Rent Commencement Date, the Rent will be prorated. The initial Rent payment will be forwarded by Tenant to Landlord within forty-five (45) days after the Rent Commencement Date.

(b) Upon the commencement of each Extension Term, and for the remainder of the Term, the monthly Rent will increase by [redacted] over the Rent paid during the previous term.

(c) All charges payable under this Agreement such as utilities and taxes shall be billed by Landlord within one (1) year from the end of the calendar year in which the charges were incurred; any charges beyond such period shall not be billed by Landlord, and shall not be payable by Tenant. Tenant shall tender payment for such charges within thirty (30) days of the receipt of Landlord's bill from Tenant. The foregoing shall not apply to monthly Rent which is due and payable without a requirement that it be billed by Landlord. The provisions of this subsection shall survive the termination or expiration of this Agreement.

5. **APPROVALS.**

(a) Landlord agrees that Tenant's ability to use the Premises is contingent upon the suitability of the Premises and Property for the Permitted Use and Tenant's ability to obtain and maintain all Government Approvals. Landlord authorizes Tenant to prepare, execute and file all required applications to obtain Government Approvals for the Permitted Use and agrees to reasonably assist Tenant with such applications and with obtaining and maintaining the Government Approvals.

(b) Tenant has the right to obtain a title report or commitment for a leasehold title policy from a title insurance company of its choice and to have the Property surveyed by a surveyor of its choice.

(c) Tenant may also perform and obtain, at Tenant's sole cost and expense, soil borings, percolation tests, engineering procedures, environmental investigation or other tests or reports on, over, and under the Property, necessary to determine if Tenant's use of the Premises will be compatible with Tenant's engineering specifications, system, design, operations or Government Approvals.

6. **TERMINATION.** This Agreement may be terminated, without penalty or further liability, as follows:

(a) by either party on thirty (30) days prior written notice, if the other party remains in default under Section 15 of this Agreement after the applicable cure periods;

(b) by Tenant upon written notice to Landlord, if Tenant is unable to obtain, or maintain, any required approval(s) or the issuance of a license or permit by any agency, board, court or other governmental authority necessary for the construction or operation of the Communication Facility as now or hereafter intended by Tenant; or if Tenant determines, in its sole discretion that the cost of or delay in obtaining or retaining the same is commercially unreasonable;

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(c) by Tenant, upon written notice to Landlord, if Tenant determines, in its sole discretion, due to the title report results or survey results, that the condition of the Premises is unsatisfactory for its intended uses;

(d) by Tenant upon written notice to Landlord for any reason or no reason, at any time prior to commencement of construction by Tenant; or

(e) by Tenant upon sixty (60) days' prior written notice to Landlord for any reason or no reason, so long as Tenant pays Landlord a termination fee equal to twelve (12) months' Rent, at the then-current rate, provided, however, that no such termination fee will be payable on account of the termination of this Agreement by Tenant under any termination provision contained in any other Section of this Agreement, including the following: Section 5 Approvals, Section 6(a) Termination, Section 6(b) Termination, Section 6(c) Termination, Section 6(d) Termination, Section 11(d) Environmental, Section 18 Condemnation or Section 19 Casualty.

7. **INSURANCE.** During the Option Term and throughout the Term, Tenant will purchase and maintain in full force and effect such general liability policy as Tenant may deem necessary, naming Landlord as an "additional named insured". Said policy of general liability insurance will at a minimum provide a combined single limit of [redacted] Notwithstanding the foregoing, Tenant shall have the right to self-insure such general liability coverage or by adding this site as an endorsement on a pre-existing master policy which contains the above limit. Proof of such coverage shall be provided to Landlord as reasonably requested.

8. **INTERFERENCE.**

(a) Prior to or concurrent with the execution of this Agreement, Landlord has provided or will provide Tenant with a list of radio frequency user(s) and frequencies used on the Property as of the Effective Date. Tenant warrants that its use of the Premises will not interfere with those existing radio frequency uses on the Property, as long as the existing radio frequency user(s) operate and continue to operate within their respective frequencies and in accordance with all applicable laws and regulations.

(b) Landlord will not grant, after the Effective Date, a lease, license or any other right to any third party, if the exercise of such grant may in any way adversely affect or interfere with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will notify Tenant in writing prior to granting any third party the right to install and operate communications equipment on the Property.

(c) Landlord will not, nor will Landlord permit its employees, tenants, licensees, invitees, agents or independent contractors to interfere in any way with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will cause such interference to cease within twenty-four (24) hours after receipt of notice of interference from Tenant. In the event any such interference does not cease within the aforementioned cure period, Landlord shall cease all operations which are suspected of causing interference (except for intermittent testing to determine the cause of such interference) until the interference has been corrected.

(d) For the purposes of this Agreement, "interference" may include, but is not limited to, any use on the Property or Surrounding Property that causes electronic or physical obstruction with, or degradation of, the communications signals from the Communication Facility.

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9. INDEMNIFICATION.

(a) Tenant agrees to indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or liability , costs or expenses in connection with a third party claim (including reasonable attorneys' fees and court costs) arising directly from the installation, use, maintenance, repair or removal of the Communication Facility or Tenant's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Landlord, its employees, invitees, agents or independent contractors.

(b) Landlord agrees to indemnify, defend and hold Tenant harmless from and against any and all injury, loss, damage or liability , costs or expenses in connection with a third party claim (including reasonable attorneys' fees and court costs) arising directly from the actions or failure to act of Landlord, its employees, invitees, agents or independent contractors, or Landlord's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Tenant, its employees, agents or independent contractors.

(c) The indemnified party: (i) shall promptly provide the indemnifying party with written notice of any claim, demand, lawsuit, or the like for which it seeks indemnification pursuant to this Section 9 and provide the indemnifying party with copies of any demands, notices, summonses, or legal papers received in connection with such claim, demand, lawsuit, or the like; (ii) shall not settle any such claim, demand, lawsuit, or the like without the prior written consent of the indemnifying party; and (iii) shall fully cooperate with the indemnifying party in the defense of the claim, demand, lawsuit, or the like. A delay in notice shall not relieve the indemnifying party of its indemnity obligation, except (1) to the extent the indemnifying party can show it was prejudiced by the delay; and (2) the indemnifying party shall not be liable for any settlement or litigation expenses incurred before the time when notice is given.

10. WARRANTIES.

(a) Each of Tenant and Landlord (to the extent not a natural person) each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power, and authority or capacity, as applicable, to enter into this Agreement and bind itself hereto through the party or individual set forth as signatory for the party below.

(b) Landlord represents, warrants and agrees, to the best of Landlord's reasonable knowledge that: (i) Landlord solely owns the Property as a legal lot in fee simple, or controls the Property by lease or license; (ii) the Property is not and will not be encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Tenant's Permitted Use and enjoyment of the Premises under this Agreement; (iii) Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises in accordance with the terms of this Agreement without hindrance or ejection by any persons lawfully claiming under Landlord ; (iv) Landlord's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on Landlord; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, then Landlord will provide promptly to Tenant a mutually agreeable subordination, non-disturbance and attornment agreement executed by Landlord and the holder of such security interest in the form attached hereto as Exhibit 2.

11. ENVIRONMENTAL.

(a) Landlord represents and warrants, to the best of Landlord's reasonable knowledge, and except as may be identified in **Exhibit 3** attached to this Agreement, (i) the Property, as of the Effective Date, is free of hazardous substances, including asbestos-containing materials and lead paint, and (ii) the Property has never been subject to any contamination or hazardous conditions resulting in any environmental investigation, inquiry or remediation. Landlord and Tenant agree that each will be responsible for compliance with any and all applicable governmental laws, rules, statutes, regulations, codes, ordinances, or principles of common law regulating or imposing standards of liability or standards of conduct with regard to protection of the environment or worker health and safety, as may now or at any time hereafter be in effect, to the extent such apply to that party's activity conducted in or on the Property.

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(b) Landlord and Tenant agree to hold harmless and indemnify the other from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of the indemnifying party for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding ("**Claims**"), to the extent arising from that party's breach of its obligations or representations under Section 11(a). Landlord agrees to hold harmless and indemnify Tenant from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of Landlord for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any Claims, to the extent arising from subsurface or other contamination of the Property with hazardous substances prior to the Effective Date or from such contamination caused by the acts or omissions of Landlord during the Term. Tenant agrees to hold harmless and indemnify Landlord from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of Tenant for, payment of penalties, sanctions, forfeitures, losses, costs or damages, and for responding to any Claims, to the extent the same is occasioned by Tenant's use of the Property.

(c) The indemnification provisions contained in this Section 11 specifically include reasonable costs, expenses and fees incurred in connection with any investigation of Property conditions or any clean-up, remediation, removal or restoration work required by any governmental authority. The provisions of this Section 11 will survive the expiration or termination of this Agreement.

(d) In the event Tenant becomes aware of any hazardous materials on the Property, or any environmental, health or safety condition or matter relating to the Property, that, in Tenant's sole determination, renders the condition of the Premises or Property unsuitable for Tenant's use, or if Tenant believes that the leasing or continued leasing of the Premises would expose Tenant to undue risks of liability to a government agency or other third party, then Tenant will have the right, in addition to any other rights it may have at law or in equity, to terminate this Agreement upon written notice to Landlord.

12. ACCESS. At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have twenty-four (24) hour per day, seven (7) day per week pedestrian and vehicular access ("**Access**") to and over the Property, from an open and improved public road to the Premises, for the installation, maintenance and operation of the Communication Facility and any utilities serving the Premises. Tenant agrees that it will not unreasonably interrupt the peaceable enjoyment of the adjoining property use of Landlord, or third parties. As may be described more fully in **Exhibit 1**, Landlord grants to Tenant, it's subtenants, lessees assigns and licensees an easement for such Access and Landlord agrees to provide to Tenant such codes, keys and other instruments necessary for such Access at no additional cost to Tenant (the "Access Easement", the Utility Easement and Access Easement are sometimes collectively referred to as "Easements'). Upon Tenant's request, Landlord will execute a separate recordable easement evidencing this right. Landlord shall execute a letter granting Tenant Access to the Property substantially in the form attached as Exhibit 4, and upon Tenant's request, Landlord shall execute additional letters during the Term. Landlord acknowledges that in the event Tenant cannot obtain Access to the Premises, Tenant shall incur significant damage. If Landlord fails to provide the Access granted by this Section 12, such failure shall be a default under this Agreement. Tenant shall provide written notice to Landlord of such default, and Landlord shall have five (5) days to cure. Should Landlord fail to cure, Landlord shall, in addition to any other rights or remedies available to Tenant under this Agreement or at law or equity, shall pay Tenant, as liquidated damages and not as a penalty, [redacted] per day in consideration of Tenant's damages until Landlord cures such default. Landlord and Tenant agree that Tenant's damages in the event of a denial of Access are difficult, if not impossible, to ascertain, and the liquidated damages set forth above are a reasonable approximation of such damages.

13. REMOVAL/RESTORATION. All portions of the Communication Facility brought onto the Property by Tenant will be and remain Tenant's personal property and, at Tenant's option, may be removed by Tenant at any time during or after the Term. Landlord covenants and agrees that no part of the Communication Facility constructed, erected or placed on the Premises by Tenant will become, or be considered as being affixed to or a part of, the Property, it being the specific intention of Landlord that all improvements of every kind and nature constructed, erected or placed by Tenant on the Premises will be and remain the property of Tenant and may be removed by Tenant at any time during or after the Term. Tenant will repair any damage to the Property resulting from Tenant's removal activities to the same or comparable condition as existed prior to Tenant's use. Any

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portions of the Communication Facility that Tenant does not remove within ninety (90) days after the later of the end of the Term and cessation of Tenant's operations at the Premises shall be deemed abandoned and owned by Landlord. Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation.

14. MAINTENANCE/UTILITIES.

(a) Tenant will keep and maintain the Premises in good condition, reasonable wear and tear and damage from the elements excepted. Landlord will maintain and repair the Property and access thereto and all areas of the Premises where Tenant does not have exclusive control, in good and tenantable condition, subject to reasonable wear and tear and damage from the elements.

(b) Tenant will be responsible for paying on a monthly or quarterly basis all utilities charges for electricity, telephone service or any other utility used or consumed by Tenant on the Premises. In the event Tenant cannot secure its own metered electrical supply, Tenant will have the right, at its own cost and expense, to sub-meter from Landlord. When sub-metering is required under this Agreement, Landlord will read the meter and provide Tenant with an invoice and usage data on a monthly basis. Tenant shall reimburse Landlord for such utility usage at the same rate charged to Landlord by the utility service provider. Landlord further agrees to provide the usage data and invoice on forms provided by Tenant and to send such forms to such address and/or agent designated by Tenant. Tenant will remit payment within thirty (30) days of receipt of the usage data and required forms. Landlord shall maintain accurate and detailed records of all utility expenses, invoices and payments applicable to Tenant's reimbursement obligations hereunder. Within fifteen (15) days after a request from Tenant, Landlord shall provide copies of such utility billing records to the Tenant in the form of copies of invoices, contracts and cancelled checks. If the utility billing records reflect an overpayment by Tenant, Tenant shall have the right to deduct the amount of such overpayment from any monies due to Landlord from Tenant.

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

(d) Tenant will have the right to install utilities, at Tenant's expense, and to improve present utilities on the Property and the Premises. Landlord hereby grants to Tenant and any service company providing utility or similar services, including electric power and telecommunications, to Tenant an easement, in, on under and over the Property, from an open and improved public road to the Premises, and upon the Premises, for the purpose of maintaining and operating the Communication Facility and constructing, operating, upgrading and maintaining such lines, wires, circuits, and conduits, associated equipment cabinets and such appurtenances thereto, as Tenant and such service companies may from time to time require in order to provide such services to the Premises (the "Utility Easement"). Upon Tenant's or service company's request, Landlord will execute a separate recordable Utility Easement evidencing this grant, at no cost to Tenant or the service company.

15. DEFAULT AND RIGHT TO CURE.

(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) non-payment of Rent if such Rent remains unpaid for more than thirty (30) days after written notice from Landlord of such failure to pay; or (ii) Tenant's failure to perform any other term or condition under this Agreement within forty-five (45) days after written notice from Landlord specifying the failure. No such failure, however, will be deemed to exist if Tenant has commenced to cure such default within such period and provided that such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Tenant. If Tenant remains in default beyond any applicable cure period, then Landlord will have the right to exercise any and all rights and remedies available to it under law and equity.

(b) The following will be deemed a default by Landlord and a breach of this Agreement: (i) Landlord's failure to provide Access to the Premises as required by Section 12 within twenty-four (24) hours after

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written notice of such failure; (ii) Landlord's failure to cure an interference problem as required by Section 8 within twenty-four (24) hours after written notice of such failure; or (iii) Landlord's failure to perform any term, condition or breach of any warranty or covenant under this Agreement within forty-five (45) days after written notice from Tenant specifying the failure. No such failure, however, will be deemed to exist if Landlord has commenced to cure the default within such period and provided such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Landlord. If Landlord remains in default beyond any applicable cure period, Tenant will have: (i) the right to cure Landlord's default and to deduct the reasonable and necessary costs of such cure from any monies due to Landlord from Tenant, and (ii) any and all other rights available to it under law and equity.

16. ASSIGNMENT/SUBLEASE.

(a) Tenant will have the right to assign this Agreement or sublease the Premises and its rights herein, in whole or in part, without Landlord's consent. Upon notification to Landlord of such assignment, Tenant will be relieved of all future performance, liabilities and obligations under this Agreement to the extent of such assignment.

17. NOTICES. All notices, requests and demands hereunder will be given by first class certified or registered mail, return receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties hereto as follows:

If to Tenant:
Tillman Infrastructure LLC
152 West 57th Street 8th Floor
New York, New York 10019
Attn: Lease Administration

With a copy to:
Tillman Infrastructure LLC
152 West 57th Street 8th Floor
New York, New York 10019
Attn: Suruchi Ahuja

If to Landlord:
Pat & Ronda Gordon
786 Mayfield Hwy
Benton, KY 42025

Either party hereto may change the place for the giving of notice to it by thirty (30) days' prior written notice to the other party hereto as provided herein.

18. CONDEMNATION. In the event Landlord receives notification of any condemnation proceedings affecting the Property, Landlord will provide notice of the proceeding to Tenant within twenty-four (24) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Tenant's sole determination, to render the Premises unsuitable for Tenant, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Tenant will include, where applicable, the value of its Structure and Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses. Tenant will be entitled to reimbursement for any prepaid Rent on a *pro rata* basis.

19. CASUALTY. Landlord will provide notice to Tenant of any casualty or other harm affecting the Property within twenty-four (24) hours of the casualty or other harm. If any part of the Communication Facility or the Property is damaged by casualty or other harm as to render the Premises unsuitable, in Tenant's sole determination, then Tenant may terminate this Agreement by providing written notice to Landlord, which

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termination will be effective as of the date of such casualty or other harm. Upon such termination, Tenant will be entitled to collect all insurance proceeds payable to Tenant on account thereof and to be reimbursed for any prepaid Rent on a *pro rata* basis. Landlord agrees to permit Tenant to place temporary transmission and reception facilities on the Property, but only until such time as Tenant is able to activate a replacement transmission facility at another location; notwithstanding the termination of this Agreement, such temporary facilities will be governed by all of the terms and conditions of this Agreement, including Rent. If Landlord or Tenant undertakes to rebuild or restore the Premises and/or the Communication Facility, as applicable, Landlord agrees to permit Tenant to place temporary transmission and reception facilities on the Property at no additional Rent until the reconstruction of the Premises and/or the Communication Facility is completed. If Landlord determines not to rebuild or restore the Property, Landlord will notify Tenant of such determination within thirty (30) days after the casualty or other harm. If Landlord does not so notify Tenant and Tenant decides not to terminate under this Section 19, then Landlord will promptly rebuild or restore any portion of the Property interfering with or required for Tenant's Permitted Use of the Premises to substantially the same condition as existed before the casualty or other harm. Landlord agrees that the Rent shall be abated until the Property and/or the Premises are rebuilt or restored, unless Tenant places temporary transmission and reception facilities on the Property.

20. WAIVER OF LANDLORD'S LIENS. Landlord waives any and all lien rights it may have, statutory or otherwise, concerning the Communication Facility including the Structure or any portion thereof. The Communication Facility shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law; Landlord consents to Tenant's right to remove all or any portion of the Communication Facility from time to time in Tenant's sole discretion and without Landlord's consent.

21. TAXES.

(a) Landlord shall be responsible for (i) all taxes and assessments levied upon the lands, improvements and other property of Landlord including any such taxes that may be calculated by a taxing authority using any method, including the income method (ii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with this Agreement and (iii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with a sale of the Property or assignment of Rent payments by Landlord. Tenant shall be responsible for (i) any taxes and assessments attributable to and levied upon Tenant's leasehold improvements on the Premises if and as set forth in this Section 21 and (ii) all sales, use, license, value added, documentary, stamp, gross receipts, registration, real estate transfer, conveyance, excise, recording, and other similar taxes and fees imposed in connection with an assignment of this Agreement or sublease by Tenant. Nothing herein shall require Tenant to pay any inheritance, franchise, income, payroll, excise, privilege, rent, capital stock, stamp, documentary, estate or profit tax, or any tax of similar nature, that is or may be imposed upon Landlord.

(b) In the event Landlord receives a notice of assessment with respect to which taxes or assessments are imposed on Tenant's leasehold improvements on the Premises, Landlord shall provide Tenant with copies of each such notice immediately upon receipt, but in no event later than thirty (30) days after the date of such notice of assessment. If Landlord does not provide such notice or notices to Tenant in a timely manner and Tenant's rights with respect to such taxes are prejudiced by the delay, Landlord shall reimburse Tenant for any increased costs directly resulting from the delay and Landlord shall be responsible for payment of the tax or assessment set forth in the notice, and Landlord shall not have the right to reimbursement of such amount from Tenant. If Landlord provides a notice of assessment to Tenant within such time period and requests reimbursement from Tenant as set forth below, then Tenant shall reimburse Landlord for the tax or assessments identified on the notice of assessment on Tenant's leasehold improvements, which has been paid by Landlord. If Landlord seeks reimbursement from Tenant, Landlord shall, no later than thirty (30) days after Landlord's payment of the taxes or assessments for the assessed tax year, provide Tenant with written notice including evidence that Landlord has

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timely paid same, and Landlord shall provide to Tenant any other documentation reasonably requested by Tenant to allow Tenant to evaluate the payment and to reimburse Landlord.

(c) For any tax amount for which Tenant is responsible under this Agreement, Tenant shall have the right to contest, in good faith, the validity or the amount thereof using such administrative, appellate or other proceedings as may be appropriate in the jurisdiction, and may defer payment of such obligations, pay same under protest, or take such other steps as permitted by law. This right shall include the ability to institute any legal, regulatory or informal action in the name of Landlord, Tenant, or both, with respect to the valuation of the Premises. Landlord shall cooperate with respect to the commencement and prosecution of any such proceedings and will execute any documents required therefor. The expense of any such proceedings shall be borne by Tenant and any refunds or rebates secured as a result of Tenant's action shall belong to Tenant, to the extent the amounts were originally paid by Tenant. In the event Tenant notifies Landlord by the due date for assessment of Tenant's intent to contest the assessment, Landlord shall not pay the assessment pending conclusion of the contest, unless required by applicable law.

(d) Landlord shall not split or cause the tax parcel on which the Premises are located to be split, bifurcated, separated or divided without the prior written consent of Tenant.

(e) Tenant shall have the right but not the obligation to pay any taxes due by Landlord hereunder if Landlord fails to timely do so, in addition to any other rights or remedies of Tenant. In the event that Tenant exercises its rights under this Section 21(e) due to such Landlord default, Tenant shall have the right to deduct such tax amounts paid from any monies due to Landlord from Tenant as provided in Section 15(b), provided that Tenant may exercise such right without having provided to Landlord notice and the opportunity to cure per Section 15(b).

(f) Any tax-related notices shall be sent to Tenant in the manner set forth in Section 17 and, in addition, a copy of any such notices shall be sent to the below address. Promptly after the Effective Date of this Agreement, Landlord shall provide the following address to the taxing authority for the authority's use in the event the authority needs to communicate with Tenant. In the event that Tenant's tax address changes by notice to Landlord, Landlord shall be required to provide Tenant's new tax address to the taxing authority or authorities.

Tillman Infrastructure LLC
152 W 57th Street
New York, New York 10017
Attn: Network Real Estate Administration--Taxes

(g) Notwithstanding anything to the contrary contained in this Section 21, Tenant shall have no obligation to reimburse any tax or assessment for which the Landlord is reimbursed or rebated by a third party.

22. SALE OF PROPERTY.

(a) Landlord may sell the Property or a portion thereof to a third party, provided: (i) the sale is made subject to the terms of this Agreement; and (ii) if the sale does not include the assignment of Landlord's full interest in this Agreement, the purchaser must agree to perform, without requiring compensation from Tenant or any subtenant, any obligation of Landlord under this Agreement, including Landlord's obligation to cooperate with Tenant as provided hereunder.

(b) If Landlord, at any time during the Term of this Agreement, decides to rezone or sell, subdivide or otherwise transfer all or any part of the Premises, or all or any part of the Property or the Surrounding Property, to a purchaser other than Tenant, Landlord shall promptly notify Tenant in writing, and such rezoning, sale, subdivision or transfer shall be subject to this Agreement and Tenant's rights hereunder. In the event of a change in ownership, transfer or sale of the Property, within ten (10) days of such transfer, Landlord or its successor shall send the documents listed below in this Section 22(b) to Tenant. Until Tenant receives all such documents, Tenant's failure to make payments under this Agreement shall not be an event of default and Tenant reserves the right to hold payments due under this Agreement.

i. Old deed to Property

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ii. New deed to Property
iii. Bill of Sale or Transfer
iv. Copy of current Tax Bill
v. New IRS Form W-9
vi. Completed and Signed Tenant Payment Direction Form
vii. Full contact information for new Landlord including phone number(s)

(c) Landlord agrees not to sell, lease or use any areas of the Property or the Surrounding Property for the installation, operation or maintenance of other wireless communication facilities if such installation, operation or maintenance would interfere with Tenant's Permitted Use or communications equipment as determined by radio propagation tests performed by Tenant in its sole discretion. Landlord or Landlord's prospective purchaser shall reimburse Tenant for any costs and expenses of such testing. If the radio frequency propagation tests demonstrate levels of interference unacceptable to Tenant, Landlord shall be prohibited from selling, leasing or using any areas of the Property or the Surrounding Property for purposes of any installation, operation or maintenance of any other wireless communication facility or equipment.

(d) The provisions of this Section 22 shall in no way limit or impair the obligations of Landlord under this Agreement, including interference and access obligations.

23. **RIGHT OF FIRST REFUSAL**. Notwithstanding the provisions contained in Section 22, if at any time after the Effective Date, Landlord receives a bona fide written offer from a third party seeking any sale, conveyance, assignment or transfer, whether in whole or in part, of any property interest in or related to the Premises, including without limitation any offer seeking an assignment or transfer of the Rent payments associated with this Agreement or an offer to purchase an easement with respect to the Premises ("**Offer**"), Landlord shall immediately furnish Tenant with a copy of the Offer. Tenant shall have the right within ninety (90) days after it receives such copy to match the financial terms of the Offer and agree in writing to match such terms of the Offer. Such writing shall be in the form of a contract substantially similar to the Offer but Tenant may assign its rights to a third party. If Tenant chooses not to exercise this right or fails to provide written notice to Landlord within the ninety (90) day period, Landlord may sell, convey, assign or transfer such property interest in or related to the Premises pursuant to the Offer, subject to the terms of this Agreement. If Landlord attempts to sell, convey, assign or transfer such property interest in or related to the Premises without complying with this Section 23, the sale, conveyance, assignment or transfer shall be void. Tenant shall not be responsible for any failure to make payments under this Agreement and reserves the right to hold payments due under this Agreement until Landlord complies with this Section 23. Tenant's failure to exercise the right of first refusal shall not be deemed a waiver of the rights contained in this Section 23 with respect to any future proposed conveyances as described herein.

24. **MISCELLANEOUS.**

(a) **Amendment/Waiver.** This Agreement cannot be amended, modified or revised unless done in writing and signed by Landlord and Tenant. No provision may be waived except in a writing signed by both parties. The failure by a party to enforce any provision of this Agreement or to require performance by the other party will not be construed to be a waiver, or in any way affect the right of either party to enforce such provision thereafter.

(b) **Memorandum/Short Form Lease.** Contemporaneously with the execution of this Agreement, the parties will execute a recordable Memorandum of Lease substantially in the form attached as **Exhibit 5.** Either party may record this Memorandum of Lease at any time during the Term, in its absolute discretion. Thereafter during the Term, either party will, at any time upon fifteen (15) business days' prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum of Lease.

(c) **Limitation of Liability**. Except for the indemnity obligations set forth in this Agreement, and otherwise notwithstanding anything to the contrary in this Agreement, Tenant and Landlord each waives any claims that each may have against the other with respect to consequential, incidental or special damages, however caused, based on any theory of liability.

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(d) **Compliance with Law**. Tenant agrees to comply with all federal, state and local laws, orders, rules and regulations ("**Laws**") applicable to Tenant's use of the Communication Facility on the Property. Landlord agrees to comply with all Laws relating to Landlord's ownership and use of the Property and any improvements on the Property.

(e) **Bind and Benefit.** The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

(f) **Entire Agreement.** This Agreement and the exhibits attached hereto, all being a part hereof, constitute the entire agreement of the parties hereto and will supersede all prior offers, negotiations and agreements with respect to the subject matter of this Agreement. Exhibits are numbered to correspond to the Section wherein they are first referenced. Except as otherwise stated in this Agreement, each party shall bear its own fees and expenses (including the fees and expenses of its agents, brokers, representatives, attorneys, and accountants) incurred in connection with the negotiation, drafting, execution and performance of this Agreement and the transactions it contemplates.

(g) **Governing Law.** This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.

(h) **Interpretation.** Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in the Agreement or as same may be duplicative, such consent will not be unreasonably withheld, conditioned or delayed; (iv) exhibits are an integral part of this Agreement and are incorporated by reference into this Agreement; (v) use of the terms "termination" or "expiration" are interchangeable; (vi) reference to a default will take into consideration any applicable notice, grace and cure periods; (vii) to the extent there is any issue with respect to any alleged, perceived or actual ambiguity in this Agreement, the ambiguity shall not be resolved on the basis of who drafted the Agreement; (viii) the singular use of words includes the plural where appropriate; and (ix) if any provision of this Agreement is held invalid, illegal or unenforceable, the remaining provisions of this Agreement shall remain in full force if the overall purpose of the Agreement is not rendered impossible and the original purpose, intent or consideration is not materially impaired.

(i) **Affiliates.** All references to "Tenant" shall be deemed to include any Affiliate of Tillman Infrastructure LLC using the Premises for any Permitted Use or otherwise exercising the rights of Tenant pursuant to this Agreement. "Affiliate" means with respect to a party to this Agreement, any person or entity that (directly or indirectly) controls, is controlled by, or under common control with, that party. "Control" of a person or entity means the power (directly or indirectly) to direct the management or policies of that person or entity, whether through the ownership of voting securities, by contract, by agency or otherwise.

(j) **Survival**. Any provisions of this Agreement relating to indemnification shall survive the termination or expiration hereof. In addition, any terms and conditions contained in this Agreement that by their sense and context are intended to survive the termination or expiration of this Agreement shall so survive.

(k) **W-9.** As a condition precedent to payment, Landlord agrees to provide Tenant with a completed IRS Form W-9, or its equivalent, upon execution of this Agreement and at such other times as may be reasonably requested by Tenant, including any change in Landlord's name or address.

(l) **Execution/No Option.** The submission of this Agreement to any party for examination or consideration does not constitute an offer, reservation of or option for the Premises based on the terms set forth herein. This Agreement will become effective as a binding Agreement only upon the handwritten legal execution, acknowledgment and delivery hereof by Landlord and Tenant. This Agreement may be executed in two (2) or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties. All parties need not sign the same counterpart.

(m) **Attorneys' Fees.** In the event that any dispute between the parties related to this Agreement should result in litigation, the prevailing party in such litigation shall be entitled to recover from the other party all reasonable fees and expenses of enforcing any right of the prevailing party, including reasonable attorneys' fees and expenses. Prevailing party means the party determined by the court to have most nearly prevailed even

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if such party did not prevail in all matters. This provision will not be construed to entitle any party other than Landlord, Tenant and their respective Affiliates to recover their fees and expenses.

(n) **WAIVER OF JURY TRIAL. EACH PARTY, TO THE EXTENT PERMITTED BY LAW, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ITS RIGHT TO A TRIAL BY JURY IN ANY ACTION OR PROCEEDING UNDER ANY THEORY OF LIABILITY ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR THE TRANSACTIONS IT CONTEMPLATES.**

(o) **Incidental Fees.** Unless specified in this Agreement, no unilateral fees or additional costs or expenses are to be applied by either party to the other party, including review of plans, structural analyses, consents, provision of documents or other communications between the parties.

(p) **Further Acts.** Upon request, Landlord will cause to be promptly and duly taken, executed, acknowledged and delivered all such further acts, documents, and assurances as Tenant may request from time to time in order to effectuate, carry out and perform all of the terms, provisions and conditions of this Agreement and all transactions and permitted use contemplated by this Agreement, including any Subordination, Non-Disturbance and Attornment Agreement.

(q) **Confidentiality**. The terms and conditions of this Agreement are confidential between the parties and Landlord shall not disclose the same to anyone else, except to Landlord's accountant, attorney and as agreed to by the Parties (except as to sublessees), or as is necessary to effectuate the terms of this Agreement. Any Disclosure in violation of this Section shall be deemed a material breach of this Agreement.

(r) **Estoppel**. Either party will, at any time upon twenty (20) business days prior written notice from the other, execute, acknowledge and deliver to the other a statement in writing (i) certifying that this Agreement is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying this Agreement, as so modified, is in full force and effect) and the date to which the Rent and other charges are paid in advance, if any, and (ii) acknowledging that there are not, to such party's knowledge, any uncured defaults on the part of the other party hereunder, or specifying such defaults if any are claimed.

(s) **Rules Against Perpetuities**. If this Agreement or any covenants or provisions herein would otherwise be unlawful, void or voidable for violation of the Rule against Perpetuities, then the same shall continue until 20 years and 6 months after the date of death of the last survivor of the members of Congress of the United States of America (including the House of Representatives and the Senate) representing the State in which the Premises is located who are serving on the date of this Agreement

(t) **Security Interest**. Tenant has the right to assign, mortgage or grant a security interest in all or a portion of Tenant's interest in and to this Agreement, Premises, the Structure, Communication Facility, equipment and Easements, and may assign such Tenant's interests to any such assignee, mortgagees, or holders of security interests, all without Landlord's consent ("Secured Party" or, collectively, "Secured Parties").

[SIGNATURE PAGES TO FOLLOW]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the Effective Date.

"WITNESSES"

_____
Name: _____

_____
Name: _____

"LANDLORD"

James Patrick Gordon, a married person

By: _____
Print Name: James Patrick Gordon
Its: Landowner
Date: 02/17/20

By: Ronda Gordon
Print Name: Ronda Gordon
Its: Landowner Spouse
Date: 02/17/20

INDIVIDUAL ACKNOWLEDGMENT

STATE OF Kentucky)
) ss:
COUNTY OF Marshall)

BE IT REMEMBERED, that on this 17th day of February 20 20 before me, the subscriber, a person authorized to take oaths in the State of Kentucky, personally appeared James Patrick Gordon and Ronda Gordon who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Heather W. Hall
Notary Public: 603237
My Commission Expires: 10/24/22

HEATHER W. HALL NOTARY PUBLIC KENTUCKY, STATE AT LARGE ID # 603237 MY COMMISSION EXPIRES 10/24/22

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

"WITNESSES"

_____
Name: _____

_____
Name: _____

"TENANT"

TILLMAN INFRASTRUCTURE LLC,
a Delaware limited liability company

By: _____
Name: Chris Mularadelis
Its: Authorized Signatory
Date: 3-3-2020

STATE OF NEW JERSEY)
) **ss.**
COUNTY OF BERGEN)

On the 3rd day of March in the year of 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared Chris Mularadelis, Authorized Signatory of Tillman Infrastructure LLC, a Delaware limited liability company, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the individual or the entity upon behalf of which the individual acted, executed the instrument.

WITNESS my hand and official seal.

Signature: Haydee Rodriguez
My Commission Expires: _____
Commission Number: _____

HAYDEE RODRIGUEZ
ID # 2280617
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires November 30, 2022

Exhibit 1

Description of the Premises, Surrounding Property, & Access and Utility Easements:

to the Option and Lease Agreement dated March 3, 20 20, by and between James Patrick Gordon, a married parson, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:

An interest in land, said interest being over a portion of the following described parent parcel:

The following described land and minerals lying in Marshall County, Kentucky, viz,
PARCEL 1:

"SOLOMON FARM"
Beginning at a point in the northwest corner of the tract herein conveyed, same being a common corner with the property owned by Bob Bowlin et ux and the property owned by Hudson Phillips et ux; thence, South 89° 19' East, 1,220 feet to an iron pin; thence, South 0° 29' West, 147.8 feet to a fence in the northwestern boundary of the Purchase Parkway; thence, in a Southwesterly direction along said fence for approximately 1,675 feet to an iron pin; thence, North 0° 16' East, 1,366.3 feet along Hudson Phillips' line to an iron pin and the point of beginning. Said description is from survey of Ernest E. Brown, Civil Engineer, Paducah, Kentucky, dated May 20, 1966.

LESS AND EXCEPT:
1. 2.12 acres, more or less, conveyed to the Commonwealth of Kentucky by Deed dated September 7, 1984, of record in Deed Book 204, Page 528, Marshall County Court Clerk's Office.

2. 1.24 acres, more or less, conveyed to Cathy Gallagher by Deed dated June 29, 2001, of record in Deed Book 327, Page 627, Marshall County Court Clerk's Office. Said off-conveyance also includes a 50 foot wide permanent non-exclusive easement.

AND BEING the same property conveyed to Karen Gordon Berg, Trustee, or any successor thereof, of the Gordon Survivor Trust 1 u/a dated August 1, 2009 from Northgate Enterprises, Inc. by Deed dated January 23, 2018 and recorded January 25, 2018 in Deed Book 457, Page 494; AND FURTHER CONVEYED to Karen Gordon Berg, Trustee, or any successor thereof, of the Gordon Survivor Trust 1 u/a dated August 1, 2009 from Karen Gordon Berg a/k/a Karen Berg, Successor Trustee of The Gordon Living Trust u/a dated August 1, 2009 by Deed dated January 23, 2018 and recorded January 25, 2018 in Deed Book 457, Page 500; AND FURTHER CONVEYED to James Patrick Gordon from Karen Gordon Berg, Trustee of The Gordon Survivor Trust 1 u/a dated August 1, 2009 by Deed dated February 1, 2018 and recorded February 14, 2018 in Deed Book 458, Page 50.

Tax Parcel No. 0B-05-01-056

PARCEL 2:

Lot 32, Forest Hills Subdivision as shown by plat of record in Plat Book 4, page 32, Slide 218, Marshall County Court Clerk's Office. Reference is hereby made to said plat for a more complete descriptions.

AND BEING a portion of the same property conveyed to James Patrick Gordon from Karen Gordon Berg, Trustee of the Gordon Survivor Trust 1 u/a dated 8/1/2009 by Deed dated February 1, 2018 and recorded on February 15, 2018 in Deed Book 458, Page 52.

Tax Parcel No. 37-0A-00-032

Description of the Premises, Surrounding Property, & Access and Utility Easements:

to the Option and Lease Agreement dated March 3, 2020, by and between James Patrick Gordon, a married person, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Premises and Access and Utility Easement are described and/or depicted as follows:

PROPOSED LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF MARSHALL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND IRON ROD CAPPED 1982 WHAT APPEARED TO BE THE SOUTHEAST CORNER OF LOT 31, FOREST HILLS SUBDIVISION, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT SAID SOUTHEAST CORNER OF LOT 31, FROM WHICH AN IRON PIPE BEARS NORTH 02 DEGREES 29 MINUTES 23 SECONDS EAST, A DISTANCE OF 247.94 FEET, THENCE SOUTH 14 DEGREES 22 MINUTES 45 SECONDS WEST, A DISTANCE OF 233.16 FEET , TO THE POINT OF BEGINNING;

THENCE SOUTH 53 DEGREES 35 MINUTES 36 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 53 DEGREES 35 MINUTES 36 SECONDS EAST, A DISTANCE OF 100.00 FEET;
THENCE SOUTH 36 DEGREES 24 MINUTES 24 SECONDS EAST, A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 10,000.00 SQUARE FEET OR 0.2296 ACRES, MORE OR LESS.

PROPOSED ACCESS & UTILITY EASEMENT

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF MARSHALL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND IRON ROD CAPPED 1982 WHAT APPEARED TO BE THE SOUTHEAST CORNER OF LOT 31, FOREST HILLS SUBDIVISION, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT SAID SOUTHEAST CORNER OF LOT 31, FROM WHICH AN IRON PIPE BEARS NORTH 02 DEGREES 29 MINUTES 23 SECONDS EAST, A DISTANCE OF 247.94 FEET, THENCE SOUTH 14 DEGREES 22 MINUTES 45 SECONDS WEST, A DISTANCE OF 233.16 FEET;
THENCE SOUTH 53 DEGREES 35 MINUTES 36 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING OF A 20 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 10.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE;

THENCE NORTH 53 DEGREES 35 MINUTES 36 SECONDS EAST, A DISTANCE OF 98.69 FEET;
THENCE NORTH 46 DEGREES 56 MINUTES 20 SECONDS EAST, A DISTANCE OF 216.86 FEET;
THENCE NORTH 02 DEGREES 34 MINUTES 27 SECONDS WEST, A DISTANCE OF 187.42 FEET MORE OR LESS TO THE SOUTH RIGHT OF WAY LINE OF SUNSET DRIVE, AND ALSO THE POINT OF TERMINUS.

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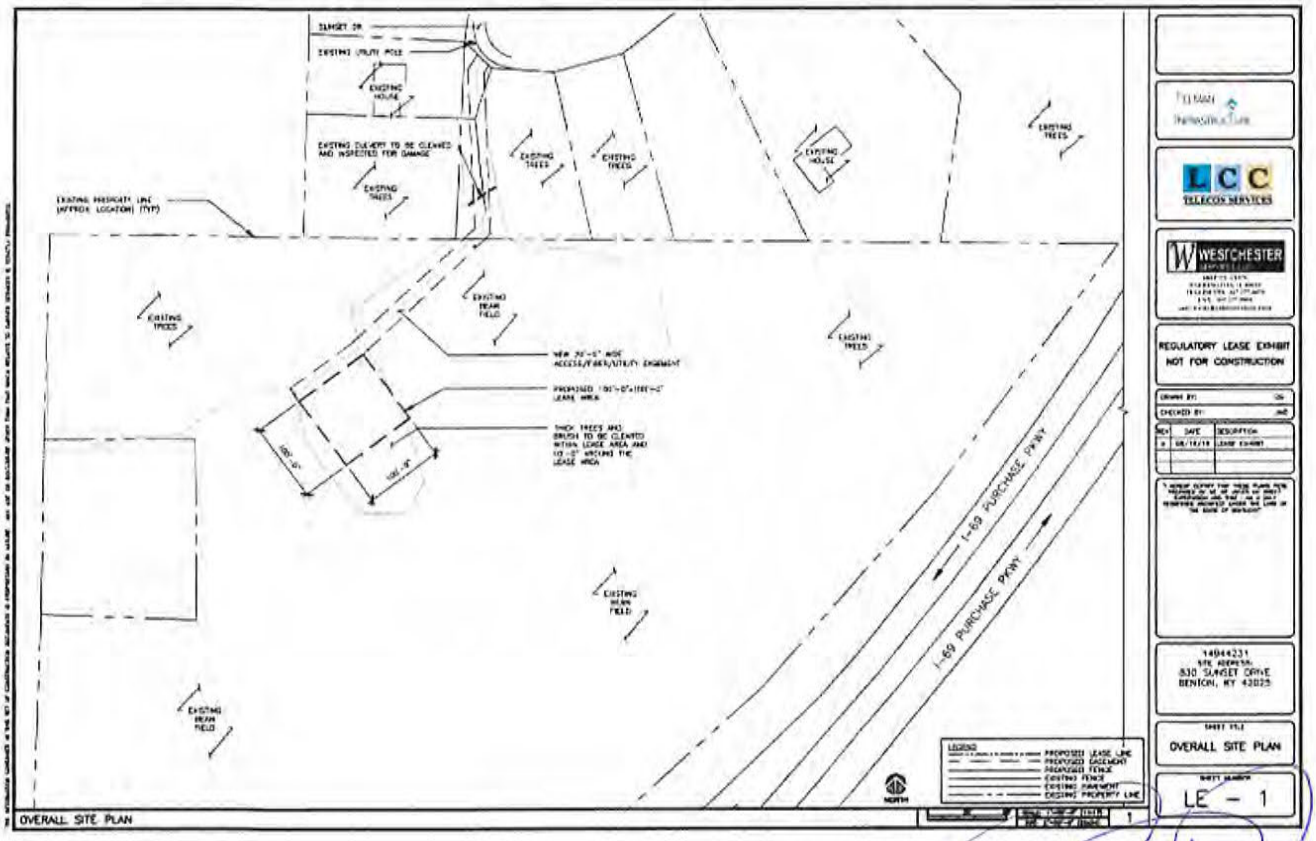
Exhibit 1

Description of the Premises, Surrounding Property, & Access and Utility Easements:

to the Option and Lease Agreement dated March 3, 2020, by and between James Patrick Gordon, a married person, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Surrounding Property is described and/or depicted as follows:



Notes:

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

Ronda Gordon

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EXHIBIT 2

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

(FOLLOWS ON THE NEXT PAGE

Prepared by and Return to:

Chris Mularadelis
Tillman Infrastructure LLC
152 W 57th Street
New York, New York 10019
Site No. _____

Fixed Asset No. _____
Market: _____
Cell Site Number: _____
Cell Site Name: _____

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

THIS SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT ("Agreement"), dated as of the date below, between _____ having its principal office at _____, (hereinafter called "**Mortgagee**") and _____, a _____ _____ having its principal office/residing at _____ (hereinafter called "**Landlord**"), and Tillman Infrastructure LLC, a Delaware limited liability company, having an address at 152 West 57th Street, New York, New York 10019 (hereinafter called "**Tenant**").

W I T N E S S E T H:

WHEREAS, Tenant has entered into a certain Option and Lease Agreement dated _____, 20__, (the "**Lease**") with Landlord, covering property more fully described in **Exhibit 1** attached hereto and made a part hereof (the leasehold premises along with the access and utility easement are collectively referred to as the "**Premises**"); and

WHEREAS, Landlord has given to Mortgagee a mortgage and other related collateral documents (collectively the "**Mortgage**") upon property having a street address of _____, being identified as Lot _____ in Block ____ in the _____ of _____, _____ County, State of _____ ("**Property**"), a part of which Property contains the Premises; and

WHEREAS, the Mortgage on the Property is in the original principal sum of _____ ($_____) Dollars, which Mortgage has been recorded in the appropriate public office in and for _____ County, _____, and the specific recording information for the Mortgage is more particularly described on **Exhibit 2**; and

WHEREAS, Tenant desires to be assured of continued occupancy of the Premises under the terms of the Lease and subject to the terms of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements herein contained, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound hereby, agree as follows:

1. So long as this Agreement will remain in full force and effect, the Lease is and will be subject and subordinate to the lien and effect of the Mortgage insofar as it affects the real property and fixtures of which the Premises forms a part (but not Tenant's trade fixtures and other personal property), and to all renewals,

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modifications, consolidations, replacements and extensions thereof, to the full extent of the principal sum secured thereby and interest thereon, with the same force and effect as if the Mortgage had been executed, delivered, and duly recorded among the above-mentioned public records, prior to the execution and delivery of the Lease.

2. In the event Mortgagee takes possession of the Premises as mortgagee-in-possession, including but not limited to, by deed in lieu of foreclosure or foreclosure of the Mortgage, Mortgagee agrees not to affect or disturb Tenant's right to possession of the Premises and any of Tenant's other rights under the Lease in the exercise of Mortgagee's rights so long as Tenant is not then in default, after applicable notice and/or grace periods, under any of the terms, covenants, or conditions of the Lease.

3. In the event that Mortgagee succeeds to the interest of Landlord or other landlord under the Lease and/or to title to the Premises, Mortgagee and Tenant hereby agree to be bound to one another under all of the terms, covenants and conditions of the Lease; accordingly, from and after such event, Mortgagee and Tenant will have the same remedies against one another for the breach of an agreement contained in the Lease as Tenant and Landlord had before Mortgagee succeeded to the interest of Landlord; provided, however, that Mortgagee will not be:

(a) personally liable for any act or omission of any prior landlord (including Landlord); or

(b) bound by any rent or additional rent which Tenant might have paid for more than the payment period as set forth under the Lease (one month, year etc.) in advance to any prior landlord (including Landlord).

4. In the event that Mortgagee or anyone else acquires title to or the right to possession of the Premises upon the foreclosure of the Mortgage, or upon the sale of the Premises by Mortgagee or its successors or assigns after foreclosure or acquisition of title in lieu thereof or otherwise, Tenant agrees not to seek to terminate the Lease by reason thereof, but will remain bound unto the new owner so long as the new owner is bound to Tenant (subject to paragraph 3 above) under all of the terms, covenants and conditions of the Lease.

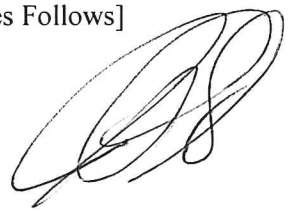
5. Mortgagee understands, acknowledges and agrees that notwithstanding anything to the contrary contained in the Mortgage and/or any related financing documents, including, without limitation, any UCC-1 financing statements, Mortgagee will acquire no interest in any furniture, equipment, trade fixtures and/or other property installed by Tenant on the Property. Mortgagee hereby expressly waives any interest which Mortgagee may have or acquire with respect to such furniture, equipment, trade fixtures and/or other property of Tenant now, or hereafter, located on or affixed to the Property or any portion thereof and Mortgagee hereby agrees that same do not constitute realty regardless of the manner in which same are attached or affixed to the Property.

6. This Agreement will be binding upon and will extend to and benefit the successors and assigns of the parties hereto and to any assignees or subtenants of Tenant which are permitted under the Lease. The term "Mortgagee", when used in this Agreement will be deemed to include any person or entity which acquires title to or the right to possession of the Premises by, through or under Mortgagee and/or the Mortgage, whether directly or indirectly.

7. This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.

8. This Agreement may be executed in any number of counterparts, each of which shall, when executed, be deemed to be an original and all of which shall be deemed to be one and the same instrument.

[Signature Pages Follows]



KG

IN WITNESS WHEREOF, the undersigned has caused this Agreement to be executed as of the last signature date below.

WITNESSES:

_____
Name: _____

_____
Name: _____

LANDLORD:

_____,
a _____ _____

By: _____
Name: _____
Title: _____
Date: _____

LANDLORD (INDIVIDUAL)

STATE OF _____)
) ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by _____, ( ) who is personally known to me OR ( ) who has produced _____ as identification.

_____
Notary Public
My Commission Expires: _____

LANDLORD (PARTNERSHIP)

STATE OF _____)
) ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____, partner on behalf of _____, a _____ partnership, ( ) who is personally known to me OR ( ) who has produced _____ as identification.

_____
Notary Public
My Commission Expires: _____

LANDLORD (CORPORATION)

STATE OF _____)
) ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20_____, by _____[name of representative], the _____[title] of the corporation, ( ) who is personally known OR ( ) who has produced _____as identification.

_____
Notary Public

My Commission Expires: _____

IN WITNESS WHEREOF, the undersigned has caused this Agreement to be executed as of the last signature date below.

WITNESSES:

_____
Name: _____

_____
Name: _____

TENANT:

Tillman Infrastructure LLC, a Delaware limited liability company

By: _____
Name: _____
Title: _____
Date: _____

TENANT ACKNOWLEDGMENT

STATE OF NEW YORK)
) **ss.**
COUNTY OF NEW YORK)

On the ____ day of _____ in the year of 20___, before me, the undersigned, a Notary Public in and for said state, personally appeared_____, Authorized Signatory of Tillman Infrastructure LLC, a Delaware limited liability company, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the individual or the entity upon behalf of which the individual acted, executed the instrument.

WITNESS my hand and official seal.

Signature:_____
My Commission Expires: _____
Commission Number:_____

IN WITNESS WHEREOF, the undersigned has caused this Agreement to be executed as of the last signature date below.

WITNESSES:

_____
Name: _____

_____
Name: _____

MORTGAGEE:

_____,
a _____ _____

By: _____
Name: _____
Title: _____
Date: _____

MORTGAGEE (CORPORATION)

STATE OF _____)
) ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20___ by _____ [name of representative] the _____[title] of _____[name of banking institution], a _____ corporation on behalf of the corporation ( ) who is personally known OR ( ) who produced _____ as identification.

_____
Notary Public
My Commission Expires: _____

EXHIBIT 1

DESCRIPTION OF PREMISES

The Property is legally described as follows:

The Premises is legally described as follows:

Exhibit 2

Mortgage and Related Documents

EXHIBIT 3

ENVIRONMENTAL DISCLOSURE

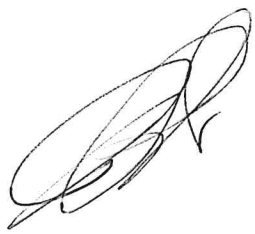
Landlord represents and warrants that the Property, as of the Effective Date, is free of hazardous substances except as follows:

[INSERT AS APPLICABLE]

EXHIBIT 4

STANDARD ACCESS LETTER

[FOLLOWS ON NEXT PAGE]



KG

DATE: _____

James Patrick Gordon
Landlord
786 Mayfield Hwy
Benton, KY 42025

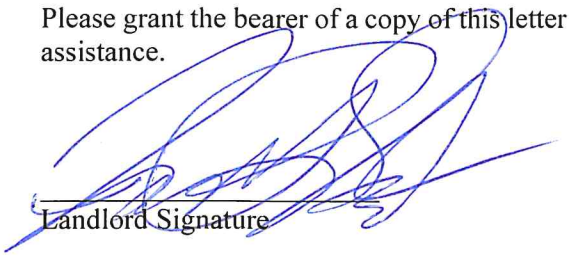
Re: Authorized Access granted to Tillman Infrastructure

Dear Building and Security Staff,

Please be advised that we have signed a lease with Tillman Infrastructure permitting Tillman Infrastructure to install, operate and maintain telecommunications equipment at the property. The terms of the lease grant Tillman Infrastructure and its representatives, employees, agents and subcontractors ("representatives") 24 hour per day, 7 day per week access to the leased area.

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

Please grant the bearer of a copy of this letter access to the property and to leased area. Thank you for your assistance.



_____
Landlord Signature

RG

Exhibit 5

MEMORANDUM OF LEASE

[FOLLOWS ON NEXT PAGE]

Prepared by and return to:

Chris Mularadelis
Tillman Infrastructure LLC
152 W 57th Street
New York, New York 10019
Site No. _____

Fixed Asset No. 14944231
Market: _____
Cell Site Number: _____
Cell Site Name: _____

MEMORANDUM
OF
LEASE

This Memorandum of Lease is entered into on this 3rd day of March, 2020, by and between James Patrick Gordon, a married person, having a mailing address of 786 Mayfield Hwy, Benton, KY 42025 (hereinafter referred to as "**Landlord**") and Tillman Infrastructure LLC, a Delaware limited liability company, having an address at 152 W. 57th Street, New York, New York 10019 (hereinafter referred to as "**Tenant**").

1. Landlord and Tenant entered into a certain Option and Lease Agreement ("**Agreement**") on the 3rd day of March, 2020, for the purpose of installing, operating and maintaining a communication facility and other improvements. All of the foregoing is set forth in the Agreement, concerning real property located at Sunset Dr S, Property Index Number 0B0501056000000, in the County of Marshall, State of Kentucky (the "Real Property), and as is more particularly described on **Exhibit 1** hereto

2. Tenant exercised the option pursuant to the Option and Lease Agreement and the initial lease term will be Ten (10) years commencing on the effective date of written notification by Tenant to Landlord of Tenant's exercise of its option, with Sixteen (16) successive automatic Five (5) year options to renew.

3. The portion of the Property being leased to Tenant and associated access and utility easements are described in **Exhibit 2** annexed hereto.

4. The Agreement gives Tenant a right of first refusal in the event Landlord receives a bona fide written offer from a third party seeking any sale, conveyance, assignment or transfer, whether in whole or in part, of any property interest in or related to the Premises, including without limitation any offer seeking an assignment or transfer of the Rent payments associated with the Agreement or an offer to purchase an easement with respect to the Premises.

KG

5. This Memorandum of Lease is not intended to amend or modify, and shall not be deemed or construed as amending or modifying, any of the terms, conditions or provisions of the Agreement, all of which are hereby ratified and affirmed. In the event of a conflict between the provisions of this Memorandum of Lease and the provisions of the Agreement, the provisions of the Agreement shall control. The Agreement shall be binding upon and inure to the benefit of the parties and their respective heirs, successors, and assigns, subject to the provisions of the Agreement.

6. This Agreement may be signed executed in any number of Counterparts, each of which shall, when executed, be deemed to be an original and all of which shall be deemed to be one and the same instrument.

-SIGNATURE PAGE TO FOLLOW-

IN WITNESS WHEREOF, the parties have executed this Memorandum of Lease as of the day and year first above written.

"WITNESSES"

_____
Name: _____

_____
Name: _____

_____
Name: _____

_____
Name: _____

"LANDLORD"

James Patrick Gordon, a married person

By: _____
Print Name: James Patrick Gordon
Its: Landowner
Date: 02/17/20

By: Ronda Gordon
Print Name: Ronda Gordon
Its: Landowner Spouse
Date: 02/17/20

"TENANT"

TILLMAN INFRASTRUCTURE LLC,
a Delaware limited liability company

By: _____
Name: Chris Motaradelis
Its: Authorized Signatory
Date: 3-3-2020

[ACKNOWLEDGMENTS APPEAR ON NEXT PAGE]

TENANT ACKNOWLEDGMENT

STATE OF ~~NEW YORK~~ New Jersey)
) ss.
COUNTY OF ~~NEW YORK~~ Bergen)

On the 3rd day of March in the year of 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared Chris McGrabetis, Authorized Signatory of Tillman Infrastructure LLC, a Delaware limited liability company, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the individual or the entity upon behalf of which the individual acted, executed the instrument.

WITNESS my hand and official seal.

Signature: Haydee Rodriguez
My Commission Expires:
Commission Number:

HAYDEE RODRIGUEZ
ID # 2280617
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires November 30, 2022

LANDLORD ACKNOWLEDGMENT

STATE OF Kentucky)
) ss.
COUNTY OF Marshall)

The foregoing instrument was acknowledged before me this 17th day of February, 2020, by James Patrick Gordon and Ronda Gordon, (X) who are personally known to me OR ( ) who has produced _____ as identification.

Notary Public Heather W. Hall
My Commission Expires: 6/24/22
WITNESS my hand and official seal.

HEATHER W. HALL
NOTARY PUBLIC
ID # 603237
MY COMMISSION EXPIRES 6/24/22
KENTUCKY, STATE AT LARGE

EXHIBIT 1

Description of Real Property

to the Memorandum of Lease dated March 3, 2020, by and between James Patrick Gordon, a married parson, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Property is legally described as follows:

An interest in land, said interest being over a portion of the following described parent parcel:

The following described land and minerals lying in Marshall County, Kentucky, viz,
PARCEL 1:

"SOLOMON FARM"
Beginning at a point in the northwest corner of the tract herein conveyed, same being a common corner with the property owned by Bob Bowlin et ux and the property owned by Hudson Phillips et ux; thence, South 89° 19' East, 1,220 feet to an iron pin; thence, South 0° 29' West, 147.8 feet to a fence in the northwestern boundary of the Purchase Parkway; thence, in a Southwesterly direction along said fence for approximately 1,675 feet to an iron pin; thence, North 0° 16' East, 1,366.3 feet along Hudson Phillips' line to an iron pin and the point of beginning. Said description is from survey of Ernest E. Brown, Civil Engineer, Paducah, Kentucky, dated May 20, 1966.

LESS AND EXCEPT:
1. 2.12 acres, more or less, conveyed to the Commonwealth of Kentucky by Deed dated September 7, 1984, of record in Deed Book 204, Page 528, Marshall County Court Clerk's Office.

2. 1.24 acres, more or less, conveyed to Cathy Gallagher by Deed dated June 29, 2001, of record in Deed Book 327, Page 627, Marshall County Court Clerk's Office. Said off-conveyance also includes a 50 foot wide permanent non-exclusive easement.

AND BEING the same property conveyed to Karen Gordon Berg, Trustee, or any successor thereof, of the Gordon Survivor Trust 1 u/a dated August 1, 2009 from Northgate Enterprises, Inc. by Deed dated January 23, 2018 and recorded January 25, 2018 in Deed Book 457, Page 494; AND FURTHER CONVEYED to Karen Gordon Berg, Trustee, or any successor thereof, of the Gordon Survivor Trust 1 u/a dated August 1, 2009 from Karen Gordon Berg a/k/a Karen Berg, Successor Trustee of The Gordon Living Trust u/a dated August 1, 2009 by Deed dated January 23, 2018 and recorded January 25, 2018 in Deed Book 457, Page 500; AND FURTHER CONVEYED to James Patrick Gordon from Karen Gordon Berg, Trustee of The Gordon Survivor Trust 1 u/a dated August 1, 2009 by Deed dated February 1, 2018 and recorded February 14, 2018 in Deed Book 458, Page 50.

Tax Parcel No. 0B-05-01-056

PARCEL 2:

Lot 32, Forest Hills Subdivision as shown by plat of record in Plat Book 4, page 32, Slide 218, Marshall County Court Clerk's Office. Reference is hereby made to said plat for a more complete descriptions.

AND BEING a portion of the same property conveyed to James Patrick Gordon from Karen Gordon Berg, Trustee of the Gordon Survivor Trust 1 u/a dated 8/1/2009 by Deed dated February 1, 2018 and recorded on February 15, 2018 in Deed Book 458, Page 52.

Tax Parcel No. 37-0A-00-032

Exhibit 1

Description of the Premises, Surrounding Property, & Access and Utility Easements:

to the Memorandum of Lease dated March 3, 20 20, by and between James Patrick Gordon, a married person, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Premises and Access and Utility Easement are described and/or depicted as follows:

PROPOSED LEASE AREA

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF MARSHALL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND IRON ROD CAPPED: 1982 WHAT APPEARED TO BE THE SOUTHEAST CORNER OF LOT 31, FOREST HILLS SUBDIVISION, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT SAID SOUTHEAST CORNER OF LOT 31, FROM WHICH AN IRON PIPE BEARS NORTH 02 DEGREES 29 MINUTES 23 SECONDS EAST, A DISTANCE OF 247.94 FEET, THENCE SOUTH 14 DEGREES 22 MINUTES 45 SECONDS WEST, A DISTANCE OF 233.16 FEET , TO THE POINT OF BEGINNING;

THENCE SOUTH 53 DEGREES 35 MINUTES 36 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 53 DEGREES 35 MINUTES 36 SECONDS EAST, A DISTANCE OF 100.00 FEET;
THENCE SOUTH 36 DEGREES 24 MINUTES 24 SECONDS EAST, A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 10,000.00 SQUARE FEET OR 0.2296 ACRES, MORE OR LESS.

PROPOSED ACCESS & UTILITY EASEMENT

ALL THAT TRACT OR PARCEL OF LAND LYING IN THE COUNTY OF MARSHALL, STATE OF KENTUCKY, CONSISTING OF A 100 FEET BY 100 FEET LEASE AREA, COMMENCING AT A FOUND IRON ROD CAPPED: 1982 WHAT APPEARED TO BE THE SOUTHEAST CORNER OF LOT 31, FOREST HILLS SUBDIVISION, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT SAID SOUTHEAST CORNER OF LOT 31, FROM WHICH AN IRON PIPE BEARS NORTH 02 DEGREES 29 MINUTES 23 SECONDS EAST, A DISTANCE OF 247.94 FEET, THENCE SOUTH 14 DEGREES 22 MINUTES 45 SECONDS WEST, A DISTANCE OF 233.16 FEET;
THENCE SOUTH 53 DEGREES 35 MINUTES 36 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 100.00 FEET;
THENCE NORTH 36 DEGREES 24 MINUTES 24 SECONDS WEST, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING OF A 20 FEET WIDE ACCESS AND UTILITY EASEMENT LYING 10.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE;

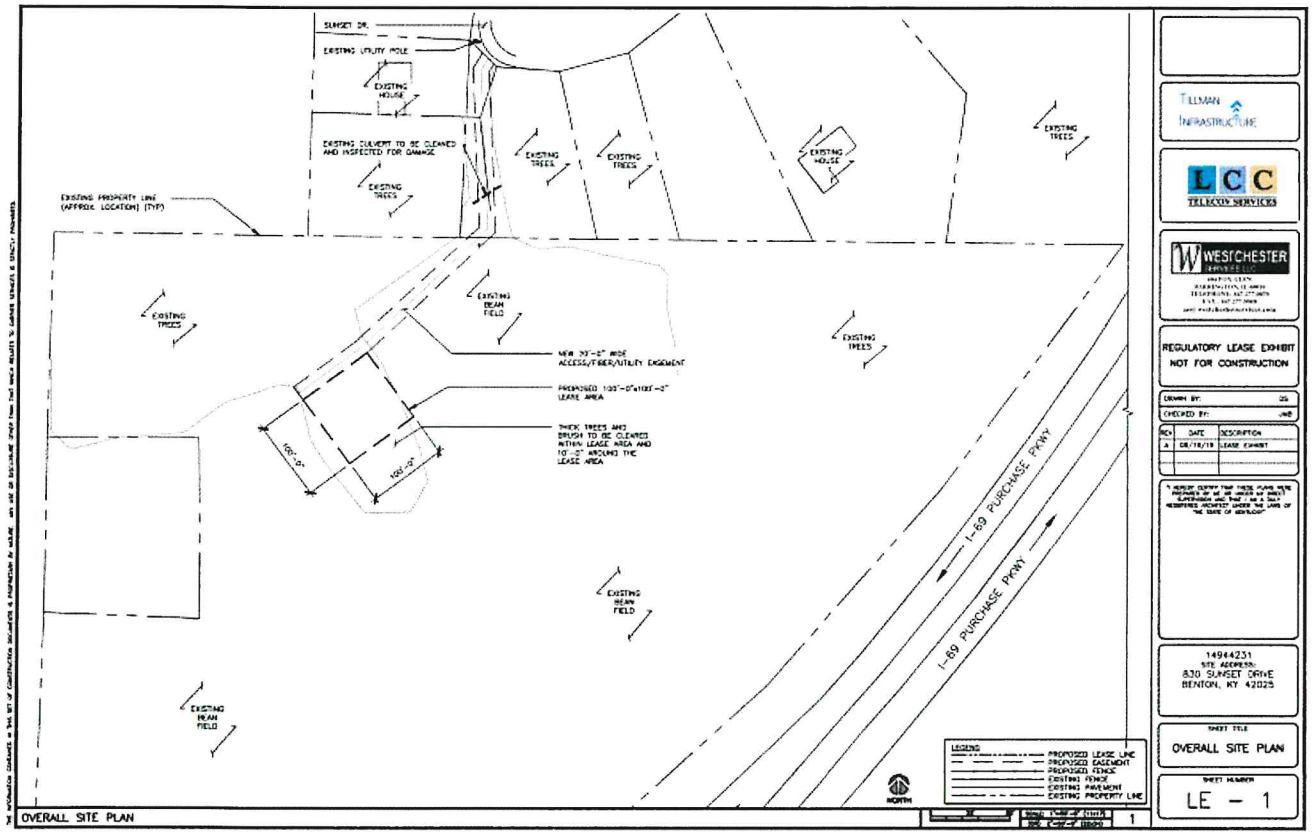
THENCE NORTH 53 DEGREES 35 MINUTES 36 SECONDS EAST, A DISTANCE OF 98.69 FEET;
THENCE NORTH 46 DEGREES 56 MINUTES 20 SECONDS EAST, A DISTANCE OF 216.86 FEET;
THENCE NORTH 02 DEGREES 34 MINUTES 27 SECONDS WEST, A DISTANCE OF 187.42 FEET MORE OR LESS TO THE SOUTH RIGHT OF WAY LINE OF SUNSET DRIVE, AND ALSO THE POINT OF TERMINUS.

Exhibit 1

Description of the Premises, Surrounding Property, & Access and Utility Easements:

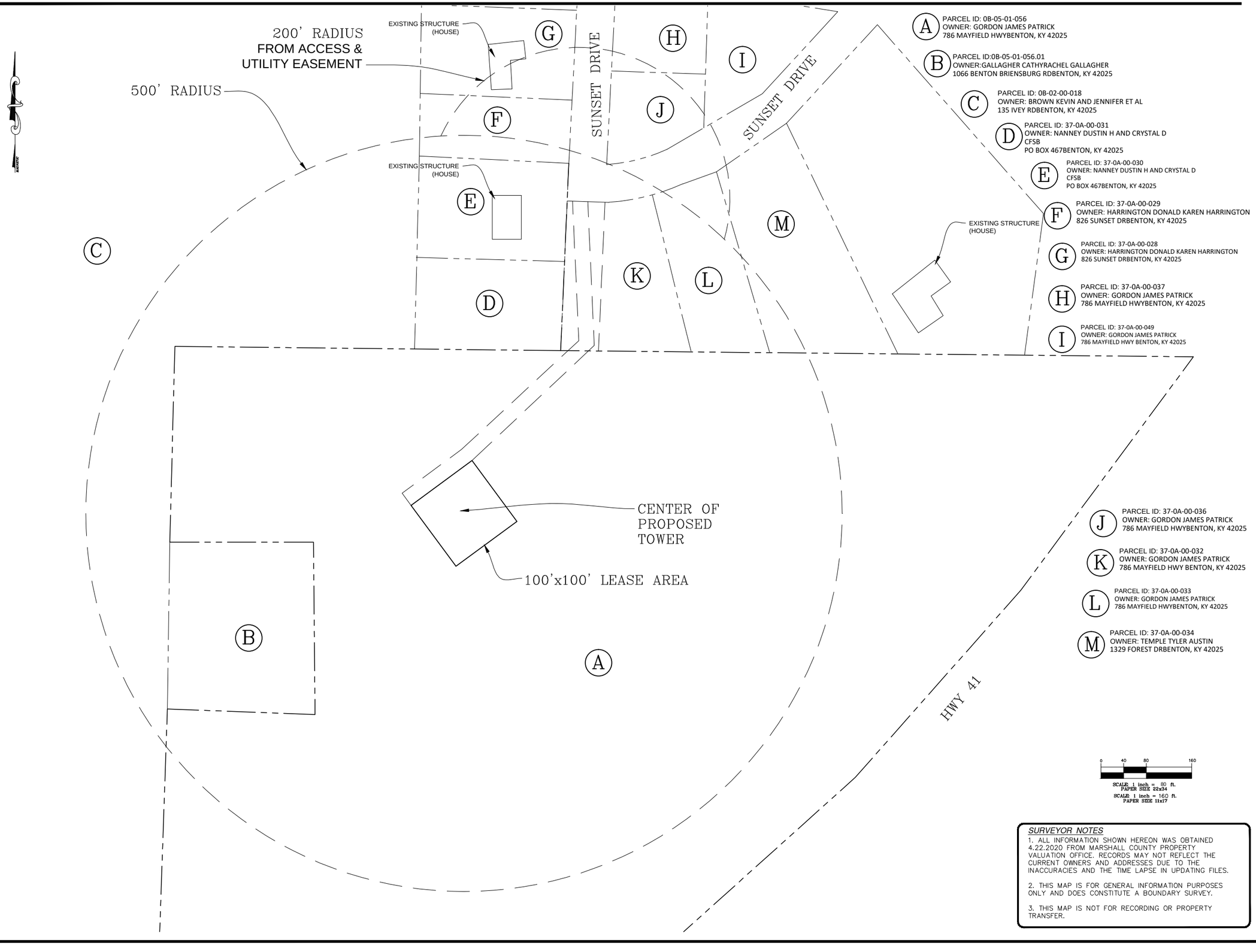
to the Memorandum of Lease dated March 3, 2020, by and between James Patrick Gordon, a married person, as Landlord, and Tillman Infrastructure LLC, a Delaware limited liability company, as Tenant.

The Surrounding Property is described and/or depicted as follows:



Notes:

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



A PARCEL ID: 0B-05-01-056
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

B PARCEL ID:0B-05-01-056.01
OWNER:GALLAGHER CATHYRACHEL GALLAGHER
1066 BENTON BRIENSBURG RDBENTON, KY 42025

C PARCEL ID: 0B-02-00-018
OWNER: BROWN KEVIN AND JENNIFER ET AL
135 IVEY RDBENTON, KY 42025

D PARCEL ID: 37-0A-00-031
OWNER: NANNEY DUSTIN H AND CRYSTAL D
CFSB
PO BOX 467BENTON, KY 42025

E PARCEL ID: 37-0A-00-030
OWNER: NANNEY DUSTIN H AND CRYSTAL D
CFSB
PO BOX 467BENTON, KY 42025

F PARCEL ID: 37-0A-00-029
OWNER: HARRINGTON DONALD KAREN HARRINGTON
826 SUNSET DRBENTON, KY 42025

G PARCEL ID: 37-0A-00-028
OWNER: HARRINGTON DONALD KAREN HARRINGTON
826 SUNSET DRBENTON, KY 42025

H PARCEL ID: 37-0A-00-037
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

I PARCEL ID: 37-0A-00-049
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWY BENTON, KY 42025

J PARCEL ID: 37-0A-00-036
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

K PARCEL ID: 37-0A-00-032
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWY BENTON, KY 42025

L PARCEL ID: 37-0A-00-033
OWNER: GORDON JAMES PATRICK
786 MAYFIELD HWYBENTON, KY 42025

M PARCEL ID: 37-0A-00-034
OWNER: TEMPLE TYLER AUSTIN
1329 FOREST DRBENTON, KY 42025

0 40 80 160
SCALE 1 inch = 80 ft.
PAPER SIZE 22x34
SCALE 1 inch = 160 ft.
PAPER SIZE 11x17

SURVEYOR NOTES

1. ALL INFORMATION SHOWN HEREON WAS OBTAINED 4.22.2020 FROM MARSHALL COUNTY PROPERTY VALUATION OFFICE. RECORDS MAY NOT REFLECT THE CURRENT OWNERS AND ADDRESSES DUE TO THE INACCURACIES AND THE TIME LAPSE IN UPDATING FILES.

2. THIS MAP IS FOR GENERAL INFORMATION PURPOSES ONLY AND DOES CONSTITUTE A BOUNDARY SURVEY.

3. THIS MAP IS NOT FOR RECORDING OR PROPERTY TRANSFER.

TILLMAN INFRASTRUCTURE

LCC TELECOM SERVICES

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

DUVE CONSULTING SERVICES
MATT@DUVECONSULTING.COM

DRAWN BY: MD
CHECKED BY: JC/ACR

REV.	DATE	DESCRIPTION
A	4.22.2020	FINAL

STATE OF KENTUCKY
A. CLAY ROBINSON
32K
LICENSED PROFESSIONAL LAND SURVEYOR

FA #
14944231
SITE#
-
SITE NAME:
-
SITE ADDRESS:
830 SUNSET DRIVE
BENTON, KY 42025
MARSHALL COUNTY

SHEET TITLE
500' RADIUS & ABUTTER'S MAP

SHEET NUMBER
B-2

LCC
TELECOM SERVICES

10700 W. Higgins Rd., Ste. 240,
Rosemont, IL 60018
847 608-6300 Office
847 608-1299 Fax
www.lcctelecom.com

August 20, 2020

Via Certified Mail

Re: Notice of Tillman Infrastructure LLC ("Applicant") to Adjacent Landowners of its Application before the Kentucky Public Service Commission to Construct a Cellular Tower Facility at Sunset Drive in Marshall County, Kentucky

Dear Property Owner,

Tillman Infrastructure LLC has applied to the Kentucky Public Service Commission to construct a 235' self-supporting tower and an approximately 6-foot tall lightning arrestor and related improvements, to be located on Sunset Drive in Marshall County, Kentucky (coordinates 36.8533547, -88.3733093). The proposed Facility will, on its installation, allow for co-location of multiple carriers, which will eliminate the need for additional facilities in the area. A map showing the location of the proposed new facility is enclosed. This notice is forwarded to you because according to the records of the property valuation administrator you may own property contiguous to or within five hundred feet (500') of the proposed facility or within 200' of the connection of the Facility's access driveway to Sunset Drive.

There is a crucial need to upgrade wireless cell services for existing covered customers in this area, to expand capacity to serve future customers, and to keep the cost of delivering service to wireless customers reasonable. Additionally, this facility is crucial to providing wireless communication ability, including the ability for users living in or travelling in this area to contact emergency services. Tillman Infrastructure's representatives have attempted to select a site that addresses these crucial needs while minimizing the impact on adjacent properties.

As an adjacent landowner, you have the right to request intervention in the PSC proceedings on this application and to submit comments related to the consideration of this application. Your comments regarding the proposed application are invited by the Kentucky Public Service Commission, as well as the Applicant. You may submit a comment to the Kentucky Public Service Commission by calling (502) 564-3940, writing to P.O. Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602-0615, or emailing psc.info@ky.gov. Please refer to the Ky. PSC Case No. 2020-282 in any correspondence. You may contact the undersigned if we can assist in any way.

Sincerely,

John Burchfield
Project Manager
LCC Telecom Services on behalf of
Tillman Infrastructure LLC
Phone: (224) 567-6404
Email: jburchfield@lcctelecom.com

LCC
TELECOM SERVICES

10700 W. Higgins Rd., Ste. 240,
Rosemont, IL 60018
847 608-6300 Office
847 608-1299 Fax
www.lcctelecom.com

August 20, 2020

Via Certified Mail
Judge-Executive Kevin Neal
1101 Main Street
Benton, KY 42025

Re: Notice of Tillman Infrastructure LLC ("Applicant") to County Judge-Executive of its Application before the Kentucky Public Service Commission to Construct a Cellular Tower Facility at Sunset Drive in Marshall County, Kentucky

Dear Judge Neal,

Tillman Infrastructure LLC, has applied to the Kentucky Public Service Commission to construct a 235' self-supporting tower and an approximately 6-foot tall lightning arrestor and related improvements, to be located on Sunset Drive in Marshall County, Kentucky(coordinates 36.8533547, -88.3733093). The proposed Facility will, on its installation, allow for co-location of multiple carriers. A map showing the location of the proposed new facility is enclosed.

There is a crucial need to upgrade wireless cell services for existing covered customers in this area, to expand capacity to serve future customers, and to reduce operating costs for the benefit of carriers and their customers. Additionally, this facility is crucial to providing wireless communication ability, including the ability for users living in or travelling in this area to contact emergency services. Tillman Infrastructure's representatives have attempted to select a site that addresses these crucial needs while minimizing the impact on Marshall County residents.

As County Judge-Executive, you have the right to request intervention in the PSC proceedings on the application and to submit comments related to the consideration of this application. Your comments regarding the proposed application are invited by the Kentucky Public Service Commission, as well as the Applicant. You may submit a comment to the Kentucky Public Service Commission by calling (502) 564-3940, writing to P.O. Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602-0615, or emailing psc.info@ky.gov. Please refer to Ky. PSC Case No. 2020-282 in any correspondence.

Please do not hesitate to contact me if I can provide any additional assistance with this matter.

Sincerely,

John Burchfield
Project Manager
LCC Telecom Services on behalf of
Tillman Infrastructure LLC
Phone: (224) 567-6404

Email: jburchfield@lcctelecom.com

SITE: BENTON

Notice on Site: (TEXT OF SIGN #1)

Tillman Infrastructure LLC proposes to construct a telecommunications **tower** on this site. If you have questions, please contact Tillman Infrastructure at 152 West 57th Street, New York, New York 10019 or the Executive Director, Public Service Commission, 211 Sower Boulevard, P. O. Box 615, Frankfort, Kentucky 40602. Please refer to Ky. PSC Case No. 2020-282 in your correspondence.

Notice at Road: (TEXT OF SIGN #2)

Tillman Infrastructure LLC proposes to construct a telecommunications **tower** near this site. If you have questions, please contact Tillman Infrastructure at 152 West 57th Street, New York, New York 10019 or the Executive Director, Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602. Please refer to Ky. PSC Case No. 2020-282 in your correspondence.

Please note:

The signs are *at least* 2' x 4', and the word "tower" appears in letters no smaller than 4" tall.

RE: Legal Notice Advertisement

Site Name: Benton

Dear Marshall County Tribune-Courier:

Please publish the following legal notice advertisement in the next edition of the Marshall County Tribune-Courier:

> NOTICE: Tillman Infrastructure LLC has filed an application with the Kentucky Public Service Commission to construct a new wireless telecommunications tower, located on a site south of Sunset Drive near Benton in Marshall County (coordinates 36.8533547, -88.3733093). Please direct comments or questions to Tillman Infrastructure at 152 West 57th Street, New York, New York 10019 or the Executive Director, Public Service Commission, 211 Sower Boulevard, P. O. Box 615, Frankfort, Kentucky 40602. Please refer to Ky. PSC Case No. 2020-282 in your correspondence.

After this advertisement has been published, please forward a tearsheet copy, affidavit of publication, and invoice to_____. Please call _____at (xxx) xxx-xxxx if you have any questions. Thank you for your assistance.

Historical marker for Utley placed in Olive community

BY TRIBUNE-COURIER STAFF

A historical marker was recently placed on Olive-Hamlet Road to honor the birthplace of Newton W. Utley, who served as acting Lieutenant Governor of Kentucky in the early 1900s.

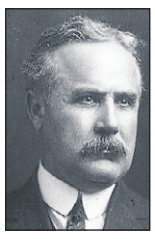
The marker was installed by the Kentucky Transportation Cabinet and historical research was provided by Marshall County First District Commissioner Justin Lamb.

Newton Willard Utley was born on a farm in the Olive community on May 12, 1860 and attended the local one-room school before going to Nashville, Tennessee where he graduated from Vanderbilt University.

Submitted photo

A historical marker placed in the Olive community is pictured.

Utley was a member of the Olive Methodist Church which later led to several years of missionary work in Japan. Upon returning to the United States in the 1890s, Utley moved to Lyon County where he began a successful law practice. He was elected in 1899 to serve the Third Senatorial District which was composed of Marshall, Lyon, Livingston, Trigg and Calloway counties.



Newton Willard Utley

Following the assassination of Kentucky Gov. William Goebel, which pushed the state on the brink of an all-out civil war, Utley was elected among his peers as president pro tempore of the Kentucky State Senate, which made him the acting lieutenant governor during the chaotic 1902 session of the General Assembly.

Utley also served on one occasion as acting governor of the Commonwealth during an absence from the state by Gov. J.C.W. Beckham. Utley was encouraged by members of his party to run for election for a full term as lieutenant governor in 1903, but instead chose to retire from public service and returned to western Kentucky, where he passed away in 1929.

"I think it is important to recognize those who came before us," Lamb, who is a native of the Olive community, said. "Lt. Gov. Utley had a remarkable career in public service during one of Kentucky's most contentious periods and his service to the Commonwealth needs to be remembered."

Distinguished Alumni Hall of Fame introduced

BY TRIBUNE-COURIER STAFF

The Marshall County Board of Education, in conjunction with the support and leadership of the Marshall County Class of 1985, has announced the newly christened Marshall County Distinguished Alumni Hall of Fame.

Although a hall of fame already exists to honor those who have distinguished themselves in athletics, the goal and purpose of the Distinguished Alumni Hall of Fame is to recognize those alumni who have excelled in many different skills, fields or vocations.

Trent Lovett, superintendent of Marshall County Schools, said he welcomes this chance to recognize those graduates.

"We are humbled and excited to establish the Distinguished Alumni Hall of Fame to celebrate our rich history of successful alumni over the past 150 years," he said.

The Marshall County Class of 1985 actively searched for ways to give something back to the school that granted its class the chance to launch into life with a very strong educational foundation to succeed. Class of 1985 President Mark Tichenor said, "It is our distinct pleasure to partner with and support the Marshall County School District to honor our alumni."

The Distinguished Alumni Hall of Fame Committee is currently accepting nominations for candidates to be inducted into the Hall of Fame. Any student who is a product of the Marshall County school system since 1870 is eligible to be nominated and inducted.

Nominating forms can be found at the school district website or by contacting the Marshall County Board of Education. Instructions for submission are provided on the form.

The Charter Class for the Distinguished Hall of Fame will be inducted in the spring of 2021, which will be accompanied by a dinner honoring the inductees. Nominations will be considered each year for newly inducted honorees.

The board of education has set up an account for monetary contributions to the Distinguished Alumni Hall of Fame. The donations may be eligible to be considered a charitable contribution for tax purposes.

Checks should be made payable to Marshall County Distinguished Alumni Hall of Fame and mailed to Marshall County Distinguished Alumni Hall of Fame, 86 High School Road, Benton, KY 42025.

For more information about the Distinguished Alumni Hall of Fame, contact the Marshall County Board of Education or visit https://www.marshall.kyschools.us/Content/hallof fame.

CLASSIFIEDS

15 WORDS OR LESS: $9.50

Contact:
Gerry K. Gilbert,
Office Manager
(p)527-3162 (f)527-4567
features@tribunecourier.com

Classified Deadline:
4PM Friday

Garage Sale & Yard Sale Ads
MUST Be Prepaid

The Tribune Courier Accepts These Credit Cards:

Telephone Prefixes:
388: Eddyville
269/271/439
235/522/924: Trigg County
885/889: Christian County
365/545: Caldwell County

ANNOUNCEMENTS

GARAGE/ESTATE SALES

0151 GARAGE/ESTATE SALES

NEIGHBORHOOD SALE: September 3rd & 4th from 8 a.m. - 4 p.m. on 196 Dogwood Hill Club Road off Little Bear Road in Gilbertsville. Cash and carry. Please wear masks.

Thanks for reading the Marshall County Tribune-Courier! Find us on Facebook, Instagram & Twitter

Notice of Vacant Marshall County Board of Education Seat

The Marshall County Board of Education ("Board") is seeking applications for appointment to fill a vacancy on the Board representing District #2. This appointment will be effective until the end of the term on December 31, 2022.

Responsibilities include: setting policy to govern the District; hiring/evaluating the Superintendent; and levying taxes and adopting the District budget. Board members must:

- Be at least 24 years old and a Kentucky citizen for the last three years;
- Be a registered voter in the particular District of the vacancy;
- Have completed the 12th grade or have a GED certificate;
- Meet all other legal qualifications (KRS 160.180); and
- Complete required annual in-service training.

Applications are available at the Marshall County Board of Education building or on the District website, on the Board of Education page (https://www.marshall.kyschools.us/districtBoardEd.aspx). Mail applications to: Superintendent, ATTN: Board Vacancy, 86 High School Road, Benton, KY 42025.

EMPLOYMENT

0232 GENERAL HELP

APPLIANCE REPAIR: I have 15 years experience repairing all makes and models of all major appliances. Please call me at (270) 331-4359.

APPLY WITHIN. Looking for full-time server, cook and dishwasher at Mama D's in Calvert City.

HELP WANTED: Experienced grill cook at the Dam Brewhaus. Please call (270) 705-9067.

MERCHANDISE

0512 MUSICAL MERCHANDISE

FOR SALE: Kenwood Stereo Receiver Model KR-5150, Akai Reel to Reel Model X200D Solid State and 2 Pioneer CS-99 Speakers. $300 All Pieces 270-994-1841

Advertise your employment opportunity in the classifieds! **(270) 527-3162**

There will be a meeting of the Marshall County Extension District Board on Thursday, September 3 at 8:00 a.m. Agenda includes Secretary's report, Treasurer's report, Program area updates, Facility update, UK/CAFÉ update and setting of 2021 tax rates. It will be held in the meeting room of the Marshall County Extension Office. The address is 1933 Mayfield Highway, Benton, Kentucky.

The Housing Authority of Benton (E.H.O.)

The Housing Authority of Benton is now accepting applications for 0 to 4 bedroom apartments in Benton and Calvert City

For more information, call 527-3626

Working Families, handicapped & elderly receive first preference

EQUAL HOUSING Opportunity

0554 WANTED TO RENT/BUY/TRADE

WANT TO BUY: A shotgun for hunting. Working shape only. Please call Dale at (270) 559-7446.

REAL ESTATE FOR RENT

0605 REAL ESTATE FOR RENT

HUD PUBLISHERS NOTICE: All real estate advertised herein is subject to the Federal Fair Housing Act which makes it illegal to advertise any preference, limitation, or discrimination based on race, religion, color, sex, handicap, familial status or national origin, or intention to make any such preferences, limitations or discrimination.

State laws forbid discrimination in the sale, rental or advertising of real estate based on factors in addition to those protected under federal law. We will not knowingly accept any advertising for real estate which is in violation of the law. All persons are hereby informed that all dwellings advertised are available on an equal opportunity basis.

0610 UNFURNISHED APARTMENTS

1,2 and 3 bedroom luxury apartments in Benton. 527-2888.

SMART The smart buyer shops the Classified first!

In accordance with Chapter 65A and 424 of the Kentucky Revised Statutes, the financial information listed below may be inspected by the general public at the Marshall County Extension Office, 1933 Mayfield Highway, Benton, KY on September 8, 2020 between the hours of 9:00 and 3:00.

Financial Information Available:
- FY20 Year-End Budget Summary
- FY21 Budget Summary
- Most Recent Audit or Attestation

Home • Home Home Home • Home • Home •

WALNUT COURT APARTMENTS
BENTON HOUSING

Now accepting applications for 1 bedroom units. Must be 62, handicapped or disabled.

Phone (270) 527-3626

EQUAL HOUSING Opportunity

0610 UNFURNISHED APARTMENTS

EQUAL HOUSING OPPORTUNITY

One and two BR apartments. Income based. Come by 1100 Poplar Street to pick up an application or call (270) 205-0693. Equal Opportunity Housing.

COX Manor Apartments. One bedroom apartment, rent subsidized, 62 & older, handicapped and disabled. 202/Section 8 EHO. 270-395-4126, TTY 1-800-648-6056.

Looking for the perfect place to call home? Check out the 'For Rent' ads in our classifieds!

0610 UNFURNISHED APARTMENTS

HARDIN Apartments is now accepting applications for 2 and 3 bedrooms units. Apply at 1111 Poplar St, Benton, KY or call 527-1311. Equal Housing Opportunity. TDD #711. Rent is based on income.

JOIN NEIGHBORHOOD WATCH
CRIME CHECK
CONTACT YOUR POLICE, TODAY!

LEGALS

0955 LEGALS

Financial documents for Four Rivers 'Behavioral Health may be examined by the public Monday-Friday from 8 a.m.-5 p.m. at 425 Broadway, Suite 201 Paducah, KY.

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LEGAL NOTICE
MARSHALL DISTRICT COURT
TIFFANY FRALICX GRIFFITH, CLERK
80 JUDICIAL DRIVE, UNIT 101
BENTON, KY 42025

THE FOLLOWING ESTATE FIDUCIARY APPOINTMENTS HAVE BEEN MADE IN THE MARSHALL DISTRICT COURT BY DISTRICT JUDGE JACK TELLE. ALL CLAIMS AGAINST THESE ESTATES SHOULD BE FILED WITH THE FIDUCIARY WITHIN 6 MONTHS OF DATE OF QUALIFICATION.

6/24/2020 MICHELE LEE SCOTT, 3942 WADESBORO ROAD N, BENTON, KY 42025 APPOINTED AS EXECUTRIX FOR THE ESTATE OF BARBARA MAE SCOTT, 3942 WADESBORO ROAD N, BENTON, KY 42025. ATTORNEY TOM BLANKENSHIP, P.O. BOX 571, BENTON, KY 42025.

8/13/2020 SUSAN BYASSEE, 160 FREDERICA DRIVE, GILBERTSVILLE, KY 42044 IS APPOINTED EXECUTRIX FOR THE ESTATE OF PATRICIA BEADLES, 5268 US HWY 68 WEST, BENTON, KY 42025. ATTORNEY RONALD JACKSON, P.O. BOX 969, PADUCAH, KY 42002.

8/20/2020 COLE RILEY, 2127 SLICKBACK ROAD, BENTON, KY 42025 APPOINTED AS EXECUTOR FOR THE ESTATE OF DIRL TYREE, 2258 SLICKBACK ROAD, BENTON, KY 42025. ATTORNEY MARTIN JOHNSON, P.O. BOX 450, BENTON, KY 42025.

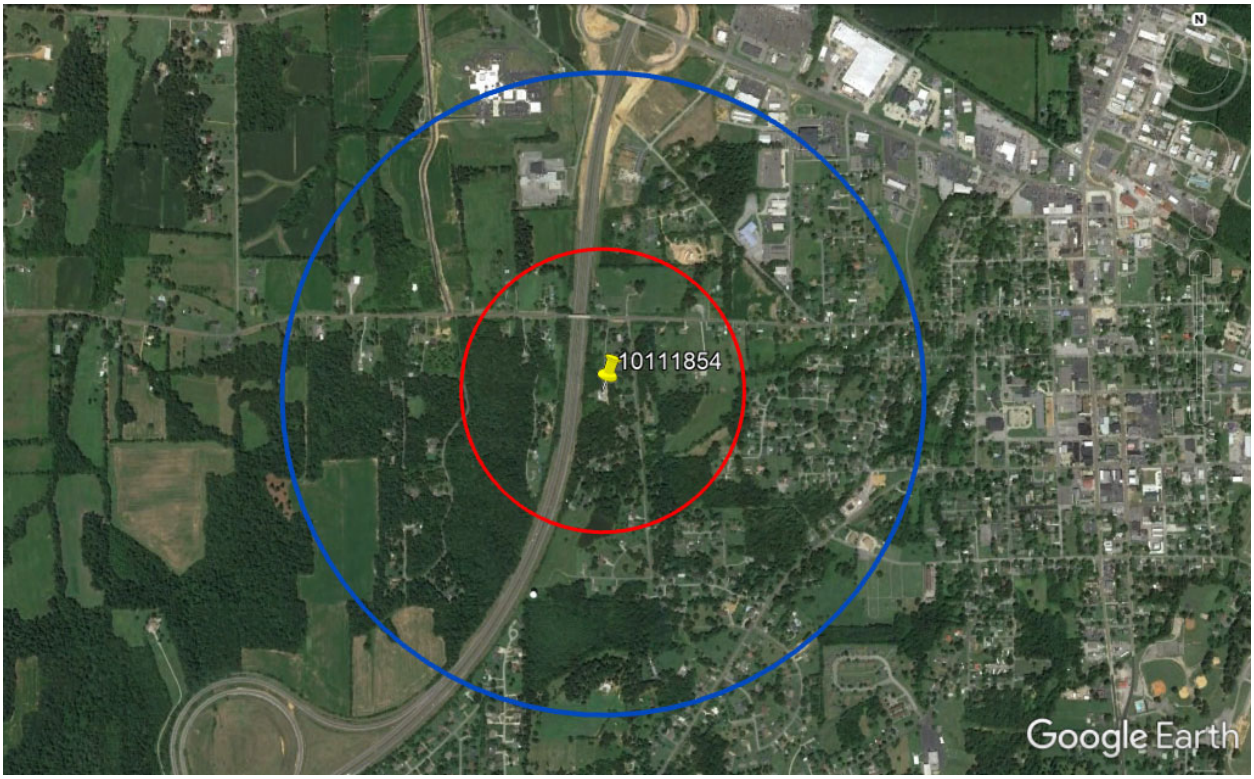
8/20/2020 BENNY AND GLENDA ADAIR, 616 GRIGGSTOWN ROAD, CALVERT CITY, KY 42029 ARE APPOINTED AS CO-EXECUTOR FOR THE ESTATE OF KARA BETH WILSON, 616 GRIGGSTOWN ROAD, CALVERT CITY, KY 42029. ATTORNEY GREG CARTER, P.O. BOX 259, BENTON, KY 42025.

8/20/2020 PATRICIA EDWARDS, 8744 US HWY 68 EAST, BENTON, KY 42025 IS APPOINTED EXECUTRIX FOR THE ESTATE OF CHARLES EDWARDS, 8744 US HWY 68 EAST, BENTON, KY 42025. ATTORNEY GREG CARTER, P.O. BOX 259, BENTON, KY 42025.

ANY PERSONS DESIRING TO FILE EXCEPTIONS TO THE FOLLOWING FINAL SETTLEMENTS SHOULD PRESENT SAME TO THE CLERK OF THIS COURT ON OR BEFORE 09/03/2020

To: Tillman Infrastructure
FA#: 10111854
CAM ID: TIL-B3-153
Coordinates: 36.85933, 88.36644 Verizon + 36.85931, -88.36644
SR Radius: 1320' Verizon + 2995' AT&T
RAD: 482'
City:
St: KY
Date: 01.10.19

Site Map



SWORN STATEMENT OF TIM BRENNER IN SUPPORT OF NEW TOWER CONSTRUCTION BY TILLMAN INFRASTRUCTURE, LLC

DALLAS COUNTY)
) ss.
STATE OF TEXAS)

Tim Brenner, being first duly sworn on oath, deposes and says that:

1. I am an adult resident of the State of Texas and serve as Director — Network Planning for AT&T Wireless **("AT&T").**

2. I manage AT&T's high-rent relocation program, under which AT&T identifies high-cost or economically burdensome antenna site leases that accommodate AT&T's communications equipment and relocates its communications equipment onto lower-cost alternative antenna site lease locations to either improve or maintain wireless coverage.

3. I am familiar with the proposed tower to be constructed by Tillman Infrastructure, LLC **("Tillman")** on parcel IDs: 0B-05-01-056 and 37-0A-00-032, at 840 Sunset Drive, Benton, Marshall County, KY 42025 in (the **"Tillman Tower").** I am also familiar with the existing communications tower (the **"SBA Tower")** owned by SBA **("SBA Communications")** which is located at 1077 Oak Level Road, Benton, Marshall County, KY 42025. Both the existing SBA Tower and the location of the proposed Tillman Tower are located in AT&T's coverage search ring for this part of Marshall County.

4. AT&T currently leases space on the SBA Tower, along with related ground space at the base of the SBA Tower, to locate its communications equipment (the **"Wireless Facilities").** AT&T has located its Wireless Facilities on the SBA Tower since 8/1/2006, but AT&T now desires to relocate its Wireless Facilities onto the Tillman Tower as the SBA Tower has become a high-cost antenna site structure for AT&T.

5. This sworn statement is made to attest that having its Wireless Facilities remain on the SBA Tower, which is the only existing communications support structure in AT&T's search ring, is economically

burdensome for AT&T and would not result in the same cost-effective operation as compared to what AT&T could achieve if it relocated its Wireless Facilities to the Tillman Tower.

Co-Location on the SBA Tower is Economically Burdensome

6. AT&T maintains a co-location agreement with SBA for the SBA Tower. Under this agreement, SBA increases the rent, assesses other costs and poses other logistical issues when AT&T installs additional Wireless Facilities on the SBA Tower. AT&T anticipates future rent increases and costs from SBA if it remains co-located at the SBA Tower. Those rent increases and costs would result from, among other things, AT&T's equipment rights on the SBA Tower.

7. The current rent charged by SBA to co-locate on the SBA Tower is over two times what Tillman will charge AT&T to co-locate on the Tillman Tower. Pursuant to the agreement between AT&T and Tillman, annual rent increases are less than the annual rent increases charged by SBA. At the current rate of rent increases, over the next twenty (20) years, the difference in rent paid by AT&T to remain on the SBA Tower versus relocating on the Tillman Tower is well over five million dollars.

8. Since AT&T located on the SBA Tower in August 2006, rent and escalators have become more competitive in the tower marketplace. New tower companies have entered the marketplace since August 2006, which has also led to more competitive economic terms in tower lease agreements. Considering these competitive economic terms from other tower companies, AT&T has requested tower rent reductions from SBA. Unlike other tower companies, SBA has resisted an economically sustainable cost structure with its existing AT&T co-location leases, such that many of these leases have become economically burdensome for AT&T.

9. Decommissioning an existing Wireless Facility in favor of moving to an alternate tower location is something AT&T will only do in limited circumstances. AT&T will bear a significant capital cost in decommissioning its Wireless Facilities installation on the SBA Tower and relocating to the Tillman Tower. Despite these relocation costs, the Tillman Tower remains a better co-location option for AT&T.

10. AT&T has made this determination because the current rents and other charges to co-locate on the SBA Tower have been categorized as high-cost as compared to other existing sites in AT&T's portfolio and the rents charged by other tower companies, such as Tillman.

11. AT&T has entered into nationwide development and master lease agreements with Tillman, which I am familiar with. Under these agreements, Tillman will construct at its own expense and own communications towers upon which AT&T will lease space to install its Wireless Facilities. AT&T does not bear any costs for the construction of a tower owned by Tillman.

12. Per these agreements and as is the case with the Tillman Tower, AT&T pays Tillman rent in return for 40,000 square inches of wind load surface area of loading and defined space on each tower and does not pay increased rent for additions to its Wireless Facilities provided said facilities remain within the predetermined space and loading limits. The agreed upon tower space and loading limits have taken into consideration the future additions and upgrades projected for AT&T's Wireless Facilities.

13. There are no other structures (other than the SBA Tower) located in AT&T's search ring capable of accommodating its Wireless Facilities.

14. The economic terms imposed upon AT&T by SBA to remain co-located on the SBA Tower are not cost-effective and are economically burdensome for AT&T especially when the nearby Tillman Tower presents a more competitive and flexible co-location option.

The Tillman Tower provides superior mobile service functionality.

15. Technological changes and market trends in the wireless communications industry require AT&T to continuously upgrade its Wireless Facilities. AT&T is also obligated to build out FirstNet, which is our country's first nationwide integrated data network for providers of emergency services.

AT&T's lease agreement for the SBA Tower does not include "set aside" capacity reserved for the future needs of AT&T's Wireless Facilities. Every time AT&T desires to improve the Wireless Facilities installed on the SBA Tower, it must apply to SBA which then triggers an application fee and a lengthy administrative review process, which typically includes a structural analysis of the tower and an amendment to the existing lease agreement. This administrative process may take several months and results in unnecessary time delay and additional costs in the deployment of the upgraded Wireless Facilities.

16. Conversely, AT&T's master tower lease agreement with Tillman allows AT&T to rent 40,000 square inches of tower space and loading on a Tillman Tower. This space and loading capacity is reserved

exclusively for AT&T and will accommodate the needs for AT&T's Wireless Facilities well into the future. This arrangement benefits AT&T because it increases the speed of deploying Wireless Facilities and gives AT&T greater flexibility to upgrade technologies and respond to the ever-changing coverage and capacity demands of its wireless network. Provided it does not exceed the reserved space and capacity limits in the co-location agreement, AT&T is free to upgrade its Wireless Facilities on the Tillman Tower with little to no delay.

Tim Brenner

Subscribed and sworn to before me
this 7th day of October, 2020.

Jackie M. Prothro
Notary Public State of Texas
My Commission Expires

JACKIE M. PROTHRO
Notary Public, State of Texas
Comm. Expires 10-09-2021
Notary ID 131308921

TI-OPP-15818
FA#14944231