

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (“Agreement”) is made as of as of the date set forth on the City’s signature page below (“Effective Date”), by and between the **CITY AND COUNTY OF DENVER**, a municipal corporation (“City”), and **T-MOBILE WEST LLC**, a Delaware limited liability company whose principal office is 12920 SE 38th Street, Bellevue, WA 98006 (“Licensee”).

SECTION 1 LICENSE RIGHTS

1.01 Licensed Area.

City owns property located in Jefferson County, known as Red Rocks Amphitheatre (“Red Rocks”). For purposes of this Agreement, the designated areas at Red Rocks are located at 2901 Ship Rock Road and 18300 W. Alameda Parkway (“Licensed Property”). New Cingular Wireless PCS, LLC (“AT&T”) intends to install a new neutral host distributed antenna system (“DAS”) at Red Rocks. In order to facilitate Licensee’s use of the DAS, the City hereby grants to Licensee a limited, non-exclusive License for the use of certain designated areas on the Licensed Property as depicted on **Exhibit A** (the “Licensed Area”). The City and Licensee anticipate that Licensee will enter into a separate DAS License Agreement with AT&T (the “DAS License Agreement”) regarding Licensee’s use of the DAS and Licensee’s rights and responsibilities with respect to the costs and maintenance of the DAS.

1.02 Permitted Use.

The Licensed Property (or “Property”) shall be used for the installation, maintenance, alteration, repair, replacement, operation, and removal of radio frequency equipment and a wireless communication facility, and related equipment, infrastructure and utility connections (collectively the “System”) at designated locations at the Licensed Property. The System shall be owned by Licensee and, except as set forth in sections 5.06, 5.07, 6.05 and 8.02 of this License Agreement, may not be touched or otherwise interfered without the express prior written permission of Licensee. Licensee may use the Licensed Property only for the uses set forth in this Agreement and consistent with **Exhibit B** (Minimum Technical Standards)(references in this Agreement to **Exhibit B** shall include **Exhibit B-1** attached hereto, which contains agreed upon deviations from **Exhibit B** for this installation).

Licensee is authorized to operate any FCC-licensed and authorized radio bands and frequencies (and no others), including the initial ones listed below:

Licensed Frequencies		
	Transmit	Receive
LTE 1900	Tx: From 1950 MHz To 1965 MHz	Rx: From 1870 MHz To 1885 MHz
LTE 2100	Tx: From 2110 MHz To 2120 MHz	Rx: From 1710 MHz To 1720 MHz
UMTS 2100	Tx: From 2150 MHz To 2155 MHz	Rx: From 1750 MHz To 1755 MHz
LTE 2100	Tx: From 2145 MHz To 2150 MHz	Rx: From 1745 MHz To 1750 MHz

Licensee will notify Licensor of use of any additional radio bands and frequencies and provide the City with an updated intermodulation study. Operation in any unauthorized radio band (as defined by the FCC) is prohibited.

1.03 City's Representative.

The City's Director of Arts & Venues Denver, or his/her Designee (herein, the "Director") authorizes all activities performed under this Agreement.

SECTION 2 TERM

2.01 Term of the Agreement.

The Term of this Agreement shall commence upon the first day of the month following the date of the City's full execution of this Agreement (the "Commencement Date"), and shall terminate on March 31, 2026, unless extended by written agreement of the parties, executed in the same manner as this Agreement. In the event that the DAS License Agreement is terminated, Licensee may remove its equipment from the Revised Licensed Area and either Party may terminate this Agreement with thirty (30) days written notice to the other Party.

SECTION 3 FEES

3.01 License Fees.

Licensee agrees to pay City a monthly fee ("License Fee") of four thousand three hundred twenty-six and 40/100 dollars (\$4,326.40), payable in monthly installments beginning on the first day of the month following DAS Acceptance, and continuing on the first day of each month thereafter. The License Fee shall increase four percent (4%) each year, with the increased License Fee taking effect on the anniversary of the DAS Acceptance date of each year.

As used herein, the intent of the term "DAS Acceptance" shall be consistent with the term defined in Exhibit B of the DAS License Agreement, which shall occur after AT&T's completion of the DAS and all reasonably requested changes thereto and completion of the sweep test criteria set forth in the DAS License Agreement. Licensee shall notify the city in writing immediately following DAS Acceptance. Licensee shall have sixty (60) days after DAS Acceptance to make the revised payment hereunder.

3.02 Place and Manner of Payments.

All sums payable to City shall be made payable without notice to:

City and County of Denver, Arts & Venues Denver
Attention: Finance Department

1345 Champa Street
Denver, CO 80204

All payments shall be made in legal tender of the United States. Any payment not made to City accrues interest at the lesser of (i) 18% per annum, or (ii) the maximum interest rate allowed under law, commencing on the tenth (10th) calendar day after the date such amount is due and owing until paid to City. Licensee agrees to pay any charges, fees, or costs incurred by the City for collection of unpaid License Fees, including reasonable attorney's fees.

SECTION 4 INSTALLATION AND CONSTRUCTION

4.01 Plans and Specifications of the System.

(a) The Licensee shall at its sole cost and expense, design and construct upon the Licensed Property, the System pursuant to the plans and specifications set forth in **Exhibit B**, and in accordance with the requirements of this agreement. The System shall in all respects be constructed in accordance with all applicable rules and regulations of the City, and pursuant to any required building permit and zoning permit to be obtained from the City, and according to requirements or design guidelines of the City's Technology Services division, if any, and/or the Director.

(b) Prior to any installation and/or construction, four (4) copies of full and complete plans and specifications for the System must be submitted to the Director for review. These plans and specifications must, if applicable to Licensee's System, include complete specifications of transmitter power, operating frequencies, filter passband and rejection characteristics, antenna model numbers and radiation patterns (both horizontal and vertical plane patterns), antenna height and location. Within fifteen (15) days of receipt, the City will either approve or reject the submission. Any rejection shall detail the reasons for the rejection.

4.02 Installation.

(a) Licensee agrees to install the System consistent with the approved plans and specifications, **Exhibit B** attached hereto.

(b) Prior to the commencement of installation of the System, Licensee or its contractor shall obtain and pay for all required permits. Good and workmanlike standards of design, construction and installation shall be required in connection with all such work, and the System shall conform at a minimum with applicable statutes, ordinances, building codes and regulations.

(c) Upon completion of the System, Licensee shall furnish to the Director evidence of payment, contractor's affidavits and full and final waivers of all liens for labor, services, or materials.

(d) Licensee shall include in Licensee's agreement with its contractors provisions whereby such contractor shall defend and hold harmless the City from all costs, liens, damages and expenses related to such work.

(e) Equipment shall be located in designated locations as defined by the City as set forth on **Exhibit A**.

(f) Reserved.

(g) Licensee is responsible for all installation costs and to comply with all applicable laws, rules and regulations pertaining to Licensee's use and operation of the System. City is not obligated to make any modifications to the Licensed Property, including the Licensed Area, to support the installation of the System. If Licensee desires to make modifications to the Licensed Area which would expand the square footage of the Licensed Area, require structural modifications to the Licensed Area, or require additional governmental approvals, it must obtain prior written approval from the City; Licensee is responsible for the cost of modifications. Notwithstanding anything to the contrary, Licensee shall be permitted to make any modifications to equipment within their ground space lease area, including but not limited to, routine maintenance without obtaining prior written approval from the City. Licensee may utilize existing conduit/cabling infrastructure as approved by the City as long as it does not materially and adversely interfere with current venue and events operations, and must do so on a first come first served basis.

(h) Licensee is responsible for acquiring land lines required for the installation and operation of the System.

(i) The City is not responsible for Licensee's equipment. Licensee shall be responsible to keep their equipment and System in good working order.

4.03 Construction Payment and Performance Bonds.

Prior to the commencement of the installation, construction and/or modification of the System, the Licensee and its contractors shall furnish to the City upon City's request, corporate surety bonds or such other acceptable sureties as approved in writing by the City, issued by a surety company licensed to transact business in the State and satisfactory to the City with the Licensee and its contractor or contractors as principals, in a sum not less than 100% of the total cost of the contract or contracts for the construction of the System. Such bonds shall guarantee prompt and faithful performance of such contracts and prompt payment by the Licensee to its contractors and by the Licensee's contractors to all persons supplying labor, materials, supplies, rental machinery, tools and equipment used directly or indirectly by such contractor, subcontractors of all tiers and suppliers in the prosecution of the work provided for in such construction contract and shall protect and indemnify the City from any liability, losses or damages arising therefrom.

4.04 Access.

(a) Subject to any rules and regulations or standards heretofore or hereafter adopted and promulgated by the City or the Director, including without limitation any nondiscriminatory rules and regulations governing entrance to and use of the Licensed Property, Licensee has the reasonable right of access, ingress to and egress from the System and Licensed Property for the Licensee's employees, and agents, its or their suppliers of materials and furnishers of service, so long as such

personnel have sufficient identification badges, and its or their equipment, vehicles, machinery and other property necessary for the repair, maintenance, removal, installation or operation of the System, all with prior notice to and approval from the Director.

(b) The Licensee shall perform all construction and regularly scheduled maintenance work between the hours of 7:00 a.m. and 5:00 p.m.

(c) Emergency Access: In the event of a bona fide emergency, which shall be deemed to include any failure of Licensee's System, or any portion thereof, Licensee shall contact City or its representative for commercially practicable access. The City reserves the right to require a City escort at dates and times determined by the City. Licensee may reach a City representative to arrange access by calling (303) 697-1335.

4.05 Modification of Access Route.

The City may, at any time, temporarily or permanently, close any particular access to the Licensed Property, so long as a means of access is substituted and is concurrently made available Licensee, except in the case of an emergency. The Licensee hereby releases and discharges the City from any and all claims, demands or causes of action which the Licensee may now, or at any time hereafter, have against the City, arising or alleged to arise out of the closing of any point of access to the Licensed Property.

SECTION 5 USE AND OPERATION

5.01 Changes to System.

Licensee shall give City prior written notice of any proposed changes to Licensee's Licensed Area which would expand the square footage of the Licensed Area, require structural modifications to the Licensed Area, or require additional governmental approvals. City shall have the right to reasonably review, approve or disapprove any such change within thirty (30) days after receiving such written notice. All such changes shall be subject to the Minimum Technical Standards, installation and preoperational conditions set forth herein.

5.02 Radio Frequency Interference.

Licensee shall diligently work to prevent and, in the event of failure to do so, immediately correct radio frequency interference to the City's Red Rocks' operations and events, event tenants and all activity therein, as well as public safety/licensee systems, licensee's or licensee's receivers and City's 802.11b WiFi system. To help achieve this goal, Licensee shall comply with the following:

(a) Compliance with Government Regulations. Licensee agrees to comply with all federal, state, local, or other government regulations applicable to Licensee and its activities in and upon the Licensed Property, hereunder including, but not limited to, regulations and standards published by the FCC.

(b) Radio Frequency Interference Study. Upon written request by City, Licensee agrees to conduct a radio frequency study prior to commencing operations and/or during the entire term of this Agreement at the Licensed Property, and to furnish City with the results of the study and include it as part of the Licensee's System Plans and Specifications.

(c) Compliance with Minimum Technical Standards. Licensee agrees to comply with the most recent edition of the Minimum Technical Standards attached hereto as **Exhibit B**. City may update the Minimum Technical Standards from time-to-time, as required, to address the state-of-the-art.

(d) Maintenance. Licensee shall maintain, at no cost to the City, and repair Licensee's System, to comply with FCC rules and to prevent interference.

(e) Changes and Additions to System. Licensee shall notify City of any changes or additions to associated RF equipment, transmit and receive frequencies, transmitter output power, antenna configurations, and effective radiated power before making new installations or modifications to existing installations. An interference study shall be conducted by Licensee, at Licensee's expense, prior to any proposed frequency changes. All such additions or changes must be approved in writing prior to making the change. Unauthorized changes will be considered to be non-compliant with this Agreement. The License Fee will not increase as a result of a modification unless the modification requires an expansion of the Licensed Area.

(f) Cooperation. City encourages Licensees to resolve potential or real interference problems between themselves. Licensee agrees to cooperate fully with City and other licensees to diagnose and correct interference problems. Such cooperation may require Licensee to temporarily reduce or shut down transmit power to help diagnose problems.

(g) Additional Studies. When City, based on inquiry and evaluation, becomes aware of a potential interference problem caused directly or indirectly, wholly or partially, by Licensee's System, City may require Licensee to reimburse City for the cost of an interference study to include radio frequency measurements. The purpose of this interference study is to identify the problem or show that the potential problem is not caused directly or indirectly, wholly or partially by Licensee's System. This study shall be conducted by a consulting engineer selected by City after consultation with Licensee. The total cost of the study shall be equally borne by the Licensee and any other licensees which may be hereafter approved by City. Upon completion of said study the cost may be allocated directly to the Licensee(s) which caused the interference.

(h) Interference Mitigation. When necessary to correct interference problems, as determined by City in City's reasonable discretion, Licensee agrees, at Licensee's expense, to install cavity-type bandpass filters, notch filters, isolators, or other state-of-the-art equipment. These equipment items are in addition to the minimum equipment of the Minimum Technical Standards. The minimum equipment items shall be installed regardless.

(i) Radio Frequency (RF). Licensee shall ensure that its Frequencies used for the operation of the System does not interfere with any operation of Red Rocks. Licensee shall

provide documentation of the frequencies that it is using which shall be a part of this Agreement. Licensee shall not occupy any frequencies that they are not using for the purposes of blocking other licensees from operating. Licensee shall be responsible for conducting an RF scan to verify there will be no interference with other systems. This shall occur prior to Licensee turning on its System and shall be documented by a third party vendor and submitted to City. Once City has reviewed the study they will give notice to Licensee that it can turn on its System. City shall reasonably review the documentation within fifteen (15) business days. If City is not satisfied with the details of the study, City will give notification to Licensee as to what needs to be remedied before notice to proceed will be given.

(j) Enforcement. If Licensee's equipment or operations cause radio frequency interference, as determined by the City in City's reasonable discretion, including without limitation interference with public safety or the City's public safety channels, radio system or other electronic means of public safety enforcement, and if the interference is not eliminated within ten days after written notice from City, then City may, at Licensee's expense, temporarily turn off the power to the System. In addition, the City retains the right to turn off the Licensee's System when the City reasonably believes that the Licensee's System causes interference with the venue, show or an event's equipment and operation. City shall contact Licensee at the time the System needs to be turned off so Licensee can facilitate the effort to turn off the System, isolate any interference, and turn the System back on with minimal interruption. Licensee, at the Licensee's expense, shall (i) have the right to make such repairs, maintenance, replacements or adjustments to the System as may be reasonably necessary to prevent such interference (all such repairs, maintenance, replacements or adjustments shall be performed in accordance with this Agreement), and (ii) have the right to conduct intermittent tests of the System at times mutually agreeable to City and the Licensee (in the exercise of both parties reasonable discretion) to determine if the System will continue to cause such interference.

City will use reasonable efforts to obtain similar provisions regarding the prevention and elimination of interference in any new license entered into by City with future Licensees.

(k) Violations and Remedies. City requires that all licensees operate their respective systems with no interference to other licensees' systems. All disputes regarding the cause or resolution of specific interference problems or complaints must be evaluated by an independent third party selected by the City (and acceptable to Licensee in its reasonable discretion) who is competent to evaluate the potential causes of the interference and the measures required for its resolution. If it is determined that interference to the equipment, frequencies or channels of the Licensee or other Licensees or users at the Licensed Property is a result of the non-compliance of those facilities with the City's Minimum Technical Standards, it shall be the responsibility of the Licensee or other Licensees or users to resolve the interference. If the interference continues when these facilities are brought into compliance with the Standards, then it shall be the Licensee's responsibility to take whatever measures are necessary to resolve the interference as provided above.

(l) Definition of Interference. For the purposes of this Agreement, "interference" may include, but is not limited to, any use on Licensed Property that causes electronic or physical obstruction with, or degradation of, public safety communications signals, or Red Rocks

event-related communications signals.

5.03 Operational Test Procedures.

The following test procedures shall be approved by City prior to or during, whichever is applicable, Licensee's operation of the System.

(a) Perform a desktop interference study to include all frequencies to be used by Licensee to ensure no interference is likely from intermodulation products or out-of-band emissions.

(b) Verify the results of the interference study by conducting appropriate measurements of the installed systems.

(c) If problems are found, make recommendations for additional filtering, channel changes, greater antenna separation, or other fixes, as necessary.

5.04 Compliance with Municipal Rules and Regulations.

Licensee shall comply with and shall cause its officers and employees and any other persons over whom it has control to comply with such reasonable rules, regulations and standards governing the use of the System and any other portion of the Red Rocks Amphitheatre as may from time to time be adopted and applied by the City in a uniform and non-discriminatory manner, for the management, operation and control of the Amphitheatre, and with such reasonable amendments, revisions, additions and extensions thereof as may from time to time be adopted and applied in a uniform and non-discriminatory manner; provided, however, such rules and regulations shall not be inconsistent with the rights herein granted to Licensee.

5.05 Compliance with Other Governmental Regulations.

Licensee shall, at all times, faithfully obey and comply with all existing and future laws, rules and regulations adopted by Federal, State, local or other governmental bodies and applicable to or affecting the Licensee and its operations and activities in and around the Licensed Property; provided, however, that the parties acknowledge and agree that the rules and regulations prescribed by the FCC shall govern and control issues related to frequency interference.

5.06 Repairs and Maintenance.

The maintenance, care and any necessary replacement of the System shall be made by the Licensee. Licensee covenants and agrees during the Term hereof, after the occupancy of the System:

(a) that Licensee shall keep the System in good order and condition, and will make all necessary and appropriate repairs replacements and renewals thereof as reasonably determined by Licensee;

(b) that Licensee shall not permit rubbish, debris, waste materials or anything unsightly

or detrimental to health, or likely to create a fire hazard, or conducive to deterioration, to remain on any part of the System or to be disposed of improperly;

(c) that Licensee shall at all times maintain the System in accordance with all applicable codes, Minimum Technical Standards of the City and manufacturer's specifications;

(d) that Licensee shall promptly repair any and all damage to, among other things, the structures, equipment and surrounding property at the Licensed Property as a result of Licensee's installation and operation of its System including, but not limited to, any leaks or physical damage as a result of roof penetrations or other physical penetrations to the building or structures caused by Licensee's antenna mountings, cable/conduit penetrations, and/or other workmen and maintenance activities. In the event the Licensee fails to repair any such damage noted in this Section 5.06(d), the City will have the right to conduct such repairs and invoice Licensee for the cost.

(e) that tools, test equipment and work materials shall only be stored in areas approved by the Director;

(f) that all roof, building penetrations and other areas of the Licensed Area and/or Licensed Property modified by Licensee will be restored to original condition upon termination.

(g) For purposes of this Section, the System, as it relates to Licensee, refers to Licensee's equipment and approved alterations thereto.

5.07 Right to Enter, Inspect and Make Repairs.

The City and its authorized officers, employees, agents, contractors, subcontractors and other representatives shall have the right (at such times as may be reasonable under the circumstances and with as little interruption of the Licensee's operations as is reasonably practicable) to access Licensee's equipment for the following purposes:

(a) to inspect such equipment at reasonable intervals during regular business hours (or at any time in case of emergency) to determine whether Licensee has complied and is complying with the terms and conditions of this Agreement with respect to such Licensed Area, or, if applicable, to Licensed Property;

(b) to perform maintenance and make repairs and replacements in cases where the Licensee is obligated but has failed to do so, after the City has given the Licensee reasonable notice so to do, in which event Licensee shall reimburse the City for the reasonable cost thereof within thirty (30) days of Licensee's receipt of City's invoice accompanied by reasonable substantiation of the costs incurred. Such maintenance and repairs shall be limited to support systems that present a safety hazard or affect others such as HVAC, plumbing, lighting, fire suppression systems, etc. Under no circumstances will City attempt to repair or alter in any way Licensee's operational equipment such as base station radios, other electronic equipment, alarm systems, antennas, coaxial cable, DAS, UPS, etc.

No such access undertaken by or on behalf of the City in strict compliance with the

provisions of this Section 5.07, shall cause or constitute a termination of the Agreement or be deemed to constitute an interference with the possession thereof by the Licensee.

5.08 Care of Area.

Licensee agrees that, in the course of its operations, Licensee will keep the Licensed Property in a neat, clean, safe, sanitary and orderly condition at all times, and further agrees that it will keep such area free at all times of all paper, rubbish, spills, and debris. Accumulation of boxes, cartons, barrels or other similar items shall not be permitted within any area of the Licensed Property.

5.09 Utilities.

(a) License Fee covers cost of electricity; however it does not cover the cost of providing service at locations where service is not currently located. If additional service locations need to be added, Licensee shall be responsible to install it in compliance with all applicable laws, codes and regulations (“Laws”).

(b) Licensee shall be responsible for and provide an independent ventilation, heating and air conditioning system for those portions of the System, if any, that are expressly required by the manufacturer of the System to maintain manufacturer’s warranties based upon Licensee’s installation of the System in and upon the Licensed Area.

5.10 Interruption of Utility Services.

Licensee agrees that City shall not be liable for failure to supply any utility services. City reserves the right to temporarily discontinue utility services at such time as may be necessary by reason of accident, unavailability of employees, repairs, alterations or improvements or whenever by reason of strikes, lockouts, riots, acts of God or any other happenings beyond the control of the City, the City is unable to furnish such utility services. The City shall not be liable for damages to persons or property for such discontinuance. Nor shall such discontinuance in any way be construed as cause for abatement of fees, unless caused by the gross negligence or intentional misconduct of the City or its agents, contractors or employees, or operate to release the Licensee from any of its obligations hereunder.

SECTION 6 INSURANCE AND INDEMNITY

6.01 Insurance.

General Conditions: Licensee agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Licensee shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for three (3) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company

as “A-”VII- or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the above-described policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, Licensee shall provide written notice of cancellation, non-renewal and any reduction in coverage below that required herein to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City’s contract number. Licensee shall be responsible for the payment of any deductible or self-insured retention which all coverages secured by Licensee contain. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Licensee. The Licensee shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

(a) Proof of Insurance: Licensee shall provide a copy of this Agreement to its insurance agent or broker. Licensee may not commence services or work relating to the Agreement prior to placement of coverage. Licensee certifies that the certificate of insurance attached as **Exhibit C**, preferably an ACORD certificate, provided by Licensee complies with all insurance requirements of this Agreement. The City requests that the City’s contract number be referenced on the Certificate. The City’s acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Licensee’s breach of this Agreement or of any of the City’s rights or remedies under this Agreement. In the event of a claim arising out of this Agreement, the City’s Risk Management Office may require additional proof of insurance, including but not limited to endorsements requested herein.

(b) Additional Insureds: For Commercial General Liability and Auto Liability, Licensee and subcontractor’s insurer(s), if there are any subcontractors, shall include the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

(c) Waiver of Subrogation: For all required coverages, except for Workers’ Compensation, Licensee’s insurer shall waive subrogation rights against the City.

(d) Subcontractors: All subcontractors shall procure and maintain the same coverages required of the Licensee. Licensee shall endeavor to ensure that all such subcontractors maintain the required coverages.

(e) Workers’ Compensation/Employer’s Liability Insurance: Licensee shall maintain the coverage as required by statute for each work location and shall maintain Employer’s Liability insurance with limits of \$100,000 per accident for each bodily injury claim, \$100,000 per accident for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims.

(f) Commercial General Liability: Licensee shall maintain a Commercial General Liability insurance policy with combined single limits of \$1,000,000 per occurrence for bodily injury and property damage including contractual liability, personal and advertising injury products and completed operations, and \$2,000,000 general aggregate.

(g) Automobile Liability: Licensee shall maintain limits of \$1,000,000 combined single limit for bodily injury and property damage applicable to all owned, nonowned and hired vehicles operating on City property and elsewhere for work under this Agreement.

(h) Additional Provisions:

(1) For Commercial General Liability, the policies must provide the following:

- (i) That this Agreement is an Insured Contract under the policy;
- (ii) A severability of interests, separation of insureds or cross liability provision; and
- (iii) A provision that coverage is primary and non-contributory (as to Licensee's negligent acts or omissions) with other coverage or self-insurance maintained by the City.

(2) For claims-made coverage, if any:

- (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier

(3) Licensee shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At its own expense and where such general aggregates or other aggregate limits have been reduced below required limits, the Licensee will procure and evidence additional reasonable and prudent limits.

6.02 Indemnification.

Licensee agrees to indemnify, release and hold harmless the City, and its officers, agents and employees, from and against any and all loss of or damage to property or injuries to or death of any person or persons, including property and officers and employees of the City, and shall defend, indemnify and save harmless the City, and its officers, agents and employees from any and all claims, damage, suits, costs, expense, liability, actions or proceedings of any kind or nature, of or by anyone whomsoever, in any way resulting from or arising out of, directly or indirectly, its use and/or operation and/or occupancy of City property or the Licensed Property and including acts and omissions of officers, employees, representatives, suppliers, invitees, contractors, subcontractors and agents of Licensee; provided, that the Licensee need not release, indemnify or save harmless the City, its officers, agents and employees from damages resulting from the sole negligence or willful misconduct of the City's officers, agents and employees. The minimum insurance requirements prescribed herein shall not be deemed to limit or define the obligations of Licensee hereunder.

6.03 Limitation on Liability.

Licensee agrees that no liability shall attach to City for any damages or losses incurred or claimed by Licensee or any other person or party on account of the installation or construction of the System by Licensee. Licensee agrees that it shall not in any way seek damages or make any claims against the City for any interference or delay caused by construction in adjacent areas, other businesses or Red Rocks Amphitheatre operations, including without limitation damages or losses in the nature of delay damages, lost labor productivity, and impact damages.

6.04 Taxes, Licenses, Liens and Fees.

Licensee agrees to promptly pay all taxes, excises, license fees and permit fees of whatever nature applicable to its operations hereunder and to take out and keep current all municipal, state or federal licenses required for the conduct of its business at and upon the Licensed Property and further agrees not to permit any of said taxes, excises, license fees or permit fees to become delinquent. Licensee also agrees not to permit any mechanic's or materialman's or any other lien to become attached or be foreclosed upon the Licensed Property, or improvements thereto, or any part or parcel thereof, by reason of any work or labor performed or materials furnished by any mechanic or materialman for Licensee, as contractors or subcontractors. Licensee further agrees to promptly pay when due all bills, debts and obligations incurred by it in connection with its operations hereunder, and not to permit the same to become delinquent and to suffer no lien, mortgage, judgment or execution to be filed against the Licensed Property or the System.

6.05 City's Rights.

(a) City shall retain all the rights to the use, occupancy and ownership of the Licensed Property and fixtures herein described (subject to the Licensee's rights set forth herein); and such use, occupancy and ownership shall not be interfered with by the exercise of the rights granted hereunder during the term hereof, except to the extent interference shall be a result of the installation, inspection, maintenance, alteration, repair, replacement, operation and removal of the System; provided, however, that Licensee shall reimburse City for any damage to improvements that may result from such installation, inspection, maintenance, alteration, repair, replacement, operation and removal.

(b) If the City desires Licensee to leave any modifications conducted by Licensee in place, then Licensee is permitted to leave it without compensation from the City. If Licensee does not restore modifications and the City does on their behalf, then Licensee shall reimburse the City for the work.

(c) City specifically reserves for itself, other lessees, licensees and assignees of City, all rights which do not materially and adversely interfere with Licensee's use of the Licensed Property; provided, however, that neither City or its lessees, licensees and assignees shall have any right to utilize or have access to the Licensee's electronic equipment, it being expressly acknowledged and agreed that certain portions of the Licensee's electronic equipment may contain confidential or Licensee-protected technology. City represents it will not materially and adversely interfere

with, and will not permit or allow other Licensees or Licensees to materially and adversely interfere with, the rights of Licensee under the terms of this Agreement.

(d) Surrender of Licensed Property. Upon the expiration or earlier termination of this Agreement or on the date specified in any demand for possession by City after any default by Licensee (after any applicable notice and cure periods), Licensee covenants and agrees to surrender possession of the Licensed Property to City in the same condition as when first occupied, ordinary wear and tear excepted.

(e) Removal. Licensee shall remove, at its sole cost, at the expiration or termination of this Agreement, the System and all of Licensee's equipment within 30 days after the date of termination or expiration. If such removal shall injure or damage the Licensed Property, Licensee agrees, at its sole cost, to immediately repair such injury or damage in a good and workmanlike manner and to put the Property in the same condition as it would have been if the System had not been installed, reasonable wear and tear excepted. If Licensee fails to remove the System and Licensee's equipment within 30 days after the expiration or termination of this Agreement, City, at its option, may remove, store and /or dispose of same and retain any proceeds therefrom, and further is entitled to recover any cost of City in removing same and in restoring the Licensed Property.

(f) Holding Over. If Licensee holds over after termination of this Agreement, and so long as the System remains on or within the Licensed Property (even if it has been disconnected) and Licensee's access continues, Licensee shall pay to City a holdover fee equal to 150% of the then total License fee prorated from the effective date of termination or Expiration Date, whichever is applicable, to the date the System is removed from the Property. Nothing herein shall be construed to give Licensee the right to hold over at any time, and City may exercise any and all remedies at law or in equity to recover possession of the Property, as well as any damages incurred by Licensee.

SECTION 7 SPECIAL COVENANTS

7.01 Assignments.

Licensee shall not assign or otherwise transfer its interest in this Agreement, in whole or in part, or any right or interest or interests granted to it by this Agreement, sublet, or otherwise transfer any interest in or to the Licensed Property, without the prior written consent of the City, which consent can be given or denied in City's sole discretion. Notwithstanding the foregoing, Licensee may assign this Agreement in whole to any business entity which is parent, subsidiary, affiliate of Licensee, or to any party that acquires all or substantially all of the Licensee's radio spectrum assets in the Denver market area, by reason of a merger, acquisition or other business reorganization.

7.02 Use, Possession or Sale of Alcohol or Drugs.

Licensee and its officers, agents and employees shall cooperate and comply with the provisions of the City and County of Denver's policy or order or any successor policy or order

concerning the use, possession or sale of alcohol or drugs on City property.

7.03 Smoking Policy.

Licensee and its officers, agents and employees shall cooperate and comply with the provisions of the City's policy or order prohibiting smoking in all indoor facilities and buildings and Licensee agrees it will take reasonable action to prohibit smoking by its employees in the public areas and Licensed Property except in specially designated areas.

SECTION 8 DEFAULT AND REMEDIES

8.01 Default.

Licensee shall be in substantial default under this Agreement if Licensee:

(a) Fails to timely pay within fifteen (15) business days after receipt of written notice from the City that rent, fees or any other payments required hereunder are past due; or

(b) Becomes insolvent, or takes the benefit of any present or future insolvency or bankruptcy statute, or makes a general assignment for the benefit of creditors, or consents to the appointment of a receiver, trustee or liquidator of any or substantially all of its property; or

(c) Transfers its interest under this Agreement, unless such transfer is specifically authorized pursuant to Section 7.01; or

(d) Fails to timely submit plans and specifications, bonds and other pre-construction submittals or, required by the express terms of this Agreement and such failure continues for a period of thirty (30) days after Licensee has received written notice from the City of such failure; or

(e) Abandons, deserts or vacates the Licensed Property or Licensed Area; or

(f) Suffers any materialmen's or mechanic's lien or attachment to be filed against the the System or City's property because of any act or omission of Licensee, and such lien or attachment is not discharged or contested by Licensee in good faith by proper legal proceedings within thirty (30) days after Licensee's receipt of written notice thereof from City; or

(g) Fails to keep, perform and observe any other promise, covenant or agreement set forth in this Agreement and such failure continues for a period of more than thirty (30) days after delivery by City of a written notice of such breach or default, except where a shorter period is specified herein, or where fulfillment of its obligation requires activity over a period of time and Licensee within thirty 30 days of Licensee notice Licensee commences in good faith to perform whatever may be required to correct its failure to perform and continues such performance without interruption except for causes beyond its control; or

(h) Gives its permission to any person to use for any illegal purpose any portion of the

City's property made available to Licensee for its use under this Agreement.

8.02 Remedies.

If Licensee defaults in any of the covenants, terms and conditions herein and such default is not cured within any applicable notice and cure periods, the City may exercise any one or more of the following remedies:

(a) The City may elect to allow this Agreement to continue in full force and effect and to enforce all of City's rights and remedies hereunder, including without limitation the right to collect compensation as it becomes due together with interest; or

(b) The City may cancel and terminate this Agreement and repossess the Licensed Property and/or the System, and without liability for so doing, upon giving 30 days written notice to Licensee of its intention to terminate, at the end of which time all the rights hereunder of the Licensee shall terminate, unless the default, which shall have been stated in such notice, shall have been cured within such 30 days of receipt of such notice. Notwithstanding the foregoing, Licensee shall be allowed only two notices of default hereunder which it may cure within the time specified in this section. The third notice shall be final and shall at the option of City (1) cancel and terminate all of the rights hereunder of the Licensee, and the City may, upon the date specified in such third notice, reenter the Licensed Property and remove therefrom all property of the Licensee and store the same at the expense of the Licensee, or (2) elect to proceed under subparagraph C. below. City is held to a standard of reasonableness in determining whether the default is a minor or substantial default. Termination may be exercised by City only for a substantial default.

If City elects to terminate, Licensee shall be liable to City for all amounts owing at the time of termination, including but not limited to compensation due plus interest thereon together with any other amount to fully compensate City for all loss of compensation, damages, and costs, including reasonable attorney's fees, caused by Licensee's failure to perform its obligations hereunder.

(c) The remedies provided in this Agreement shall be cumulative and shall in no way affect any other remedy available to City under law or equity.

8.03 Dispute Resolution.

All disputes of whatsoever nature between the City and Licensee regarding this Agreement shall be resolved by administrative hearing, pursuant to the procedure established by Denver Revised Municipal Code, Section 56-106. For the purpose of that procedure, the City official rendering a final determination shall be the Director.

8.04 No Waiver.

No failure of City to insist upon the strict performance of a term, covenant or agreement contained in this Agreement shall be deemed or taken to be a waiver by the City of any succeeding or other breach.

**SECTION 9
LOSS OF AND LIABILITIES
PERTAINING TO THE SYSTEM**

9.01 Damage or Destruction and Restoration.

In case of damage or loss of all or any portion of the System, the Licensee will give prompt notice thereof to the City; and, except as otherwise provided herein, the Licensee shall promptly commence and complete with due diligence (subject to delays beyond its control), the restoration of the System as nearly as reasonably practicable to the value and condition thereof immediately prior to such damage or destruction. In the event of such damage or destruction, the Licensee shall be entitled to use or receive reimbursement from the proceeds of all property insurance policy or policies for the System and shall be obligated to provide any additional moneys necessary for such restoration.

9.02 Licensee's Election Not to Restore Damaged Property.

In case of the damage or destruction of all or any part of the System, Licensee, within 90 days thereafter may elect not to restore or replace the System, and this Agreement shall be terminated. Licensee must notify the City within 90 days of damage or destruction to all or any part of the System of its intentions regarding restoring or replacing its System. Within 180 days after the Licensee elects not to restore or replace the System, the City may restore the Licensed Property at the Licensee's expense as nearly as reasonably practicable to the value and condition thereof immediately prior to the commencement of the acquisition, installation and construction of the System, and the Licensee shall be obligated to reimburse the City for the costs of such restoration, except to the extent any proceeds of insurance in excess of such requirements are available to defray such restoration costs. There shall not be included in the computation of said 180-day period any periods during which it is impracticable for the City to proceed with such restoration because of war, strike or other reason beyond the control of the City.

**SECTION 10
MISCELLANEOUS PROVISIONS**

10.01 Force Majeure.

Neither party hereto shall be liable to the other for any failure, delay or interruption in the performance of any of the terms, covenants or conditions of this Agreement due to causes beyond the control of that party, including without limitation strikes, boycotts, labor disputes, embargoes, shortages of materials, acts of God, acts of the public enemy, acts of superior governmental authority, weather conditions, floods, riots, rebellion, sabotage or any other circumstance for which such party is not responsible or which is not in its power to control, but in no event shall this paragraph be construed so as to allow Licensee to reduce or abate its obligation to pay the fees herein.

10.02 [Intentionally omitted]

10.03 Paragraph Headings.

The paragraph headings herein are for convenience in reference only and are not intended to define or limit the scope of any provision of this Agreement

10.04 Security.

Should Licensee require access into a secure area, to include but not limited to event and meeting area(s) which may require prior approval or escort, then its employees, agents, directors, officers or subcontractors requiring such access must obtain proper Licensee ID badge(s) as required by the Director in order to have such access. City is not required to escort Licensee, its employees, agents, directors, officers or subcontractors, but may elect to do so at Licensee's expense based on unusual circumstances.

It is understood and agreed by Licensee that in addition to Licensee's responsibilities to maintain the Property as provided herein, it shall take reasonable security precautions to maintain the Property in a manner as to keep it secure from unauthorized intrusion.

10.05 Third Parties.

This Agreement does not, and shall not be deemed or construed to, confer upon or grant to any third party or parties any right to claim damages or to bring any suit, action or other proceeding against either the City or the Licensee because of any breach hereof or because of any of the terms, covenants, agreements and conditions herein.

10.06 Notices.

All legal and administrative notices hereunder shall be given to the following by hand delivery or by certified mail, return receipt requested:

City:

City and County of Denver
Director, Arts & Venues Denver
1345 Champa Street
Denver, CO 80204

and

Venue Director
Red Rocks Amphitheatre
4600 Humboldt Street
Denver, CO 80216

Licensee:

T-Mobile USA, Inc.
12920 SE 38th Street
Bellevue, Washington 98006
Attn: Lease Compliance / Site No. DNYH027

Licensee and City shall designate local contact personnel for operational and otherwise day-to-day business communications. Any changes to this contact information shall be provided immediately once known.

10.07 City and County of Denver Law and Venue.

This Agreement and performance hereunder shall be deemed to have been made in and shall be governed by and construed in accordance with the laws of the City and County of Denver. Venue for any action to enforce the provisions of this Agreement shall be in the District Court in and for the City and County of Denver.

10.08 Examination of Records.

Licensee agrees that any duly authorized representative of the City, including the City Auditor or his representative, shall, until the expiration of three (3) years after the final payment under this Agreement, have access to and the right to examine Licensee, any directly pertinent books, documents, papers and records of the Licensee, involving transactions related to this Agreement.

10.09 Parties' Obligation Regarding Confidential Information.

The Parties agree that issues governing the use and disclosure of Confidential Information, as defined below, provided to or made available to the City by Licensee will be governed by the following provisions:

(a) Definition of Confidential Information. As used in this Agreement, the term "Confidential Information" means all information, of any nature and in any form, regardless of when given, that (i) is disclosed or provided by or through Licensee to the City pursuant to performance of this Agreement, including but not limited to documents referenced in subsection (e) hereof; and (ii) has been clearly marked or indicated in writing as being confidential by Licensee. Information falling within this definition shall be treated by the City as confidential proprietary information of Licensee pursuant to the provisions of the Colorado Open Records Act and under any rule of court. Information not so marked or indicated will not be so considered.

(b) Use of Confidential Information. Except as expressly provided in this Agreement or as otherwise mandated by the Colorado Open Records Act, or other applicable law, the City will not disclose Confidential Information to anyone without the prior written consent of Licensee. The City will not use, or permit others to use, Confidential Information for any purpose other than actions incidental to the performance and enforcement of this Agreement

between the City and Licensee, including but not limited to auditing of records of Licensee by the City Auditor and/or other representatives of the City. The City will take all reasonable measures to avoid disclosure, dissemination or unauthorized use of Confidential Information, including, at a minimum, those measures that it takes to protect its own Confidential Information of a similar nature.

(c) Open Records Requests. The Parties recognize that the mere marking of a document as “Confidential” does not render it conclusively confidential under the Colorado Open Records Act. Consequently, in the event that the City is served with an Open Records Request or subpoena from any third party requesting all or part of any Confidential Information as defined herein, the City shall give timely notice to Licensee of such request or subpoena within the time parameters of the Colorado Open Records Act or of any applicable court rule. In that event, Licensee agrees upon receipt of actual notice from the City of such Open Records Request or subpoena to immediately undertake to defend such Confidential Information from disclosure pursuant to the Colorado Open Records Act or applicable court rule and shall defend, save and hold harmless and indemnify the City and its agents and employees with respect to such issues.

(d) Licensee shall not at any time or in any manner, either directly or indirectly, divulge, disclose or communicate to any person, firm or corporation in any manner whatsoever any information concerning any matters which are not subject to public disclosure, including without limitation the trade secrets of businesses or entities doing business with the City and other privileged or confidential information.

10.10 Entire Agreement.

The parties acknowledge and agree that the provisions contained herein, including all exhibits attached hereto, constitute the entire agreement and that all representations made by any officer, agent or employee of the respective parties unless included herein are null and void and of no effect. No alterations, amendments, changes or modifications, unless expressly reserved to the City herein, shall be valid unless executed by an instrument in writing by all the parties with the same formality as this Agreement.

10.11 Time of Essence.

The parties agree that in the performance of the terms and requirements of this Agreement by Licensee and the City, time is of the essence.

10.12 Nondiscrimination.

In connection with the performance of work under the Agreement, the Licensee may not refuse to hire, discharge, promote or demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, gender variance, marital status, or physical or mental disability. The Licensee shall insert the foregoing provision in all subcontracts hereunder.

10.13 City’s Execution of Agreement.

This Agreement is expressly subject to, and shall not be or become effective or binding on the City until executed by all required City signatories.

[BALANCE OF PAGE INTENTIONALLY LEFT BLANK]

Contract Control Number:

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of

SEAL

CITY AND COUNTY OF DENVER

ATTEST:

By _____

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By _____

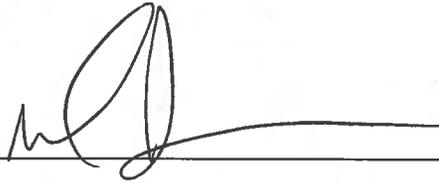
By _____

By _____



Contract Control Number: THTRS-201733538-00

Contractor Name: T-Mobile West LLC

By:  _____

Name: MICHAEL SIMPSON
(please print)

Approved as to Form
Caroleen Fleming

Title: SVP, PROCUREMENT PLANNING & Development
(please print)

ATTEST: [if required]

By: _____

Name: _____
(please print)

Title: _____
(please print)



EXHIBIT A
LICENSED AREA

(Attached)



Site Name: RED ROCKS DAS
 Site Number: DNYH027A
 Site Address: 18300 WEST ALAMEDA PARKWAY
 MORRISON, CO 80401



PROJECT INFORMATION:
 SITE NAME:
 RED ROCKS DAS
 SITE ID:
 DNYH027A
 18300 WEST ALAMEDA PARKWAY
 MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

VICINITY MAP

SITE INFORMATION

DRAWING INDEX



PROPERTY OWNER:
 CITY AND COUNTY OF DENVER

APPLICANT:
 T-MOBILE WEST LLC
 18400 E 22ND AVE
 AURORA, CO 80011
 303.295.1956

A&E
 CENTERLINE SOLUTIONS
 16360 TABLE MOUNTAIN PARKWAY
 GOLDEN, CO 80403

JURISDICTION:
 JEFFERSON COUNTY

GOVERNING CODES, AS APPLICABLE:
 2012 IBC, 2012 IFC, 2012 IMC, 2009 IECC,
 2014 NEC

RFDS DATE:
 6/27/2017

A.D.A. COMPLIANCE:
 NOT REQUIRED PER IBC 1103.2.9.

T1	TITLE SHEET
A1	HEAD END PLANS
A2	EQUIPMENT ELEVATIONS AND RF SCHEMATIC
E1	ELECTRICAL PLAN AND ONE-LINE DIAGRAM (PARTIAL)
E2	PANEL SCHEDULE
G1	GROUNDING PLAN AND DETAILS
GN1	GENERAL NOTES
GN2	GENERAL NOTES
GN3	GENERAL NOTES

SITE PHOTO



PROJECT DESCRIPTION

INSTALL T-MOBILE BTS SOURCE EQUIPMENT IN EXISTING EQUIPMENT ROOM TO PROVIDE CELLULAR COMMUNICATIONS COVERAGE TO RED ROCKS AMPHITHEATER.

DRIVING DIRECTIONS TO SITE

FROM 18400 E 22ND AVE, GO NORTH ON TOWER ROAD TO I-70. GO WEST ON I-70 TO EXIT 259 (CR-93). GO SOUTH ON COUNTY ROAD 93 1.5 MI TO ALAMEDA PARKWAY. TURN RIGHT AND DRIVE UP THE ROAD TO THE SITE.

GENERAL CONSTRUCTION NOTES

1. THE FACILITY IS AN UNOCCUPIED WIRELESS FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
5. CONTRACTOR SHALL CONTACT LOCAL DIGGERS HOTLINE 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
7. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. FOLLOW DIA STANDARDS AND PROCEDURES.

PLANS PREPARED BY:



LICENSURE NO:



ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY: JND CHK BY: AG APV BY: PK

JND	AG	PK
-----	----	----

Sheet Title:

TITLE SHEET

Sheet Number:

T1

PROJECT INFORMATION:

SITE NAME:
RED ROCKS DAS
SITE ID:
DNYH027A

18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:



16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO.:

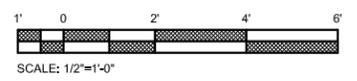
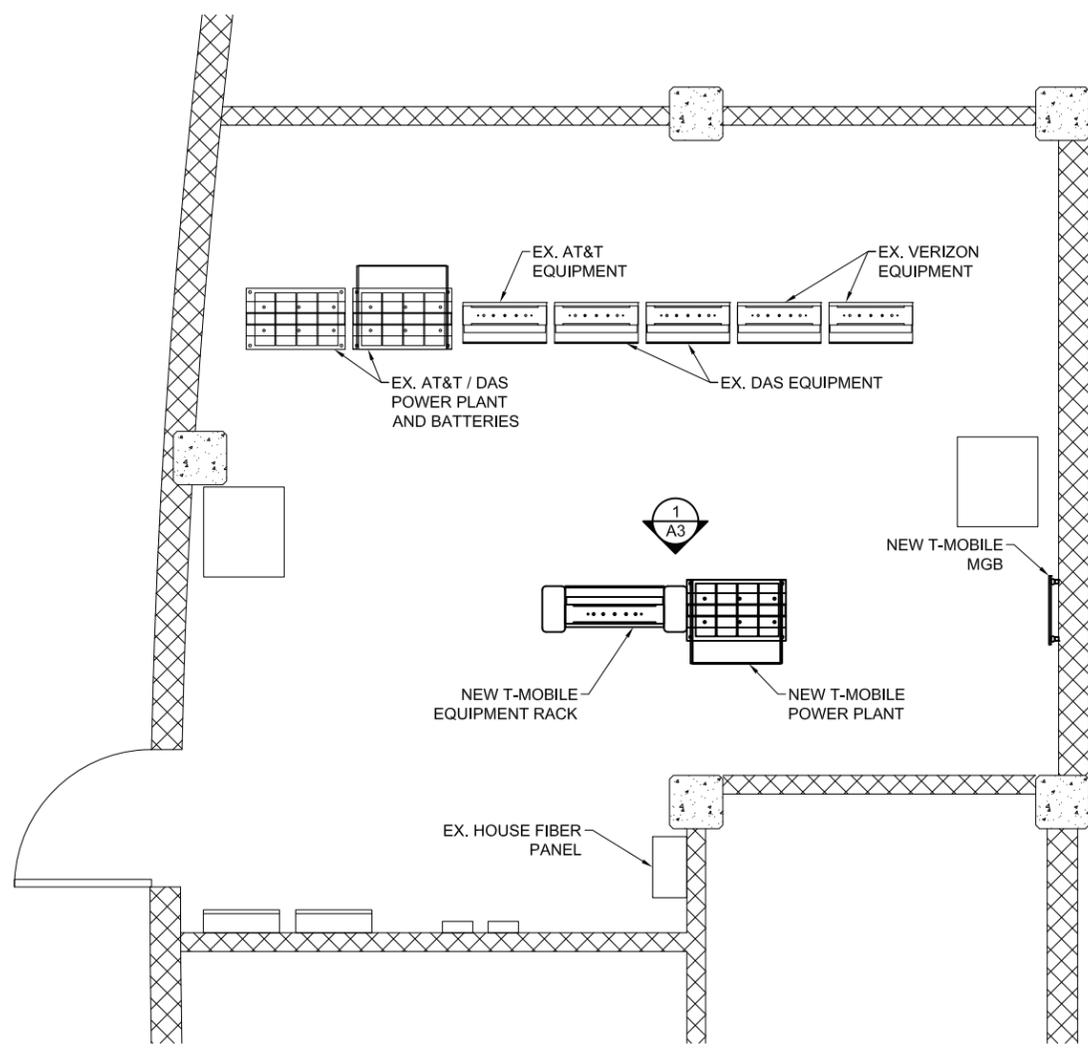


ALL SCALES ARE SET FOR 24"x36" SHEET

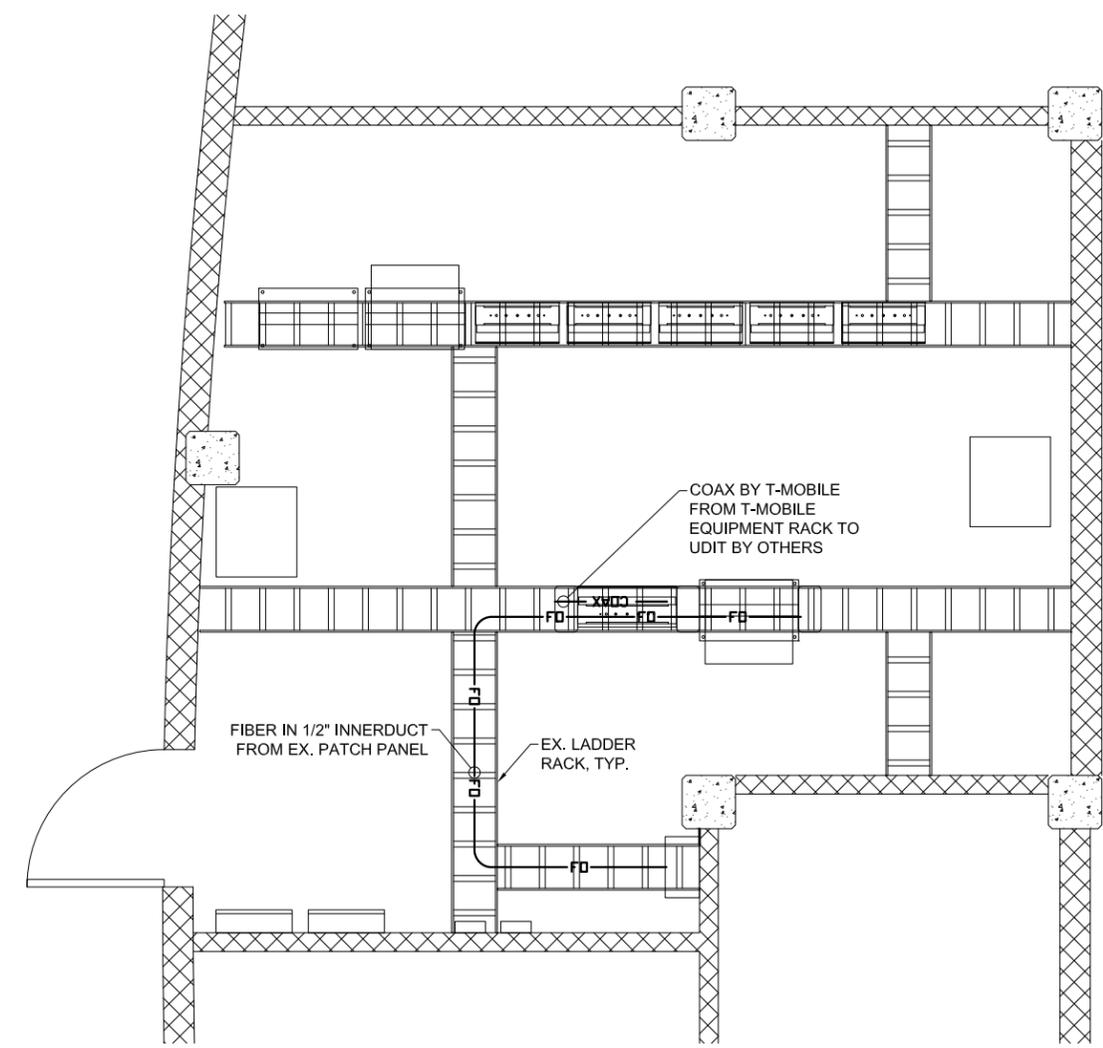
DRAWN BY:	CHK BY:	APV BY:
JND	AG	PK

Sheet Title:
**HEAD END
PLANS**

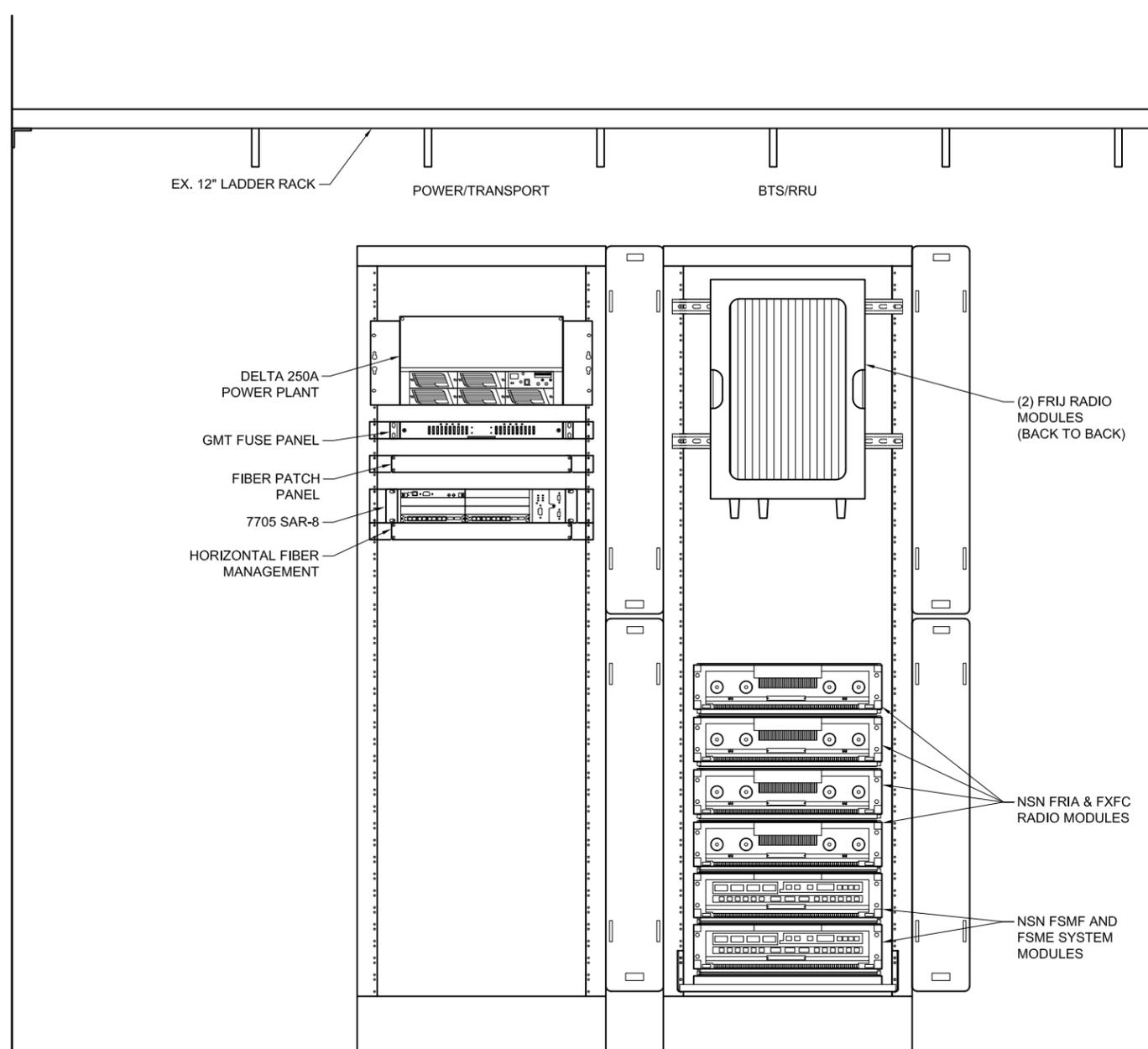
Sheet Number:
A1



1 EQUIPMENT PLAN
SCALE: 1/2" = 1'-0"



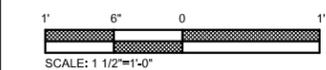
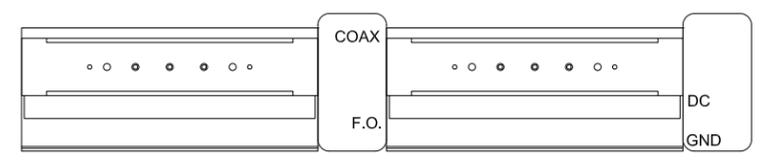
2 REFLECTED CEILING PLAN
SCALE: 1/2" = 1'-0"



1 NEW EQUIPMENT ELEVATION

SCALE: 1 1/2" = 1'-0"

NOTE:
SUPPORT COAX, DC, GROUNDING,
AND FIBER OPTIC CABLES PER
T-MOBILE SPECIFICATIONS.

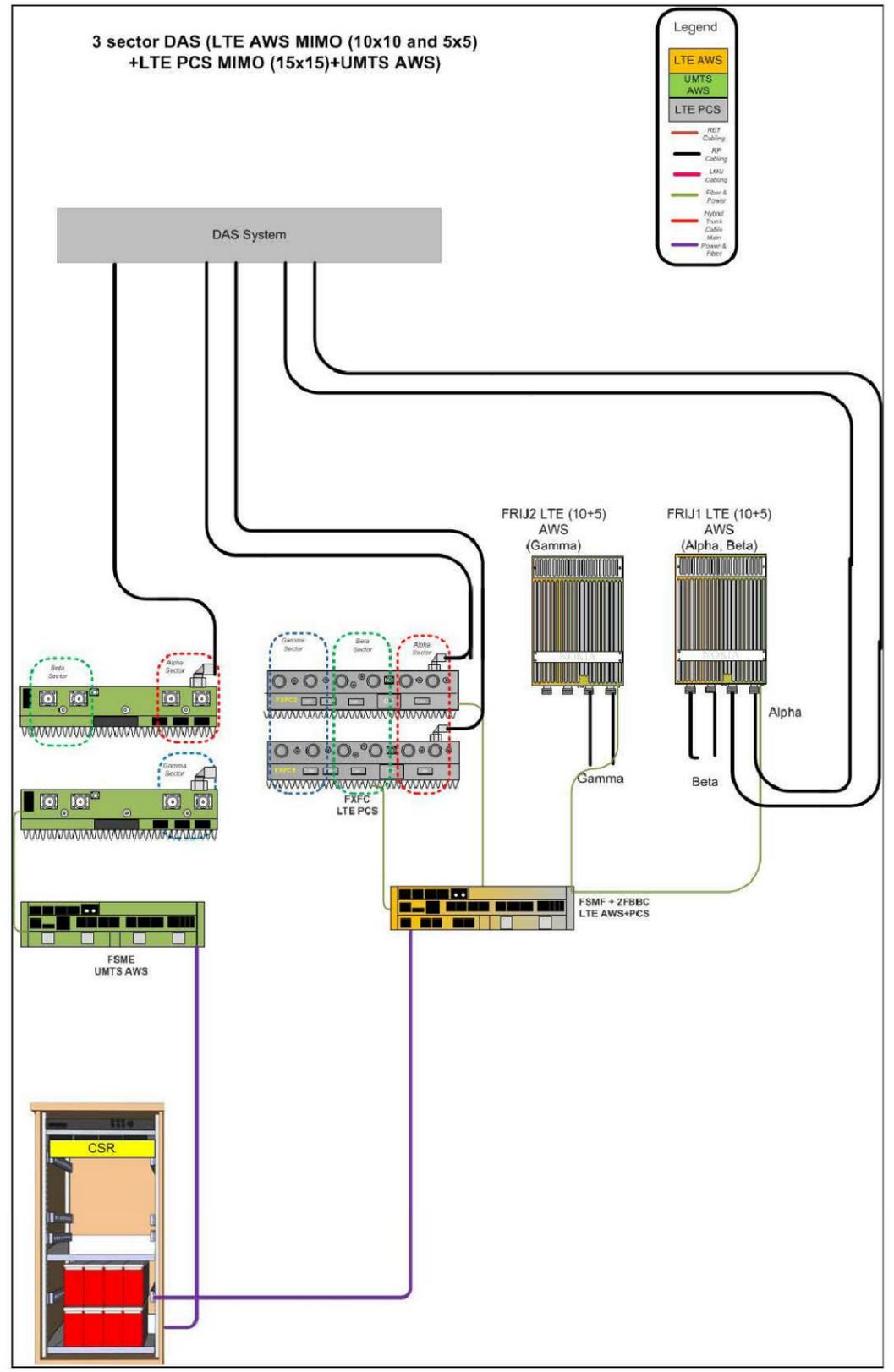


2 EQUIPMENT RACK CABLE ROUTING

SCALE: 1-1/2" = 1'-0"

6/27/2017

rfds.eng.t-mobile.com/DataSheet/Printout/11515186



NOTE:
CONTRACTOR TO USE ONLY T-MOBILE APPROVED CONNECTORS, CABLE AND COMPONENTS, CONTRACTOR TO PROVIDE ALL CABLING NECESSARY TO ATTACH TO DAS AND VERIFY PASSING TEST RESULTS PRIOR TO TURN-UP. CONTRACTOR TO FIELD VERIFY ALL CABLING (TERMINATIONS / LENGTHS) PRIOR TO ORDERING.

3 SCHEMATIC RF DIAGRAM

SCALE: N.T.S.

T-Mobile
18400 EAST 22ND AVENUE
AURORA, CO 80011

PROJECT INFORMATION:
SITE NAME:
RED ROCKS DAS
SITE ID:
DNYH027A
18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:
CENTERLINE SOLUTIONS
Advancing Wireless Networks
16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO:
COLORADO LICENSED
CHRISTOPHER JAMES SCOTT
34610
02/02/2018
PROFESSIONAL ENGINEER

ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY:	CHK BY:	APV BY:
JND	AG	PK

Sheet Title:
EQUIPMENT ELEVATIONS AND RF SCHEMATIC

Sheet Number:
A2

PROJECT INFORMATION:

SITE NAME:
RED ROCKS DAS
SITE ID:
DNYH027A

18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:



16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO:



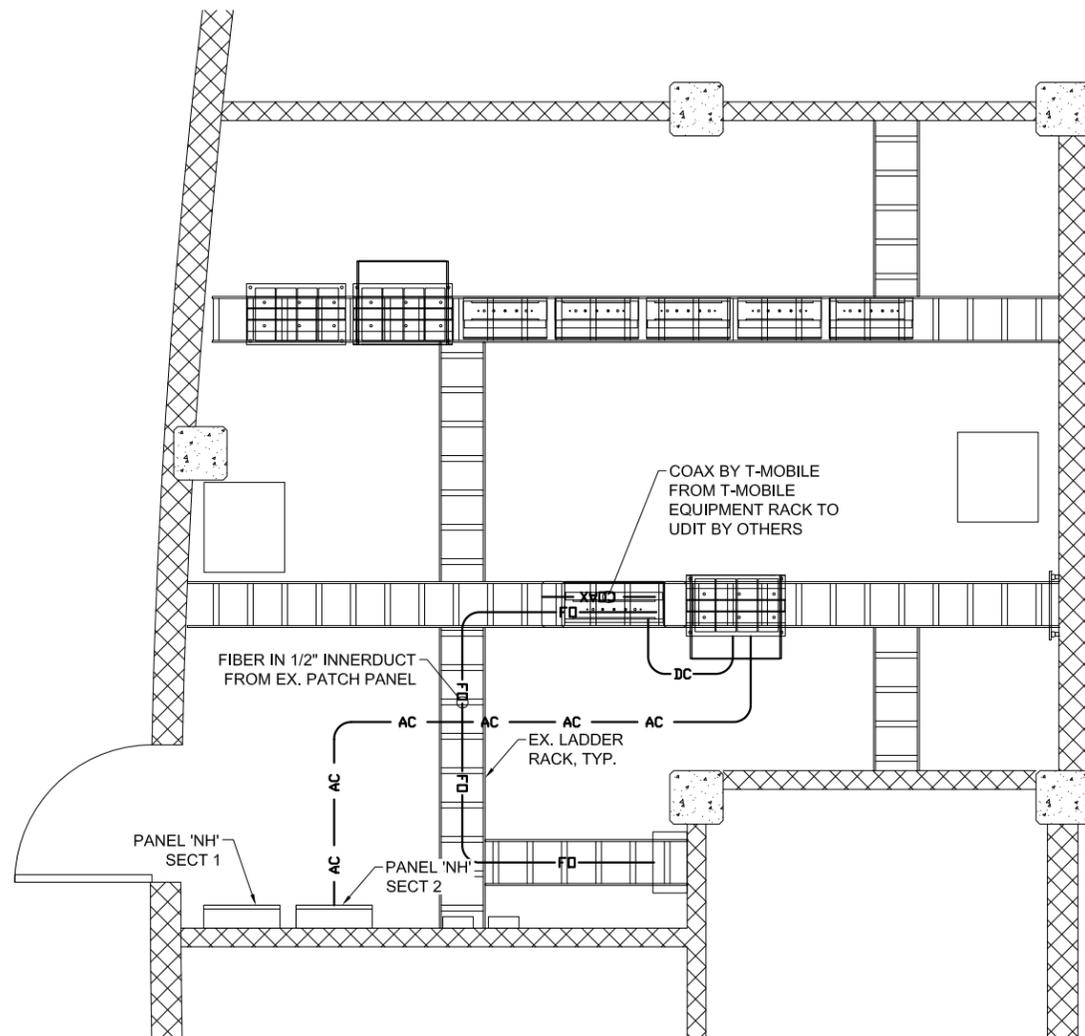
ALL SCALES ARE SET FOR 24"x36" SHEET

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JND	AG	PK

Sheet Title:
**ELECTRICAL PLAN,
& ONE-LINE DIAGRAM
(PARTIAL)**

Sheet Number:

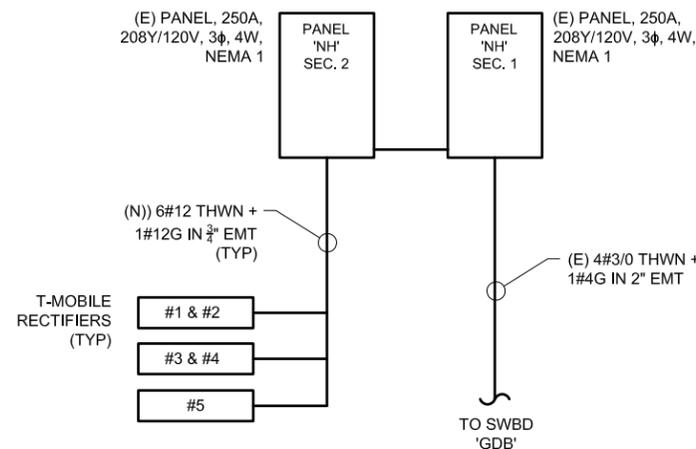
E1



SCALE: 1/2"=1'-0"

1 ELECTRICAL PLAN

SCALE: 1/2"=1'-0"



2 ONE-LINE DIAGRAM (PARTIAL)

SCALE: NTS

PROJECT INFORMATION:

SITE NAME:
RED ROCKS DAS
SITE ID:
DNYH027A

18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev: Date: Description: By:

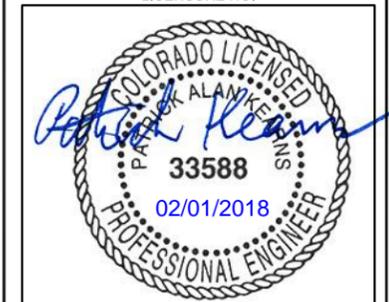
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:



16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO:



ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY: CHK BY: APV BY:

JND	AG	PK
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Sheet Title:

PANEL SCHEDULE

Sheet Number:

E2

PANEL NAME	NH - SEC. 1	
VOLTAGE RATING	208Y/120	VAC
CONN. LINE VOLTAGE	208	VAC
PHASE	3 WIRE	4
BUS TYPE	MAIN BREAKER	
BUS RATING	200	AMPS
MAIN BREAKER	---	
BREAKER TYPE	PLUG-IN	
INTERRUPTING RATING	22	KAIC

ENCL. TYPE	NEMA 1
MOUNTING TYPE	SURFACE
LOCKABLE CABINET?	NO
DOOR-IN-DOOR?	NO
MFR.	SIEMENS ITE
MODEL	TYPE P1
CAT. NO.	---
SERIES RATED BY MFR?	NO
FUSE TYPE	NA

PANEL NAME	NH - SEC. 2
------------	-------------

NOTES:

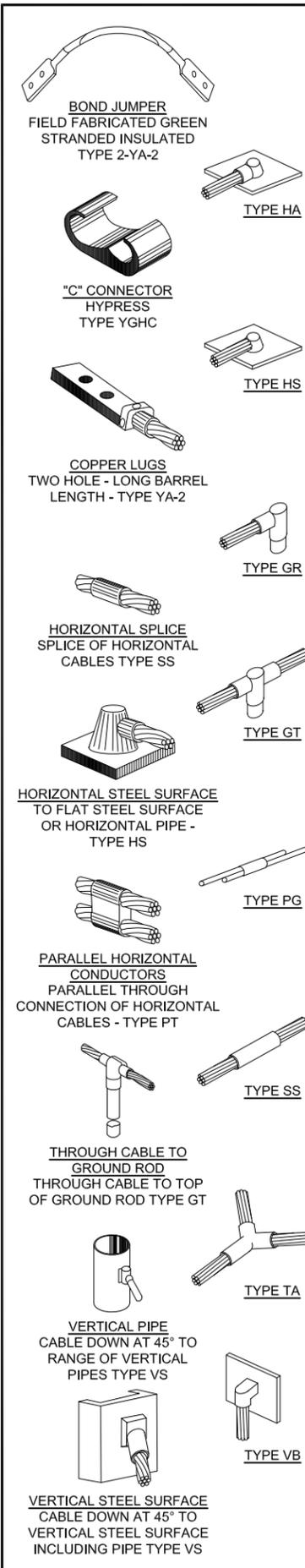
1. ONLY A PERCENTAGE OF THE RECTIFIERS ARE REQUIRED TO MEET LOAD. MULTIPLE RECTIFIERS ARE INSTALLED FOR REDUNDANCY. EQUIPMENT LOADS ARE REDUCED PER NEC 220.60.
2. NEW LOADS ARE SHOWN IN BOLD.

LOAD	POS	CB	A	B	C	CB	POS	LOAD
RECEPTACLE	1	1P20	540				2	
RECEPTACLE	3	1P20		540		3P40	4	CU #1
SMOKE DETECTOR	5	1P20			180		6	
AC CONTROL	7	1P20	180				8	
AT&T RECTIFIER #1	9	2P20		1560		3P40	10	CU #2
AT&T RECTIFIER #2	13	2P20	1560	312		2P15	14	FCU -1
AT&T RECTIFIER #3	17	2P20	1560		312	2P15	18	FCU-2
AT&T RECTIFIER #4	21	2P20		1560	120	1P20	22	HYDROGEN SENSOR
AT&T RECTIFIER #5	25	2P20	1560	360		1P20	26	CEILING RECEPT.
AT&T RECTIFIER #6	29	2P20		1560			30	SPACE
SPACE	33						34	SPACE
SPACE	35						36	SPACE
SPACE	37						38	SPACE
SPACE	39						40	SPACE
SPACE	41						42	SPACE

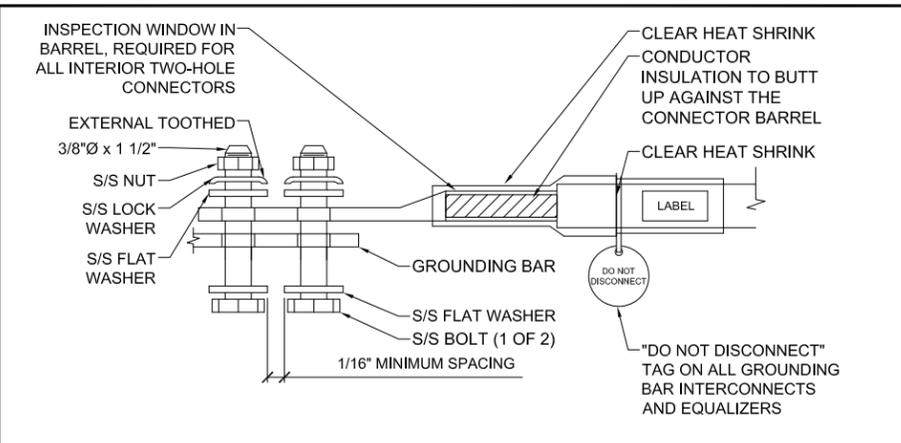
LOAD	POS	CB	A	B	C	CB	POS	LOAD
VERIZON RECTIFIER #1	43	2P20	1512	1512		2P20	44	VERIZON RECTIFIER #6
VERIZON RECTIFIER #2	47	2P20	1512	1512		2P20	48	VERIZON RECTIFIER #7
VERIZON RECTIFIER #3	51	2P20	1512	1512		2P20	52	VERIZON RECTIFIER #8
VERIZON RECTIFIER #4	55	2P20	1512	1512		2P20	56	VERIZON RECTIFIER #9
VERIZON RECTIFIER #5	59	2P20	1512	1512		2P20	60	VERIZON RECTIFIER #10
T-MOBILE RECTIFIERS #1 & #2	63	2P40		3480	1740	2P40	64	T-MOBILE RECTIFIER #5
T-MOBILE RECTIFIERS #3 & #4	67	2P40	3480		1740		68	SPACE
SPACE	71						72	SPACE
SPACE	73						74	SPACE
SPACE	75						76	SPACE
SPACE	77						78	SPACE
SPACE	79						80	SPACE
SPACE	81						82	SPACE
SPACE	83						84	SPACE
TOTAL			15576	17772	14292			

SECT. 1	11976	11244	11340
SECT. 2	15576	17772	14292
TOTAL	27552	29016	25632

LOAD TYPE	CONN. LOAD	NEC D.F.	NEC LOAD	TOTAL LOAD
RECEPTACLES < 10 KVA	1440	x 100%	= 1440	41 KVA
RECEPTACLES > 10 KVA	---	x 50%	= ---	57 %
LIGHTING	576	x 125%	= 720	115 AMPS
UNITARY HVAC	13344	x 100%	= 13344	
RECTIFIERS - FIRST 40% [1]	25296	x 100%	= 25296	
RECTIFIERS - REMAINING [1]	41064	x 0%	= 0	
OTHER	480	x 100%	= 480	
TOTAL	82200		41280	



1 TYPICAL CADWELDS
SCALE: N.T.S.

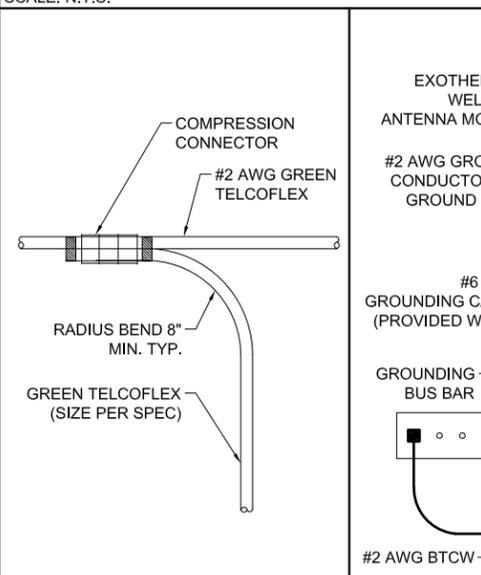


2 INTERIOR TWO HOLE LUG
SCALE: N.T.S.

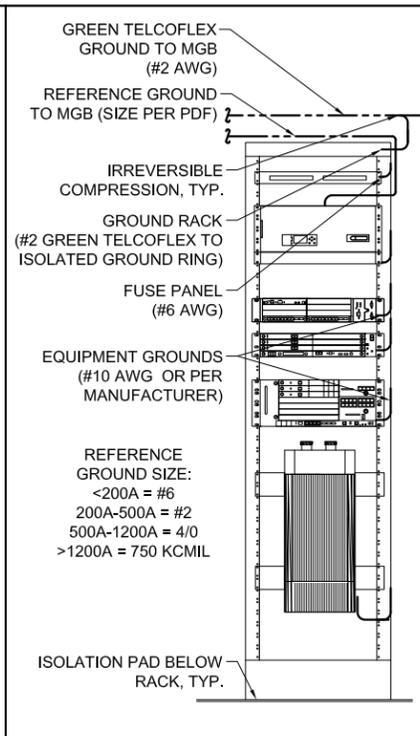
PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	GB-0412.01	1/4"x4"x12" BUSS BAR	1
2	MT-500	1-1/4" U-FITTING	2
3	GL-S0320	3/8" GALV. LAG SCREWS	4
4	LS-G03S	3/8" LAG SHIELD	4
5	SB-0306	3/8" X 3/4" SS BOLT	4
6	SW-L03	3/8" SS LOCK WASHER	4
7	MT-520	3/8" THREADED INSULATOR	2

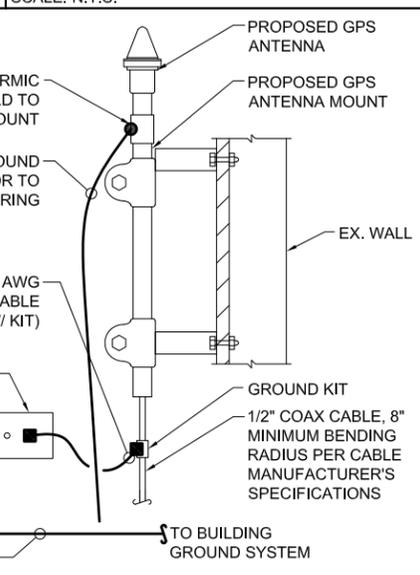
3 T-MOBILE MAIN GROUND BAR
SCALE: N.T.S.



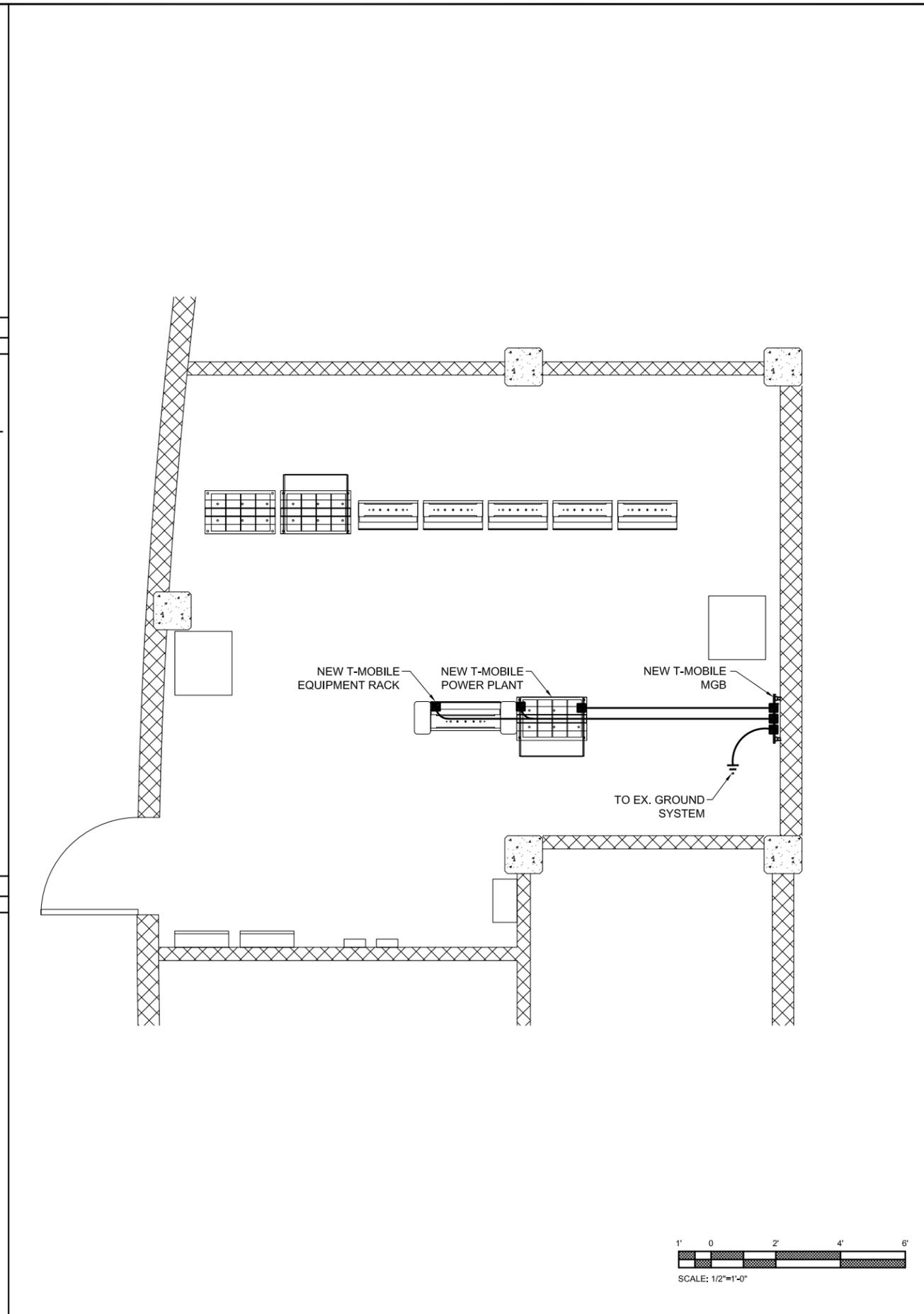
5 TYP. GROUND SPLICE
SCALE: N.T.S.



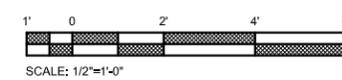
4 RACK GROUNDING
SCALE: N.T.S.



6 GPS ANTENNA GROUNDING
SCALE: N.T.S.



7 GROUNDING PLAN
SCALE: 1/2"=1'-0"



T-Mobile
18400 EAST 22ND AVENUE
AURORA, CO 80011

PROJECT INFORMATION:

SITE NAME:	RED ROCKS DAS
SITE ID:	DNYH027A
18300 WEST ALAMEDA PARKWAY MORRISON, CO 80401	

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:

CENTERLINE SOLUTIONS
Advancing Wireless Networks
16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
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LICENSURE NO:

Robert Klean
33588
02/01/2018
PROFESSIONAL ENGINEER

ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY: CHK BY: APV BY:

JND	AG	PK
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Sheet Title:
GROUNDING DETAILS

Sheet Number:
G1

GENERAL CONSTRUCTION NOTES:

GENERAL CONSTRUCTION

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
GENERAL CONTRACTOR: T.B.D.
CONTRACTOR: T.B.D.
OWNER: T-MOBILE
- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND T-MOBILE PROJECT SPECIFICATIONS.
- GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
- GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
- ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
- WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
- THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND RF. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
- ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
- OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY T-MOBILE TECHNICIANS.

- ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS. IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
- CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
- ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

ANTENNA MOUNTING

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSITIA-222 OR APPLICABLE LOCAL CODES.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
- ALL UNUSED PORTS ON ANY ANTENNA SHALL BE COVERED WITH CONCEALOR CAP WITH PROPER WEATHER PROOFING OR BE TERMINATED WITH A 50 Ω LOAD.
- PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5° AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5° AS DEFINED BY THE RFDS. REFER TO ND-00246.
- CONTRACTOR SHALL RECORD THE SERIAL #, HEAD END SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO T-MOBILE.

TORQUE REQUIREMENTS

- ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
- ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
- ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
- ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
- ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
- ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
- ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).

FIBER & POWER CABLE MOUNTING

- THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (6) SIX FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
- THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION: WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
- WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES

- CONTRACTOR MUST FOLLOW T-MOBILE DAS IDAS/VENUE CABLING REQUIREMENTS..
- TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 LATEST VERSION.
- ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".
- ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 5'-0" OC.
- CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
- CONTRACTOR SHALL WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH T-MOBILE STANDARDS.
- THE SECURING OF CABLING SHALL BE UTILIZED BY ONLY 9 PLY POLYESTER TWINE WILL BE USED TO SECURE CABLES WITH THE EXCEPTION OF ETHERNET AND FIBER CABLES WITHIN THE CABINET OR VERTICAL RUNS DOWN RELAY RACKS. VELCRO STRAPS CAN BE USED FOR THIS APPLICATION ONLY.
- ALL CABLES ENTERING EQUIPMENT FRAMES/CABINETS SHALL BE SEPARATED BY A MINIMUM OF 2" (POWER, GROUNDING, ETHERNET, COAXIAL AND FIBER).
- CABLES AND WIRES ON HORIZONTAL CABLE RACKS SHALL BE SECURED WITH 9 PLY POLYESTER TWINE AT THE FIRST AND

LAST STRAP, AND AT INTERVALS NOT TO EXCEED 3'. ON VERTICAL AND INVERTED CABLE RACKS, CABLES SHALL BE SECURES AT EVERY STRAP.

- T-MOBILE DAS EQUIPMENT & CABLE CODING STANDARDS SHALL BE USED FOR ALL EQUIPMENT, COAXIAL AND FIBER CABLE CODING. T-MOBILE SPECIFICATIONS SHALL BE FOLLOWED FOR THE STANDARDS ON LABELING ETHERNET, POWER AND GROUNDING CABLES.
- ALL 145P TYPE TAGS SHALL BE SECURED WITH MULTI-STRAND WAXED CORD, WITH A SUFFICIENT PIGTAIL TO ALLOW THE TAG TO BE ROTATED FOR VIEWING. THE TAG SIZE SHALL BE BETWEEN 3/4" TO 1" WIDE, BY 1 1/4" TO 1 3/4" IN LENGTH.
- MANUFACTURER SUPPLIED FIBER OPTIC WARNING LABELS SHALL BE APPLIED TO THE EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS.

GENERAL CABLE AND EQUIPMENT NOTES

- CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED. SELF BONDING TAPE AND PLASTIC ENCLOSURES ALSO PERMITTED PER T-MOBILE SPECIFICATIONS.
- IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
A. TEMPERATURE SHALL BE ABOVE 50° F.
B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.
- ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
A. GROUNDING AT THE ANTENNA LEVEL.
B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.
C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
- ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION IS THE CORRECT MAKE AND MODELS, PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.
- ANTENNA CONTRACTOR SHALL FURNISH AND INSTALL A 12'-0" T-BOOM HEAD END SECTOR ANTENNA MOUNT, IF APPLICABLE, INCLUDING ALL HARDWARE.



PROJECT INFORMATION:
SITE NAME:
RED ROCKS DAS
SITE ID:
DNYH027A
18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:

Advancing Wireless Networks

16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO:

ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY: CHK BY: APV BY:

JND	AG	PK
-----	----	----

Sheet Title:
GENERAL NOTES

Sheet Number:
GN1

GENERAL ELECTRICAL NOTES:

PART 1 - GENERAL

1.1 GENERAL CONDITIONS:

- A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID, ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
- B. THE CONTRACTOR SHALL OBTAIN PERMITS, LICENSES, MAKE ALL DEPOSITS, AND PAY ALL FEES REQUIRED FOR THE CONSTRUCTION PERFORMANCE FOR THE WORK UNDER THIS SECTION.
- C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DRAWING SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

- A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE LATEST EDITIONS OF NEC.

1.3 REFERENCES:

- A. THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE. THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTED, EXCEPT AS MODIFIED BY THE REQUIREMENT SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISION OF THESE PUBLICATIONS.

- 1. ANSIIIEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
- 2. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
- 3. ICE (INSULATED CABLE ENGINEERS ASSOCIATION)
- 4. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
- 5. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
- 6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
- 7. UL (UNDERWRITERS LABORATORIES, INC.)
- 8. T-MOBILE GROUNDING AND BONDING STANDARDS

1.4 SCOPE OF WORK:

- A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL, AND ASSOCIATED SERVICES REQUIRED TO COMPLETE REQUIRED CONSTRUCTION AND BE OPERATIONAL.
- B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE CONTRACTOR.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OF EXCESS DIRT.
- D. THE CONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF A FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.
- E. THE CONTRACTOR SHALL PREPARE A COMPLETE SET OF AS-BUILT DRAWINGS, DOCUMENT ALL WIRING EQUIPMENT CONDITIONS, AND CHANGES WHILE COMPLETING THIS CONTRACT. THE AS-BUILT DRAWINGS SHALL BE SUBMITTED AT COMPLETION OF THE PROJECT.

PART 2 - PRODUCTS

2.1 GENERAL:

- A. ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED, NEW, AND FREE FROM DEFECTS.
- B. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.
- C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AIC MINIMUM, VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PER THE GOVERNING JURISDICTION.

2.2 MATERIALS AND EQUIPMENT:

- A. CONDUIT:
 - 1. RIGID METAL CONDUIT (RMC) SHALL BE HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.
 - 2. LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.
 - 3. CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON, ALL FITTINGS SHALL BE COMPRESSION AND CONCRETE TIGHT TYPE, GROUNDING BUSHINGS WITH INSULATED THROATS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.
 - 4. NONMETALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC, INSTALL USING SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.

B. CONDUCTORS AND CABLE:

- 1. CONDUCTORS AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THWN-2, 600 VOLT, SIZE AS INDICATED, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.
- 2. #10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND #8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED.
- 3. SOLDERLESS, COMPRESSION-TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTORS.
- 4. STRAIN-RELIEF SUPPORTS GRIPS SHALL BE HUBBELL KELLEMS OR APPROVED EQUAL, CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURER'S RECOMMENDATIONS. ALL CONDUCTORS SHALL BE TAGGED AT BOTH ENDS OF THE CONDUCTOR, AT ALL PULL
- 5. BOXES, J-BOXES, EQUIPMENT AND CABINETS AND SHALL BE IDENTIFIED WITH APPROVED PLASTIC TAGS (ACTION CRAFT, BRADY, OR APPROVED EQUAL).

C. DISCONNECT SWITCHES:

- 1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE-D OR ENGINEERED APPROVED EQUAL.

D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:

- 1. INSTALL CHEMICAL GROUNDING AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE ELECTRODE CONSISTING OF RODS WITH A MINIMUM #2 AWG CU EXOTHERMALLY WELDED PIGTAIL, PROTECTIVE BOXES, AND BACKFILL MATERIAL, MANUFACTURER SHALL BE LYNCOLE XIT GROUNDING ROD TYPES K2L(*)CS OR K2L(*)CS (*) LENGTH AS REQUIRED.
- 2. GROUND ACCESS BOX SHALL BE A POLYPLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, XIT MODEL #XB-22, ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS ID NUMBERING, AND THE ELECTRICAL POWER SOURCE.
- 3. BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL.

E. SYSTEM GROUNDING:

- 1. ALL GROUNDING COMPONENTS SHALL BE TINNED AND GROUNDING CONDUCTOR SHALL BE #2 AWG BARE, SOLID, TINNED, COPPER, ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.
- 2. GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION, STANDARD BUS BARS MGB, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD. ALL GROUNDING BUSES SHALL BE IDENTIFIED WITH MINIMUM 3/4" LETTERS BY WAY OF STENCILING OR DESIGNATION PLATE.
- 3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED, USE TWO-HOLE COMPRESSION LUGS WITH CLEAR HEAT SHRINK FOR MECHANICAL CONNECTIONS. USE TWO-HOLE COMPRESSION LUGS WITH INSPECTION WINDOW AND CLEAR HEAT SHRINK.
- 4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
- 5. GROUND RODS SHALL BE ERICO #615800, COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE, 5/8"x10'-0". ALL GROUNDING RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES.
- 6. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS IN COMPLIANCE WITH T-MOBILE SPECIFICATIONS AND NEC, THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.

F. OTHER MATERIALS:

- 1. THE CONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.
- 2. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.

G. PANELS AND LOAD CENTERS:

- 1. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

PART 3 - EXECUTION

3.1 GENERAL:

- A. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- B. B. EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.

3.2 LABOR AND WORKMANSHIP:

- A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIREMEN, IN A NEAT AND WORKMAN-LIKE MANNER.
- B. ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE CONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.

- C. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION:

- A. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER-FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION:

A. CONDUIT:

- 1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS SPECIFIED, NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TRADE SIZE. ALL CONDUITS TO BE PAINTED TO MATCH EXISTING COORS FIELD SURROUNDING ELEMENTS.
- 2. PROVIDE RIGID PVC SCHEDULE 80 CONDUITS FOR ALL RISERS, RMC OTHERWISE NOTED, EMT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
- 3. INSTALL SCH. 40 PVC CONDUIT WITH A MINIMUM COVER OF 24" UNDER ROADWAYS, PARKING LOTS, STREETS, AND ALLEYS. CONDUIT SHALL HAVE A MINIMUM COVER OF 18" IN ALL OTHER NON-TRAFFIC APPLICATIONS (REFER TO 2011 NEC, TABLE 300.5).
- 4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION TO EQUIPMENT WITH MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE. USE LIQUID TIGHT, FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORT TO ALLOW FOR EXPANSION AND CONTRACTION.
- 5. A RUN OF CONDUIT BETWEEN BOXES OR EQUIPMENT SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE QUARTER-BENDS, CONDUIT BEND SHALL BE MADE WITH THE UL LISTED BENDER OR FACTORY 90 DEGREE ELBOWS MAY BE USED.
- 6. FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.
- 7. PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.
- 8. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION, TEMPORARY OPENINGS IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER, CONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.
- 9. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES. CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.
- 10. INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END.
- 11. INSTALL 2" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.
- 12. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.
- 13. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS TO ALLOW FOR RACEWAYS AND CABLES TO BE ROUTED THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS, SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE, FIRE STOPS AT FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE, AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

B. CONDUCTORS AND CABLE:

- 1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

DESCRIPTION	208/240/120 VOLT SYSTEMS
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUNDING	GREEN

- 2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDUITS APPROVED FOR THIS PURPOSE.
- 3. PULLING LUBRICANTS SHALL BE UL APPROVED. CONTRACTOR SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.
- 4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES & EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS. CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS IS PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

C. DISCONNECT SWITCHES:

- 1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB, CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.

D. GROUNDING:

- 1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, T-MOBILE GROUNDING AND BONDING STANDARDS, AND THE NATIONAL ELECTRICAL CODE.
- 2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
- 3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES, BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN
- 4. GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUND RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN #2 AWG COPPER, ROOFTOP GROUND RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). SEE STANDARD 6.3.2.2.
- 5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS, WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING. CONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING
- 6. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE GROUNDING SYSTEM. EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.
- 8. APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED.
- 9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
- 10. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.
- 11. DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.
- 12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.
- 13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
- 14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.
- 15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUND BAR AT THE BASE OF THE TOWER, A SECOND GROUND BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTORS
- 16. CONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE CONTRACTORS EXPENSE.

3.5 ACCEPTANCE TESTING

- A. CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.
- B. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON-COMPLYING ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE FOR NON-COMPLIANCE.
- C. TEST PROCEDURES:
 - 1. ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES, THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS, TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST RESULTS.
 - 2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.
 - 3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS, SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES
 - 4. PERFORM GROUNDING TEST TO MEASURE GROUNDING RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3-POINT "FALL-OF-POTENTIAL" METHOD, PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH, NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.



18400 EAST 22ND AVENUE
AURORA, CO 80011

PROJECT INFORMATION:

SITE NAME:
RED ROCKS DAS

SITE ID:
DNYH027A

18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:



Advancing Wireless Networks

16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO:



ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY: CHK BY: APV BY:

JND	AG	PK
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Sheet Title:

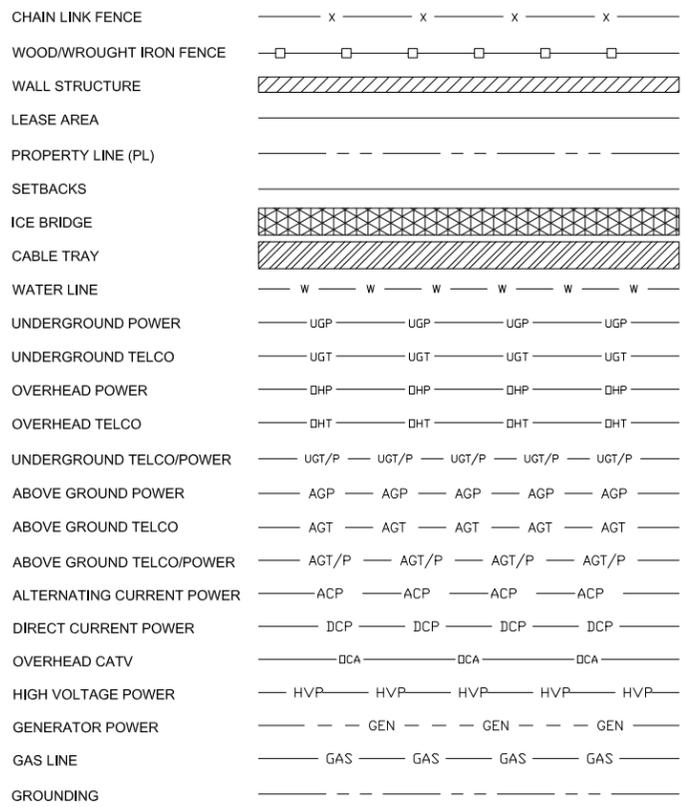
GENERAL NOTES

Sheet Number:

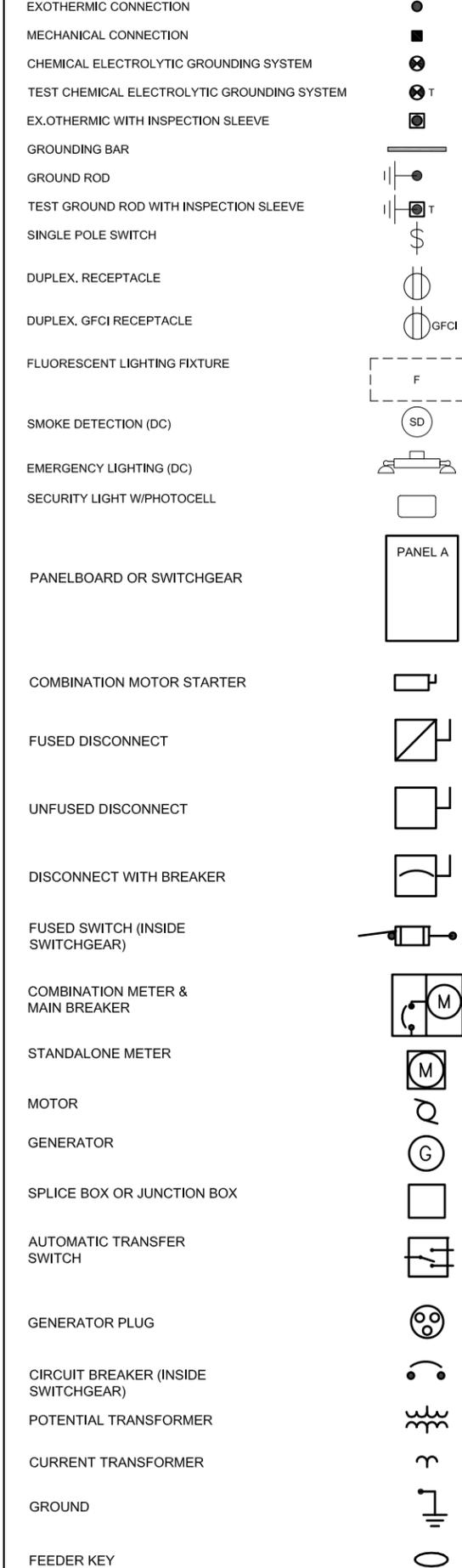
GN2

ABBREVIATIONS

AB	ANCHOR BOLT	HLC	HARD LID CEILING	UPS	UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
ABV	ABOVE	HU	HOST UNIT	VIF	VERIFIED IN FIELD
AC	ALTERNATING CURRENT	HVAC	HEATING, VENTILATION, AND AIR CONDITIONING	W	WIDE
ADDL	ADDITIONAL	HT	HEIGHT	W/	WITH
AFF	ABOVE FINISHED FLOOR	IGR	INTERIOR GROUND RING	WD	WOOD
AFG	ABOVE FINISHED GRADE	IFEU	IF EXPANSION UNIT	W.P.	WORK POINT
AIC	AMPERAGE INTERRUPTION CAPACITY	IN	INCH	WP	WEATHERPROOF
ALUM	ALUMINUM	INT	INTERIOR	WT	WEIGHT
ALT	ALTERNATE	LB(S)	POUND(S)		
ANT	ANTENNA	LF	LINEAR FEET		
APPROX	APPROXIMATE	LTE	LONG TERM EVOLUTION		
ARCH	ARCHITECTURAL	MAS	MASONRY		
ATS	AUTOMATIC TRANSFER SWITCH	MAX	MAXIMUM		
AWG	AMERICAN WIRE GAUGE	MB	MACHINE BOLT		
BATT	BATTERY	MECH	MECHANICAL		
BBU	BATTERY BACKUP UNIT	MFR	MANUFACTURER		
BLDG	BUILDING	MGB	MASTER GROUND BAR		
BLK	BLOCK	MIN	MINIMUM		
BLKG	BLOCKING	MISC	MISCELLANEOUS		
BM	BEAM	MRAU	MAIN REMOTE ACCESS UNIT		
BTCW	BARE TINNED COPPER WIRE (CONDUCTOR)	MTL	METAL		
BOF	BOTTOM OF FOOTING	MTS	MANUAL TRANSFER SWITCH		
CAB	CABINET	MW	MICROWAVE		
CANT	CANTILEVERED	(N)	NEW		
CEC	CALIFORNIA ELECTRIC CODE	NEC	NATIONAL ELECTRIC CODE		
CHG	CHARGING	NO.(#)	NUMBER		
CLG	CEILING	NTS	NOT TO SCALE		
CLR	CLEAR	OC	ON CENTER		
COL	COLUMN	OPNG	OPENING		
COMM	COMMON	(P)	PROPOSED		
CONC	CONCRETE	P/C	PRECAST CONCRETE		
CONSTR	CONSTRUCTION	PCS	PERSONAL COMMUNICATION SERVICES		
CRGB	CELL REFERENCE GROUND BAR	PCU	PRIMARY CONTROL UNIT		
DBL	DOUBLE	PRC	PRIMARY RADIO CABINET		
DC	DIRECT CURRENT	PP	POLARIZING PRESERVING		
DEPT	DEPARTMENT	PSF	POUNDS PER SQUARE FOOT		
DF	DOUGLAS FIR	PSI	POUNDS PER SQUARE INCH		
DIA	DIAMETER	PT	PRESSURE TREATED		
DIAG	DIAGONAL	PWR	POWER CABINET		
DIM	DIMENSION	QTY	QUANTITY		
DLC	DROP LID CEILING	RAD	RADIUS		
DRU	DART REMOTE UNIT	RAU	REMOTE ACCESS UNIT		
DWG	DRAWING	RECT	RECTIFIER		
DWL	DOWEL	REF	REFERENCE		
(E)	EXISTING	REINF	REINFORCEMENT		
EA	EACH	REQ'D	REQUIRED		
EC	ELECTRICAL CONDUCTOR	RET	REMOTE ELECTRIC TILT		
EL	ELEVATION	RMC	RIGID METALLIC CONDUIT		
ELEC	ELECTRICAL	RRH	REMOTE RADIO HEAD		
EMG	EXPANSION MODULE GROUP	RRU	REMOTE RADIO UNIT		
EMT	ELECTRICAL METALLIC TUBING	RU	RACK UNIT		
ENG	ENGINEER	RWY	RACEWAY		
EQ	EQUAL	SCH	SCHEDULE		
EX.P	EXPANSION	SHT	SHEET		
EX.T	EXTERIOR	SIAD	SMART INTEGRATED DEVICE		
FAB	FABRICATION	SIM	SIMILAR		
FF	FINISH FLOOR	SPEC	SPECIFICATION		
FG	FINISH GRADE	SQ	SQUARE		
FIF	FACILITY INTERFACE FRAME	SRAU	SECONDARY REMOTE ACCESS UNIT		
FIN	FINISH(ED)	SS	STAINLESS STEEL		
FLR	FLOOR	STD	STANDARD		
FDN	FOUNDATION	STL	STEEL		
FOC	FACE OF CONCRETE	STRUCT	STRUCTURAL		
FOM	FACE OF MASONRY	TEMP	TEMPORARY		
FOS	FACE OF STUD	THK	THICKNESS		
FOW	FACE OF WALL	TMA	TOWER MOUNTED AMPLIFIER		
FS	FINISH SURFACE	TN	TOE NAIL		
FT	FOOT	TOA	TOP OF ANTENNA		
FTG	FOOTING	TOC	TOP OF CURB		
GA	GAUGE	TOF	TOP OF FOUNDATION		
GEN	GENERATOR	TOP	TOP OF PLATE (PARAPET)		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TOS	TOP OF STEEL		
GLB	GLUE LAMINATED BEAM	TOW	TOP OF WALL		
GLV	GALVANIZED	TVSS	TRANSIENT VOLTAGE SUPPRESSION SYSTEM		
GPS	GLOBAL POSITIONING SYSTEM	TYP	TYPICAL		
GND	GROUND	UG	UNDERGROUND		
GSM	GLOBAL SYSTEM FOR MOBILE	UL	UNDERWRITERS LABORATORY		
HDR	HEADER	UNO	UNLESS NOTED OTHERWISE		
HGR	HANGER	UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM		



LEGEND



18400 EAST 22ND AVENUE
AURORA, CO 80011

PROJECT INFORMATION:

SITE NAME:
RED ROCKS DAS

SITE ID:
DNYH027A

18300 WEST ALAMEDA PARKWAY
MORRISON, CO 80401

Rev:	Date:	Description:	By:
1	7/13/17	PRELIMINARY	JND
2	8/23/17	CONSTRUCTION	JND
3	02/01/18	REVISION	AG

PLANS PREPARED BY:

Advancing Wireless Networks

16035 TABLE MOUNTAIN PARKWAY
GOLDEN, CO 80403
303.993.3293
WWW.CENTERLINESOLUTIONS.COM

LICENSURE NO:

ALL SCALES ARE SET FOR 24"x36" SHEET

DRAWN BY: CHK BY: APV BY:

JND	AG	PK
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Sheet Title:

GENERAL NOTES

Sheet Number:

GN3

4/1/2017	\$	4,000.00
5/1/2017	\$	4,000.00
6/1/2017	\$	4,000.00
7/1/2017	\$	4,000.00
8/1/2017	\$	4,000.00
9/1/2017	\$	4,000.00
10/1/2017	\$	4,000.00
11/1/2017	\$	4,000.00
12/1/2017	\$	4,000.00
1/1/2018	\$	4,000.00
2/1/2018	\$	4,000.00
3/1/2018	\$	4,000.00
4/1/2018	\$	4,160.00
5/1/2018	\$	4,160.00
6/1/2018	\$	4,160.00
7/1/2018	\$	4,160.00
8/1/2018	\$	4,160.00
9/1/2018	\$	4,160.00
10/1/2018	\$	4,160.00
11/1/2018	\$	4,160.00
12/1/2018	\$	4,160.00
1/1/2019	\$	4,160.00
2/1/2019	\$	4,160.00
3/1/2019	\$	4,160.00
4/1/2019	\$	4,326.40
5/1/2019	\$	4,326.40
6/1/2019	\$	4,326.40
7/1/2019	\$	4,326.40
8/1/2019	\$	4,326.40
9/1/2019	\$	4,326.40
10/1/2019	\$	4,326.40
11/1/2019	\$	4,326.40
12/1/2019	\$	4,326.40
1/1/2020	\$	4,326.40
2/1/2020	\$	4,326.40
3/1/2020	\$	4,326.40
4/1/2020	\$	4,499.46
5/1/2020	\$	4,499.46
6/1/2020	\$	4,499.46
7/1/2020	\$	4,499.46
8/1/2020	\$	4,499.46
9/1/2020	\$	4,499.46
10/1/2020	\$	4,499.46
11/1/2020	\$	4,499.46
12/1/2020	\$	4,499.46
1/1/2021	\$	4,499.46
2/1/2021	\$	4,499.46

3/1/2021	\$	4,499.46
4/1/2021	\$	4,679.44
5/1/2021	\$	4,679.44
6/1/2021	\$	4,679.44
7/1/2021	\$	4,679.44
8/1/2021	\$	4,679.44
9/1/2021	\$	4,679.44
10/1/2021	\$	4,679.44
11/1/2021	\$	4,679.44
12/1/2021	\$	4,679.44
1/1/2022	\$	4,679.44
2/1/2022	\$	4,679.44
3/1/2022	\$	4,679.44
4/1/2022	\$	4,866.62
5/1/2022	\$	4,866.62
6/1/2022	\$	4,866.62
7/1/2022	\$	4,866.62
8/1/2022	\$	4,866.62
9/1/2022	\$	4,866.62
10/1/2022	\$	4,866.62
11/1/2022	\$	4,866.62
12/1/2022	\$	4,866.62
1/1/2023	\$	4,866.62
2/1/2023	\$	4,866.62
3/1/2023	\$	4,866.62
4/1/2023	\$	5,061.28
5/1/2023	\$	5,061.28
6/1/2023	\$	5,061.28
7/1/2023	\$	5,061.28
8/1/2023	\$	5,061.28
9/1/2023	\$	5,061.28
10/1/2023	\$	5,061.28
11/1/2023	\$	5,061.28
12/1/2023	\$	5,061.28
1/1/2024	\$	5,061.28
2/1/2024	\$	5,061.28
3/1/2024	\$	5,061.28
4/1/2024	\$	5,263.73
5/1/2024	\$	5,263.73
6/1/2024	\$	5,263.73
7/1/2024	\$	5,263.73
8/1/2024	\$	5,263.73
9/1/2024	\$	5,263.73
10/1/2024	\$	5,263.73
11/1/2024	\$	5,263.73
12/1/2024	\$	5,263.73
1/1/2025	\$	5,263.73

2/1/2025	\$	5,263.73
3/1/2025	\$	5,263.73
4/1/2025	\$	5,263.73
5/1/2025	\$	5,263.73
6/1/2025	\$	5,263.73
7/1/2025	\$	5,263.73
8/1/2025	\$	5,263.73
9/1/2025	\$	5,263.73
10/1/2025	\$	5,263.73
11/1/2025	\$	5,263.73
12/1/2025	\$	5,263.73
1/1/2026	\$	5,263.73
2/1/2026	\$	5,263.73
3/1/2026	\$	5,263.73
4/1/2026	\$	5,474.28
5/1/2026	\$	5,474.28
6/1/2026	\$	5,474.28
7/1/2026	\$	5,474.28
8/1/2026	\$	5,474.28
9/1/2026	\$	5,474.28
10/1/2026	\$	5,474.28
11/1/2026	\$	5,474.28
12/1/2026	\$	5,474.28
1/1/2027	\$	5,474.28
2/1/2027	\$	5,474.28
3/1/2027	\$	5,474.28

total \$ 571,139.28

EXHIBIT C
CERTIFICATE OF INSURANCE

(Attached)



CERTIFICATE OF LIABILITY INSURANCE

5/1/2019

DATE (MM/DD/YYYY)
4/27/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies Three City Place Drive, Suite 900 St. Louis MO 63141-7081 (314) 432-0500	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
E-MAIL ADDRESS:		
INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A: XL Insurance America, Inc.		24554
INSURED 1358772 T-Mobile US, Inc. Its Subsidiaries and Affiliates 12920 SE 38th Street Bellevue WA 98006	INSURER B: Greenwich Insurance Company	
	INSURER C: National Union Fire Ins Co Pitts. PA	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES TMOBI CERTIFICATE NUMBER: 12252040 REVISION NUMBER: XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR	Y	Y	RGD5000259-07	5/1/2018	5/1/2019	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC <input type="checkbox"/> OTHER:						\$
B	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	RAD5000257-07	5/1/2018	5/1/2019	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX
C C C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$25,000 <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE	Y	N	28189511 SIR applies per policy terms & conditions	5/1/2018	5/1/2019	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$ XXXXXXXX
A A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N	N/A	RWD5000301-06 AOS RWR5000302-06 WI	5/1/2018 5/1/2018	5/1/2019 5/1/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
THIS CERTIFICATE SUPERSEDES ALL PREVIOUSLY ISSUED CERTIFICATES FOR THIS HOLDER, APPLICABLE TO THE CARRIERS LISTED AND THE POLICY TERM(S) REFERENCED. The Certificate Holder and other entities defined by written contract, statute, permit application or written agreement are additional insureds on a primary and non-contributory basis under general liability and are additional insured under automobile liability as required by written contract. Waiver of Subrogation applies under general liability and automobile liability as required by written contract. **See Attached Endorsements** DN03108E - 501 Knox Court, Denver, CO 80204
DN03433C - 4306 S. Wolff Street, Denver, CO 80236 DN03753A - 700 14th Street, Denver, CO 80202

CERTIFICATE HOLDER

CANCELLATION See Attachments

12252040

City and County of Denver
Denver Arts and Venues, Attn: Finance Dept
1345 Champa St
Denver CO 80204

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE





City and County of Denver Denver Arts and
Venues, Attn: Finance Dept
1345 Champa St
Denver, CO 80204

To whom it may concern:

In an effort to meet demand for more timely delivery of certificates, Lockton Companies now provides paperless delivery of Certificates of Insurance. Thank you for your patience and willingness to help lessen our environmental footprint.

To ensure electronic delivery for future renewals of this certificate, we need your email address. Please contact us via one of the methods below, referencing the Certificate ID found at the top of this page.

- Email: PCertificate@lockton.com;
- Phone: (866) 728-5657 (toll-free)

Please notify us if this certificate is no longer needed.

Thank you,

Lockton Companies