

404 N.E. WOODS CHAPEL ROAD

REAL PROPERTY AND TOWER SITE LEASE AGREEMENT BY AND  
BETWEEN THE CITY OF LEE'S SUMMIT AND T-MOBILE CENTRAL LLC  
FOR A SITE COMMONLY KNOWN AS 404 N.E. WOODS CHAPEL ROAD

This Lease Agreement is made this \_\_\_ day of \_\_\_\_\_, 2026, by and between the City of Lee's Summit, Missouri, a municipal corporation, ("Lessor") and T-Mobile Central LLC, and its successors and assigns, ("Lessee").

WITNESSETH THAT:

WHEREAS, Lessor is the owner in fee simple of a parcel of land commonly known as 404 N.E. Woods Chapel Road located in the City of Lee's Summit, Jackson County, State of Missouri, legally described on the attached Exhibit A ("Property"); and

WHEREAS, a water tower, including an equipment shelter area and antenna mounts, (collectively "Tower Facilities") is located on the Property; and

WHEREAS, Lessor desires to continue to lease to Lessee, and Lessee desires to lease from Lessor, a portion of the Property and Tower Facilities (collectively "Leased Premises") for the purpose of constructing, installing, maintaining, operating, and removing, at its expense, a directional antenna, connecting cables, support structures and related site equipment for communication facilities ("Site Equipment").

WHEREAS, Lessor and Lessee acknowledge that the Leased Premises was previously leased between Lessor and Lessee's affiliate, Sprint Spectrum Realty Company, LLC, a Delaware limited liability company ("**Sprint**"), under the terms and conditions of that certain Real Property and Tower Site Lease dated September 25, 2000 as may have been amended (collectively, the "**Prior Lease**"). The Prior Lease expired by its terms on September 13, 2020, and Sprint has continued to operate on a month to month basis at the Leased Premises under the terms of the Prior Lease with Lessor's consent

NOW THEREFORE, the parties hereto agree as follows.

I. DEMISE AND USE OF PROPERTY

Lessee agrees to lease from Lessor, and Lessor agrees to lease to Lessee, the following property (collectively "Leased Premises"):

- a) a non-exclusive easement of reasonable access to the Tower Facility across the - Property located in the City of Lee's Summit, Jackson County, State of Missouri, more particularly described in legal description attached and incorporated herein as

Exhibit A. For the purposes of this Lease Agreement, reasonable access shall be between 7:00 A.M. and 3:30 P.M. Monday through Friday, except on City Holidays as designated in Section 2-2 of the Lee's Summit Code of Ordinances. Such access shall be granted upon 2-hour notice to the Lee's Summit Water Utilities Department. Lessor shall grant reasonable access at all other times to the Leased Premises in the event of emergencies, in its sole discretion. In the event of an emergency, Lessee shall call Lee's Summit Building Services at 816-969-1609. Lessee shall provide Lessor with a list of Lessee's agents and employees authorized to access the equipment located on the Leased Premises. Lessor shall not be responsible for monitoring access to Lessee's equipment.

Lessee shall have the right to construct, install, operate, maintain and remove the Site Equipment on the Tower Facility more particularly described in the site plan attached and incorporated herein as Exhibit B. This right shall be exercised in accordance with the plans and specifications for the Site Equipment attached and incorporated herein as Exhibit C. It is expressly understood between the parties that no changes in the site equipment plans and specifications as set forth in Exhibits B and C shall be made without the express written permission of the City.

## 2. TERM

The Initial Term of this Lease Agreement shall be for five (5) years commencing on the March 1 2026 the "Commencement Date." This Lease Agreement shall be automatically renewed for three (3) additional terms, (each a "Renewal Term") of five years each, unless the Lessee provides the Lessor written notice of intention not to renew not less than ninety (90) days prior to the expiration of the Initial Term or any Renewal Term; and/or Lessee is in default as provided in Paragraph 20 of this Lease Agreement; and/or this Lease Agreement is terminated as provided in Paragraph 28.

. Lessor and Lessee acknowledge and agree that the Prior Lease shall terminate effective as of 11:59:59 pm on the day immediately prior to the Commencement Date of this Lease Agreement ("**Prior Lease Termination Date**") as if such date were originally stated to be the termination date of the Prior Lease and shall thereafter be replaced in its entirety by this Lease Agreement. The termination of the Prior Lease shall be effective without further documentation.

## 3. FEE

As a one-time only fee for the use of public property under this Lease Agreement, the Lessee shall remit the sum of \$20,000.00. This fee shall be paid on or before April 15, 2026.

## 4. RENT

Lessee agrees to pay the Lessor, for the Leased Premises, rents paid annually in advance beginning on the Commencement Date and on each anniversary of it. The annual rent for the first year of the initial term of this Lease Agreement shall be \$30,000.00. Rent shall be payable within forty (40) days of the Commencement Date, and each subsequent anniversary date as follows:

<b>COMMENCEMENT DATE</b>	<b>March 1, 2026</b>	<b>\$30,000.00</b>
<b>First Anniversary</b>	<b>March 1, 2027</b>	<b>\$30,900.00</b>
<b>Second Anniversary</b>	<b>March 1, 2028</b>	<b>\$31,827.00</b>
<b>Third Anniversary</b>	<b>March 1, 2029</b>	<b>\$32,781.81</b>
<b>Fourth Anniversary</b>	<b>March 1, 2030</b>	<b>\$33,765.26</b>
 <b>FIRST RENEWAL TERM</b>		
<b>Fifth Anniversary</b>	<b>March 1, 2031</b>	<b>\$34,788.22</b>
<b>Sixth Anniversary</b>	<b>March 1, 2032</b>	<b>\$35,821.56</b>
<b>Seventh Anniversary</b>	<b>March 1, 2033</b>	<b>\$36,896.21</b>
<b>Eighth Anniversary</b>	<b>March 1, 2034</b>	<b>\$38,003.10</b>
<b>Ninth Anniversary</b>	<b>March 1, 2035</b>	<b>\$39,143.19</b>
 <b>SECOND RENEWAL TERM</b>		
<b>Tenth Anniversary</b>	<b>March 1, 2036</b>	<b>\$40,317.48</b>
<b>Eleventh Anniversary</b>	<b>March 1, 2037</b>	<b>\$41,527.01</b>
<b>Twelfth Anniversary</b>	<b>March 1, 2038</b>	<b>\$42,772.82</b>
<b>Thirteenth Anniversary</b>	<b>March 1, 2039</b>	<b>\$44,056.00</b>
<b>Fourteenth Anniversary</b>	<b>March 1, 2040</b>	<b>\$45,377.68</b>
 <b>THIRD RENEWAL TERM</b>		
<b>Fifteenth Anniversary</b>	<b>March 1, 2041</b>	<b>\$46,739.01</b>
<b>Sixteenth Anniversary</b>	<b>March 1, 2042</b>	<b>\$48,141.18</b>
<b>Seventeenth Anniversary</b>	<b>March 1, 2043</b>	<b>\$49,585.42</b>
<b>Eighteenth Anniversary</b>	<b>March 1, 2044</b>	<b>\$51,072.98</b>
<b>Nineteenth Anniversary</b>	<b>March 1, 2045</b>	<b>\$52,605.17</b>

Thereafter, in the event this Lease Agreement expires, and the Lessee continues in possession of the premises, the Lessee shall pay rent at the rate of the last year's payment under the Lease Agreement and a yearly increase of 3% (three percent) until a new Lease Agreement is executed or the Lessee quits the premises.

All annual rent installments are to be paid at Lee's Summit City Hall, 220 SE Green P.O. Box 1600, Lee's Summit, Missouri 64063, or at such other place as Lessor may designate from time to time. Any rental payment paid beyond forty (40) days in default shall have interest thereon at the highest non-usurious rate permitted by law.

**5. USE AND ACCESS TO LEASED PREMISES AND SITE EQUIPMENT**

Lessee agrees to provide prior written notice to the City of the date and time that all work pursuant to this Agreement will occur, along with a list of the names, addresses, and social security

numbers of all contractors, subcontractors, and agents or employees of contractors or subcontractors, who will be performing work on behalf of Lessee pursuant to this Agreement. Lessee agrees that all contractors, subcontractors, and agents or employees of contractors or subcontractors, engaged by Lessee to perform work on behalf of Lessee pursuant to this Agreement will execute a consent to the City authorizing the City to perform a criminal background check on each contractor, subcontractor, agent or employee performing work.

1. The City expressly reserves to itself the right to make any changes in the tower or tower operations that do not interfere with the use granted under this Lease Agreement pursuant to Exhibits B and C.
2. Lessee agrees none of its operations will interfere with the City's use of its property or with any other tenant or lessee using this property. Nothing in this Lease Agreement shall constitute any further restriction on the City's future use of this property.

## 6. CONSTRUCTION STANDARDS AND PERMIT REQUIREMENTS

Lessee shall, at its own cost, construct, install, operate and maintain the Site Equipment upon the Leased Premises. Lessee's construction and installation of Site Equipment shall be done according to plans and specifications approved by the Lessor and attached in Exhibit C. The Lessee may, at its expense, make such improvements on the Tower Facilities as are necessary for the operation of a transmission site for wireless voice and data communication in accordance with the plans and specifications in Exhibit C, provided those improvements or modifications do not interfere with Lessors operation of the tower or the operations of any other tenant on the tower. Any further construction shall be completed on a schedule submitted by the Lessee after approval by the City.

Lessee shall obtain all necessary permits, permission, sanctions, and approvals necessary to construct, install, operate, and maintain the Site Equipment. Lessee shall construct, install, operate, and maintain the Site Equipment in accordance with site standards, state statutes, ordinances, rules and regulations now in effect or that thereafter may be issued by the Federal Communications Commission or any other governing body. In the event that any alteration of the Property, Tower Facility, or Site Equipment is required to fulfill the covenants of this paragraph, it shall be done in accordance the alteration procedures of Paragraph 13 of this Lease Agreement. Any damage done to the Property or Tower Facility during the construction, installation, maintenance, operation and/or removal of the Site Equipment shall be repaired or - replaced within ten (10) days at Lessee's expense and to Lessor's sole satisfaction. In addition, if the City experiences an interruption of existing City services relating to the City's use of the Property or Tower Facility as a result of actions or omissions of the Lessee under this Lease Agreement, Lessee agrees to timely rectify any such interruption and pay all documented costs

associated with the loss, repair and/or restoration of said city services.

## 7. REMOVAL OF SITE EQUIPMENT

Lessee shall remove all personal property and trade fixtures of Lessee upon the expiration or termination of this Lease Agreement. Lessee shall remove the Site Equipment from the Leased Premises within thirty (30) days of the date of termination or expiration and shall repair any damage to the Leased Premises caused by construction, installation, operation, maintenance or removal of the Site equipment. Any property that is not removed within thirty (30) days of the date of termination or expiration of this Lease Agreement shall become property of the Lessor.

## 8. LIENS OR ENCUMBRANCES

The Lessee shall not suffer the Property, Tower Facilities, or any construction or improvements thereon to become subject to any lien, charge, or encumbrance whatsoever, and shall indemnify the Lessor against all such liens, charges, and encumbrances; it being expressly agreed that the Lessee shall have no authority, express or implied, to create any lien, charge, or encumbrance upon the Leased Premises.

## 9. ASSIGNMENTS

Lessee may not assign this Lease Agreement to third parties without written approval from the Lessor which approval, in the case of the assignment to a wholly owned affiliate or subsidiary, may not be unreasonably withheld.

## 10. INSURANCE

Lessee agrees to maintain at its expense at all times during this Lease Agreement, commercial general liability insurance, including Lessor as an additional insured, in an amount not less than \$2,000,000.00 each occurrence bodily injury and/or property damage, \$2,000,000.00 personal and or advertising injury limit, \$2,000,000.00 products and completed operations aggregate, \$2,000,000.00 general aggregate, and \$500,000.00 Fire Damage Legal Liability, with Lessor included as additional insured on Lessee's general liability policy, written by an insurer licensed to do business in the State of Missouri. Lessee shall furnish to Lessor prior to any occupancy or work, a certificate of insurance confirming the above minimum limits. All policies of insurance shall provide for at least thirty (30) days prior written notice of cancellation or any changes of insurer to Lessor.

The Lessee, at Lessee's own expense, is to insure or self-insure any Site Equipment at the leased location. The Lessor is not responsible for any loss or damage to the Site Equipment,

regardless of the cause for such loss. The Lessee hereby waives the right, or their insurers right, of subrogation against the Lessor for any loss of the Lessee's Site Equipment.

In the event Lessee shall fail to procure insurance required under this Lease Agreement and fail to maintain the same in force continuously during the term, Lessor shall be entitled to procure the same, and Lessee shall immediately reimburse Lessor for such premium expense.

#### 11. INTERFERENCE AND STRUCTURAL COMPATABILITY

Lessee agrees that the construction, installation, maintenance, operation and/or removal of the Site Equipment shall not interfere with any other communication systems currently in or in the future on the Tower Facility or Property, nor interfere with the City's current use, or any future use, of the Tower Facility or Property. If Lessee's Site Equipment causes interference, Lessee shall take all measures necessary to correct and eliminate the interference. If the interference cannot be eliminated within seventy-two (72) hours, Lessee shall immediately cease operating the Site Equipment until the interference has been eliminated. If the interference cannot be eliminated within thirty (30) days, Lessor may terminate this Lease Agreement upon written notice to Lessee.

Before approving the placement of the Site Equipment, Lessor may require, at the Lessee's expense, any information that will insure that Lessee's use will not interfere with rights in the Property and Tower Facility retained by the Lessor or any other lessee. Such information may include, but is not limited to, a certified interference study to indicate whether the proposed use will interfere with any existing communication facilities, a transition plan approved by the Lessor for continued operation of existing facilities during construction, installation or maintenance of Lessee's Site Equipment, an engineering study indicating that the Tower Facility can structurally support the Site Equipment, or a safety study certified by an industrial hygienist or other equally qualified inspector to ensure that access to the Tower Facility is at all times in compliance with any applicable safety standards Any interference test required by the Lessor shall include frequencies provided by the Lessor, for its own exclusive anticipated use, as if they were existing uses.

Lessor agrees that antennas, related site equipment and/or frequencies, installed by other lessees after the execution of this Lease Agreement, shall not interfere with the operation of Lessee's equipment. In the event any such interference occurs, the Lessor shall have the responsibility to coordinate the termination of the interference within seventy-two (72) hours. If such interference is not terminated within seventy-two (72) hours, and Lessee is unable to continue its operation, Lessee shall have the right, in addition to any other rights that it may have at law or in equity, to bring action against the source of the interference to enjoin such interference or to terminate this Lease Agreement immediately upon notice to Lessor. Lessor shall not be responsible for any interruption in Lessee's service associated with the operation and maintenance of the Site Equipment, except as provided in this paragraph.

#### 12. MAINTENANCE AND REPAIRS

The Lessee shall have the sole responsibility to keep the Site Equipment, and any other structure, appurtenance or landscaping required to meet the covenants established by this Lease Agreement, in good condition through consistent maintenance and repair. "Good Condition" shall mean that the Site Equipment, and any other structure or appurtenance shall remain in as good condition as when initially constructed and installed, normal wear and tear excepted and casualty loss excepted. All required landscaping shall be maintained in proper repair and kept free of refuse and debris at all times. Lessee's maintenance shall be exercised consistent with the interference provisions of Paragraph 11 of this Lease Agreement. In the event that Lessee's maintenance involves alteration of the Site Equipment, the alteration shall be exercised consistent with the interference provisions of Paragraph 11 of this Lease Agreement and the alteration provisions of Paragraph 13 of this Lease Agreement.

Lessor, at all times during the term of this Lease Agreement, reserves the right to take any action it deems necessary to maintain, alter or improve the Property and Tower Facility. In the event that Lessor or any other lessee undertakes maintenance of the Property, Tower Facility, or other communication facilities, Lessee shall take reasonable measures to protect the Site Equipment.

### 13. ALTERATIONS

The Lessee shall not make any alteration in the external elevation or architectural design of the Tower Facility or the Property or injure or remove any of the structural supports thereof without the consent in writing of the Lessor. Lessor may require plans and specifications or other information consistent with the interference provisions of Paragraph 11 of this Lease Agreement, for any alteration of the Site Equipment deviating from the plans and specifications included in Exhibit C.

### 14. NEW STRUCTURES

Without prior written approval of Lessor, the Lessee shall not construct or permit to be constructed on the Property any new structures or make or permit to be made any additions to the Tower Facilities, except in accordance with plan and specifications approved by the Lessor.

### 15. UTILITIES

Lessee shall have the right to install utilities, at Lessee's expense, and to improve the present utilities on the Leased Premises as shown on the site plan of Exhibit B. Lessee shall, at its expense, separately meter charges for consumption of electricity and other utilities associated with its use of the Leased Premises and shall timely pay all costs associated therewith.

### 16. UNLAWFUL USE

The Lessee shall not make or suffer any use or occupancy of the Leased Premises

contrary to any law or ordinance now or hereafter in force.

#### 17. TITLE AND QUIET POSSESSION

Lessor warrants that it is the owner of the Leased Premises; that it has the right to enter into this Lease Agreement; that the person signing this Lease Agreement has the authority to sign; and, that Lessee is entitled to access to the Leased Premises and to the quiet possession of the Leased Premises consistent with the terms and conditions of this Lease Agreement throughout the initial term and each renewal term unless Lessee is in default as provided in Section 20 of this Lease Agreement.

Lease Agreement Lessee agrees to quit and deliver possession of the Leased Premises to Lessor or Lessor's assigns, successors or agents, when this Lease Agreement terminates by termination, expiration, default or forfeiture, and Lessee agrees that the Leased Premises shall be in substantially the same order and in as good condition as received, normal wear and use and damage caused by casualty excepted.

#### 18. INDEMNIFICATION

Lessee shall indemnify, release, defend, become responsible for and forever hold harmless Lessor, its officers, agents, employees, elected officials, and attorneys, each in their official and individual capacities, subject to the provisions outlined in the Missouri Sovereign Immunity Statute, including but not limited to Section 537.600 Revised Statutes of Missouri, from and against all lawsuits, suits, actions, costs, claims, demands, damages, disability, losses, expenses, including reasonable attorney's fees and other defense costs or liabilities, of any character and from any cause whatsoever brought for any reason including claims for bodily injury or death received or sustained, or loss or damage received or sustained, by any person, persons, or property arising out of or resulting from any act, error, omission, or intentional act of Lessee or its agents, employees, or subcontractors, arising out of or in any way connected with the operations expressly authorized herein; provided, however, that Lessee need not save harmless Lessor from claims, demands, losses and expenses arising out of the sole negligence of Lessor, its employees or agents.

#### 19. HAZARDOUS SUBSTANCES

Lessor represents that it has no knowledge of any substance, chemical or waste (collectively "substance") on the Leased Premises that is identified as hazardous, toxic or dangerous in any applicable federal, state or local law or regulation. Lessee shall not introduce or use any such substance on the Leased Premises in violation of any applicable law.

#### 20. DEFAULT

Failure on the part of Lessee to pay rent within thirty (30) days after same shall become due and rent is not paid within ten (10) days after notice to Lessee of nonpayment of rent, or failure of Lessee to promptly and faithfully keep and perform every covenant, condition and obligation of this Lease Agreement, other than payment of rent, on the part of Lessee to be kept and performed for more than twenty (20) days after notice of such default shall have been given to Lessee, shall, at the option of Lessor, cause the forfeiture of this Lease Agreement, without, however, releasing Lessee from liability, as hereinafter provided. If such default shall not be corrected within the applicable period aforesaid, possession of the Leased Premises shall be delivered to Lessor. Thereupon Lessor shall be entitled to and may take immediate possession of the Leased Premises, any other notice or demand being hereby waived. If a default, other than non-payment of rent, is not cured within a twenty (20)-day period, this Lease Agreement may not be terminated if the Lessee substantially commences action to cure the default within such twenty (20)-day period and proceeds with due diligence to fully cure the default within a mutually agreed upon period of time. At time of transfer of possession of the Leased Premises, the Site Equipment placed on the Tower Facility pursuant to the rights and obligations of this Lease Agreement shall remain on the Leased Premises as property of the Lessor.

#### 21. MORTGAGE

This Lease Agreement does not create an interest in the Leased Premises for the Lessee. The Lessee may not use the Leased Premises in any manner as collateral security for a mortgage or lien lease of any kind.

#### 22. AMENDMENT

Oral agreements in conflict with any of the terms of this Lease Agreement shall be without force and effect. All amendments to this Lease Agreement shall be in writing executed by the parties or their respective successors in interest.

#### 23. FRANCHISE REQUIREMENT

Lessor and Lessee agree that this Lease Agreement shall not be considered, construed or deemed in any way a telecommunication franchise agreement for use of public property within the City of Lee's Summit, Missouri.

#### 24. PARTIAL INVALIDITY

If any terms or conditions of this Lease Agreement or the application thereof to any person or event shall to any extent be invalid and unenforceable, the remainder of this Lease Agreement shall not be affected and each term, covenant and condition of this Lease Agreement shall be valid

and be enforced to the fullest extent permitted by law.

**25. SERVICE OF NOTICE**

All notices, demands and communications as provided herein shall be in writing and shall be served by registered or certified United States mail, return receipt requested to the following address or to such other address(es) as Lessor and Lessee may advise each other in writing pursuant to this paragraph.

LESSOR: City Manager  
City of Lee's  
Summit 220 SE  
Green Street  
Lee's Summit, MO 64063

LESSEE: T-Mobile USA, Inc.  
12920 SE 38th Street  
Bellevue, WA 98006  
Attn: Lease Compliance/ A5C0104B

**26. CASUALTY**

If any part of the Tower Facility or Property is damaged by fire or other casualty so as to render the Leased Premises unsuitable, in Lessee's reasonable determination, the Lessee may terminate this Lease Agreement by providing written notice to Lessor, which termination shall be effective as of the date of receipt of such notice by the Lessor. Upon such termination, Lessee will be entitled to collect all insurance proceeds payable to Lessee on account thereof. All prepaid rent shall be prorated to the end of the month that all Site Equipment is removed from the Leased Premises and returned to Lessee within thirty (30) days of the removal.

**27. MISCELLANEOUS**

(a) This Lease Agreement applies to and binds the heirs, successors, executors, administrators and assigns of the Lessor and Lessee.

(b) This Lease Agreement is governed by the laws of the State of Missouri.

**28. HOLDING OVER**

In the event Lessee continues to occupy the Leased Premises after the last day of the term herein created, or after the last day of any extension of said term, and the Lessor elects to accept rent thereafter, a tenancy from month to month only shall be created and not for any longer period. Holdover rent shall be as set forth in Section 4 RENT in this Lease Agreement.

## 29. TERMINATION

This Lease Agreement may be terminated by:

- a) the Lessee, after the Initial Term of this Lease Agreement, upon giving ninety (90) days prior written notice of the intent to terminate to the Lessor. Upon such termination, all prepaid rent shall be retained by Lessor.
- b) the Lessor, after the Initial Term of this Lease Agreement, upon giving One Hundred Eighty (180) days prior written notice of the intent to terminate to the Lessee, unless termination is a result of subsections (c) through (f) of this section Upon such termination, all prepaid rent shall be prorated to the end of the month that all Site Equipment is removed from the Leased Premises and returned to Lessee within thirty (30) days of the removal.
- c) the Lessor, if Lessor determines that use of the Leased Premises by Lessee is a threat to health, safety or welfare or violates applicable laws or ordinances.
- d) the Lessor, in accordance with the Default provisions of this Lease Agreement.
- e) the Lessee, in accordance with the Casualty provisions of this Lease Agreement.
- f) the Lessor or Lessee, in accordance with the Interference provisions of this Lease Agreement.

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**30. ENTIRE AGREEMENT AND REVOCATION OF ALL PRIOR AGREEMENTS**

This Lease Agreement (including the Exhibits) constitutes the entire agreement between the parties. This Lease Agreement supersedes all prior written and verbal agreements, representations, promises or understandings between the parties; and furthermore, revokes and holds for naught and written or oral agreements that preceded it.

IN WITNESS WHEREOF, the parties hereto have executed this Lease Agreement on the date first written above.

**CITY OF LEE'S SUMMIT**

**T-MOBILE CENTRAL LLC**

\_\_\_\_\_  
Bill Baird, Mayor                      Date

By 

Print Name Elisabeth Boyer

Title Sr. Manager, Procurement

**ATTEST:**

\_\_\_\_\_  
Office of the City Clerk

WITNESS:

**APPROVED AS TO FORM:**

\_\_\_\_\_  
Brian Head City Attorney



REAL PROPERTY AND TOWER SITE LEASE AGREEMENT BY AND  
BETWEEN THE CITY OF LEE'S SUMMIT AND T-MOBILE CENTRAL LLC.  
FOR A SITE COMMONLY KNOWN AS 404 N. E. WOODS CHAPEL ROAD

EXHIBITS

Exhibit A - Legal Description – Property

Exhibit B - Equipment as reflected in the Fire Tower 4 Inspection Report dated 10/7/2021

Exhibit C - Plans and Specifications – T-Mobile Drawings applicant site A5C0104B

EXHIBIT A: LEGAL DESCRIPTION OF PROPERTY

EXHIBIT A  
LEGAL DESCRIPTION  
404 N.E. WOODS CHAPEL ROAD

All that part of the Southwest quarter of the Southwest quarter of Section 8, Township 48, Range 31, in Lee's Summit, Jackson County, Missouri, described as follows:

Beginning on the North line of Woods Chapel Road at a point which is 330.08 feet East and 54.34 feet North of the Southwest corner of aforesaid quarter quarter section; thence East along the North line of Woods Chapel Road a distance of 115.01 feet; thence North at an angle of 90 degrees 47 minutes 17 seconds left from the last described course a distance of 378.84 feet; thence West at an angle of 89 degrees 47 minutes 53 seconds left from the last described course a distance of 115 feet; thence South a distance of 377.66 feet, more or less, to the point of beginning.

N. E. Woods Chapel Road Old Fire Station 4  
404 N. E. Woods Chapel Road  
Lee's Summit, Missouri 64063



## **TOWER INSPECTION REPORT**

**SITE NAME: 404 NE Woods Chapel Road**

**FOR: City of Lees Summit MO**

**SITE COORDINATES: N 38.98361 W -94.37031**

**FCC ID: KNLF292**

**HEIGHT / TYPE: 120**

**DATE: 10/7/2021**



<b>CUSTOMER:</b> City of Lees Summit MO <b>SITE ID:</b> 60706 <b>TOWER HT/TYPE:</b> 120	<b>INSPECTION DATE:</b> 10/7/2021 <b>WEATHER:</b> Sunny <b>TEMPERATURE:</b> 67
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	<b>SAT.*</b>	<b>UN-SAT*</b>	<b>N/A</b>
<b>X</b>			
* - SEE APPENDIX			

<b>1 GENERAL SITE CONDITIONS</b>			
A. TOWER AND BUILDING AREA IS SECURE	X		
B. GUY ANCHORS PROTECTED FROM VEHICLE, FARM MACHINERY AND CATTLE DAMAGE			X
C. NO VINES OR VEGETATION ARE GROWING ON FENCE, TOWER OR GUY ANCHORS	X		
D. ANCHOR LOCATIONS ARE READILY ACCESSIBLE TO MAINTENANCE CREW			X
<b>E. NO LARGE TREES ARE WITHIN FALLING DISTANCE OF TOWER OR GUY CABLES</b>		X	
F. SITE IS DRAINING PROPERLY, BUILDING AND CIVIL WORK IN GOOD SHAPE	X		
G. COMPOUND / ANCHORS IN GOOD SHAPE; ALL GATES AND LOCKS OPERABLE AND SECURE	X		

<b>2 SHELTER</b>			
A. SHELTER FOUNDATION FREE FROM CRACKING, SPALLING OR SHIFTING	X		
B. SHELTER BEARS PROPERLY ON FOUNDATION	X		
C. SHELTER FREE FROM SIGNS OF DAMAGE OR VANDALISM	X		
D. SHELTER ROOF AND OPENINGS PREVENT WATER AND PEST ENTRY	X		
E. AIR HANDLING UNITS CLEAN AND OPERATIONAL	X		

<b>3 GROUNDING</b>			
A. TOWER BASE IS GROUNDED	X		
B. INDIVIDUAL GUY CABLES ARE GROUNDED			X
C. ANCHOR HEAD PLATES OR SHAFTS ARE GROUNDED			X
D. WAVEGUIDE/COAX BRIDGE IS GROUNDED PROPERLY	X		
E. ALL GROUNDING CONNECTIONS ARE TIGHT, CLEAN AND USING CORRECT HARDWARE	X		
F. GROUND WIRES ARE ROUTED IN DOWNWARD DIRECTION WITH NO SHARP BENDS	X		
G. ALL WIRES ARE OF CONTINUOUS LENGTH WITH NO BREAKS OR SPLICES	X		
H. SHELTER GROUNDING SYSTEM FREE FROM LOOSE, MISSING OR BROKEN COMPONENTS	X		
I. FENCE GROUNDING SYSTEM FREE FROM LOOSE, MISSING OR BROKEN COMPONENTS			X
J. LIGHTNING ROD IS MOUNTED TO UPPERMOST LOCATION ON THE TOWER	X		
K. ALL BUSS BARS MOUNTED AND GROUNDED CORRECTLY	X		

<b>4 GUY CABLES AND CONNECTIONS</b>			
A. TURNBUCKLES ARE OF PROPER SIZE AND ADJUSTABLE IN EITHER DIRECTION			X
B. COTTER PINS ARE IN PLACE, SECURE AND FREE OF RUST			X
C. PROPER SIZE GUY THIMBLES ARE CORRECTLY INSTALLED			X
D. CROSBY CLAMP U-BOLT IS CORRECTLY INSTALLED ON DEAD SIDE OF CABLE			X
E. CABLE ENDS PROPERLY PROJECT FROM PREFORMED DEAD END GUY GRIPS			X
F. DEAD ENDS OF CABLES ARE SERVED TO PREVENT UNRAVELLING AT TOP AND BOTTOM			X
G. PREFORMED GUY GRIPS AT ANCHORS HAVE SAFETY END SLEEVES INSTALLED			X
H. TURNBUCKLE SAFETY CABLES ARE ADEQUATELY SIZED AND PROPERLY POSITIONED			X
I. ANCHOR HEADS ARE ABOVE GRADE AND FREE OF TWIST OR BENDS			X
J. NO KINKS OR DEFORMITIES IN CABLES FROM USE OF IMPROPER GRIPS OR HANDLING			X
K. NO SPLICES IN GUY CABLES			X
L. NO STRAND FRACTURES OR RUST SHOWING ON CABLES			X
M. GUY INSULATORS, IF USED, APPEAR TO BE IN GOOD SHAPE			X
N. GUY WIRES ARE NOT RUBBING ON FENCE POSTS OR OTHER APPURTENANCES			X
O. NO EROSION OR VISIBLE SIGNS OF MOVEMENT OF GUY ANCHORS			X
P. NO LOW AREAS AROUND ANCHORS THAT COLLECT RAINWATER OR RUN-OFF			X
Q. VISIBLE PORTIONS OF ANCHOR SHAFT FREE FROM RUST OR CORROSION			X
WAS ANCHOR SHAFT EXCAVATED?		No	
DEPTH (FT):			

<b>CUSTOMER:</b> City of Lees Summit MO <b>SITE ID:</b> 60706 <b>TOWER HT/TYPE:</b> 120	<b>INSPECTION DATE:</b> 10/7/2021 <b>WEATHER:</b> Sunny <b>TEMPERATURE:</b> 67
---	--

SAT.*	UN-SAT*	N/A
-------	---------	-----

X \* - SEE APPENDIX

**5 TOWER BASE AND MAST**

A. CONCRETE FOUNDATION IN GOOD SHAPE WITH NO CRACKING, SPALLING OR SETTLING	X		
B. BASE LEGS CORRECTLY LINE UP WITH TOWER CENTER AND APPROPRIATE ANCHORS			X
C. VISUAL CHECK INDICATES TOWER IS PLUMB AND FREE OF TWIST			X
D. ALL LADDER SPLICES COMPLETE AND SECTIONS FIRMLY ATTACHED TO TOWER			X
E. ALL MEMBERS INSTALLED CORRECTLY WITH NO MISSING MEMBERS	X		
F. NO BENT, BROKEN OR OTHERWISE DAMAGED MEMBERS OR ATTACHMENTS	X		
G. STRUCTURAL BOLTS INSTALLED WITH PROPER TORQUE AND LOCKING DEVICES			X
H. NO FRACTURED WELDS	X		
I. TOWER MEMBERS FREE OF SURFACE RUST	X		
J. TOWER BASE GROUT IN GOOD CONDITION	X		
K. WEEP HOLES CLEAR AND DRAIN PROPERLY	X		

**6 FAA REQUIRED LIGHTING**

A. NO CRACKED OR BROKEN BEACON, OBSTRUCTION LIGHT OR STROBE UNIT GLASS	X		
B. INSIDE OF LAMP UNITS CLEAN WITH WIRES, TERMINALS AND SOCKETS CORROSION FREE	X		
C. LAMP UNIT CLOSURE BOLTS OR SPRING FASTENERS FUNCTIONING PROPERLY	X		
D. BEACON OR STROBE UNIT CORD IN GOOD CONDITION	X		
E. BEACON OR STROBE UNIT CORD DRIP LOOP NOT RUBBING ON TOWER MEMBERS	X		
F. OBSTRUCTION LIGHTS CORRECTLY POSITIONED AND PROPERLY SECURED TO TOWER	X		
G. CONDUIT SUPPORTED AT MAX. 8 FT. INTERVALS AND ALL JOINTS TIGHT			X
H. WIRE CORRECTLY INSTALLED OVER WIRE SUPPORTS IN JUNCTION BOXES			X
I. JUNCTION BOX TERMINALS TIGHT AND FREE OF CORROSION			X
J. CONDUIT BREATHERS CLEAR AND CLEAN			X
K. PHOTOCCELL POSITIONED SO THAT IT HAS UNOBSTRUCTED VIEW OF NORTH SKY			X
L. LIGHTING SYSTEM OPERATING PROPERLY ACCORDING TO FEDERAL REGULATIONS	X		
M. LIGHTING SYSTEM GROUNDED TO SITE GROUNDING SYSTEM	X		
N. ALL ELECTRICAL CONNECTIONS FREE FROM LOOSE OR FRAYED WIRING	X		
O. STROBE CABLE AND/OR SO CORD HAS DRIP LOOP INSTALLED CORRECTLY	X		

LIGHTING SYSTEM TYPE Dual Red White Strobe

LIGHTING SYSTEM MANUFACTURER   
 MODEL NUMBER   
 LAMPS / FLASHTUBES REPLACED? No

**7 ANTENNAS**

A. NO EVIDENT DAMAGE TO ANTENNAS OR ANTENNA COMPONENTS	X		
B. NO DAMAGED, LOOSE OR MISSING HARDWARE	X		
C. ALL STIFFARM TIEBACKS ARE PROPERLY CONNECTED TO ANTENNA AND TOWER	X		
<b>D. NO RUST OR CORROSION PRESENT ON ANTENNA HARDWARE</b>		X	
E. ALL APPROPRIATE FEEDHORN GUY SPRING HANGERS PROPERLY IN PLACE			X
F. NO CRACKS OR TEARS IN ANTENNA RAYDOMES	X		
G. ANTENNA MOUNT STRUCTURAL MEMBERS APPEAR ADEQUATE & SECURE	X		
H. VISUALLY CHECK ANTENNA SYSTEMS FOR PROPER TILTSL AND AZIMUTHS	X		

<b>CUSTOMER:</b> City of Lees Summit MO <b>SITE ID:</b> 60706 <b>TOWER HT/TYPE:</b> 120	<b>INSPECTION DATE:</b> 10/7/2021 <b>WEATHER:</b> Sunny <b>TEMPERATURE:</b> 67
---	--

	<b>X</b>	SAT.*	UN-SAT*	N/A
* - SEE APPENDIX				

**8 WAVEGUIDE/COAX CONNECTIONS AND SUPPORTS**

A. LINE TO FEED CONNECTION SECURE WITH NO EXCESSIVE MOVEMENT ALLOWED	X		
B. LINE TO FEED CONNECTION HAS NO EXCESSIVE BENDS OR TWISTS	X		
C. ALL LINE RUNS STRAIGHT AND CONNECTIONS WEATHERPROOFED	X		
D. ALL WAVEGUIDE/COAX RUNS SUPPORTED CORRECTLY	X		
E. NO CHAFING OF LINE PROTECTIVE COTING IF "TIED" TO TOWER MEMBERS	X		
F. ALL LINES PROPERLY SUPPORTED AT TOP WITH HOISTING GRIPS	X		
G. HOISTING GRIP INSTALLED CORRECTLY AND BELOW UPPER GROUNDING KIT	X		
H. NO OBVIOUS AIRE LEAKS IN PRESSURIZED WAVEGUIDE / COAX			X
I. WAVEGUIDE / COAX PROPERLY GROUNDED	X		
J. ALL JUMPERS SECURED CORRECTLY	X		
K. ALL WEATHERPROOFING PROPERLY INSTALLED AND NOT LEAKING			

**9 TOWER PAINT**

A. NO EXCESSIVE PEELING, FLAKING OR FADING			X
B. IF REQUIRED, PROPER FAA APPROVED COLORS AND BANDING			X
C. PAINT IS VISUALLY EFFECTIVE AS WARNING TO AIRCRAFT			X

**10 SAFETY SYSTEMS**

A. CHECK FOR PROPERLY FUNCTIONING FALL ARREST SYSTEM	X		
B. CLIMBING LADDER, PLATFORM, SAFETY EQUIPMENT SECURELY ATTACHED	X		
C. CHECK FOR DAMAGED, MISSING OR BROKEN PARTS ON FALL ARREST SYSTEM	X		
D. CHECK FOR PROPERLY TENSIONED FALL ARREST SYSTEM	X		
E. CHECK FOR "STOP" AT TOP OF FALL ARREST SYSTEM PREVENTING SLIDING OUT	X		
F. <b>"NO TRESPASSING" SIGNS PRESENT ON ALL FOUR SIDES OF COMPOUND FENCE</b>		X	
G. FCCID SIGN VISIBLE FROM NEAREST PUBLIC ACCESS POINT	X		
H. ALL SIGNAGE SECURELY ATTACHED, LEGIBLE AND IN GOOD CONDITION			Yes
I. NFPA Hazmat Placard SIGN PRESENT ON COMPOUND FENCE			No
J. RF SAFETY (SMALL YELLOW) SIGN PRESENT ON COMPOUND FENCE			No
K. RF SAFETY (LARGE) SIGN PRESENT ON COMPOUND FENCE			No
RF SAFETY (LARGE) SIGN COLOR: <input style="width: 50px;" type="text" value="NONE"/>			
SIZE OF SAFETY CLIMB CABLE: <input style="width: 50px;" type="text" value="3/8"/>			

**11 INSTRUMENT CHECKS**

A. TOWER PLUMBNESS CHECKED WITH TRANSIT?	No
SEE ATTACHED RECORD OF TOWER PLUMB READINGS	
B. GUY CABLE TENSIONS CHECKED?	No
SEE ATTACHED RECORD OF GUY TENSIONS READINGS	
METHOD USED <input style="width: 100px;" type="text" value="Dynamometer"/>	

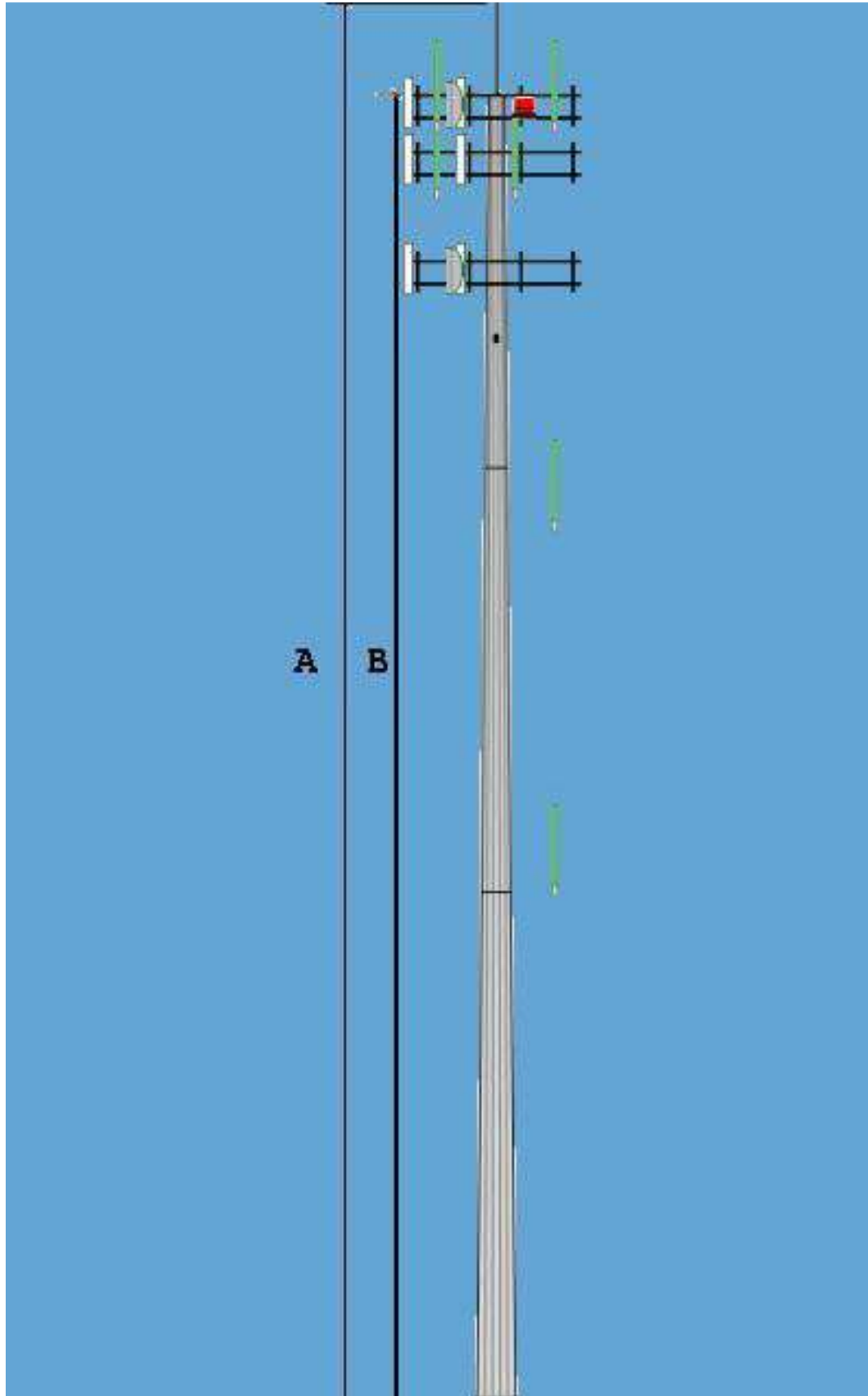
<b>CUSTOMER:</b> City of Lees Summit MO	<b>ECTION DATE:</b> 10/7/2021
<b>SITE ID:</b> 60706	<b>WEATHER:</b> Sunny
<b>TOWER HT/TYPE:</b> 120	<b>TEMPERATURE:</b> 67

**12 COMMENTS**

ITEM #	COMMENT	REPAIRED COMPLETED
1E.	Large Trees WWithin Falling Distance Of Compound	
3I.	Plastic Fencing	
3J.	Di Poles Are Higher Than Lighting Rod	
6K.	Night Mode Only On Timer	
7D.	Yagi Antenna @ 85' Has Minimal Surface Rust On Chain Mount	
10F.	Signs Not Present	
I.	Hazmat Sign Not Present	
J.	RF Sign Not Presant	
K.	Large RF Sign Not Present	

## Tower Elevation

**Total Height AGL (A)** 130  
**Height of Structure (B)** 120



Tower Attachment Identification

#	Attachment	CL Elev (ft)	Make	Model	Type	Azimuth	Downtilt	Tower Leg	Mount Location	Feedline size	Line Color Code	Coax Face
1	Panel Antenna Left Outer	105	AT&T Sector 1						A 1			
2	Panel Antenna Left Inner	105	AT&T Sector 1						A 2			
3	Panel Antenna Left Outer	105	AT&T Sector 1						B 1			
4	Panel Antenna Left Inner	105	AT&T Sector 1						B 2			
5	Panel Antenna Left Outer	105	AT&T Sector 1						G 1			
6	Panel Antenna Left Inner	105	AT&T Sector 1						G 2			
7	Dish Left	105	AT&T Sector 1						A 3			
8	Wifi Antenna Right	115	AT&T Sector 2						A 1			
9	Panel Antenna Left Inner	115	AT&T Sector 2						A 2			
10	Panel Antenna Left Outer	115	AT&T Sector 2						A 3			
11	Omni Antenna Upright Left	115							B 1			
12	Panel Antenna Left Inner	115							B 2			
13	Panel Antenna Left Outer	115							B 3			
14	Wifi Antenna Right	115							G 1			
15	Panel Antenna Left Inner	115							G 2			
16	Panel Antenna Left Outer	115							G 3			
17	Panel Antenna Left Outer	120							A 1			
18	Panel Antenna Left Inner	120							A 2			
19	Panel Antenna Left Outer	120							B 1			
20	Panel Antenna Left Inner	120							B 2			

Dish Left 120

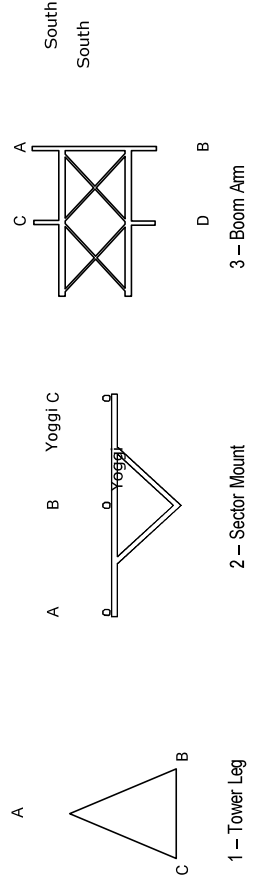
Omni Antenna Upright Right

Omni Antenna Upright Left 121

Omni Antenna Upright Left 121

Omni Antenna Upright Right 52

Omni Antenna Upright Right 85



**APPENDIX:**

**EXPLANATION OF COLUMN HEADINGS:**

**"SAT."**

SATISFACTORY; item is judged to be acceptable in all categories, including installation, condition, function and structural integrity.

**"UNSAT"**

UNSATISFACTORY; item is judged to be unacceptable in its present condition and should be corrected. The deficiency is adversely affecting either the performance or its overall structural integrity.

**EXPLANATION OF BOLT TORQUE CHECK:**

Structural bolt connections are "sampled" at the rate of at least 10 bolts per each 20 vertical feet of tower height. The tower is considered to be in an acceptable condition if the number of undertorqued bolts is found to be 5% of the total sampled, or less. The tower is said to have a "maintenance deficiency" if the number of undertorqued bolts are from 6% to 30% of the total sampled. If this is the case, the tower should be regularly rechecked at least annually; the theory being that since each undertorqued bolt found during the random sampling process is retightened to the proper level, eventually the number of undertorqued bolts will drop back down under the acceptable 5% level. If the number of undertorqued bolts found are greater than 30% of the total sampled, the tower is said to be in a structurally unacceptable condition and all bolts should be checked and retightened to correct levels. The controlling bolt torque values used are:

Bolt Diameter:	Min. Torque (ft-lbs)
3/8"	20
1/2"	45
5/8"	90
3/4"	125

**HARDWARE STANDARDS USED:**

NOMINAL GUY CABLE DIA.	MIN TURNBUCKLE SIZE	THIMBLE SIZE W/FIST GRIPS OR CROSBY CLAMPS	THIMBLE SIZE W/PREFORMED DEAD END GRIPS
3/8 EHS	3/4 X 12	3/8"	1/2"
7/16 EHS	3/4 X 12	7/16"	9/16"
1/2 EHS	7/8 X 12	1/2"	5/8"
9/16 EHS	1 X 12	9/16"	5/8"
5/8 EHS	1 X 12	5/8"	3/4"
3/4 EHS & BS	1-1/4 X 12	3/4"	7/8"
7/8 BS		7/8"	1"

EXHIBIT C - Plans and Specifications - Black and Veatch drawings dated 5/11/2021

[Type here]

[Type here]

[Type here]

# LAKWOOD LAKES KS5772 FA#: 13293733 PACE ID: MRKSL045713 LTE 6C/5G NR C-BAND 120'-MONOPOLE



# at&t



TRIST EARLEY  
OVERLAND PARK, KS 66204



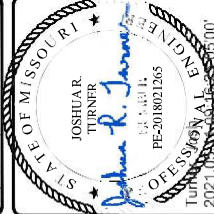
**BLACK & VEATCH**

6800 N. 117TH ST., SUITE 2202  
OVERLAND PARK, KS 66204  
TEL: 913.498.2500

PROJECT/PHASE NO: 13293733  
DRAWN BY: [blank]  
CHECKED BY: [blank]

DATE: [blank]  
DESCRIPTION: [blank]

NO.	DATE	DESCRIPTION
1	05/07/21	ISSUE FOR CONSTRUCTION



TURNER ENGINEERS  
2021.05.21.05:05:00  
05/21/2021  
I, JOSHIAH TURNER, LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI, HEREBY CERTIFY THAT I AM THE DESIGNER OF THIS PROJECT.

LAKWOOD LAKES  
KS5772  
404 NE WOODS CHAPEL RD  
LEES SUMMIT, MO 64064  
LTE 6C/5G NR C-BAND

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T-1**

### ENGINEERING

2017 INTERNATIONAL BUILDING CODES OR ADOPTEE CODE  
2011 NATIONAL ELECTRICAL CODE OR ADOPTED CODE  
TIA/EIA-222-G OR ADOPTED CODE

### DRAWING INDEX

SHEET NO.	SHEET TITLE
1	TITLE SHEET
2	EQUIPMENT LAYOUT
3	ELEVATION
4	ANTENNA LAYOUT AND SCHEDULE
5	EQUIPMENT DETAILS
6	CABLE TOWER LAYOUT
7	CONCRETE ONE-TWO ANTENNA EQUIPMENT
8	GENERAL NOTES
9	GENERAL ELECTRICAL NOTES
10	ANTENNA MOUNTING DETAILS
11	RF RADIATION SAFETY

TITLE SHEET WILL BE HALF SCALE UNLESS OTHERWISE NOTED.  
CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

**UNDERGROUND SERVICE ALERT**  
UTILITIES PROTECTION CENTER, INC.  
811  
48 HOURS BEFORE YOUR JOB

### SITE INFORMATION

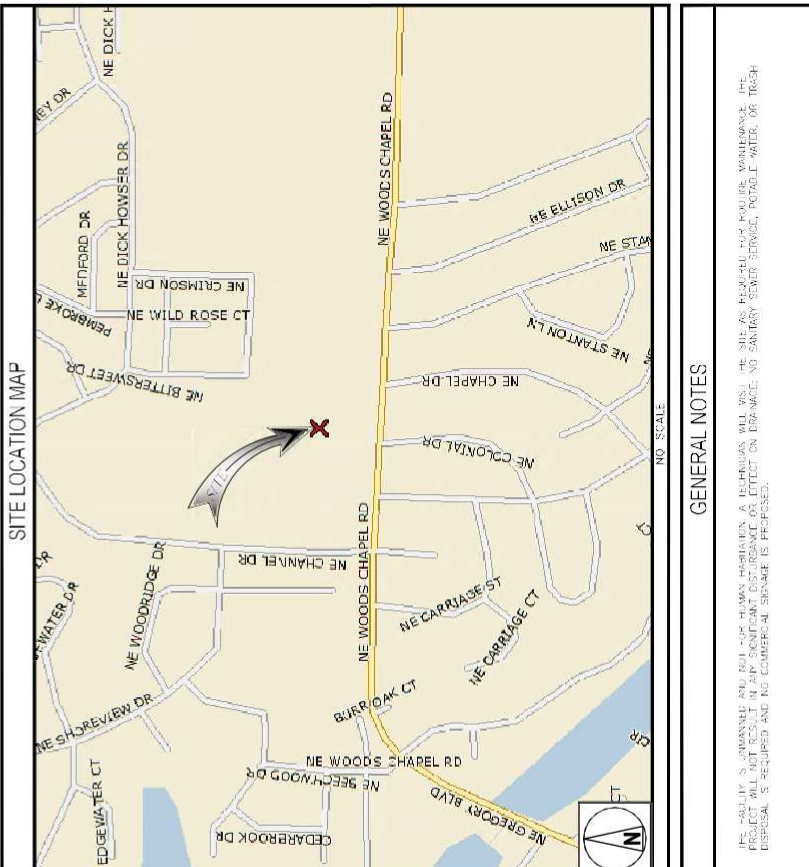
PROPERTY OWNER: CITY OF LEES SUMMIT  
10 NE 110TH ROAD  
LEES SUMMIT, MO 64068  
OWNER DRIVER: [blank]  
SITE CONTACT: CITY OF LEES SUMMIT  
(816) 498-7567  
COUNTY: JACKSON  
LATITUDE (NAD 83): 38° 59' 1.0" N  
38.9825  
LONGITUDE (NAD 83): 94° 30' 15.1" W  
-94.5036  
COORDINATE SYSTEM: UTM  
CONSTRUCTION TYPE: V-B  
PURCHASER: KCP&L  
TELEPHONE COMPANY: SBC

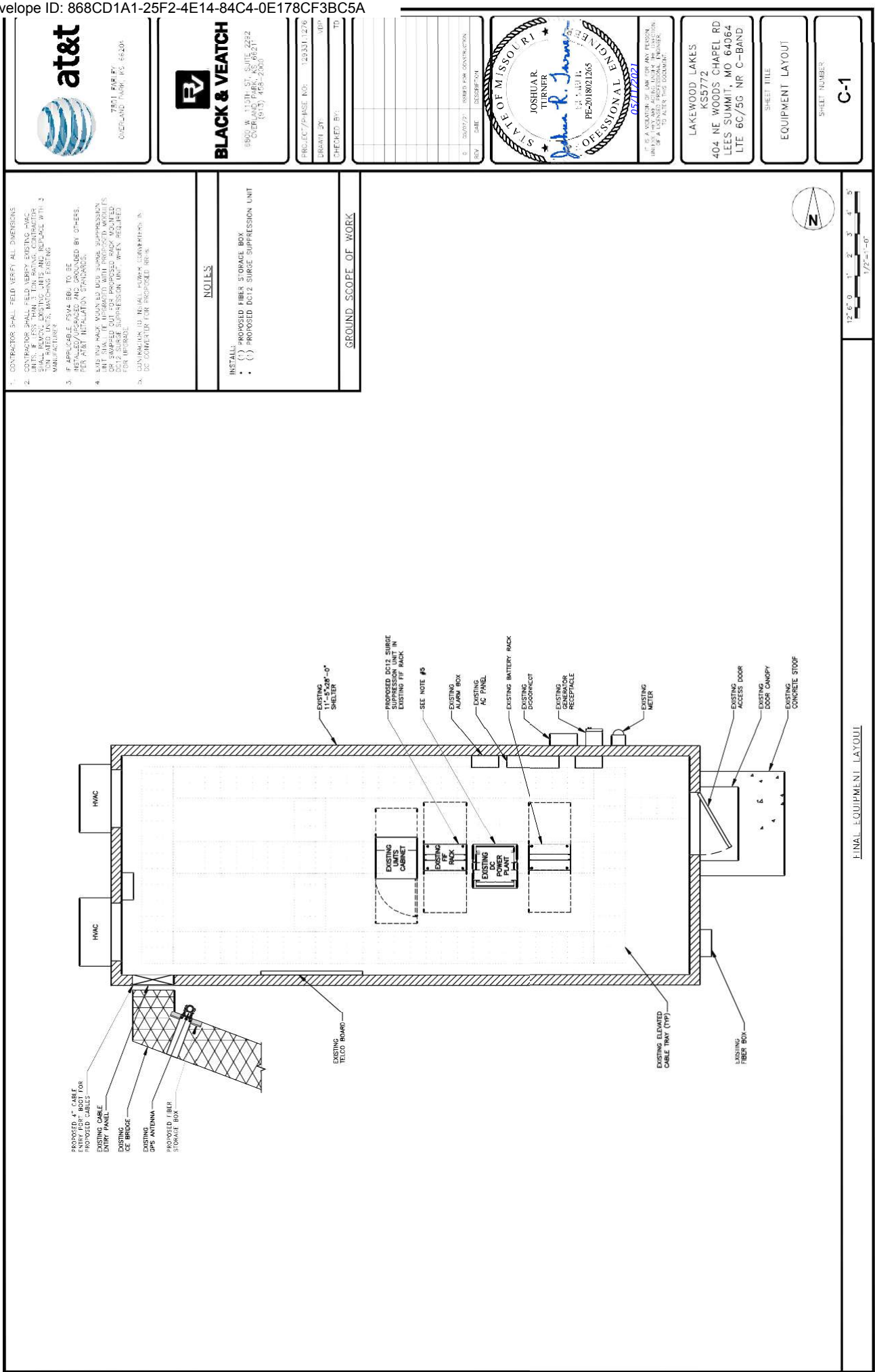
### CONTACT INFORMATION

ENGINEER: BLACK & VEATCH CORPORATION  
500 N. STATE ST., SUITE 2202  
OVERLAND PARK, KS 66204  
CONTACT: TRIST EARLEY  
(913) 498-2500  
CONSTRUCTION MANAGER: KELLY MARSHALL  
(913) 498-2448  
SITE ACQUISITION MANAGER: WANDA HANCOCK  
(913) 498-2448  
PROJECT MANAGER: ARLIN SIMONSON  
(913) 498-2448

### GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TELEPHONE WILL BE INSTALLED AT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.





1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL VERIFY EXISTING HVAC UNITS ARE LESS THAN 3 TON RATING. CONTRACTOR SHALL REMOVE EXISTING UNITS AND REPLACE WITH 2 MANUFACTURER'S UNITS.
3. IF APPLICABLE, FVMS BBV TO BE INSTALLED/UPGRADED AND GROUNDED BY OTHERS PER AT&T INSTALLATION STANDARDS.
4. EXISTING PADS MOUNTED AND GROUNDED BY OTHERS. CONTRACTOR SHALL VERIFY ALL PADS ARE MOUNTED OUT FOR PROPOSED RACK MOUNTED DC12 SURGE SUPPRESSION UNIT WHEN REQUIRED FOR UNITS.
5. CONTRACTOR TO INSTALL FLOOR CONCRETE IN 20' CONCRETE FOR PROPOSED RACK.

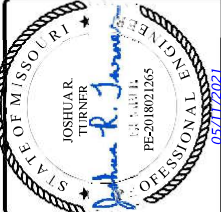
**NOTES**

INSTALL:  
 ( ) PROPOSED FIBER STORAGE BOX  
 ( ) PROPOSED DC12 SURGE SUPPRESSION UNIT

**GROUND SCOPE OF WORK**

PROJECT/PHASE NO:	120331-1276
DRAWN BY:	RED
CHECKED BY:	TD

NO.	DATE	DESCRIPTION
1	05/07/22	ISSUED FOR CONSTRUCTION



STATE OF MISSOURI  
 JOSHUA R. TURNER  
 PE-2018021265  
 05/11/2021  
 LICENSED PROFESSIONAL ENGINEER  
 IN THE STATE OF MISSOURI

LAKELWOOD LAKES  
 K55772  
 404 NE WOODS CHAPEL RD  
 LEES SUMMIT, MO 64064  
 LTE 6C/5G NR C-BAND

SHEET TITLE  
**EQUIPMENT LAYOUT**

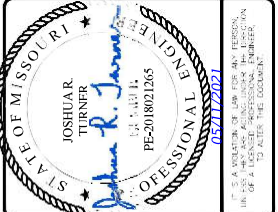
SHEET NUMBER  
**C-1**



FINAL EQUIPMENT LAYOUT



PROJECT/PHASE NO:	129331.1276
ISSUED BY:	TD
CHECKED BY:	
DATE:	
DESCRIPTION:	



LAKEWOOD LAKES  
KS5772  
404 NE WOODS CHAPEL RD  
LEES SUMMIT, MO 64064  
LTE 6C/5G NR C-BAND

SHEET TITLE  
ELEVATION  
SHEET NUMBER  
C-2

- INSTALL
- (1) PROPOSED ANTENNAS
  - (3) PROPOSED RRHS
  - (1) PROPOSED DC6 SURGE SUPPRESSION UNIT
  - (1) PROPOSED FIBER TRUNK CABLE
  - (1) PROPOSED 18-PAIR FIBER TRUNK CABLE
  - (1) PROPOSED 2" FLEX CONDUIT
  - (1) PROPOSED MOUNT MODIFICATIONS

**TOWER SCOPE OF WORK**

THE FOLLOWING STRUCTURAL ANALYSIS OF THE EXISTING STRUCTURE WAS COMPLETED BY BLACK & VEATCH ON 04/15/2021.

**STRUCTURAL ANALYSIS NOTE**

THE EXISTING ANENNA MOUNTS ARE UNDESIRABLY PLACED FOR THE PROPOSED ANTENNAS AND RRHS. THE FOLLOWING STRUCTURAL MODIFICATIONS TO THE ANTENNA MOUNTS ARE REQUIRED TO ACCOMMODATE THE PROPOSED ANTENNAS AND RRHS EQUIPMENT, AS SHOWN ON DRAWING SHEET C-1.

**MOUNT ANALYSIS NOTE**

1. UNLOAD EQUIPMENT NOT SHOWN FOR CLARITY.  
2. ANY ADDITIONAL EQUIPMENT NOTED ON THE STRUCTURAL ANALYSIS SHOULD BE CONSIDERED AS RELEASED LOADING, WHICH COULD BE RECALC'D AT A FUTURE DATE.  
3. DIMENSIONS SHALL REFLECT TO THE STRUCTURAL ANALYSIS TOP OF TOWER. (FLOOR, CABLE RACKS, HOISTERS), AND QUANTITY OF ALL ADD'L TOWERS.



EXISTING LIGHTNING ROD

EXISTING DAPPLE OTHER CARRIER (TYP)

EXISTING BEACON

EXISTING PANEL ANTENNA OF OTHER CARRIER (TYP)

PROPOSED SUPPORT RAIL (VALMONT P/N: TRK-SF5)

EXISTING RAIL OF OTHER CARRIER (TYP)

EXISTING/PROPOSED AT&T EQUIPMENT CL. E.L. 95'-0" ± A.C.

EXISTING VAGI ANTENNA OF OTHER CARRIER (TYP)

EXISTING MONOPOLE

(6) EXISTING COAX

(4) EXISTING DC POWER TRUNK CABLES, 18-PAIR FIBER TRUNK CABLES, DC POWER TRUNK CABLES AND (1) DC PROPOSED 18-PAIR FIBER TRUNK CABLE ALONG EXISTING AT&T CABLE ROUTE. SEE NOTE #5.

TOP OF EXISTING MONOPOLE 120'-0"

**FINAL ELEVATION**



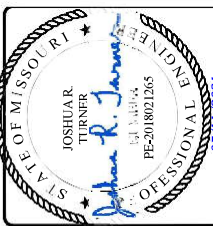
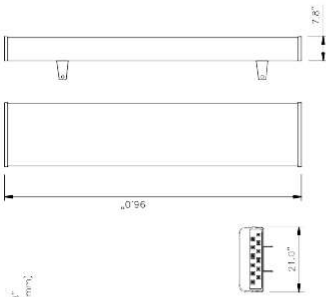
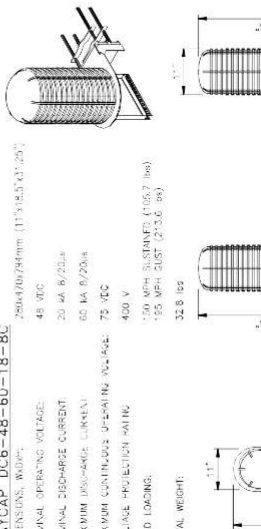
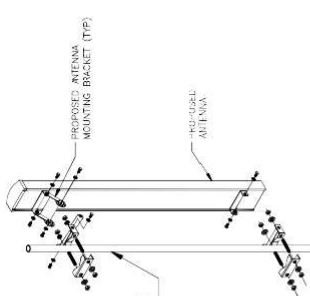
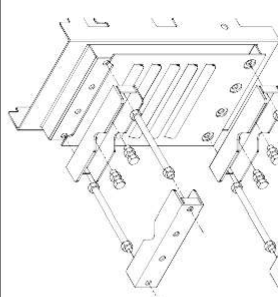
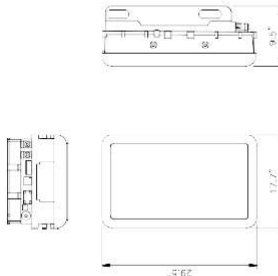
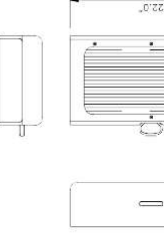
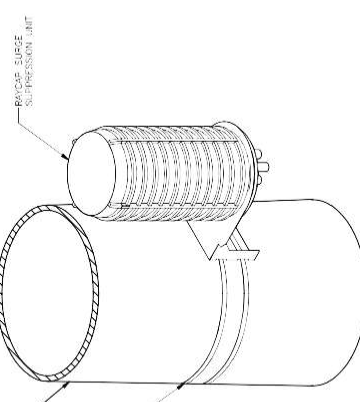
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GENERAL NOTES

SHEET NUMBER C-2

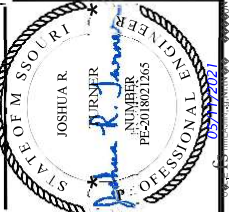
THIS DOCUMENT WAS PREPARED BASED ON THE INFORMATION PROVIDED TO BLACK & VEATCH. IF EXISTING CONDITIONS DO NOT REFLECT THOSE SHOWN ON THIS DRAWING, THE DRAWING INFORMATION REMAINS AS NO LONGER VALID.



 <p>7801 EASLEY OVERLAND PARK, KS 66204</p>	 <p>6850 W. 110TH ST. SUITE 2202 OVERLAND PARK, KS 66211 (913) 491-2500</p>		<p>PROJECT / PHASE NO: 129331.1276 SHEET NO: 400 TO: TD CHECKED BY:</p>				<p>THIS DOCUMENT IS THE PROPERTY OF BLACK &amp; VEATCH. IT IS TO BE USED ONLY FOR THE PROJECT AND AT THE SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BLACK &amp; VEATCH.</p>		<p>LAKEWOOD LAKES KS5772 404 NE WOODS CHAPEL RD LEES SUMMIT, MO 64064 LTE 6C/5G NR C-BAND</p>		<p>SHEET TITLE EQUIPMENT DETAILS</p>		<p>SHEET NUMBER C-5</p>	
<p>CCL IPA65R-BU8D</p> <p>DIMENSIONS, HMM: 86.0x21.0x21.8" (2180x534x198mm)</p> <p>WEIGHT: 87.2 lbs</p> 	<p>PROPOSED ANTENNA SPECIFICATIONS</p> <p>NO SCALE</p>		<p>RAYCAP DC6-48-60-18-8C</p> <p>DIMENSIONS, HMM: 290x100x94mm (11.41x3.93x3.70")</p> <p>NOMINAL OPERATING VOLTAGE: 48 VDC</p> <p>NOMINAL DISCHARGE CURRENT: 20 A @ 6/20uA</p> <p>MAXIMUM DISCHARGE CURRENT: 60 A @ 8/20uA</p> <p>MAXIMUM CONTINUOUS OPERATING VOLTAGE: 75 VDC</p> <p>VOLUME PROTECTION (VPTM): 400 V</p> <p>WIND LOADS: 150 MPH SUSTAINED (1100.7 lbs) 155 MPH GUST (2130 lbs)</p> <p>TOTAL WEIGHT: 32.8 lbs</p>  <p>CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION</p>		<p>DC6 SURGE PROTECTION SPECIFICATIONS</p> <p>NO SCALE</p>		<p>1. CONTRACT DELIVERABLES SHALL INCLUDE PHOTOS OF ALL MOUNTING HARDWARE INSTALLED TIGHT AND MARKED</p> <p>2. CONTRACTOR SHALL USE SPECIFIED EQUIPMENT MOUNTING HARDWARE UNLESS OTHERWISE APPROVED BY ENGINEER.</p> <p>3. CONTRACTOR SHALL REFER TO THE MOUNT INSTRUCTIONS FOR ANTENNA MOUNT PIPE SIZING</p>		<p>NOTES</p>		<p>NO SCALE</p>			
 <p>PROPOSED ANTENNA MOUNTING BRACKET (TP)</p> <p>PROPOSED ANTENNA</p> <p>PROPOSED MOUNTING PIPE</p> <p>SEE NOTE #3</p>	<p>ANTENNA PIPE MOUNTING DETAIL</p> <p>NO SCALE</p>		 <p>SINGLE RRH MOUNTING PLATE DETAIL</p> <p>BASE MOUNT BRACKET (TP)</p> <p>SEE NOTE #2</p>		<p>SINGLE RRH MOUNTING PLATE DETAIL</p> <p>NO SCALE</p>		<p>NOT USED</p>		<p>NO SCALE</p>		<p>NO SCALE</p>			
<p>A/RSCALE MAA 64164R 192AE N77 200W A/CLK</p> <p>DIMENSIONS, HMM: 29.5x17.7x8.5" (748x450x214mm)</p> <p>WEIGHT: 99.2 lbs (45kg)</p> 	<p>PROPOSED ANTENNA SPECIFICATIONS</p> <p>NO SCALE</p>		<p>A/RSCALE DUAL RRH 4T4R B5/29 240W A/RCB</p> <p>DIMENSIONS, HMM: 22.0x12.1x2.4" (560x308x19mm)</p> <p>WEIGHT: 85.9 lbs (39kg)</p> 		<p>RRH SPECIFICATIONS</p> <p>NO SCALE</p>		<p>EXISTING MONOPOLE</p> <p>RAYCAP SURGE SUPPRESSION UNIT</p> <p>PROPOSED TALLEY STEEL BRACKET (FOR ENGINEER APPROVED EQUAL)</p> 		<p>LOWER BANDING DETAIL</p>		<p>NO SCALE</p>			



PROJECT PHASE NO: 129331.1276  
 DRAWN BY: [ ]  
 CHECKED BY: [ ]  
 DATE: 05/07/14  
 ISSUED FOR CONSTRUCTION: [ ]  
 USER: [ ]  
 LWT: [ ]



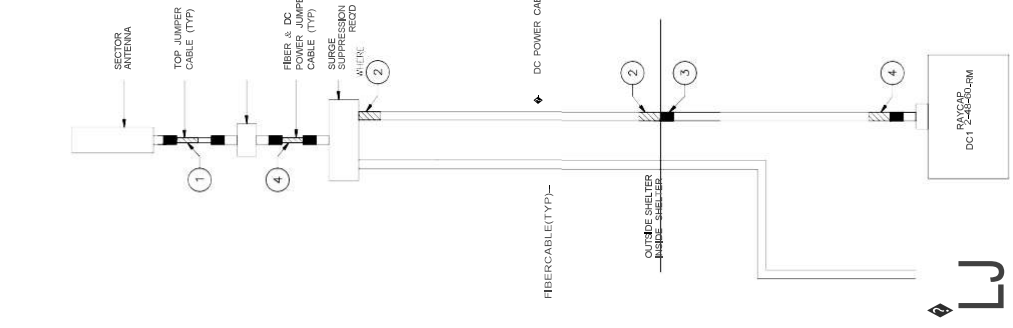
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 LAKEWOOD LAKES  
 KS5772  
 404 NE WOODS CHAPEL RD  
 LEES SUMMIT, MO 64064  
 LTE 6C/5G NR C-BAND  
 SHEET TITLE  
 CABLE COLOR CODING  
 SHEET NUMBER  
**RF-1**

**NOTES**

1. COLORED TAPES MUST BE 3/4" WIDE & UV RESISTANT VINYL ELECTRICAL COLOR BEING READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON-SITE.
2. ALL COLOR CODE TAPE SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE TO BE FULLY UNRAVELING, TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
3. ALL COLOR BANDS INSTALLED SHALL BE AT THE TOP OF THE TOWER AND SHALL HAVE A MINIMUM OF (3) THREE WRAPS OF TAPE EXCEPT AT RHH WHERE LABELLED END OF JUMPER SHALL BE 3/4" WIDE WITH 3/4" SPACE. ALL COLOR BANDS OF THE TOWER SHALL BE A MINIMUM OF A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
4. ALL COLOR CODES SHALL BE INSTALLED NEATLY AND NEARLY VERTICALLY FROM SIDE-TO-SIDE.
5. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODE TAPE, THE NEW TAPE ARE NOT INTENDED TO BE REUSED OR SHARED. THE NEW TAPE SHALL REMAIN UNTOUCHED.
6. FACTORY MADE JUMBERS SHALL BE USED. ALL JUMBERS ARE AT THE RADIO END AND NOT COAR THE FACTORY LABELS.

**CABLE MARKING LOCATIONS TABLE**

CABLE #	MARKING	LOCATION
700 MHz TX1/RX1	RED	1
700 MHz TX2/RX2	ORANGE	2
850 MHz TX1/RX1	RED	3
850 MHz TX2/RX2	ORANGE	4
1900 MHz TX1/RX1	RED	5
1900 MHz TX2/RX2	ORANGE	6
1900 MHz TX3/RX3	RED	7
1900 MHz TX4/RX4	ORANGE	8
2100 MHz TX1/RX1	RED	9
2100 MHz TX2/RX2	ORANGE	10
2100 MHz TX3/RX3	RED	11
2100 MHz TX4/RX4	ORANGE	12
2300 MHz TX1/RX1	RED	13
2300 MHz TX2/RX2	ORANGE	14
2300 MHz TX3/RX3	RED	15
2300 MHz TX4/RX4	ORANGE	16



LTE DIAGRAM

**Sector C**

Cable #	SECTOR	FREQ	PORT
700 MHz TX1/RX1	GREEN	RED	RED
700 MHz TX2/RX2	GREEN	RED	ORANGE
850 MHz TX1/RX1	GREEN	RED	RED
850 MHz TX2/RX2	GREEN	RED	ORANGE
1900 MHz TX1/RX1	GREEN	RED	RED
1900 MHz TX2/RX2	GREEN	RED	ORANGE
1900 MHz TX3/RX3	GREEN	YELLOW	YELLOW
1900 MHz TX4/RX4	GREEN	YELLOW	YELLOW
2100 MHz TX1/RX1	GREEN	WHITE	WHITE
2100 MHz TX2/RX2	GREEN	WHITE	WHITE
2100 MHz TX3/RX3	GREEN	WHITE	ORANGE
2100 MHz TX4/RX4	GREEN	WHITE	ORANGE
2300 MHz TX1/RX1	GREEN	BROWN	BROWN
2300 MHz TX2/RX2	GREEN	BROWN	BROWN
2300 MHz TX3/RX3	GREEN	BROWN	BROWN
2300 MHz TX4/RX4	GREEN	BROWN	BROWN

**Sector B**

Cable #	SECTOR	FREQ	PORT
700 MHz TX1/RX1	BLUE	RED	RED
700 MHz TX2/RX2	BLUE	RED	ORANGE
850 MHz TX1/RX1	BLUE	ORANGE	ORANGE
850 MHz TX2/RX2	BLUE	ORANGE	ORANGE
1900 MHz TX1/RX1	BLUE	YELLOW	YELLOW
1900 MHz TX2/RX2	BLUE	YELLOW	YELLOW
1900 MHz TX3/RX3	BLUE	YELLOW	WHITE
1900 MHz TX4/RX4	BLUE	YELLOW	WHITE
2100 MHz TX1/RX1	BLUE	WHITE	WHITE
2100 MHz TX2/RX2	BLUE	WHITE	ORANGE
2100 MHz TX3/RX3	BLUE	WHITE	WHITE
2100 MHz TX4/RX4	BLUE	WHITE	WHITE
2300 MHz TX1/RX1	BLUE	BROWN	RED
2300 MHz TX2/RX2	BLUE	BROWN	ORANGE
2300 MHz TX3/RX3	BLUE	BROWN	ORANGE
2300 MHz TX4/RX4	BLUE	BROWN	WHITE

**Sector A**

Cable #	SECTOR	FREQ	PORT
700 MHz TX1/RX1	RED	RED	RED
700 MHz TX2/RX2	RED	ORANGE	ORANGE
850 MHz TX1/RX1	RED	ORANGE	RED
850 MHz TX2/RX2	RED	ORANGE	ORANGE
1900 MHz TX1/RX1	RED	YELLOW	RED
1900 MHz TX2/RX2	RED	YELLOW	ORANGE
1900 MHz TX3/RX3	RED	YELLOW	YELLOW
1900 MHz TX4/RX4	RED	YELLOW	WHITE
2100 MHz TX1/RX1	RED	WHITE	WHITE
2100 MHz TX2/RX2	RED	WHITE	ORANGE
2100 MHz TX3/RX3	RED	WHITE	WHITE
2100 MHz TX4/RX4	RED	WHITE	WHITE
2300 MHz TX1/RX1	RED	BROWN	RED
2300 MHz TX2/RX2	RED	BROWN	ORANGE
2300 MHz TX3/RX3	RED	BROWN	ORANGE
2300 MHz TX4/RX4	RED	BROWN	WHITE

**Sector F**

Cable #	SECTOR	FREQ	PORT
700 MHz TX1/RX1	WHITE	RED	RED
700 MHz TX2/RX2	WHITE	RED	ORANGE
850 MHz TX1/RX1	WHITE	ORANGE	RED
850 MHz TX2/RX2	WHITE	ORANGE	ORANGE
1900 MHz TX1/RX1	WHITE	YELLOW	RED
1900 MHz TX2/RX2	WHITE	YELLOW	ORANGE
1900 MHz TX3/RX3	WHITE	YELLOW	YELLOW
1900 MHz TX4/RX4	WHITE	YELLOW	YELLOW
2100 MHz TX1/RX1	WHITE	WHITE	WHITE
2100 MHz TX2/RX2	WHITE	WHITE	ORANGE
2100 MHz TX3/RX3	WHITE	WHITE	WHITE
2100 MHz TX4/RX4	WHITE	WHITE	WHITE
2300 MHz TX1/RX1	WHITE	BROWN	RED
2300 MHz TX2/RX2	WHITE	BROWN	ORANGE
2300 MHz TX3/RX3	WHITE	BROWN	ORANGE
2300 MHz TX4/RX4	WHITE	BROWN	WHITE

**Sector E**

Cable #	SECTOR	FREQ	PORT
700 MHz TX1/RX1	YELLOW	RED	RED
700 MHz TX2/RX2	YELLOW	ORANGE	ORANGE
850 MHz TX1/RX1	YELLOW	ORANGE	ORANGE
850 MHz TX2/RX2	YELLOW	ORANGE	ORANGE
1900 MHz TX1/RX1	YELLOW	YELLOW	ORANGE
1900 MHz TX2/RX2	YELLOW	YELLOW	ORANGE
1900 MHz TX3/RX3	YELLOW	YELLOW	YELLOW
1900 MHz TX4/RX4	YELLOW	YELLOW	WHITE
2100 MHz TX1/RX1	YELLOW	WHITE	WHITE
2100 MHz TX2/RX2	YELLOW	WHITE	ORANGE
2100 MHz TX3/RX3	YELLOW	WHITE	YELLOW
2100 MHz TX4/RX4	YELLOW	WHITE	WHITE
2300 MHz TX1/RX1	YELLOW	BROWN	WHITE
2300 MHz TX2/RX2	YELLOW	BROWN	ORANGE
2300 MHz TX3/RX3	YELLOW	BROWN	ORANGE
2300 MHz TX4/RX4	YELLOW	BROWN	WHITE

**Sector D**

Cable #	SECTOR	FREQ	PORT
700 MHz TX1/RX1	ORANGE	RED	RED
700 MHz TX2/RX2	ORANGE	ORANGE	ORANGE
850 MHz TX1/RX1	ORANGE	ORANGE	ORANGE
850 MHz TX2/RX2	ORANGE	ORANGE	ORANGE
1900 MHz TX1/RX1	ORANGE	YELLOW	ORANGE
1900 MHz TX2/RX2	ORANGE	YELLOW	ORANGE
1900 MHz TX3/RX3	ORANGE	YELLOW	YELLOW
1900 MHz TX4/RX4	ORANGE	YELLOW	WHITE
2100 MHz TX1/RX1	ORANGE	WHITE	ORANGE
2100 MHz TX2/RX2	ORANGE	WHITE	ORANGE
2100 MHz TX3/RX3	ORANGE	WHITE	YELLOW
2100 MHz TX4/RX4	ORANGE	WHITE	WHITE
2300 MHz TX1/RX1	ORANGE	BROWN	ORANGE
2300 MHz TX2/RX2	ORANGE	BROWN	ORANGE
2300 MHz TX3/RX3	ORANGE	BROWN	ORANGE
2300 MHz TX4/RX4	ORANGE	BROWN	WHITE

**ANTENNA COLOR CODE TABLES**

**SECTOR CABLES**

700 MHz TX1/RX1	RED
700 MHz TX2/RX2	ORANGE
850 MHz TX1/RX1	RED
850 MHz TX2/RX2	ORANGE
1900 MHz TX1/RX1	RED
1900 MHz TX2/RX2	ORANGE
1900 MHz TX3/RX3	YELLOW
1900 MHz TX4/RX4	YELLOW
2100 MHz TX1/RX1	WHITE
2100 MHz TX2/RX2	WHITE
2100 MHz TX3/RX3	WHITE
2100 MHz TX4/RX4	WHITE
2300 MHz TX1/RX1	BROWN
2300 MHz TX2/RX2	BROWN
2300 MHz TX3/RX3	BROWN
2300 MHz TX4/RX4	BROWN

**SECTOR B CABLES**

700 MHz TX1/RX1	BLUE
700 MHz TX2/RX2	BLUE
850 MHz TX1/RX1	ORANGE
850 MHz TX2/RX2	ORANGE
1900 MHz TX1/RX1	BLUE
1900 MHz TX2/RX2	BLUE
1900 MHz TX3/RX3	BLUE
1900 MHz TX4/RX4	BLUE
2100 MHz TX1/RX1	BLUE
2100 MHz TX2/RX2	BLUE
2100 MHz TX3/RX3	BLUE
2100 MHz TX4/RX4	BLUE
2300 MHz TX1/RX1	BROWN
2300 MHz TX2/RX2	BROWN
2300 MHz TX3/RX3	BROWN
2300 MHz TX4/RX4	BROWN

**SECTOR A CABLES**

700 MHz TX1/RX1	RED
700 MHz TX2/RX2	ORANGE
850 MHz TX1/RX1	RED
850 MHz TX2/RX2	ORANGE
1900 MHz TX1/RX1	RED
1900 MHz TX2/RX2	ORANGE
1900 MHz TX3/RX3	YELLOW
1900 MHz TX4/RX4	YELLOW
2100 MHz TX1/RX1	WHITE
2100 MHz TX2/RX2	WHITE
2100 MHz TX3/RX3	WHITE
2100 MHz TX4/RX4	WHITE
2300 MHz TX1/RX1	BROWN
2300 MHz TX2/RX2	BROWN
2300 MHz TX3/RX3	BROWN
2300 MHz TX4/RX4	BROWN

**SECTOR F CABLES**

700 MHz TX1/RX1	WHITE
700 MHz TX2/RX2	WHITE
850 MHz TX1/RX1	ORANGE
850 MHz TX2/RX2	ORANGE
1900 MHz TX1/RX1	WHITE
1900 MHz TX2/RX2	WHITE
1900 MHz TX3/RX3	YELLOW
1900 MHz TX4/RX4	YELLOW
2100 MHz TX1/RX1	WHITE
2100 MHz TX2/RX2	WHITE
2100 MHz TX3/RX3	WHITE
2100 MHz TX4/RX4	WHITE
2300 MHz TX1/RX1	BROWN
2300 MHz TX2/RX2	BROWN
2300 MHz TX3/RX3	BROWN
2300 MHz TX4/RX4	BROWN

**SECTOR E CABLES**

700 MHz TX1/RX1	YELLOW
700 MHz TX2/RX2	YELLOW
850 MHz TX1/RX1	ORANGE
850 MHz TX2/RX2	ORANGE
1900 MHz TX1/RX1	YELLOW
1900 MHz TX2/RX2	YELLOW
1900 MHz TX3/RX3	YELLOW
1900 MHz TX4/RX4	YELLOW
2100 MHz TX1/RX1	WHITE
2100 MHz TX2/RX2	WHITE
2100 MHz TX3/RX3	WHITE
2100 MHz TX4/RX4	WHITE
2300 MHz TX1/RX1	BROWN
2300 MHz TX2/RX2	BROWN
2300 MHz TX3/RX3	BROWN
2300 MHz TX4/RX4	BROWN

**SECTOR D CABLES**

700 MHz TX1/RX1	ORANGE
700 MHz TX2/RX2	ORANGE
850 MHz TX1/RX1	ORANGE
850 MHz TX2/RX2	ORANGE
1900 MHz TX1/RX1	ORANGE
1900 MHz TX2/RX2	ORANGE
1900 MHz TX3/RX3	YELLOW
1900 MHz TX4/RX4	YELLOW
2100 MHz TX1/RX1	WHITE
2100 MHz TX2/RX2	WHITE
2100 MHz TX3/RX3	WHITE
2100 MHz TX4/RX4	WHITE
2300 MHz TX1/RX1	BROWN
2300 MHz TX2/RX2	BROWN
2300 MHz TX3/RX3	BROWN
2300 MHz TX4/RX4	BROWN

**DC POWER CABLES**

DC1-2300MHz	RED
DC2-2300MHz	ORANGE
DC3-2300MHz	YELLOW
DC4-2300MHz	WHITE

**DC POWER CABLES**

DC1-2300MHz	RED
DC2-2300MHz	ORANGE
DC3-2300MHz	YELLOW
DC4-2300MHz	WHITE

**DC POWER CABLES**

DC1-2300MHz	RED
DC2-2300MHz	ORANGE
DC3-2300MHz	YELLOW
DC4-2300MHz	WHITE

**DC POWER CABLES**

DC1-2300MHz	RED
DC2-2300MHz	ORANGE
DC3-2300MHz	YELLOW
DC4-2300MHz	WHITE

**COLOR CODE TABLES**











7801 FARLEY  
OVERLAND PARK, KS 66204



**BLACK & VEATCH**  
6800 W. 115TH STREET, SUITE 2392  
OVERLAND PARK, KS 66211  
(913) 438-2000

PROJECT NO: 129331  
DRAWN BY: SSN  
CHECKED BY: JH

REV	DATE	DESCRIPTION
0	04/28/21	ISSUED FOR CONSTRUCTION

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

LAKELWOOD LAKES  
KSS772  
404 NE WOODS CHAPEL RD  
LEES SUMMIT, MO 64084

SHEET TITLE  
ANTENNA MOUNT  
REINFORCEMENT

SHEET NUMBER  
S-1

**CONTRACTOR SHALL FIELD VERIFY AND MEASURE DIMENSIONS OF THE SITE STRUCTURE BEFORE FABRICATION OF MATERIALS FOR ALL MODIFICATIONS.**

- GENERAL NOTES**
- ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST BE EXPERIENCED IN THE PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTING THIS ASSIGNMENT, THE CONTRACTOR IS ASSUMING ALL RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS, AND TIMELINESS OF THE INFORMATION PROVIDED TO DO THIS WORK IN THE STATE OF MISSOURI. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE, AND FEDERAL AGENCIES OF COUNTY IN WHICH IT IS TO BE PERFORMED.
  - CONTRACTOR SHALL FIELD VERIFY EXISTING STRUCTURE SYSTEMS AND REPORT TO THE ENGINEER IF DIFFERENT THAN NOTED ON PLAN.
  - IN THE EVENT OF AN EMERGENCY, CONTRACTOR SHALL CONTACT BLACK & VEATCH PERSONNEL TO REPORT ANY EVENT OR EMERGENCY INCIDENT AT ANY AREA SITE YET AVOIDED CONTACTING INSURANCE WELLS.
  - CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY SUPPORT AS REQUIRED TO COMPLETE WORK.
  - THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
  - EXISTING STRUCTURAL COMPONENTS OF THIS PROJECT SHALL NOT BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS OTHERWISE SPECIFICALLY NOTED OTHERWISE. ANY DAMAGE TO EXISTING STRUCTURE SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER. THE TOLERANCE SHALL BE ACCURATELY SUPERVISED AND RECORDED AT ALL TIMES.
  - WORKING PIPES AND CONNECTIONS ARE REQUIRED FOR EACH MOUNTING PIPE, UNLESS NOTED OTHERWISE. A MINIMUM OF TWO (2) CONNECTIONS ARE REQUIRED FOR EACH MOUNTING PIPE, UNLESS NOTED OTHERWISE.
  - CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE OSHA REGULATIONS AND SHALL BE SUPERVISED ONLY BY "GOOD WORKMAN" GOOD WEATHER MEANS LITTLE TO NO WIND, NO RAIN AND A MINIMUM TEMPERATURE OF 50 DEGREES FAHRENHEIT WHEN WELDING IS INVOLVED. CONTACT ENGINEER FOR ADDITIONAL INSTRUCTIONS IF "GOOD WEATHER" CANNOT BE ACHIEVED.
  - ALL CHANGES/ALTERATIONS/REVISIONS TO THESE DRAWINGS SHALL BE DOCUMENTED BY REQUEST FOR INFORMATION (RFI) FORM APPROVED BY ENGINEER OF RECORD. FINAL WORK AUTHORIZATION AND ALL CHANGE ORDERS SHALL BE APPROVED BY CLIENT AND/OR CLIENT REPRESENTATIVE PRIOR TO PROCEEDING WITH ANY WORK THAT DEVIATES FROM THE ORIGINAL DESIGN, SCOPE, PRICE AND/OR SCHEDULE.

**STRUCTURAL NOTES**

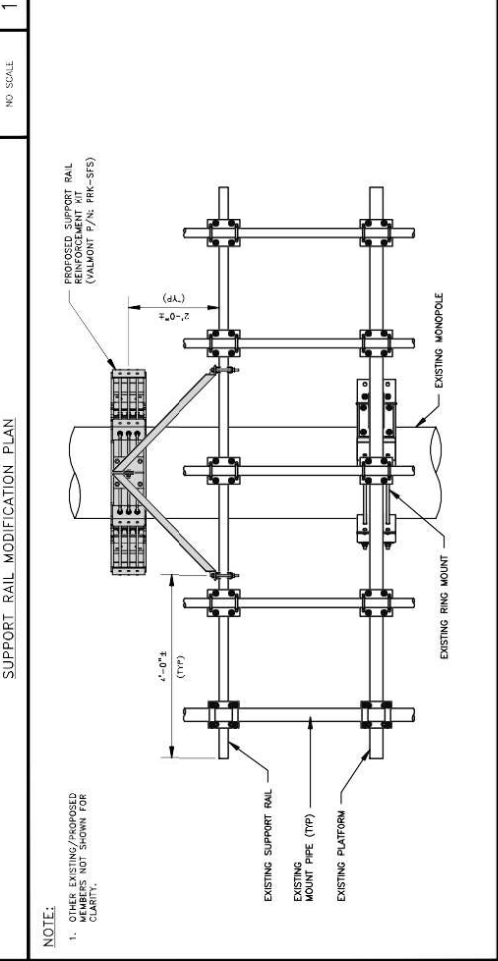
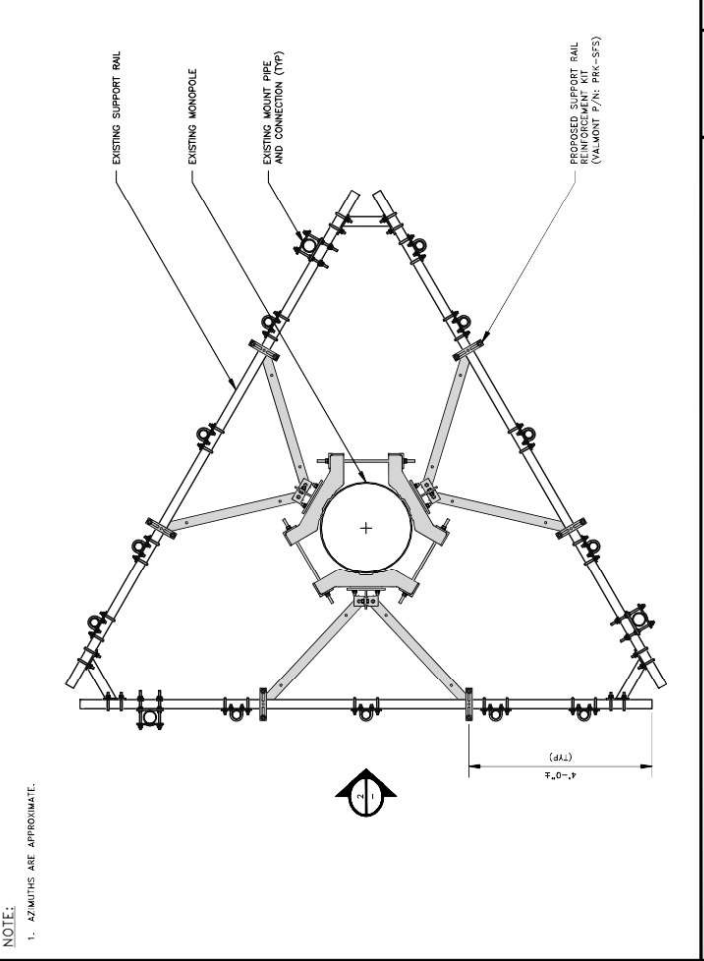
- ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW, UNLESS NOTED OTHERWISE.  
ANGLES, BARS, CHANNELS: ASTM A36, 36 KSI  
PIPE SECTIONS: ASTM A53, 60 KSI  
PIPE SECTIONS: ASTM A53, 60 KSI  
PIPE SECTIONS: ASTM A449  
W-SHAPE: ASTM A992, 50 KSI
- ALL NEW CONNECTIONS SHALL USE ASTM A325 GALVANIZED A325-N BOLTS, NUTS AND LOCKING DEVICES UNLESS NOTED OTHERWISE.
- ALL NEW CONNECTIONS THAT REQUIRE "TURN OF THE NUT" METHOD SHALL USE:  
FOR BOLTS: ASTM A325-N TYPE 1 GALVANIZED HIGH STRENGTH BOLTS  
FOR NUTS: ASTM A325-N TYPE 1 GALVANIZED HIGH STRENGTH NUTS  
FOR WASHERS: ASTM F436 HARDENED STEEL WASHERS WITH PROPER LOCKING DEVICE  
ALL WELDING IS TO BE DONE BY OSHA LICENSED WELDER. WELDING SHALL CONFORM TO AISC/AWS. WHERE FILED WELD SURFACES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE U2.4 IN THE AISC MANUAL OF STEEL CONSTRUCTION. PAINTED SURFACES SHALL BE TO BE COATED UP FOLLOWING ANY WELDING.
- STRUCTURAL BOLTS SPACING AND EDGE DISTANCE SHALL MEET 2005 AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDING REQUIREMENTS, UNLESS NOTED OTHERWISE.
- MAINTAIN A MINIMUM 1-1/8" EDGE DISTANCE FROM CENTER OF ANY HOLE TO NEAREST EDGE OF ANY PLATE OR ANGLE, UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO ASTM A333 GALVANIZED, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL TOUCH UP ANY DAMAGED PAINT AREAS WITH ZINC RICH PAINT. ALL AREAS THAT WERE FIELD DRILLED, WELDED, OR CUT SHALL BE TOUCHED UP WITH ZINC RICH PAINT. PAINT SHALL BE APPLIED BY BRUSH ONLY (SPRAY APPLICATION PROHIBITED).
- ALL FIELD CUT HOLES SHALL BE CUT WITH A DRUMMER OR DRILLED. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER OF RECORD.

**BOLT-TIGHTENING PROCEDURE NOTES**

- ALL BOLT CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN AISC SECTION B10.1 OF THE SPECIFICATION, UNLESS NOTED OTHERWISE.
- ONLY WARE SPECIFIED TENSILE CONNECTION BOLTS BY AISC - "TURN OF THE NUT" METHOD FOR ASTM A325 BOLTS AND/OR PRESTRESS.  
APPROVED EQUIVALENT USING THE CHART BELOW.  
BOLT: 1/2" BOLT UP TO AND INCLUDING FOUR DIAMETER.  
1/2" BOLT UP TO AND INCLUDING 3-1/2" LENGTH + 1/3 TURN BEYOND SNUG TIGHT  
5/8" BOLT UP TO AND INCLUDING 4" LENGTH + 1/3 TURN BEYOND SNUG TIGHT  
BOLT LENGTHS OVER FOUR DIAMETER BUT NOT EXCEEDING EIGHT DIAMETER:  
1/2" BOLT 3-3/4" TO 7" LENGTH + 1/2 TURN BEYOND SNUG TIGHT  
5/8" BOLT 4-1/4" TO 8" LENGTH + 1/2 TURN BEYOND SNUG TIGHT  
3. CONNECTION BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION B10.1 OF THE AISC SPECIFICATION FOR PRESTRESS AS FOLLOWS:  
a. ALL BOLTS SHALL BE INSTALLED AS PER AISC 325 OR AISC 325 OF AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS FURNISHED AS FOLLOWS:  
86(1) TURN OF THE NUT TIGHTENING METHOD:  
BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION B10.1. UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED, FOLLOWING THIS INITIAL OPERATION ALL BOLTS SHALL BE TIGHTENED IN SEQUENCE. THE TIGHTENING OPERATION SHALL PROGRESS SYSTEMATICALLY. THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

Name	Title	Block & Veatch Contacts and Phone Numbers
Jason Wong	Lead Design/Project Engineer	Office Phone: 913-438-9263   E-Mail: jwong@bv.com

**NOTES**



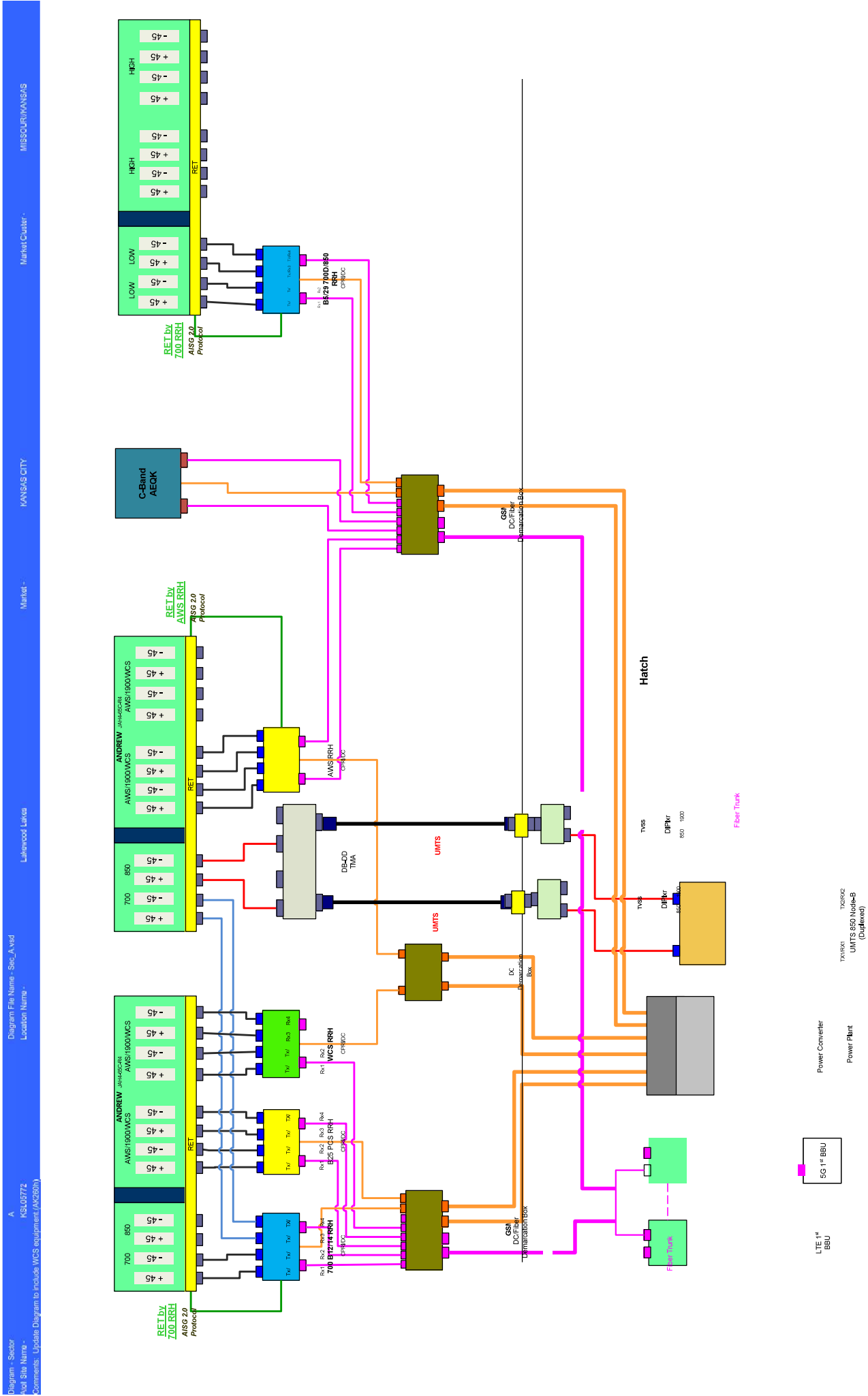


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 Market -  
 Market Cluster -  
 MISSOURI/MANAS  
 KANSAS CITY  
 Lathewood Latics

Diagram - Sector  
 A  
 KSL0977Z  
 Comments: Update Diagram to include WCS equipment (AKG801)

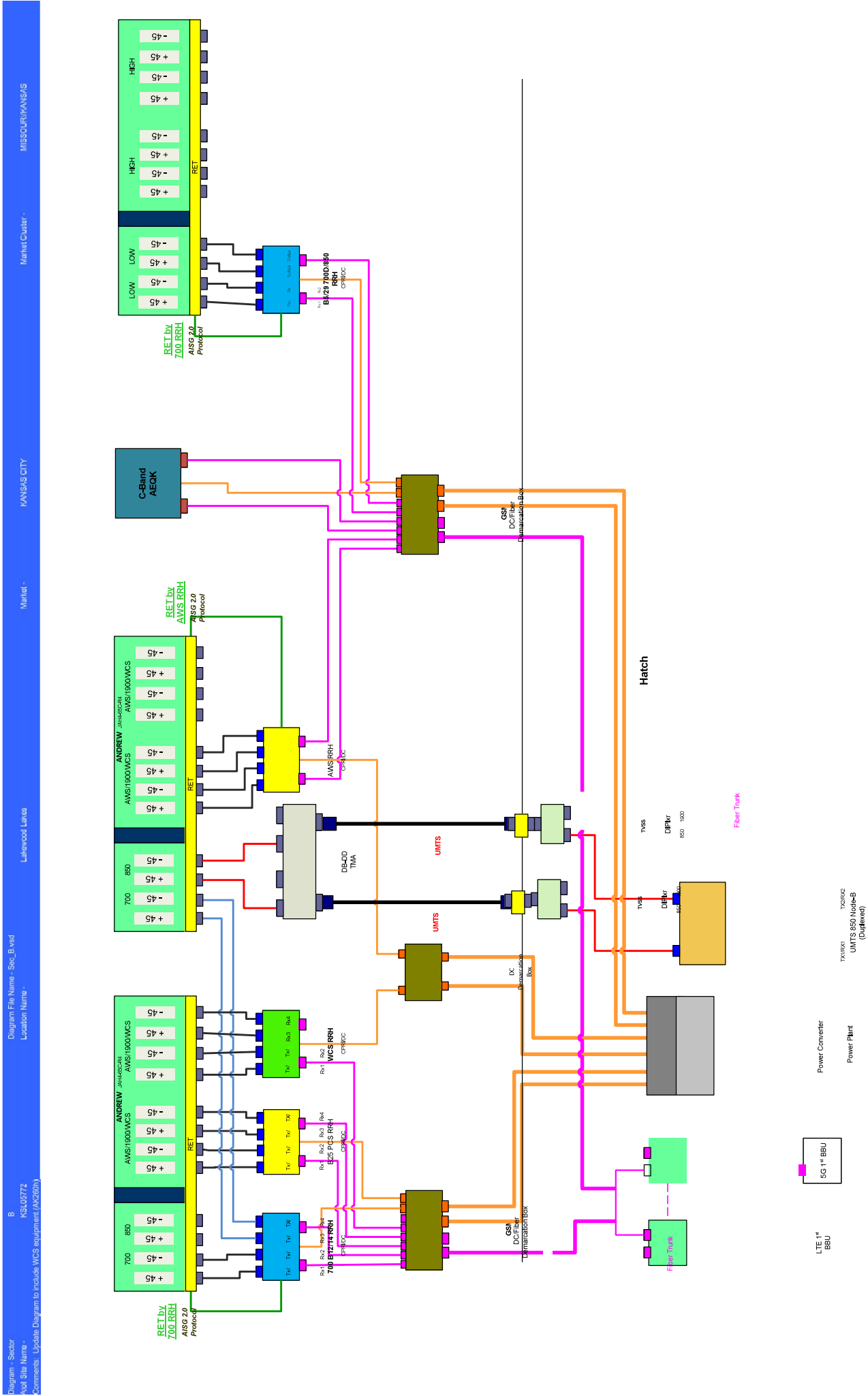


Diagram File Name - Sec\_B.wpd  
 Location Name -  
 Comments: Update Diagram to include WCS equipment (AKG801)

Missouri/Arkansas

Market Cluster -

KANSAS CITY

Market -

Lafayette Lakes

Diagram File Name - Sec\_B.wpd  
 Location Name -  
 Comments: Update Diagram to include WCS equipment (AKG801)

Missouri/Arkansas

Market Cluster -

KANSAS CITY

Market -

