

( M C B R A Y E R )  
McBrayer, McGinnis, Leslie & Kirkland, PLLC

ATTORNEYS AT LAW

W. BRENT RICE  
BRICE@MMLK.COM

201 EAST MAIN STREET, SUITE 1000  
LEXINGTON, KENTUCKY 40507  
(859) 231-8780 EXT. 115  
FAX: (859) 231-6518

September 1, 2011

Ms. Linda Faulkner  
Division of Filings  
Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40602-0615

RECEIVED  
SEP 01 2011  
PUBLIC SERVICE  
COMMISSION

RE: **Application of Global Tower Assets, LLC and New Cingular Wireless PCS, LLC, for Issuance of a Certificate of Public Convenience and Necessity to Construct a wireless communications Facility at Gray's Branch Road, South Shore, Greenup County, Kentucky ("Application") PSC Case No. 2011- 00353 Franklin Furnace (KY-5005)**

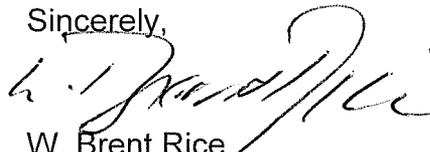
Dear Ms. Faulkner:

Please be advised that the undersigned represents Global Tower Assets, LLC and New Cingular Wireless PCS, LLC in regard to the above-referenced Application which I am filing on their behalf today with the Commission.

Enclosed please find one original and ten (10) copies of the Application along with one (1) sets of project description drawings, which has been signed and sealed by a licensed professional engineer in Kentucky.

Any comments or questions in regard to the application should be forwarded to the undersigned. Thank you for your assistance in this matter.

Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC and  
New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosures

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

**ORIGINAL**

APPLICATION OF GLOBAL TOWER ASSETS, LLC )  
AND NEW CINGULAR WIRELESS PCS, LLC FOR )  
ISSUANCE OF CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY TO CONSTRUCT )  
A WIRELESS COMMUNICATIONS FACILITY AT )  
GRAYS BRANCH ROAD, SOUTH SHORE, )  
GREENUP COUNTY, KENTUCKY )

Case No. 2011-00353

**RECEIVED**

(SITE NAME: FRANKLIN FURNACE, (KY-5005)

SEP 01 2011

PUBLIC SERVICE  
COMMISSION

**APPLICATION**

Global Tower Assets, LLC, a Delaware limited liability company and New Cingular Wireless PCS, LLC d/b/a AT&T Mobility, a Delaware limited liability company, hereinafter collectively referred to as "Applicants," by counsel, apply for a Certificate of Public Convenience and Necessity to construct and operate a wireless communications facility ("WCF") to serve the customers of New Cingular Wireless PCS, LLC with wireless communication services in the Commonwealth of Kentucky. In support of this Application, Applicants respectfully state that:

1. The complete name and address of Global Tower Assets, LLC is: 750 Park of Commerce Blvd., Ste. 300, Boca Raton, Florida 33487-3612. Upon completion of construction of the WCF, it will be the owner.

2. The complete name and address of New Cingular Wireless PCS, LLC, a Delaware limited liability company, is 601 West Chesnut Street, Louisville, Kentucky 40203. New Cingular Wireless PCS, LLC d/b/a AT&T Mobility is a licensed public utility.

Copies of its Delaware Certificate of Formation and Certificate of Amendment are attached as **Exhibit A**. A copy of the Certificate of Authorization to transact business in the Commonwealth of Kentucky is also included as part of **Exhibit A**.

3. The Applicants propose to construct a WCF in Greenup County, Kentucky. The WCF will be comprised of a 195' monopole (the "tower"), including attached antennas and an equipment shelter. The equipment shelter will contain the transmitters and receivers required to connect the WCF with wireless telephone users, which will link the WCF with the New Cingular Wireless PCS, LLC network. The WCF will be fenced with a secured access gate. Two sets of project drawings are being submitted with this Application. A detailed description of the manner in which the WCF will be constructed is included in the drawings and on the Survey (scale: 1" = 200'). A reduced copy of the Survey is attached as **Exhibit B**. The Survey is signed and sealed by Frank L. Sellinger, II, a professional registered surveyor in Kentucky and it depicts the proposed location of the tower and all easements and existing structures on the property on which the tower will be located. A vertical tower profile and its foundation, each signed and sealed by a professional engineer registered in Kentucky are attached as **Exhibit C**. The tower design plans include a description of the standard according to which the tower was designed.

4. A geotechnical investigation report performed by Engineering Professionals, Inc. dated August 15, 2011 is attached as **Exhibit D**. The geotechnical investigation report is signed and sealed by Peter J. Jernigan, Jr., a professional engineer registered in Kentucky. The geotechnical investigation report includes boring logs, foundation design recommendations, and a finding as the proximity of the

proposed site to flood hazard areas.

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

6. The possibility of a strong ground shaking has been considered in the design of this tower. Formulas are given in codes for earthquake loading. The formulas are for lateral loads, and they take into account the seismic zone, ground motion and structure. The two most important components of the structure are its weight and shape. Applying all of the factors to the formula, the resultant earthquake load is less than the design wind load. Seismic loading has been considered in the design of this tower, although it is regarded as secondary to the wind loading.

7. Similarly, the possibility of a strong wind has been considered in the design of this tower. It has been designed and engineered by professional engineers using computer assistance and the same accepted codes and standards as are typically used for high-rise building construction. This tower has been designed in accordance with the Electronic Industries Association ("ETA") Standard RS-222E, which has been accepted and approved by ANSI and is a nationally recognized tower design standard.

8. Personnel directly responsible for the design and construction of the proposed tower are qualified and experienced. The tower foundation and design was performed by Sabre Industries under the supervision of Amy R. Herbst, P.E., a registered professional engineer in the Commonwealth of Kentucky. Her specialty is tower design which includes sub-surface exploration and foundation design. The Applicants use qualified installation crews and site inspectors for construction of their towers.

9. The public convenience and necessity require the construction of this WCF. The WCF is essential to improve service to Applicants' current customers in that transmission and reception "weak spots" within the area to be covered by the WCF will be substantially reduced. The WCF will also increase the system's capacity to meet the increasing demands for wireless service in Kentucky. A statement from Applicants' RF Design Engineer describing the need for the WCF is attached as **Exhibit E**.

The process that was used in selecting the site for the proposed WCF by the Applicants' radio frequency engineers was consistent with the process used for selecting generally all other existing cell facilities within the licensed area. The engineers used computer programs to locate cell sites that will enable the cell facilities to serve the Federal Communications Commission certificated territory without extending beyond its approved boundary and to meet other mandates of the Commission. The engineers select the optimum site in terms of elevation and location to provide the best quality service to customers in the service area. A map of the area in which the tower is proposed to be located, that is drawn to scale and that clearly depicts the necessary search area within which a site should be located as determined by the Applicants' Radio Frequency Engineers is attached as **Exhibit F**.

It is imperative that the proposed WCF be constructed to allow New Cingular Wireless PCS, LLC to meet the increasing demands for wireless communication service in the licensed area.

10. The WCF will serve an area totally within Applicants' current service area in the licensed area.

11. Since the proposed WCF will serve only the licensed area, no further

approvals by the Federal Communications Commission ("FCC") are required. See 47 C.F.R. §24.11(b), "[b]lanket licenses are granted for each market and frequency block. Applications for individual sites are not required and will not be accepted."

12. The Federal Aviation Administration determination that the proposed tower height (agl) of 199' does not exceed notice criteria is attached as **Exhibit G**. The Kentucky Airport Zoning Commission determination that the WCF does not require a permit, dated June 15, 2011 is attached as **Exhibit H**.

13. The proposed location of the tower is an area which is outside the jurisdiction of a planning commission, and therefore, Applicants submit the Application to the Public Service Commission for a CPCN pursuant to KRS § 278.020(1), 278.650, and 278.665. The Applicants have notified the Greenup County Judge Executive, by certified mail, return receipt requested, of the proposed construction. The Applicants included in the notice the Commission docket number under which the Application will be processed and informed said person of his right to request intervention. A copy of the notice is attached as **Exhibit I**.

14. The WCF will be located at Grays Branch Road, South Shore, Greenup County, Kentucky. Pursuant to 807 KAR 5:063 Kentucky appropriate notices 2' X 4' with the word "TOWER" in letters at least four inches high, have been posted in a visible location on the proposed site and on the nearest public road and shall remain posted for at least two (2) weeks after the Application is filed. The location of the proposed facility has been published in a newspaper of general circulation in Greenup County, Kentucky. The WCF's coordinates are: Latitude: 38° 37' 59.17"; Longitude: 82° 54' 26.37".

15. Clear directions to the proposed site from Lexington are:

Take U.S. 23 north. Turn left onto SR-10, SR-546. Turn right onto Grays Branch Road. The site is just ahead.

The telephone number for the person preparing the directions is 678-280-2325 and the individual's name is Matt Chastain. The Survey identifies every structure within 500' of the proposed tower, and all easements and existing structures within 200' of the access drive, including the intersection with the Public Street System, drawn to a scale no less than one (1) inch equals 200'.

16. Applicants have notified every person who is contiguous or within 500' of the proposed tower by certified mail, return receipt requested, of the proposed construction. Applicants included in said notice the Commission docket number under which the Application will be processed and informed each person of his or her right to request intervention. A list of the property owners and copies of the certified letters sent to the referenced property owners are attached as **Exhibit J**. Copies of the return receipts will be filed with the Commission when received.

17. The site for the proposed facility is located outside the incorporated limits of the City of South Shore and is not zoned. The current use of the property is agricultural.

18. Applicants have considered the likely effects of the installation on nearby land uses and values and have concluded that there is no more suitable location reasonably available from which adequate service can be provided. Applicants attempted to collocate on existing towers or structures, however, there are no such existing towers or structures in the vicinity of the proposed site.

19. The site for the WCF is to be leased from Kathryn S. Penkava 315 Belfonte Drive, Ashland, Kentucky 41101 and Marc Lewis Marlette, 103 Bennetts Mill

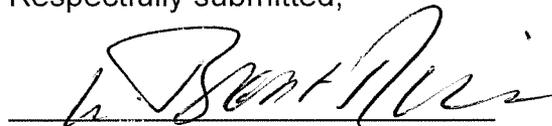
Road, South Shore, Kentucky 41175. A copy of the Land Lease Agreement is attached as **Exhibit K**.

20. The names of all public utilities, corporations, or persons with whom the proposed new construction is likely to compete is Verizon Wireless, Sprint Nextel and T-Mobile.

21. Correspondence with regard to this Application should be directed to: W. Brent Rice, Esq., McBrayer, McGinnis, Leslie & Kirkland, PLLC, 201 East Main Street, Suite 1000, Lexington, Kentucky 40507.

WHEREFORE, Applicant requests that the Commission, pursuant to KRS 278.020, grant a Certificate of Public Convenience and Necessity to Applicant for construction and operation of the proposed WCF and providing for such other relief as is necessary and appropriate.

Respectfully submitted,



W. Brent Rice  
McBRAYER, McGINNIS, LESLIE &  
KIRKLAND, PLLC  
201 East Main Street, Suite 1000  
Lexington, KY 40507  
Phone: 859/231-8780  
COUNSEL FOR GLOBAL TOWER ASSETS,  
AND NEW CINGULAR WIRELESS PCS, LLC

## LIST OF EXHIBITS

Exhibit A	Applicant Adoption Notices
Exhibit B	Site Plan and Survey
Exhibit C	Tower and Foundation Profile
Exhibit D	Report of Geotechnical Exploration
Exhibit E	RF Engineer Statement
Exhibit F	Search Area Map
Exhibit G	FAA Determination
Exhibit H	KAZC Determination
Exhibit I	Correspondence to County Judge Executive
Exhibit J	Notice to Adjoining Property Owners
Exhibit K	Land Lease Agreement



Commonwealth of Kentucky  
Trey Grayson, Secretary of State

Trey Grayson  
Secretary of State  
P. O. Box 718  
Frankfort, KY 40602-0718  
(502) 564-3490  
<http://www.sos.ky.gov>

Certificate of Authorization

Authentication number: 104309  
Visit <http://apps.sos.ky.gov/business/obdb/certvalidate.aspx> to authenticate this certificate.

I, Trey Grayson, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

**NEW CINGULAR WIRELESS PCS, LLC**

, a limited liability company authorized under the laws of the state of Delaware, is authorized to transact business in the Commonwealth of Kentucky, and received the authority to transact business in Kentucky on October 14, 1999.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that an application for certificate of withdrawal has not been filed; and that the most recent annual report required by KRS 275.190 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 30<sup>th</sup> day of September, 2010, in the 219<sup>th</sup> year of the Commonwealth.



  
Trey Grayson  
Secretary of State  
Commonwealth of Kentucky  
104309/0481848

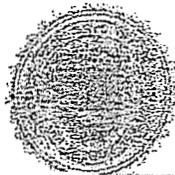
# Delaware

PAGE 1

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "AT&T WIRELESS PCS, LLC", CHANGING ITS NAME FROM "AT&T WIRELESS PCS, LLC" TO "NEW CINGULAR WIRELESS PCS, LLC", FILED IN THIS OFFICE ON THE TWENTY-SIXTH DAY OF OCTOBER, A.D. 2004, AT 11:07 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF AMENDMENT IS THE TWENTY-SIXTH DAY OF OCTOBER, A.D. 2004, AT 7:30 O'CLOCK P.M.



2445544 8100

040770586

*Harriet Smith Windsor*  
Harriet Smith Windsor, Secretary of State

AUTHENTICATION: 3434823

DATE: 10 26 04

State of Delaware  
Secretary of State  
Division of Corporations  
Delivered 11:20 AM 10/26/2004  
FILED 11:07 AM 10/26/2004

CERTIFICATE OF AMENDMENT SRV 040770586 - 2445544 FILE  
TO THE CERTIFICATE OF FORMATION  
OF  
AT&T WIRELESS PCS, LLC

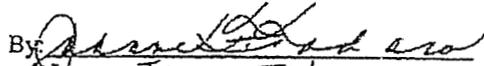
1. The name of the limited liability company is AT&T Wireless PCS, LLC (the "Company").
2. The Certificate of Formation of the Company is amended by deleting the first paragraph in its entirety and replacing it with a new first paragraph to read as follows:  
  
"FIRST: The name of the limited liability company is New Cingular Wireless PCS, LLC."
3. The Certificate of Amendment shall be effective at 7:30 p.m. EDT on October 26, 2004.

*[Signature on following page]*

IN WITNESS WHEREOF, AT&T Wireless PCS, LLC has caused this Certificate of Amendment to be executed by its duly authorized Manager this 26<sup>th</sup> day of October, 2004.

AT&T WIRELESS PCS, LLC

By: Cineular Wireless LLC, its Manager

By:   
Name: Joanne Todaro  
Title: Assistant Secretary

STATE OF DELAWARE  
SECRETARY OF STATE  
DIVISION OF CORPORATIONS  
FILED 04:30 PM 09/01/1999  
991373166 - 2445544

AT&T LEGAL

0003

STATE OF DELAWARE  
CERTIFICATE OF FORMATION OF  
AT&T WIRELESS PCS, LLC

The undersigned authorized person hereby executes the following Certificate of Formation for the purpose of forming a limited liability company under the Delaware Limited Liability Company Act.

- FIRST: The name of the limited liability company is AT&T Wireless PCS, LLC.
- SECOND: The address of its registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

DATED this 7 day of September, 1999.

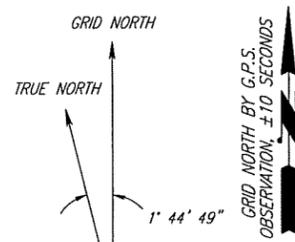
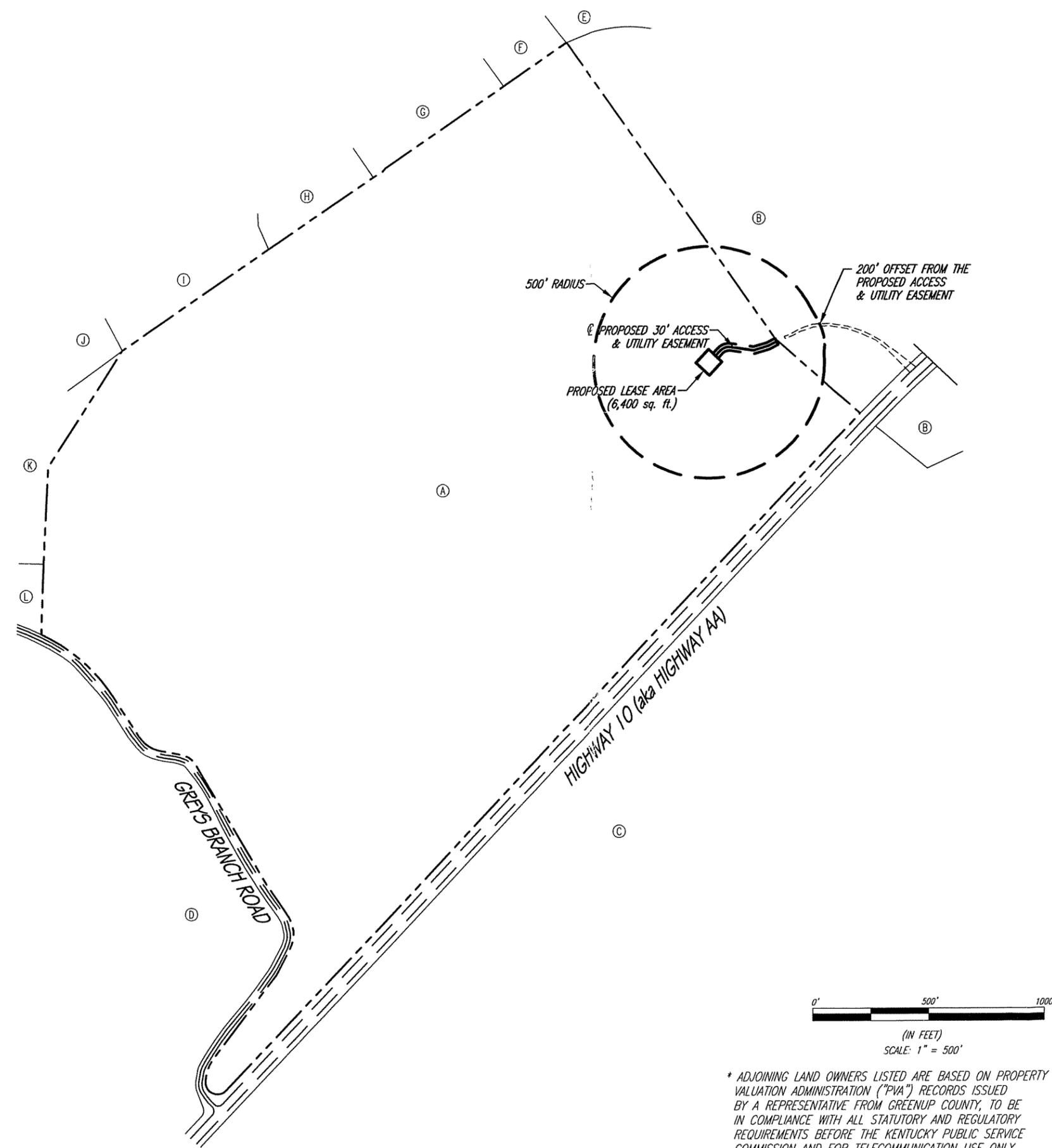
AT&T WIRELESS SERVICES, INC.,  
As Authorized Person



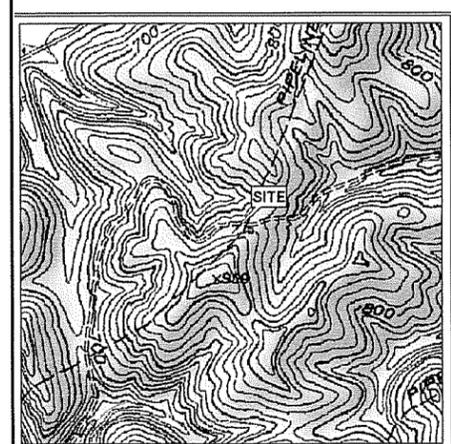
Mark U. Thomas, Vice President



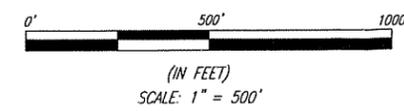
SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA
SHEET 2	
	- TITLE REVIEW



NORTH IS BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM, SINGLE ZONE AND WAS DETERMINED BY COMPUTATION FROM G.P.S. OBSERVATION ON MAY 31, 2011.

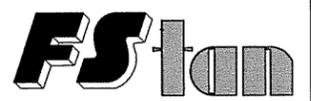


**QUAD MAP**  
SCALE: 1"=2000'  
U.S.G.S 7 1/2 MINUTE QUAD MAP OF PORTSMOUTH, KY



\* ADJOINING LAND OWNERS LISTED ARE BASED ON PROPERTY VALUATION ADMINISTRATION ("PVA") RECORDS ISSUED BY A REPRESENTATIVE FROM GREENUP COUNTY, TO BE IN COMPLIANCE WITH ALL STATUTORY AND REGULATORY REQUIREMENTS BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION AND FOR TELECOMMUNICATION USE ONLY.

- MAP 104, LOT 0X  
KATHRYN S. PENKAVA (1/2 INT.)  
NO ADDRESS LISTED PER PVA  
MARC LEWIS MARLETTE (1/2 INT.)  
NO ADDRESS LISTED PER PVA  
DEED BOOK 411, PAGE 29  
DEED BOOK 564, PAGE 523  
NO ZONING
- MAP 104, LOT 65  
NO INFORMATION LISTED  
IN GREENUP COUNTY, KY  
PVA OFFICE  
NO ZONING
- MAP 105, LOT 7  
BREWER, LARRY & VICKIE  
321 PINE ACRES DR.  
ASHLAND, KY 41102  
DEED BOOK 448, PAGE 575  
NO ZONING
- MAP 105, LOT 5  
KEEN, KERMIT F. & GAIL L  
2447 EAST TYGARTS RD.  
GREENUP, KY 41144  
DEED BOOK 548, PAGE 386  
NO ZONING
- MAP 104, LOT 49  
NO INFORMATION LISTED  
IN GREENUP COUNTY, KY  
PVA OFFICE  
NO ZONING
- MAP 104, LOT 42  
PITTS, CABEL C/O PITTS, SCOTT  
904 S ROOSEVELT AVE.  
BEXLEY, OH 43209  
NO DEED OF RECORD FOUND  
NO ZONING
- MAP 104, LOT 39  
FRAZIER, SAM & SADIE  
81 PITTSBURG DR.  
SOUTH SHORE, KY 41175  
NO DEED OF RECORD FOUND  
ZONING XX
- MAP 104, LOT 24  
NO INFORMATION LISTED  
IN GREENUP COUNTY, KY  
PVA OFFICE  
NO ZONING
- MAP 104, LOT 23  
FRASURE, FLOYD  
3645 EAST TYGARTS RD.  
GREENUP, KY 41144  
DEED BOOK 521, PAGE 522  
NO ZONING
- MAP 104, LOT 22  
FRASURE, FLOYD  
3645 EAST TYGARTS RD.  
GREENUP, KY 41144  
DEED BOOK 521, PAGE 522  
NO ZONING
- MAP 88, LOT 0X  
NO INFORMATION LISTED  
IN GREENUP COUNTY, KY  
PVA OFFICE  
NO ZONING
- MAP 88, LOT 9  
ROBERTS, FRANCES S. & BILL  
103 BENNETTS MILL RD.  
SOUTH SHORE, KY 41175  
DEED BOOK 564, PAGE 523  
NO ZONING



Formerly F.S. Land & T. Alan Neal Company  
Land Surveyors and Consulting Engineers  
2540 Ridgeman Court, Suite 102  
Louisville, KY 40299  
Phone: (502) 635-5866 (502) 636-5111  
Fax: (502) 636-5263

SITE NUMBER:  
KY-5005

SITE NAME:  
FRANKLIN FURNACE

SITE ADDRESS:  
GRAYS BRANCH ROAD  
SOUTH SHORE, KY 41175

PROPOSED LEASE AREA:  
AREA = 6,400 sq. ft.

PROPERTY OWNER:  
KATHRYN S. PENKAVA (1/2 INT.)  
315 BELFONTE DRIVE  
ASHLAND, KY 41101  
MARC LEWIS MARLETTE (1/2 INT.)  
103 BENNETTS MILL ROAD  
SOUTH SHORE, KY 41175

MAP NUMBER:  
104-00-00

PARCEL NUMBER:  
OX

SOURCE OF TITLE:  
DEED BOOK 411 PAGE 29 (1/2 INT.)  
DEED BOOK 564 PAGE 523 (1/2 INT.)

DWG BY:	CHKD BY:	DATE:
KLH	FSII	06.03.11

FSTAN PROJECT NO.:  
11-7304

SHEET 1 OF 3

**REVISIONS:**


SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA
SHEET 2	
	- TITLE REVIEW

**COORDINATE POINT LOCATION**

NAD 1983  
 LATITUDE: 38° 37' 59.17"  
 LONGITUDE: 82° 54' 26.37"  
 NAVD 1988  
 ELEVATION: 849' AMSL  
 STATE PLANE COORDINATE SINGLE ZONE (BLUE MARBLE GEOGRAPHIC CALCULATOR VERSION 3.0)  
 NORTHING: 4130609.433  
 EASTING: 5733181.172

**POWER POLE**

UTILITY COMPANY: UNKNOWN  
 IDENTIFICATION #: N/A

**PROJECT BENCHMARK**

NORTH: 4130630.262  
 EAST: 5733209.385  
 ELEVATION: 853.32  
 LOCATION: BEING A SET IPC STAMPED "FSTAN #3282" NEAR THE SOUTHWEST CORNER OF THE ACCESS EASEMENT

**SYMBOL LEGEND**

- WOOD POWER POLE
- TELEPHONE PEDESTAL
- GUY ANCHOR
- SANITARY SEWER MANHOLE
- MANHOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- ELECTRIC BOX
- F.P. FENCE POST
- SET #5 REBAR (UNLESS OTHERWISE NOTED)
- EXISTING #5 REBAR (UNLESS OTHERWISE NOTED)

**ABBREVIATIONS**

- EP EDGE OF PAVEMENT
- ROW RIGHT OF WAY
- CL CENTERLINE
- RCP REINFORCED CONCRETE PIPE
- CONC CONCRETE
- CMP CORRUGATED METAL PIPE
- IR SUBJECT PROPERTY LINE
- TC TOP OF CURB
- BC BOTTOM OF CURB
- POB POINT OF BEGINNING
- IPC IRON PIN CAPPED

**LINE LEGEND**

- OVERHEAD ELECTRIC
- UNDERGROUND GAS LINE
- UNDERGROUND WATER LINE
- OVERHEAD ELECTRIC & TELEPHONE LINE
- OVERHEAD TELEPHONE LINE
- EXISTING FENCE
- SUBJECT PROPERTY BOUNDARY
- RIGHT OF WAY CENTERLINE

NOTE: SYMBOLS, ABBREVIATIONS, OR LINESYLES DO NOT NECESSARILY APPEAR ON DRAWING(S). USE ONLY AS APPLICABLE

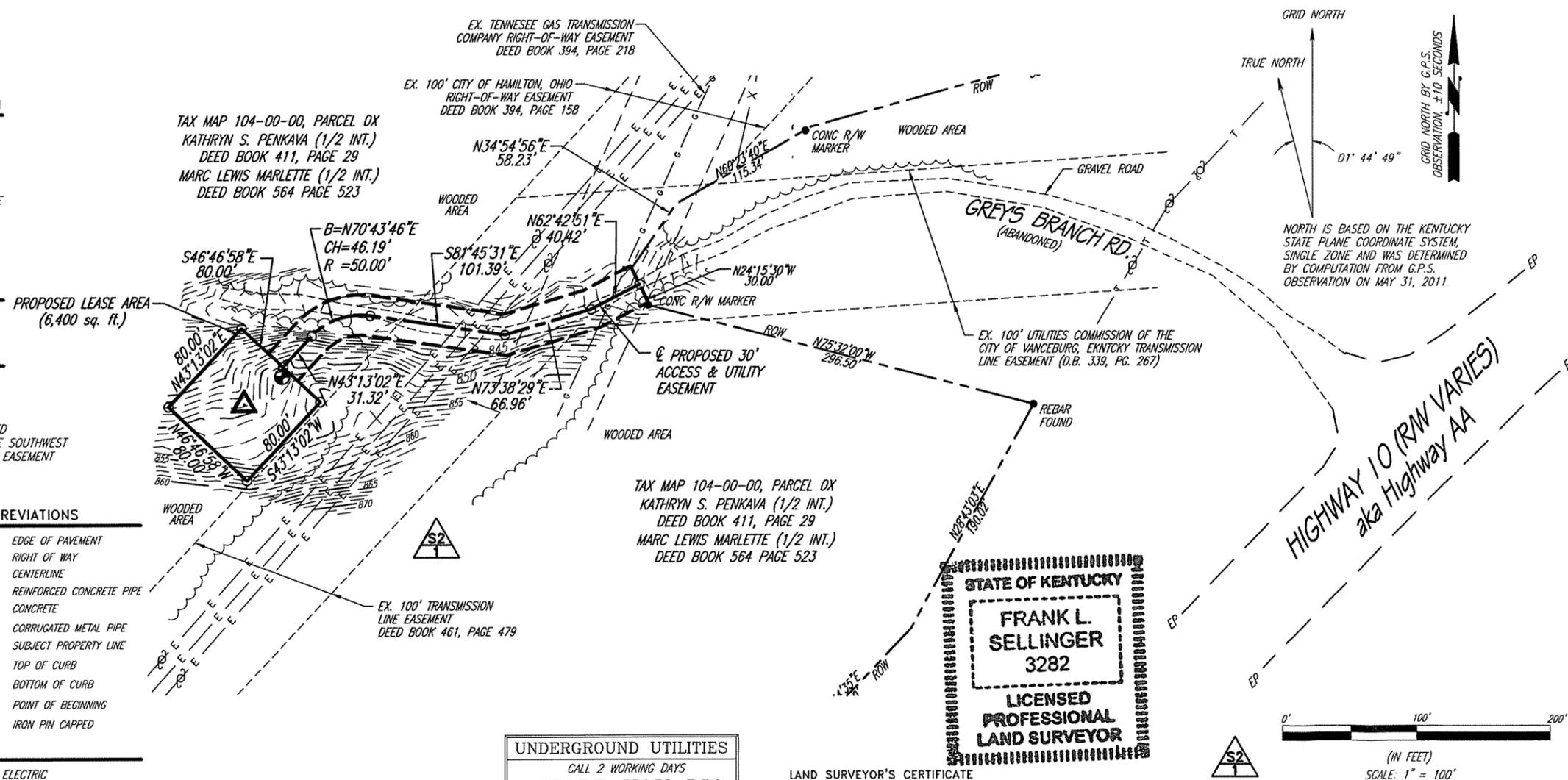


**LEGAL DESCRIPTIONS:**

This is a description for AT&T, of an area to be leased from the property of Kathryn S. Penkava (1/2 Int.) as recorded in Deed Book 411, Page 29 and Marc Lewis Marlette (1/2 Int.) as recorded in Deed Book 564 Page 523 in the County Clerk's Office of Greenup County, Kentucky, which is further described as follows:

**PROPOSED LEASE AREA**

Beginning at a Rebar Found on the west right-of-way line of Highway "AA" at Station 1143+80.37/222.10' LT; thence following said right-of-way line N 75°32'00" W - 296.50' to a Found Concrete R/W Marker at Station 43+50/14.84' right of relocated Greys Branch Road; thence traversing the above-mentioned Penkava/Marlette property S 73°42'47" W a distance of 254.63' to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed Lease Area; thence S 43°13'02" W a distance of 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 46°46'58" W a distance of 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 43°13'02" E a distance of 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence S 46°46'58" E a distance of 80.00' to the True Point of Beginning of the Proposed Lease Area, containing 6,400 sq. ft. as per survey by Frank L. Sellinger, II. with F.S./Tan Land Surveyors and Consulting Engineers, dated May 31, 2011.



**UNDERGROUND UTILITIES**  
 CALL 2 WORKING DAYS  
**BEFORE YOU DIG**  
 INDIANA 1-800-382-5544  
 KENTUCKY 1-800-752-6007  
 UTILITIES PROTECTION SERVICE  
 NON-MEMBERS MUST CALL DIRECTLY

**SURVEYORS NOTES**

SOURCE OF BEARING IS A G.P.S. OBSERVATION ON MAY 31, 2011.  
 SITE SHOWN SUBJECT TO RIGHT OF WAYS AND EASEMENTS SHOWN HEREON OR NOT.  
 NO SEARCH OF PUBLIC RECORDS HAS BEEN PERFORMED BY THIS FIRM TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE PARENT TRACT.  
 THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.  
 EXISTING CONTOURS ARE AT ONE FOOT INTERVALS.

The utility information shown on this plot, prepared by FSTAN was obtained from existing records and or by field locations. It is the contractor's responsibility to verify their existence and location, and to contact the appropriate utility company for field locations.

**CENTERLINE OF PROPOSED 30' ACCESS & UTILITY EASEMENT**

Beginning at a Rebar Found on the west right-of-way line of Highway "AA" at Station 1143+80.37/222.10' LT; thence following said right-of-way line N 75°32'00" W - 296.50' to a Found Concrete R/W Marker at Station 43+50/14.84' right of relocated Greys Branch Road; thence traversing the above-mentioned Penkava/Marlette property S 73°42'47" W a distance of 254.63' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 46°46'58" W - 38.00' to a set #5 rebar with a cap stamped "FSTAN #3282" to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Centerline of the Proposed 30' Access & Utility Easement; thence N 43°13'02" E a distance of 31.32' to a set #5 rebar with a cap stamped "FSTAN #3282" thence with a curve turning to the right with an arc length of 48.02', with a radius of 50.00', with a chord bearing of N 70°43'46" E, with a chord length of 46.19'; thence S 81°45'31" E a distance of 101.39' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 73°38'29" E a distance of 66.96' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 62°42'51" E a distance of 40.42' to a set #5 rebar with a cap stamped "FSTAN #3282" in the west right-of-way line of Highway "AA" the end of said Easement, as per survey by Frank L. Sellinger, II. with F.S./Tan Land Surveyors and Consulting Engineers, dated May 31, 2011.

STATE OF KENTUCKY  
**FRANK L. SELLINGER**  
 3282  
 LICENSED PROFESSIONAL LAND SURVEYOR

**LAND SURVEYOR'S CERTIFICATE**

TYPE "A" SURVEY: UNADJUSTED TRAVERSE CLOSURE BETTER THAN 1 IN 15,000.  
 TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED I hereby certify that this plot and survey were made under my supervision, and that the angular and linear measurements, as witnessed by monuments shown hereon, are true and correct to the best of my knowledge and belief.  
 This survey and plot meets or exceeds the minimum standards of the governing authorities.  
 This property is subject to any recorded easements or right of ways not shown hereon.

*Frank L. Sellinger, II.* 5-19-11  
 Frank L. Sellinger, II. Ky. Reg. No. 3282

**"CELLULAR COMMUNICATION TOWER SITE SURVEY"**  
 REFERENCED AS "EXHIBIT B"

OWNER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_  
 AT&T APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_



I HAVE REVIEWED THE FLOOD INSURANCE RATE MAPS (FIRM) MAP NO. 21089C 0088C, DATED 09-16-2004 AND THE PROPOSED LEASE AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE AREA. THE PROPOSED LEASE AREA IS LOCATED IN ZONE X.



Formerly F.S. Land & T. Alan Neal Company  
 Land Surveyors and Consulting Engineers  
 2540 Ridgeman Court, Suite 102  
 Louisville, KY 40299  
 Phone: (502) 635-5866 (502) 636-5111  
 Fax: (502) 636-5263

SITE NUMBER: KY-5005

SITE NAME: FRANKLIN FURNACE

SITE ADDRESS: GRAYS BRANCH ROAD  
 SOUTH SHORE, KY 41175

PROPOSED LEASE AREA: AREA = 6,400 sq. ft.

PROPERTY OWNER: KATHRYN S. PENKAVA (1/2 INT.)  
 315 BELFONTE DRIVE

MARC LEWIS MARLETTE (1/2 INT.)  
 103 BENNETTS MILL ROAD

TAX MAP: 104-00-00

PARCEL NUMBER: 0X

SOURCE OF TITLE: DEED BOOK 411 PAGE 29 (1/2 INT.)  
 DEED BOOK 564 PAGE 523 (1/2 INT.)

DWG BY: KNR  
 CHKD BY: FSII  
 DATE: 05.19.11

FSTAN PROJECT NO.: 11-7304

SHEET 1 OF 3

**REVISIONS:**

C2

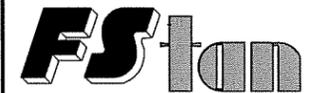
SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA
SHEET 2	
	- TITLE REVIEW



Schedule B, Section II of Fidelity National Title Insurance Company, Commitment No. 12765455, Effective Date June 10, 2011 @ 8:00am

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.
2. Rights or claims of parties in possession not shown by the public records.
3. Easements, or claims of easements, not shown by the public records.
4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
5. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.
6. Taxes and special assessments which are not shown as existing liens by the public records.
7. Taxes for the year 2011 and subsequent years, a lien not yet due and payable.
8. Mortgage from Frances Roberts, married and Kathryn Penkava, married, Williams Roberts, spouse of Frances Roberts and Roberts Penkava, spouse of Kathryn Penkava, Grantor(s), in favor of Peoples Bank, National Association, dated 09/21/2008, and recorded 09/28/2008 in Mortgage Book 649, Page 199, in the original amount of \$35,000.00. (Does apply to the proposed lease area and the proposed 30' access & utility easement)
9. Right-of-Way Easement in favor of Fleming-Mason Rural Electric Cooperative Corporation, its successors or assigns, set forth in instrument recorded on 03/13/1940 in Deed Book 89, Page 95. (Vague and ambiguous deed description - Surveyor unable to determine exact location of easement)
10. Right of Way Agreement in favor of Tennessee Gas Transmission Company, a Delaware corporation, its successors and assigns, set forth in instrument recorded on 08/15/1952 in Deed Book 131, Page 611. (Vague and ambiguous deed description - Surveyor unable to determine exact location of easement)
11. Right of Way Easement in favor of Graysan Rural Electric Cooperative Corporation, its successors and assigns, set forth in instrument recorded on 02/10/1959 in Deed Book 164, Page 85. (Vague and ambiguous deed description - Surveyor unable to determine exact location of easement)
12. Right of Way Easement in favor of Utilities Commission of the City of Vanceburg, Kentucky, a public body politic and corporate, set forth in instrument recorded on 07/13/1982 in Deed Book 332, Page 271. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
13. Deed of Easement in favor of Utilities Commission of the City of Vanceburg, Kentucky, a public body politic and corporate, set forth in instrument recorded on 11/22/1983 in Deed Book 339, Page 267. (Does not apply to the proposed lease area. Does apply to the proposed 30' access & utility easement)
14. Right of Way Easement in favor of Utilities Commission of the City of Vanceburg, a public body politic and corporate, set forth in instrument recorded on 12/14/1987 in Deed Book 366, Page 19. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
15. Right of Way Easement in favor of City of Hamilton, Ohio, set forth in instrument recorded on 05/14/1991 in Deed Book 394, Page 158. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
16. Right of Way Agreement in favor of Tennessee Gas Electric Company, a Delaware corporation, its successors and assigns, set forth in instrument recorded on 05/17/1991 in Deed Book 394, Page 218. (Does apply to the proposed lease area or the proposed 30' access & utility easement)
17. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., and assigns, set forth in instrument recorded on 06/29/1994 in Deed Book 424, Page 364. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
18. Agreement dated 11/28/1995, by and between East Kentucky Power Cooperative, Inc. and Kathryn C. Secrest, Frances Secrest Marlette, and Kathryn S. Penkava, recorded on 12/22/1995 in Deed Book 438, Page 377. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
19. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., its successors and assigns, set forth in instrument recorded on 12/22/1995 in Deed Book 438, Page 380. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
20. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., its successors and assigns, set forth in instrument recorded on 12/22/1995 in Deed Book 438, Page 383. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
21. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., its successors and assigns, set forth in instrument recorded on 12/22/1995 in Deed Book 438, Page 386. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)



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SITE NUMBER:  
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 104-00-00

PARCEL NUMBER:  
 0X

SOURCE OF TITLE:  
 DEED BOOK 411 PAGE 29 (1/2 INT.)  
 DEED BOOK 564 PAGE 523 (1/2 INT.)

DWG BY:	CHKD BY:	DATE:
KNR	FSII	05.19.11

FSTAN PROJECT NO.:  
 11-7304

SHEET 2 OF 3

REVISIONS:

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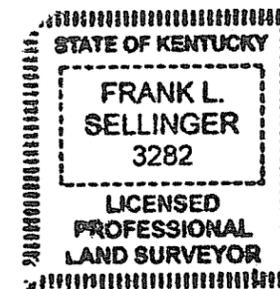


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LAND SURVEYOR'S CERTIFICATE  
 TYPE "A" SURVEY: UNADJUSTED TRAVERSE CLOSURE BETTER THAN 1 IN 15,000.  
 TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED  
 I hereby certify that this plat and survey were made under my supervision, and that the angular and linear measurements, as witnessed by monuments shown hereon, are true and correct to the best of my knowledge and belief.  
 This survey and plat meets or exceeds the minimum standards of the governing authorities.  
 This property is subject to any recorded easements or right of ways not shown hereon.  
 Frank L. Sellinger, N 5-19-11  
 Ky. Reg. No. 3282



# TOWERS AND POLES

2101 Murray St. • P.O. Box 658 • Sioux City, IA 51102 (USA)  
Ph: (712) 258-6690 • Fx: (712) 258-8250 • www.SabreTowersandPoles.com

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## Sabre Industries™ Towers and Poles

*Global Tower LLC  
195' Sabre Model Monopole*

*Site Name: Franklin Furnace*

*KY*

*Sabre Sales Order Number 48229*

*Site Number KY-5005*

*Stamped Permit Package with Foundation*

**YOUR SABRE  
REPRESENTATIVE IS**  
*James Gibson  
(800) 369-6690 ext: 11482*



**Structural Design Report**  
195' Monopole  
located at: Franklin Furnace, KY  
Site Number: KY-5005

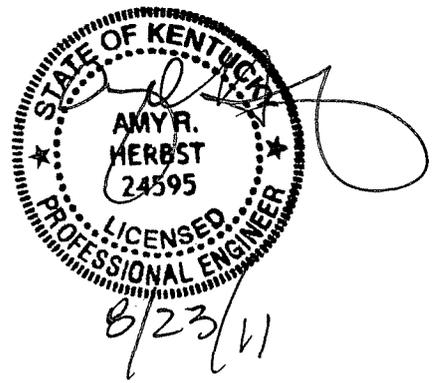
prepared for: GLOBAL TOWER LLC  
by: Sabre Towers & Poles™

Job Number: 48229

**August 18, 2011**

Monopole Profile.....	1
Foundation Design Summary.....	2
Pole Calculation.....	C1-C6
Foundation Calculations.....	A1-A2

Monopole by TRJ  
 Foundation by PER  
 Approved by ARJA



POLE SPECIFICATIONS	
POLE HEIGHT	194.00 FEET
TAPER	.1800 IN/FT
POLE SHAPE	18 SIDED POLYGON
ORIENTATION	FLAT-FLAT

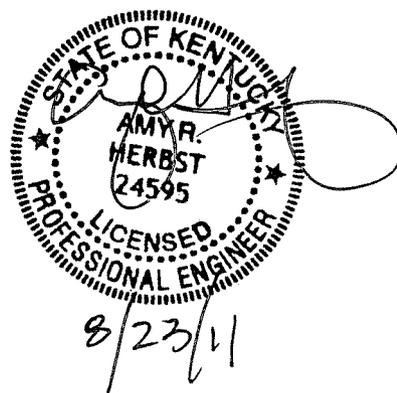
Lev	Qty	Elev ft.	Future	DESCRIPTION
1	1	192.00	12'	Low Profile Platform (R)
12	1	194.00		DBXNH-8585B-VTM
9	1	194.00		TT19-08BP111-001
6	1	194.00		RRH
1	1	194.00	F	DC6-48-60-18-8F
2	1	184.00	F	12' Low Profile Platform (R)
12	1	184.00	F	RWA-80017
3	1	174.00	F	12' Low Profile Platform (R)
12	1	174.00	F	RWA-80017
4	1	164.00	F	12' Low Profile Platform (R)
12	1	164.00	F	RWA-80017

Load Case DESCRIPTION	Wind (mph)	OLF Vert	Rad. Ice	Factors Gust	Cf	Wind (psf)
1) 3s Gusted Wind	90.0	1.20		1.10	.65	34.7
2) 3s Gusted Wind 0.9	90.0	.90		1.10	.65	34.7
3) 3s Gusted Wind&dce	30.0	1.20	.75	1.10	1.20	2.4
4) Service Loads	60.0	1.00		1.10	.65	8.6

Load Case DESCRIPTION	Res. Axial (kips)	Base Shear (kips)	React Mom (ft-k)	Disp (ft)	Top SWAY (deg)
1) 3s Gusted Wind	62.2	32.4	4964	22.4	12.60
2) 3s Gusted Wind 0.9	47.0	32.5	4793	21.3	11.92
3) 3s Gusted Wind&dce	76.1	3.5	504	2.2	1.20
4) Service Loads	50.6	8.2	1221	5.5	3.07

Sec	LENGTH (ft)	Flat-Flat TOPØ	Flat-Flat BOTØ	THICK (in)	WEIGHT (lbs)	STEEL SPEC	FINISH
1	49.25	20.25	29.11	.2500	3700	A572-65	Galv
2	53.50	27.90	37.53	.3750	7500	A572-65	Galv
3	53.50	35.83	45.46	.3750	9300	A572-65	Galv
4	53.25	43.59	53.17	.4375	14600	A572-65	Galv
TOTAL					35100		
ABolt Cluster	BoltØ	HoleØ					
AB	84.00	2.25	2.625		2200	A615-75	Galv-18"

- 1) FULL HEIGHT STEP BOLTS
- 2) ANTENNA FEED LINES RUN INSIDE POLE
- 3) THE MONOPOLE WAS DESIGNED IN ACCORDANCE WITH ANSI/TIA-222-G, STRUCTURE CLASS II, EXPOSURE CATEGORY C, TOPOGRAPHIC CATEGORY 1.



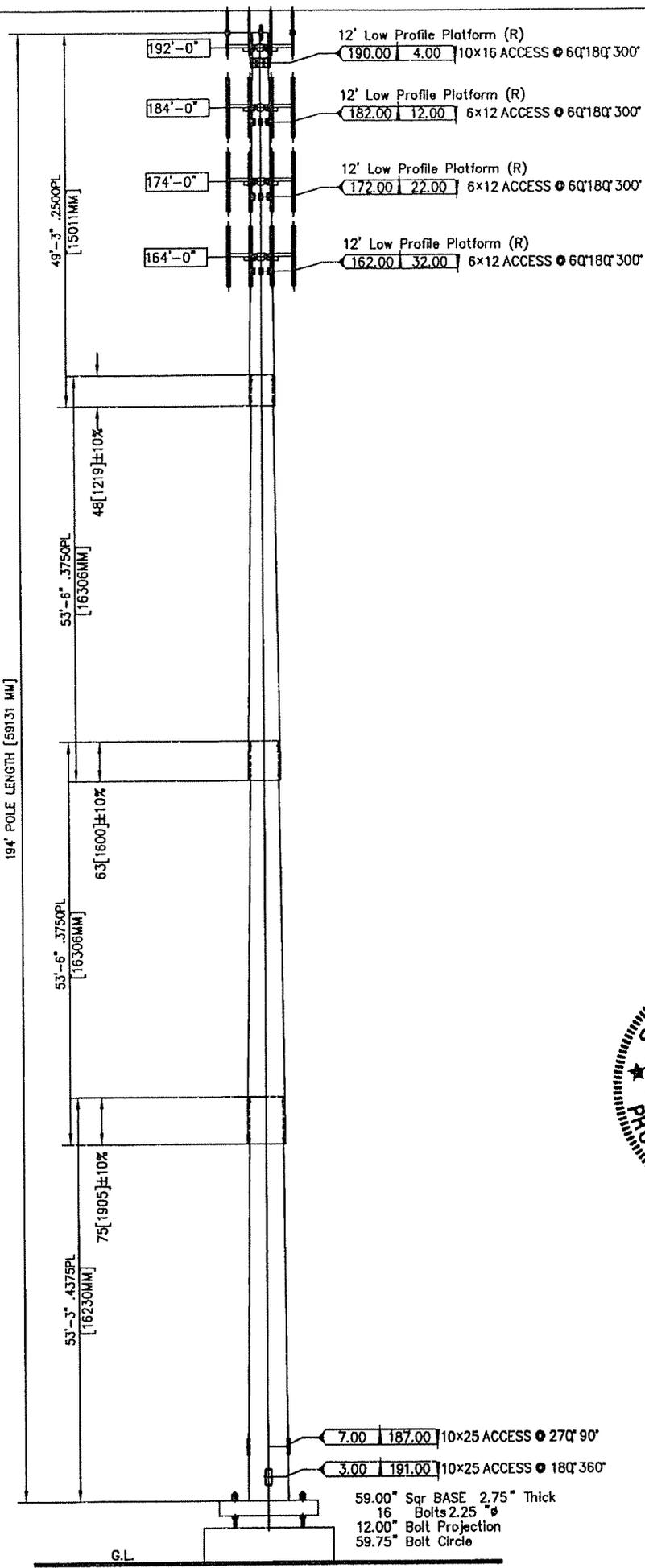
**GLOBAL TOWER LLC**

Franklin Furnace, KY  
KY-5005

195.00 MONOPOLE

**CONFIDENTIAL**  
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<b>SIZE</b>	<b>DRAWING NO.</b>	<b>REV</b>
A	48229-PE	-
<b>DATE</b>	<b>DRAWN BY</b>	<b>CHECKED BY</b>
17Aug11	-	TRJ
<b>REFERENCE DRAWING</b>	<b>SCALE</b>	<b>PAGE</b>
	N.T.S.	1



49'-3" .2500PL  
[15011MM]

48 [1219]±10%

53'-6" .3750PL  
[16306MM]

63 [1600]±10%

53'-6" .3750PL  
[16306MM]

75 [1905]±10%

53'-3" .4375PL  
[16230MM]

12' Low Profile Platform (R)  
190.00 | 4.00 | 10x16 ACCESS Ø 6Q18Q 300'

12' Low Profile Platform (R)  
182.00 | 12.00 | 6x12 ACCESS Ø 6Q18Q 300'

12' Low Profile Platform (R)  
172.00 | 22.00 | 6x12 ACCESS Ø 6Q18Q 300'

12' Low Profile Platform (R)  
162.00 | 32.00 | 6x12 ACCESS Ø 6Q18Q 300'

7.00 | 187.00 | 10x25 ACCESS Ø 27Q 90'

3.00 | 191.00 | 10x25 ACCESS Ø 18Q 360'

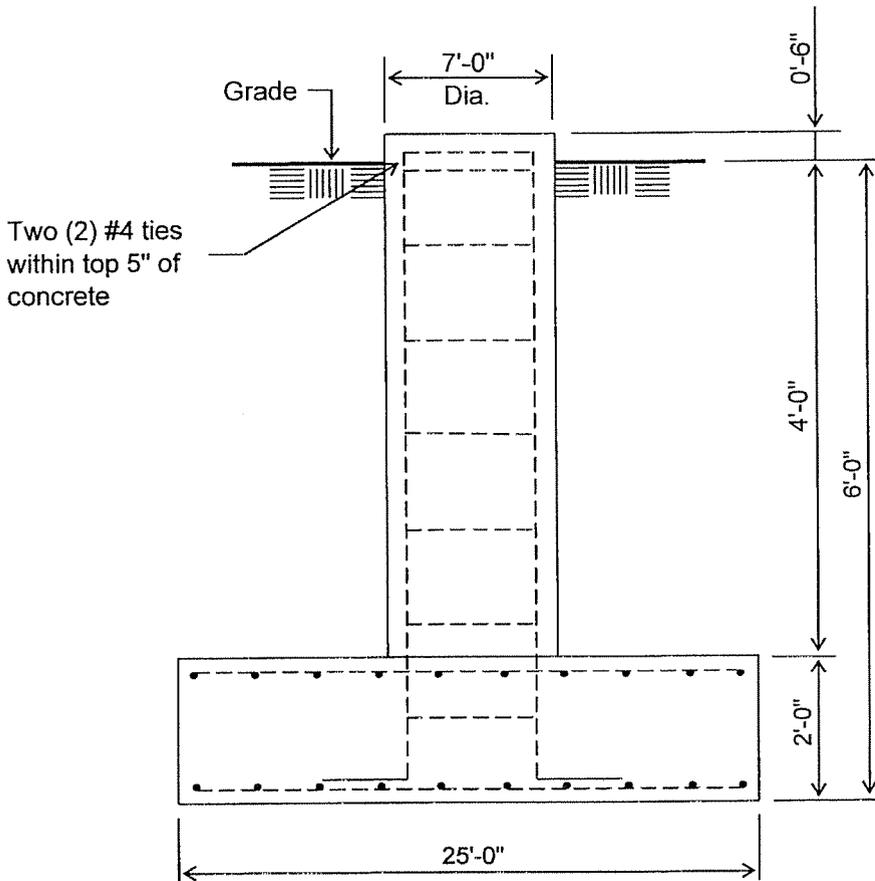
59.00" Sq BASE 2.75" Thick  
16 Bolts 2.25" Ø  
12.00" Bolt Projection  
59.75" Bolt Circle

G.L.

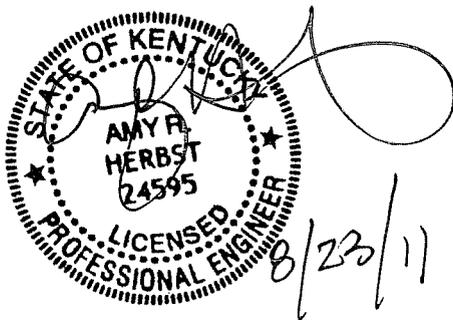
194' POLE LENGTH [59131 MM]

**Customer: GLOBAL TOWER LLC**  
**Site: Franklin Furnace, KY KY-5005**

195' Monopole at  
90 mph Wind with no ice and 30 mph Wind with 0.75 in. Ice per ANSI/TIA-222-G-2005.  
Antenna Loading per Page 1



**ELEVATION VIEW**  
(52.71 Cu. Yds. each)  
(1 REQUIRED; NOT TO SCALE)



**Notes:**

- 1). Concrete shall have a minimum 28-day compressive strength of 4000 PSI, in accordance with ACI 318-05
- 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 TEP project no. 112955.10, dated: 8/15/11
- 6). See the geotechnical report for compaction requirements, if specified.
- 7). The foundation is based on the following factored loads:  
Moment (kip-ft) = 4964.17  
Axial (kips) = 62.248  
Shear (kips) = 32.436

Rebar Schedule per Pad and Pier	
Pier	(32) #9 vertical rebar w/hooks at bottom w/#4 ties, two within top 5" of top of pier then 12" C/C
Pad	(33) #8 horizontal rebar evenly spaced each way top and bottom (132 Total)

8). This is a design drawing only. Please see final construction drawings for all installation details.

**SABRE COMMUNICATIONS CORP**  
 2101 Murray Street  
 Sioux City, IA 51101

JOB: 00-48229  
**GLOBAL TOWER LLC**  
 Franklin Furnace, KY

17-Aug-11 08:37  
 Ph 712.258.6690  
 Fx 712.258.8250

TOP DIAMETER 20.25 in. [ 20.56 in. Point-Point]  
 BOTTOM DIAMETER 53.17 in. [ 53.99 in. Point-Point]  
 POLE HEIGHT 194.00 ft. 18 SIDED FLAT ORIENTATION  
 BASE HEIGHT 1.00 ft. ABOVE GROUND  
 E-MODULUS 29000 ksi [ 12000 ksi SHEAR MODULUS]

**APPURTENANCES**

ATTACH POINTS:	NO.	X, ft	Qty	Description	Status
	1	192.00	1	User Defined Loading	Initial Appurt
	2	191.90	1	User Defined Loading	Future Appurt
	3	184.00	1	User Defined Loading	Future Appurt
	4	174.00	1	User Defined Loading	Future Appurt
	5	164.00	1	User Defined Loading	Future Appurt

Some wind forces may have been derived from full-scale wind tunnel tests.

Pole Section	Bottom X, ft.	Thick in.	Connect Type	LAP in.	Taper in/ft	Length ft.	Weight lbs	Steel Spec	Pole Finish
1	49.25	.25000	SLIP-JNT	48.	.1800	49.25	3248	A572-65	GALVANIZE
2	98.75	.37500	SLIP-JNT	63.	.1800	53.50	7006	A572-65	GALVANIZE
3	147.00	.37500	SLIP-JNT	75.	.1800	53.50	8725	A572-65	GALVANIZE
4	194.00	.43750	C-WELD		.1800	53.25	12061	A572-65	GALVANIZE

**SECTION PROPERTIES**

X, ft	UP, ft	D, in	T, in	Area in <sup>2</sup>	Iz in <sup>4</sup>	IxIy in <sup>4</sup>	SxSy in <sup>3</sup>	w/t	d/t	F <sub>y</sub> (ksi)	
194.00	.00	20.25	.2500	15.87	1604	802	78.0	12.52	81.0	65.00	TOP
192.00	2.00	20.61	.2500	16.16	1692	846	80.8	12.77	82.4	65.00	P01
191.90	2.10	20.63	.2500	16.17	1696	848	81.0	12.79	82.5	65.00	P02
186.90	7.10	21.53	.2500	16.88	1932	966	88.4	13.42	86.1	65.00	
184.00	10.00	22.05	.2500	17.30	2076	1038	92.7	13.79	88.2	65.00	P03
179.00	15.00	22.95	.2500	18.01	2346	1173	100.7	14.42	91.8	65.00	
174.00	20.00	23.85	.2500	18.73	2636	1318	108.8	15.06	95.4	65.00	P04
169.00	25.00	24.75	.2500	19.44	2948	1474	117.3	15.69	99.0	65.00	
164.00	30.00	25.65	.2500	20.15	3284	1642	126.1	16.33	102.6	65.00	P05
159.00	35.00	26.55	.2500	20.87	3646	1823	135.2	16.96	106.2	65.00	
154.00	40.00	27.45	.2500	21.58	4034	2017	144.7	17.60	109.8	65.00	
149.00	45.00	28.35	.2500	22.30	4446	2223	154.4	18.23	113.4	65.00	
148.75	45.25	28.39	.2500	22.33	4468	2234	155.0	18.26	113.6	65.00	Slip-B01
144.75	49.25	28.61	.3750	33.61	6772	3386	233.1	11.69	76.3	65.00	Slip-T02
139.75	54.25	29.51	.3750	34.68	7440	3720	248.2	12.11	78.7	65.00	
134.75	59.25	30.41	.3750	35.75	8150	4075	263.9	12.54	81.1	65.00	
129.75	64.25	31.31	.3750	36.82	8906	4453	280.1	12.96	83.5	65.00	
124.75	69.25	32.21	.3750	37.90	9706	4853	296.7	13.38	85.9	65.00	
119.75	74.25	33.11	.3750	38.97	10552	5276	313.8	13.81	88.3	65.00	
114.75	79.25	34.01	.3750	40.04	11446	5723	331.4	14.23	90.7	65.00	
109.75	84.25	34.92	.3750	41.11	12390	6195	349.5	14.65	93.1	65.00	
104.75	89.25	35.82	.3750	42.18	13384	6692	368.0	15.08	95.5	65.00	
100.50	93.50	36.58	.3750	43.09	14268	7134	384.1	15.44	97.5	65.00	Slip-B02
95.50	98.50	36.73	.3750	43.27	14448	7224	387.4	15.51	97.9	65.00	
95.25	98.75	36.78	.3750	43.32	14502	7251	388.4	15.53	98.1	65.00	Slip-T03
90.25	103.75	37.68	.3750	44.39	15602	7801	407.8	15.95	100.5	65.00	
85.25	108.75	38.58	.3750	45.47	16760	8380	427.9	16.37	102.9	65.00	
80.25	113.75	39.48	.3750	46.54	17972	8986	448.4	16.80	105.3	65.00	
75.25	118.75	40.38	.3750	47.61	19242	9621	469.3	17.22	107.7	65.00	
70.25	123.75	41.28	.3750	48.68	20570	10285	490.8	17.64	110.1	65.00	
65.25	128.75	42.18	.3750	49.75	21958	10979	512.7	18.07	112.5	65.00	
60.25	133.75	43.08	.3750	50.82	23408	11704	535.2	18.49	114.9	65.00	
55.25	138.75	43.98	.3750	51.89	24920	12460	558.1	18.91	117.3	65.00	
53.25	140.75	44.34	.3750	52.32	25540	12770	567.3	19.08	118.2	65.00	Slip-B03
48.25	145.75	44.49	.4375	61.16	29978	14989	663.7	16.17	101.7	65.00	
47.00	147.00	44.71	.4375	61.48	30440	15220	670.5	16.26	102.2	65.00	Slip-T04
42.00	152.00	45.61	.4375	62.73	32334	16167	698.2	16.62	104.3	65.00	
37.00	157.00	46.51	.4375	63.98	34306	17153	726.4	16.98	106.3	65.00	
32.00	162.00	47.41	.4375	65.22	36354	18177	755.2	17.34	108.4	65.00	
27.00	167.00	48.31	.4375	66.47	38484	19242	784.5	17.71	110.4	65.00	
22.00	172.00	49.21	.4375	67.72	40696	20348	814.4	18.07	112.5	65.00	
17.00	177.00	50.11	.4375	68.97	42990	21495	844.9	18.43	114.5	65.00	
12.00	182.00	51.01	.4375	70.22	45368	22684	875.9	18.80	116.6	65.00	
7.00	187.00	51.91	.4375	71.47	47834	23917	907.5	19.16	118.7	65.00	
2.00	192.00	52.81	.4375	72.72	50388	25194	939.6	19.52	120.7	65.00	
.00	194.00	53.17	.4375	73.22	51434	25717	952.7	19.67	121.5	65.00	BASE

**CASE - 1: 3s Gusted Wind** **ANSI-TIA-222-G**

WIND OLF	1.60	GUSTED WIND (3sec)	90.0 mph	144.8 kph
VERTICAL OLF	1.20	EXP-CAT/STRUC CLASS	C-II	
DESIGN ICE	.00 in	EXP-POWER COEFF.	.2105	
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft	
FORCE COEFF (Cf)	.65	PRESSURE @ 32.7 ft	34.7 psf	1659.0 Pa
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0	
DIRECTION FAC (Kd)	.95	CREST HEIGHT	.0 ft	
TOPOGRAPHIC CAT	1			

**APPURTENANCES**

**Sabre Areas**

#	Qty	Description	Center WEIGHT AREA		Tx-CABLE		WIND Psf	FORCES		MOM. Lg-X Ft-K
			Elev-Ft	each Lbs	each Ft^2	Type		Qty #/Ft	Tra-Y Kips	
1	1	User Defined Loading	192.0	1791	67.0		50.4	3.38	-2.1	-.2
2	1	User Defined Loading	191.9	428	15.0		50.4	.76	-.5	.0
3	1	User Defined Loading	184.0	1611	83.7		50.0	4.18	-1.9	-.2
4	1	User Defined Loading	174.0	1611	83.7		49.4	4.13	-1.9	-.2
5	1	User Defined Loading	164.0	1611	83.7		48.8	4.08	-1.9	-.2

**RESULTS**

X, ft	Kzt	WIND psf	ICE in	FORCES, kips				MOMENTS, ft-kips			F'y ksi	Inter 4.8.2
				ShearX	ShearY	AxialZ	BendX	BendY	TorqZ			
194.00	1.00	32.83	.00	.0	.01	-.1	.0	.0	.0	82.55	.000	
192.00	1.00	32.76	.00	.0	5.21	-7.6	-.3	.0	.0	82.55	.007	
191.90	1.00	32.75	.00	.0	6.29	-8.1	-.9	.0	.0	82.55	.009	
186.90	1.00	32.57	.00	.0	6.57	-8.4	-32.3	.0	.0	82.55	.066	
184.00	1.00	32.47	.00	.0	11.95	-12.3	-51.6	.0	.0	82.55	.100	
179.00	1.00	32.28	.00	.0	12.30	-12.7	-111.3	.0	.0	82.55	.188	
174.00	1.00	32.09	.00	.0	17.64	-16.7	-173.0	.0	.0	82.55	.269	
169.00	1.00	31.89	.00	.0	17.97	-17.2	-261.2	.0	.0	82.55	.372	
164.00	1.00	31.69	.00	.0	23.17	-21.1	-351.3	.0	.0	82.18	.467	
159.00	1.00	31.49	.00	.0	23.46	-21.7	-467.1	.0	.0	81.43	.581	
154.00	1.00	31.28	.00	.0	23.73	-22.3	-584.4	.0	.0	80.68	.682	
149.00	1.00	31.06	.00	.0	23.87	-22.6	-703.1	.0	.0	79.94	.774	
148.75	1.00	31.05	.00	.0	24.05	-23.2	-709.0	.0	.0	79.90	.779	
144.75	1.00	30.88	.00	.0	24.42	-24.3	-805.3	.0	.0	82.55	.568	
139.75	1.00	30.65	.00	.0	24.79	-25.3	-927.5	.0	.0	82.55	.614	
134.75	1.00	30.42	.00	.0	25.12	-26.2	-1050.8	.0	.0	82.55	.653	
129.75	1.00	30.18	.00	.0	25.46	-27.1	-1176.7	.0	.0	82.55	.689	
124.75	1.00	29.93	.00	.0	25.79	-28.0	-1304.2	.0	.0	82.55	.720	
119.75	1.00	29.68	.00	.0	26.12	-29.0	-1433.3	.0	.0	82.55	.748	
114.75	1.00	29.41	.00	.0	26.45	-30.0	-1563.3	.0	.0	82.55	.772	
109.75	1.00	29.14	.00	.0	26.78	-31.0	-1695.8	.0	.0	82.55	.794	
104.75	1.00	28.86	.00	.0	27.10	-32.1	-1830.0	.0	.0	82.55	.814	
100.50	1.00	28.61	.00	.0	27.44	-33.5	-1945.0	.0	.0	82.55	.829	
95.50	1.00	28.31	.00	.0	27.63	-34.3	-2082.5	.0	.0	82.55	.879	
95.25	1.00	28.29	.00	.0	27.81	-35.1	-2089.2	.0	.0	82.55	.880	
90.25	1.00	27.98	.00	.0	28.11	-36.4	-2228.3	.0	.0	82.55	.894	
85.25	1.00	27.65	.00	.0	28.39	-37.5	-2368.3	.0	.0	82.12	.910	
80.25	1.00	27.30	.00	.0	28.67	-38.7	-2510.8	-.1	.0	81.62	.926	
75.25	1.00	26.94	.00	.0	28.94	-39.8	-2654.2	-.1	.0	81.13	.941	
70.25	1.00	26.56	.00	.0	29.21	-41.0	-2799.2	-.1	.0	80.63	.955	
65.25	1.00	26.15	.00	.0	29.47	-42.2	-2945.0	-.1	.0	80.13	.968	
60.25	1.00	25.73	.00	.0	29.72	-43.5	-3092.5	-.1	.0	79.63	.980	
55.25	1.00	25.27	.00	.0	29.90	-44.4	-3240.8	-.1	.0	79.13	.991	
53.25	1.00	25.08	.00	.0	30.10	-45.7	-3300.8	-.1	.0	78.93	.995	
48.25	1.00	24.57	.00	.0	30.27	-46.9	-3450.8	-.1	.0	82.37	.852	
47.00	1.00	24.44	.00	.0	30.45	-48.2	-3489.2	-.1	.0	82.26	.854	
42.00	1.00	23.88	.00	.0	30.70	-50.0	-3640.8	-.1	.0	81.84	.861	
37.00	1.00	23.27	.00	.0	30.93	-51.5	-3795.0	-.1	.0	81.41	.867	
32.00	1.00	22.58	.00	.0	31.15	-53.0	-3949.2	-.1	.0	80.98	.872	
27.00	1.00	21.82	.00	.0	31.36	-54.5	-4105.0	-.1	.0	80.55	.878	
22.00	1.00	20.93	.00	.0	31.57	-56.0	-4261.7	-.1	.0	80.13	.882	
17.00	1.00	19.88	.00	.0	31.79	-57.6	-4420.0	-.1	.0	79.70	.887	
12.00	1.00	19.16	.00	.0	32.00	-59.2	-4578.3	-.1	.0	79.27	.891	
7.00	1.00	19.16	.00	.0	32.21	-60.8	-4738.3	-.1	.0	78.85	.895	
2.00	1.00	19.16	.00	.0	32.35	-62.0	-4900.0	-.1	.0	78.42	.899	
.00	1.00	19.16	.00	.0	32.44	-62.2	-4964.2	.1	.0	78.25	.900	

**DISPLACEMENTS**

ELEV X, ft	DEFLECTION feet				ROTATION, degrees			
	X	Y	Z	XY-Result	X	Y	Z	XY-Result
194.00	.00	22.40	-1.79	22.40<11.55%>	-12.60	.00	.00	12.60

**CASE - 2: 3s Gusted Wind 0.9 Dead** **ANSI-TIA-222-G**

WIND OLF	1.60	GUSTED WIND (3sec)	90.0 mph	144.8 kph
VERTICAL OLF	.90	EXP-CAT/STRUC CLASS	C-II	
DESIGN ICE	.00 in	EXP-POWER COEFF.	.2105	
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft	
FORCE COEFF (Cf)	.65	PRESSURE @ 32.7 ft	34.7 psf	1659.0 Pa
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0	
DIRECTION FAC (Kd)	.95	CREST HEIGHT	.0 ft	
TOPOGRAPHIC CAT	1			

**APPURTENANCES**

**Sabre Areas**

#	Qty	Description	Center	WEIGHT	AREA	Tx-CABLE		FORCES	MOM.		
			Elev-Ft	Lbs	Ft^2	Type	Qty #/Ft	WIND Psf	Tra-Y Kips	Ax-Z Kips	Lg-X Ft-K
1	1	User Defined Loading	192.0	1791	67.0			50.4	3.38	-1.6	-.2
2	1	User Defined Loading	191.9	428	15.0			50.4	.76	-.4	.0
3	1	User Defined Loading	184.0	1611	83.7			50.0	4.18	-1.4	-.2
4	1	User Defined Loading	174.0	1611	83.7			49.4	4.13	-1.4	-.2
5	1	User Defined Loading	164.0	1611	83.7			48.8	4.08	-1.4	-.2

**RESULTS**

X, ft	Kzt	WIND psf	ICE in	--- FORCES, kips ---			--- MOMENTS, ft-kips ---			F'y ksi	Inter 4.8.2
				ShearX	ShearY	AxiaZ	BendX	BendY	TorqZ		
194.00	1.00	32.83	.00	.0	.01	.0	.0	.0	.0	82.55	.000
192.00	1.00	32.76	.00	.0	4.68	-5.6	-.3	.0	.0	82.55	.005
191.90	1.00	32.75	.00	.0	5.72	-5.9	-.8	.0	.0	82.55	.007
186.90	1.00	32.57	.00	.0	5.98	-6.1	-29.4	.0	.0	82.55	.059
184.00	1.00	32.47	.00	.0	11.06	-8.9	-47.0	.0	.0	82.55	.089
179.00	1.00	32.28	.00	.0	11.40	-9.2	-102.3	.0	.0	82.55	.171
174.00	1.00	32.09	.00	.0	16.47	-12.0	-159.5	.0	.0	82.55	.246
169.00	1.00	31.89	.00	.0	16.80	-12.4	-241.8	.0	.0	82.55	.342
164.00	1.00	31.69	.00	.0	21.76	-15.2	-326.1	.0	.0	82.18	.431
159.00	1.00	31.49	.00	.0	22.07	-15.7	-434.9	.0	.0	81.43	.538
154.00	1.00	31.28	.00	.0	22.38	-16.2	-545.3	.0	.0	80.68	.634
149.00	1.00	31.06	.00	.0	22.54	-16.4	-657.2	.0	.0	79.94	.721
148.75	1.00	31.05	.00	.0	22.71	-16.8	-662.8	.0	.0	79.90	.725
144.75	1.00	30.88	.00	.0	23.07	-17.7	-753.6	.0	.0	82.55	.530
139.75	1.00	30.65	.00	.0	23.44	-18.5	-869.2	.0	.0	82.55	.573
134.75	1.00	30.42	.00	.0	23.80	-19.1	-985.8	.0	.0	82.55	.611
129.75	1.00	30.18	.00	.0	24.15	-19.8	-1105.0	.0	.0	82.55	.645
124.75	1.00	29.93	.00	.0	24.51	-20.6	-1225.8	.0	.0	82.55	.675
119.75	1.00	29.68	.00	.0	24.87	-21.3	-1348.3	.0	.0	82.55	.702
114.75	1.00	29.41	.00	.0	25.23	-22.1	-1472.5	.0	.0	82.55	.725
109.75	1.00	29.14	.00	.0	25.59	-22.9	-1599.2	.0	.0	82.55	.747
104.75	1.00	28.86	.00	.0	25.94	-23.8	-1726.7	.0	.0	82.55	.766
100.50	1.00	28.61	.00	.0	26.30	-24.8	-1837.5	.0	.0	82.55	.781
95.50	1.00	28.31	.00	.0	26.50	-25.4	-1968.3	.0	.0	82.55	.829
95.25	1.00	28.29	.00	.0	26.69	-26.0	-1975.0	.0	.0	82.55	.830
90.25	1.00	27.98	.00	.0	27.04	-27.1	-2108.3	.0	.0	82.55	.843
85.25	1.00	27.65	.00	.0	27.37	-27.9	-2244.2	.0	.0	82.12	.860
80.25	1.00	27.30	.00	.0	27.70	-28.8	-2380.8	.0	.0	81.62	.876
75.25	1.00	26.94	.00	.0	28.03	-29.7	-2519.2	-.1	.0	81.13	.891
70.25	1.00	26.56	.00	.0	28.35	-30.7	-2659.2	-.1	.0	80.63	.905
65.25	1.00	26.15	.00	.0	28.67	-31.6	-2800.8	-.1	.0	80.13	.918
60.25	1.00	25.73	.00	.0	28.99	-32.6	-2944.2	-.1	.0	79.63	.930
55.25	1.00	25.27	.00	.0	29.21	-33.3	-3089.2	-.1	.0	79.13	.942
53.25	1.00	25.08	.00	.0	29.44	-34.3	-3147.5	-.1	.0	78.93	.947
48.25	1.00	24.57	.00	.0	29.65	-35.2	-3295.0	-.1	.0	82.37	.812
47.00	1.00	24.44	.00	.0	29.86	-36.2	-3332.5	-.1	.0	82.26	.814
42.00	1.00	23.88	.00	.0	30.17	-37.6	-3481.7	-.1	.0	81.84	.821
37.00	1.00	23.27	.00	.0	30.46	-38.7	-3632.5	-.1	.0	81.41	.827
32.00	1.00	22.58	.00	.0	30.75	-39.9	-3785.0	-.1	.0	80.98	.834
27.00	1.00	21.82	.00	.0	31.03	-41.0	-3938.3	-.1	.0	80.55	.840
22.00	1.00	20.93	.00	.0	31.31	-42.2	-4093.3	-.1	.0	80.13	.845
17.00	1.00	19.88	.00	.0	31.60	-43.4	-4250.0	-.1	.0	79.70	.850
12.00	1.00	19.16	.00	.0	31.88	-44.7	-4408.3	-.1	.0	79.27	.856
7.00	1.00	19.16	.00	.0	32.17	-45.9	-4567.5	-.1	.0	78.85	.860
2.00	1.00	19.16	.00	.0	32.37	-46.8	-4728.3	-.1	.0	78.42	.865
.00	1.00	19.16	.00	.0	32.46	-47.0	-4793.3	.1	.0	78.25	.867

**DISPLACEMENTS**

ELEV X, ft	DEFLECTION feet				ROTATION, degrees			
	X	Y	Z	XY-Result	X	Y	Z	XY-Result
194.00	.00	21.31	-1.61	21.31<10.98%>	-11.92	.00	.00	11.92

SABRE COMMUNICATIONS CORP  
 2101 Murray Street  
 Sioux City, IA 51101

JOB: 00-48229  
 GLOBAL TOWER LLC  
 Franklin Furnace, KY

17-Aug-11 08:37  
 Ph 712.258.6690  
 Fx 712.258.8250

CASE - 3: 3s Gusted Wind&Ice

ANSI-TIA-222-G

WIND OLF	1.00	GUSTED WIND (3sec)	30.0 mph	48.3 kph
VERTICAL OLF	1.20	EXP-CAT/STRUC CLASS	C-II	
DESIGN ICE	.75 in	EXP-POWER COEFF.	.2105	
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft	
FORCE COEFF (Cf)	1.20	PRESSURE @ 32.7 ft	2.4 psf	115.2 Pa
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0	
DIRECTION FAC (Kd)	.95	CREST HEIGHT	.0 ft	
TOPOGRAPHIC CAT	1			

APPURTENANCES

Sabre Areas

#	Qty	Description	Center Elev-Ft	WEIGHT each Lbs	AREA each Ft^2	Tx-CABLE		WIND Psf	FORCES		MOM. Lg-X Ft-K
						Type	Qty #/Ft		Tra-Y Kips	Ax-Z Kips	
1	1	User Defined Loading	192.0	1970	73.7			3.5	.26	-2.4	.0
2	1	User Defined Loading	191.9	470	16.5			3.5	.06	-.6	.0
3	1	User Defined Loading	184.0	1772	92.1			3.5	.32	-2.1	.0
4	1	User Defined Loading	174.0	1772	92.1			3.4	.32	-2.1	.0
5	1	User Defined Loading	164.0	1772	92.1			3.4	.31	-2.1	.0

RESULTS

X, ft	Kzt	WIND psf	ICE in	--- FORCES, kips ---			--- MOMENTS, ft-kips ---			F'y ksi	Inter 4.8.2
				ShearX	ShearY	AxiaZ	BendX	BendY	TorqZ		
194.00	1.00	4.21	1.79	.0	.00	-.1	.0	.0	.0	82.55	.000
192.00	1.00	4.20	1.79	.0	.45	-8.8	.0	.0	.0	82.55	.007
191.90	1.00	4.20	1.79	.0	.56	-9.7	-.1	.0	.0	82.55	.008
186.90	1.00	4.18	1.78	.0	.60	-10.2	-2.9	.0	.0	82.55	.013
184.00	1.00	4.16	1.78	.0	1.07	-15.5	-4.6	.0	.0	82.55	.020
179.00	1.00	4.14	1.78	.0	1.13	-16.2	-10.0	.0	.0	82.55	.028
174.00	1.00	4.11	1.77	.0	1.59	-21.6	-15.6	.0	.0	82.55	.039
169.00	1.00	4.09	1.77	.0	1.65	-22.2	-23.6	.0	.0	82.55	.048
164.00	1.00	4.06	1.76	.0	2.10	-27.5	-31.9	.0	.0	82.18	.059
159.00	1.00	4.04	1.76	.0	2.15	-28.3	-42.4	.0	.0	81.43	.070
154.00	1.00	4.01	1.75	.0	2.20	-29.0	-53.1	.0	.0	80.68	.079
149.00	1.00	3.98	1.75	.0	2.22	-29.4	-64.1	.0	.0	79.94	.088
148.75	1.00	3.98	1.74	.0	2.25	-30.0	-64.7	.0	.0	79.90	.088
144.75	1.00	3.96	1.74	.0	2.30	-31.3	-73.7	.0	.0	82.55	.064
139.75	1.00	3.93	1.73	.0	2.36	-32.5	-85.2	.0	.0	82.55	.068
134.75	1.00	3.90	1.73	.0	2.41	-33.6	-97.0	.0	.0	82.55	.072
129.75	1.00	3.87	1.72	.0	2.47	-34.7	-109.0	.0	.0	82.55	.076
124.75	1.00	3.84	1.71	.0	2.52	-35.8	-121.3	.0	.0	82.55	.079
119.75	1.00	3.80	1.71	.0	2.57	-37.0	-134.0	.0	.0	82.55	.082
114.75	1.00	3.77	1.70	.0	2.63	-38.2	-146.8	.0	.0	82.55	.084
109.75	1.00	3.74	1.69	.0	2.68	-39.4	-159.9	.0	.0	82.55	.087
104.75	1.00	3.70	1.69	.0	2.73	-40.8	-173.3	.0	.0	82.55	.089
100.50	1.00	3.67	1.68	.0	2.78	-42.3	-184.9	.0	.0	82.55	.091
95.50	1.00	3.63	1.67	.0	2.80	-43.2	-198.8	.0	.0	82.55	.096
95.25	1.00	3.63	1.67	.0	2.83	-44.2	-199.5	.0	.0	82.55	.097
90.25	1.00	3.59	1.66	.0	2.88	-45.7	-213.7	.0	.0	82.55	.098
85.25	1.00	3.54	1.65	.0	2.92	-47.0	-228.1	.0	.0	82.12	.101
80.25	1.00	3.50	1.64	.0	2.97	-48.4	-242.7	.0	.0	81.62	.103
75.25	1.00	3.45	1.63	.0	3.01	-49.8	-257.5	.0	.0	81.62	.103
70.25	1.00	3.40	1.62	.0	3.05	-51.2	-272.6	.0	.0	80.63	.106
65.25	1.00	3.35	1.61	.0	3.09	-52.7	-287.8	.0	.0	80.13	.108
60.25	1.00	3.30	1.60	.0	3.13	-54.1	-303.3	.0	.0	79.63	.110
55.25	1.00	3.24	1.58	.0	3.16	-55.3	-318.9	.0	.0	79.13	.111
53.25	1.00	3.21	1.58	.0	3.19	-56.8	-325.3	.0	.0	78.93	.112
48.25	1.00	3.15	1.56	.0	3.22	-58.1	-341.3	.0	.0	82.37	.096
47.00	1.00	3.13	1.56	.0	3.24	-59.6	-345.3	.0	.0	82.26	.097
42.00	1.00	3.06	1.54	.0	3.28	-61.7	-361.4	.0	.0	81.84	.098
37.00	1.00	2.98	1.52	.0	3.32	-63.4	-377.8	.0	.0	81.41	.099
32.00	1.00	2.90	1.50	.0	3.35	-65.2	-394.4	.0	.0	80.98	.100
27.00	1.00	2.80	1.48	.0	3.38	-67.0	-411.2	.0	.0	80.55	.101
22.00	1.00	2.68	1.45	.0	3.41	-68.9	-428.1	.0	.0	80.13	.102
17.00	1.00	2.55	1.41	.0	3.45	-70.7	-445.2	.0	.0	79.70	.102
12.00	1.00	2.46	1.37	.0	3.48	-72.6	-462.4	.0	.0	79.27	.103
7.00	1.00	2.46	1.30	.0	3.51	-74.5	-479.8	.0	.0	78.85	.104
2.00	1.00	2.46	1.18	.0	3.53	-75.8	-497.3	.0	.0	78.42	.105
.00	1.00	2.46	1.06	.0	3.54	-76.1	-504.3	.0	.0	78.25	.105

DISPLACEMENTS

ELEV X, ft	DEFLECTION feet				ROTATION, degrees			
	X	Y	Z	XY-Result	X	Y	Z	XY-Result
194.00	.00	2.19	-.02	2.19< 1.13%>	-1.20	.00	.00	1.20

**CASE - 4: Service Loads**

**ANSI-TIA-222-G**

WIND OLF	1.00	GUSTED WIND (3sec)	60.0 mph	96.6 kph
VERTICAL OLF	1.00	EXP-CAT/STRUC CLASS	C-II	
DESIGN ICE	.00 in	EXP-POWER COEFF.	.2105	
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft	
FORCE COEFF (Cf)	.65	PRESSURE @ 32.7 ft	8.6 psf	412.3 Pa
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0	
DIRECTION FAC (Kd)	.85	CREST HEIGHT	.0 ft	
TOPOGRAPHIC CAT	1			

**APPURTENANCES**

**Sabre Areas**

#	Qty	Description	Center Line Elev-Ft	WEIGHT each Lbs	AREA each Ft^2	Tx-CABLE Type	Qty #/Ft	WIND Psf	FORCES Tra-Y Kips	AX-Z Kips	MOM. Lg-X Ft-K
1	1	User Defined Loading	192.0	1791	67.0			12.5	.84	-1.8	.0
2	1	User Defined Loading	191.9	428	15.0			12.5	.19	-.4	.0
3	1	User Defined Loading	184.0	1611	83.7			12.4	1.04	-1.6	-.1
4	1	User Defined Loading	174.0	1611	83.7			12.3	1.03	-1.6	-.1
5	1	User Defined Loading	164.0	1611	83.7			12.1	1.01	-1.6	-.1

**RESULTS**

X, ft	Kzt	WIND psf	ICE in	FORCES, kips			MOMENTS, ft-kips			F'y ksi	Inter 4.8.2
				ShearX	ShearY	AxiaZ	BendX	BendY	TorqZ		
194.00	1.00	8.16	.00	.00	.00	-.1	.0	.0	.0	82.55	.000
192.00	1.00	8.14	.00	.00	1.23	-7.1	-.1	.0	.0	82.55	.006
191.90	1.00	8.14	.00	.00	1.50	-7.6	-.2	.0	.0	82.55	.007
186.90	1.00	8.10	.00	.00	1.57	-7.8		.0	.0	82.55	.020
184.00	1.00	8.07	.00	.00	2.89	-11.9	-12.3	.0	.0	82.55	.031
179.00	1.00	8.02	.00	.00	2.97	-12.2	-26.8	.0	.0	82.55	.052
174.00	1.00	7.98	.00	.00	4.28	-16.3	-41.7	.0	.0	82.55	.074
169.00	1.00	7.93	.00	.00	4.37	-16.6	-63.1	.0	.0	82.55	.098
164.00	1.00	7.88	.00	.00	5.64	-20.6	-85.0	.0	.0	82.18	.123
159.00	1.00	7.83	.00	.00	5.71	-20.9	-113.2	.0	.0	81.43	.151
154.00	1.00	7.77	.00	.00	5.78	-21.3	-141.8	.0	.0	80.68	.176
149.00	1.00	7.72	.00	.00	5.82	-21.5	-170.7	.0	.0	79.94	.198
148.75	1.00	7.72	.00	.00	5.86	-21.9	-172.1	.0	.0	79.90	.199
144.75	1.00	7.67	.00	.00	5.95	-22.7	-195.5	.0	.0	82.55	.145
139.75	1.00	7.62	.00	.00	6.04	-23.5	-225.3	.0	.0	82.55	.156
134.75	1.00	7.56	.00	.00	6.13	-24.1	-255.5	.0	.0	82.55	.165
129.75	1.00	7.50	.00	.00	6.21	-24.7	-286.1	.0	.0	82.55	.174
124.75	1.00	7.44	.00	.00	6.30	-25.4	-317.2	.0	.0	82.55	.182
119.75	1.00	7.38	.00	.00	6.38	-26.1	-348.7	.0	.0	82.55	.188
114.75	1.00	7.31	.00	.00	6.47	-26.7	-380.6	.0	.0	82.55	.195
109.75	1.00	7.24	.00	.00	6.55	-27.5	-412.9	.0	.0	82.55	.200
104.75	1.00	7.17	.00	.00	6.63	-28.3	-445.7	.0	.0	82.55	.205
100.50	1.00	7.11	.00	.00	6.72	-29.3	-473.8	.0	.0	82.55	.208
95.50	1.00	7.04	.00	.00	6.77	-29.9	-507.4	.0	.0	82.55	.221
95.25	1.00	7.03	.00	.00	6.81	-30.5	-509.1	.0	.0	82.55	.221
90.25	1.00	6.95	.00	.00	6.90	-31.4	-543.2	.0	.0	82.55	.225
85.25	1.00	6.87	.00	.00	6.97	-32.2	-577.7	.0	.0	82.12	.229
80.25	1.00	6.79	.00	.00	7.05	-33.0	-612.5	.0	.0	81.62	.233
75.25	1.00	6.70	.00	.00	7.12	-33.8	-647.8	.0	.0	81.13	.237
70.25	1.00	6.60	.00	.00	7.20	-34.7	-683.4	.0	.0	80.63	.240
65.25	1.00	6.50	.00	.00	7.27	-35.5	-719.4	.0	.0	80.13	.243
60.25	1.00	6.39	.00	.00	7.35	-36.4	-755.8	.0	.0	79.63	.246
55.25	1.00	6.28	.00	.00	7.40	-37.1	-792.5	.0	.0	79.13	.249
53.25	1.00	6.23	.00	.00	7.45	-38.1	-807.3	.0	.0	78.93	.251
48.25	1.00	6.11	.00	.00	7.50	-39.0	-844.2	.0	.0	82.37	.215
47.00	1.00	6.07	.00	.00	7.55	-40.0	-854.2	.0	.0	82.26	.215
42.00	1.00	5.93	.00	.00	7.62	-41.4	-891.7	.0	.0	81.84	.217
37.00	1.00	5.78	.00	.00	7.69	-42.4	-930.0	.0	.0	81.41	.219
32.00	1.00	5.61	.00	.00	7.76	-43.6	-968.3	.0	.0	80.98	.220
27.00	1.00	5.42	.00	.00	7.82	-44.7	-1006.7	.0	.0	80.55	.222
22.00	1.00	5.20	.00	.00	7.89	-45.9	-1045.8	.0	.0	80.13	.223
17.00	1.00	4.94	.00	.00	7.95	-47.1	-1085.8	.0	.0	79.70	.225
12.00	1.00	4.76	.00	.00	8.02	-48.3	-1125.0	.0	.0	79.27	.226
7.00	1.00	4.76	.00	.00	8.08	-49.5	-1165.0	.0	.0	78.85	.227
2.00	1.00	4.76	.00	.00	8.13	-50.4	-1205.8	.0	.0	78.42	.228
.00	1.00	4.76	.00	.00	8.15	-50.6	-1221.7	.0	.0	78.25	.228

**DISPLACEMENTS**

ELEV X, ft	DEFLECTION feet			ROTATION, degrees			MicroW Allow	
	X	Y	Z	XY-Result	X	Y	Z	
194.00	.00	5.50	-.11	5.50 < 2.83%	-3.07	.00	.00	3.07

SABRE COMMUNICATIONS CORP  
 2101 Murray Street  
 Sioux City, IA 51101

JOB: 00-48229  
 GLOBAL TOWER LLC  
 Franklin Furnace, KY

17-Aug-11 08:37  
 Ph 712.258.6690  
 Fx 712.258.8250

SHAPE: 18 SIDED POLYGON with FLAT-FLAT ORIENTATION  
 BOLTS: QUADRANT SPACED BOLTS 6.00 in. ON CENTER  
 LOCATE:

**POLE DATA**

DIAMETER =	53.17 in.	BASE	AXIAL FORCE=	-62.2 kips	Vert
PLATE =	.4375 in.	ACTIONS	SHEAR X =	20.5 kips	Long
TAPER =	.1800 in/ft		SHEAR Y =	25.1 kips	Tran
POLE Fy =	65.00 ksi		X-AXIS MOM =	3509.7 ft-kips	Tran
			Y-Axis MOM =	3509.7 ft-kips	Long
			Z-Axis MOM =	.0 ft-kips	Vert

**DESIGN CASE = 1 3s Gusted Wind**

Design: ANY Orientation Reactions at 45.00 deg to X-AXIS

**BOLT LOADS**

	AXIAL - COMPRESSION	=	253.14 kips	
	AXIAL - TENSION	=	245.36 kips	
	SHEAR	=	2.85 kips	
AXIAL	STRESS	=	77.89 ksi	
SHEAR	STRESS	=	.93 ksi	
YIELD	STRENGTH Fy	=	75.00 ksi	
ULT.	STRENGTH Fu	=	100.00 ksi	Interaction
ALLOW	STRESS Fa [ .80 x 1.00]	=	80.00 ksi	.997 TIA-G
	SHEAR Fv [ .80 x .40]	=	32.00 ksi	
	TENSION AREA REQUIRED	=	3.16 in <sup>2</sup>	
	TENSION AREA FURNISHED	=	3.25 in <sup>2</sup>	
	ROOT AREA FURNISHED	=	3.07 in <sup>2</sup>	

**A615 ::: ANCHOR BOLT DESIGN USED**

16 Bolts on a 59.750 in. Bolt Circle SHIP  
 2.250 in. Diameter 67.13 in. Embedded (lbs)  
 12.00 in. Exposed 84.00 in. Total Length 2175

**CONCRETE - Fc= 4000 psi**

ANCHOR BOLTS are STRAIGHT w\ UPLIFT NUT

**BASE PLATE**

[Bend Model: Flat- 17]  
 YIELD STRENGTH = 50.0 ksi  
 BEND LINE WIDTH = 30.4 in.  
 PLATE MOMENT = 2385.5 in-k  
 THICKNESS REQD = 2.640 in.  
 BENDING STRESS = 41.5 ksi  
 ALLOWABLE STRESS = 45.0 ksi  
 [Fy x .90 x 1.00]

**BASE PLATE USED**

2.75 in. THICK SHIP  
 59.00 in. SQUARE (lbs)  
 40.75 in. CENTER HOLE 1397  
 12.00 in. CORNER CLIP

**LOAD CASE SUMMARY**

LC	FORCES-(kips)			MOMENTS-(ft-k)			ABolt-Str		Plate-Str		Design Code
	Axial	ShearX	ShearY	X-axis	Y-axis	TorQ	CSR	ksi	Actual	Allow	
1	62.2	20.5	25.1	3139	3844	0	.997	75.00	41.49	45.00	TIA-G
2	47.0	20.5	25.1	3031	3712	0	.960	75.00	39.92	45.00	TIA-G
3	76.1	2.2	2.7	319	390	0	.118	75.00	4.95	45.00	TIA-G
4	50.6	5.2	6.3	772	946	0	.254	75.00	10.58	45.00	TIA-G

**MAT FOUNDATION DESIGN BY SABRE TOWERS & POLES**

195' Monopole GLOBAL TOWER LLC Franklin Furnace, KY (48229) 8-18-11 REB

**Overall Loads:**

Factored Moment (ft-kips)	4964.17
Factored Axial (kips)	62.248
Factored Shear (kips)	32.436
Bearing Design Strength (ksf)	8.55
Water Table Below Grade (ft)	999
Width of Mat (ft)	25
Thickness of Mat (ft)	2
Depth to Bottom of Slab (ft)	6
Quantity of Bolts in Bolt Circle	16
Bolt Circle Diameter (in)	59.75
Top of Concrete to Top of Bottom Threads (in)	60
Diameter of Pier (ft)	7
Ht. of Pier Above Ground (ft)	0.5
Ht. of Pier Below Ground (ft)	4
Quantity of Bars in Mat	33
Bar Diameter in Mat (in)	1
Area of Bars in Mat (in <sup>2</sup> )	25.92
Spacing of Bars in Mat (in)	9.16
Quantity of Bars Pier	32
Bar Diameter in Pier (in)	1.128
Tie Bar Diameter in Pier (in)	0.5
Spacing of Ties (in)	12
Area of Bars in Pier (in <sup>2</sup> )	31.98
Spacing of Bars in Pier (in)	7.45
f <sub>c</sub> (ksi)	4
f <sub>y</sub> (ksi)	60
Unit Wt. of Soil (kcf)	0.12
Unit Wt. of Concrete (kcf)	0.15

Max. Net Bearing Press. (ksf)	3.69
Ultimate Bearing Pressure (ksf)	11.40
Bearing Φs	0.75

Minimum Pier Diameter (ft)	6.48
Equivalent Square b (ft)	6.20

Recommended Spacing (in)	6 to 12
--------------------------	---------

Minimum Pier A <sub>s</sub> (in <sup>2</sup> )	27.71
Recommended Spacing (in)	6 to 12

Volume of Concrete (yd<sup>3</sup>) 52.71

**Two-Way Shear Action:**

Average d (in)	20
φV <sub>c</sub> (kips)	1239.8
φV <sub>c</sub> = φ(2 + 4/β <sub>c</sub> )f <sub>c</sub> <sup>1/2</sup> b <sub>o</sub> d	1859.8
φV <sub>c</sub> = φ(α <sub>s</sub> d/b <sub>o</sub> + 2)f <sub>c</sub> <sup>1/2</sup> b <sub>o</sub> d	1378.9
φV <sub>c</sub> = φ4f <sub>c</sub> <sup>1/2</sup> b <sub>o</sub> d	1239.8
Shear perimeter, b <sub>o</sub> (in)	326.73
β <sub>c</sub>	1

V <sub>u</sub> (kips)	93.4
-----------------------	------

**One-Way Shear:**

φV <sub>c</sub> (kips)	645.1
------------------------	-------

V <sub>u</sub> (kips)	347.4
-----------------------	-------

**Stability:**

Overturning Design Strength (ft-k)	5224.2
------------------------------------	--------

Total Applied M (ft-k)	5175.0
------------------------	--------

**MAT FOUNDATION DESIGN BY SABRE TOWERS & POLES (CONTINUED)**

195' Monopole GLOBAL TOWER LLC Franklin Furnace, KY (48229) 8-18-11 REB

**Pier Design:**

$\phi V_n$ (kips)	610.3	$V_u$ (kips)	32.4
$\phi V_c = \phi 2(1 + N_u / (2000 A_g)) f_c^{1/2} b_w d$	610.3		
$V_s$ (kips)	0.0	*** $V_s \text{ max} = 4 f_c^{1/2} b_w d$ (kips)	1428.0
Maximum Spacing (in)	5.61	(Only if Shear Ties are Required)	
Actual Hook Development (in)	19.00	Req'd Hook Development $l_{dh}$ (in)	14.98
		*** Ref. To Spacing Requirements ACI 11.5.4.3	

**Flexure in Slab:**

$\phi M_n$ (ft-kips)	2243.7	$M_u$ (ft-kips)	2206.3
$a$ (in)	1.52		
Steel Ratio	0.00432		
$\beta_1$	0.85		
Maximum Steel Ratio (.75 $p_b$ )	0.0214		
Minimum Steel Ratio	0.0018		
Rebar Development in Pad (in)	147.00	Required Development in Pad (in)	46.61

Condition	1 is OK, 0 Fails
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Interaction Diagram Visual Check	1
Two-Way Shear Action	1
One-Way Shear Action	1
Overturning	1
Flexure	1
Steel Ratio	1
Length of Development in Pad	1
Hook Development	1





## TABLE OF CONTENTS

- 1) PROJECT DESCRIPTION**
- 2) SITE EXPLORATION**
- 3) SITE CONDITIONS**
- 4) SUBSURFACE CONDITIONS**
  - 4.1) Soil
  - 4.2) Rock
  - 4.3) Subsurface Water
  - 4.4) Frost
- 5) TOWER FOUNDATION DESIGN**
  - 5.1) Shallow Foundation
    - Table 1 - Shallow Foundation Analysis Parameters
  - 5.2) Drilled Shaft Foundation
- 6) SOIL RESISTIVITY**
- 7) CONSTRUCTION CONSIDERATIONS - SHALLOW FOUNDATION**
  - 7.1) Excavation
  - 7.2) Foundation Evaluation/Subgrade Preparation
  - 7.3) Fill Placement and Compaction
  - 7.4) Reuse of Excavated Soil
- 8) APPENDIX A**
  - Boring Layout
- 9) APPENDIX B**
  - Boring Log

## 1) PROJECT DESCRIPTION

Based on the preliminary drawings, it is understood a monopole communications tower will be constructed at the referenced site. The structure loads will be provided by the tower manufacturer.

## 2) SITE EXPLORATION

The field exploration included the performance of one soil test boring (B-1) to the auger refusal depth of 16 feet (bgs) at the approximate centerline of the proposed monopole tower. The boring was performed by an ATV mounted drill rig using continuous flight hollow stem augers to advance the hole. Split-spoon samples and Standard Penetration Resistance Values (N-values) were obtained in accordance with ASTM D 1586 at a frequency of 5 samples to auger refusal.

The Split-spoon samples were transported to the TEP laboratory where they were classified by a Geotechnical Engineer in general accordance with the Unified Soil Classification System (USCS), using visual-manual identification procedures (ASTM D 2488).

A Boring Location Plan showing the approximate boring location, a Boring Log presenting the subsurface information obtained and a brief guide to interpreting the boring log are included in the Appendix.

## 3) SITE CONDITIONS

The site is located off Grays Branch Road in South Shore, Greenup County, Kentucky. The proposed tower and compound are to be located on a mountain ridge in a wooded area. The ground topography is sloping.

## 4) SUBSURFACE CONDITIONS

The following description of subsurface conditions is brief and general. For more detailed information, the individual Boring Log contained in Appendix B - Boring Log may be consulted.

### 4.1) Soil

The USCS classification of the materials encountered in the boring include CH, CL and weathered shale. The Standard Penetration Resistance ("N" Values) recorded in the materials ranged from 13 blows per foot of penetration to 50 blows per 2 inches of penetration.

### 4.2) Rock

Weathered shale encountered at a depth of 8.5 feet (bgs) in the boring. Refusal of auger advancement was encountered at a depth of 16.5 feet (bgs) in the boring.

### 4.3) Subsurface Water

Subsurface water was not encountered in the boring at the time of drilling. It should be noted the subsurface water level will fluctuate during the year, due to seasonal variations and construction activity in the area.

### 4.4) Frost

The TIA frost depth for Greenup County Kentucky is 30 inches.



## 5) TOWER FOUNDATION DESIGN

Based on the boring data and the shallow depth of auger refusal, it is the opinion of TEP that a pier extending to a single large mat foundation can be used to support the new tower. The following presents TEP's conclusions and recommendations regarding the foundation type.

### 5.1) Shallow Foundation

The foundation should bear a minimum of 2.5 feet below the ground surface to penetrate the frost depth and with sufficient depth to withstand the overturning of the tower. To resist the overturning moment, the weight of the concrete and any soil directly above the foundation can be used. A friction factor of 0.30 can be utilized at this depth. The values are based on the current ground surface elevation.

**Table 1 - Shallow Foundation Analysis Parameters**

Depth		Soil	Static Bearing <sup>1</sup> (psf)	Cohesion <sup>2</sup> (psf)	Friction Angle <sup>2</sup> (degrees)	Effective Unit Weight (pcf)
Top	Bottom					
0	3.5	CH	4175	2500	-	120
3.5	6	CL	4400	3900	-	120
6	8.5	CH	4275	2000	-	120
8.5	13.5	Shale <sup>3</sup>	4750	-	35	130
13.5	16.5	Shale <sup>3</sup>	5075	-	35	130

Notes:

- 1) The bearing values provided are net allowable with a minimum factor of safety of 2 with anticipated settlement less than 1 inch. Bearing may be increased by 1/3 for transient loading (e.g. wind or earthquake loading)
- 2) These values should be considered ultimate soil parameters
- 3) Cohesion values are not provided because materials were too weathered to recover samples for unconfined compressive strength testing



## 5.2) Drilled Shaft Foundation

A drilled shaft foundation is not recommended for this site. See Section 5.1) for shallow foundation design parameters.

## 6) SOIL RESISTIVITY

Soil resistivity was performed at the TEP laboratory in accordance with ASTM G187-05 (Standard Test Method for Measurement of Soil Resistivity Using the Two Electrode Soil Box Method). Test results indicated a result of 13,000 ohms/cm.



## 7) CONSTRUCTION CONSIDERATIONS - SHALLOW FOUNDATION

### 7.1) Excavation

The boring data indicates excavation to the expected subgrade level for the shallow foundation will extend through clay and weathered shale. A large tracked excavator should be able to remove the clay materials with minimal difficulty. A large tracked excavator with rock teeth and/or a pneumatic hammer may be necessary to remove the shale materials with some difficulty. TEP anticipates the depth to the surface of the weathered rock will vary outside of the boring location. Boulders and bedrock outcroppings are common to this geographic region and may also be encountered in the excavation area.

Excavations should be sloped or shored in accordance with local, state and federal regulations, including OSHA (29 CFR Part 1926) excavation trench safety standards. It is the responsibility of the contractor for site safety. This information is provided as a service and under no circumstance should TEP be assumed responsible for construction site safety.

### 7.2) Foundation Evaluation/Subgrade Preparation

After excavation to the design elevation for the footing, the materials should be evaluated by a Geotechnical Engineer or a representative of the Geotechnical Engineer prior to reinforcement and concrete placement. This evaluation should include probing, shallow hand auger borings and dynamic cone penetrometer testing (ASTM STP-399) to help verify that suitable residual material lies directly under the foundation and to determine the need for any undercut and replacement of unsuitable materials. Loose surficial material should be compacted in the excavation prior to reinforcement and concrete placement to stabilize surface soil that may have become loose during the excavation process. TEP recommends a 6-inch layer of compacted crushed stone be placed just after excavation to aid in surface stability.

### 7.3) Fill Placement and Compaction

Backfill materials placed above the shallow foundation to the design subgrade elevation should not contain more than 5 percent by weight of organic matter, waste, debris or any otherwise deleterious materials. To be considered for use, backfill materials should have a maximum dry density of at least 100 pounds per cubic foot as determined by standard Proctor (ASTM D 698), a Liquid Limit no greater than 40, a Plasticity Index no greater than 20, a maximum particle size of 4 inches, and 20 percent or less of the material having a particle size between 2 and 4 inches. Because small handheld or walk-behind compaction equipment will most likely be used, backfill should be placed in thin horizontal lifts not exceeding 6 inches (loose).

Fill placement should be monitored by a qualified Materials Technician working under the direction of a Geotechnical Engineer. In addition to the visual evaluation, a sufficient amount of in-place field density tests should be conducted to confirm the required compaction is being attained.

### 7.4) Reuse of Excavated Soil

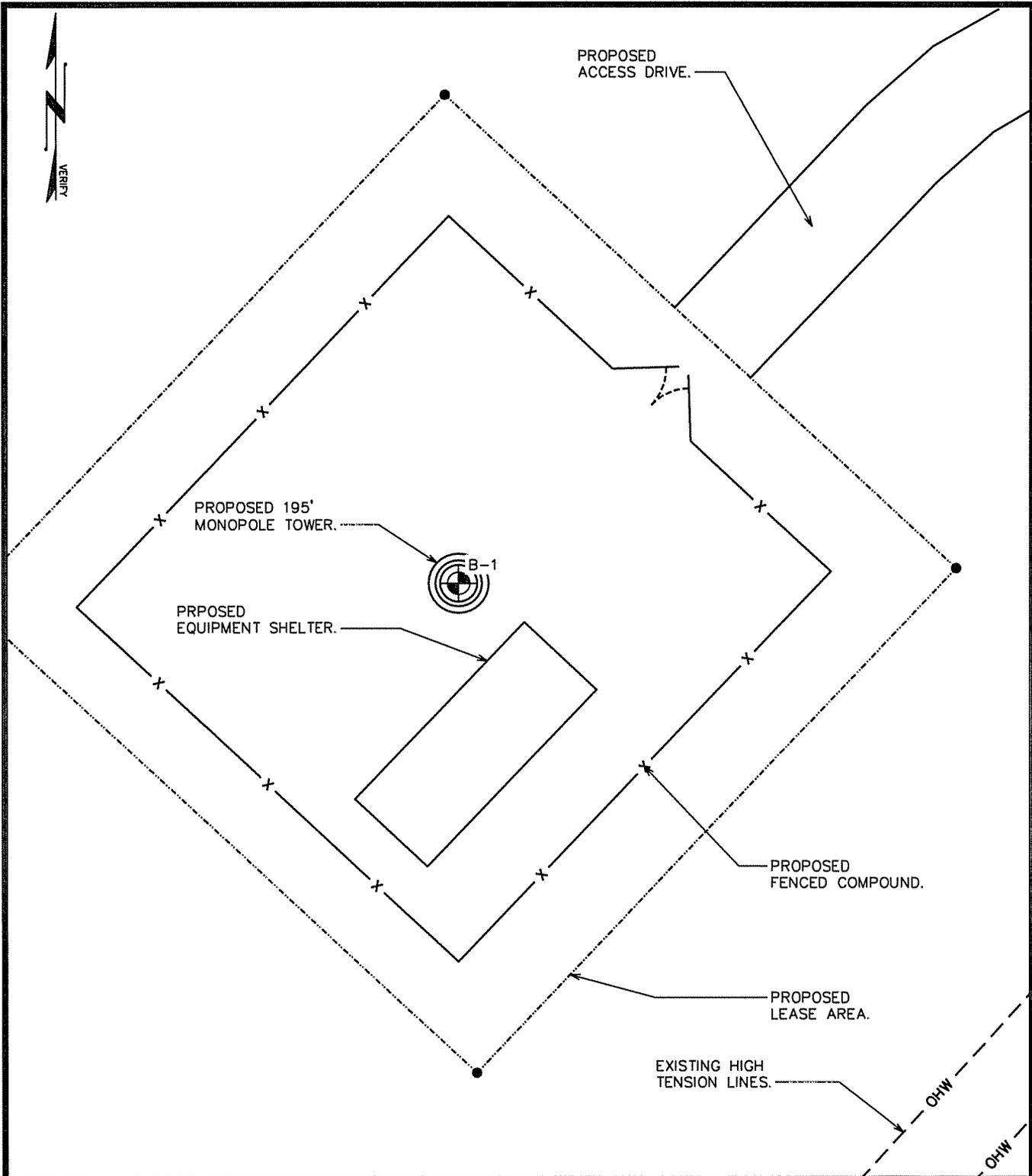
The lean clay (CL) that meets the above referenced criteria can be utilized as backfill based on dry soil and site conditions at the time of construction.

If variability in the subsurface materials is encountered, a representative of the Geotechnical Engineer should verify that the design parameters are valid during construction. Modification to the design values presented above may be required in the field.



**APPENDIX A**  
**BORING LAYOUT**





**BORING LAYOUT**

SCALE: N.T.S.

PREPARED BY:  
**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
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PREPARED FOR:  
  
 1200 PEACHTREE STREET, 114  
 ATLANTA, GA 30309  
 OFFICE (404) 962-5548

PROJECT INFORMATION:  
**FRANKLIN FURNACE**  
**SITE #: KY-5005**  
 GRAYS BRANCH ROAD  
 SOUTH SHORE, KY 41175  
 (GREENUP COUNTY)

REVISION:	0
TEP JOB #:	112955.10
SHEET NUMBER:	<b>C-1</b>

**APPENDIX B**  
**BORING LOG**



Project: KY-5005 Franklin Furnace  
 Project Location: South Shore, Kentucky  
 Project Number: 112955.10

## Key to Log of Boring

Sheet 1 of 1

Elevation, feet	Depth, feet	Sample Type	Sample Number	Sampling Resistance, blows/foot	Relative Consistency	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS			
1	2	3	4	5	6	7	8	9	10			
<b>COLUMN DESCRIPTIONS</b>												
<p><b>1 Elevation, feet:</b> Elevation (MSL, feet)</p> <p><b>2 Depth, feet:</b> Depth in feet below the ground surface.</p> <p><b>3 Sample Type:</b> Type of soil sample collected at the depth interval shown.</p> <p><b>4 Sample Number:</b> Sample identification number.</p> <p><b>5 Sampling Resistance, blows/foot:</b> Number of blows to advance driven sampler foot (or distance shown) beyond seating interval using the hammer identified on the boring log.</p>								<p><b>6 Relative Consistency:</b> Relative consistency of the subsurface material.</p> <p><b>7 USCS Symbol:</b> USCS symbol of the subsurface material.</p> <p><b>8 Graphic Log:</b> Graphic depiction of the subsurface material encountered.</p> <p><b>9 MATERIAL DESCRIPTION:</b> Description of material encountered. May include consistency, moisture, color, and other descriptive text.</p> <p><b>10 REMARKS AND OTHER TESTS:</b> Comments and observations regarding drilling or sampling made by driller or field personnel.</p>				
<b>FIELD AND LABORATORY TEST ABBREVIATIONS</b>												
<p><b>CHEM:</b> Chemical tests to assess corrosivity</p> <p><b>COMP:</b> Compaction test</p> <p><b>CONS:</b> One-dimensional consolidation test</p> <p><b>LL:</b> Liquid Limit, percent</p> <p><b>PI:</b> Plasticity Index, percent</p>								<p><b>SA:</b> Sieve analysis (percent passing No. 200 Sieve)</p> <p><b>UC:</b> Unconfined compressive strength test, Qu, in ksf</p> <p><b>WA:</b> Wash sieve (percent passing No. 200 Sieve)</p>				
<b>TYPICAL MATERIAL GRAPHIC SYMBOLS</b>												
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Figure 1

Project: KY-5005 Franklin Furnace  
 Project Location: South Shore, Kentucky  
 Project Number: 112955.10

**Log of Boring B-1**  
 Sheet 1 of 1

Date(s) Drilled	August 11, 2011	Logged By	Cory Bauer	Checked By	John Longest
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type		Total Depth of Borehole	16.5 feet bgs
Drill Rig Type	ATV	Drilling Contractor	Geo Drill, Inc.	Approximate Surface Elevation	849 feet AMSL
Groundwater Level and Date Measured	Not Encountered ATD	Sampling Method(s)	SPT	Hammer Data	140 lb, 30 in drop, Hammer
Borehole Backfill	Cuttings	Location	Approximate centerline to the proposed monopole centerline		

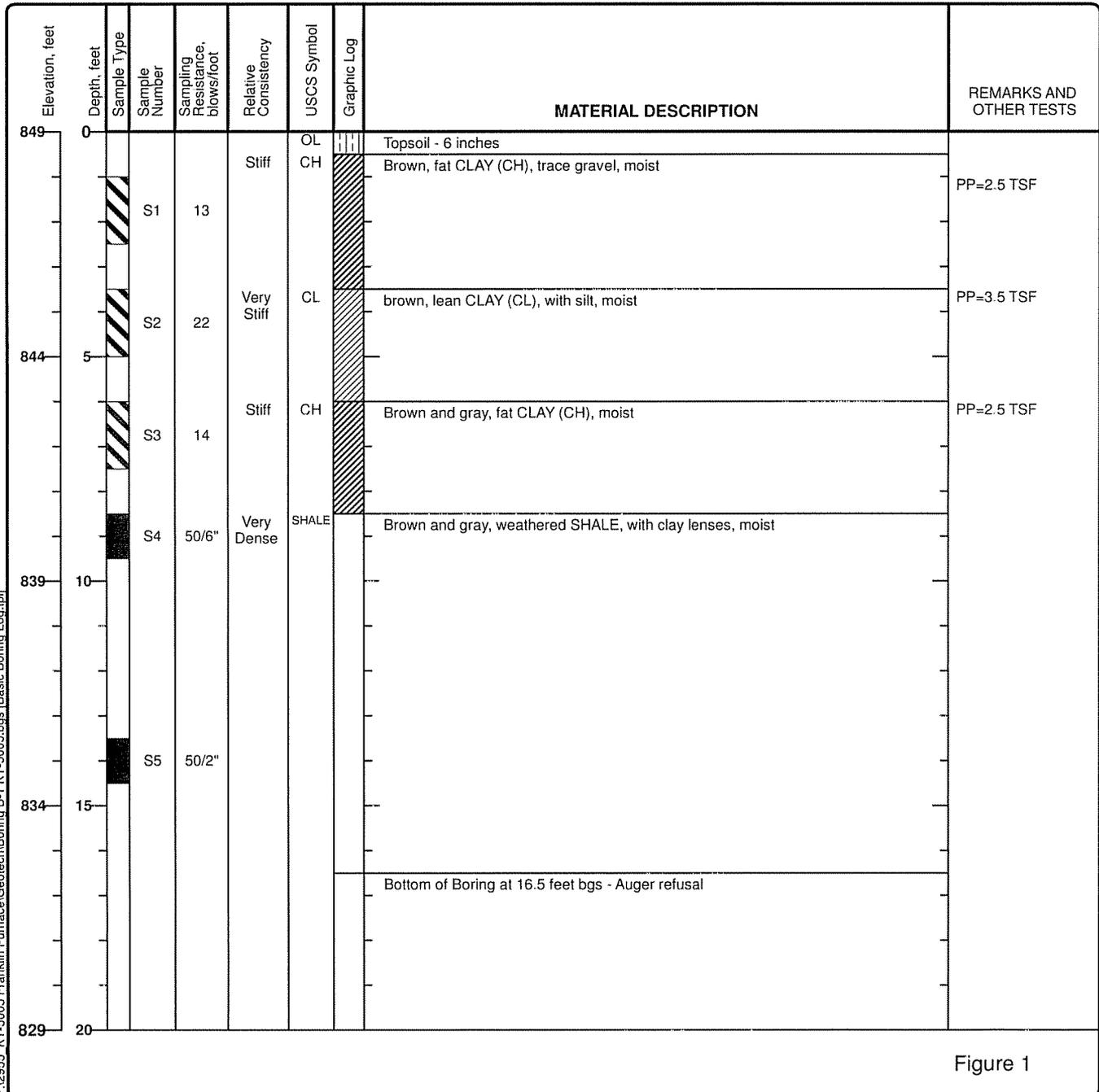


Figure 1

P:\2955 - KY-5005 Franklin Furnace\Geotech\Boring B-1 KY-5005.bgs [Basic Boring Log.tbl]



## TABLE OF CONTENTS

- 1) PROJECT DESCRIPTION**
- 2) SITE EXPLORATION**
- 3) SITE CONDITIONS**
- 4) SUBSURFACE CONDITIONS**
  - 4.1) Soil
  - 4.2) Rock
  - 4.3) Subsurface Water
  - 4.4) Frost
- 5) TOWER FOUNDATION DESIGN**
  - 5.1) Shallow Foundation
    - Table 1 - Shallow Foundation Analysis Parameters
  - 5.2) Drilled Shaft Foundation
- 6) SOIL RESISTIVITY**
- 7) CONSTRUCTION CONSIDERATIONS - SHALLOW FOUNDATION**
  - 7.1) Excavation
  - 7.2) Foundation Evaluation/Subgrade Preparation
  - 7.3) Fill Placement and Compaction
  - 7.4) Reuse of Excavated Soil
- 8) APPENDIX A**
  - Boring Layout
- 9) APPENDIX B**
  - Boring Log



## 1) PROJECT DESCRIPTION

Based on the preliminary drawings, it is understood a monopole communications tower will be constructed at the referenced site. The structure loads will be provided by the tower manufacturer.

## 2) SITE EXPLORATION

The field exploration included the performance of one soil test boring (B-1) to the auger refusal depth of 16 feet (bgs) at the approximate centerline of the proposed monopole tower. The boring was performed by an ATV mounted drill rig using continuous flight hollow stem augers to advance the hole. Split-spoon samples and Standard Penetration Resistance Values (N-values) were obtained in accordance with ASTM D 1586 at a frequency of 5 samples to auger refusal.

The Split-spoon samples were transported to the TEP laboratory where they were classified by a Geotechnical Engineer in general accordance with the Unified Soil Classification System (USCS), using visual-manual identification procedures (ASTM D 2488).

A Boring Location Plan showing the approximate boring location, a Boring Log presenting the subsurface information obtained and a brief guide to interpreting the boring log are included in the Appendix.

## 3) SITE CONDITIONS

The site is located off Grays Branch Road in South Shore, Greenup County, Kentucky. The proposed tower and compound are to be located on a mountain ridge in a wooded area. The ground topography is sloping.

## 4) SUBSURFACE CONDITIONS

The following description of subsurface conditions is brief and general. For more detailed information, the individual Boring Log contained in Appendix B - Boring Log may be consulted.

### 4.1) Soil

The USCS classification of the materials encountered in the boring include CH, CL and weathered shale. The Standard Penetration Resistance ("N" Values) recorded in the materials ranged from 13 blows per foot of penetration to 50 blows per 2 inches of penetration.

### 4.2) Rock

Weathered shale encountered at a depth of 8.5 feet (bgs) in the boring. Refusal of auger advancement was encountered at a depth of 16.5 feet (bgs) in the boring.

### 4.3) Subsurface Water

Subsurface water was not encountered in the boring at the time of drilling. It should be noted the subsurface water level will fluctuate during the year, due to seasonal variations and construction activity in the area.

### 4.4) Frost

The TIA frost depth for Greenup County Kentucky is 30 inches.



## 5) TOWER FOUNDATION DESIGN

Based on the boring data and the shallow depth of auger refusal, it is the opinion of TEP that a pier extending to a single large mat foundation can be used to support the new tower. The following presents TEP's conclusions and recommendations regarding the foundation type.

### 5.1) Shallow Foundation

The foundation should bear a minimum of 2.5 feet below the ground surface to penetrate the frost depth and with sufficient depth to withstand the overturning of the tower. To resist the overturning moment, the weight of the concrete and any soil directly above the foundation can be used. A friction factor of 0.30 can be utilized at this depth. The values are based on the current ground surface elevation.

**Table 1 - Shallow Foundation Analysis Parameters**

Depth		Soil	Static Bearing <sup>1</sup> (psf)	Cohesion <sup>2</sup> (psf)	Friction Angle <sup>2</sup> (degrees)	Effective Unit Weight (pcf)
Top	Bottom					
0	3.5	CH	4175	2500	-	120
3.5	6	CL	4400	3900	-	120
6	8.5	CH	4275	2000	-	120
8.5	13.5	Shale <sup>3</sup>	4750	-	35	130
13.5	16.5	Shale <sup>3</sup>	5075	-	35	130

Notes:

- 1) The bearing values provided are net allowable with a minimum factor of safety of 2 with anticipated settlement less than 1 inch. Bearing may be increased by 1/3 for transient loading (e.g. wind or earthquake loading)
- 2) These values should be considered ultimate soil parameters
- 3) Cohesion values are not provided because materials were too weathered to recover samples for unconfined compressive strength testing



## 5.2) Drilled Shaft Foundation

A drilled shaft foundation is not recommended for this site. See Section 5.1) for shallow foundation design parameters.

## 6) SOIL RESISTIVITY

Soil resistivity was performed at the TEP laboratory in accordance with ASTM G187-05 (Standard Test Method for Measurement of Soil Resistivity Using the Two Electrode Soil Box Method). Test results indicated a result of 13,000 ohms/cm.



## 7) CONSTRUCTION CONSIDERATIONS - SHALLOW FOUNDATION

### 7.1) Excavation

The boring data indicates excavation to the expected subgrade level for the shallow foundation will extend through clay and weathered shale. A large tracked excavator should be able to remove the clay materials with minimal difficulty. A large tracked excavator with rock teeth and/or a pneumatic hammer may be necessary to remove the shale materials with some difficulty. TEP anticipates the depth to the surface of the weathered rock will vary outside of the boring location. Boulders and bedrock outcroppings are common to this geographic region and may also be encountered in the excavation area.

Excavations should be sloped or shored in accordance with local, state and federal regulations, including OSHA (29 CFR Part 1926) excavation trench safety standards. It is the responsibility of the contractor for site safety. This information is provided as a service and under no circumstance should TEP be assumed responsible for construction site safety.

### 7.2) Foundation Evaluation/Subgrade Preparation

After excavation to the design elevation for the footing, the materials should be evaluated by a Geotechnical Engineer or a representative of the Geotechnical Engineer prior to reinforcement and concrete placement. This evaluation should include probing, shallow hand auger borings and dynamic cone penetrometer testing (ASTM STP-399) to help verify that suitable residual material lies directly under the foundation and to determine the need for any undercut and replacement of unsuitable materials. Loose surficial material should be compacted in the excavation prior to reinforcement and concrete placement to stabilize surface soil that may have become loose during the excavation process. TEP recommends a 6-inch layer of compacted crushed stone be placed just after excavation to aid in surface stability.

### 7.3) Fill Placement and Compaction

Backfill materials placed above the shallow foundation to the design subgrade elevation should not contain more than 5 percent by weight of organic matter, waste, debris or any otherwise deleterious materials. To be considered for use, backfill materials should have a maximum dry density of at least 100 pounds per cubic foot as determined by standard Proctor (ASTM D 698), a Liquid Limit no greater than 40, a Plasticity Index no greater than 20, a maximum particle size of 4 inches, and 20 percent or less of the material having a particle size between 2 and 4 inches. Because small handheld or walk-behind compaction equipment will most likely be used, backfill should be placed in thin horizontal lifts not exceeding 6 inches (loose).

Fill placement should be monitored by a qualified Materials Technician working under the direction of a Geotechnical Engineer. In addition to the visual evaluation, a sufficient amount of in-place field density tests should be conducted to confirm the required compaction is being attained.

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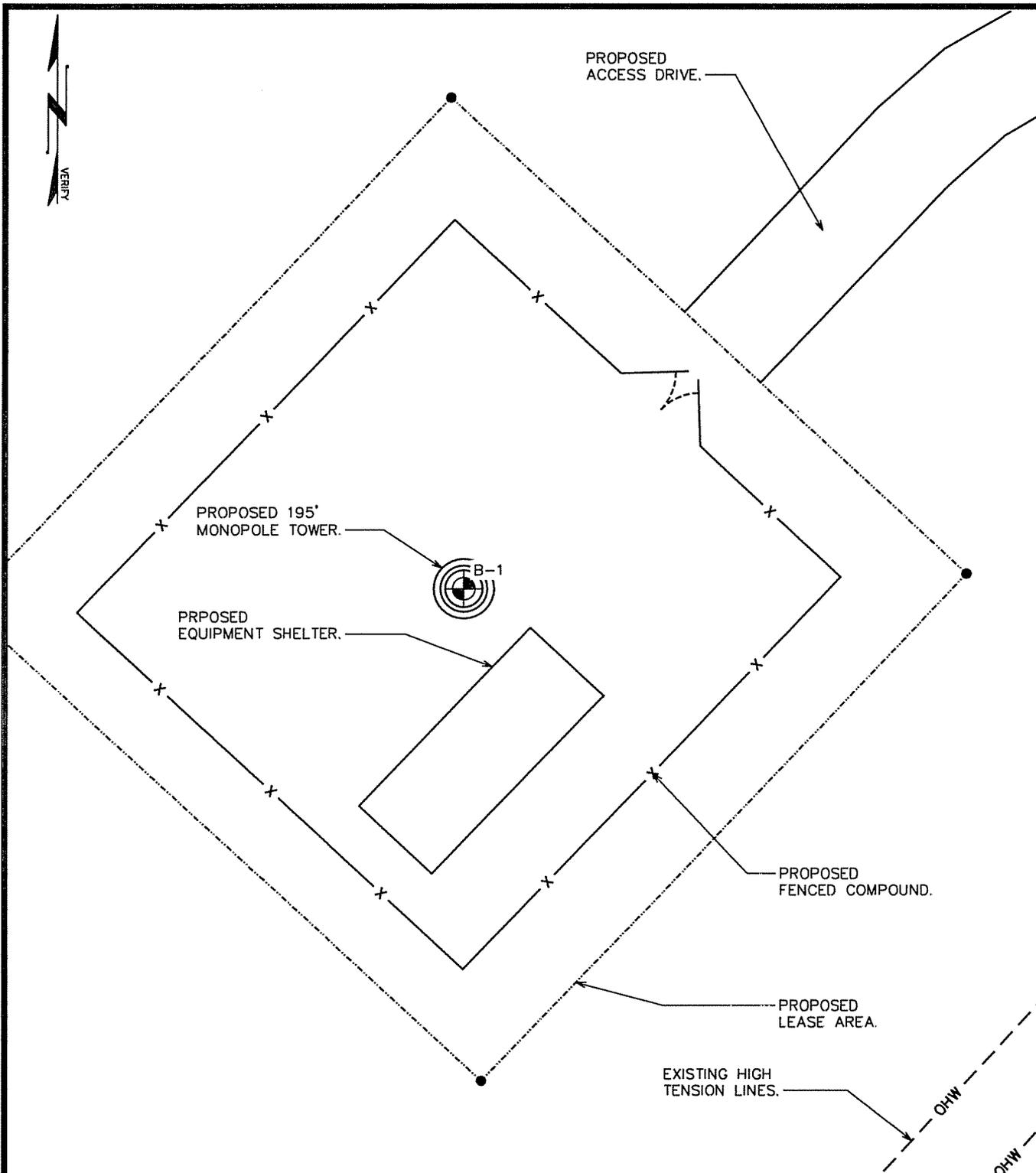
The lean clay (CL) that meets the above referenced criteria can be utilized as backfill based on dry soil and site conditions at the time of construction.

If variability in the subsurface materials is encountered, a representative of the Geotechnical Engineer should verify that the design parameters are valid during construction. Modification to the design values presented above may be required in the field.



**APPENDIX A**  
**BORING LAYOUT**





**BORING LAYOUT**

SCALE: N.T.S.

PREPARED BY:

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 RALEIGH, NC 27603-5263  
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 www.tepgroup.net

PREPARED FOR:

**GTP**  
 1200 PEACHTREE STREET, 114  
 ATLANTA, GA 30309  
 OFFICE (404) 962-5548

PROJECT INFORMATION:

**FRANKLIN FURNACE  
 SITE #: KY-5005**  
 GRAYS BRANCH ROAD  
 SOUTH SHORE, KY 41175  
 (GREENUP COUNTY)

REVISION: 0

TEP JOB #: 112955.10

SHEET NUMBER:

**C-1**

**APPENDIX B**  
**BORING LOG**



Project: KY-5005 Franklin Furnace  
 Project Location: South Shore, Kentucky  
 Project Number: 112955.10

# Key to Log of Boring

Sheet 1 of 1

Elevation, feet	Depth, feet	Sample Type	Sample Number	Sampling Resistance, blows/foot	Relative Consistency	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
-----------------	-------------	-------------	---------------	---------------------------------	----------------------	-------------	-------------	----------------------	-------------------------

1 2 3 4 5 6 7 8 9 10

**COLUMN DESCRIPTIONS**

- 1 **Elevation, feet:** Elevation (MSL, feet)
- 2 **Depth, feet:** Depth in feet below the ground surface.
- 3 **Sample Type:** Type of soil sample collected at the depth interval shown.
- 4 **Sample Number:** Sample identification number.
- 5 **Sampling Resistance, blows/foot:** Number of blows to advance driven sampler foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
- 6 **Relative Consistency:** Relative consistency of the subsurface material.
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- 10 **REMARKS AND OTHER TESTS:** Comments and observations regarding drilling or sampling made by driller or field personnel.

**FIELD AND LABORATORY TEST ABBREVIATIONS**

- CHEM:** Chemical tests to assess corrosivity
- COMP:** Compaction test
- CONS:** One-dimensional consolidation test
- LL:** Liquid Limit, percent
- PI:** Plasticity Index, percent
- SA:** Sieve analysis (percent passing No. 200 Sieve)
- UC:** Unconfined compressive strength test, Qu, in ksf
- WA:** Wash sieve (percent passing No. 200 Sieve)

**TYPICAL MATERIAL GRAPHIC SYMBOLS**

Well graded GRAVEL (GW)	Well graded SAND with Clay (SW-SC)	SILTY CLAY (CL-ML)
Poorly graded GRAVEL (GP)	Poorly graded SAND with Silt (SP-SM)	Lean CLAY/PEAT (CL-OL)
Well graded GRAVEL with Silt (GW-GM)	Poorly graded SAND with Clay (SP-SC)	Fat CLAY/SILT (CH-MH)
Well graded GRAVEL with Clay (GW-GC)	Silty SAND (SM)	Fat CLAY/PEAT (CH-OH)
Poorly graded GRAVEL with Silt (GP-GM)	Clayey SAND (SC)	Silty SAND to Sandy SILT (SM-ML)
Poorly graded GRAVEL with Clay (GP-GC)	SILT, SILT w/SAND, SANDY SILT (ML)	Silty SAND to Sandy SILT (SM-MH)
Silty GRAVEL (GM)	Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)	Clayey SAND to Sandy CLAY (SC-CL)
Clayey GRAVEL (GC)	SILT, SILT w/SAND, SANDY SILT (MH)	Clayey SAND to Sandy CLAY (SC-CH)
Well graded SAND (SW)	Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)	SILT to CLAY (CL/ML)
Poorly graded SAND (SP)	SILT, SILT with SAND, SANDY SILT (ML-MH)	Silty to Clayey SAND (SC/SM)
Well graded SAND with Silt (SW-SM)	Lean-Fat CLAY, CLAY w/SAND, SANDY CLAY (CL-CH)	

**TYPICAL SAMPLER GRAPHIC SYMBOLS**

2-inch-OD unlined split spoon (SPT)	Shelby Tube (Thin-walled, fixed head)	Pitcher Sample
2.5-inch-OD Modified California w/ brass liners	Grab Sample	Other sampler
3-inch-OD California w/ brass rings	Bulk Sample	

**OTHER GRAPHIC SYMBOLS**

- Water level (at time of drilling, ATD)
- Water level (after waiting a given time)
- Minor change in material properties within a stratum
- Inferred or gradational contact between strata
- Queried contact between strata

**GENERAL NOTES**

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P:\2955 KY-5005 Franklin Furnace\Geotech\Boring B-1 KY-5005.bgs [Basic Boring Log.lpl]

Figure 1

**Project: KY-5005 Franklin Furnace**  
**Project Location: South Shore, Kentucky**  
**Project Number: 112955.10**

**Log of Boring B-1**  
 Sheet 1 of 1

Date(s) Drilled <b>August 11, 2011</b>	Logged By <b>Cory Bauer</b>	Checked By <b>John Longest</b>
Drilling Method <b>Hollow Stem Auger</b>	Drill Bit Size/Type	Total Depth of Borehole <b>16.5 feet bgs</b>
Drill Rig Type <b>ATV</b>	Drilling Contractor <b>Geo Drill, Inc.</b>	Approximate Surface Elevation <b>849 feet AMSL</b>
Groundwater Level and Date Measured <b>Not Encountered ATD</b>	Sampling Method(s) <b>SPT</b>	Hammer Data <b>140 lb, 30 in drop, Hammer</b>
Borehole Backfill <b>Cuttings</b>	Location <b>Approximate centerline fo the proposed monopole centerline</b>	

Elevation, feet	Depth, feet	Sample Type	Sample Number	Sampling Resistance, blows/foot	Relative Consistency	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
849	0					OL	Topsoil - 6 inches		
			S1	13	Stiff	CH	Brown, fat CLAY (CH), trace gravel, moist		PP=2.5 TSF
			S2	22	Very Stiff	CL	brown, lean CLAY (CL), with silt, moist		PP=3.5 TSF
844	5		S3	14	Stiff	CH	Brown and gray, fat CLAY (CH), moist		PP=2.5 TSF
			S4	50/6"	Very Dense	SHALE	Brown and gray, weathered SHALE, with clay lenses, moist		
839	10		S5	50/2"					
834	15								
								Bottom of Boring at 16.5 feet bgs - Auger refusal	
829	20								

Figure 1

P:\2955 KY-5005 Franklin Furnace\Geotech\Boring B-1 KY-5005.bgs [Basic Boring Log.lpl]





AT&T Mobility  
4801 Cox Road  
Suite 300  
Glen Allen, VA 23060

T: 804.290.5030  
F: 804.290.5055  
[www.att.com](http://www.att.com)

May, 23<sup>rd</sup> 2011

To Whom It May Concern:

Re: AT&T Mobility Tower – Greenup County

Dear Sir or Madam:

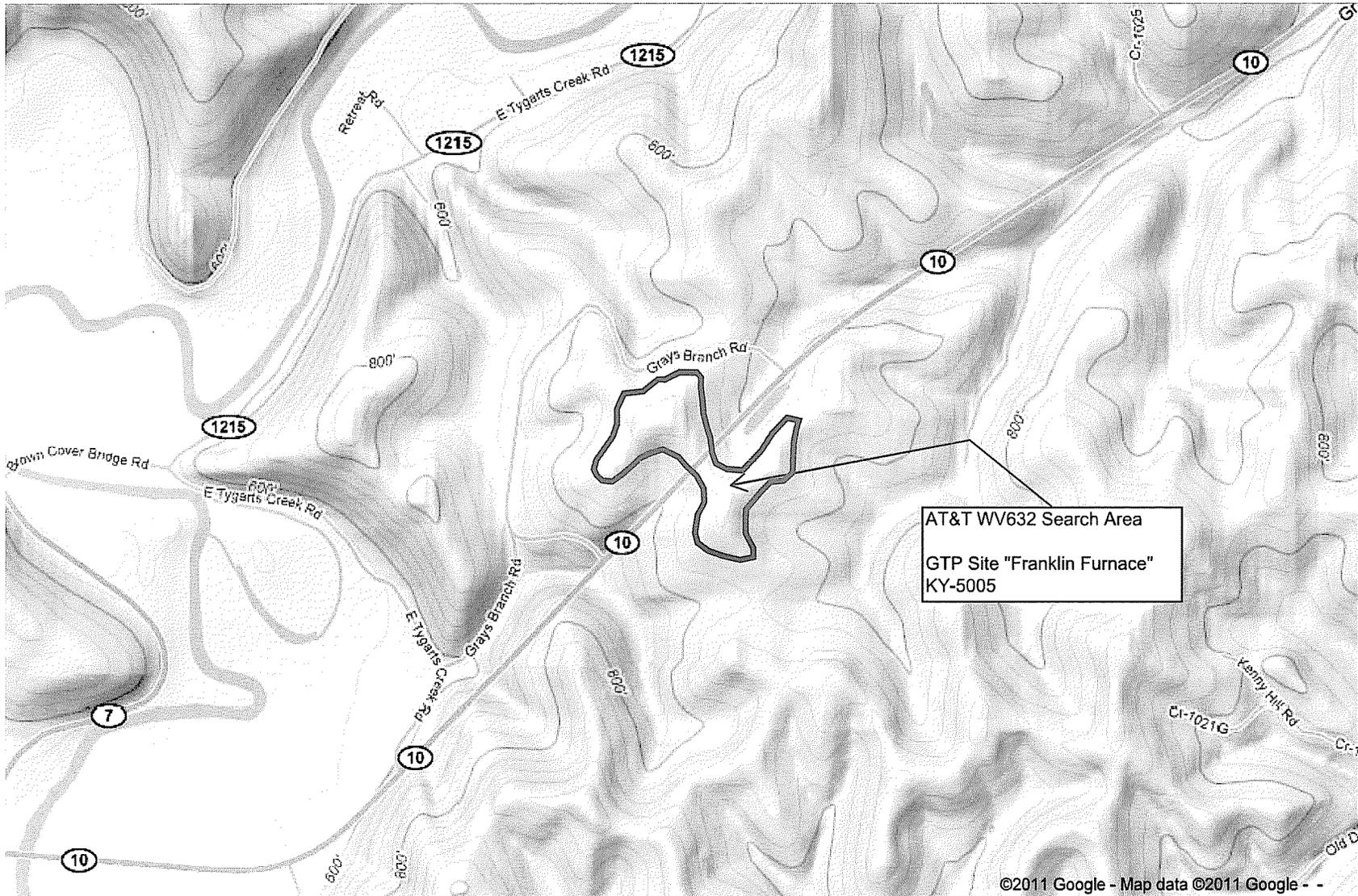
This letter is to state the need for the proposed AT&T site called WV632 (Global Tower Partners' KY-5005 Franklin Furnace), to be located at 3138 State Route 10 in Greenup in Greenup County, KY. The WV632 site is necessary to improve coverage in Greenup County in the areas of State Hwy 546, East Tygarts Creek Rd, State Hwy 7 and surrounding roads. There is currently no reliable service in this area. Our closest sites are 5.8 miles away and cannot provide dominant service with call quality for customers. Customer in the area are experience high dropped calls and poor all quality or no service areas. With the addition of this site, the customers in these areas of Greenup County will be provided with reliable communications, improved in-building coverage, and more access to emergency 911 service.

Christian D. La Tendresse  
RF Design Engineer

F

# Google maps

To see all the details that are visible on the screen, use the "Print" link next to the map.



**G**



Federal Aviation Administration

<< OE/AAA

Notice Criteria Tool

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

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

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your structure will be on an airport or heliport

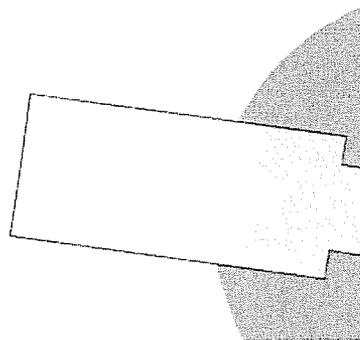
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport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

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

Latitude:	<input type="text" value="38"/> Deg <input type="text" value="37"/> M <input type="text" value="59.17"/> S N
Longitude:	<input type="text" value="82"/> Deg <input type="text" value="54"/> M <input type="text" value="26.37"/> S W
Horizontal Datum:	NAD83
Site Elevation (SE):	<input type="text" value="849"/> (nearest foot)
Structure Height (AGL):	<input type="text" value="199"/> (nearest foot)
Traverseway:	No Traverseway (Additional height is added to certain structures under 77.9(c))
Is structure on airport:	<input checked="" type="radio"/> No <input type="radio"/> Yes

Results

You do not exceed Notice Criteria.





## Matt Chastain

---

**From:** Dustin Billman <[dbillman@bluewavedeployment.com](mailto:dbillman@bluewavedeployment.com)>  
**Sent:** Wednesday, June 15, 2011 3:53 PM  
**To:** Matt Chastain  
**Subject:** FW: Franklin Furnace KAZC filing

**Importance:** Low

For the files.

Dustin Billman  
**Blue Wave Deployment**  
8401 Shelbyville Rd., Suite 104  
Louisville, KY 40222  
502-645-0262  
fax 502-849-0449

---

**From:** Houlihan, John (KYTC) [<mailto:John.Houlihan@ky.gov>]  
**Sent:** Wednesday, June 15, 2011 11:24 AM  
**To:** Dustin Billman  
**Subject:** RE: Franklin Furnace KAZC filing  
**Importance:** Low

The above subject does not require a permit from the Kentucky Airport Zoning Commission. The antenna does not exceed any of the following criteria:

**602 KAR 50:030. Jurisdiction of the Kentucky Airport Zoning Commission.**

RELATES TO: KRS 183.861, 183.865, 183.867, 183.870

STATUTORY AUTHORITY: KRS 183.861

NECESSITY, FUNCTION, AND CONFORMITY: KRS 183.867 specifies that the commission has jurisdiction over zoning for all public use and military airports. This administrative regulation defines the areas over which the Kentucky Airport Zoning Commission has jurisdiction for the purpose of zoning in accordance with KRS Chapter 183 and specifics when the owner or person who has control over a structure which encroaches on the jurisdiction of the Kentucky Airport Zoning Commission shall apply for a permit.

Section 1. The commission has zoning jurisdiction over that airspace over and around the public use and military airports within the Commonwealth which lies above the imaginary surface that extends outward and upward at one (1) of the following slopes:

(1) 100 to one (1) for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each public use and military airport with at least one (1) runway 3,200 feet or more in length; or

(2) Fifty (50) to one (1) for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each public use and military airport with its longest runway less than 3,200 feet in actual length.

Section 2. The commission has zoning jurisdiction over the use of land and structures within public use airports within the state.

Section 3. The commission has jurisdiction from the ground upward within the limits of the primary and approach surfaces of each public use and military airport as depicted on Airport Zoning Maps approved by the Kentucky Airport Zoning Commission.

Section 4. The commission has jurisdiction over the airspace of the Commonwealth that exceeds 200 feet in height above ground level.

Section 5. The owner or person who has control over a structure which penetrates or will penetrate the airspace over which the commission has jurisdiction shall apply for a permit from the commission in accordance with 602 KAR 50:090. (KAV-9-1; 1 Ky.R. 807; eff. 5-14-75; Am. 2 Ky.R. 306; eff. 3-10-76; 5 Ky.R. 599; eff. 3-7-79; 10 Ky.R. 445; eff. 1-4-84; 14 Ky.R. 267; eff. 9-10-87; 19 Ky.R. 800; eff. 11-4-92; 27 Ky.R. 2228; 2774; eff. 4-9-2001.)

Please keep this email for your records. Thank you.

Kentucky Airport Zoning Commission  
John Houlihan, Administrator  
90 Airport Road, Building 400  
Frankfort, KY 40601  
Desk 502.564.0310  
Cell 502.330.3955

<http://transportation.ky.gov/aviation/kyzoning.html>

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail or call (502) 564-0310 and destroy all copies of the original message.

---

**From:** Dustin Billman [mailto:dbillman@bluewavedeployment.com]  
**Sent:** Monday, June 13, 2011 3:57 PM  
**To:** Houlihan, John (KYTC)  
**Cc:** 'Matt Chastain'  
**Subject:** Franklin Furnace KAZC filing (OOJ)

John,

I have attached a KAZC application for a proposed Global Tower Partners tower site referred to as Franklin Furnace. Please advise of any questions or concerns.

Franklin Furnace  
38 37 58.89  
82 54 26.76  
Ground Elevation 849  
Structure Height 199  
AMSL 1048  
Nearest Airport is DWU – Ashland Regional Airport 9.25 miles Southeast



**( M C B R A Y E R )**  
McBrayer, McGinnis, Leslie & Kirkland, PLLC

ATTORNEYS AT LAW

W. BRENT RICE  
BRICE@MMLK.COM

201 EAST MAIN STREET, SUITE 1000  
LEXINGTON, KENTUCKY 40507  
(859) 231-8780 EXT. 115  
FAX: (859) 231-6518

September 1, 2011

Hon. Robert W. Carpenter  
Greenup County Judge  
102 Courthouse  
301 Main Street  
Greenup, KY 41144

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

Dear Judge Carpenter:

Global Tower Assets, LLC and New Cingular Wireless PCS, LLC are applying to the Kentucky Public Service Commission (the "Commission") for a Certificate of Public Convenience and Necessity to construct and operate a new wireless communications facility located Gray's Branch Road, South Shore, Greenup County Kentucky. A map showing the location is attached. The proposed facility will include a 195' monopole tower, plus related ground facilities.

You have a right to submit comments regarding the proposed construction to the Commission or to request intervention in the Commission's proceedings on this application.

Your comment and request for intervention should be addressed to: Kentucky Public Service Commission, Executive Director, 211 Sower Blvd., PO Box 615, Frankfort, Kentucky 40602. Please refer to **Case No. 2011-00353** in any correspondence.

Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure



Global Tower Assets, LLC and New Cingular Wireless PCS, LLC

PSC Case Number 2011-00353/Franklin Furnace Site (KY-5005)

Property Owners

Kathryn S. Penkava  
315 Belfonte Drive  
Ashland, KY 41101

Marc Lewis Marlette  
103 Bennetts Mill Road  
South Shore, KY 41175

Larry and Vickie Brewer  
321 Pine Acres Drive  
Ashland, KY 41102

Kermit F. and Gail L. Keen  
2447 East Tygarts Road  
Greenup, KY 41144

Cabel Pitts  
c/o Scott Pitts  
904 S. Roosevelt Avenue  
Bexley, OH 43209

Sam and Sadie Frazier  
81 Pittsburg Drive  
South Shore, KY 41175

Floyd Frazier  
3645 East Tygarts Road  
Greenup, KY 41144

Frances S. and Bill Roberts  
103 Bennetts Mill Road  
South Shore, KY 41175

( M C B R A Y E R )  
McBrayer, McGinnis, Leslie & Kirkland, PLLC

ATTORNEYS AT LAW

W. BRENT RICE  
[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Kathryn S. Penkava  
315 Belfonte Drive  
Ashland, KY 41101

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

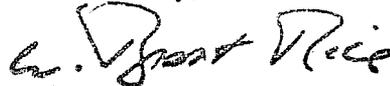
Dear Property Owner:

Global Tower Assets, LLC and New Cingular Wireless PCS, LLC d/b/a AT&T Mobility have applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a wireless communications facility located at Gray's Branch Road, South Shore, Greenup County, Kentucky. The facility will be comprised of a 195' monopole tower, plus related ground facilities. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you own property within a 500' radius of the proposed facility or are a contiguous property owner.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. Your initial communication the Commission must be received by the Commission within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to **Case No. 2011-00353** in your correspondence.

Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

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Lexington, Kentucky 40507  
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FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Marc Lewis Marlette  
103 Bennetts Mill Road  
South Shore, KY 41175

**RE: Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

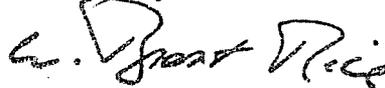
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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

( M C B R A Y E R )  
McBrayer, McGinnis, Leslie & Kirkland, PLLC

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201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Larry and Vickie Brewer  
321 Pine Acres Drive  
Ashland, KY 41102

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

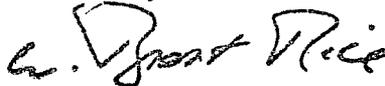
Dear Property Owner:

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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

( M C B R A Y E R )  
McBrayer, McGinnis, Leslie & Kirkland, PLLC

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201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Kermit F. and Gail L. Keen  
2447 East Tygarts Road  
Greenup, KY 41144

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

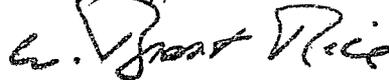
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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

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Lexington, Kentucky 40507  
(859) 231-8780  
FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Cabel Pitts  
c/o Scott Pitts  
904 S. Roosevelt Avenue  
Bexley, OH 43209

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

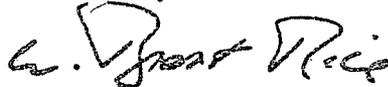
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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

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September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Sam and Sadie Frazier  
81 Pittsburg Drive  
South Shore, KY 41175

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

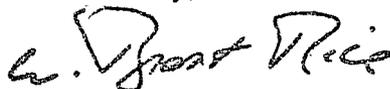
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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

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Lexington, Kentucky 40507  
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FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Floyd Frazier  
3645 East Tygarts Road  
Greenup, KY 41144

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

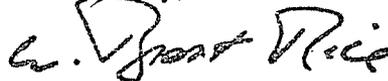
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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure

( M C B R A Y E R )  
McBrayer, McGinnis, Leslie & Kirkland, PLLC

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201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
FAX (859) 231-6518

September 1, 2011

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Frances S. and Bill Roberts  
103 Bennetts Mill Road  
South Shore, KY 41175

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2011-00353  
Franklin Furnace Site (KY-5005)**

Dear Property Owner:

Global Tower Assets, LLC and New Cingular Wireless PCS, LLC d/b/a AT&T Mobility have applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a wireless communications facility located at Gray's Branch Road, South Shore, Greenup County, Kentucky. The facility will be comprised of a 195' monopole tower, plus related ground facilities. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you own property within a 500' radius of the proposed facility or are a contiguous property owner.

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Sincerely,



W. Brent Rice  
Counsel for Global Tower Assets, LLC  
and New Cingular Wireless PCS, LLC

WBR/dkw  
Enclosure





**LANDLORD:**

Kathryn S. Penkava as to an undivided 1/2 interest,  
Marc Lewis Marlette as to an undivided 1/2 interest;  
subject to the life estate of Frances S. Roberts, aka  
Frances S. Marlette  
103 Bennetts Mill Road  
South Shore, Kentucky 41175

**TENANT:**

Global Tower Assets, LLC  
750 Park of Commerce Blvd.  
Suite 300  
Boca Raton, FL 33487-3612  
Site # & name: KY-5005 Franklin Furnace

**LEASE AGREEMENT**

**THIS LEASE AGREEMENT** ("Lease") is made this <sup>24<sup>th</sup></sup> ~~7<sup>th</sup>~~ day of July, 2011 by and between Kathryn S. Penkava as to an undivided 1/2 interest, Marc Lewis Marlette as to an undivided 1/2 interest; subject to the life estate of Frances S. Roberts, aka Frances S. Marlette (the "Landlord"), whose address is 103 Bennetts Mill Road, South Shore, Kentucky 41175, and Global Tower Assets, LLC, a Delaware limited liability company (the "Tenant"), whose address is 750 Park of Commerce Boulevard, Suite 300, Boca Raton, Florida 33487-3612

**WHEREAS**, the Landlord owns certain real property located the County of Greenup, in the State of Kentucky, that is more particularly described or depicted in attached **Exhibit 1** (the "Property"); and,

**WHEREAS**, the Tenant desires to lease from Landlord a certain portion of the Property, more particularly described or depicted in attached **Exhibit 2** (the "Premises").

**NOW THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree:

**1. RIGHT TO LEASE.**

(a) Landlord grants to Tenant right to lease a portion of the Property measuring approximately 10,000 square feet (100' x 100') as described on attached **Exhibit 2**, together with unrestricted access for Tenant's uses from the nearest public right-of-way along the Property to the Premises as described on the attached **Exhibit 2** (collectively, the "Premises").

(b) From and after the date of this Agreement as set forth above for the time period set forth below (the "**Testing Period**"), and at any time during the term of this Agreement, Tenant and its agents, engineers, surveyors and other representatives will have the right to enter upon the Property to inspect, examine, conduct soil borings, drainage testing, material sampling, and other geological or engineering tests or studies of the Property (collectively, the "**Tests**"), to apply for and obtain licenses, permits, approvals, or other relief required of or deemed necessary or appropriate at Tenant's sole discretion for its use of the Premises and include, without limitation, applications for zoning variances, zoning ordinances, amendments, special use permits, and construction permits (collectively, the "**Government Approvals**"), initiate the ordering and/or scheduling of necessary utilities, and otherwise to do those things on or off the Property that, in the opinion of Tenant, are necessary in Tenant's sole discretion to determine the physical condition of the Property, the environmental history of the Property, Landlord's title to the Property and the feasibility or suitability of the Property for Tenant's Permitted Use, all at Tenant's expense. Tenant will not be liable to Landlord or any third party on account of any pre-existing defect or condition on or with respect to the Property, whether or not such defect or condition is disclosed by Tenant's inspection. Tenant will restore the Property to its condition as it existed at the commencement of the Testing Period (as defined below), reasonable wear and tear and casualty not caused by Tenant excepted. In addition, Tenant shall indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or claims arising directly out of Tenant's Tests.

(c) In consideration of Landlord granting Tenant the Testing Period, Tenant agrees to pay Landlord the sum of \_\_\_\_\_ (\$) within thirty (30) business days of the full execution of this Agreement. The Testing Period will be for an initial term of one (1) year (the "**Initial Testing Period**") and may be renewed by Tenant for three (3) additional one (1) year periods ("Renewal Testing Period") upon written notification to

Landlord and the payment of an additional \_\_\_\_\_ ) no later than ten (10) days prior to the expiration date of the Initial Testing Period or current Renewal Testing Period.

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

## 2. TERM.

(a) This Lease shall commence on date Tenant begins construction at the site (the "Commencement Date"), which shall be confirmed in writing from Tenant to Landlord. Unless extended or sooner terminated as herein provided, the term shall be for a period of one hundred twenty (120) months following the Commencement Date ("Initial Term").

(b) Tenant shall have the option to extend the term of this Lease for four (4) successive additional periods of 60 months each (each a "Renewal Term"). Each Renewal Term shall commence automatically, unless Tenant delivers notice to Landlord of its intent not to renew, such notice to be delivered not less than thirty (30) days prior to the end of the then-current term.

## 3. RENT.

(a) Tenant shall pay rent to Landlord beginning at Commencement Date a monthly rental payment of \_\_\_\_\_ ("Rent"), on or before the fifth (5<sup>th</sup>) day of each calendar month in advance. Payments will be made via electronic funds transfer ("EFT") directly to Landlord's bank account unless otherwise directed. Rent will be prorated for any partial month. The initial Rent payment will be forwarded by Tenant to Landlord within thirty (30) days from Commencement Date.

(b) During the Initial Term and any Renewal Terms, monthly Rent shall be adjusted, effective on the first day of each year of the Initial or Renewal Term, and on each such subsequent anniversary thereof, to an amount equal to 103 percent (103%) of the monthly Rent in effect immediately prior to the adjustment date.

4. **TAXES.** Landlord shall pay when due all taxes and all other fees and assessments attributable to the Property and Premises. In the event that Landlord fails to pay when due any taxes affecting the Premises or the Easement, Tenant shall have the right but not the obligation to pay such taxes and deduct the full amount of the taxes paid by Tenant on Landlord's behalf from future installments of Rent.

## 5. USE.

(a) The Premises are being leased for the purpose of erecting, installing, operating and maintaining radio and communications towers, transmitting and receiving equipment, antennas, dishes, mounting structures, buildings, and related equipment ("Communications Facility"). Tenant may make any improvement, alteration or modification to the Premises as are deemed appropriate by Tenant. Tenant shall have the right to clear the Premises of any trees, vegetation, or undergrowth which, in Tenant's sole opinion, interferes with Tenant's use of the Premises for the intended purposes. Tenant shall have the exclusive right to install upon the Premises communications towers, buildings, equipment, antennas, dishes, fencing, and other accessories related thereto, and to alter, supplement, and/or modify same as may be necessary.

(b) Landlord grants Tenant the right to clear all trees, undergrowth, or other obstructions and to trim, cut and keep trimmed and cut all tree limbs, which may interfere with or fall upon the Communications Facility or Premises. Landlord grants Tenant a non-exclusive easement in, over, across and through other real property owned by Landlord as reasonably required for construction, installation, maintenance, and operation of the Communication Facilities. In the event that the tower to be constructed by Tenant on the Premises is a guyed tower, Landlord also grants Tenant an easement in, over, across and through Landlord's real property for the installation and maintenance of and reasonable access to the guy wires and guy wire anchors. Tenant shall be entitled to sublease and/or sublicense the Premises, including any communications tower located thereon. At all times during the term of this Lease, Tenant, and its guests, agents, customers, lessees, and assigns shall have the unrestricted, exclusive right to

use, and shall have free access to, the Premises seven (7) days a week, twenty-four (24) hours a day. Tenant shall have the exclusive right to sublease or grant licenses to use the radio tower or any structure or equipment on the Premises, but no such sublease or license shall relieve or release Tenant from its obligations under this Lease. If at any time during the term of this Lease, the Federal Aviation Administration, Federal Communications Commission, or other governmental agency changes its regulations and requirements, or otherwise takes any action, the result of which inhibits Tenant's use the Premises, or any communications tower located thereon, for the purposes originally intended by Tenant, or if technological changes render Tenant's intended use of the Premises obsolete or impractical, or if Tenant otherwise determines, in its sole and absolute discretion, with or without cause, that the Premises is no longer suitable or desirable for Tenant's intended use and/or purposes, Tenant shall have the right to terminate this Lease Agreement upon written notice to Landlord.

**6. ACCESS AND UTILITIES.** Landlord for itself, its successors and assigns, hereby grants and conveys unto Tenant, its customers, employees, agents, invitees, successors and assigns a nonexclusive easement for ingress and egress, as well as for the construction, installation, operation and maintenance of overhead and underground electric and other utility facilities (including wires, poles, guys, cables, conduits and appurtenant equipment), with the right to reconstruct, improve, add to, enlarge, change and remove such facilities, over, across and through any easement for the benefit of and access to the Premises, subject to the terms and conditions herein set forth. The rights granted to Tenant herein shall also include the right to partially assign its rights hereunder to any public or private utility company or authority to facilitate the uses contemplated herein, and all other rights and privileges reasonably necessary for Tenant's safe and efficient use and enjoyment of the easement for the purposes described above.

**7. EQUIPMENT, FIXTURES AND SIGNS.** All improvements, equipment or other property attached to or otherwise brought onto the Premises shall at all times be the personal property of Tenant and/or its subtenants and licensees. Tenant or its customers shall have the right to erect, install, maintain, and operate on the Premises such equipment, structures, fixtures, signs, and personal property as Tenant may deem necessary or appropriate, and such property, including the equipment, structures, fixtures, signs, and personal property currently on the Premises, shall not be deemed to be part of the Premises, but shall remain the property of Tenant or its customers. At any time during the term of this Lease Agreement and within a reasonable time after termination hereof, Tenant or its customers shall have the right, but not the obligation, to remove their equipment, structures, fixtures, signs, and personal property from the Premises.

**8. ASSIGNMENT AND SUBLEASE.** Tenant may assign this Lease to any person or entity at any time without the prior written consent of Landlord. After delivery by Tenant to Landlord of an instrument of assumption by an assignee that assumes all of the obligations of Tenant under this Lease, Tenant will be relieved of all liability hereunder. Tenant shall be entitled to sublease or grant licenses to use the Premises and/or the radio tower or any structure or equipment on the Premises without the prior written consent of Landlord, but no such sublease or license shall relive or release Tenant from its obligations under the Lease. Landlord may assign this Lease, in whole or in part, to any person or entity (a) who or which acquires fee title to the Premises and/or (b) who or which agrees to be subject to and bound by all provisions of this Lease. Except for the foregoing, assignment of this Lease by Landlord must be approved by Tenant, in Tenant's sole discretion.

**9. WARRANTIES AND REPRESENTATIONS.**

(a) Landlord warrants and represents that it is the owner in fee simple of the Premises, free and clear of all liens and encumbrances except as to those which may have been disclosed to Tenant, in writing prior to the execution hereof, and that it alone has full right to Lease the Premises for the term set out herein. Landlord further represents and warrants that Tenant, on paying the rent and performing its obligations hereunder, shall peaceably and quietly hold and enjoy the Premises for the term of this Lease.

(b) Landlord shall promptly pay all taxes and assessments against the Premises when due and shall avoid any delinquencies with respect thereto and shall protect and indemnify Tenant for any lack of such payment. Landlord shall also pay promptly, when due, any other amounts or sums due and owing with respect to its ownership and operation of the Premises, including, without limitation, judgments, liens, mortgage payments and other similar

encumbrances. If Landlord fails to make any payments required under this Lease, such as the payment of taxes and assessments, or breaches any other obligation or covenant under this Lease, Tenant may (without obligation), after providing ten (10) days written notice to Landlord, make such payment or perform such obligation on behalf of Landlord. The full amount of any costs so incurred by Tenant (including any attorneys' fees incurred in connection with Tenant performing such obligation) shall be paid by Landlord to Tenant with interest at the statutory rate thereon.

(c) Landlord does hereby authorize Tenant and its employees, representatives, agents and consultants to prepare, execute, submit, file and present on behalf of Landlord building, permitting, zoning or land-use applications with the appropriate local, state and/or federal agencies necessary to obtain land use changes, special exceptions, zoning variances, conditional use permits, special use permits, administrative permits, construction permits, operation permits and/or building permits. Landlord understands that any such applications and/or the satisfaction of any requirements thereof may require Landlord's cooperation, which Landlord hereby agrees to provide.

(d) Landlord shall not do or permit anything that will interfere with or negate any special use permit or approval pertaining to the Premises or cause any tower on the Premises to be in nonconformance with applicable local, state, or federal laws. Landlord shall cooperate with Tenant in any effort by Tenant to obtain certificates, permits, licenses and other approvals that may be required by any governmental authorities. Landlord agrees to execute any necessary applications, consents or other documents as may be reasonably necessary for Tenant to apply for and obtain the proper zoning approvals required to use and maintain the Premises and the tower site.

(e) Landlord has complied with all, and will continue to comply with environmental, health, and safety laws with respect to the Premises, and no action, suit, proceeding, hearing, investigation, charge, complaint, claim, demand, or notice has been filed or commenced, or received by Landlord regarding the Premises alleging any failure to so comply. Without limiting the generality of the preceding sentence, Landlord and the Premises are in compliance with all environmental, health, and safety laws. No asbestos-containing thermal insulation or products containing PCB, formaldehyde, chlordane, or heptachlor or other hazardous substances, materials, or wastes have been placed, stored, disposed, or discharged on, under or about the Premises by Landlord or, to the knowledge of Landlord, by any prior owner or user of the Premises, or any other person. To the knowledge of Landlord, there has been no release of or contamination by hazardous materials, substances or wastes on the Premises. Landlord represents and warrants that Tenant shall not be liable for any hazardous materials, substances, or wastes on, under, or about the Premises prior to Tenant's occupancy of the Premises, and Tenant shall not be liable for any violation or environmental law related to the Premises prior to Tenant's occupancy of the Premises.

(f) All utilities required for the operation of the Tenant's improvements enter the Premises through adjoining public streets or, if they pass through an adjoining private tract, do so in accordance with valid public easements. All utilities are installed and operating and all installation and connection charges have been paid in full.

(g) Landlord has no knowledge of any fact or condition that could result in the termination or reduction of the current access from the Premises to existing highways and roads, or to sewer or other utility services serving the Premises.

(h) The Premises abuts on and has direct vehicular access to a public road, or has access to a public road via a permanent, irrevocable, appurtenant easement benefiting the parcel of real property, and access to the property is provided by paved public right-of-way with adequate curb cuts available.

(i) With respect to the Premises, except as disclosed in writing to Tenant prior to the execution hereof: there currently exist no licenses, sublicenses, or other agreements, written or oral, granting to any party or parties the right of use or occupancy of any portion of the of Premises; there are no outstanding options or rights of first refusal to purchase the Premises or any portion thereof or interest therein; and there are no parties (other than Landlord) in possession of the Premises.

(j) It is intended that the legal description of the Premises accurately reflect an "as-built" survey of any existing communications tower and accordingly the parties agree that, if any part of such tower, buildings, roadways, utilities, guy wires or anchors related to the communications tower located on the Premises is located beyond the legal description of the Premises or any easements specified in the Lease, the Lease is hereby amended to provide that the Premises includes the existing location of any such improvements as part of the Premises demised in the Lease, to the extent that such improvements are located on real property owned by Landlord

(k) Landlord hereby agrees to indemnify, defend, and hold harmless Tenant and its officers, directors, shareholders, agents, and attorneys for, from, and against all damages asserted against or incurred by any of them by reason of or resulting from a breach by Landlord of any representation, warranty, or covenant of Landlord contained herein or in any agreement executed pursuant hereto.

**10. HOLD OVER TENANCY.** Should Tenant or any assignee, sublessee or licensee of Tenant hold over the Premises or any part thereof after the expiration of the term set forth herein, such holdover shall constitute and be construed as a tenancy from month-to-month only, but otherwise upon the same terms and conditions.

**11. INDEMNITIES.** The parties agree to indemnify, defend and hold harmless the other party, its parent company or other affiliates, successors, assigns, officers, directors, shareholders, agents and employees (collectively, "Indemnified Persons"), from and against all claims and liabilities (including reasonable attorneys' and fees court costs) caused by or arising out of (i) such party's breach of any of its obligations, covenants, or warranties contained herein, or (ii) such party's acts or omissions with regard to the Lease. However, in the event of an Indemnified Person's contributory negligence or other fault, the Indemnified Person shall not be indemnified hereunder to the extent that the Indemnified Person's negligence or other fault caused such claim or liability.

**12. WAIVERS**

(a) Landlord hereby waives any and all lien rights it may have, statutory or otherwise, in and to the tower facilities or any portion thereof, regardless of whether or not such is deemed real or personal property under applicable laws. Landlord will not assert any claim whatsoever against Tenant for loss of anticipatory profits or any other indirect, special, incidental or consequential damages incurred by Landlord as a result of the construction, maintenance, operation or use of the Premises by Tenant.

(b) EACH PARTY HERETO WAIVES ANY AND ALL CLAIMS AGAINST THE OTHER FOR ANY LOSS, COST, DAMAGE, EXPENSE, INJURY OR OTHER LIABILITY WHICH IS IN THE NATURE OF INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES WHICH ARE SUFFERED OR INCURRED AS THE RESULT OF, ARISE OUT OF, OR ARE IN ANY WAY CONNECTED TO THE PERFORMANCE OF THE OBLIGATIONS UNDER THIS LEASE.

**13. INSURANCE.**

(a) Tenant shall insure against property damage and bodily injury arising by reason of occurrences on or about the Premises in the amount of not less than \$1,000,000. The insurance coverage provided for herein may be maintained pursuant to master policies of insurance covering other tower locations of Tenant and its corporate affiliates. All insurance policies required to be maintained by Tenant hereunder shall be with responsible insurance companies, authorized to do business in the state where the Premises are located if required by law, and shall provide for cancellation only upon 10 days' prior written notice to Landlord. Tenant shall evidence such insurance coverage by delivering to Landlord, if requested, a copy of all such policies or, at Tenant's option, certificates in lieu thereof issued by the insurance companies underwriting such risks.

(b) Landlord shall carry, at no cost to Tenant, general property fire, hazard and casualty insurance appropriate for Landlord's improvements on Landlord's Property, and in such amounts to cause the replacement/restoration of the Property (excluding Tenant's improvements and personal property) in the event of casualty.

**14. INTERFERENCE.** During the term of this Lease, Landlord, its successors and assigns, will not grant any ground lease, license, or easement with respect to any property adjacent to the Premises: (a) for any of the uses contemplated in paragraph 5 herein; or (b) if such lease, license, or easement would detrimentally impact Tenant's communications facilities, or the use thereof. Landlord shall not cause or permit the construction of radio or communications towers on the Premises or on any other property of Landlord adjacent or contiguous to or in the immediate vicinity of the Premises, except for towers constructed by Tenant.

**15. RIGHT OF FIRST REFUSAL.** If during the term of this Lease, Landlord receives a bona fide arm's length offer, that Landlord is willing to accept, from any third party to purchase (in whole or in part) (i) Landlord's interest

under this Lease; (ii) Landlord's rights to receive rents under the terms of this Lease; (iii) the Premises, and/or to purchase an easement or any other interest in the land underneath the Premises or underneath areas of access and or utility service to the Premises. (the "Purchase Offer"), the Landlord shall serve a notice (the "Transfer Notice") upon Tenant. The forgoing rights, interest, and property described in (i), (ii), (iii), and (iv) herein shall collectively be referred to as the "Interest". The Transfer Notice shall set forth the exact terms of the Purchase Offer so received, together with a copy of such offer, and shall state the Landlord's desire to sell the Interest on such terms and conditions. Thereafter, the Tenant shall have the right of first refusal ("Right of First Refusal") and option to so lease or purchase the same. If the Tenant desires to exercise its option to purchase the Interest, it shall give notice (the "Counter Notice") to that effect to the Landlord within thirty (30) days after receipt of the Transfer Notice by Tenant. The closing of the purchase and sale of the Interest pursuant to this option shall occur at the time set forth in the Purchase Offer, provided that Tenant shall not be required to Close before the fifteenth (15<sup>th</sup>) day following the date of the Counter Notice. The Tenant's failure to give a timely Counter Notice (or its notice of refusal to purchase) shall be deemed a waiver of its rights to exercise its right of first refusal to accept the Offer but shall not be deemed a waiver of its right of first refusal with respect to any modification to the Purchase Offer or and future Purchase Offers.

**16. SECURITY.** The parties recognize and agree that Tenant shall have the right to safeguard and protect its improvements located upon or within the Premises. Consequently, Tenant may elect, at its expense, to construct such enclosures and/or fences as Tenant reasonably determines to be necessary to secure its improvements, including the tower(s), building(s), guy anchors, and related improvements situated upon the Premises. Tenant may also undertake any other appropriate means to restrict access to its communications towers, buildings, guy anchors, guy wires, and related improvements.

**17. FORCE MAJEURE.** The time for performance by Landlord or Tenant of any term, provision, or covenant of this Agreement shall be deemed extended by time lost due to delays resulting from acts of God, strikes, civil riots, floods, material or labor restrictions by governmental authority, and any other cause not within the control of Landlord or Tenant, as the case may be.

**18. CONDEMNATION.** Notwithstanding any provision of the Lease to the contrary, in the event of condemnation of the Premises, the Landlord and Tenant shall be entitled to separate awards with respect to the Premises, in the amount determined by the court conducting such condemnation proceedings based upon the Landlord's and Tenant's respective interests in the Premises. If a separate condemnation award is not determined by such court, Landlord shall permit Tenant to participate in the allocation and distribution of the award. In no event shall the condemnation award to Landlord exceed the unimproved value of the Premises, without taking into account the improvements located thereon, and in no event shall the Lease be terminated or modified (other than an abatement of rent) due to a casualty or condemnation without the prior written consent of Lender.

**19. DEFAULT.** The failure of Tenant or Landlord to perform any of the covenants of this Agreement shall constitute a default. The non-defaulting party shall give the other written notice of such default, and the defaulting party shall cure such default within thirty (30) days after receipt of such notice. In the event any such default cannot reasonably be cured within such thirty (30) day period, if the defaulting party shall proceed promptly after the receipt of such notice to cure such default, and shall pursue curing such default with due diligence, the time for curing shall be extended for such period of time as may be necessary to complete such curing, however, in no event shall this extension of time be in excess of sixty (60) days, unless agreed upon by the non-defaulting party.

**20. REMEDIES.** Should the defaulting party fail to cure a default under this Agreement, the other party shall have all remedies available either at law or in equity, including the right to terminate this Lease. In the event Landlord elects to terminate this Lease due to a default by Tenant, it shall continue to honor all sublicense commitments made by Tenant through the expiration of the term of any such commitment, it being intended hereby that each such commitment shall survive the early termination of this Lease.

**21. ATTORNEY'S FEES.** If there is any legal proceeding between Landlord or Tenant arising from or based on this Agreement, the unsuccessful party to such action or proceeding shall pay to the prevailing party all costs and expenses, including reasonable attorney's fees and disbursements, incurred by such prevailing party in such action or proceeding and in any appeal in connection therewith. If such prevailing party recovers a judgment in any such action, proceeding or appeal, such costs, expenses and attorney's fees and disbursements shall be included in and as a part of such judgment.

**22. PRIOR AGREEMENTS.** The parties hereby covenant, recognize and agree that the terms and provisions of this Lease shall constitute the sole embodiment of the arrangement between the parties with regard to the Premises, and that all other written or unwritten agreements, contracts, or leases by and between the parties with regard to the Premises are hereby terminated, superceded and replaced by the terms hereof.

**23. LENDER'S CONTINUATION RIGHTS.**

(a) Landlord agrees to recognize the leases/licenses of all subtenants and sublicensees and will permit each of them to remain in occupancy of its premises notwithstanding any default hereunder by Tenant so long as each such respective subtenant or sublicensee is not in default under the lease/license covering its premises. Landlord agrees to execute such documents as any such subtenant and/or sublicensee might reasonably require, including customary subordination, non-disturbance and attornment agreements and/or Landlord recognition agreements, to further memorialize the foregoing, and further agrees to use reasonable efforts to also cause its lenders to similarly acknowledge, in writing, subtenant/sublicensee's right to continue to occupy its premises as provided above.

(b) Landlord consents to the granting by Tenant of a lien and security interest in Tenant's interest in the Lease and all of Tenant's personal property and fixtures attached to the real property described herein, and furthermore consents to the exercise by Tenant's mortgagee of its rights of foreclosure with respect to its lien and security interest. Landlord agrees to recognize Tenant's Lender (as hereinafter defined) as Tenant hereunder upon any such exercise by Lender of its rights of foreclosure.

(c) Landlord hereby agrees to give Lender written notice of any breach or default of the terms of the Lease, within fifteen days after the occurrence thereof, at such address as is specified by Lender. Landlord further agrees that no default under the Lease shall be deemed to have occurred unless such notice to Lender is also given and that, in the event of any such breach or default under the terms of the Lease, Lender shall have the right, to the same extent, for the same period and with the same effect, as the Tenant, plus an additional ninety days after any applicable grace period to cure or correct any such default whether the same shall consist of the failure to pay rent or the failure to perform, and Landlord agrees to accept such payment or performance on the part of the Lender as though the same had been made or performed by the Tenant. Landlord agrees that it shall not exercise its right to terminate the Lease or any of its other rights under the Lease upon breach or default of the terms of the Lease without so affording Lender the foregoing notice and periods to cure any default or breach under the Lease.

(d) Landlord hereby (i) agrees to subordinate any lien or security interest which it may have which arises by law or pursuant to the Lease to the lien and security interest of Lender in the collateral securing all indebtedness at any time owed by Tenant to the Lender (the "Collateral"), and (ii) furthermore agrees that upon an event of default under the loan documents between Tenant and Lender or the Lease, Lender shall be fully entitled to exercise its rights against the Collateral prior to the exercise by the Landlord of any rights which it may have therein, including, but not limited to, entry upon the Premises and removal of the Collateral free and clear of the Landlord's lien and security interest.

(e) Landlord acknowledges that nothing contained herein shall be deemed or construed to obligate the Lender to take any action hereunder, or to perform or discharge any obligation, duty or liability of Tenant under the Lease.

(f) During the term of this Lease, Landlord covenants and agrees that it will not grant, create, or suffer any claim, lien, encumbrance, easement, restriction, or other charge or exception to title to the Premises (an "Encumbrance") without the prior written consent of Tenant; provided, however, that it is expressly agreed and understood that Landlord may subject its interest in the Premises to a first mortgage lien if its lender shall agree for itself and its lender, its successors, and assigns, by written instrument in form and substance reasonably satisfactory to Tenant: (1) to be bound by the terms of this Lease; (2) not to disturb Tenant's use or possession of the Premises in the event of a foreclosure of such lien or encumbrance so long as Tenant is not in default hereunder; and (3) not to

join Tenant as a party defendant in any such foreclosure proceeding taken by it. With regard to any existing Encumbrance, Landlord covenants and agrees that, upon the request of Tenant, it shall use its best efforts to cause the holder thereof to execute a customary *Subordination Non-disturbance and Attornment Agreement* providing to Tenant the rights afforded to Tenant above with regard to future first mortgage liens.

**24. NOTICE/RIGHTS TO CURE.** Supplementing the provisions of Section 23 hereof:

(a) The Tenant shall have the right from time to time to mortgage or otherwise encumber the Tenant's interest in this Lease; provided, however, in no event shall there be more than one such mortgage or encumbrance outstanding at any one time. If the Tenant shall so mortgage (each a "Mortgage") the Tenant's interest in this Lease to a lender (such lender, and any successor, assign, designee or nominee of such lender, hereinafter a "Lender"), the Tenant or such Lender shall give the Landlord prompt notice of such Mortgage and furnish the Landlord with a complete and correct copy of such Mortgage, certified as such by the Tenant or such Lender, together with the name and address of such Lender. After receipt of the foregoing, the Landlord shall give to such Lender, at the address of such Lender set forth in such notice, and otherwise in the manner provided by Section 27 of this Lease, a copy of each notice of default hereunder at the same time as, and whenever, any such notice of default shall thereafter be given by the Landlord to the Tenant, and no such notice of default by the Landlord shall be deemed to have been duly given to the Tenant unless and until a copy thereof shall have been so given to Lender. Notices to Lender under this Section 24 shall be deemed given on the date received by Lender. Lender (i) shall thereupon have a period of ninety (90) days more than given to the Tenant in each instance in the case of a default in the payment of rent and in the case of any other default, for remedying the default or causing the same to be remedied, provided, however, if any non-rent default is not capable of remedy by Lender within such ninety (90) day period, Lender shall have such ninety (90) day period to commence curing the default and such greater period of time as is necessary to complete same with due diligence, and (ii) shall, within such periods and otherwise as herein provided, have the right to remedy such default or cause the same to be remedied. The Landlord shall accept performance by a Lender of any covenant, condition or agreement on the Tenant's part to be performed hereunder with the same force and effect as though performed by the Tenant. Notwithstanding anything to the contrary contained herein, if the default is of such a nature that it cannot be cured by Lender (for example, the bankruptcy of the Tenant), such event shall not be a default under this Lease.

(b) Notwithstanding any of the provisions of this Lease to the contrary, no default by the Tenant shall be deemed to exist as long as Lender within the periods set forth in paragraph (a) above shall have delivered to the Landlord its written agreement to take the action described in clause (i) or (ii) herein and thereafter, in good faith, shall have commenced promptly either (1) to cure the default and to prosecute the same to completion, or (2) if possession of the Premises is required in order to cure the default, to institute foreclosure proceedings and obtain possession directly or through a receiver, and to prosecute such proceedings with diligence and continuity and, upon obtaining such possession, commence promptly to cure the default and to prosecute the same to completion with diligence and continuity, provided that during the period in which such action is being taken (and any foreclosure proceedings are pending), all of the other obligations of the Tenant under this Lease, to the extent they are reasonably susceptible to being performed by Lender, are being performed. However, at any time after the delivery of the aforementioned agreement, Lender may notify the Landlord, in writing, that it has relinquished possession of the Premises or that it will not institute foreclosure proceedings or, if such proceedings have been commenced, that it has discontinued or will discontinue them, and in such event, Lender shall have no further liability under such agreement from and after the date it delivers such notice to the Landlord, and, thereupon, the Landlord shall have the unrestricted right to terminate this Lease and to take any other action it deems appropriate by reason of any default, and upon any such termination the provisions of Section 24 below shall apply. Notwithstanding anything to the contrary contained herein, provided such Lender shall have otherwise complied with the provisions of this Section 23, such Lender shall have no obligation to cure any defaults which are not susceptible to being cured by such Lender.

(c) Except as provided in Section 24(a) above, no Lender shall become liable under the provisions of this Lease or any lease executed pursuant to Section 24 hereof unless and until such time as it becomes, and then only for as long as it remains, the owner of the leasehold estate credited hereby or thereby. This Lease shall not be amended or modified without the consent of any Lender which has delivered the notice provided for in Section 24(a) hereof. In

the event that a Lender shall become the owner of such leasehold estate, such Lender shall not be bound by any modification or amendment of the Lease made subsequent to the date of the Mortgage and delivery to the Landlord of the notice provided in Section 24(a) hereof and prior to its acquisition of such interest unless Lender shall have consented to such modification or amendment at the time it was made or at the time of such acquisition.

## **25. RIGHT TO NEW LEASE.**

(a) In the case of termination of this Lease for any reason, or in the event this Lease is rejected or disaffirmed pursuant to any bankruptcy, insolvency or other law affecting creditor's rights, the Landlord shall give prompt notice thereof to a Lender whose name and address the Landlord has received pursuant to notice made in compliance with the provisions of Section 24(a), at the address of such Lender set forth in such notice, and otherwise in the manner provided by Section 27 of this Lease. The Landlord, on written request of such Lender made any time within thirty (30) days after the giving of such notice by the Landlord, shall promptly execute and deliver a new lease of the Premises to Lender or its designee or nominee, for the remainder of the term upon all the covenants, conditions, limitations and agreements contained herein (including, without limitation, options to extend the term of this Lease) except for such provisions which must be modified to reflect such termination, rejection or disaffirmance and the passage of time, provided that such Lender (i) shall pay to the Landlord, simultaneously with the delivery of such new lease, all unpaid rent due under this Lease up to and including the date of the commencement of the term of such new lease and all reasonable expenses, including, without limitation, reasonable attorneys' fees and disbursements and court costs, incurred by the Landlord in connection with the default by the Tenant, the termination of this Lease and the preparation of the new lease, and (ii) shall cure all defaults existing under this Lease which are susceptible to being cured by such Lender promptly and with due diligence after the delivery of such new lease. Notwithstanding anything to the contrary contained herein, provided such Lender shall have otherwise complied with the provisions of this Section 25, such Lender shall have no obligation to cure any defaults which are not susceptible to being cured by such Lender (for example, the bankruptcy of the Tenant).

(b) Any such new lease and the leasehold estate thereby created shall, subject to the same conditions contained in this Lease, continue to maintain the same priority as this Lease with respect to any mortgage, including any fee mortgage, encumbering the Premises or any part thereof or any leasehold interest therein or any other lien, charge or encumbrance thereon whether or not the same shall then be in existence. Any new lease made pursuant to this Section 25 shall be accompanied by a conveyance of the Landlord's interest, if any, to the improvements on the land demised hereby (free of any mortgage or other lien, charge or encumbrance created or suffered to be created by the Landlord but not any mortgage or other lien, charge or encumbrance created or suffered to be created by the Tenant) for a term of years equal in duration to the term of the new lease as the same may be extended pursuant to the provisions of said new lease, subject, however, to any lease of such improvements theretofore made by the Tenant, as landlord, which is then in effect. Concurrently with the execution and delivery of such new lease, the Landlord shall assign to the tenant named therein all of its right, title and interest in and to moneys (including insurance and condemnation proceeds), if any, then held by or payable to the Landlord or any other depository which the Tenant would have been entitled to receive but for the termination of this Lease, and any sums then held by or payable to the Landlord or such depository shall, subject to the provisions of Section 26 hereof, be deemed to be held by or payable to it as the Landlord or depository under the new lease.

(c) Upon the execution and delivery of a new lease under this Section 25, all subleases which theretofore have been assigned to, or made by, the Landlord shall be assigned and transferred, without recourse, by the Landlord to the tenant named in such new lease. Between the date of termination of this Lease and the date of execution of the new lease, if a Lender shall have requested such new lease as provided in Section 25(a), the Landlord shall not cancel any subleases or accept any cancellation, termination or surrender thereof (unless such termination shall be effected as a matter of law on the termination of this Lease) or enter into new subleases without the consent of Lender.

(d) For so long as Lender shall have the right to enter into a new lease with the Landlord pursuant to this Section 25, the Landlord shall not enter into a new lease of the Premises with any person or entity other than Lender, without the prior written consent of Lender.

## **26. ADDITIONAL PROVISIONS.**

(a) The parties hereto agree that (1) the Tenant is in possession of the Premises notwithstanding the fact that the Tenant has subleased, or may in the future sublease, certain of the improvements thereon to third parties and (2) the requirements of Section 365(h) of Title 11 of the United States Code (the "Bankruptcy Code") with respect to the Tenant's possession of the leasehold under this Lease are satisfied. Accordingly, the right of the Tenant to remain in possession of the leasehold under this Lease shall continue notwithstanding any rejection of this Lease in any bankruptcy proceeding involving the Landlord, or any other actions by any party in such a proceeding. This provision, while included in this Lease, has been separately negotiated and shall constitute a separate contract between the parties as well as a part of this Lease. The provisions of this Section 26(a) are for the benefit of the Tenant and its assigns, including, without limitation, Lender. The parties hereto also agree that Lender is a party in interest and shall have the right to appear as a party in any proceeding brought under any bankruptcy law or under any other law which may affect this Lease.

(b) The provisions of Sections 24, 25, and 26 hereof shall survive the termination, rejection or disaffirmance of this Lease and shall continue in full force and effect thereafter to the same extent as if Sections 24, 25 and 26 hereof were a separate and independent contract made by the Landlord, the Tenant and Lender and, from the effective date of such termination, rejection or disaffirmance of this Lease to the date of execution and delivery of such new lease. Lender may use and enjoy the leasehold estate created by this Lease without hindrance by the Landlord. The aforesaid agreement of the Landlord to enter into a new lease with Lender shall be deemed a separate agreement between the Landlord and such Lender, separate and apart from this Lease as well as a part of this Lease, and shall be unaffected by the rejection of this Lease in any bankruptcy proceeding by any party.

(c) The Landlord shall have no right and expressly waives any right arising under applicable law, in and to the rentals payable to the Tenant under any lease of the improvements on the land demised hereunder, if any, which rentals may be assigned by the Tenant to Lender.

(d) If a Mortgage is in effect, (i) this Lease shall not be modified or amended by the parties hereto, or terminated or surrendered by the Tenant, nor shall the Landlord accept any such termination or surrender of this Lease by the Tenant, without the prior written consent of Lender and (ii) the Landlord shall not have the right to terminate this Lease in the event of a casualty or condemnation without the prior written consent of Lender.

(e) The provisions of Sections 24, 25 and 26 hereof are for the benefit of Lender and may be relied upon and shall be enforceable by Lender as if Lender were a party to this Lease.

(f) This Lease may be assigned by the Tenant (and Lender if and when it becomes the tenant hereunder) and any space in any of the improvements on the Premises may be sublet by the Tenant (and Lender if and when it becomes the tenant hereunder), each without the consent of the Landlord.

(g) This Lease shall have priority over all liens and encumbrances on the fee estate of the Landlord in the Premises or any improvements thereon, including mortgages on the fee estate which were executed prior to the execution of this Lease.

(h) The Landlord shall, within ten days of the request of the Tenant or any Lender or prospective Lender, provide an estoppel certificate as to any matters reasonably requested by the Tenant or Lender.

(i) Lender shall have the right to participate in the adjustment of losses with any insurance company with respect to any damage or destruction of the Premises or any improvements thereon and such Lender shall have the right to supervise and control the receipt and disbursements of all insurance proceeds and shall be entitled to all insurance proceeds pursuant to the terms of the Mortgage, or as the case may be, pursuant to the terms of the loan documents secured by such Mortgage.

(j) Notwithstanding anything to the contrary contained herein, in the event of any taking of all or any part of the Premises, Lender shall have the right to participate in any condemnation proceedings settlement discussions, shall have the right to supervise and control the receipt and disbursement of all condemnation awards and shall be entitled to all condemnation awards which are not used to restore the Premises to be applied to the reduction of the debt secured by the Mortgage; provided, however, that the Landlord shall be entitled to the balance of the award after payment of the debt secured by the Mortgage in full until the Landlord obtains the portion of the award to which it is entitled under this Lease prior to the insertion of this Section 26(j). In the event of a partial taking, this Lease shall continue and the rent provided in this Lease shall be reduced proportionately, from and after the date of such taking, based upon the percentage of land which is taken; provided, however, if the portion of the land taken is such that the Tenant cannot in its reasonable judgment economically continue its operations on the Premises, the Tenant, with the

prior written consent of Lender, shall have the right to terminate this Lease. Upon a taking for a temporary period, this Lease shall continue and the entire award shall be payable to the Tenant, subject to the provisions of the Mortgage, or as the case may be, subject to the provisions of the loan documents secured by such Mortgage.

(k) The right to extend or renew this Lease and any right of first refusal to purchase the Premises may be exercisable by the holder of a Mortgage and, before the expiration of any periods to exercise such a right, the Landlord must provide to Lender at least thirty (30) days prior written notice before the expiration of the right to so extend or renew in order to extinguish Lender's right to so extend, renew or purchase.

(l) Under no circumstances shall the fee estate of the Landlord and the leasehold estate created hereby merge, even though owned by the same party, without the written consent of the holder of a Mortgage.

(m) Notwithstanding any provisions of this Lease to the contrary, so long as a Mortgage is in effect, the Tenant shall have no right to terminate the Lease with respect to any event unless the written approval of Lender holding a Mortgage on the leasehold estate is obtained, including, without limitation, the right to terminate in the event of any damage or condemnation.

**27. NOTICES.** All notices, requests, claims, demands, and other communications hereunder shall be in writing and may be hand delivered (provided the deliverer provides proof of delivery) or sent by nationally-established overnight courier that provides proof of delivery, or certified or registered mail (postage prepaid, return receipt requested). Notice shall be deemed received on the date of delivery as demonstrated by the receipt of delivery. Notices shall be delivered to a parties at the address below, or to such other address that a party below may provide from time to time:

**If to Landlord:**

Frances S. Roberts  
103 Bennetts Mill Road  
South Shore, KY 41175  
Phone #: 606-932-3636

**If to Tenant:**

Global Tower Assets, LLC  
750 Park of Commerce Blvd.  
Suite 300  
Boca Raton, FL 33487-3612  
Attn: Asset Management  
Fax: 561-995-0321  
**Ref: KY-5005 Franklin Furnace**

**If to Lender:**

Toronto Dominion (Texas) LLC  
77 King Street West  
18<sup>th</sup> Floor  
Toronto, Ontario  
Canada M5K 1A2  
Attn: GTP Deal Manager  
Fax: 416-307-3826

With copy to:

The Bank of New York Mellon  
as Indentured Trustee  
ABS Structured Finance Services,  
101 Barclay Street, Floor 4 West  
New York, NY 10286  
Attn: Alan Terezian  
Fax: 212-815-2493

**28. MISCELLANEOUS.**

(a) Each party hereto warrants and represents that it has the necessary power and authority to enter into and perform its respective obligations under this agreement.

(b) If any term of this Lease is found to be void or invalid, such invalidity shall not affect the remaining terms of this Lease, which shall continue in full force and effect.

(c) All attached exhibits are hereby incorporated by this reference as if fully set forth herein.

(d) Failure of party to insist on strict performance of any of the conditions or provisions of this Lease, or failure to exercise any of a party's rights hereunder, shall not waive such rights.

(e) This Lease shall be governed by and construed in accordance with the laws of the state in which the Leased Premises are located.

(f) This Lease constitutes the entire Lease and understanding of the parties and supersedes all offers, negotiations and other lease agreements with regard to the Leased Premises. There are no representations or understandings of any kind not set forth herein. Any amendment to this Lease must be in writing and executed by both parties.

(g) This agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors and assigns.

(h) A short-form memorandum of this Lease may be recorded at Landlord or Tenant's option in the form as depicted in **Exhibit 3** attached hereto.

**[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK,  
SIGNATURES BEGIN ON NEXT PAGE]**

IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the date last signed by a party hereto.

**WITNESSES:**

Sarah Holthaus  
Name: Sarah Holthaus

Melissa James  
Name: Melissa K. James

Ruby Deerfield  
Name: Ruby Deerfield

Ruby Deerfield  
Name: Ruby Deerfield

**WITNESSES:**

K. De Jesus  
Name: Kesha DeJesus

[Signature]  
Name: RONNIE EVANUS

**LANDLORD:**

Kathryn S. Penkava as to an undivided 1/2 interest,  
Marc Lewis Marlette as to an undivided 1/2 interest;  
subject to the life estate of Frances S. Roberts, aka  
Frances S. Marlette

By: Kathryn S. Penkava  
Name: Kathryn S. Penkava  
Date: 17 Aug 2011

By: [Signature]  
Name: ROBERT PENKAVA  
Date: 17 Aug 2011

By: [Signature]  
Name: Marc L. Marlette  
Date: Aug 16, 2011

By: [Signature]  
Name: Elizabeth W. Marlette  
Date: August 16, 2011

**TENANT:**

**Global Tower Assets, LLC**  
a Delaware limited liability company

By: [Signature]  
Name: Alexander L. Gollman **Bernard A. Borghei**  
Title: President and COO **Senior Vice President**  
Date: 8-24-2011 **Operations**



EXHIBIT 1

Description of Parent Tract

A Leasehold Estate (old leasehold) being a portion of the following described parent parcel:

THIS TRACT is situated at Bennets Mills on Tygart Creek, Greenup County, Kentucky, its calls beginning on a scrubby elm above the road on the east side of the creek and east of the old home residence and a corner between Secrest and Parris fence N. 75 degrees 00' E. 34.5 poles to a walnut in a fence, N. 47 degrees 00' E. 154 poles (N. 50 deg. E. to top of ridge) S. 33 degrees 00' E. 21.46 poles to white oak in fence, S. 65 degrees 00' E. 21.20 poles to broken-over locust in fence, S. 47 degrees 30' E. 16.40 poles to white oak, BILL Bester's corner, S. 6 degrees 00' E. 26.40 poles to stake, S. 32 degrees 30' E. 16.60 poles to stake, S. 5 degrees 30' E. 3.30 poles to stake, S. 6 degrees 15' W. 10.90 poles to white oak, S. 12 degrees 00' W. 11.50 poles to white oak at Grays Branch Road, S. 42 degrees 30' W. 13.00 poles to ash in fence across the road, S. 48 degrees 45' W. 10.48 poles to locust, S. 53 degrees 00' E. 7.90 poles to locust, S. 30 degrees 00' W. 12.56 poles to locust, S. 27 degrees 00' E. 34.56 poles to black oak in fence, S. 39 degrees 00' E. 14.56 poles to hickory in fence, S. 3 degrees 15' W. 19.52 poles to the small oak in fence, S. 49 degrees 00' E. 27.44 poles to twin black oaks in fence, fence S. 26 degrees 00' W. 64.72 poles to stake in fence, S. 73 degrees 30' E. 22.76 poles to stake, S. 64 degrees 00' E. 7.66 poles to stake, S. 22 degrees 30' W. 36 poles to stake, S. 10 degrees 00' W. 11 poles to stake, S. 76 degrees 15' W. 28 poles to stake, S. 41 degrees 45' W. 17.42 poles to stake, S. 22 degrees 00' W. 17.20 poles to top of knob, N. 75 degrees 00' W. 34.36 poles to top of another knob, N. 28 degrees 00' W. 12 poles to black oak, N. 35 degrees 00' W. 26 poles to stake, N. 62 degrees 30' W. 3 poles to stake opposite hickory and white oak, N. 61 degrees 00' W. 6.50 poles to charnut oak, S. 41 degrees 00' W. 13 poles to large black oak in gap in ridge, S. 52 degrees 00' W. 7.44 poles to stake, S. 58 degrees 00' W. 13 poles to stone in Frank Keen's line with same, N. 4 degrees 15' E. 39.66 poles to stone at foot of hill near road, N. 13 degrees 00' W. 3 poles to middle of the road with same, N. 19 degrees 00' E. 3.41 poles, N. 26 degrees 00' W. 19.36 poles, N. 26 degrees 00' W. 24 poles, N. 44 degrees 30' W. 7.13 poles, N. 60 degrees 30' W. 3 poles, N. 66 degrees 45' W. 4.58 poles, N. 29 degrees 00' W. 11 poles to place in road opposite old gum corner, S. 67 degrees 30' W. 9.38 poles to middle of old creek-bed, S. 3 degrees 00' W. 16 poles, S. 18 degrees 15' W. 16 poles, S. 40 degrees 45' W. 3.91 poles, N. 78 degrees 45' W. 17.41 poles, N. 59 degrees 00' W. 6.19 poles, N. 41 degrees 00' W. 9.32 poles, N. 28 degrees 00' W. 12.28 poles, N. 25 degrees 15' W. 11.33 poles, N. 22 degrees 00' W. 12.76 poles, N. 55 degrees 00' W. 4.59 poles, S. 72 degrees 30' W. 4.10 poles, S. 28 degrees 30' W. 7.17 poles, S. 10 degrees 45' W. 6.99 poles, S. 5 degrees 00' W. 9.09 poles, S. 2 degree 00' E. 6.39 poles, S. 7 degrees 45' W. 6.51 poles, S. 3 degrees 30' E. 31.62 poles, S. 62 degrees 30' E. 23.20 poles, S. 62 degrees 30' E. 2.33 poles, S. 36 degrees 45' S. 63 poles, S. 9 degrees 45' W. 3.41 poles, S. 45 degrees 30' W. 2.11 poles, S. 64 degrees 00' W. 3.20 poles, N. 30 degrees 15' W. 6.56 poles, N. 34 degrees 00' W. 13.69 poles, N. 35 degrees 15' W. 5.73 poles, N. 36 degrees 30' W. 6.08 poles, S. 38 degrees 30' W. 12.61 poles, S. 79 degrees 30' W. 2.76 poles, N. 38 deg. 30' W. 32 poles, N. 25 degrees 15' W. 7 poles to middle of road, up same, S. 30 degrees 30' W. 36.41 poles, S. 59 degrees 00' W. 6.17 poles, S. 42 degrees 00' W. 6.17 poles, S. 45 degrees 30' W. 7.54 poles, fence leaving road, S. 60 degrees 30' W. 24.22 poles to cross on rock at top of point, S. 36 degrees 30' W. 40.54 poles, crossing hollow to black oak on ridge, N. 66 degrees 30' W. 3.90 poles to stake on lower side of pine, N. 43 deg. 00' W. 56.5 poles to long stone in a stone-pole, N. 46 degrees 00' E. 30.5 poles to a set stone, agreed - Secrest and Chaffin, N. 35 degrees 30' W. 42 poles to pine down and ground, S. 75 degrees 30' W. 15.03 poles to pine by hill road, N. 82 degrees 00' W. 39.44 poles to stone pile between two black oak trunks, N. 13 degrees 00' W. 30 poles to Grant Perry's line, with Perry line, N. 68 degrees 00' E. 161 poles to middle of Tygar Road, S. 33 degrees 00' E. 10.58 poles (by stadia on account of high-water), S. 72 degrees 45' E. 3.96 to east side of Tygart chance on Secrest side, N. 26 degrees 15' E. 10.67 poles, N. 51 degrees 00' E. 3.35 poles, N. 75 degrees 00' E. 6.52 poles, N. 30 degrees 30' E. 5.61 poles, S. 37 degrees 00' E. 3.77 poles, S. 79 degrees 30' E. 2.27 poles, S. 30 degrees 45' E. 6.34 poles, S. 49 degrees 00' W. 11.36 poles, DUE EAST 11.53 poles, S. 33 degrees 00' E. 9.63 poles, N. 35 degrees E. 7.34 poles, N. 38 degrees 45' E. 4.41 poles, S. 72 degrees 00' E. 5.60 poles, S. 54 degrees 30' E. 5.23 poles, S. 26 degrees 30' E. 3.97 poles, S. 3 degrees 00' W. 3.11 poles, S. 2 degrees 00' E. 26.54 poles, S. 43 degrees 30' E. 17.28 poles, N. 63 degrees 00' E. 2.68 poles, S. 35 degrees 00' E. 6.95 poles to the beginning containing 582.65 Acres more or less.

**Description of Parent Tract**

**Continued**

EXCEPTING AND RESERVING from this conveyance the real estate previously conveyed by the following documents:

1. Deed of Conveyance dated December 19, 1940, from B. E. Secret to Grace Car-tee of record in the aforesaid Clerk's office in Deed Book 95, Page 423.

2. Any part of the "Third Tract" of that certain Deed of Conveyance dated October 24, 1947, from B. E. Secret, et al., to Howard McGloze, et al., of record in the aforesaid Clerk's office in Deed Book 119, Page 604, which may be a part of the above-described property.

3. Indenture dated December 09, 1953, from Frank Secret, et al., to Grayson Rural Electric Co-operative Corporation, of record in the aforesaid Clerk's office in Deed Book 163, Page 134.

4. Deed of Conveyance dated November 27, 1973, from Frank N. Secret, et al., to the Commonwealth of Kentucky, of record in the aforesaid Clerk's office in Deed Book 317, Page 132.

5. Deed of Conveyance dated March 13, 1987, from Frank N. Secret, et al., to William E. Secret, Jr., et al., of record in the aforesaid Clerk's office in Deed Book 359, Page 495.

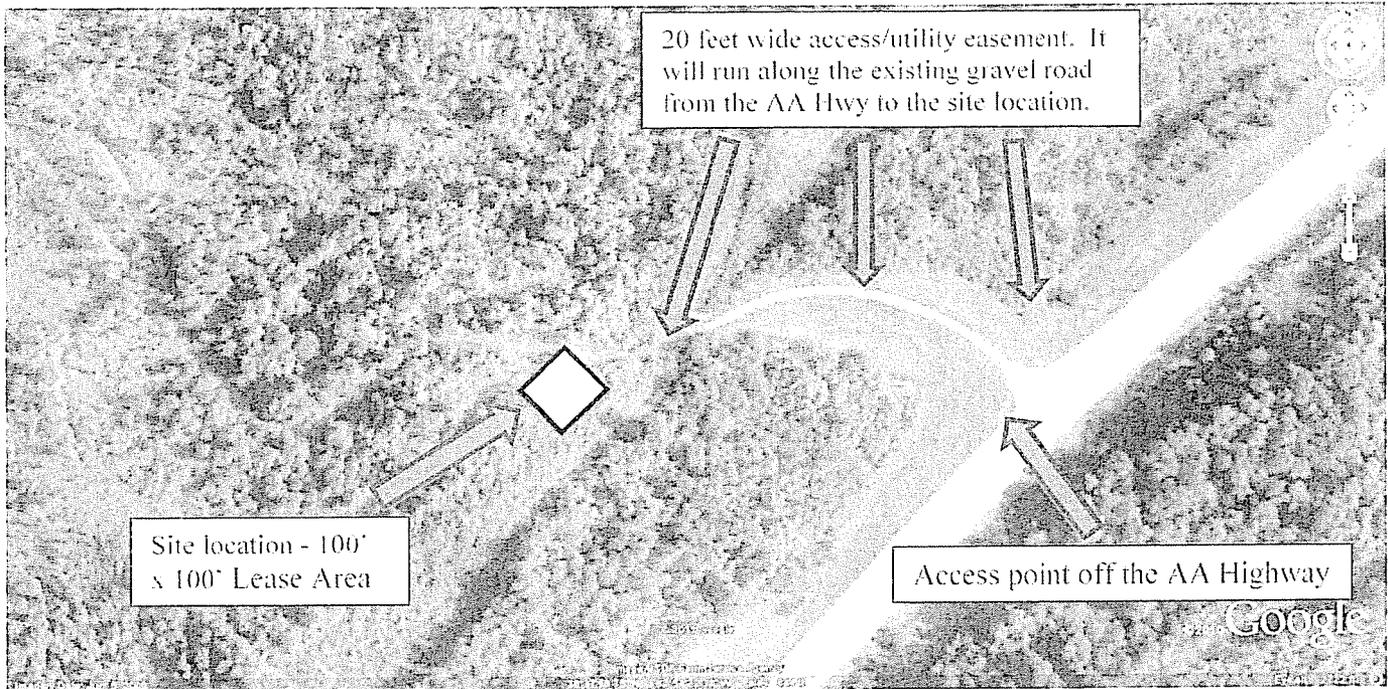
LESS AND EXCEPT that portion of property conveyed to Commonwealth of Kentucky, for the use and benefit of the Transportation Cabinet, Department of Highways from Frances S. Roberts (aka Frances S. Mariette, widow and Kathryn S. Penkava and Robert R. Penkava, her husband, by Deed of Conveyance, recorded on April 09, 2010 in Deed Book 555, Page 593.

AND BEING a portion of the same property conveyed to Kathryn S. Penkava and Frances S. Mariette, as to 1/2 interest from Frank N. Secret and Kathryn Secret by General Warranty Deed dated December 13, 1992 and recorded December 23, 1992 in Deed Book 411, Page 29, AND FURTHER CONVEYED to Marc Lewis Mariette, as to 1/2 interest from Frances S. Roberts, aka Frances S. Mariette, and Bill Roberts, her husband by Quitclaim Deed dated August 15, 2003 and recorded on December 23, 2010 in Deed Book 564, Page 505.

Tax Parcel No. 003-00-00-003.00

**EXHIBIT 2**

The Premises is depicted/described as follows and will be replaced by a surveyed legal description when available



**EXHIBIT 3**

**For recording, please forward to:**

Lawyers Title Insurance Corp. ACLSS  
7130 Glen Forest Drive, Ste 300  
Richmond, VA 23226

**Prepared by:**

Global Tower Assets, LLC  
750 Park of Commerce Blvd., Ste. 300  
Boca Raton, FL 33487

**FORM OF MEMORANDUM OF LEASE**

This Memorandum of Lease evidences a Lease ("Lease") between \_\_\_\_\_ ("Landlord"), whose address is \_\_\_\_\_ and Global Tower Assets, LLC a Delaware limited liability company, whose mailing address is 750 Park of Commerce Boulevard, Suite 300, Boca Raton, Florida 33487 ("Tenant"), commencing on date Tenant begins construction at the site (the "Commencement Date"), which shall be confirmed in writing from Tenant to Landlord, for certain real property (the "Premises"), as described in **Exhibit I** attached hereto.

Landlord ratifies, restates and confirms the Lease between Landlord and Tenant the Premises, subject to the terms and conditions of the Lease. The Lease provides for the Lease by the Landlord to Tenant of the Premises for an initial term of Ten (10) years with Four (4) renewal options of an additional Five (5) years each, and provides:

1. Landlord will attorn to any mortgagee of Tenant and will subordinate any Landlord's lien to the liens of Tenant's mortgagees;
2. The Lease restricts Landlord's ability to utilize, or allow the utilization of its adjacent property for the construction, operation and/or maintenance of communications towers and related facilities;
3. The Premises may be used exclusively by Tenant for all legal purposes, including without limitation, erecting, installing, operating and maintaining radio and communications towers, buildings, and equipment;
4. Tenant is entitled to sublease and/or sublicense the Premises, including any communications tower located thereon; and,
5. Under certain circumstances, Tenant has a right of first refusal to acquire the Premises from Landlord.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK,  
SIGNATURES BEGIN ON NEXT PAGE]

*IN WITNESS WHEREOF, the parties hereto have executed this MEMORANDUM OF LEASE as of the date last signed by a party hereto.*

**WITNESSES:**

**LANDLORD:**

\_\_\_\_\_  
Name: \_\_\_\_\_  
  
\_\_\_\_\_  
Name: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**LANDLORD ACKOWLEGDMENT**

STATE OF \_\_\_\_\_ )

) ss.:

COUNTY OF \_\_\_\_\_

Exhibit only.

On this \_\_\_\_ day of \_\_\_\_\_, 2011, before me personally appeared \_\_\_\_\_ and \_\_\_\_\_, both of whom I know to be the person(s) described in and who executed the foregoing instrument, and acknowledged that he/she/they executed the same as his/her/their free act and deed.

Please do not execute.

**WITNESS** my hand and Official Seal at office this \_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

**WITNESSES:**

**TENANT:**

**Global Tower Assets, LLC**  
a Delaware limited Liability company

\_\_\_\_\_  
Name: Kesha DeJesus

By: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name: Alexander L. Gellman  
Title: President and COO

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**TENANT ACKNOWLEDGMENT**

**STATE OF FLORIDA** )  
 ) ss.:  
**COUNTY OF PALM BEACH** )

The foregoing instrument was **Exhibit only.** \_\_\_\_\_, 2011, by Alexander L. Gellman, the President and COO of Global Tower Assets, LLC, a Delaware limited liability company, on behalf of the company, who is personally known to me.

**Please do not execute.**

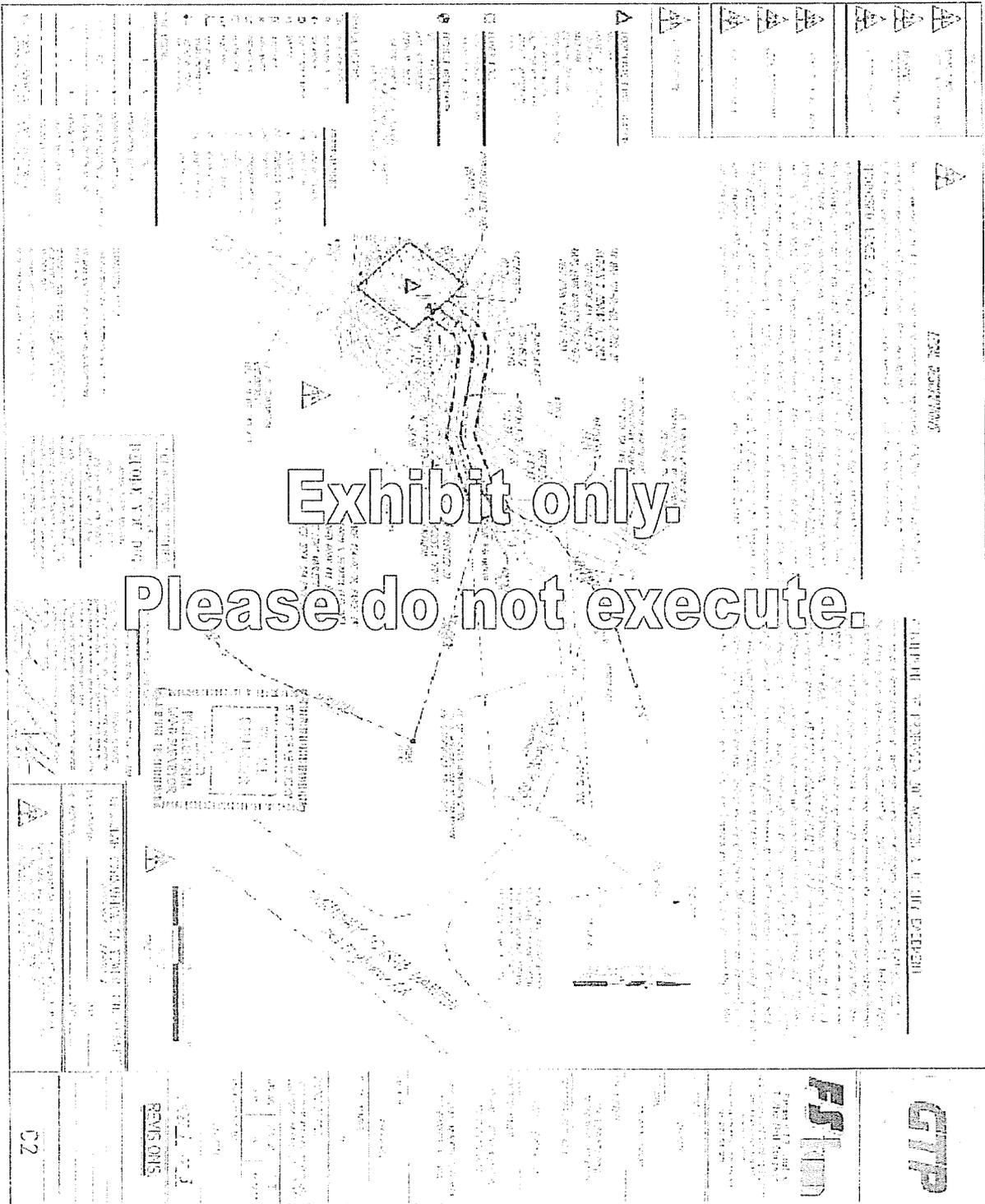
**WITNESS** my hand and Official Seal at office this \_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
Notary Public

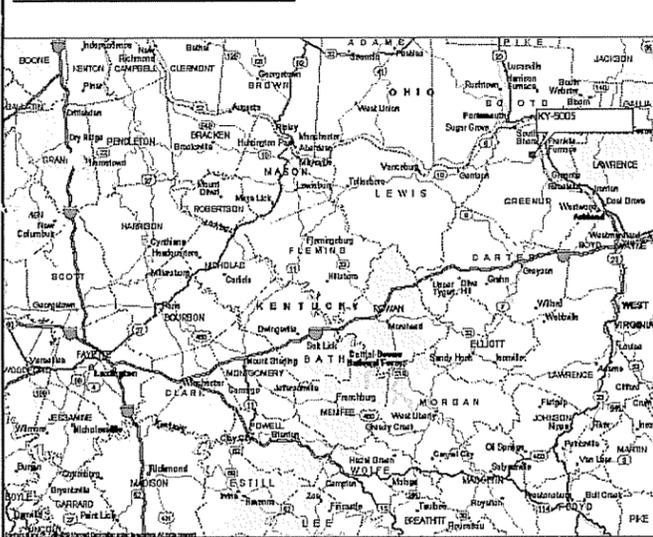
My Commission Expires:  
\_\_\_\_\_

EXHIBIT I

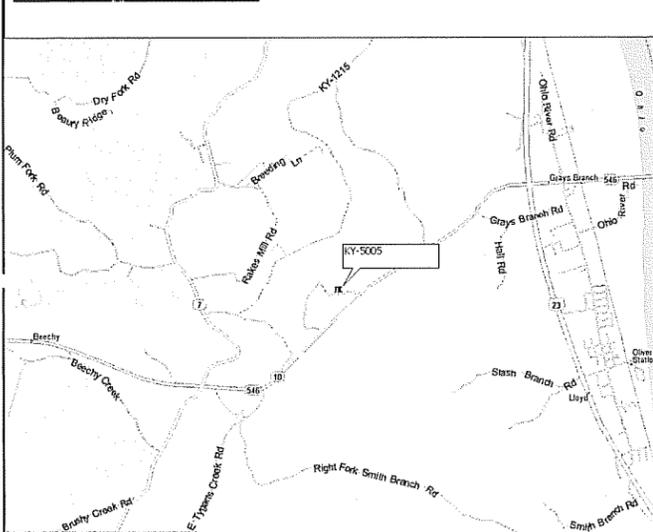
Premises is depicted as follows and shall be replaced with a surveyed legal description when available



**LOCATION MAP**



**VICINITY MAP**



**DRIVE DIRECTIONS**

**FROM LEXINGTON:**  
TAKE US-23 NORTH. TURN LEFT ONTO SR-10, SR-546. TURN RIGHT ONTO GRAYS BRANCH ROAD. THE SITE IS JUST AHEAD.

DEPARTMENT	NAME / SIGNATURE	DATE
LAND OWNER / TOWER OWNER		
SITE ACQUISITION AGENT		
ZONING / PERMITTING AGENT		
A&E MANAGER		
CONSTRUCTION MANAGER		
RF ENGINEER		

SITE NAME:

# FRANKLIN FURNACE

GTP SITE NUMBER:

## KY-5005

PROJECT DESCRIPTION:

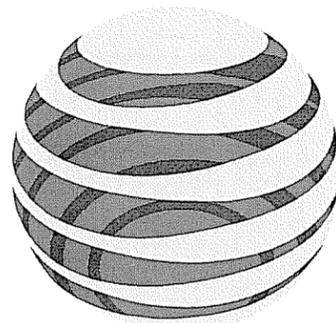
### PROPOSED 195 FT. MONOPOLE TOWER

PREPARED FOR:



750 PARK OF COMMERCE BLVD  
BOCA RATON, FLORIDA 33487  
866-487-8977

CARRIER:



# at&t

SITE #: WV632

PREPARED BY:



30 MANSELL CT  
SUITE 103  
ROSWELL, GA 30076  
678-280-2325

RECEIVED

SEP 01 2011

PUBLIC SERVICE  
COMMISSION

2011-00353

COMMISSION  
PUBLIC SERVICE

SEP 01 2011

RECEIVED

**PROJECT INFORMATION**

SITE ADDRESS: GRAYS BRANCH ROAD  
SOUTH SHORE, KY 41175

PARCEL ID: OX

TAX MAP: 104-00-00

LAND OWNER: MARC LEWIS MARLETTE  
103 BENNETTS MILL ROAD  
&  
KATHRYN S. PENKAVA  
315 BELFONTE DRIVE

DEVELOPER: GLOBAL TOWER ASSETS, LLC  
MARSHALL HAZELHURST, 404-518-2064  
C/O NORFOLK SOUTHERN RAILROAD  
1200 PEACTREE STREET NE  
MAILSTOP 114  
ATLANTA, GA 30309

GLOBAL TOWER PARTNERS  
750 PARK OF COMMERCE BLVD.  
SUITE 300  
BOCA RATON, FL 33487  
561-495-0320

ENGINEER: P MARSHALL & ASSOCIATES  
30 MANSELL CT, SUITE 103  
ROSWELL, GA 30076  
PATRICK MARSHALL, P.E.  
678-280-2325

LATITUDE: 38° 37' 59.17" (NAD 83)  
LONGITUDE: 82° 54' 26.31" (NAD 83)

ELEVATION: 849' AMSL (NAVD 88)

ZONING CLASSIFICATION: -  
PERMIT JURISDICTION: GREENUP COUNTY

POWER COMPANY: AEP  
TELEPHONE COMPANY: WINDSTREAM

**DRAWING INDEX**

- T-1 TITLE SHEET & PROJECT INFORMATION
- SURVEY
- C-1 GENERAL NOTES
- C-2 OVERALL SITE PLAN
- C-3 DETAILED SITE PLAN
- C-4 TOWER ELEVATION & DETAILS
- C-5 GRADING & EROSION CONTROL PLAN
- C-6 GRADING & EROSION CONTROL DETAILS
- C-7 GRADING & EROSION CONTROL SPECIFICATIONS
- C-8 GRADING & EROSION CONTROL SPECIFICATIONS
- C-9 AT&T EQUIPMENT FOUNDATION DETAILS & NOTES
- C-10 COAX ICE BRIDGE DETAILS
- C-11 FENCE DETAILS
- C-12 AT&T SITE SIGNAGE

- E-1 ELECTRICAL SPECS & ONE-LINE DIAGRAM
- E-2 ELECTRICAL SITE PLAN
- E-3 GROUNDING SITE PLAN
- E-4 GROUNDING NOTES & COAX COLOR CODE TEMPLATE
- E-5 GROUNDING DETAILS
- E-6 UTILITY FRAME DETAILS



30 MANSELL CT  
SUITE 103  
ROSWELL, GA 30076  
678-280-2325



DESCRIPTION:	DATE	NUM
ISSUED FOR REVIEW	6/10/11	A
ISSUED FOR PERMITTING & CONSTRUCTION	6/23/11	O
REVISED SHELTER LOCATION	8/1/11	1
DRIVING DIRECTIONS	8/22/11	2

KY-5005

**TITLE SHEET &  
PROJECT INFORMATION**

DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM

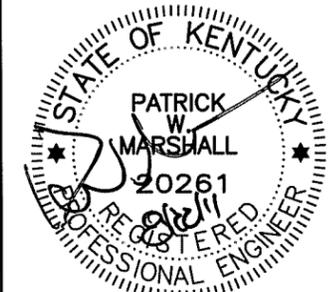
JOB #: GTP008

**T-1**

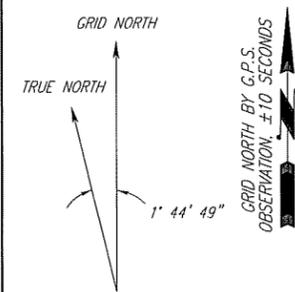


CALL BEFORE YOU DIG  
KENTUCKY 811

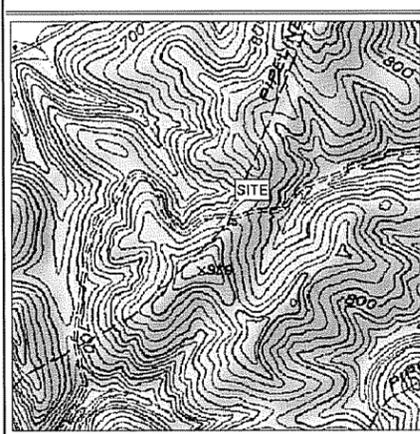
<http://www.kentucky811.com/>



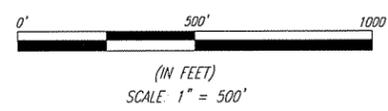
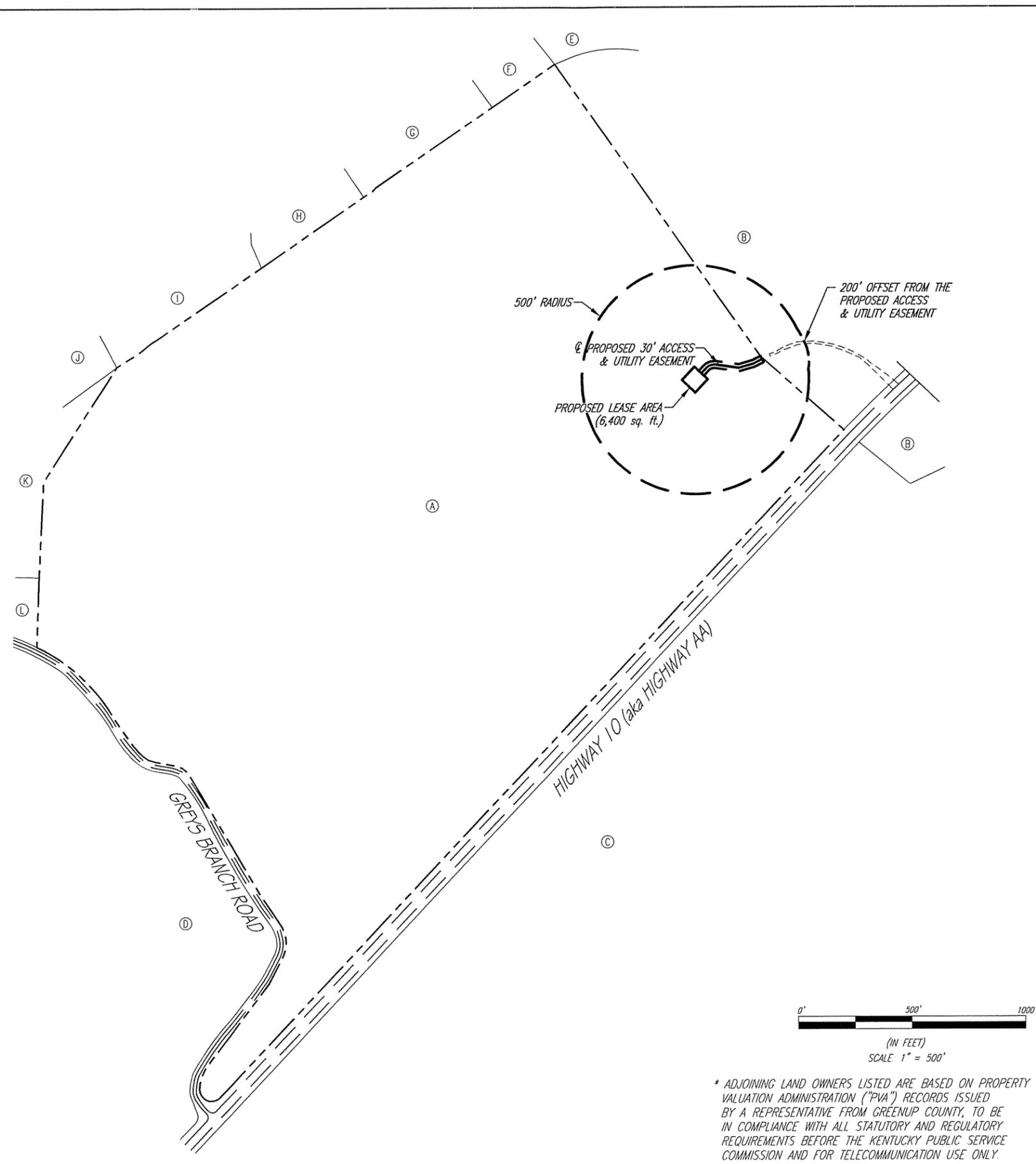
SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA
SHEET 2	
	- TITLE REVIEW



NORTH IS BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM, SINGLE ZONE AND WAS DETERMINED BY COMPUTATION FROM G.P.S. OBSERVATION ON MAY 31, 2011

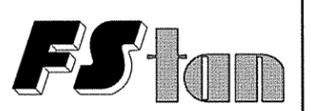


QUAD MAP SCALE: 1"=2000' U.S.G.S. 7 1/2 MINUTE QUAD MAP OF PORTSMOUTH, KY



\* ADJOINING LAND OWNERS LISTED ARE BASED ON PROPERTY VALUATION ADMINISTRATION ("PVA") RECORDS ISSUED BY A REPRESENTATIVE FROM GREENUP COUNTY, TO BE IN COMPLIANCE WITH ALL STATUTORY AND REGULATORY REQUIREMENTS BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION AND FOR TELECOMMUNICATION USE ONLY.

- MAP 104, LOT OX KATHRYN S. PENKAVA (1/2 INT) NO ADDRESS LISTED PER PVA MARC LEWIS MARLETTE (1/2 INT) NO ADDRESS LISTED PER PVA DEED BOOK 411, PAGE 29 DEED BOOK 564, PAGE 523 NO ZONING
- MAP 104, LOT 65 NO INFORMATION LISTED IN GREENUP COUNTY, KY PVA OFFICE NO ZONING
- MAP 105, LOT 7 BREWER, LARRY & VICKIE 321 PINE ACRES DR. ASHLAND, KY 41102 DEED BOOK 448, PAGE 575 NO ZONING
- MAP 105, LOT 5 KEEN, KERMIT F & GAIL L 2447 EAST TYGARTS RD. GREENUP, KY 41144 DEED BOOK 548, PAGE 386 NO ZONING
- MAP 104, LOT 49 NO INFORMATION LISTED IN GREENUP COUNTY, KY PVA OFFICE NO ZONING
- MAP 104, LOT 42 PITTS, CABEL C/O PITTS, SCOTT 904 S ROOSEVELT AVE BEXLEY, OH 43209 NO DEED OF RECORD FOUND NO ZONING
- MAP 104, LOT 39 FRAZIER, SAM & SADIE 81 PITTSBURG DR. SOUTH SHORE, KY 41175 NO DEED OF RECORD FOUND ZONING XX
- MAP 104, LOT 24 NO INFORMATION LISTED IN GREENUP COUNTY, KY PVA OFFICE NO ZONING
- MAP 104, LOT 23 FRASURE, FLOYD 3645 EAST TYGARTS RD. GREENUP, KY 41144 DEED BOOK 521, PAGE 522 NO ZONING
- MAP 104, LOT 22 FRASURE, FLOYD 3645 EAST TYGARTS RD. GREENUP, KY 41144 DEED BOOK 521, PAGE 522 NO ZONING
- MAP 88, LOT OX NO INFORMATION LISTED IN GREENUP COUNTY, KY PVA OFFICE NO ZONING
- MAP 88, LOT 9 ROBERTS, FRANCES S & BILL 103 BENNETTS MILL RD. SOUTH SHORE, KY 41175 DEED BOOK 564, PAGE 523 NO ZONING
- 



Formerly F.S Land & T. Alan Neal Company  
Land Surveyors and Consulting Engineers  
2540 Ridgeman Court, Suite 102  
Louisville, KY 40299  
Phone: (502) 635-5866 (502) 636-5111  
Fax: (502) 636-5263

SITE NUMBER:  
KY-5005

SITE NAME:  
FRANKLIN FURNACE

SITE ADDRESS:  
GRAYS BRANCH ROAD  
SOUTH SHORE, KY 41175

PROPOSED LEASE AREA  
AREA = 6,400 sq. ft.

PROPERTY OWNER:  
KATHRYN S. PENKAVA (1/2 INT)  
315 BELFONTE DRIVE  
ASHLAND, KY 41101  
MARC LEWIS MARLETTE (1/2 INT.)  
103 BENNETTS MILL ROAD  
SOUTH SHORE, KY 41175

MAP NUMBER:  
104-00-00

PARCEL NUMBER:  
OX

SOURCE OF TITLE:  
DEED BOOK 411 PAGE 29 (1/2 INT.)  
DEED BOOK 564 PAGE 523 (1/2 INT.)

DWG BY:	CHKD BY:	DATE:
KLH	FSH	06.03.11

FSTAN PROJECT NO.  
11-7304

SHEET 1 OF 3

REVISIONS:


C1

SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA
SHEET 2	
	- TITLE REVIEW



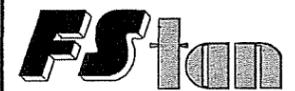
**LEGAL DESCRIPTIONS:**

This is a description for AT&T, of an area to be leased from the property of Kathryn S. Penkava (1/2 Int.) as recorded in Deed Book 411, Page 29 and Marc Lewis Marlette (1/2 Int.) as recorded in Deed Book 564 Page 523 in the County Clerk's Office of Greenup County, Kentucky, which is further described as follows:  
**PROPOSED LEASE AREA**

Beginning at a Rebar Found on the west right-of-way line of Highway "AA" at Station 1143+80.37/222.10' LT; thence following said right-of-way line N 75°32'00" W - 296.50' to a Found Concrete R/W Marker at Station 43+50/14.84' right of relocated Greys Branch Road; thence traversing the above-mentioned Penkava/Marlette property S 73°42'47" W a distance of 254.63' to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed Lease Area; thence S 43°13'02" W a distance of 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 46°46'58" W a distance of 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 43°13'02" E a distance of 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence S 46°46'58" E a distance of 80.00' to the True Point of Beginning of the Proposed Lease Area, containing 6,400 sq. ft. as per survey by Frank L. Sellinger, II. with F.S./Tan Land Surveyors and Consulting Engineers, dated May 31, 2011.

**CENTERLINE OF PROPOSED 30' ACCESS & UTILITY EASEMENT**

Beginning at a Rebar Found on the west right-of-way line of Highway "AA" at Station 1143+80.37/222.10' LT; thence following said right-of-way line N 75°32'00" W - 296.50' to a Found Concrete R/W Marker at Station 43+50/14.84' right of relocated Greys Branch Road; thence traversing the above-mentioned Penkava/Marlette property S 73°42'47" W a distance of 254.63' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 46°46'58" W - 38.00' to a set #5 rebar with a cap stamped "FSTAN #3282" to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Centerline of the Proposed 30' Access & Utility Easement; thence N 43°13'02" E a distance of 31.32' to a set #5 rebar with a cap stamped "FSTAN #3282" thence with a curve turning to the right with an arc length of 48.02', with a radius of 50.00', with a chord bearing of N 70°43'46" E, with a chord length of 46.19'; thence S 81°45'31" E a distance of 101.39' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 73°38'28" E a distance of 66.96' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 62°42'51" E a distance of 40.42' to a set #5 rebar with a cap stamped "FSTAN #3282" in the west right-of-way line of Highway "AA" the end of said Easement, as per survey by Frank L. Sellinger, II. with F.S./Tan Land Surveyors and Consulting Engineers, dated May 31, 2011.



Formerly F.S. Land & T. Alan Neal Company  
 Land Surveyors and Consulting Engineers  
 2540 Ridgeman Court, Suite 102  
 Louisville, KY 40299  
 Phone: (502) 635-5866 (502) 636-5111  
 Fax: (502) 636-5263

**COORDINATE POINT LOCATION**  
 NAD 1983  
 LATITUDE: 38° 37' 59.17"  
 LONGITUDE: 82° 54' 26.37"  
 NAVD 1988  
 ELEVATION: 849' AMSL  
 STATE PLANE COORDINATE SINGLE ZONE (BLUE MARBLE GEOGRAPHIC CALCULATOR VERSION 3.0)  
 NORTHING: 4130609.433  
 EASTING: 5733181.172

**POWER POLE**  
 UTILITY COMPANY: UNKNOWN  
 IDENTIFICATION #: N/A

**PROJECT BENCHMARK**  
 NORTH: 4130630.262  
 EAST: 5733209.385  
 ELEVATION: 853.32  
 LOCATION: BEING A SET IPC STAMPED "FSTAN #3282" NEAR THE SOUTHWEST CORNER OF THE ACCESS EASEMENT

**SYMBOL LEGEND**

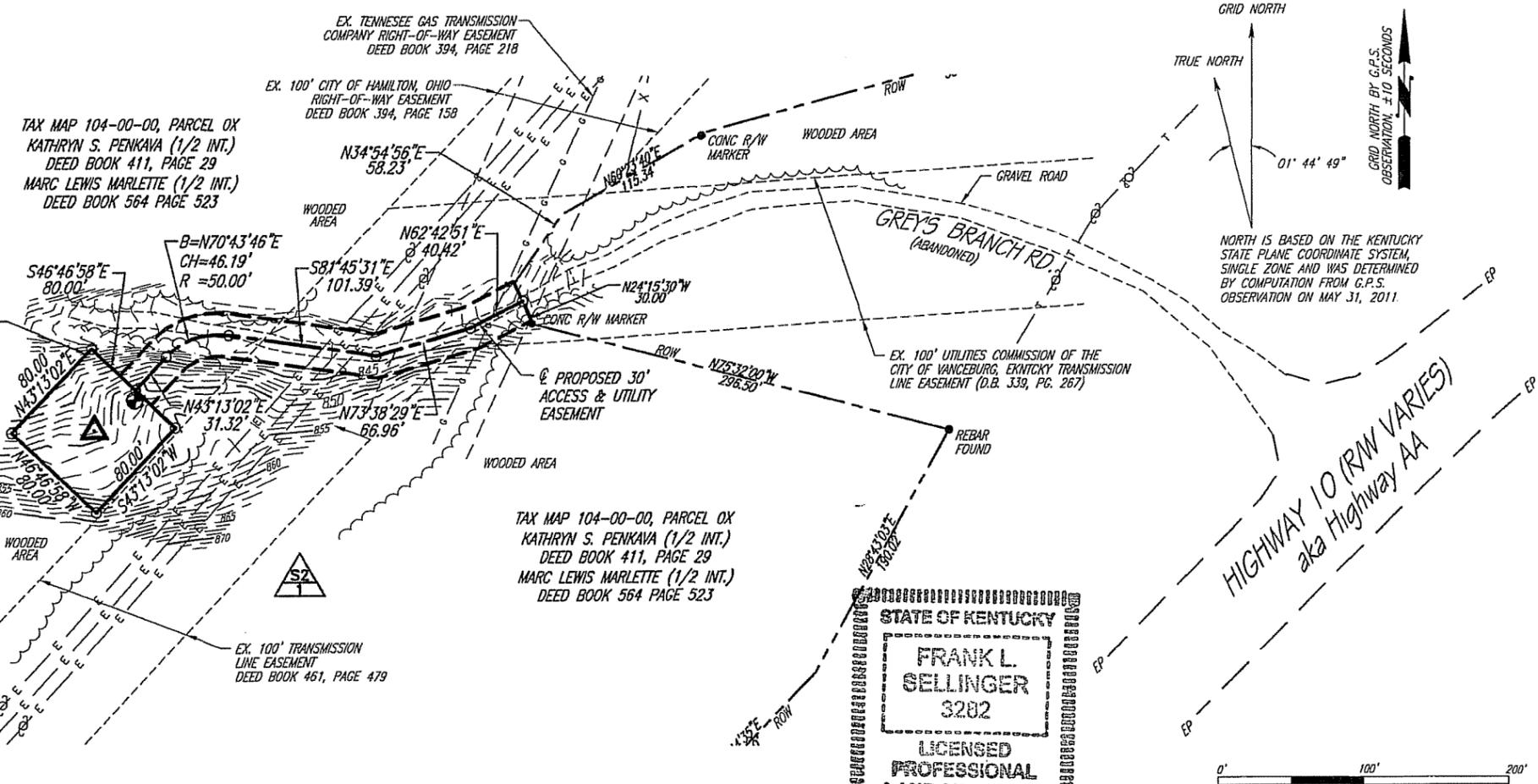
- WOOD POWER POLE
- TELEPHONE PEDESTAL
- GUY ANCHOR
- SANITARY SEWER MANHOLE
- MANHOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- ELECTRIC BOX
- F.P. FENCE POST
- SET #5 REBAR (UNLESS OTHERWISE NOTED)
- EXISTING #5 REBAR (UNLESS OTHERWISE NOTED)

- ABBREVIATIONS**
- EP EDGE OF PAVEMENT
  - ROW RIGHT OF WAY
  - CL CENTERLINE
  - RCP REINFORCED CONCRETE PIPE
  - CONC CONCRETE
  - CMP CORRUGATED METAL PIPE
  - R SUBJECT PROPERTY LINE
  - TC TOP OF CURB
  - BC BOTTOM OF CURB
  - POB POINT OF BEGINNING
  - IPC IRON PIN CAPPED

**LINE LEGEND**

- OVERHEAD ELECTRIC
- UNDERGROUND GAS LINE
- UNDERGROUND WATER LINE
- OVERHEAD ELECTRIC & TELEPHONE LINE
- OVERHEAD TELEPHONE LINE
- EXISTING FENCE
- SUBJECT PROPERTY BOUNDARY
- RIGHT OF WAY CENTERLINE

NOTE: SYMBOLS, ABBREVIATIONS, OR LINESYLES DO NOT NECESSARILY APPEAR ON DRAWING(S). USE ONLY AS APPLICABLE



**SURVEYORS NOTES**  
 SOURCE OF BEARING IS A G.P.S. OBSERVATION ON MAY 31, 2011.  
 SITE SHOWN SUBJECT TO RIGHT OF WAYS AND EASEMENTS SHOWN HEREON OR NOT.  
 NO SEARCH OF PUBLIC RECORDS HAS BEEN PERFORMED BY THIS FIRM TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE PARENT TRACT.  
 THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.  
 EXISTING CONTOURS ARE AT ONE FOOT INTERVALS.

**UNDERGROUND UTILITIES BEFORE YOU DIG**  
 CALL 2 WORKING DAYS  
 INDIANA 1-800-382-5544  
 KENTUCKY 1-800-752-6007  
 UTILITIES PROTECTION SERVICE  
 NON-MEMBERS MUST CALL DIRECTLY

**LAND SURVEYOR'S CERTIFICATE**  
 TYPE "A" SURVEY: UNADJUSTED TRANSVERSE CLOSURE BETTER THAN 1 IN 15,000.  
 TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED I hereby certify that this plat and survey were made under my supervision, and that the angular and linear measurements, as witnessed by monuments shown hereon, are true and correct to the best of my knowledge and belief.  
 This survey and plat meets or exceeds the minimum standards of the governing authorities.  
 This property is subject to any recorded easements or right of ways not shown hereon.  
 Frank L. Sellinger, II  
 Ky. Reg. No. 3282

**"CELLULAR COMMUNICATION TOWER SITE SURVEY"**  
 REFERENCED AS "EXHIBIT B"

OWNER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_  
 AT&T APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

I HAVE REVIEWED THE FLOOD INSURANCE RATE MAPS (FIRM) MAP NO. 21089C 0086C, DATED 09-16-2004 AND THE PROPOSED LEASE AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE AREA. THE PROPOSED LEASE AREA IS LOCATED IN ZONE X.

SITE NUMBER: KY-5005

SITE NAME: FRANKLIN FURNACE

SITE ADDRESS: GRAYS BRANCH ROAD SOUTH SHORE, KY 41175

PROPOSED LEASE AREA: AREA = 6,400 sq. ft.

PROPERTY OWNER: KATHRYN S. PENKAVA (1/2 INT.) 315 BELFONTE DRIVE

MARC LEWIS MARLETTE (1/2 INT.) 103 BENNETTS MILL ROAD

TAX MAP: 104-00-00

PARCEL NUMBER: 0X

SOURCE OF TITLE: DEED BOOK 411 PAGE 29 (1/2 INT.) DEED BOOK 564 PAGE 523 (1/2 INT.)

DWG BY: KNR CHKD BY: FSII DATE: 05.19.11

FSTAN PROJECT NO.: 11-7304

SHEET 1 OF 3

**REVISIONS:**

C2

SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA
SHEET 2	
	- TITLE REVIEW



Schedule B, Section II of Fidelity National Title Insurance Company, Commitment No. 12765455, Effective Date June 10, 2011 @ 8:00am

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.
2. Rights or claims of parties in possession not shown by the public records.
3. Easements, or claims of easements, not shown by the public records.
4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
5. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land.
6. Taxes and special assessments which are not shown as existing liens by the public records.
7. Taxes for the year 2011 and subsequent years, a lien not yet due and payable.
8. Mortgage from Frances Roberts, married and Kathryn Penkava, married, Williams Roberts, spouse of Frances Roberts and Roberts Penkava, spouse of Kathryn Penkava, Grantor(s), in favor of Peoples Bank, National Association, dated 09/21/2008, and recorded 09/28/2008 in Mortgage Book 649, Page 199, in the original amount of \$35,000.00. (Does apply to the proposed lease area and the proposed 30' access & utility easement)
9. Right-of-Way Easement in favor of Fleming-Mason Rural Electric Cooperative Corporation, its successors or assigns, set forth in instrument recorded on 03/13/1940 in Deed Book 89, Page 95. (Vague and ambiguous deed description - Surveyor unable to determine exact location of easement)
10. Right of Way Agreement in favor of Tennessee Gas Transmission Company, a Delaware corporation, its successors and assigns, set forth in instrument recorded on 08/15/1952 in Deed Book 131, Page 611. (Vague and ambiguous deed description - Surveyor unable to determine exact location of easement)
11. Right of Way Easement in favor of Grayson Rural Electric Cooperative Corporation, its successors and assigns, set forth in instrument recorded on 02/10/1959 in Deed Book 164, Page 85. (Vague and ambiguous deed description - Surveyor unable to determine exact location of easement)
12. Right of Way Easement in favor of Utilities Commission of the City of Vanceburg, Kentucky, a public body politic and corporate, set forth in instrument recorded on 07/13/1982 in Deed Book 332, Page 271. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
13. Deed of Easement in favor of Utilities Commission of the City of Vanceburg, Kentucky, a public body politic and corporate, set forth in instrument recorded on 11/22/1983 in Deed Book 339, Page 267. (Does not apply to the proposed lease area. Does apply to the proposed 30' access & utility easement)
14. Right of Way Easement in favor of Utilities Commission of the City of Vanceburg, a public body politic and corporate, set forth in instrument recorded on 12/14/1987 in Deed Book 366, Page 19. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
15. Right of Way Easement in favor of City of Hamilton, Ohio, set forth in instrument recorded on 05/14/1991 in Deed Book 394, Page 158. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
16. Right of Way Agreement in favor of Tennessee Gas Electric Company, a Delaware corporation, its successors and assigns, set forth in instrument recorded on 05/17/1991 in Deed Book 394, Page 218. (Does apply to the proposed lease area or the proposed 30' access & utility easement)
17. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., and assigns, set forth in instrument recorded on 06/29/1994 in Deed Book 424, Page 364. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
18. Agreement dated 11/28/1995, by and between East Kentucky Power Cooperative, Inc. and Kathryn C. Secrest, Frances Secrest Marlette, and Kathryn S. Penkava, recorded on 12/22/1995 in Deed Book 438, Page 377. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
19. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., its successors and assigns, set forth in instrument recorded on 12/22/1995 in Deed Book 438, Page 380. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
20. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., its successors and assigns, set forth in instrument recorded on 12/22/1995 in Deed Book 438, Page 383. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)
21. Transmission Line Easement in favor of East Kentucky Power Cooperative, Inc., its successors and assigns, set forth in instrument recorded on 12/22/1995 in Deed Book 438, Page 386. (Does not apply to the proposed lease area or the proposed 30' access & utility easement)



Formerly F.S. Land & T. Alan Neal Company  
 Land Surveyors and Consulting Engineers  
 2540 Ridgeman Court, Suite 102  
 Louisville, KY 40299  
 Phone: (502) 636-5866 (502) 636-5111  
 Fax: (502) 636-5263

SITE NUMBER:  
KY-5005

SITE NAME:  
FRANKLIN FURNACE

SITE ADDRESS:  
GRAYS BRANCH ROAD  
SOUTH SHORE, KY 41175

PROPOSED LEASE AREA:  
AREA = 6,400 sq. ft.

PROPERTY OWNER:  
KATHRYN S. PENKAVA (1/2 INT.)  
315 BELFONTE DRIVE  
  
MARC LEWIS MARLETTE (1/2 INT.)  
103 BENNETTS MILL ROAD

TAX MAP:  
104-00-00

PARCEL NUMBER:  
OX

SOURCE OF TITLE:  
DEED BOOK 411 PAGE 29 (1/2 INT.)  
DEED BOOK 564 PAGE 523 (1/2 INT.)

DWG BY: KNR	CHKD BY: FSM	DATE: 05.19.11
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FSTAN PROJECT NO.:  
11-7304

SHEET 2 OF 3

REVISIONS:

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C2.1



LAND SURVEYOR'S CERTIFICATE

TYPE "A" SURVEY: UNADJUSTED TRAVERSE CLOSURE BETTER THAN 1 IN 15,000.  
 TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED  
 I hereby certify that this plat and survey were made under my  
 supervision, and that the angular and linear measurements,  
 as witnessed by monuments shown hereon, are true and correct  
 to the best of my knowledge and belief.  
 This survey and plat meets or exceeds the minimum standards  
 of the governing authorities.  
 This property is subject to any recorded easements or right  
 of way not shown hereon.

*Frank L. Sellinger, II*  
 Frank L. Sellinger, II Ky. Reg. No. 3282

**GENERAL NOTES:**

1. THE GENERAL CONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS BEFORE STARTING WORK. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
2. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORM WORK, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL ORDINANCES, TO SAFELY EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.
3. THE CONTRACTOR SHALL USE ADEQUATE NUMBER OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHOD NEEDED FOR PROPER PERFORMANCE OF THE WORK.
4. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONSTRUCTION CONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
5. SITE GROUNDING SHALL COMPLY WITH GTP GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH GTP GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN. GROUNDING SHALL BE COMPLETED BEFORE ERECTION OF THE TOWER.
6. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION. IF TEMPORARY LIGHTING AND MARKING IS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION (FAA), IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE NECESSARY LIGHTS AND NOTIFY THE PROPER AUTHORITIES IN THE EVENT OF A PROBLEM.
7. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
8. ANY DAMAGE TO ADJACENT PROPERTIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AMPLE NOTICE TO THE BUILDING INSPECTION DEPARTMENT TO SCHEDULE THE REQUIRED INSPECTIONS. A MINIMUM OF 24 HOURS OF NOTICE SHALL BE GIVEN AND THE BUILDING INSPECTION DEPARTMENTS HAVE REQUESTED THAT GROUPS OF TWO OR THREE SITES BE SCHEDULED AT ONE TIME IF POSSIBLE.
10. CONSTRUCTION MANAGER WILL CONFIRM FAA APPROVAL OF TOWER LOCATION BY ISSUING TOWER RELEASE FORM. NO TOWER SHALL BE CONSTRUCTED UNTIL THE TOWER RELEASE FORM IS ISSUED TO THE CONTRACTOR.
11. THE COMPLETE BID PACKAGE INCLUDES THESE CONSTRUCTION DRAWINGS ALONG WITH THE SPECIFICATIONS AND TOWER DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR REVIEW OF TOTAL BID PACKAGE PRIOR TO BID SUBMITTAL.
12. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
13. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
14. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO PROPERTY OUTSIDE THE LEASE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR.
15. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.
16. SEEDING AND MULCHING OF THE SITE SHALL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD.
17. FOR ITEMS THAT SHALL BE PROVIDED BY THE OWNER & INSTALLED BY THE CONTRACTOR, SEE "OWNER SUPPLIED MATERIAL LIST" INSERTED IN THIS DRAWING PACKAGE.
18. PERMITS: OBTAIN AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC.
19. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DRAWINGS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
20. REFER TO SITE CIVIL SPECIFICATIONS SECTION 13000 - REFERENCE STANDARDS
21. THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING ON THE WORK CONTAINED IN THIS DESIGN PACKAGE.

**EXCAVATION & GRADING NOTES:**

1. ALL CUT AND FILL SLOPES SHALL BE 3 : 1 MAXIMUM.
2. ALL EXCAVATIONS ON WHICH CONCRETE IS TO BE PLACED SHALL BE SUBSTANTIALLY HORIZONTAL ON UNDISTURBED AND UNFROZEN SOIL AND BE FREE FROM LOOSE MATERIAL AND EXCESS GROUND WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED IF REQUIRED.
3. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC MATERIAL. IF SOUND SOIL IS NOT REACHED AT THE DESIGNATED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION BE FILLED WITH CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION.
4. ANY EXCAVATION OVER THE REQUIRED DEPTH SHALL BE FILLED WITH EITHER MECHANICALLY COMPACTED GRANULAR MATERIAL OF CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. STONE, IF USED, SHALL NOT BE USED AS COMPILING CONCRETE THICKNESS.
5. AFTER COMPLETION OF THE FOUNDATION AND OTHER CONSTRUCTION BELOW GRADE, AND BEFORE BACK FILLING, ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH.
6. BACK FILL SHALL BE:
  - APPROVED MATERIALS CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND, GRAVEL, OR SOFT SHALE;
  - FREE FROM CLODS OR STONES OVER 2-1/2" MAXIMUM DIMENSIONS;
  - IN LAYERS AND COMPACTED.
7. SITE FILL MATERIAL AND FOUNDATION BACK FILL SHALL BE PLACED IN LAYERS, MAXIMUM 6" DEEP BEFORE COMPACTION. EACH LAYER SHALL BE SPRINKLED IF REQUIRED AND COMPACTED BY HAND OPERATED OR MACHINE TAMPERS TO 95% OF MAXIMUM DENSITY, AT THE OPTIMUM MOISTURE CONTENT 12% AS DETERMINED BY ASTM DESIGNATION D-698, UNLESS OTHERWISE APPROVED. SUCH BACK FILL SHALL NOT BE PLACED BEFORE 3 DAYS AFTER PLACEMENT OF CONCRETE.
8. THE FOUNDATION AREA SHALL BE GRADED TO PROVIDE WATER RUNOFF AND PREVENT WATER FROM STANDING. THE FINAL GRADE SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE FOUNDATION AND SHALL THEN BE COVERED WITH 4" DEEP COMPACTED STONE OR GRAVEL.
9. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL CITY, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STAW BALE SEDIMENT BARRIERS AND CHECK DAMS.
10. FILL PREPARATION:
  - REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE PRIOR TO PLACING FILLS. FLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING SURFACE. WHEN SUBGRADE OR EXISTING GROUND SURFACE TO RECEIVE FILL HAS A DENSITY LESS THAN THAT REQUIRED FOR FILL, BREAK UP GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE-CONDITION OR AERATE SOIL AND RECOMPACT TO REQUIRED DENSITY.
  - REPLACE THE EXISTING WEARING SURFACE ON AREAS WHICH HAVE BEEN DAMAGED OR REMOVED DURING CONSTRUCTION OPERATIONS. SURFACE SHALL BE REPLACE TO MATCH EXISTING ADJACENT SURFACING AND SHALL BE OF THE SAME THICKNESS. NEW SURFACE SHALL BE FREE FROM CORRUGATIONS AND WAVES. EXISTING SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED IF INJURIOUS AMOUNTS OF EARTH, ORGANIC MATERIAL, OF OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ALL ADDITIONAL RESURFACING MATERIAL AS REQUIRED. BEFORE SURFACING IS REPLACED, SUBGRADE SHALL BE GRADED TO CONFORM TO REQUIRED SUBGRADE ELEVATIONS, AND LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED. DEPRESSIONS IN THE SUBGRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. SURFACING SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUBGRADE.
12. PROTECT EXISTING SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING OR OTHER SUITABLE MATERIALS DESIGNED TO SPREAD EQUIPMENT LOADS. REPAIR DAMAGE TO EXISTING GRAVEL SURFACING OR SUBGRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTOR'S OPERATIONS. DAMAGED GRAVEL SURFACING SHALL BE RESTORED TO MATCH THE ADJACENT UNDAMAGED GRAVEL SURFACING AND SHALL BE OF THE SAME THICKNESS.
13. DAMAGE TO EXISTING STRUCTURES AND UTILITIES RESULTING FROM CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED / REPLACED TO OWNER'S SATISFACTION AT CONTRACTOR'S EXPENSE.
14. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH PROPERTY OWNER SO AS TO AVOID INTERRUPTIONS TO PROPERTY OWNER'S OPERATIONS.
15. ENSURE POSITIVE DRAINAGE DURING AND AFTER COMPLETION OF CONSTRUCTION.
16. RIPRAP SHALL BE CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY, AND FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCE.

**LEGEND**

- X — FENCE
- 550 — CONTOUR LINE
- - - - - PROPERTY LINE / ROW
- - - - - LEASE AREA
- - - - - EASEMENT
- DISCONNECT SWITCH
- Ⓜ METER
- Ⓢ CIRCUIT BREAKER
- ⓧ CODED NOTE NUMBER
- Ⓢ CHEMICAL GROUND ROD
- ⊗ GROUND ROD
- ⊗ GROUND ROD WITH INSPECTION SLEEVE
- GADWELDED TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- G — GROUND WIRE

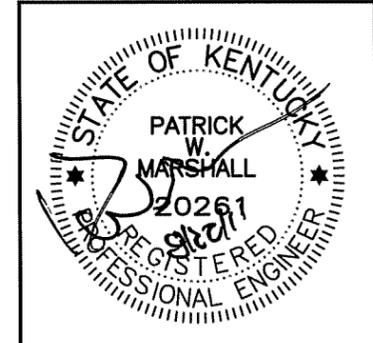


NUM	DATE	DESCRIPTION:
A	6/10/11	ISSUED FOR REVIEW
O	6/29/11	ISSUED FOR PERMITTING & CONSTRUCTION
1	8/1/11	REVISED SHEET LOCATION
2	8/22/11	DRIVING DIRECTIONS

KY-5005

**GENERAL NOTES**

SITE NAME:  
DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM  
JOB #: GTP00B



**C-1**



NUM	DATE	DESCRIPTION:
A	6/10/11	ISSUED FOR REVIEW
O	6/23/11	ISSUED FOR PERMITTING & CONSTRUCTION
1	8/1/11	REVISED SHELTER LOCATION
2	8/22/11	DRIVING DIRECTIONS

KY-5005

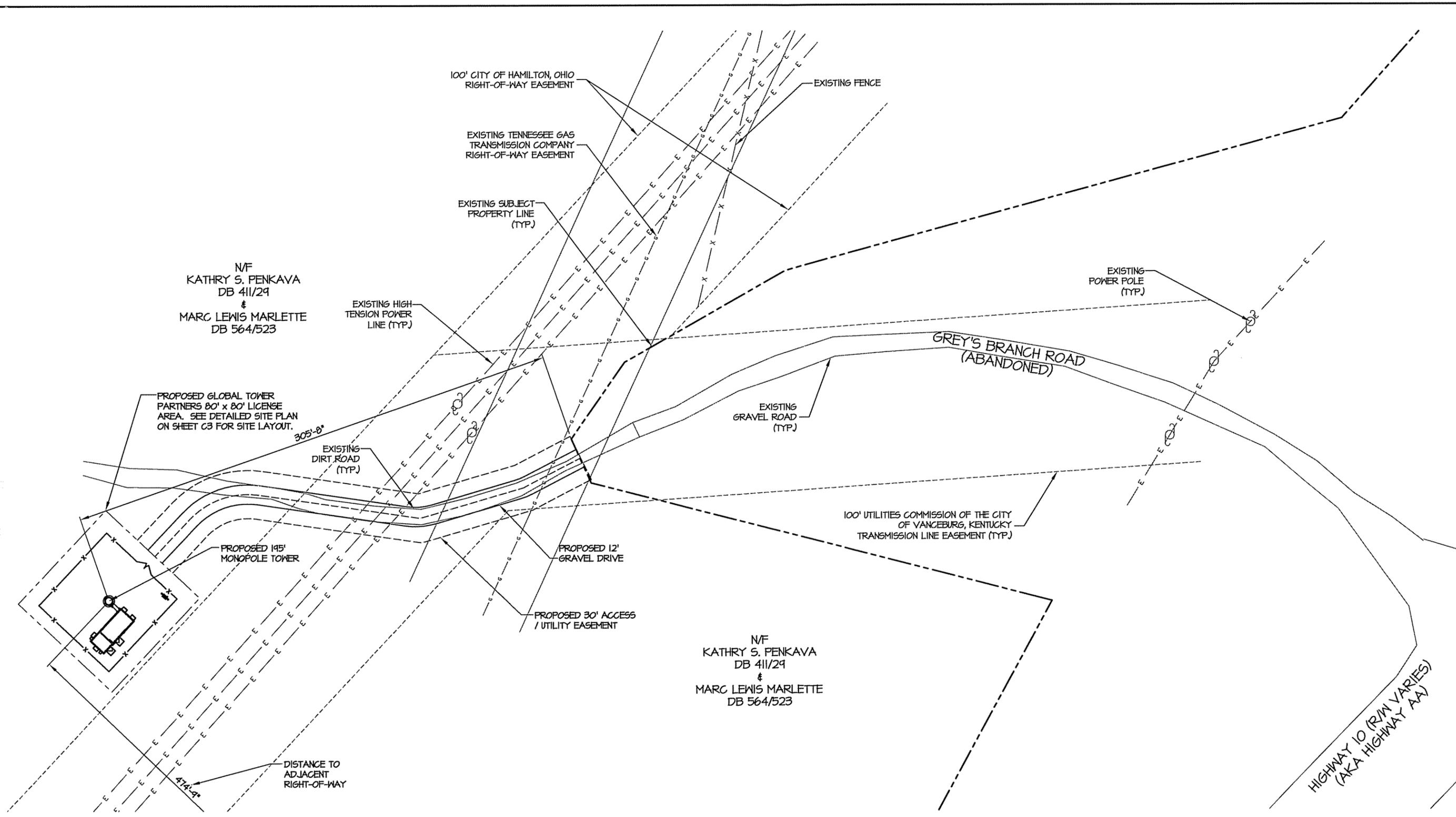
**OVERALL SITE PLAN**

SITE NAME

DESIGNED: DCC  
 DRAWN: DCC  
 CHECKED: PWM

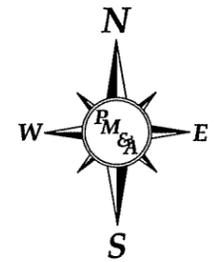
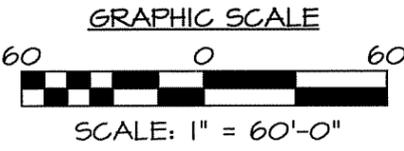
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**C-2**

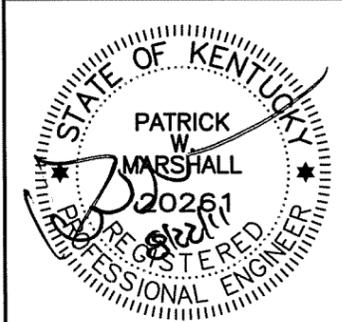


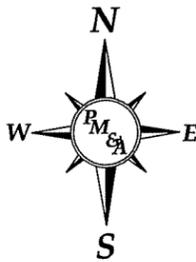
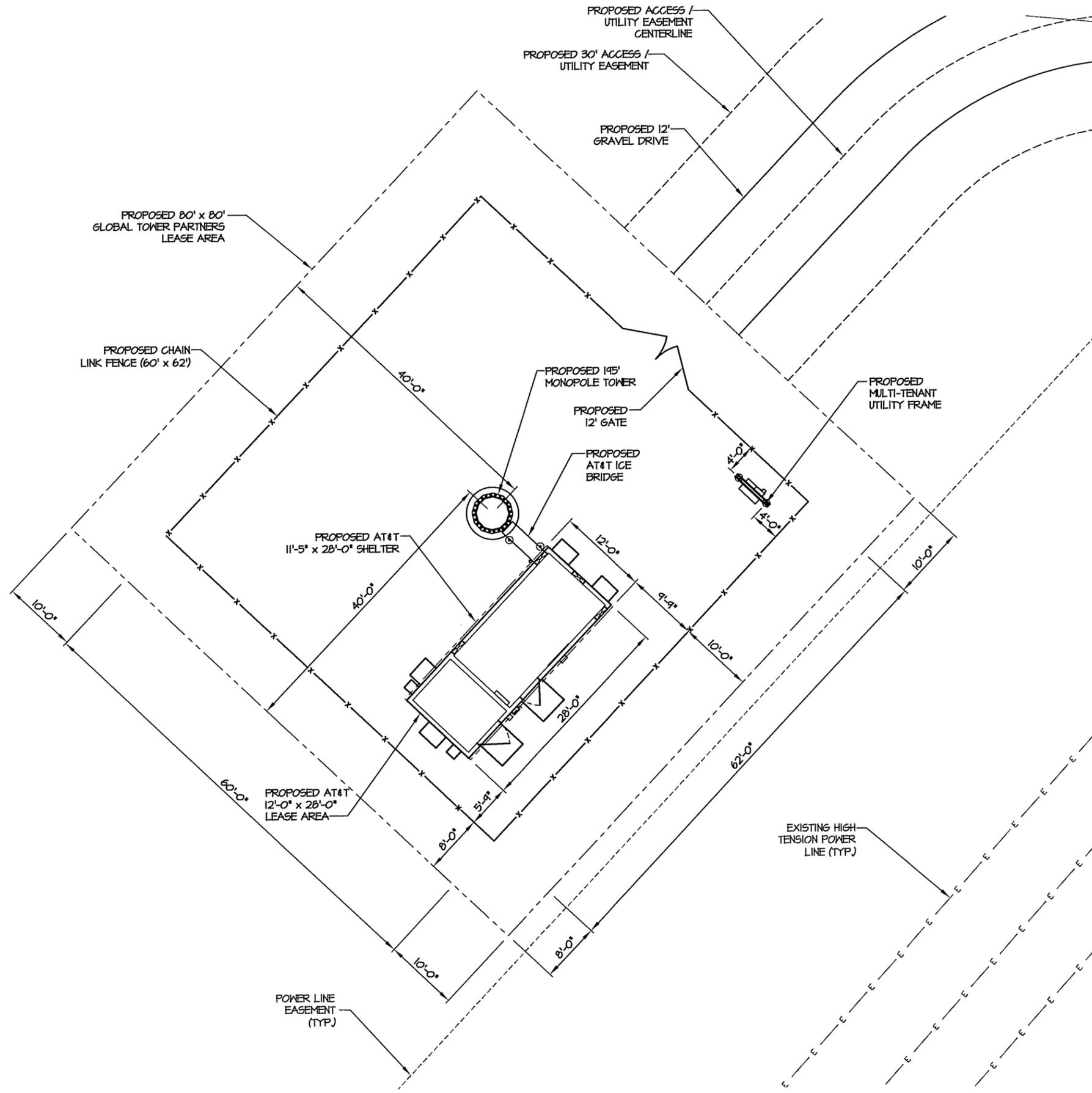
N/F  
 KATHRY S. PENKAVA  
 DB 411/29  
 &  
 MARC LEWIS MARLETTE  
 DB 564/523

N/F  
 KATHRY S. PENKAVA  
 DB 411/29  
 &  
 MARC LEWIS MARLETTE  
 DB 564/523



**OVERALL SITE PLAN**  
 SCALE: 1" = 60'-0"





GRAPHIC SCALE



SCALE: 1" = 15'-0"

**DETAILED SITE PLAN**  
SCALE: 1" = 15'-0"

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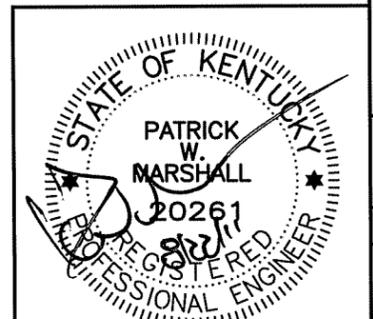
KY-5005

SITE NAME

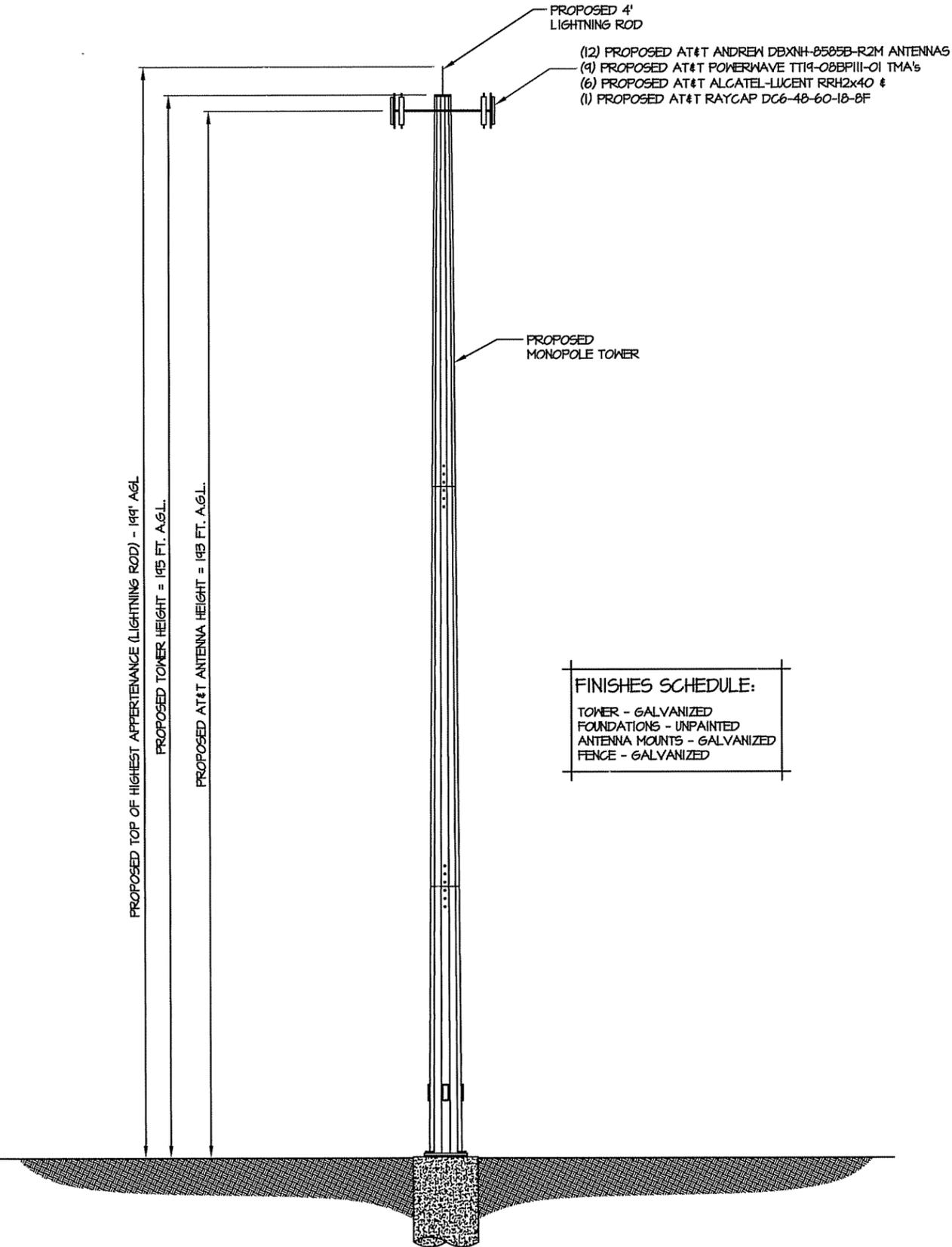
DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM

JOB #: GTP008

**C-3**

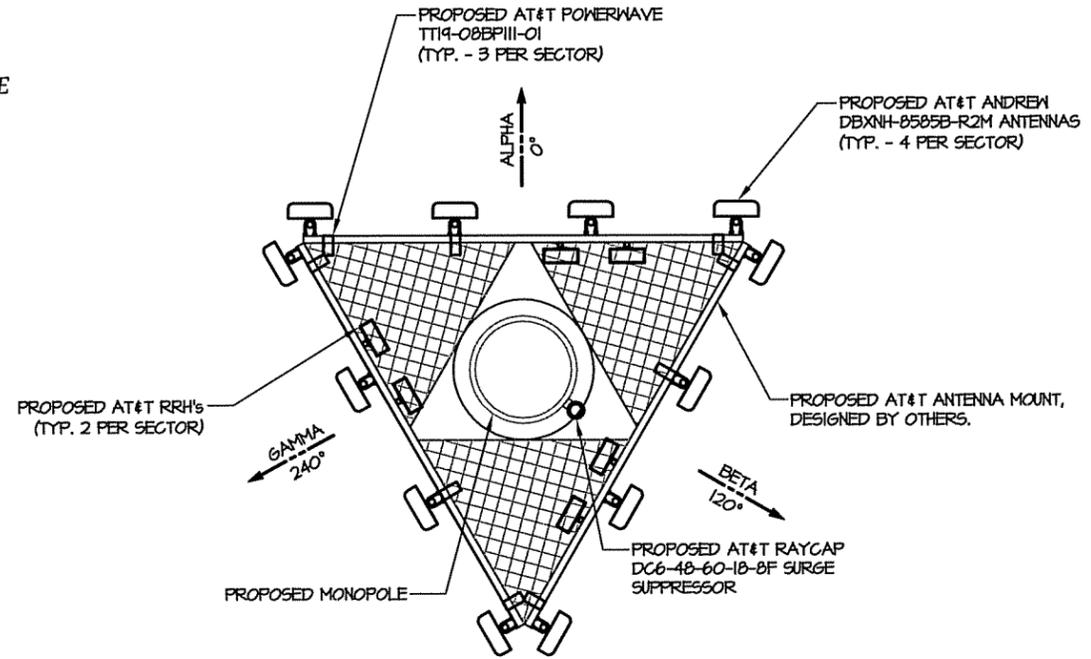
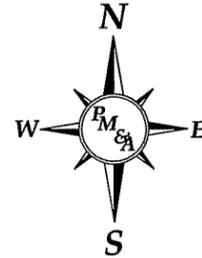


**DETAILED SITE PLAN**



FINISHES SCHEDULE:	
TOWER	- GALVANIZED
FOUNDATIONS	- UNPAINTED
ANTENNA MOUNTS	- GALVANIZED
FENCE	- GALVANIZED

TOWER ELEVATION  
NTS



ANTENNA ORIENTATION DETAIL  
NTS

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KY-5005

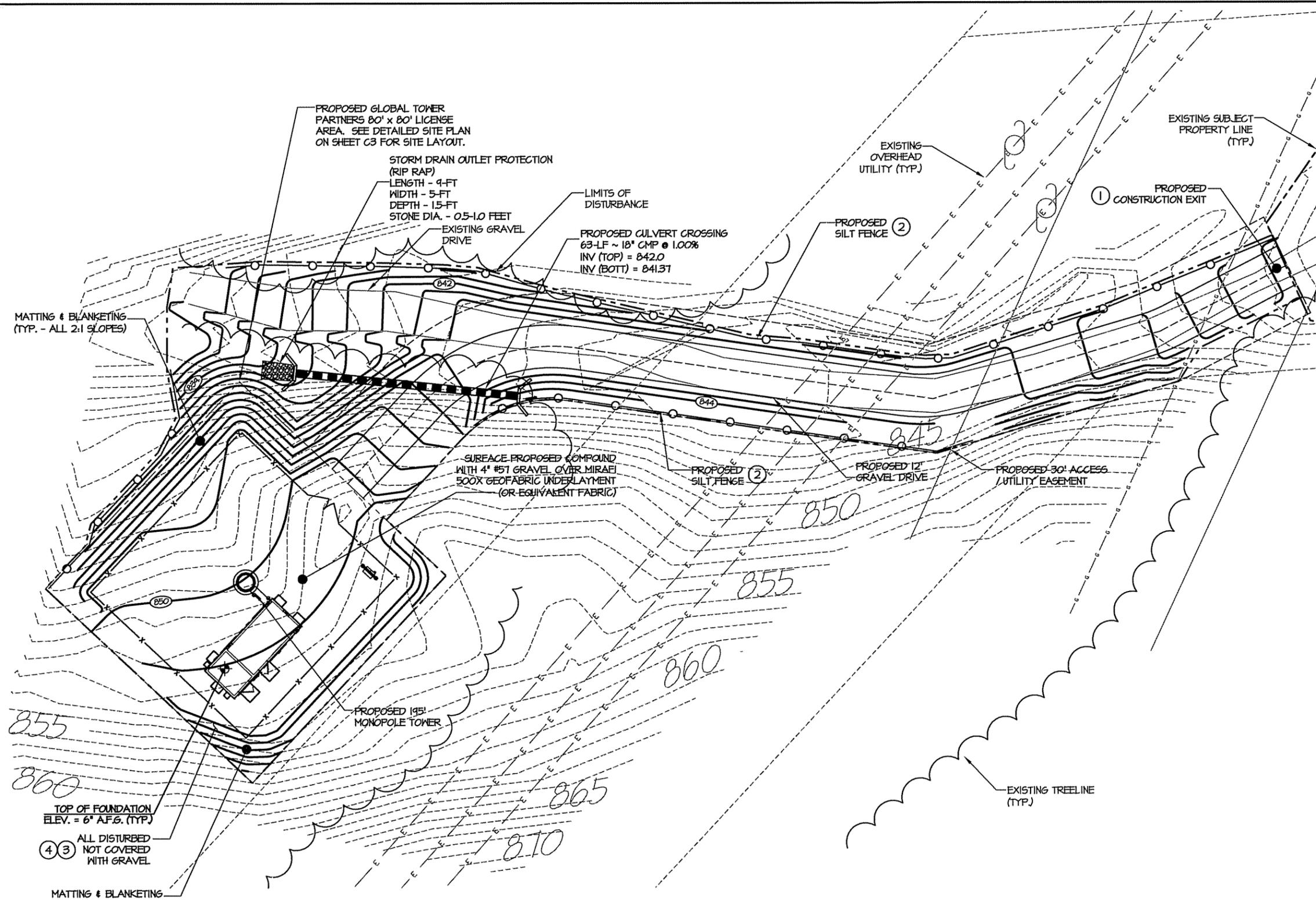
**TOWER ELEVATION AND DETAILS**



DESIGNED:	DCC
DRAWN:	DCC
CHECKED:	PWM
JOB #:	GTP008

**C-4**

- ① CONSTRUCTION EXIT - TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE CONSTRUCTION AREA ONTO PUBLIC RIGHT-OF-WAYS, STREETS, ALLEYS, SIDEWALKS, OR PARKING AREAS.
- ② TYPE C SEDIMENT BARRIER - TO PREVENT ANY SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE AND ENTERING NATURAL DRAINAGE WAYS OR STORM DRAINAGE SYSTEMS.
- ③ DISTURBED AREA STABILIZATION (TEMPORARY) - TO ESTABLISH A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.
- ④ DISTURBED AREA STABILIZATION (PERMANENT) - TO ESTABLISH A PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREAS.
- ⑤ DISTURBED AREA DUST CONTROL - TO CONTROL THE SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADWAYS, AND SIMILAR SITES.



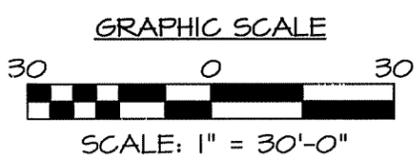
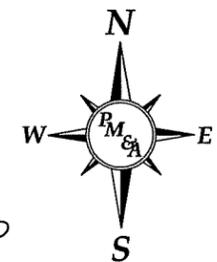
DISTURBED AREAS LEFT IDLE SHALL BE STABILIZED WITH TEMPORARY VEGETATION AFTER 14 DAYS; AFTER 30 DAYS PERMANENT VEGETATION SHALL BE ESTABLISHED

MAINTENANCE STATEMENT  
 EROSION CONTROL MEASURES WILL BE INSPECTED AT LEAST WEEKLY, AFTER EACH RAIN AND REPAIRED BY THE GENERAL CONTRACTOR

ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION

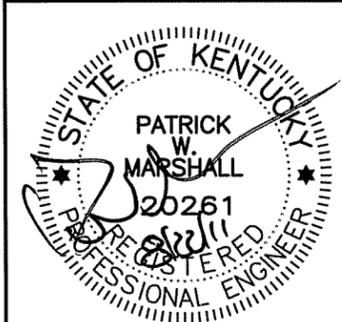
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**GRADING & EROSION CONTROL PLAN**  
 SCALE: 1" = 30'-0"



KY-5005

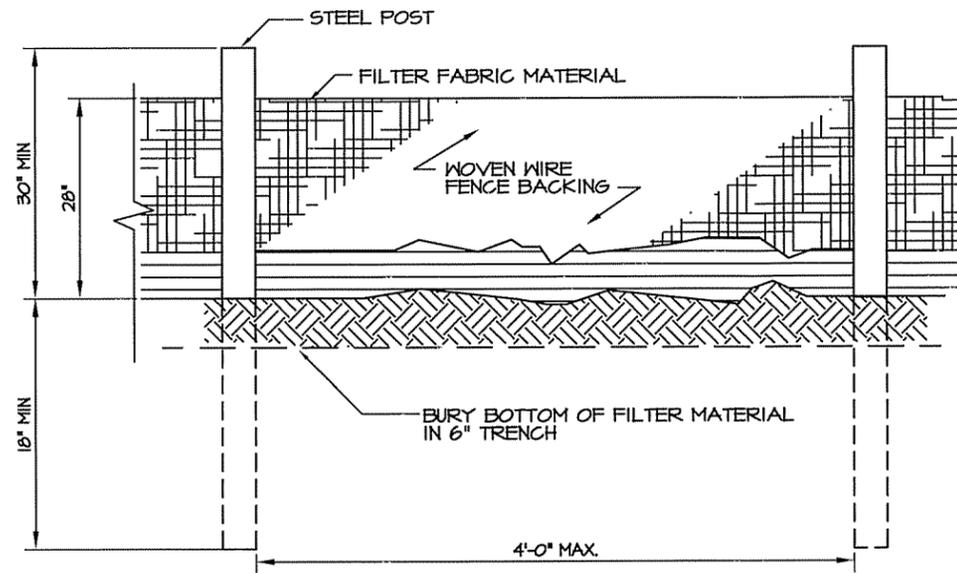
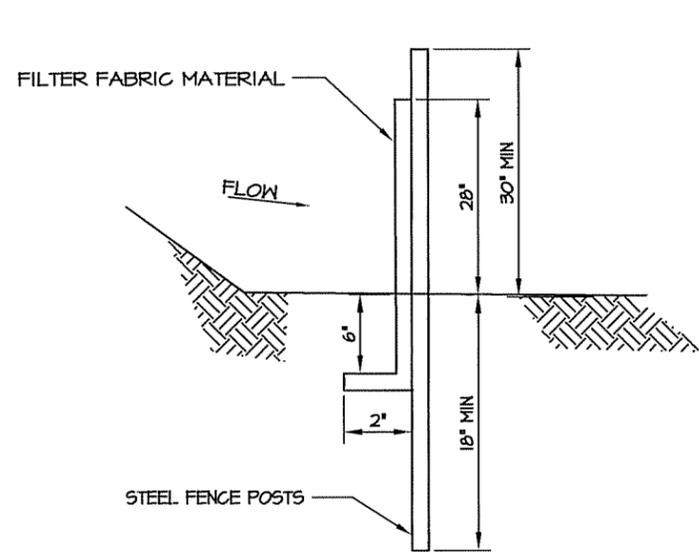
**GRADING, SEDIMENT & EROSION CONTROL PLAN**



DESIGNED: DCC  
 DRAWN: DCC  
 CHECKED: PWM

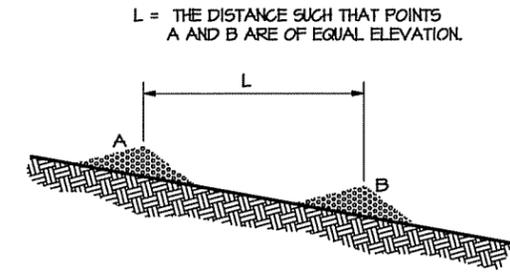
JOB #: GTP008

**C-5**



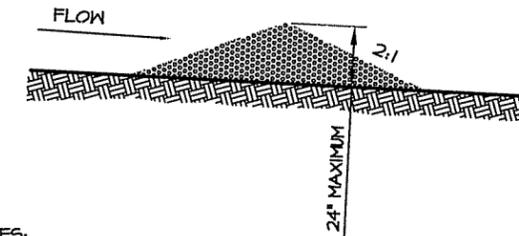
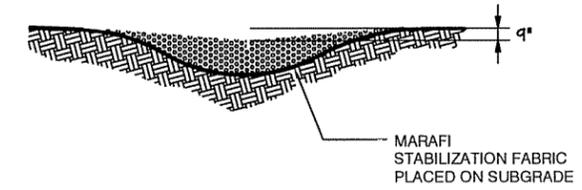
NOTE: USE 36" DOT APPROVED FABRIC  
USE STEEL POSTS

2 SILT FENCE, TYPE-C



SPACING BETWEEN CHECK DAMS

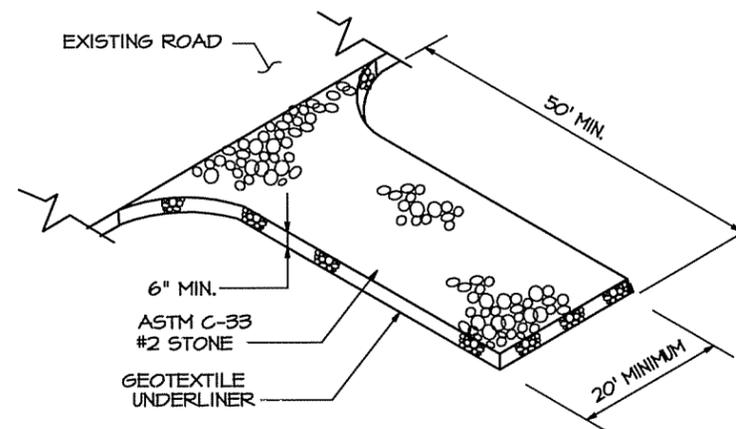
STONE CHECK DAM



NOTES:

- CHECK DAMS TO BE CONSTRUCTED OF GRADED SIZE 2 - 10 INCH STONE. MECHANICAL OR HAND PLACEMENT SHALL BE REQUIRED TO INSURE COMPLETE COVERAGE OF ENTIRE WIDTH OF DITCH OR SWALE AND THAT CENTER OF DAM IS LOWER THAN EDGES.
- SEDIMENT TO BE REMOVED WHEN A LEVEL OF 1/2 THE ORIGINAL DAM HEIGHT OR LESS IS REACHED. REMOVE CHECK DAMS AT COMPLETION OF PROJECT AND TREAT RESULTING DISTURBED AREAS AS REQUIRED.

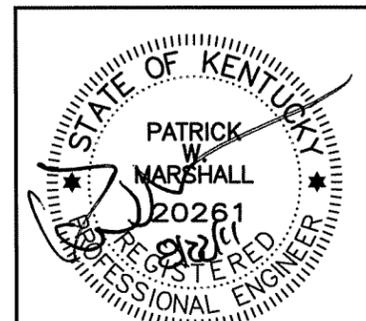
6 CHECK DAM  
NOT TO SCALE



1 CONSTRUCTION EXIT

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2	8/22/11	DRIVING DIRECTIONS

KY-5005  
GRADING, SEDIMENT & EROSION CONTROL DETAILS



DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM

JOB #: GTP008

**C-6**



PIEDMONT VEGETATIVE COVERS

CALENDAR MONTH	TEMPORARY SEED	APPLICATION RATE/ACRE	PERMANENT SEED	APPLICATION RATE/ACRE
I. JANUARY	RYE GRASS	40-50 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA <sup>2</sup>	8-10 LB. 30-40 LB. <sup>1</sup>
2. FEBRUARY			UNHULLED BERMUDA SERICEA LESPEDEZA <sup>2</sup> FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
3. MARCH	RYE ANNUAL LESPEDEZA WEEPING LOVE GRASS	2-3 BU. 20-25 LB. 4-6 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
4. APRIL	RYE BROWN TOP MILLET ANNUAL LESPEDEZA SUDAN ANNUAL	2-3 BU. 30-40 LB. 20-25 LB. 35 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAHIA	4-6 LB. 5-6 LB. 40-60 LB.
5. MAY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MILLET	4-6 LB. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAHIA	4-6 LB. 5-6 LB. 40-60 LB.
6. JUNE	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MILLET	4-6 LB. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAHIA	4-6 LB. 5-6 LB. 40-60 LB.
7. JULY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MILLET	4-6 LB. 35 LB. 30-40 LB.		
8. AUGUST	RYE GRASS WEEPING LOVE GRASS	40-50 LB. 4-6 LB.		
9. SEPTEMBER			TALL FESCUE	30-50 LB.
10. OCTOBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA <sup>2</sup> FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
11. NOVEMBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
12. DECEMBER	RYE RYE GRASS WHEAT	2-3 BU. 40-50 LB. 2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.

<sup>1</sup> USE A MINIMUM OF 40 LBS. SCARIFIED SEED. THE REMAINDER MAY BE UNSCARIFIED, CLEAN HULLED SEED.

<sup>2</sup> USE EITHER COMMON SERALA OR INTERSTATE SERICEA LESPEDEZA.

3 DISTURBED AREA STABILIZATION  
(WITH TEMPORARY SEEDING)

4 DISTURBED AREA STABILIZATION  
(WITH PERMANENT VEGETATION)

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT ON ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTION, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

HYDRAULIC SEEDING EQUIPMENT: WHEN HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS USED, NO GRADING AND SHAPING OR SEEDBED PREPARATION WILL BE REQUIRED. THE FERTILIZER, SEED AND WOOD CELLULOSE FIBER MULCH WILL BE MIXED WITH WATER AND APPLIED IN A SLURRY. ALL SLURRY INGREDIENTS MUST BE COMBINED TO FORM A HOMOGENOUS MIXTURE, AND SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER MIXTURE IS MADE. STRAW OR HAY MULCH AND ASPHALT EMULSION WILL BE APPLIED WITH BLOWER-TYPE MULCH SPREADING EQUIPMENT WITHIN 24 HOURS AFTER SEEDING. THE MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

A. SEEDING WITH MULCH: (HYDRAULIC SEEDING EQUIPMENT ON SLOPES 3:1 AND STEEPER)

AGRICULTURAL LIMESTONE #15	4000 LBS./ACRE
FERTILIZER, 5-10-15	1500 LBS./ACRE
MULCH (STRAW OR HAY) OR WOOD CELLULOSE FIBER MULCH	5000 LBS./ACRE
	1000 LBS./ACRE

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
SERICEA LESPEDEZA, SCARIFIED WEEPING LOVE GRASS, OR COMMON BERMUDA, HULLED	60 LBS. 4 LBS. 6 LBS.	3/1 - 6/15
FESCUE SERICEA LESPEDEZA, UNSCARIFIED	40 LBS. 60 LBS.	9/1 - 10/31
FESCUE SERICEA LESPEDEZA, UNSCARIFIED RYE	40 LBS. 75 LBS. 50 LBS.	11/1 - 2/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15 - 8/31

B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

FERTILIZER (AMMONIUM NITRATE 33.5%)	300 LBS./ACRE
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C. SECOND-YEAR TREATMENT:

FERTILIZER (0-20-20 OR EQUIVALENT)	500 LBS./ACRE
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3 DISTURBED AREA STABILIZATION  
(WITH TEMPORARY SEEDING)

4 DISTURBED AREA STABILIZATION  
(WITH PERMANENT VEGETATION)

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT ON ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTION, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

CONVENTIONAL SEEDING EQUIPMENT: GRADE, SHAPE, AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL BE SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL FULVERIZED, SMOOTHED, AND FIRMED. SEEDING WILL BE DONE WITH A MULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESHLY PREPARED SEEDBED AND COVERED LIGHTLY. WITHIN 24 HOURS AFTER SEEDING, STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD WITH BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT IS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

A. SEEDING WITH MULCH: (CONVENTIONAL SEEDING EQUIPMENT ON SLOPES LESS THAN 3:1)

AGRICULTURAL LIMESTONE #15	4000 LBS./ACRE
FERTILIZER, 5-10-15	1500 LBS./ACRE
MULCH (STRAW OR HAY)	5000 LBS./ACRE

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
HULLED COMMON BERMUDA GRASS	10 LBS.	3/1 - 6/15
FESCUE	50 LBS.	9/1 - 10/31
FESCUE RYE GRASS	50 LBS. 50 LBS.	11/1 - 2/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15 - 8/31

B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

FERTILIZER (AMMONIUM NITRATE 33.5%)	300 LBS./ACRE
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C. SECOND-YEAR TREATMENT:

FERTILIZER (5-10-15 OR EQUIVALENT)	800 LBS./ACRE
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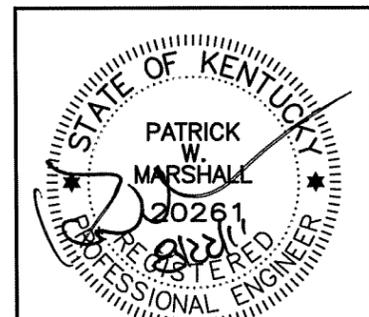
**GRADING, SEDIMENT &  
EROSION CONTROL  
VEGETATION SPECS**

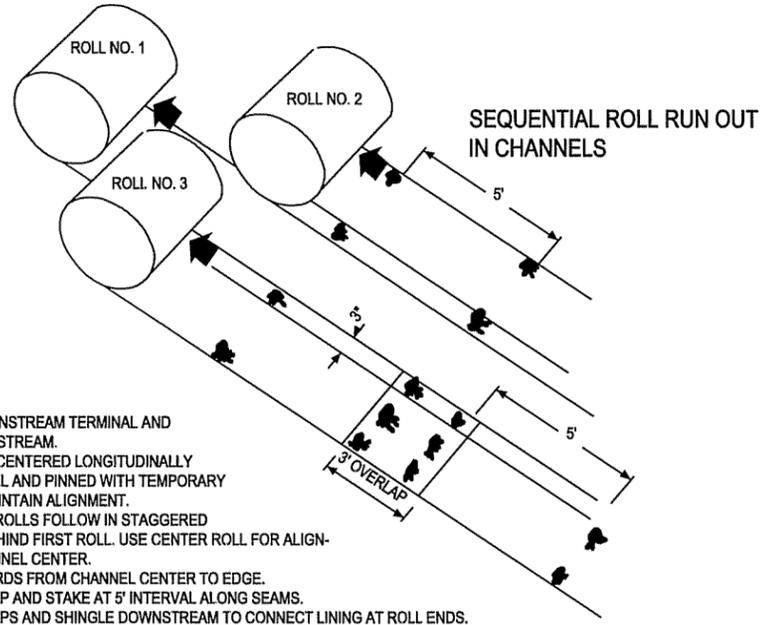
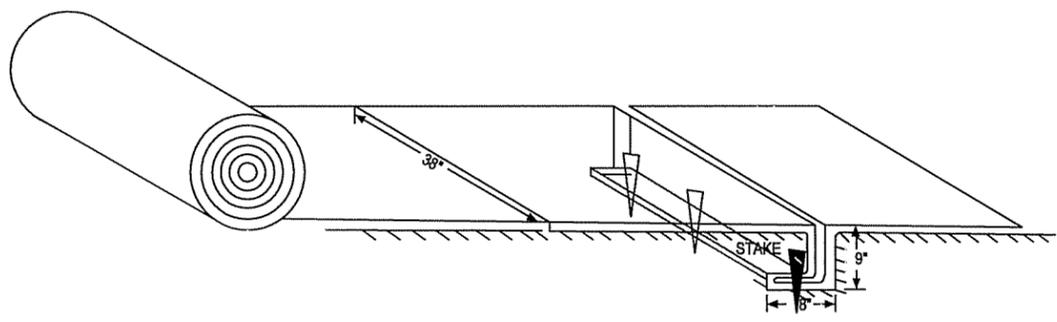
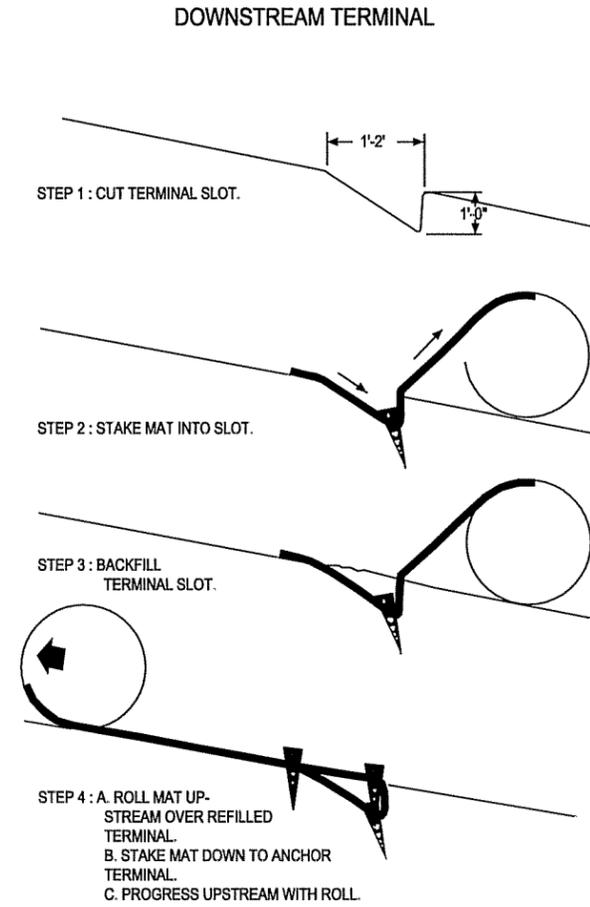
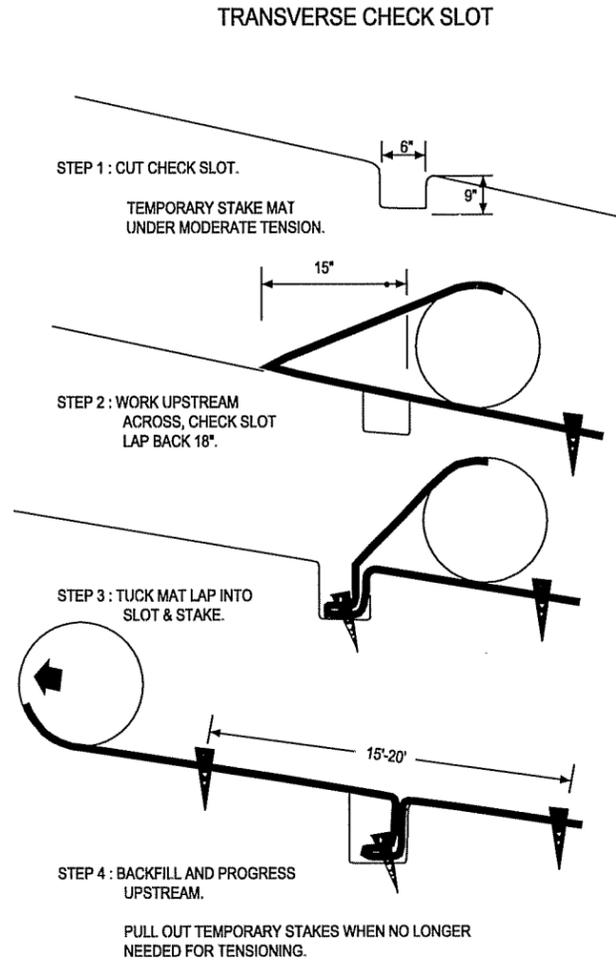
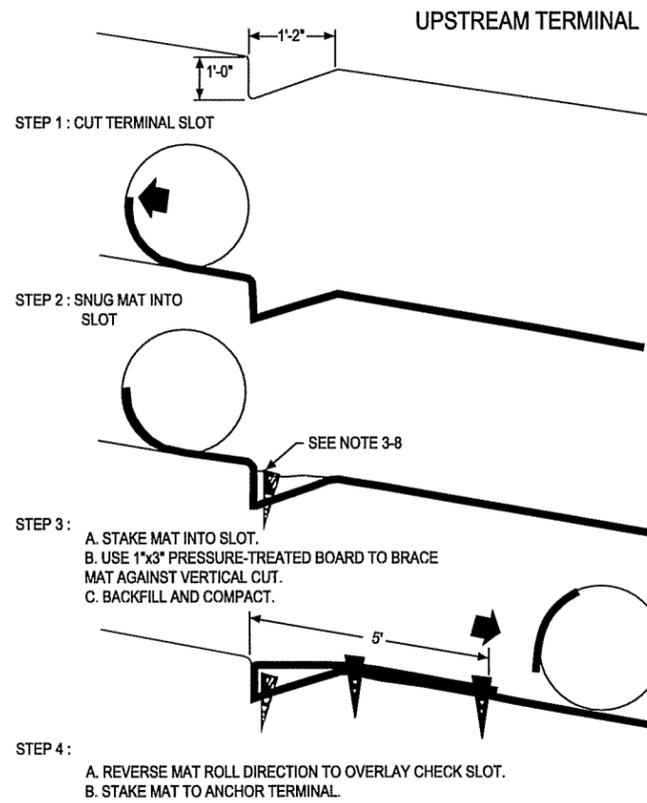
SITE NAME

DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM

JOB #: GTP008

**C-7**





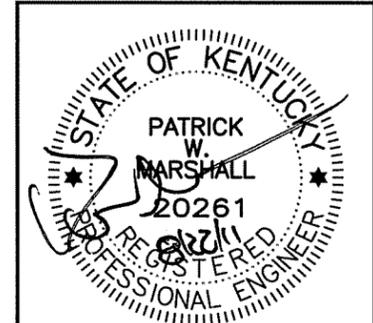
1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUSSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND FIRST ROLL. USE CENTER ROLL FOR ALIGNMENT TO CHANNEL CENTER.
4. WORK OUTWARDS FROM CHANNEL CENTER TO EDGE.
5. USE 3" OVERLAP AND STAKE AT 5' INTERVAL ALONG SEAMS.
6. USE 3" OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT LINING AT ROLL ENDS.

Mb - MATTING & BLANKETING

NUM	DATE	DESCRIPTION:
A	6/10/11	ISSUED FOR REVIEW
O	6/23/11	ISSUED FOR PERMITTING & CONSTRUCTION
1	8/1/11	REVISED SHELTER LOCATION
2	8/22/11	DRIVING DIRECTIONS

KY-5005

**GRADING & EROSION CONTROL DETAILS**



DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM

JOB #: GTP00B

**C-8**

**REINFORCED CONCRETE:**

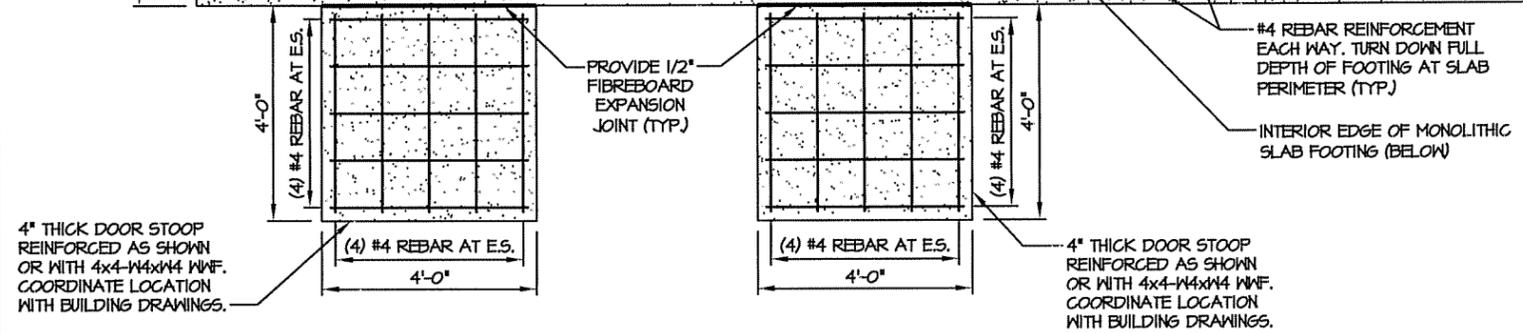
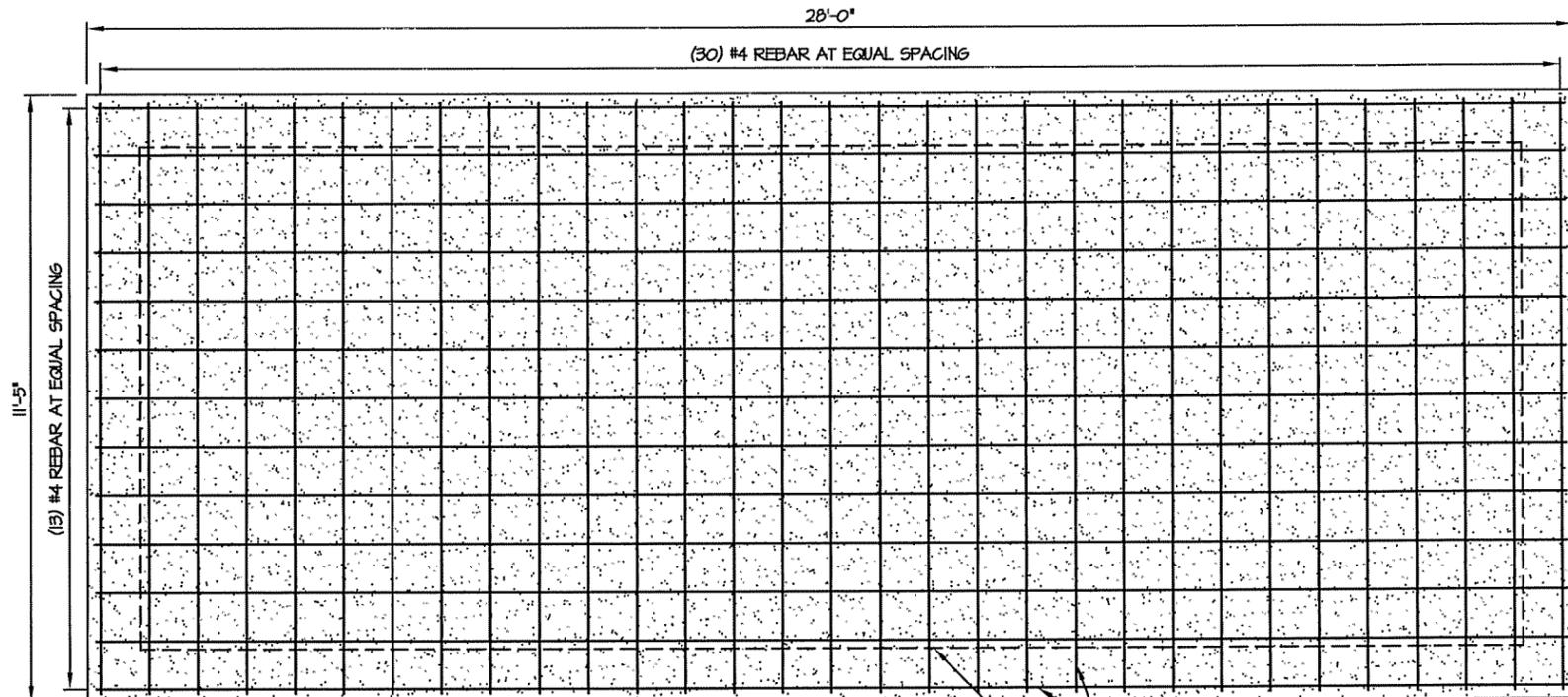
1. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS; CONCRETE CYLINDER TESTS ARE REQUIRED FOR 7, 14, AND 28 DAY STRENGTHS, AND SHALL BE CONDUCTED BY A QUALIFIED, LICENSED, AND INSURED TESTING COMPANY.

CLASSES OF CONCRETE

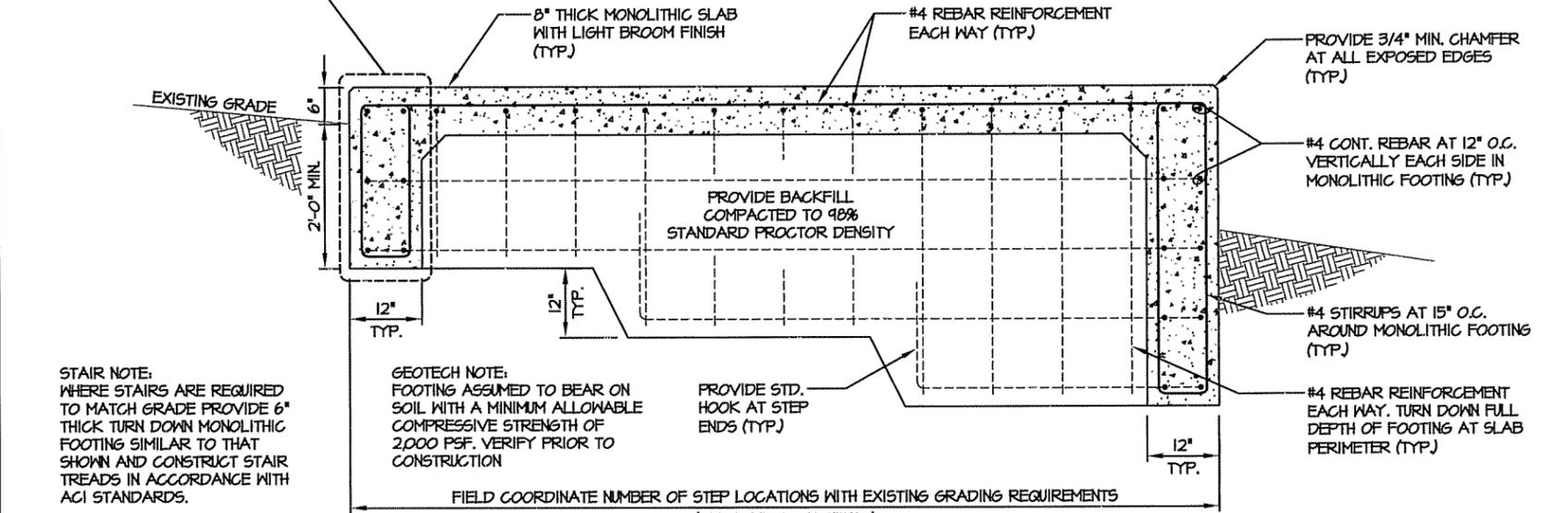
CLASS/ STRENGTH	7 DAY MIN. STRENGTH (PSI)	14 DAY MIN. STRENGTH (PSI)	28 DAY MIN. STRENGTH (PSI)	NOTES
TYPE I - 3000 PSI	2110	2645	3000	NORMAL WT.
TYPE I - 4000 PSI	2815	3525	4000	NORMAL WT.
TYPE I - 5000 PSI	3520	4405	5000	NORMAL WT.

ALL CONCRETE USED SHALL BE 3,000 PSI MIN. OR EQUAL TO THE STRENGTH OF CONCRETE USED IN THE TOWER FOUNDATION, WHICHEVER IS GREATER.

- MAXIMUM COARSE AGGREGATE SIZE SHALL BE 3/4" REINFORCEMENT SHALL BE NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615 GRADE 60. MINIMUM REBAR SPLICES SHALL BE 40 DIAMETERS.
- REINFORCEMENT SHALL COMPLY WITH THE LATEST EDITION OF ASCE AND ACI-318 FOR MINIMUM CLEARANCES.
- ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.
- MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE BETWEEN 50 DEGREES AND 90 DEGREES FAHRENHEIT.
- DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOB SITE.
- DO NOT USE WELDED WIRE FABRIC IN THE MONOLITHIC SLAB.
- NO SPLICES OF REINFORCEMENT PERMITTED EXCEPT AS DETAILED OR AUTHORIZED. MAKE BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES MADE BY CONTRACT LAPS SHALL BE CLASS "B" TENSION LAPS UNLESS NOTED OTHERWISE.
- DETAIL BARS IN ACCORDANCE WITH "ACI DETAILING MANUAL - 1985, PUBLICATION SP-66 AND " BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318 LATEST EDITION.
- PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AT POSITIONS SHOWN ON PLAN.



WHEN THE COMPOUND GRADE IS RELATIVELY LEVEL (5%) AND NO STEPS ARE REQUIRED ALL SIDES OF THE PROPOSED SHELTER FOUNDATION SHALL BE CONSTRUCTED AS DETAILED HERE

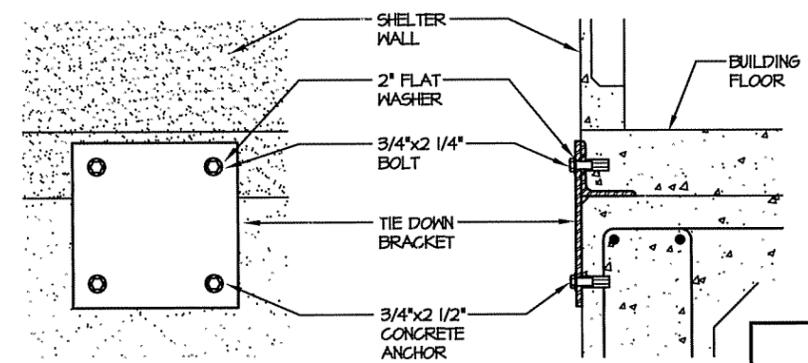


STAIR NOTE: WHERE STAIRS ARE REQUIRED TO MATCH GRADE PROVIDE 6" THICK TURN DOWN MONOLITHIC FOOTING SIMILAR TO THAT SHOWN AND CONSTRUCT STAIR TREADS IN ACCORDANCE WITH ACI STANDARDS.

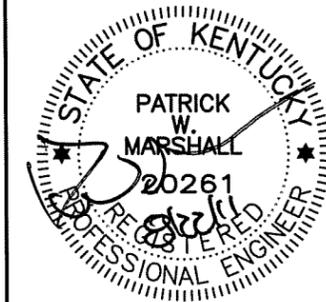
GEOTECH NOTE: FOOTING ASSUMED TO BEAR ON SOIL WITH A MINIMUM ALLOWABLE COMPRESSIVE STRENGTH OF 2,000 PSF. VERIFY PRIOR TO CONSTRUCTION

PROVIDE STD. HOOK AT STEP ENDS (TYP.)

**MONOLITHIC SLAB SECTION**  
NOT TO SCALE



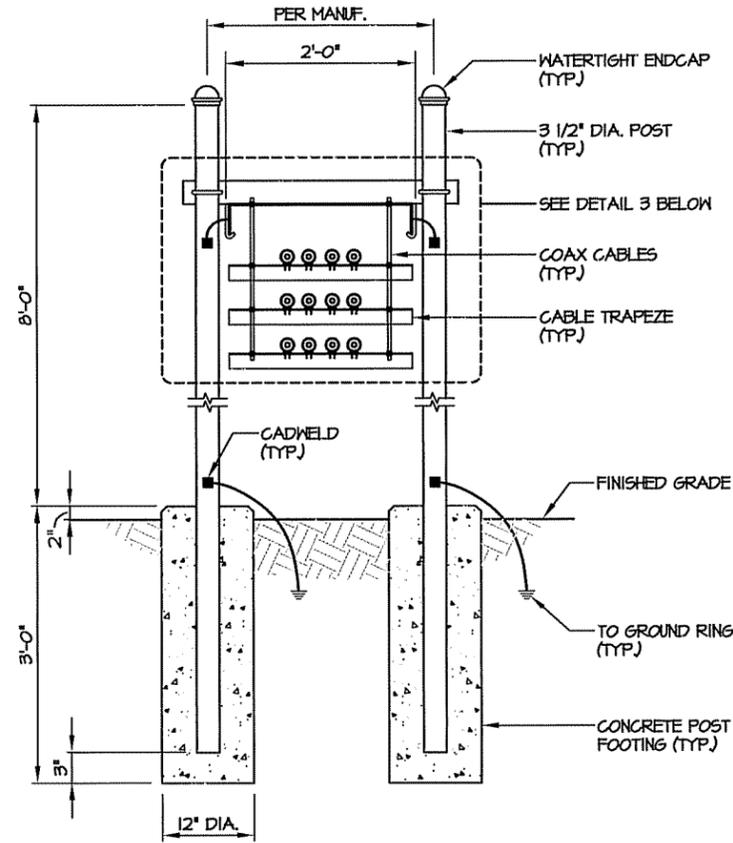
**SHELTER ATTACHMENT DETAIL**  
NOT TO SCALE



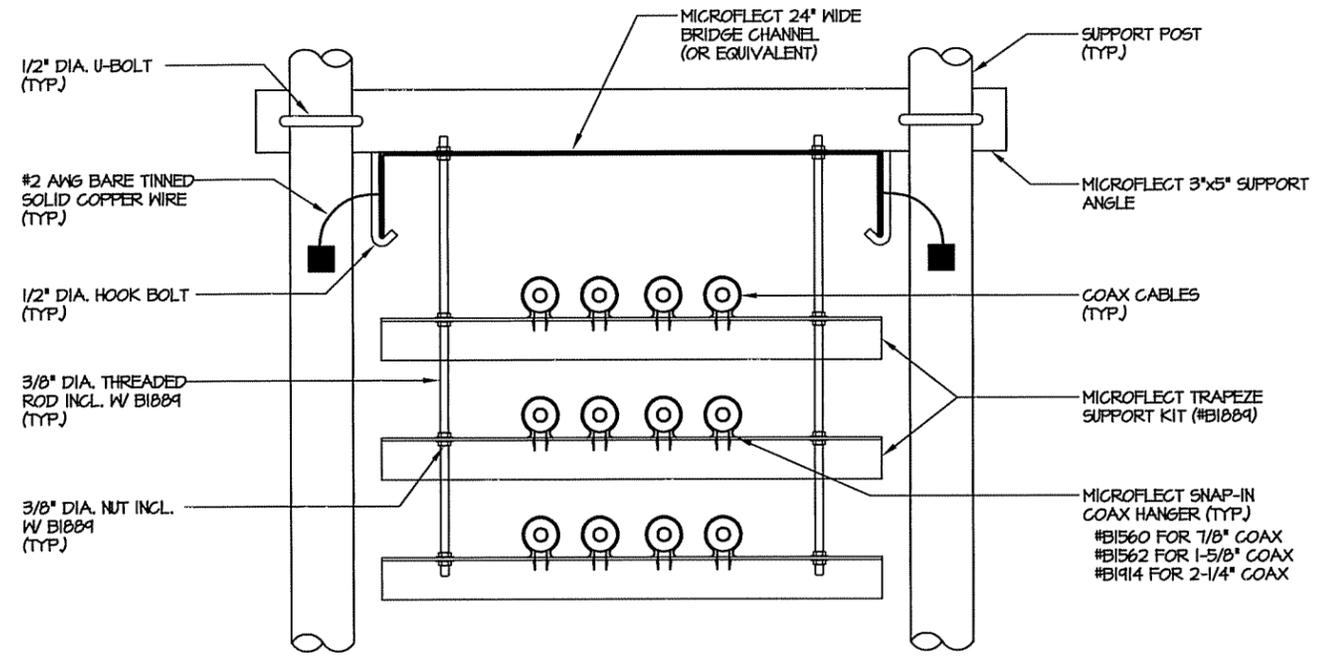
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AT&T EQUIPMENT  
FOUNDATION DETAILS  
& NOTES

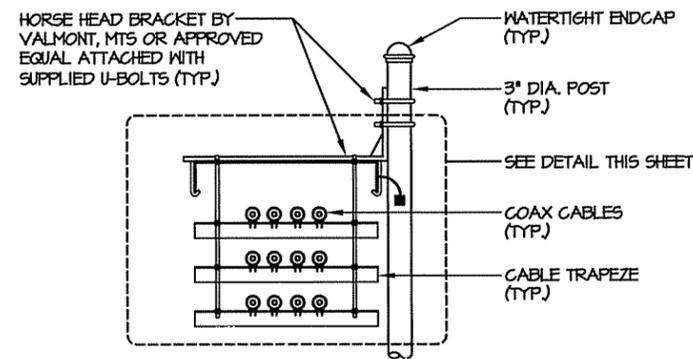
DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM  
JOB #: GTP008



**ICE BRIDGE SECTION**  
NOT TO SCALE



**COAX CABLE TRAPEZE DETAIL**  
NOT TO SCALE



**ICE BRIDGE SECTION (ALTERNATE HORSE HEAD)**  
NOT TO SCALE

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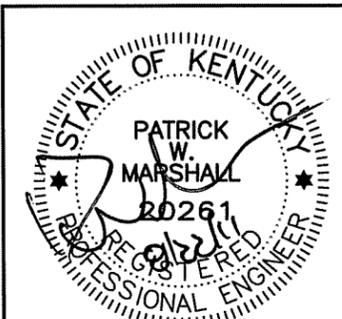
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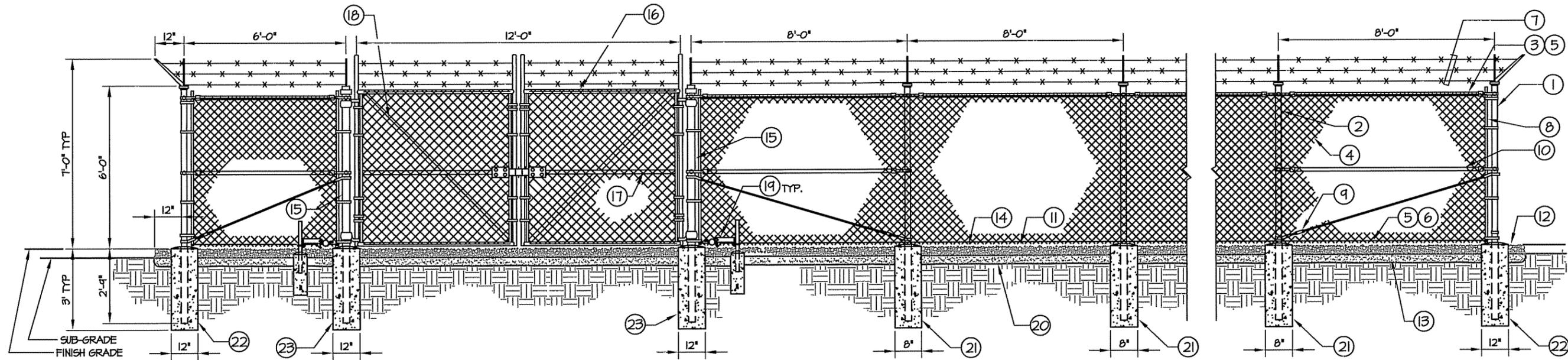
**COAX ICE BRIDGE DETAILS**

DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM

JOB #: GTP008

**C-10**





**REFERENCE NOTES:**

- |  |   |
|--|---|
| <p>① CORNER, END OR FULL POST 3" NOMINAL SCHEDULE 40 PIPE.</p> <p>② LINE POST: 2 1/2" SCHEDULE 40 PIPE, PER ASTM-F1083. LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 8'-0" O.C.</p> <p>③ TOP RAIL &amp; BRACE RAIL: 1 1/2" PIPE, PER ASTM-F1083.</p> <p>④ FABRIC: 9 GA CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392.</p> <p>⑤ TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAX. 24" INTERVALS.</p> <p>⑥ TENSION WIRE: 9 GA. GALVANIZED STEEL.</p> <p>⑦ BARBED WIRE: DOUBLE STRAND 12-1/2" O.D. TWISTED WIRE TO MATCH WITH FABRIC 14 GA, 4 FT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.</p> <p>⑧ STRETCHER BAR.</p> <p>⑨ 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD.</p> <p>⑩ FENCE CORNER POST BRACE: 1 5/8" DIA. EACH CORNER EACH WAY.</p> <p>⑪ 1 1/2" MAXIMUM CLEARANCE FROM GRADE.</p> | <p>⑫ 2" FINISH OR AS DETERMINED BY CONSTRUCTION MANAGER DURING BID WALK.</p> <p>⑬ 4" COMPACTED 95% BASE MATERIAL OR AS DETERMINED BY CONSTRUCTION MANAGER DURING BID WALK.</p> <p>⑭ FINISH GRADE SHALL BE UNIFORM AND LEVEL.</p> <p>⑮ GATE POST 4" SCHEDULE 40 PIPE, FOR GATE WIDTHS UP THRU 7 FEET OR 14 FEET FOR DOUBLE SWING GATE, PER ASTM-F1083.</p> <p>⑯ GATE FRAME: 1 1/2" PIPE, PER ASTM-F1083.</p> <p>⑰ GATE FRAME; 1 5/8" DIAMETER PIPE, PER ASTM-F1083</p> <p>⑱ GATE DIAGONAL GALVANIZED STEEL 1 1/2" PIPE.</p> <p>⑲ DUCK BILL OPEN GATE HOLDER. VERIFY LOCATION IN FIELD PRIOR TO INSTALLATION.</p> <p>⑳ GEOTEXTILE FABRIC</p> <p>㉑ LINE POST: CONCRETE FOUNDATION (2000 PSI)</p> <p>㉒ CORNER POST: CONCRETE FOUNDATION (2000 PSI)</p> <p>㉓ GATE POST: CONCRETE FOUNDATION (2000 PSI)</p> |
|--|---|

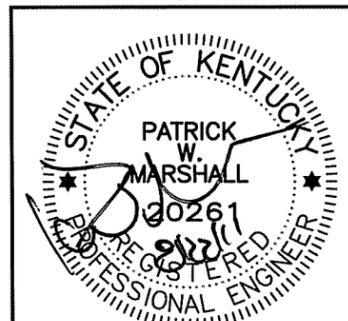
**GENERAL NOTES:**

1. INSTALL FENCING PER ASTM F-567
2. INSTALL SWING GATES PER ASTM F- 900
3. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED.
4. POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS. ALL PIPE TO BE 1 1/2" GALV. (HOT DIP, ASTM A120 GRADE "A" STEEL). ALL GATE FRAMES SHALL BE WELDED. ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV. (OR EQUAL).
5. ALL OPEN POSTS SHALL HAVE END-CAPS.
6. USE GALVANIZED HOG-RING WIRE TO MOUNT ALL SIGNS.
7. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC.

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KY-5005

**FENCE DETAILS**



DESIGNED: DCC  
 DRAWN: DCC  
 CHECKED: PWM  
 JOB #: GTF00B

**C-11**

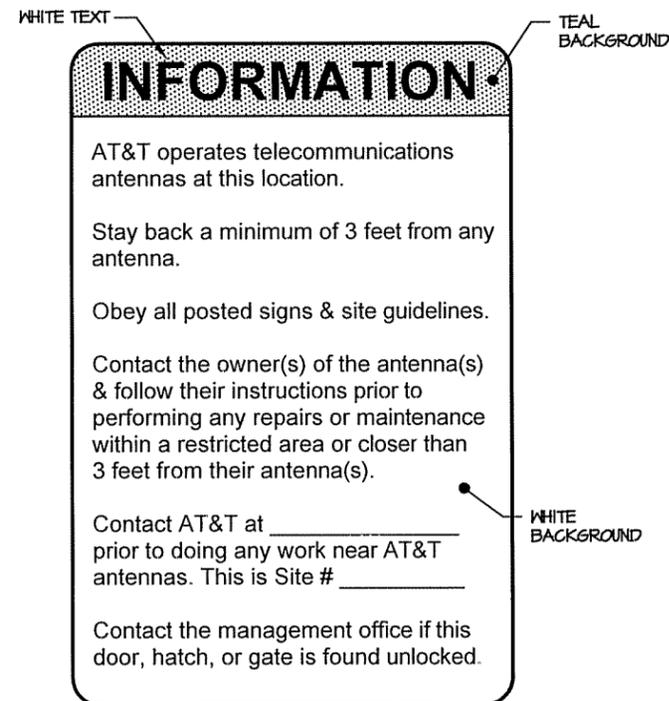


**AT&T SIGNAGE NOTES:**

1. SIGNS SHALL MEASURE 0' x 12' & BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL & PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
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 COMOUND AS WELL AS ON THE COMPOUND GATE ITSELF.
4. AT&T SITE # & EMERGENCY CONTACT SIGNS SHALL BE MOUNTED ON THE EQUIPMENT CABINET WITH PERMANENT SET ADHESIVE. TWO SIDED TAPE SHALL BE UTILIZED AT EACH CORNER ON THE BACKSIDE TO AID PLACEMENT UNTIL THE ADHESIVE SETS.



**SITE # IDENTIFICATION SIGN**  
WHITE BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: EQUIPMENT CABINET  
QUANTITY: 1



**INFORMATION RF EXPOSURE SIGN**  
WHITE/TEAL BACKGROUND, BLACK/WHITE LETTERING  
MOUNTING LOCATION: GATE  
QUANTITY: 1



**EMERGENCY CONTACT SIGN**  
WHITE BACKGROUND, BLACK LETTERING  
MOUNTING LOCATION: EQUIPMENT CABINET  
QUANTITY: 1

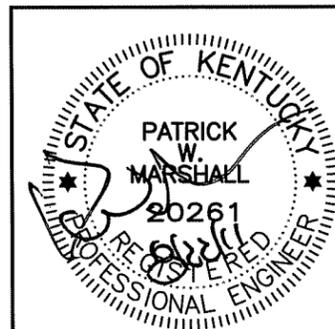
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KY-5005

**AT&T SITE SIGNAGE**

DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM  
JOB #: GTP008

**C-12**

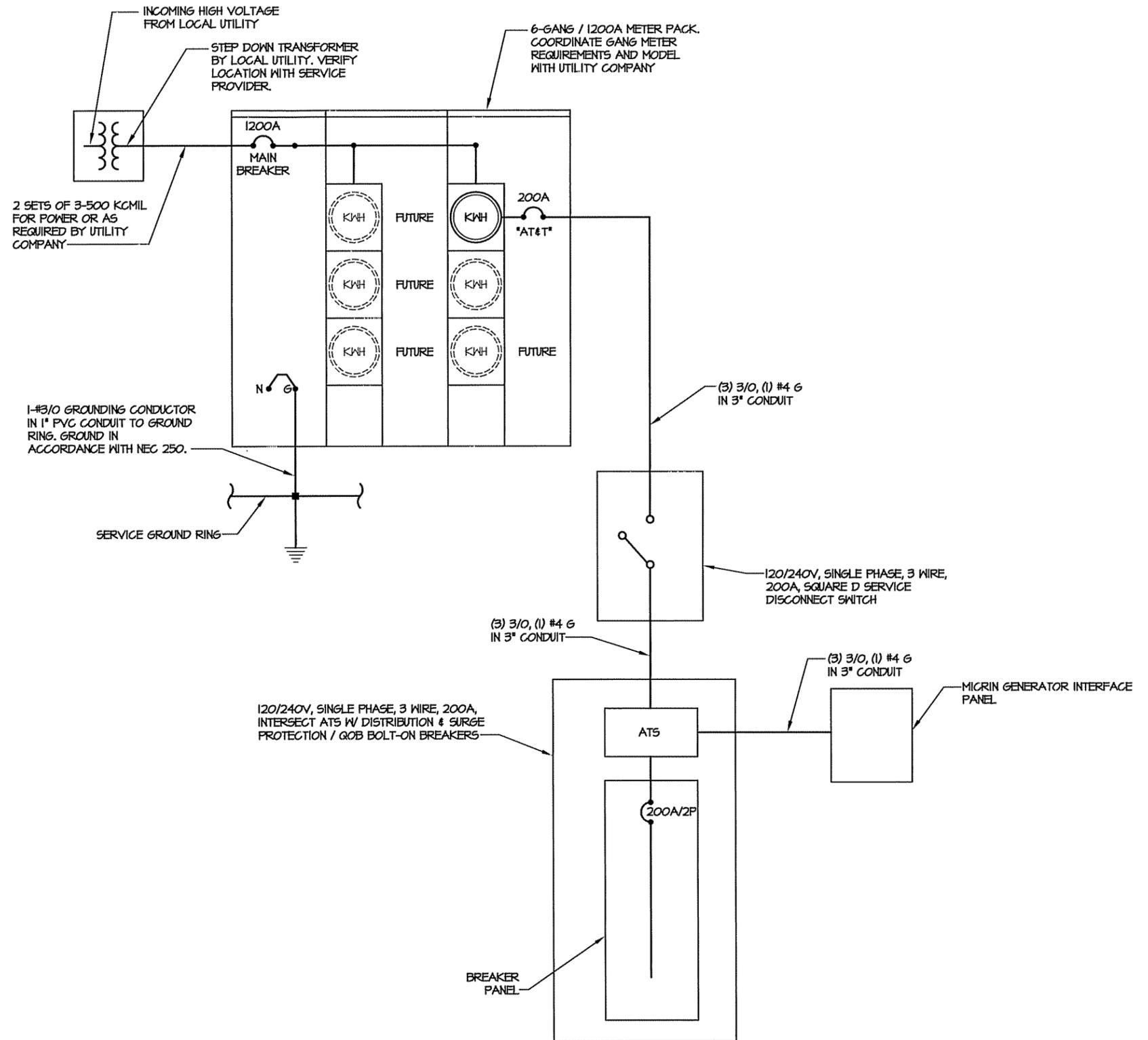


**ELECTRICAL INSTALLATION NOTES**

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND TI CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC CONDUIT (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENGAGED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

**ELECTRICAL INSTALLATION NOTES**

NTS



**NOTE:**

ALL BUILDING WIRING SHOULD COMPLY WITH THE NEC AND OTHER APPLICABLE CODES.

**ONE-LINE DIAGRAM**

NTS



30 MANSELL CT  
SUITE 103  
ROSWELL, GA 30076  
678-280-2325



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KY-5005

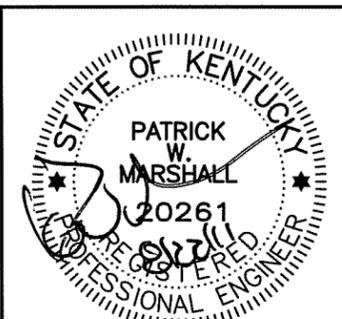
**ELECTRICAL SPECS & ONE-LINE DIAGRAM**

SITE NAME

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DRAWN: DCC  
CHECKED: PWM

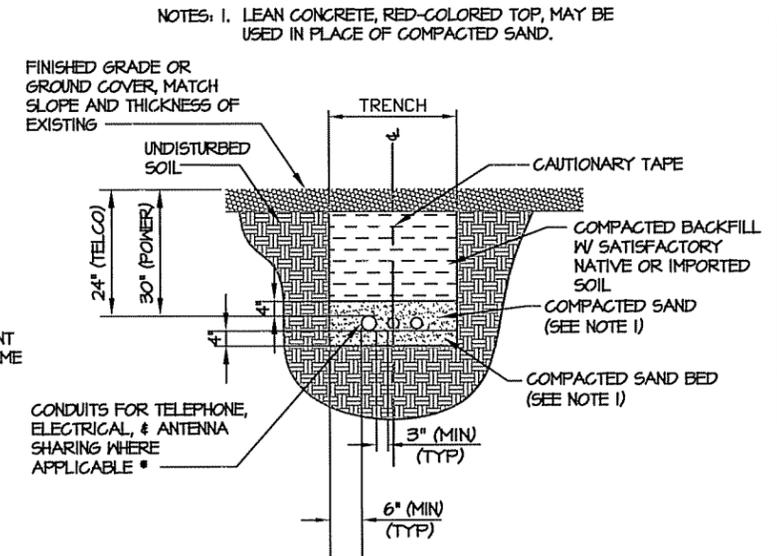
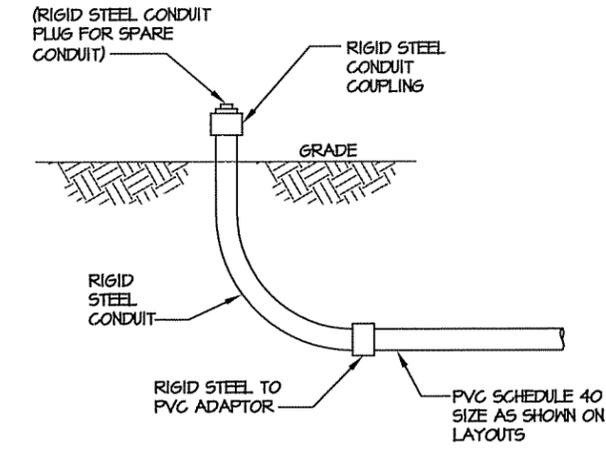
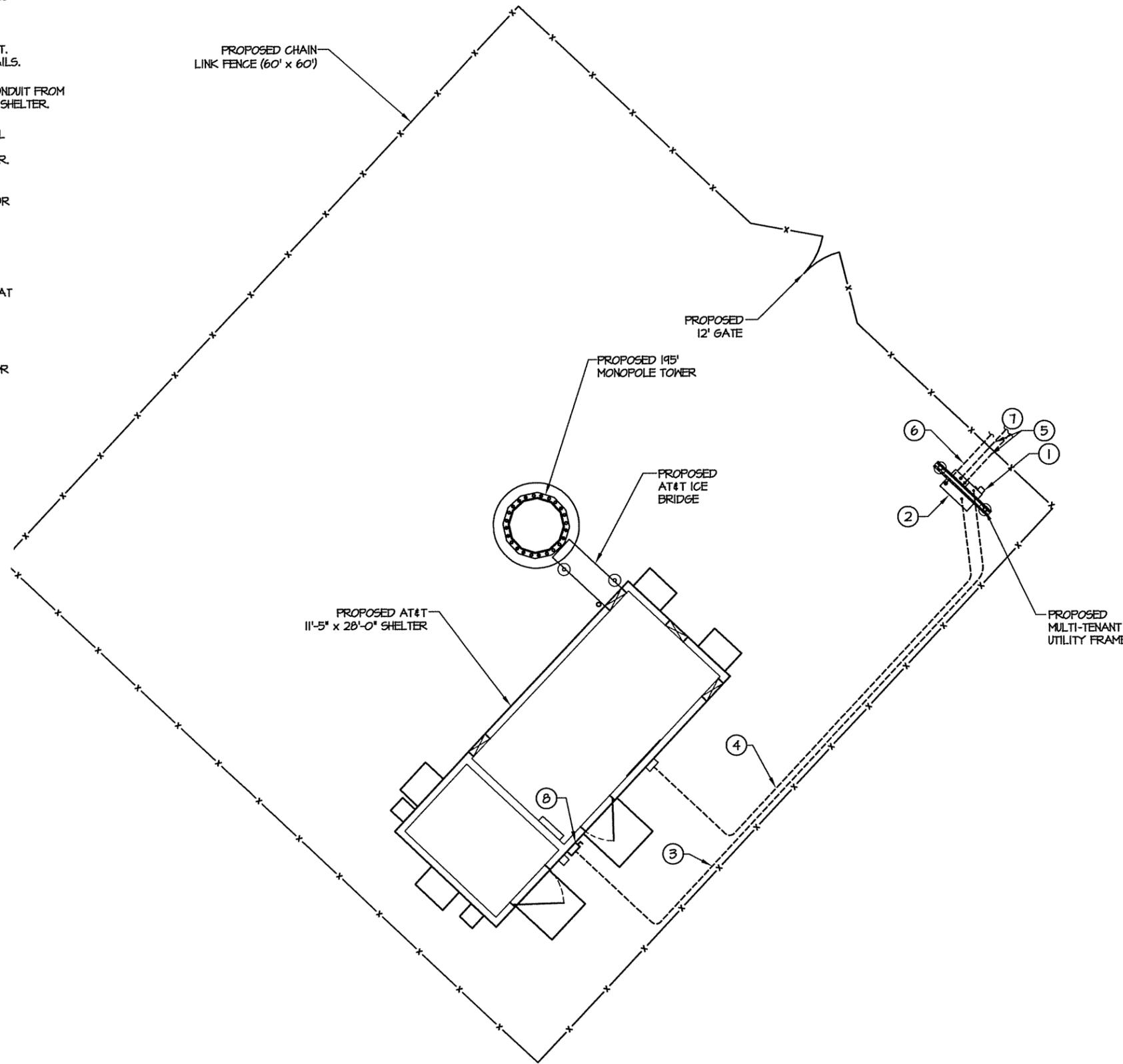
JOB #: GTP008

**E-1**

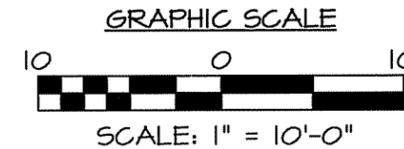
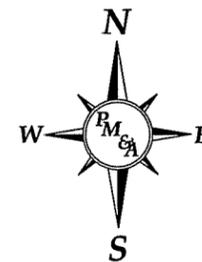


**ELECTRICAL KEY NOTES:**

- ① PROPOSED 600A GANG METER PANEL. SEE SHEET E-6 FOR MOUNTING DETAILS. SEE SHEET E-1 FOR ELECTRICAL ONE-LINE DIAGRAM.
- ② PROPOSED TELCO DEMARC CABINET. SEE SHEET E-6 FOR MOUNTING DETAILS.
- ③ PROPOSED (3) 3/0, (1) #4 & IN 3" CONDUIT FROM THE METER TO THE DISCONNECT ON SHELTER.
- ④ PROPOSED 4" CONDUIT WITH (2) FULL STRINGS FROM PROPOSED TELCO DEMARC TO THE EQUIPMENT SHELTER.
- ⑤ PROPOSED (2) 4" PVC CONDUITS FOR POWER SERVICE.
- ⑥ PROPOSED 4" PVC CONDUIT WITH FULLSTRINGS FOR TELCO SERVICE.
- ⑦ STUB UP CONDUITS A MINIMUM OF 2' ABOVE FINISHED GRADE AND CAP AT REQUIRED LOCATION. COORDINATE WITH UTILITY PROVIDER FOR FINAL CONNECTION TO EXISTING UTILITIES.
- ⑧ PROPOSED MANUAL DISCONNECT SWITCH MOUNTED ONTO SHELTER FOR POWER SERVICE CONDUIT.



\* CONDUIT SIZE, TYPE, QUANTITY AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS



**ELECTRICAL SITE PLAN**  
SCALE: 1" = 10'

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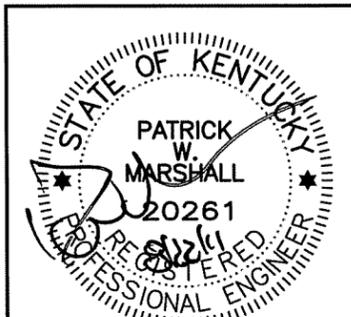
KY-5005

**ELECTRICAL SITE PLAN**

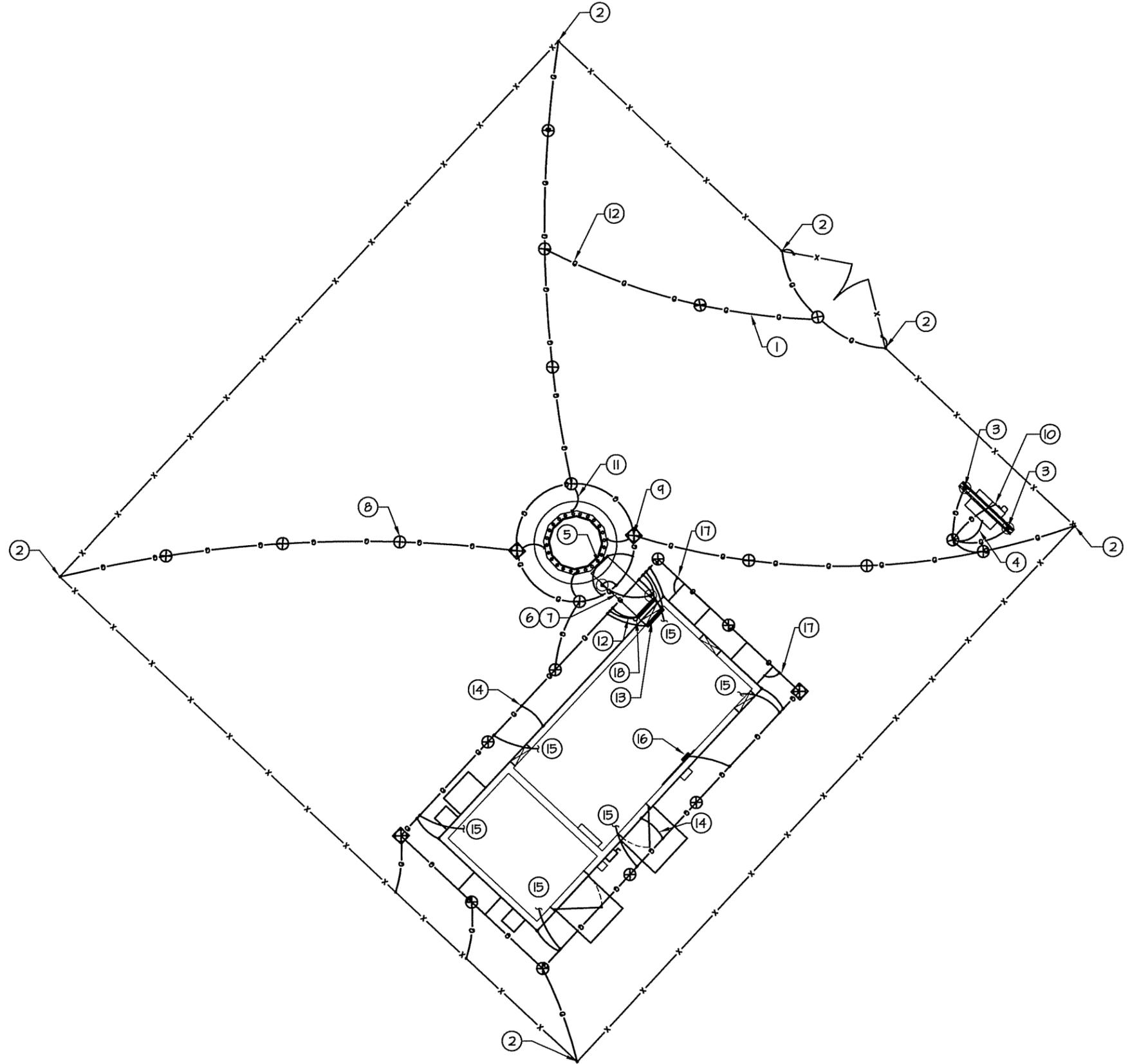
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CHECKED: PWM

JOB #: 6TPO08

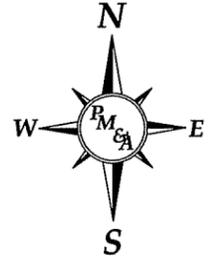
**E-2**



- ① #2 AWG BARE TINNED SOLID COPPER GROUND RING BURIED 30" BELOW GRADE (TYP)
- ② BOND FENCE & GATE POSTS TO GROUND RING WITH CADWELD CONNECTION (TYP)
- ③ BOND ALL H-FRAME POSTS TO GROUND RING
- ④ BOND TELCO BUSS BAR TO GROUND RING
- ⑤ BOND TOWER MOUNTED GROUND BAR TO TOWER GROUND RING
- ⑥ BOND EACH ICE BRIDGE SECTION TOGETHER WITH JUMPERS. BOND FIRST AND LAST SECTION TO GROUND RING.
- ⑦ BOND EVERY ICE BRIDGE POST BASE TO GROUND RING WITH CADWELD.
- ⑧ PROPOSED GROUND ROD (TYP).
- ⑨ PROPOSED GROUND ROD WITH INSPECTION WELL.
- ⑩ PROPOSED #3/0 GROUNDING CONDUCTOR IN 1" PVC CONDUIT TO GROUND RING. GROUND IN ACCORDANCE WITH NEC 250.
- ⑪ BOND TOWER TO TOWER GROUND RING.
- ⑫ CONNECT EXTERIOR GROUND BAR (UNDER WAVEGUIDE PORT) TO NEW GROUND RING WITH #2 GROUND CONDUCTORS.
- ⑬ CONNECT MASTER GROUND BAR TO EXTERIOR GROUND RING. COORDINATE WITH EQUIPMENT BUILDING MANUFACTURER FOR LOCATION OF WALL PENETRATION.
- ⑭ BOND EACH SHELTER TIE DOWN PLATE TO GROUND RING WITH CADWELD.
- ⑮ PROVIDE GROUND LEADS FROM SHELTER HALO TO GROUND RING (6 PLACES). COORDINATE WITH SHELTER MANUFACTURER FOR LOCATION OF WALL PENETRATIONS.
- ⑯ CONNECT TELCO GROUND BAR TO EXTERIOR GROUND RING. COORDINATE WITH EQUIPMENT BUILDING MANUFACTURER FOR LOCATION OF WALL PENETRATION.
- ⑰ BOND HVAC UNITS TO GROUND RING (TYP)
- ⑱ GROUND GPS ANTENNAS PER MANUFACTURER'S SPECIFICATIONS.

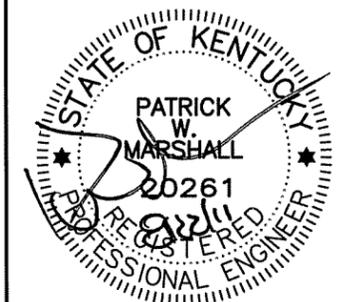


GROUNDING PLAN  
SCALE: 1" = 10'



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KY-5005  
**GROUNDING SITE PLAN**

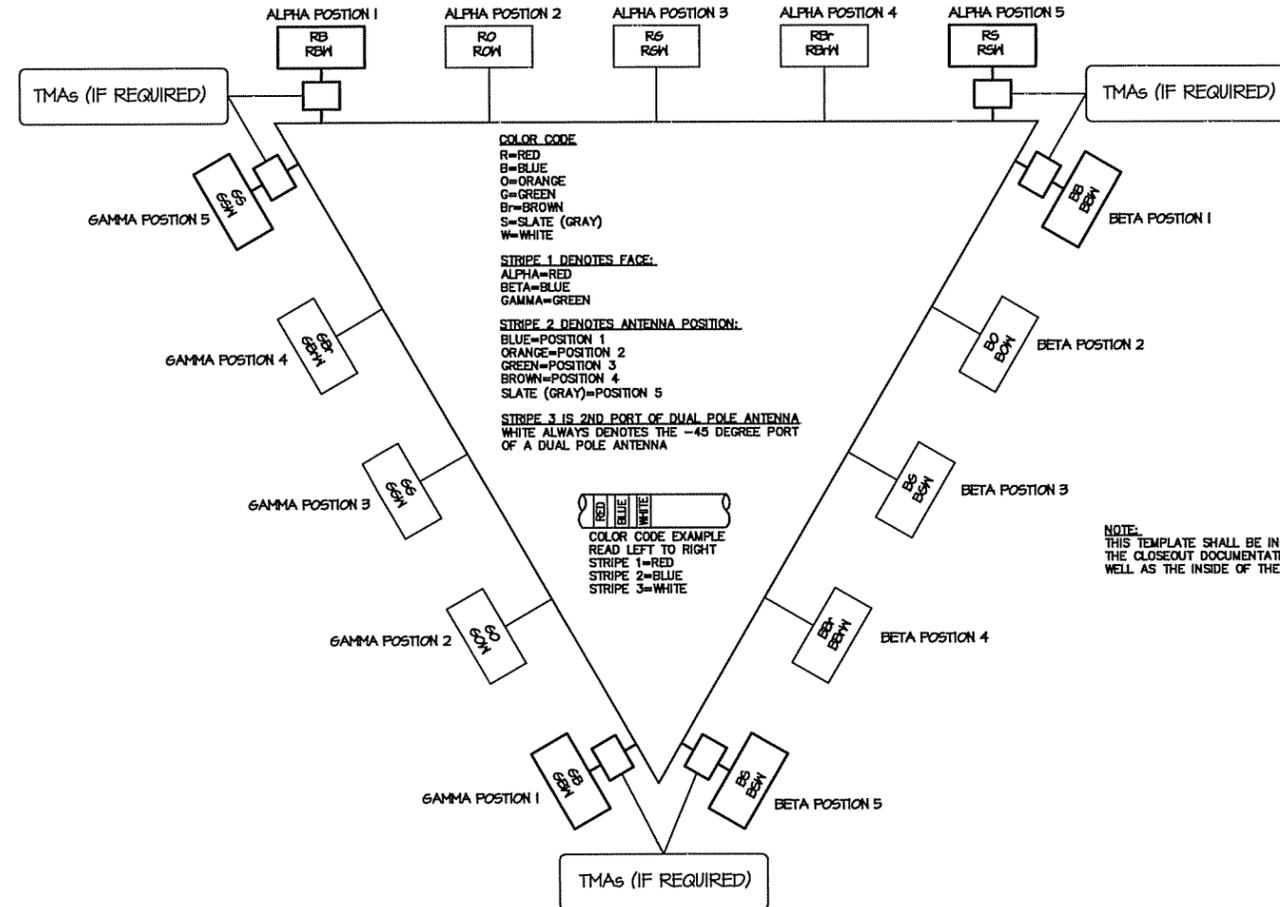


DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM  
JOB #: GTP008

**E-3**

**GROUNDING NOTES**

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC AND AT&T ND-0007I.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH SPECIFICATION 247B2-000-3PS-EG00-0000I. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
3. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS PER NEC AND AT&T ND-0007I.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
8. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
9. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
10. EACH INTERIOR BTS CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH #2 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL GROUND WIRES. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH # 2 AWG SOLID TIN-PLATED COPPER WIRE.
11. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE EXTERIOR UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM AT&T MARKET REPRESENTATIVE.
13. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
14. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
15. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTIONS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP BTS EQUIPMENT AND STRUCTURAL STEEL.
16. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO HOLED MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
17. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
18. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
19. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
20. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH # 2 SOLID AWG TIN-PLATED COPPER GROUND CONDUCTOR.
21. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.
22. GROUND ALL RF EQUIPMENT INCLUDING BUT NOT LIMITED TO COAX, DIPLEXERS, SURGE ARRESTORS, TMA's, ANTENNAS, & ANTENNA MASTS PER NEC AND AT&T ND-0007I.



**COAX COLOR CODE TEMPLATE**  
NTS

**NOTE:**  
THIS TEMPLATE SHALL BE INCLUDED IN THE CLOSEOUT DOCUMENTATION AS WELL AS THE INSIDE OF THE CABINET.



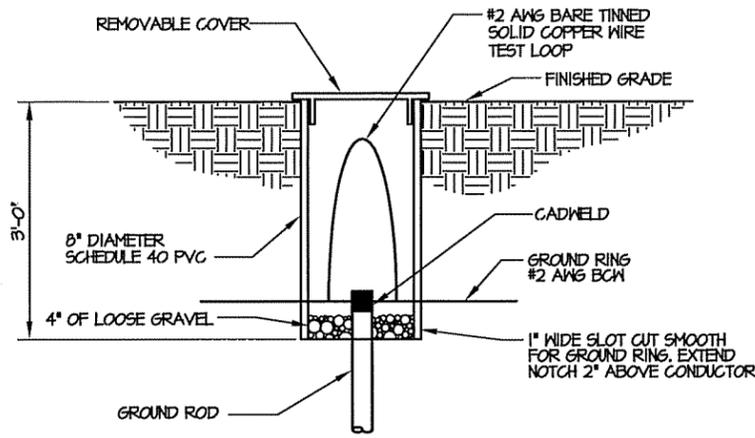
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KY-5005

**GROUNDING NOTES & COAX COLOR CODE TEMPLATE**

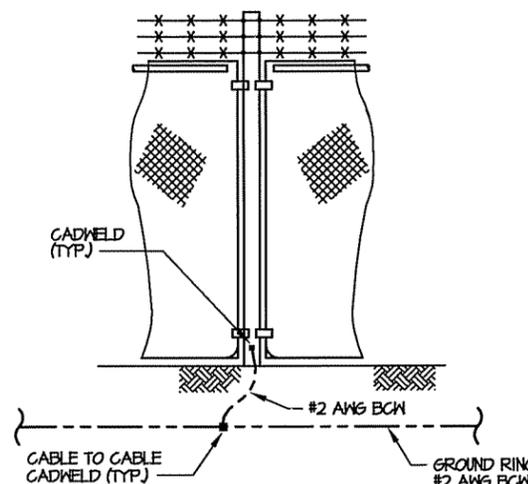
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JOB #:	GTPO08





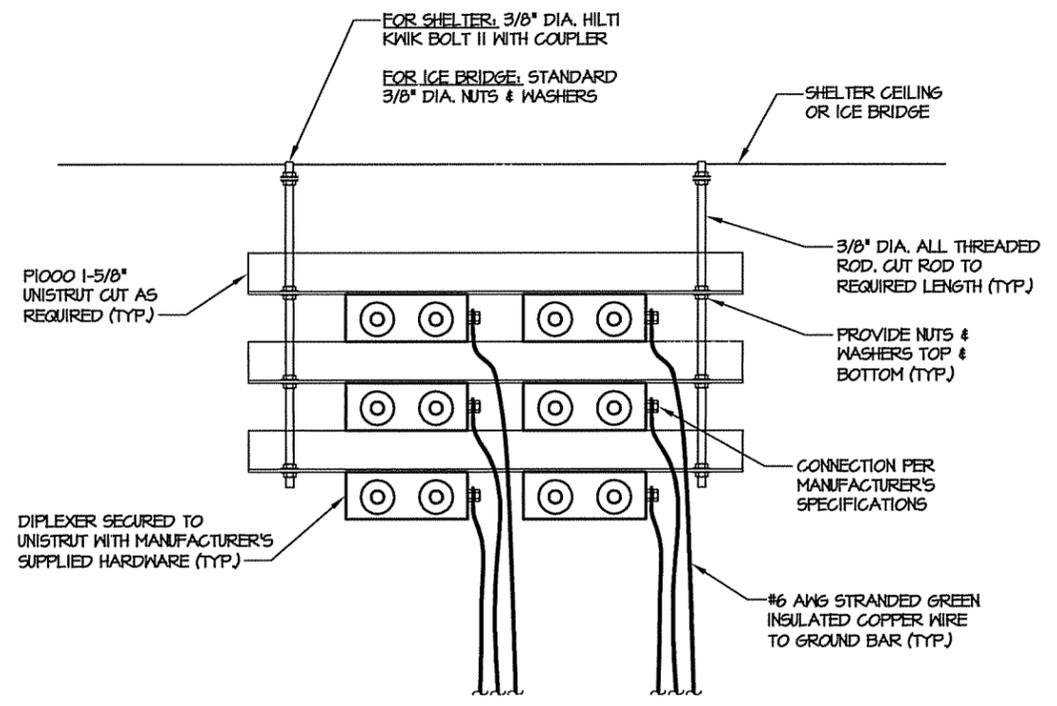
**GROUND ROD INSPECTION WELL**

NOT TO SCALE



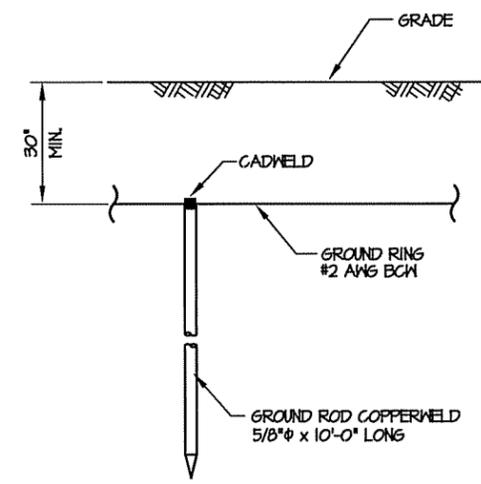
**FENCE GROUNDING**

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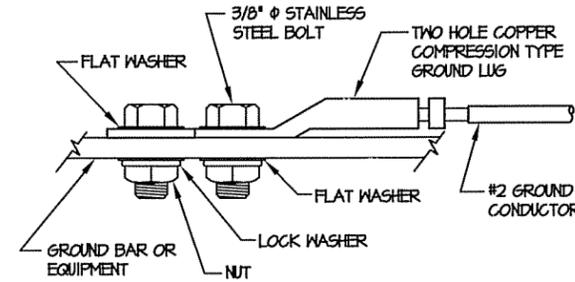
**DIPLEXER GROUNDING DETAILS**

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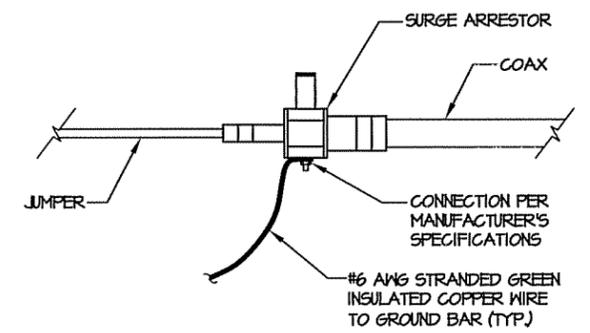
**GROUND ROD DETAIL**

NOT TO SCALE



**MECHANICAL GROUND CONNECTION**

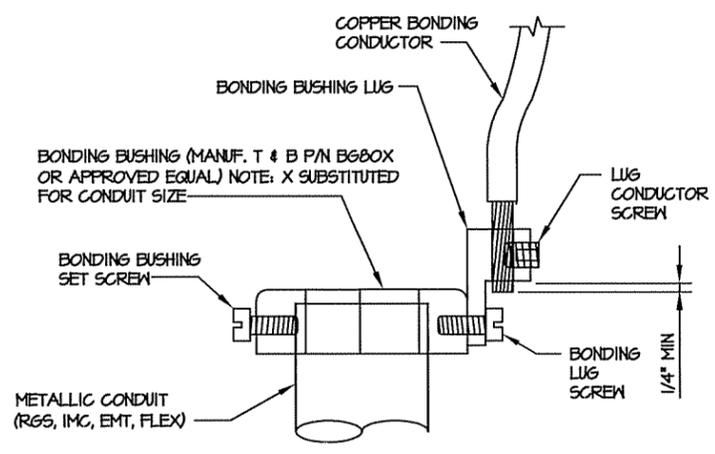
NOT TO SCALE



NOTE: ON OUTDOOR SITES, INSTALL WEATHERPROOFING AT EACH CONNECTION PER AT&T SPECIFICATIONS

**SURGE ARRESTOR GROUNDING DETAILS**

NOT TO SCALE

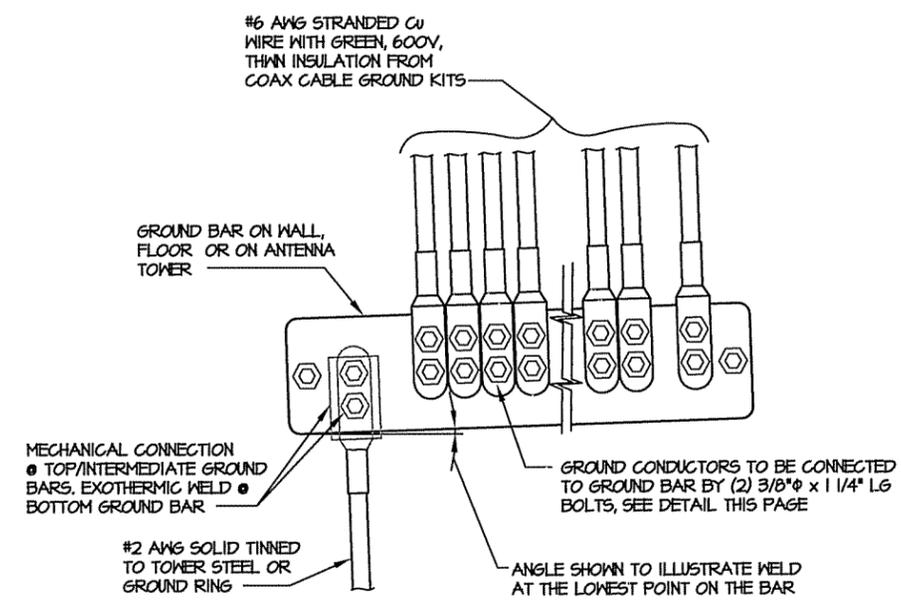


- DIRECTIONS:
1. MOUNT BONDING BUSHING ONTO CONDUIT
  2. TIGHTEN BOND BUSHING SET SCREW
  3. INSERT COPPER CONDUCTOR INTO LUG
  4. TIGHTEN LUG CONDUCTOR SCREW
  5. TIGHTEN BONDING LUG SCREW

NOTE: BONDING BUSHING, SET SCREW, LUG, LUG SCREW, COND. LUG SCREW, SHOWN AS COMPLETE UNIT.

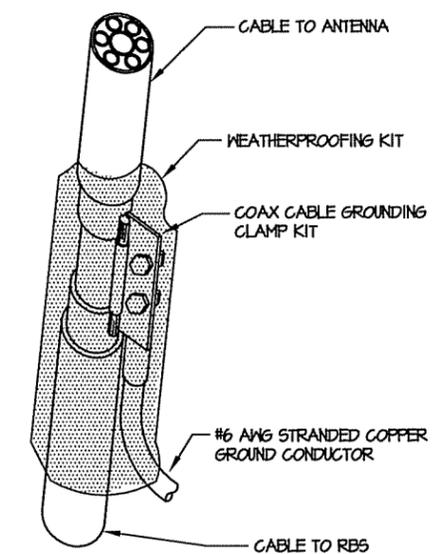
**CONDUIT BOND/GROUND BUSHING**

NTS



**INSTALLATION OF GROUND WIRE TO COAX CABLE GROUND BAR**

NTS



- NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND.
  2. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
  3. GROUNDING KIT & WEATHER PROOFING KIT SHALL BE TYPE & PART # AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

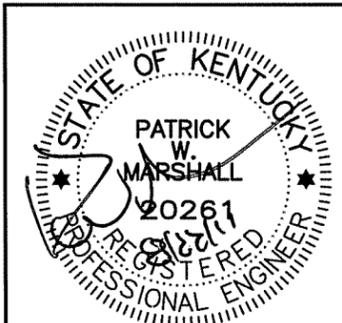
**COAX CABLE GROUND KIT**

NOT TO SCALE

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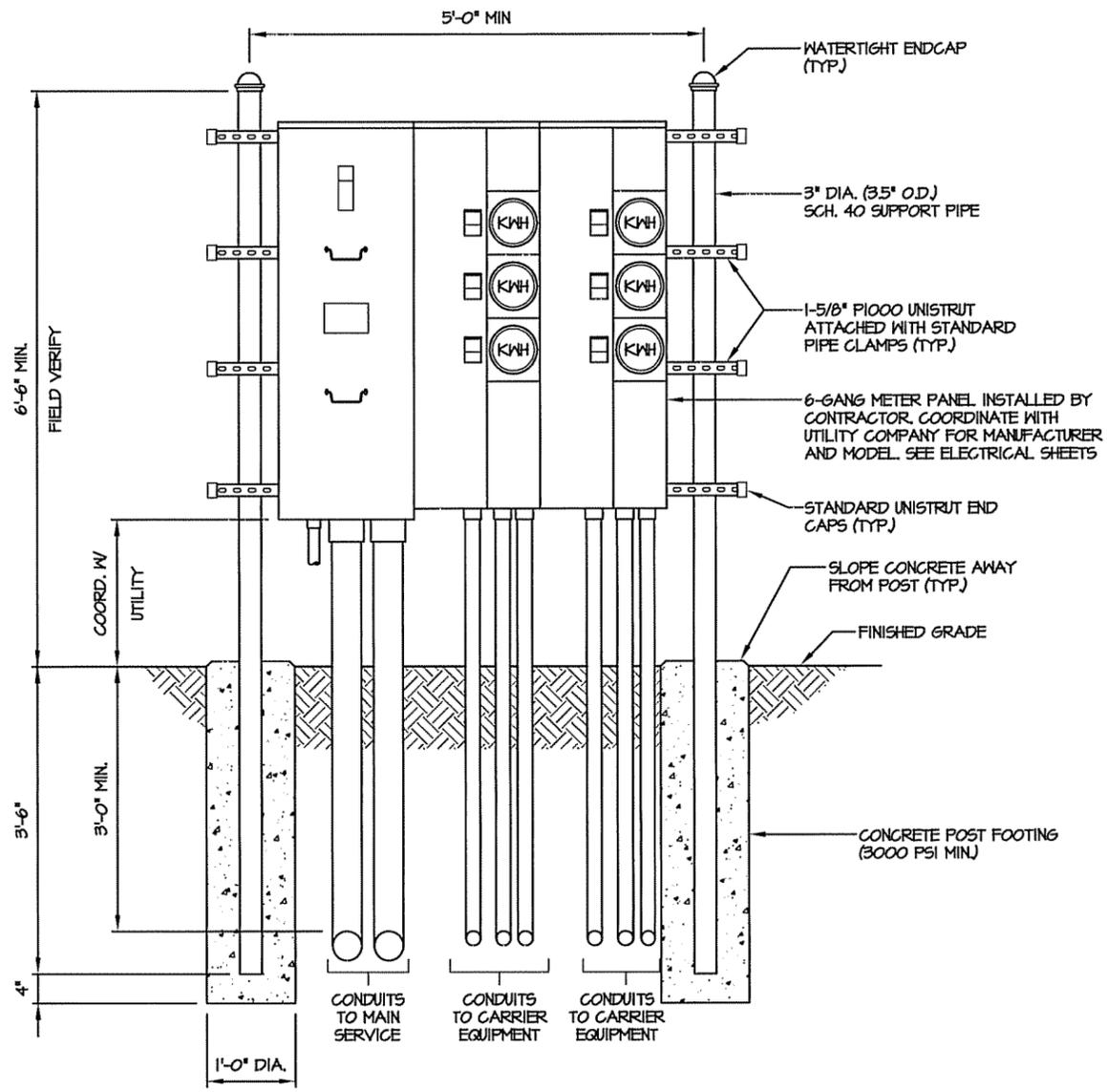
**GROUNDING DETAILS**



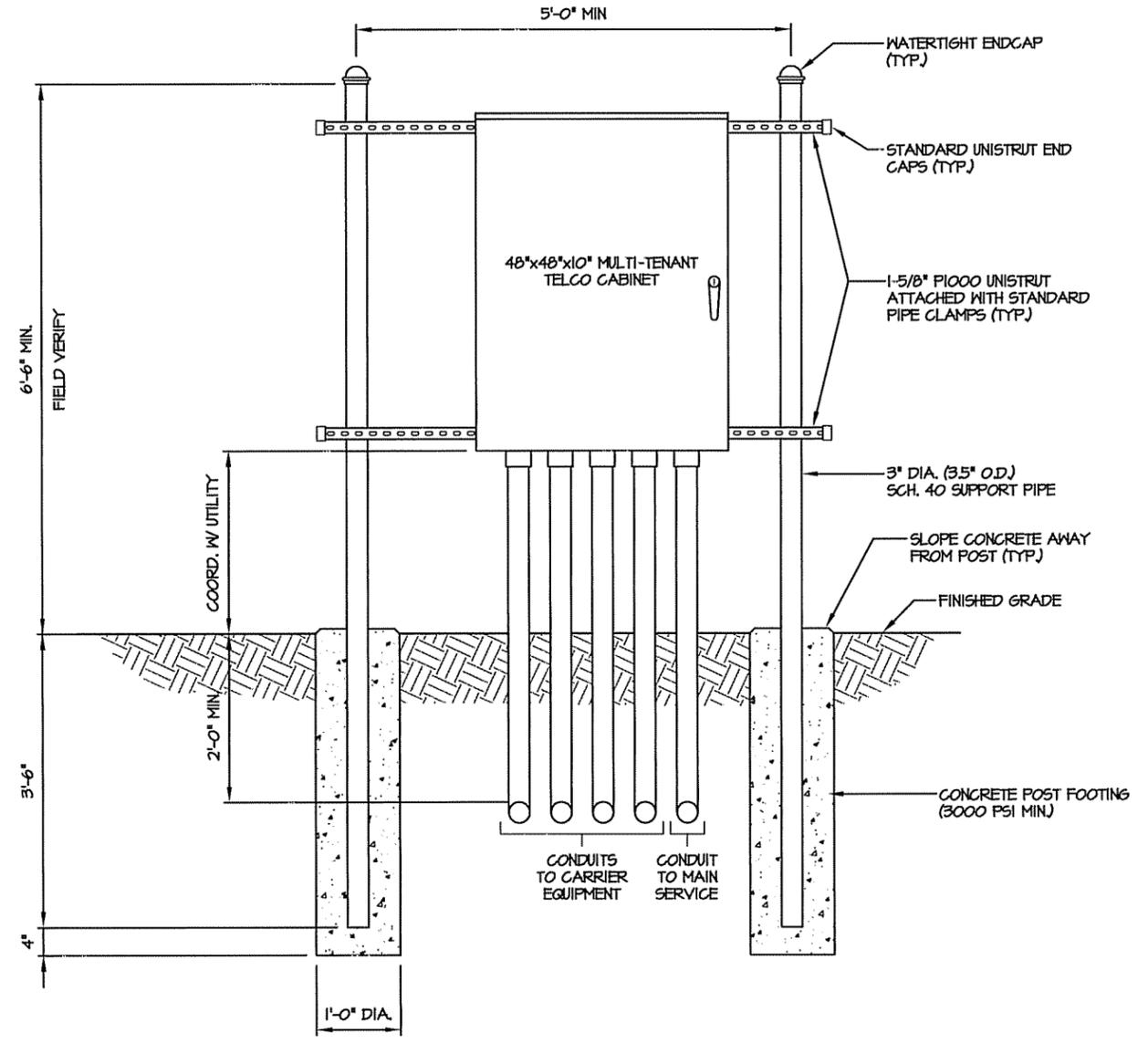
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CHECKED: PWM

JOB #: GTF008

**E-5**



**UTILITY FRAME DETAIL (GANG METER)**  
 NTS



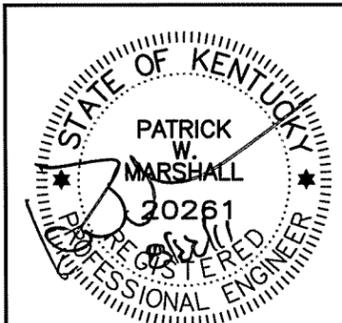
**UTILITY FRAME DETAIL (TELCO)**  
 NTS

- NOTES:
1. CONTRACTOR SHALL FIELD LOCATE THE METER PEDESTAL AS SHOWN ON SITE PLAN. INSTALL THE METER PEDESTAL NEAR THE PERIMETER OF THE FENCED COMPOUND WITH THE METERS FACING AS SHOWN.
  2. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE CONDUIT RUN TO THE MAIN SERVICE CONNECTION OR TRANSFORMER.
  3. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR GROUND ROD REQUIREMENTS. IF REQUIRED, THE CONTRACTOR SHALL ORDER AND PAY FOR NECESSARY GROUND TESTS.
  4. SUPPORT POST AND UNISTRUT SHALL BE GALVANIZED. PIPE CLAMPS AND HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL.
  5. TELCO CABINET SHALL BE 48"x48"x10" HOFFMAN OR EQUIVALENT. PROVIDE 3/4" PLYWOOD BACKBOARD INSIDE THE MULTI-TENANT TELCO CABINET.
  6. ADJUSTMENTS TO THE METER PEDESTAL DESIGN MAY BE REQUIRED DEPENDING ON THE EXACT METER PANEL INSTALLED. CONTRACTOR SHALL FIELD COORDINATE ADJUSTMENTS AND INFORM THE ENGINEER IF ANY UNUSUAL CONDITIONS ARE FOUND TO EXIST.

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**UTILITY FRAME DETAILS**



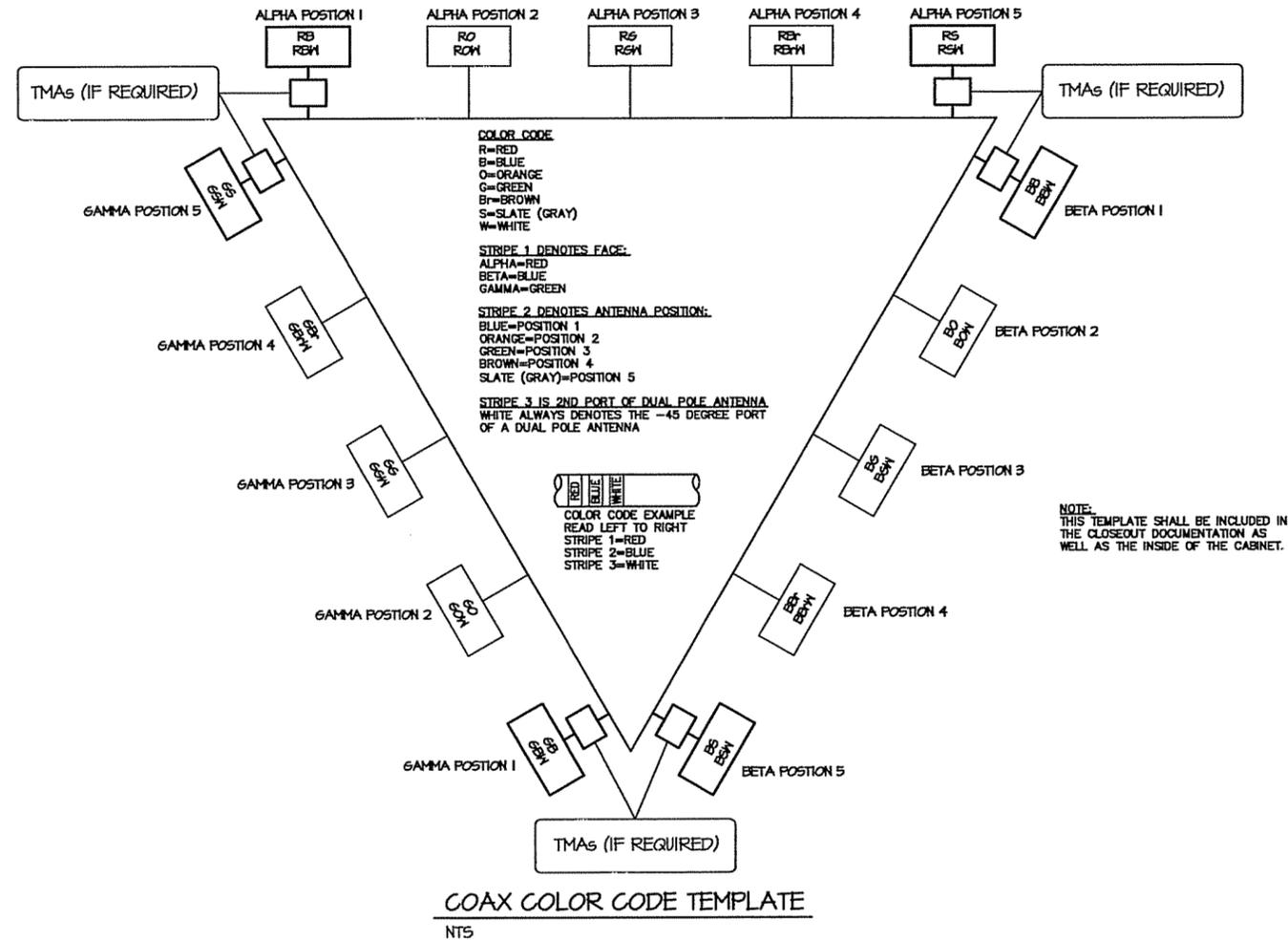
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 CHECKED: PWM

JOB #: GTF008

**E-6**

**GROUNDING NOTES**

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GSES) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC AND AT&T ND-00071.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH SPECIFICATION 24182-000-3PS-E600-00001. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
3. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS PER NEC AND AT&T ND-00071.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
8. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
9. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
10. EACH INTERIOR BTS CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH #2 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH # 2 AWG SOLID TIN-PLATED COPPER WIRE.
11. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE EXTERIOR UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM AT&T MARKET REPRESENTATIVE.
13. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
14. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
15. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP BTS EQUIPMENT AND STRUCTURAL STEEL.
16. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO HOLED MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
17. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
18. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
19. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
20. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH # 2 SOLID AWG TIN-PLATED COPPER GROUND CONDUCTOR.
21. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.
22. GROUND ALL RF EQUIPMENT INCLUDING BUT NOT LIMITED TO COAX, DIPLEXERS, SURGE ARRESTORS, TMA's, ANTENNAS, & ANTENNA MASTS PER NEC AND AT&T ND-00071.



30 MANSELL CT  
SUITE 103  
ROSWELL, GA 30076  
678-280-2325



NUM	DATE	DESCRIPTION:
A	6/10/11	ISSUED FOR REVIEW
0	6/23/11	ISSUED FOR PERMITTING & CONSTRUCTION
1	8/1/11	REVISED SHELTER LOCATION
2	8/22/11	DRIVING DIRECTIONS

**GROUNDING NOTES & COAX COLOR CODE TEMPLATE**

DESIGNED: DCC  
DRAWN: DCC  
CHECKED: PWM  
JOB #: GTP00B

**E-4**

