



# Board of Adjustment Staff Report

Meeting Date: December 7, 2023

Agenda Item: 10C

**SPECIAL USE PERMIT CASE NUMBER:** WSUP23-0017 (Joy Lake Road)

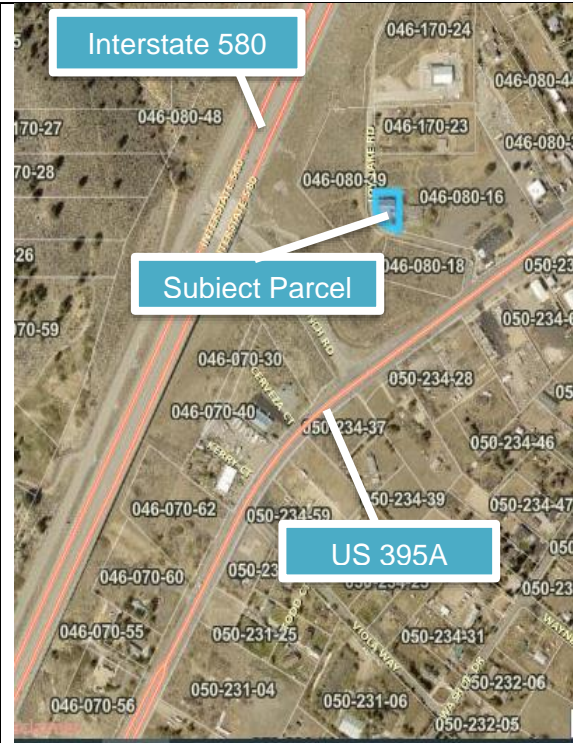
**BRIEF SUMMARY OF REQUEST:** To approve an 80-foot tall, unmanned telecommunications tower (monopine) and accessory equipment

**STAFF PLANNER:** Tim Evans, Planner  
Phone Number: 775.328.2314  
E-mail: tevens@washoecounty.gov

### CASE DESCRIPTION

For hearing, discussion, and possible action to approve a special use permit for the replacement of the existing 39-foot-tall telecommunications tower with a new 80-foot-tall monopine, antennas, and supporting equipment for T-Mobile at the existing telecommunications facility located at 18400 Joy Lake Road. The applicant is also asking to vary the parking requirement of Article 410 and the landscaping requirements of Article 412.

**Applicant:** Crown Castle on behalf of T-Mobile  
**Property Owner:** Nevada Bell  
**Location:** 18400 Joy Lake Road, Washoe Valley, NV  
**APN:** 046-080-19  
**Parcel Size:** 0.24 acres  
**Master Plan:** Rural (R)  
**Regulatory Zone:** Public and Semi-Public Facilities (PSP)  
**Area Plan:** South Valleys (SV)  
**Development Code:** Authorized in Article 810, Special Use Permits and Article 324 Communication Facilities  
**Commission District:** 2 – Commissioner Clark



**Vicinity Map**

### STAFF RECOMMENDATION

APPROVE

**APPROVE WITH CONDITIONS**

DENY

### POSSIBLE MOTION

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP23-0017 for T-Mobile, having made all five findings in accordance with Washoe County Code Section 110.810.30, all three findings in accordance with Section 110.324.75, and the findings in accordance with South Valleys Area Plan policies SV 2.16 and SV 18.3, subject to the conditions contained in Exhibit A to the Staff Report.

*(Motion with Findings on Page 15)*

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**Special Use Permit**

The purpose of a special use permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. The Board of Adjustment is authorized to issue special use permits under NRS 278.315 and Washoe County Code (WCC) Article 810. In approving the special use permit, the Board must consider and make five Findings of Fact, which are discussed below. [WCC Section 110.810.30] The notice requirements and findings are discussed in this report. The Board of Adjustment is allowed to grant an approval of the special use permit that is subject to Conditions of Approval. Conditions of Approval are requirements that need to be completed during different stages of the proposed project, including conditions prior to permit issuance, prior to obtaining a final inspection and/or certificate of occupancy, prior to issuance of a business license, or ongoing “operational conditions” which must be continually complied with for the life of the project.

Conditions of Approval. The Conditions of Approval for this case are attached to this staff report as Exhibit A and will be included with the Action Order.

Requests to Vary Standards. Additionally, Article 810 (Special Use Permits) allows the Board of Adjustment to vary development code standards in conjunction with the approval process per WCC 110.810.20(e). The applicant is seeking to vary landscaping and parking requirements. The Board of Adjustment will be ruling on these request(s) to vary standards below:

Variance Requested	Relevant Code
Waive parking space requirement	110.410.10, Required Parking Spaces
Waive commercial landscaping requirements	Article 412, Landscaping

Special Communications Facility requirements. The proposed facility is a “communications facility” under Article 324 of the County Development Code which imposes specialized requirements and provides that when approving a special use permit, the Board must adopt the three additional findings listed in WCC Section 110.324.75 which are discussed in this staff report.

Special Federal and State Rules. The proposed facility is a “personal wireless service facility” protected by federal law (Telecommunications Act of 1996, 47 U.S.C. Section 332 (c)(7)) and state law (NRS 707.550 – 707.920). Generally, federal and state laws provide that when regulating the placement, construction or modification of wireless facilities:

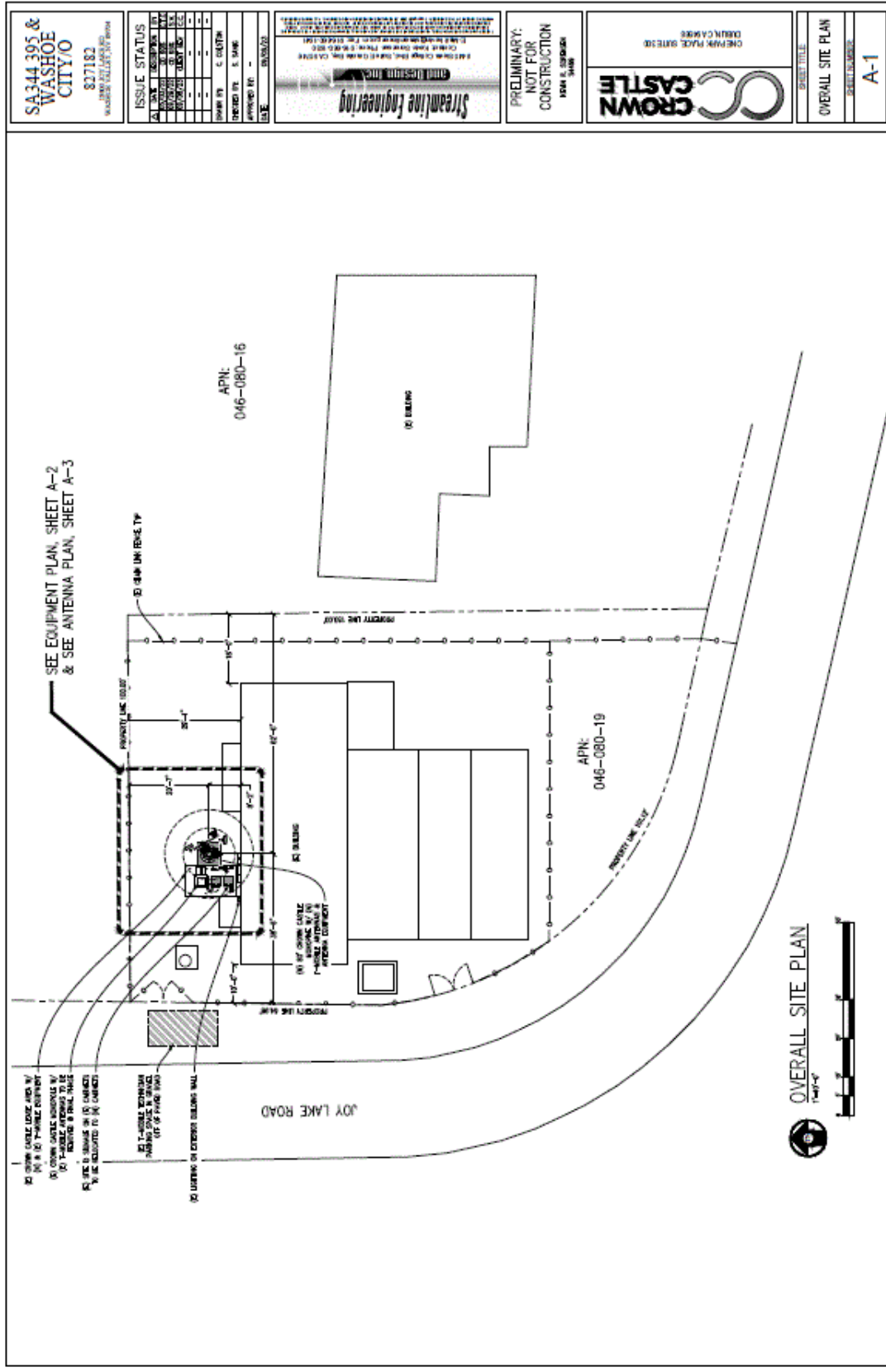
- The County shall not unreasonably discriminate among providers of functionally equivalent services;
- The County shall not prohibit or have the effect of prohibiting the provision of personal wireless services;
- The County must act within a reasonable time on applications for permits (presumed to be 150 days under FCC “shot clock” rules);
- If the County denies a request to place, construct, or modify personal wireless service facilities, the County must do so in writing, and the decision must be supported by substantial evidence (evidence that a reasonable mind might accept as adequate to support a conclusion). State law (NRS 707.585) requires that a decision denying an application must set forth with specificity each ground on which the authority denied the approval of the application, and must describe the documents relied on by the Board in making its decision.

- The County may not regulate the placement, construction and modification of personal wireless facilities on the basis of environmental effects of radio frequency emissions to the extent that such facilities comply with FCC regulations concerning such emissions.

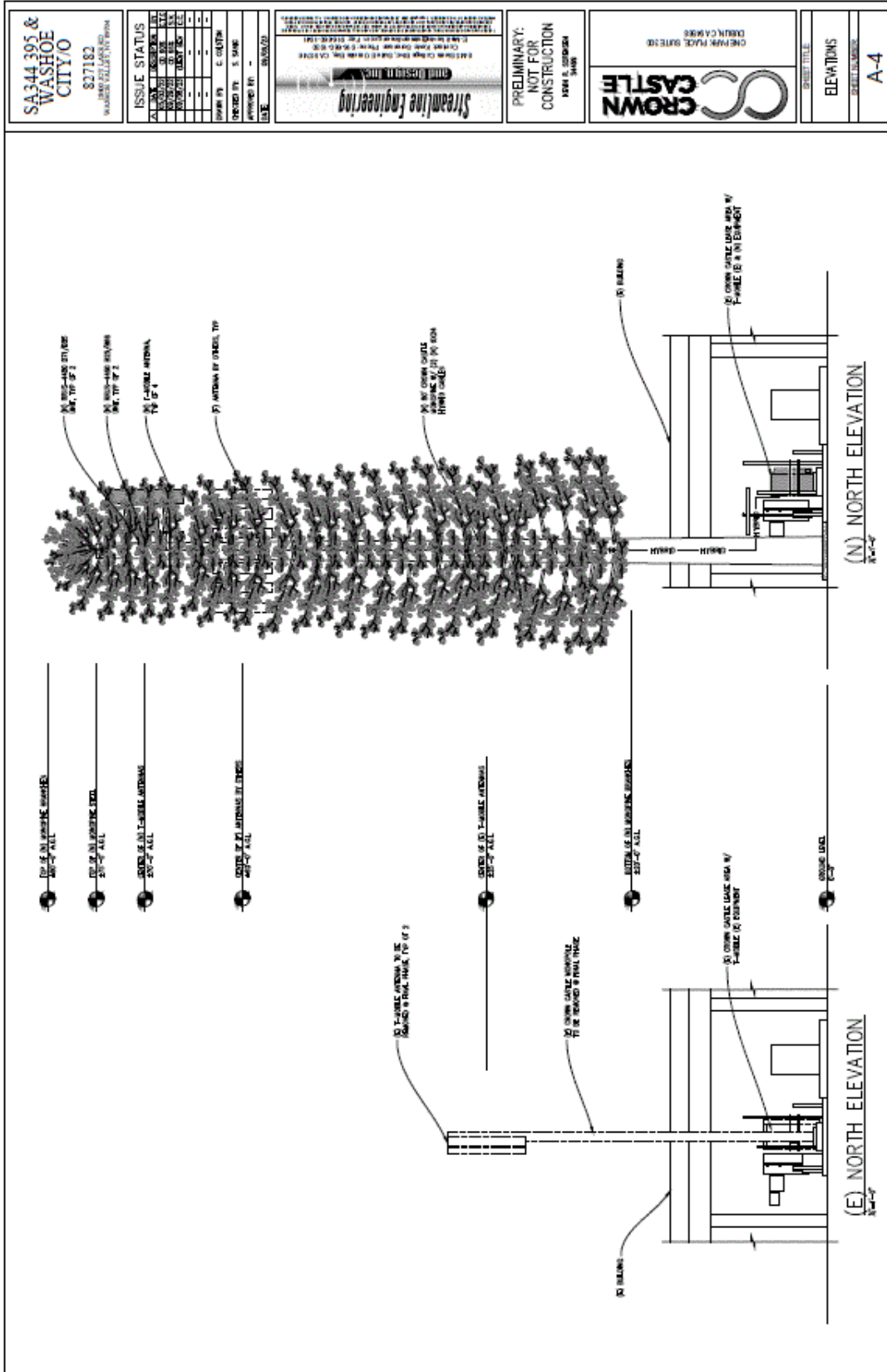




**Photo Simulation**



Site Plan



**Elevation**

<b>SA344 395 &amp; WASHOE CITY/O</b> 827183 1000 W. WASHINGTON ST. WASHOE COUNTY, NV		<b>ISSUE STATUS</b> A. PLAN: 10/23/23 B. PERMITS: 10/23/23 C. REVIEW: 10/23/23 D. APPROVAL: 10/23/23 E. PERMIT NO.: 10/23/23 F. DATE: 10/23/23	<b>Streamline Engineering</b> 1000 W. WASHINGTON ST. WASHOE COUNTY, NV 89701 PHONE: 775.333.1111 FAX: 775.333.1112 WWW.STREAMLINEENGINEERING.COM	PRELIMINARY: NOT FOR CONSTRUCTION 10/23/23	<b>CROWN CASTLE</b> COMM. FACE SERVICE 1000 W. WASHINGTON ST. WASHOE COUNTY, NV 89701	SHEET TITLE: <b>ELEVATIONS</b> SHEET NUMBER: <b>A-4</b>
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### **Background/Surrounding Land Uses and Setting**

On September 2, 1997, the Planning Commission approved Special Use Permit SPW7-34-97 for 18400 Joy Lake Road for the construction and operation of a 39-foot-tall monopole telecommunication facility and a 40 square foot equipment shelter on a 400 square foot portion of the 0.24-acre parcel.

The subject property is zoned Public/Semi-Public Facilities (PSP) and the abutting properties to the north, west and east are zoned General Commercial (GC), and PSP to the south. The surrounding properties range from approximately 1.5 to 5.0 acres, and some are developed with commercial structures, with the remaining parcels being vacant.

The subject property is within the West Washoe Valley area of the South Valleys Area Plan and the surrounding area consists vacant land and Interstate 580 to the west and vacant land to the south, and a residence and commercial structures to the east. The proposed monopole will be located below the elevation of Interstate 580 as shown in the photo simulation on page 5.

The proposed project site is 0.24 acres and is developed with an existing telecommunications facility consisting of a 39-foot-tall monopole, accessory equipment, and a structure.

### **Project Evaluation**

To replace the 39-foot monopole approved by the Planning Commission on September 2, 1997, the applicant, Crown Castle, submitted a special use permit application for the installation and operation of an 80-foot-tall monopole camouflaged as a tree (monopine), antennas, and supporting equipment for T-Mobile at the existing telecommunications facility located at 18400 Joy Lake Road. More specifically, the scope of the installation will include the following:

- Remove and replace two (2) cabinets with new T-Mobile enclosure.
- Remove and replace two (2) battery cabinets with new battery cabinet.
- Remove two (2) diplexers.
- Remove two (2) TMAS at antennas.
- Remove two (2) antennas.
- Remove and replace existing Crown Castle monopole with new 80-foot Crown Castle monopine.
- Install new double tri-sector collar with T-arms.
- Install four (4) new T-Mobile antennas.
- Install four (4) new RRUs at antennas.
- Install new hybrid cables.

### **Use Type:**

**Section 110.304.25 Commercial Use Types.** Commercial use types include the distribution and sale or rental of goods, and the provision of services other than those classified as civic or industrial use types.

- (i) **Communication Facilities** Communication facilities use type refers to establishments primarily engaged in the transmission and/or receiving of electromagnetic waves. Typical uses include television station, radio stations, satellite dishes, antennas and wireless communication facilities. Refer to Article 324, Communication Facilities, for subcategories of communication facilities.

**Section 110.324.40 Wireless Communication/Cellular Facilities: Definitions**

Wireless communication facilities, including antennas mounted on structures and freestanding monopoles and lattice towers and supporting equipment which are used for the commercial broadcasting/receiving of telecommunication transmissions that are regulated under the Telecommunications Act of 1996 are a principal use and are classified under the communication facilities use type in Article 304, Use Classification System. The following definitions apply to the regulation of wireless communication facilities contained in this article:

- (a) Antenna. An antenna is defined for the purposes of Sections 110.324.40 through 110.324.75 as a device that transmits and/or received an electronic signal for the purposes of facilitating the communication of personal wireless services that has the meaning ascribed to it in 47 U.S.C. §332(c)(7)(C) as that provision existed on July 1, 2003.
- (5) Monopole Mounted Antenna. A monopole mounted antenna means a communications receiving and/or transmitting device that is attached to a ground mounted, free-standing pole that is erected for the purposes of supporting one (1) or more antennas.

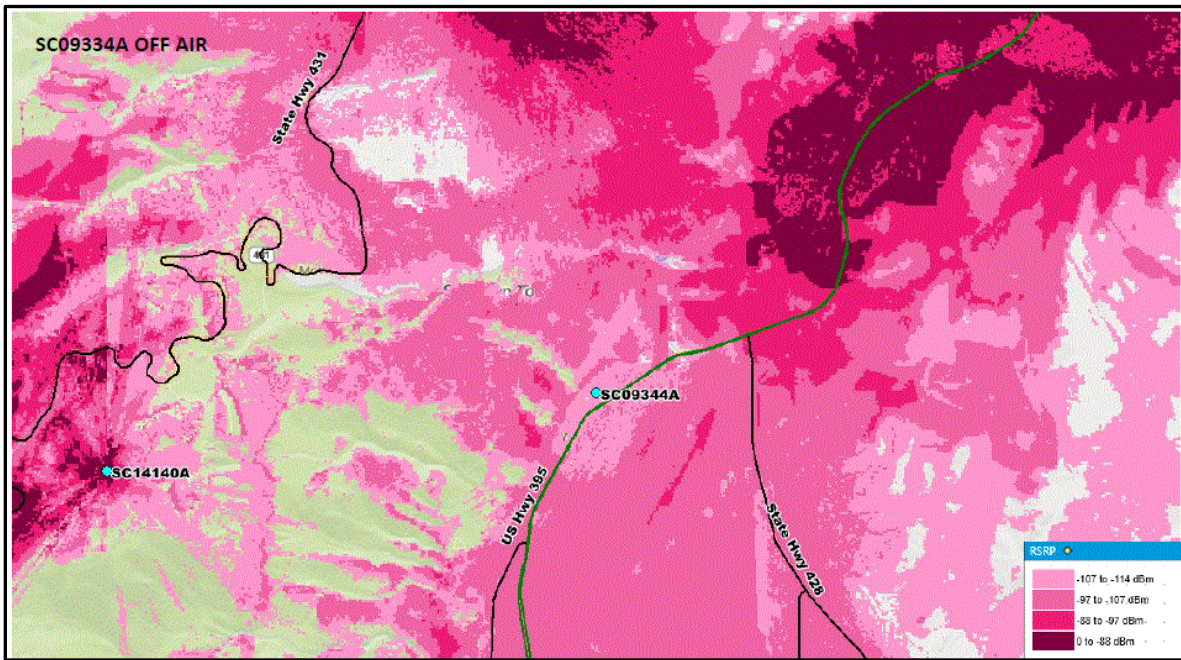
The following placement standards by type of antenna shall be complied with notwithstanding the preferred location and type of antenna enumerated in this section:

- (e) Monopole Antenna. The placement of a monopole antenna shall comply with the following criteria:
  - (1) "Antennas shall be allowed in all Rural Residential, Public/Semi-Public Facilities (PSP), General Commercial (GC), Neighborhood Commercial/Office (NC), Tourist Commercial (TC), Industrial (I), Parks and Recreation (PR), and Specific Plan (SP) regulatory zones. Antennas shall be limited to the building standard height for an allowed main structure plus up to ten (10) feet above that height."
  - (2) Antennas shall be permitted in the General Rural (GR) and Open Space (OS) land use designations (see Open Space limitations within this article) with the placement standards depicted in Table 110.324.50.1, Antenna Placement Standards.

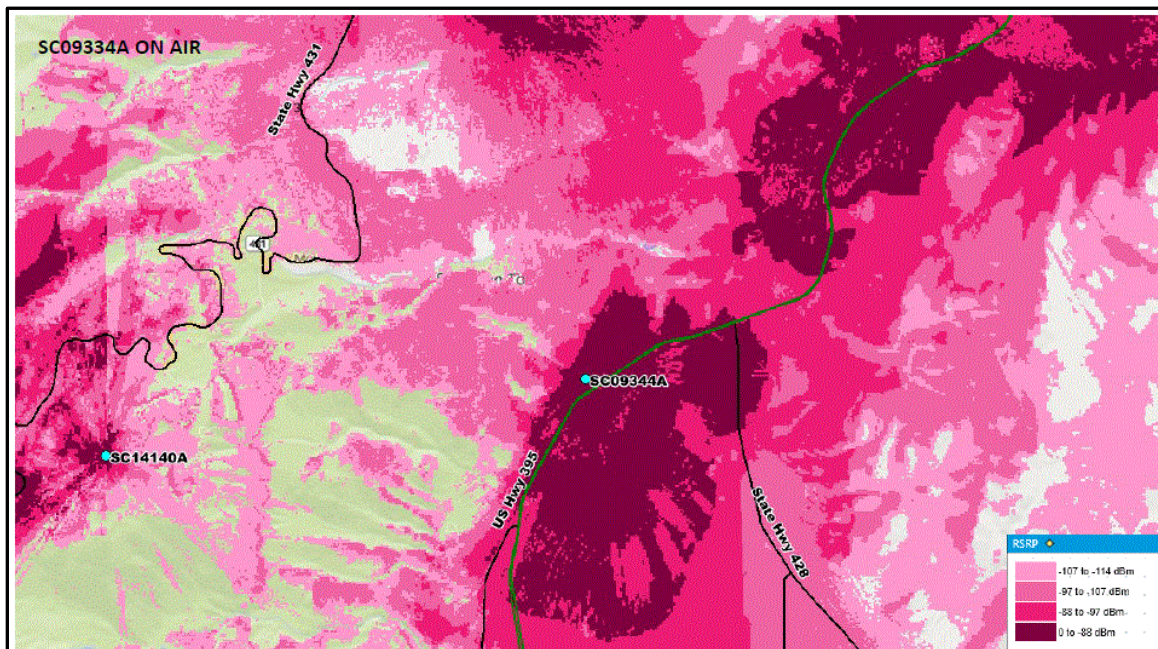


Significant Gap Coverage Antenna Height:

The proposed monopole will be placed such that it, per the figures below from the application, will fill a significant gap in coverage.



**Existing Coverage**



**Coverage of Proposed Facility**

Table 110.324.55.1

**SIGNIFICANT GAP ANTENNA POLE HEIGHT**

Design Standards	Distance from Residential Property						
	50'	200'	400'	600'	1,000'	1,500'	2,000'
Distance from Residentially Zoned Property or Public Paved Right of Way (closest adjacent use will be applied)	50'	200'	400'	600'	1,000'	1,500'	2,000'
Permitted Height of Pole	45'	50'	60'	70'	80'	90'	+100'
Bonus Allowed	10*	15*	20*	25*	30*	35*	40*
Total Permitted Height of Pole	55'	65'	80'	95'	110'	125'	140'+

The monopole will be located approximately 480 feet from the publicly paved right-of-way. Therefore, pursuant to Table 110.324.55.1, the monopole will be permitted to be a height of 60 feet, plus the “Bonus Allowed” of 20 feet, permits a total monopole height of 80 feet.

Pursuant to WCC Section 110.324.50(e)(3) additional height is permitted when the following criteria is met:

“An additional twenty-five (25) percent pole height shall be granted if the monopole is a stealth design that may include a slim line pole, a tree or other proposed camouflaged design compatible with the surrounding area. The width of the supporting mechanism for the antenna may increase up to the additional twenty-five (25) percent to the extent that the camouflage conceals the array.”

Per the application, the monopole will be camouflaged as a tree (monopine) to blend with the surrounding terrain. Due to the monopole having a camouflaged design, an additional 25% of height on top of the 80 feet permits a maximum monopole height of 100 feet.

The proposed height of the monopole is 80 feet, which does not exceed the maximum height permitted for the monopole.

Article 438 Grading

Per the application, the proposed project is the replacement of an existing telecommunications tower and accessory equipment with a new 80-foot monopine tower and accessory equipment at an existing telecommunications facility. Therefore, no grading is proposed.

Article 410 Parking and Loading

Like that of the existing telecommunications facility, the applicant proposes to continue to use the graveled shoulder of the existing access road leading to the facility for the one (1) parking space necessary for the monthly maintenance employee. Therefore, the applicant is requesting that the parking standards within WCC Section 110.410.10, *Required Parking Spaces*, Table 110.410.10.3, *Off-street Parking Space Requirements (Commercial Use Types)*, be waived and that no parking spaces be required on site, as this is an unmanned facility.

Staff supports the applicant’s request based on the nature of the proposed project and that a minimal number of site visits will be required to maintain the facility, making the need for one off-street, paved parking space excessive.



Article 412 Landscaping

The vegetation at the existing telecommunications facility consists of minimal native shrubs, grasses, and trees. Additional landscaping would create an unnatural appearance in this area. Additionally, there is a lack of water at the site in order to sustain landscaping.

Therefore, based on the application and project information provided, staff supports the applicant’s request to waive the landscaping requirements.

Article 414, Noise and Lighting

The project site abuts parcels zoned General Commercial (GC) to the north, west, and east, and Public/Semi-Public Facilities (PSP) to the south. Article 414, *Noise and Lighting*, does not contain maximum noise levels for a parcel zoned PSP abutting parcels zoned PSP or GC.

Per the application, no lighting is proposed as part of the project. Any additional lighting for the tower will be as required by the Federal Aviation Administration (FAA) or Federal Communications Commission (FCC).

Article 505, Sign Regulations

Signage will be as required by the FAA, FCC, or other jurisdictional entities. There will be no “advertisement signage.”

Visual Impacts

The proposed telecommunications tower is a monopole that will be visible from the surrounding area. However, to blend with the natural environment, as pine trees are common in this portion of the South Valleys area, the monopole will be a stealth design and camouflaged as a tree.

The request by T-Mobile to add a telecommunications monopole is consistent with the standards of Article 324 Telecommunications of the Washoe County Development Code.

Radio Frequency and Environmental Impacts:

Under federal law (47 U.S.C. 332(c)(7)(B)(iv)), if the proposed telecommunications facility complies with FCC regulations, this Board cannot regulate its placement, construction, and modification based on the potential environmental effects of radio frequency emissions. Under state law (NRS 707.575(4)) the Board “shall not consider the environmental effects of radio frequency emissions” in rendering a decision of approving or denying this special use permit.

**Area Plan Evaluation**

The subject parcel is located within the South Valleys Area Plan. The following is/are the pertinent policies from the Area Plan:

**Relevant Area Plan Policies Reviewed**

Policy	Brief Policy Description	Complies	Comment/Condition of Approval
SV 2.16	Finding that the community character can be adequately conserved	Yes	The proposed telecommunications tower is a monopole which will blend with the natural environment as pine trees are common in this portion of the South Valleys area.
SV 7.3	Review of all special use permits for the establishment of a non-	Yes	The proposed project was reviewed for compliance with Washoe County Code and

	residential use in West Washoe Valley must include a consideration of how the proposed use will impact adjacent neighborhoods.		condition of approval (Exhibit A) serve to mitigate impacts to the adjacent area which is zoned General Commercial (GC) to the north, west, and east, and Public/Semi-Public Facilities (PSP) to the south.
SV18.3	Finding that no significant degradation of air quality will occur as a result of the special use permit.	Yes	Due to the nature of the project being a telecommunications tower with minimal ground disturbance, there would be no significant impact to air quality. Additionally, the project information was sent to the Washoe County Air Quality Division and no response was received concerning the project.

**Reviewing Agencies**

The following agencies/individuals received a copy of the project application for review and evaluation.

Agencies	Sent to Review	Responded	Provided Conditions	Contact
Environmental Protection	X			
NDOT (Transportation)	X			
NDOW (Wildlife)	X	X		
Washoe County Building & Safety	X			
Washoe County Sewer	X			
Washoe County Traffic	X			
Washoe County Water Rights Manager (All Apps)	X	X		
Washoe County Engineering (Land Development) (All Apps)	X	X	X	Rob Wimer, rwimer@washoecounty.gov; Janelle Thomas, jkthomas@washoecounty.gov
Washoe County Engineering & Capital Projects Director (All Apps)	X			
WCHD Air Quality	X			
WCHD EMS	X	X		
WCHD Environmental Health	X	X		
TMFPD	X	X	X	Dale Way, dway@tmfpd.us; Brittany Lemon, BLemon@tmfpd.us
Airport Authority	X			
NV Energy	X			

Additionally, AT&T provided a response of “no comment.”

All conditions required by the contacted agencies can be found in Exhibit A, Conditions of Approval.

**Neighborhood Meeting**

A neighborhood meeting was noticed and held at 2:15 PM on September 25, 2023, as an in-person meeting at the South Valley Library located at 15650-A Wedge Parkway, Reno. No members of the public attended the meeting.

**Public Comment**

As shown in Exhibit E, proper noticing occurred for the project. No public comment was received as a result of the noticing.

**Findings required by WCC Section 110. 810.30 for a Special Use Permit:**

- (a) Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the South Valleys Area Plan;

*Staff Comment: Staff has reviewed the Master Plan and the South Valleys Area Plan and the proposed wireless facility does not conflict with the policies, action programs, standards, and maps of the Master Plan and the South Valleys Area Plan.*

- (b) Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven of the Development Code;

*Staff Comment: The property has all necessary utilities available for the proposed facility. Additionally, there is an existing telecommunications facility located on the site, which the proposed monopine will replace. The proposed project is in compliance with Division Seven.*

- (c) Site Suitability. That the site is physically suitable a for a telecommunications facility (monopole) for the intensity of such a development;

*Staff Comment: Per the Development Suitability Map of the South Valleys Area Plan, the parcel is designated as "most suitable" for development. Additionally, there is an existing structure and equipment on the property for the existing telecommunications tower and the site is physically suitable for the proposed monopole.*

- (d) Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

*Staff Comment: Based on the requirements of the FCC, the "Electromagnetic Frequency (RF) exposure level due to the proposed site is well below the maximum allowable by FCC Regulations. The site fully complies with FCC rules and regulations.*

- (e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

*Staff Comment: There is no military installation nearby.*

**Findings required by Section 110.324.75, for a telecommunications facility:**

- (a) That the communications facility meets all the standards of Sections 110.324.40 through 110.324.60 as determined by the Director of Community Development and/or his/her authorized representative;

*Staff Comment: Staff has reviewed all of the standards and conclude that the standards have been met.*

- (b) That public input was considered during the public hearing review process; and

*Staff Comment: The Board will hear and consider public comment during the public hearing, if any. Under federal law (47 U.S.C. 332(c)(7)(B)(iv), if the proposed telecommunications facility complies with FCC regulations, this Board cannot regulate its placement, construction, and modification based on the potential environmental effects of radio frequency emissions. Under state law (NRS 707.575(4) the Board "shall not consider the environmental effects of radio frequency emissions" in rendering a decision of approving or denying this special use permit.*

- (c) That the monopole or lattice tower will not unduly impact the adjacent neighborhoods or the vistas and ridgelines of the County.

*Staff Comment: Based on a review of the photographs and drawings in the staff report and application, the proposed monopine will blend with existing natural, landscape of the subject parcel and surrounding area.*

### **Findings required by South Valleys Area Plan for a special use permit:**

- (a) As required by South Valleys Area Plan Policy SV 2.16, the community character as described in the Character Statement of the South Valleys Area Plan will be adequately conserved through mitigation of any identified potential negative impacts.

*Staff Comment: The proposed telecommunications tower is a monopine which will blend with the natural environment as pine trees are common in this portion of the South Valleys area. Therefore, there will be no impact visually and the proposed telecommunications tower is consistent with the Character Statement of the South Valleys Area Plan. Additionally, there is an existing telecommunications tower located on the site, which this monopine will replace.*

- (b) As required by South Valleys Area Plan Policy SV 18.3, no significant degradation of air quality will occur as a result of the granting of the special use permit.

*Staff Comment: Due to the nature of the project being a telecommunications tower with minimal ground disturbance, there would be no significant impact to air quality. Additionally, the project information was sent to the Washoe County Air Quality Division and no response was received concerning the project.*

### **Recommendation**

After a thorough analysis and review, Special Use Permit Case Number WSUP23-0017 is being recommended for approval with conditions. Staff offers the following motion for the Board's consideration.

### **Motion**

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP23-0017 for T-Mobile, having made all five findings in accordance with Washoe County Code Section 110.810.30, all three findings in accordance with Section 110.324.75, and the findings in accordance with South Valleys Area Plan policies SV 2.16 and SV 18.3, subject to the conditions contained in Exhibit A to the Staff Report.

### **Appeal Process**

Board of Adjustment action will be effective 10 calendar days after the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Building Division within 10 calendar days from the date the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant.



# Conditions of Approval

Special Use Permit Case Number WSUP23-0017

The project approved under Special Use Permit Case Number WSUP23-0017 shall be carried out in accordance with the conditions of approval granted by the Board of Adjustment on December 7, 2023. Conditions of approval are requirements placed on a permit or development by each reviewing agency. These conditions of approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act or to abide by all other generally applicable codes.

**Unless otherwise specified**, all conditions related to the approval of this special use permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Building Division of the Washoe County Community Services Department.

Compliance with the conditions of approval related to this special use permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the special use permit may result in the initiation of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this special use permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, “may” is permissive and “shall” or “must” is mandatory.

Conditions of approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some “conditions of approval” are referred to as “operational conditions.”

These conditions must be continually complied with for the life of the project or business.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

## **Washoe County Planning and Building Division**

1. The following conditions are requirements of the Planning and Building Division of the Washoe County Community Services Department, which shall be responsible for determining compliance with these conditions.

**Contact Name – Tim Evans, Planner, 775.328.2314, TEvans@washoecounty.gov**

- a. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit. The Planning and Building Division shall determine compliance with this condition.
- b. The applicant shall submit construction plans, with all information necessary for comprehensive review by Washoe County, and initial building permits shall be issued within two years from the date of approval by Washoe County. The applicant shall complete construction within the time specified by the building permits. Compliance with this condition shall be determined by the Planning and Building Division.
- c. The applicant shall attach a copy of the action order approving this project to all administrative permit applications (including building permits) applied for as part of this special use permit.
- d. Construction activities shall be limited to the hours between 7am to 7pm, Monday through Saturday only. Any construction machinery activity or any noise associated with the construction activity are also limited to these hours.
- e. A note shall be placed on all construction drawings and grading plans stating:

NOTE

Should any cairn or grave of a Native American be discovered during site development, work shall temporarily be halted at the specific site and the Sheriff's Office as well as the State Historic Preservation Office of the Department of Conservation and Natural Resources shall be immediately notified per NRS 383.170.

- f. The telecommunications tower owner shall be responsible for maintenance of the tower structure, all branches, and related appurtenances and equipment for said site.
- g. The following **operational conditions** shall be required for the life of the project:
  - i. This special use permit shall remain in effect until or unless it is revoked or is inactive for one year.
  - ii. Failure to comply with the conditions of approval shall render this approval null and void. Compliance with this condition shall be determined by the Planning and Building Division.
  - iii. The applicant and any successors shall direct any potential purchaser/operator of the site and/or the special use permit to meet with the Planning and Building Division staff to review conditions of approval prior to the final sale of the site and/or the special use permit. Any subsequent purchaser/operator of the site and/or the special use permit shall notify the Planning and Building Division of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

**Washoe County Engineering and Capital Projects**

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

**Contact Name – Robert Wimer, P.E., 775.328.2059, [RWimer@washoecounty.gov](mailto:RWimer@washoecounty.gov)**

- a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope

stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.

- b. The following note shall be added to the construction drawings:

“All properties, regardless of if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties.”

**Truckee Meadows Fire Protection District**

3. The following condition is a requirement of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with this condition.

**Contact Name – Brittany Lemon, Fire Captain, 775.328.2314, [blemon@tmfpd.us](mailto:blemon@tmfpd.us)**

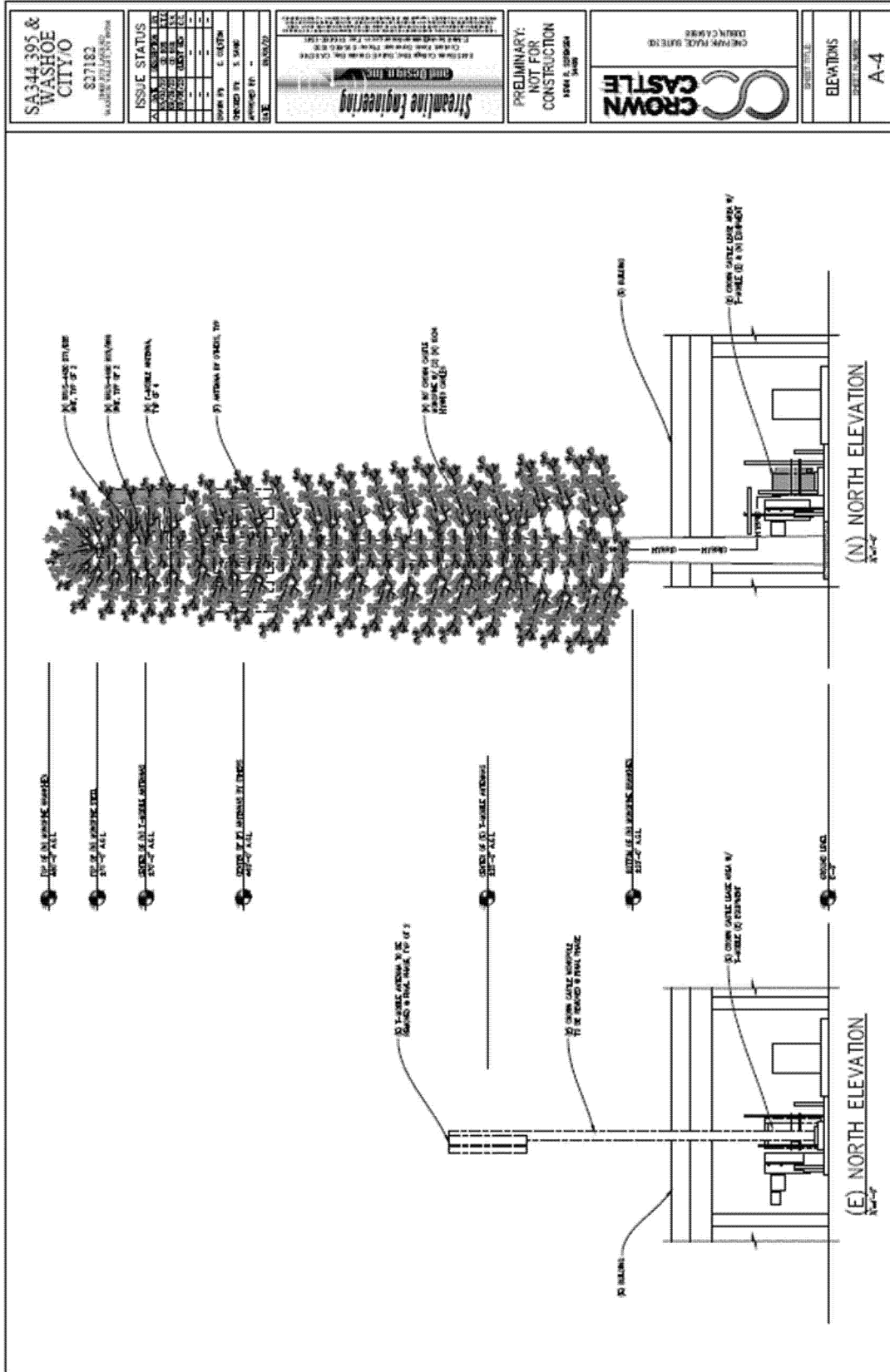
- a. This project shall meet and comply with all requirements of currently adopted TMFPD fire codes, ordinances, and standards at the time of construction to include infrastructure for fire apparatus access roads and water supply. <https://tmfpd.us/fire-code/>

\*\*\* End of Conditions \*\*\*





Photo Simulation



Elevation

## Evans, Timothy

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**From:** COOPER, CLIFFORD E <cc2132@att.com>  
**Sent:** Tuesday, October 17, 2023 1:49 PM  
**To:** Evans, Timothy  
**Subject:** October Agency Review Memo 1

[NOTICE: This message originated outside of Washoe County -- **DO NOT CLICK** on links or open **attachments** unless you are sure the content is safe.]

AT&T does not have any adverse comments regarding these locations:

**Variance Case Number WPVAR23-0005 (Summertide) –**

**Special Use Permit Case Number WSUP23-0017 (Joy Lake Road)**

**Special Use Permit Case Number WSUP23-0034 (Team Yriarte) –**

CLIFF COOPER  
SR SPECIALIST-OSP DESIGN ENGINEER  
AT&T NEVADA  
1375 Capital Blvd rm 115  
Reno, NV 89502  
ROW Office: 775-453-7578  
Email: [cc2132@att.com](mailto:cc2132@att.com)  
*TEXTING and DRIVING...It Can Wait*

## Evans, Timothy

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**From:** Albarran, Adriana  
**Sent:** Tuesday, October 17, 2023 2:18 PM  
**To:** Evans, Timothy  
**Subject:** FW: October Agency Review Memo I

FYI

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**From:** Katie Andrie <kmandrie@ndow.org>  
**Sent:** Tuesday, October 17, 2023 2:16 PM  
**To:** Albarran, Adriana <AAlbarran@washoecounty.gov>  
**Subject:** RE: October Agency Review Memo I

[NOTICE: This message originated outside of Washoe County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

No comments from NDOW. Thank you!

## Evans, Timothy

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**From:** Lemon, Brittany  
**Sent:** Thursday, October 19, 2023 10:28 AM  
**To:** Evans, Timothy  
**Cc:** Way, Dale  
**Subject:** WSUP23-0017 (Joy Lake Road) Conditions of Approval

Hi Tim,

“This project shall meet and comply with all requirements of currently adopted TMFPD fire codes, ordinances, and standards at the time of construction to include infrastructure for fire apparatus access roads and water supply.”

<https://tmfpd.us/fire-code/>.

Thank you,

### **Brittany Lemon**

**Fire Captain - Fire Prevention | Truckee Meadows Fire & Rescue**

[blemon@tmfpd.us](mailto:blemon@tmfpd.us) | Office: 775.326.6079 | Cell: 775.379.0584

3663 Barron Way, Reno, NV 89511



*"Committed to excellence, service, and the protection of life and property in our community"*



Date: October 19, 2023

To: Tim Evans, Planner

From: Timber Weiss, P.E., Licensed Engineer

Re: Special Use Permit Case Number WSUP23-0017 (Joy Lake Road)  
APN 046-080-19

## GENERAL PROJECT DISCUSSION

For hearing, discussion, and possible action to approve a special use permit for the replacement of the existing telecommunications tower with an 80-foot monopine, antennas, and supporting equipment for T-Mobile at the existing telecommunications facility located at 18400 Joy Lake Road, Washoe Valley, NV; APN 046-080-19.

*The Community Services Department (CSD) recommends approval of this project with the following Water Rights conditions:*

No water right comments for this permit.



Date: October 24, 2023

To: Tim Evans, Planner

From: Janelle K. Thomas, P.E., Senior Licensed Engineer  
Robert Wimer, P.E., Licensed Engineer

Re: Special Use Permit for **Joy Lake Road WSUP23-0017**  
APN 046-080-19

## GENERAL PROJECT DISCUSSION

Washoe County Engineering staff has reviewed the above referenced application. The Special Use Permit is for the construction of a wireless communications tower and is located on approximately 0.241 acres at Joy Lake Road between I-580 and US-395A. The parcel number includes the following: 046-080-19. The Engineering and Capital Projects Division recommends approval with the following comments and conditions of approval which supplement the applicable County Codes and are based upon our review of the site and the application prepared by Crown Castle. The County Engineer shall determine compliance with the following conditions of approval.

For questions related to sections below, please contact the staff's name referenced.

## GENERAL CONDITIONS

Contact Information: Robert Wimer, P.E. (775) 328-2059

### Conditions:

1. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.

## DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)

Contact Information: Robert Wimer, P.E. (775) 328-2059

### Conditions:

1. The following note shall be added to the construction drawings; "All properties, regardless of if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties."



**TRAFFIC AND ROADWAY (COUNTY CODE 110.436)**

Contact Information: Mitchell Fink, P.E. (775) 328-2050

**Conditions:**

1. No Traffic related comments or conditions.

**UTILITIES (County Code 422 & Sewer Ordinance)**

Contact Information: Alexander Mayorga, P.E. (775) 328-2313

**Conditions:**

1. No utilities related comments or conditions.

## Evans, Timothy

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**From:** Program, EMS  
**Sent:** Tuesday, October 24, 2023 10:40 AM  
**To:** Evans, Timothy  
**Cc:** Program, EMS  
**Subject:** FW\_ October Agency Review Memo I - Special Use Permit Case Number WSUP23-0017 (Joy Lake Road)  
**Attachments:** October Agency Review Memo I.pdf

Hello,

The EMS Program has reviewed the October Agency Review Memo I - Special Use Permit Case Number WSUP23-0017 (Joy Lake Road)– and has no concerns or questions at this time based on the information provided.

Thank you,



**April Miller**  
*Sr. Office Specialist*  
*Epidemiology and Public Health Preparedness*

O: [775-326-6049](tel:775-326-6049)  
1001 E Ninth St. Bldg. B Reno, NV 89512

[NNPH.org](https://www.nnp.org) |     

[Click here to take our customer satisfaction survey](#)

November 1, 2023

Washoe County Community Services  
Planning and Development Division

RE: Joy Lake Road; 046-080-19  
Special Use Permit; WSUP23-0017

Dear Washoe County Staff:

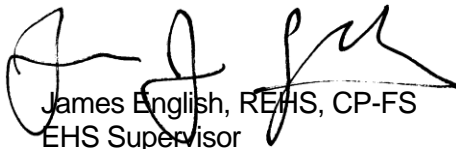
The following conditions are requirements of Northern Nevada Public Health (NNPH), Environmental Health Division, (EHS) which shall be responsible for determining compliance with these conditions.

**Contact Name – James English - [jenglish@washoecounty.us](mailto:jenglish@washoecounty.us)**

- a) Condition #1: EHS has reviewed the application as submitted and has no concerns with the approval as requested and submitted.
- b) Condition #2: The subject parcel has no sewer or water infrastructure.

If you have any questions or would like clarification regarding the foregoing, please contact James English, EHS Supervisor at [jenglish@washoecounty.us](mailto:jenglish@washoecounty.us) regarding all NNPH comments.

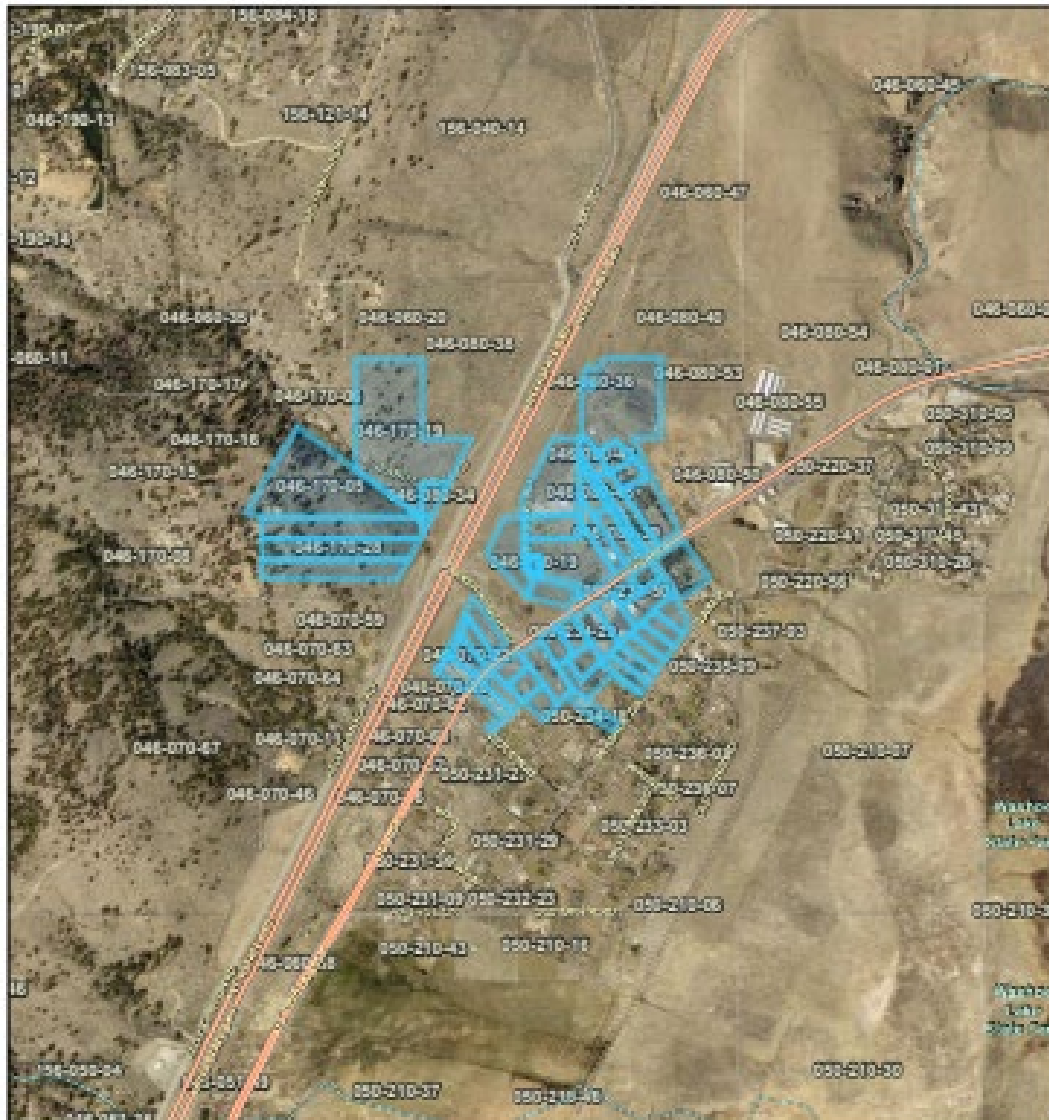
Sincerely,



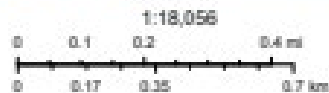
James English, REHS, CP-FS  
EHS Supervisor  
Environmental Health Services  
Northern Nevada Public Health

**Public Notice**

Washoe County Code requires that public notification for a special use permit must be mailed to a minimum of 30 separate property owners within a minimum 500-foot radius of the subject property a minimum of 10 days prior to the public hearing date. A notice setting forth the time, place, purpose of hearing, a description of the request and the land involved was sent within a 1000-foot radius of the subject property. A total of 52 separate property owners were noticed a minimum of 10 days prior to the public hearing date.



October 11, 2023



**Public Notice Map**

**Special Use Permit Case Number WSUP23-0017**

County of Washoe Planning Department

Applicant: Crown Castle on behalf of T-Mobile

Applicant Contact: Lisa Elliott Lisa @streamlineeng.com 209.605.2736

17180 Sycamore Ave  
Patterson Ca 95363  
209.605.2736

Dear Planning,

Crown Castle respectfully submits this Application for a Review. This existing wireless facility is located at 18400 Joy Lake Washoe. The design is a stealth and will blend with the surrounding area. There is a need to upgrade the existing technologies and Crown Castle is proposing the following scope.

Scope:

- REMOVING & REPLACING (2) (E) 6201 CABINETS W/ (N) T-MOBILE ENCLOSURE 6160 CABINET
- REMOVING & REPLACING (2) (E) 8003 BATTERY CABINETS W/ (N) B160 BATTERY CABINET
- REMOVING (2) (E) DIPLEXERS
- REMOVING (2) (E) TMAS @ ANTENNAS
- REMOVING (2) (E) ANTENNAS
- REMOVING & REPLACING (E) CROWN CASTLE MONOPOLE W/ (N) 80' CROWN CASTLE MONOPINE
- INSTALLING (N) DOUBLE TRI-SECTOR COLLAR W/ T-ARMS
- INSTALLING (4) (N) T-MOBILE ANTENNAS
- INSTALLING (2) (N) RRUS-4480 B71/B85 UNITS @ ANTENNAS
- INSTALLING (2) (N) RRUS-4460 B25/B66 UNITS @ ANTENNAS
- INSTALLING (2) (N) 6x24 HYBRID CABLES



Lisa Elliott

Streamline Engineering Real Estate License # 02004947 Site Acquisition Specialist 209.605.2736

## Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

<b>Project Information</b>		Staff Assigned Case No.: _____	
Project Name: 827182			
Project Description: <b>WIRELESS UPGRADES THAT INVOLVE A DROP &amp; SWAP</b> SEE T-1 OF PLANS FOR FULL SCOPE OF WORK.			
Project Address: 18400 JOY LAKE WASHOE VALLEY			
Project Area (acres or square feet):			
Project Location (with point of reference to major cross streets AND area locator): <b>SEE VICINITY MAP PAGE T1 OF PLANS</b>			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
04608019			
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
<b>Applicant Information</b> (attach additional sheets if necessary)			
<b>Property Owner:</b>		<b>Professional Consultant:</b>	
Name: NEVADA BELL		Name: CROWN CASTLE ON BEHALF OF T-MOBILE	
Address: 5000 EXECUTIVE PARKWAY		Address: 3718 R ST #6	
SAN RAMON/CA Zip: 94583		MERCED CA Zip: 95348	
Phone: NA Fax:		Phone: 209 605 2736 Fax:	
Email: NA		Email: LISA@STREAMLINEENG.COM	
Cell: NA Other:		Cell: SAME Other:	
Contact Person: NA		Contact Person: LISA ELLIOTT	
<b>Applicant/Developer:</b>		<b>Other Persons to be Contacted:</b>	
Name:		Name:	
Address:		Address:	
Zip:		Zip:	
Phone: Fax:		Phone: Fax:	
Email:		Email:	
Cell: Other:		Cell: Other:	
Contact Person:		Contact Person:	
<b>For Office Use Only</b>			
Date Received: Initial:		Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

# Special Use Permit Application Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

This is an existing wireless facility proposing upgrades which involves a drop and swap.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

ATTACHED SITE PLAN

3. What is the intended phasing schedule for the construction and completion of the project?

A COUPLE OF WEEKS

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

STEALTH TREE POLE TO BLEND

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

better coverage/capcity of wireless services for the area.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

NONE

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

NO CHANGE



8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

9. Utilities:

a. Sewer Service	
b. Electrical Service	
c. Telephone Service	
d. LPG or Natural Gas Service	
e. Solid Waste Disposal Service	
f. Cable Television Service	
g. Water Service	

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

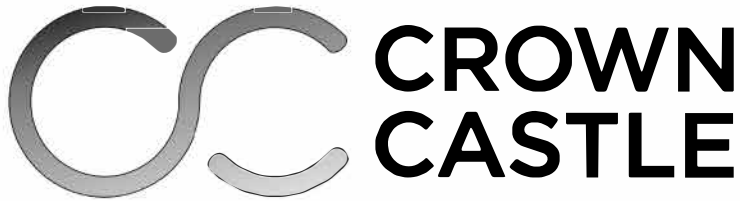
h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

NA
----

10. Community Services (provided and nearest facility):

a. Fire Station	
b. Health Care Facility	
c. Elementary School	
d. Middle School	
e. High School	
f. Parks	
g. Library	
h. Citifare Bus Stop	



# CROWN CASTLE

SA344 395 & WASHOE CITY/O  
18400 JOY LAKE RD, WASHOE VALLEY, NV 89704  
BUN 827182

T-MOBILE WEST LLC



SA344 395 & WASHOE CITY/O  
PROJECT - CELL TOWER REPLACEMENT  
& T-MOBILE EQUIPMENT UPGRADE  
18400 JOY LAKE RD, WASHOE VALLEY, NV 89704  
SC09344A

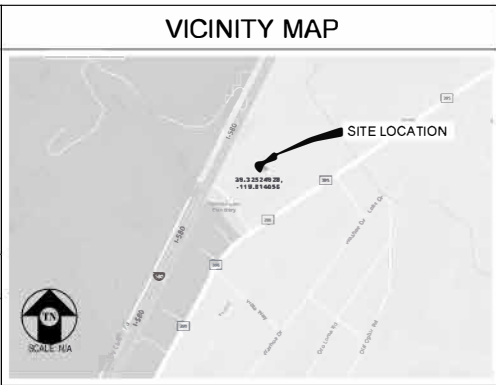
SA344 395 & WASHOE CITY/O  
827182  
18400 JOY LAKE RD  
WASHOE VALLEY, NV 89704

ISSUE STATUS			
Δ	DATE	DESCRIPTION	BY
	05/03/22	CD 90K	C.T.C
	09/29/22	CD 95K	S.V.
	09/06/23	CLIENT REV	C.C.

DRAWN BY: C. COLSTON  
CHECKED BY: S. SAMG  
APPROVED BY: -  
DATE: 09/06/23

RFDS VER#: 3

PROJECT DESCRIPTION	
A MODIFICATION TO AN (E) UNMANNED CROWN CASTLE TELECOMMUNICATION FACILITY CONSISTING OF:	
<ul style="list-style-type: none"> <li>REMOVING &amp; REPLACING (2) (E) 6201 CABINETS W/ (N) T-MOBILE ENCLOSURE 6160 CABINET</li> <li>REMOVING &amp; REPLACING (2) (E) 8003 BATTERY CABINETS W/ (N) 6160 BATTERY CABINET</li> <li>REMOVING (2) (E) DIPLEXERS</li> <li>REMOVING (2) (E) TMAS @ ANTENNAS</li> <li>REMOVING (2) (E) ANTENNAS</li> <li>REMOVING &amp; REPLACING (E) CROWN CASTLE MONOPOLE W/ (N) 80' CROWN CASTLE MONOPOLE</li> <li>INSTALLING (N) DOUBLE TRI-SECTOR COLLAR MOUNT W/ T-ARMS</li> <li>INSTALLING (4) (N) T-MOBILE ANTENNAS</li> <li>INSTALLING (2) (N) RRU5-4480 B71/B85 UNITS @ ANTENNAS</li> <li>INSTALLING (2) (N) RRU5-4460 B25/B66 UNITS @ ANTENNAS</li> <li>INSTALLING (2) (N) 6X24 HYBRID CABLES</li> </ul>	



CODE COMPLIANCE	
ALL WORK & MATERIALS SHALL BE PERFORMED & INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:	
<ol style="list-style-type: none"> <li>2018 INTERNATIONAL BUILDING CODE AND NECESSARY ADMINISTRATIVE PROVISIONS</li> <li>2018 INTERNATIONAL RESIDENTIAL CODE AND NECESSARY ADMINISTRATIVE PROVISIONS</li> <li>2018 INTERNATIONAL EXISTING BUILDING CODE AND NECESSARY ADMINISTRATIVE PROVISIONS</li> <li>2018 INTERNATIONAL ENERGY CONSERVATION CODE</li> <li>2018 INTERNATIONAL FUEL GAS CODE</li> <li>2018 INTERNATIONAL MECHANICAL CODE AND NECESSARY ADMINISTRATIVE PROVISIONS</li> <li>2018 UNIFORM PLUMBING CODE AND NECESSARY ADMINISTRATIVE PROVISIONS</li> <li>2018 UNIFORM MECHANICAL CODE AND NECESSARY ADMINISTRATIVE PROVISIONS</li> <li>2017 NATIONAL ELECTRICAL CODE</li> <li>2018 INTERNATIONAL FIRE CODE</li> <li>2012 MIDLAND URBAN INTERFACE CODE</li> <li>2018 NORTHERN NEVADA AMENDMENTS</li> <li>CITY/COUNTY ORDINANCES</li> <li>ANSI/ETIA-TIA-222-H</li> </ol>	<p>ALONG WITH ANY OTHER APPLICABLE LOCAL &amp; STATE LAWS AND REGULATIONS.</p>

PROJECT INFORMATION	
SITE NAME:	SA344 395 & WASHOE CITY/O
COUNTY:	WASHOE
APN:	046-080-19
SITE ADDRESS:	18400 JOY LAKE RD WASHOE VALLEY, NV 89704
CURRENT ZONING:	PSP
CONSTRUCTION TYPE:	II-B
OCCUPANCY TYPE:	U, (UNMANNED COMMUNICATIONS FACILITY)
PROPERTY OWNER:	ASHLAN PARK SHOPPING CENTER 390 BRIDGE PARKWAY, STE C REDWOOD CITY, CA 94065
APPLICANT:	AT&T MOBILITY 5001 EXECUTIVE PARKWAY SAN RAMON, CA 94583
CROWN CASTLE PROJECT MANAGER:	ATTN: BEJUNDA LIVINGSTON (801) 362-8720
CROWN CASTLE D&S PROJECT MANAGER:	ATTN: BRIAN JEEGWATER (925) 737-1016
ZONING CONTACT:	STREAMLINE ENGINEERING & DESIGN, INC ATTN: LISA ELLIOTT (209) 605-2736
CONSTRUCTION CONTACT:	CROWN CASTLE ATTN: JAMES SJOTVEDT (916) 532-7545
CROWN BU#	823574
JURISDICTION:	COUNTY OF WASHOE, NV
POWER:	PG&E
TELEPHONE:	AT&T
LATITUDE:	N 39° 19' 30.90" NAD 83 N 39.325249
LONGITUDE:	W 119° 48' 50.60" NAD 83 W 119.814056
AMSL:	±9101.7'

DRIVING DIRECTIONS	
FROM:	ONE PARK PLACE, SUITE 300, DUBLIN, CA 94568
TO:	18400 JOY LAKE RD, WASHOE VALLEY, NV 89704
<ol style="list-style-type: none"> <li>HEAD SOUTH ON PARK PL TOWARD DUBLIN BLVD</li> <li>TURN LEFT ONTO DUBLIN BLVD</li> <li>USE THE RIGHT 2 LANES TO TURN RIGHT ONTO HACIENDA DR</li> <li>USE THE RIGHT 2 LANES TO TAKE THE INTERSTATE 580 W RAMP TO OAKLAND</li> <li>MERGE ONTO I-580 W</li> <li>TAKE THE EXIT TOWARD SACRAMENTO</li> <li>MERGE ONTO I-580 N</li> <li>KEEP LEFT TO STAY ON I-580 N</li> <li>KEEP LEFT AT THE FORK TO STAY ON I-580 N</li> <li>KEEP LEFT AT THE FORK TO CONTINUE ON I-580</li> <li>TAKE EXIT 71A TOWARD I-80 E/SACRAMENTO</li> <li>MERGE ONTO I-80 E</li> <li>TAKE THE I-80 EXIT TOWARD RENO</li> <li>CONTINUE ONTO I-80 E</li> <li>TAKE EXIT 15 TO MERGE ONTO I-580 S/US-395 S TOWARD CARSON CITY</li> <li>KEEP LEFT TO CONTINUE ON I-580 S</li> <li>KEEP LEFT TO STAY ON I-580 S</li> <li>TAKE EXIT 25B FOR VIRGINIA ST SOUTH</li> <li>CONTINUE ONTO US-395 ALT S/S VIRGINIA ST</li> <li>TURN RIGHT ONTO JOY LAKE RD</li> </ol>	<p>240 FT 0.1 MI 0.2 MI 0.2 MI 1.4 MI 0.5 MI 18.8 MI 1.4 MI 5.9 MI 14.4 MI 0.4 MI 41.0 MI 0.7 MI 135 MI 0.8 MI 0.2 MI 9.0 MI 0.5 MI 8.1 MI 0.1 MI</p>
END AT:	18400 JOY LAKE RD, WASHOE VALLEY, NV 89704
ESTIMATED TIME:	3 HOURS 50 MINUTES
ESTIMATED DISTANCE:	240 MILES

SHEET INDEX			APPROVAL	
SHEET	DESCRIPTION	REV		
T-1	TITLE SHEET	-	RF	
T-2	NOTES	-	LEASING	
A-1	OVERALL SITE PLAN	-	ZONING	
A-2	EQUIPMENT PLANS & DETAILS	-	CONSTRUCTION	
A-3	ANTENNA PLAN & DETAILS	-	T-MOBILE	
A-4	ELEVATIONS	-		
S-1	STRUCTURAL DETAILS	-		
E-1	ELECTRICAL PLAN	-		
E-2	GROUNDING PLAN & DETAILS	-		

**Streamline Engineering**  
Civil Design, Inc.

8445 Sierra College Blvd, Suite E Canby, CA 95746  
Contact: Kevin Sorenson, Phone: 916-960-1930  
E-Mail: ksorenson@streamline.com Fax: 916-960-1911

Professional Seal of Kevin Sorenson, License No. 45088, State of California  
Professional Seal of Lisa Elliott, License No. 11873, State of California

PRELIMINARY:  
NOT FOR  
CONSTRUCTION  
KEVIN R. SORENSON  
54469

**CROWN CASTLE**

ONE PARK PLACE, SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:  
TITLE SHEET

SHEET NUMBER:  
T-1

**PROJECT GENERAL NOTES**

- THIS FACILITY IS AN UNOCCUPIED WIRELESS TELECOMMUNICATION FACILITY.
- PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- 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 CONFIRM THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PAY FOR PERMIT FEES, AND TO OBTAIN SAID PERMITS AND TO COORDINATE INSPECTIONS.
- THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- CALL BEFORE YOU DIG. CONTRACTOR IS REQUIRED TO CALL 811 (NATIONWIDE "CALL BEFORE YOU DIG" HOTLINE) AT LEAST 72 HOURS BEFORE DIGGING.
- 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.
- THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. CONTRACTOR SHALL ALSO COORDINATE ALL PORTIONS OF THE WORK UNDER THE CONTRACT, INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION MANAGER AND WITH THE LANDOWNER'S AUTHORIZED REPRESENTATIVE.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC., AND UPON COMPLETION OF WORK, REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF THE PROJECT MANAGER.
- KEEP GENERAL AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS AND RUBBISH. REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR 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.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND ALL OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- THE CONTRACTOR SHALL PROVIDE A TOILET FACILITY DURING ALL PHASES OF CONSTRUCTION.
- SUFFICIENT MONUMENTATION WAS NOT RECOVERED TO ESTABLISH THE POSITION OF THE BOUNDARY LINES SHOWN HEREON. THE BOUNDARY REPRESENTED ON THIS MAP IS BASED ON COMPILED RECORD DATA AND BEST FIT ON TO EXISTING IMPROVEMENTS. IT IS POSSIBLE FOR THE LOCATION OF THE SUBJECT PROPERTY TO SHIFT FROM THE PLACEMENT SHOWN HEREON WITH ADDITIONAL FIELD WORK AND RESEARCH. THEREFORE ANY SPATIAL REFERENCE MADE OR SHOWN BETWEEN THE RELATIONSHIP OF THE BOUNDARY LINES SHOWN HEREON AND EXISTING GROUND FEATURES, EASEMENTS OR LEASE AREA IS INTENDED TO BE APPROXIMATE AND IS SUBJECT TO VERIFICATION BY RESOLVING THE POSITION OF THE BOUNDARY LINES.
- THE CONTRACTOR TO VERIFY THE LATEST/CURRENT RF DESIGN.
- WHERE APPLICABLE, CONTRACTOR SHALL PROVIDE SEPARATE PLANS, SPECIFICATIONS, FEES AND PERMITS FOR ANY REVISION TO ANY FIRE SPRINKLER AND/OR ALARM SYSTEM ON THE PREMISES AS MAY BE NEEDED TO COMPLETE THE WORK DEPICTED HEREIN, USING A C-10 LICENSED SUBCONTRACTOR FOR ALL SUCH WORK.

**CONSTRUCTION NOTES**

- EXISTING BUILDING CONSTRUCTION CONDITIONS INDICATED ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO PROCEEDING WITH CONSTRUCTION OR ORDERING OF MATERIALS. IF EXISTING CONDITIONS DO NOT ALLOW FOR DETAILS OF CONSTRUCTION AS SHOWN ON THESE DRAWINGS, NOTIFY ENGINEER OF RECORD FOR RESOLUTION PRIOR TO PROCEEDING. CONTRACTOR SHALL EXPOSE AND REVIEW EXISTING CONDITIONS IN A TIMELY MANNER SUCH THAT ALTERNATE DESIGNS OR DETAILS, IF REQUIRED, MAY BE GENERATED WITHOUT DELAY TO THE PROJECT.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL NOT ALTER, DAMAGE OR REMOVE ANY PART OF THE EXISTING STRUCTURE UNLESS SPECIFICALLY DETAILED ON THESE DRAWINGS.
- THE INTENT OF THESE DRAWINGS IS THAT THE WORK OF THE ADDITION, ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH THE 2019 CBC. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE 2019 CBC, A CHANGE ORDER OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE PREPARED AND SUBMITTED TO AND APPROVED BY THE BUILDING DEPARTMENT PRIOR TO PROCEEDING WITH THE WORK.
- ALL WORK AND MATERIALS SHOWN ARE NEW UNLESS INDICATED AS EXISTING (E).
- IT MAY BE NECESSARY TO REMOVE ARCHITECTURAL FINISHES, PLUMBING PIPES AND FITURES, ELECTRICAL CONDUIT, FITURES, PANELS, BOXES, TELEPHONE OR FIRE ALARM WIRING AND FIXTURES OR OTHER NON-STRUCTURAL ITEMS TO INSTALL STRUCTURAL WORK AND MATERIALS SHOWN ON THESE DRAWINGS. SUCH ITEMS SHALL BE REMOVED, REPAIRED AND/OR REPLACED TO MATCH PRE-CONSTRUCTION CONDITIONS AT THE CONTRACTORS EXPENSE.
- ALL WEATHER PROOFING, INCLUDING BUT NOT LIMITED TO TORCH DOWN, CALKING, Z-FLASHING OR ANY OTHER MATERIAL THAT MAY BE ALTERED DURING INSTALLATION SHALL BE REPAIRED REPLACED AND/OR MODIFIED TO ENSURE THE BUILDING AT THE INSTALLATION SITE IS WEATHER PROOF.
- ANY PROPOSED SUBSTITUTIONS FOR STRUCTURAL MEMBERS, HARDWARE, ANCHOR TYPES, OR DETAILING INDICATED IN THESE DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER OF RECORD PRIOR TO ORDERING MATERIALS. SUCH REVIEW SHALL BE FILLED ON A TIME AND MATERIALS BASIS TO THE CONTRACTOR WITH NO GUARANTEE THAT THE SUBSTITUTION WILL BE ALLOWED.
- CONTRACTOR SHALL ENSURE ALL ROOF AREAS HAVE POSITIVE SLOPE TO ALL EXISTING ROOF DRAINS. PROVIDE ADDITIONAL CROCKETS OR BUILD UP ROOFING AS REQUIRED TO PROVIDE POSITIVE DRAINAGE AROUND ALL NEW CONSTRUCTION INCLUDING ANY CURBS, SLEEPERS, SUPPORT BASES, ETC.

**CONCRETE CORE/DRILLING NOTES**

- WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED OR POST-TENSIONED REINFORCED CONCRETE (MILD REINFORCED), USE CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE (E) REINFORCING BARS. WHEN INSTALLING ANCHORS INTO (E) PRE-STRESSED OR POST-TENSIONED CONCRETE LOCATE THE PRE-STRESSED OR POST-TENSIONED TENDONS BY USING A NON-DESTRUCTIVE METHOD, SUCH AS X-RAY, AT POINT OF PENETRATION, PRIOR TO INSTALLATION. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF TWO INCHES BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.
- WHEN CORING EXISTING REINFORCED CONCRETE OF ANY CONSTRUCTION TYPE (PRE-STRESSED, POST-TENSIONED OR MILD REINFORCED), LOCATE THE EXISTING REINFORCING BY USING A NON-DESTRUCTIVE METHOD, SUCH AS X-RAY, PRIOR TO CORING. EXERCISE EXTREME CARE & CAUTION TO AVOID CUTTING OR DAMAGING ANY REINFORCING DURING CORING. MAINTAIN A MINIMUM CLEARANCE OF TWO INCHES BETWEEN REINFORCEMENT AND THE CORE. THE MAXIMUM SIZE OF ANY CORE IS TO BE 6" DIAMETER AND THE MINIMUM SPACING BETWEEN CORES IS TO BE TWICE THE CORE DIAMETER (I.E. 12" SPACING FOR A 6" DIAMETER CORE).
- INSPECTOR IS TO BE PRESENT DURING ALL CORE DRILLING OPERATIONS TO VERIFY THAT NO REINFORCING CABLES, TENDONS, OR REBAR HAVE BEEN CUT. (SEE NOTE 5 BELOW)
- THE INSPECTOR SHALL SUBMIT A WRITTEN REPORT TO THE OWNER.
- THE INSPECTIONS INDICATED IN NOTES 3 AND 4 ABOVE ARE NOT REQUIRED FOR A CONCRETE FILL OVER METAL DECK APPLICATION WHERE INDICATED ON THE CONSTRUCTION DRAWINGS.

**STRUCTURAL STEEL NOTES**

- ALL STEEL CONSTRUCTION INCLUDING FABRICATION, ERECTION AND MATERIALS SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2016 AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE 2019 CBC.
- ALL STRUCTURAL STEEL SHALL BE ASTM A36 UNLESS OTHERWISE NOTED. ALL WF (WIDE FLANGE) & WT (TEE) SHAPES TO BE ASTM A992 (F<sub>y</sub>=50,000 PSI) UNLESS NOTED OTHERWISE. ALL STRUCTURAL TUBING (TS OR HSS) SHALL BE ASTM A500 GRADE B (F<sub>y</sub>=48,000 PSI). ALL STEEL PIPE SHALL BE ASTM A53 (TYPE E OR S, GRADE B (F<sub>y</sub>=35,000 PSI)) SCHEDULE 40 WITH OUTSIDE DIAMETERS GIVEN UNLESS OTHERWISE NOTED.
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES UNLESS OTHERWISE NOTED AND SHALL CONFORM TO AISC & AWS D1.4. WHERE FILLET WELD SIZES ARE NOT SHOWN PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC SPECIFICATION. PAINTED SURFACES SHALL BE TOUCHED UP.
- ALL WELDING SHALL BE PERFORMED BY QUALIFIED, CERTIFIED WELDERS.
- BOLTS SHALL BE GALVANIZED ASTM F3125/F3125M GRADE A325 MINIMUM. BOLTED CONNECTIONS SHALL BE BEARING TYPE. SEE PLANS FOR LOCATION, NUMBER, & SIZE OF BOLTS. SPECIAL INSPECTION IS REQUIRED FOR HIGH STRENGTH BOLTS.
- THREADED RODS SHALL BE ASTM F1554, OR 3/8 U.O.N. BOLTED CONNECTIONS SHALL BE BEARING TYPE. SEE PLANS FOR LOCATION, NUMBER, & SIZE OF BOLTS.
- ALL HOLES FOR BOLTED CONNECTIONS SHALL BE 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER. USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE. HOLES FOR ANCHOR BOLTS IN BASE PLATES MAY BE AISC "OVERSIZE" HOLES WHERE ACCOMPANIED BY OVERSIZED HARDENED HOT DIPPED GALVANIZED WASHERS.
- ALL SHOP FABRICATED STEEL STRUCTURAL MEMBERS FOR EXTERIOR USE SHALL BE HOT DIP GALVANIZED PER ASTM A123 AFTER FABRICATION & PAINTED PER CUSTOMER SPECIFICATIONS AS REQUIRED. STEEL FOR INTERIOR USE SHALL BE SHOP COAT OR GALVANIZED & PAINTED PER PLAN.
- ALL FIELD FABRICATED GALVANIZED STEEL THAT IS CUT, GROUND, DRILLED, WELDED OR DAMAGED SHALL BE TREATED WITH "ZINC RICH" COLD GALVANIZING SPRAY OR COATING. NO RAW STEEL SHALL BE EXPOSED.
- AT ALL WEB STIFFENER PLATES LEAVE 3/8" Ø (OR K, WHICHEVER IS LARGER) HOLE @ WEB/FLANGE INTERSECTION UNLESS NOTED OTHERWISE.
- BOLTS AND NUTS AT ANTENNA & RRU MOUNTS TO BE ASTM F3125/F3125M GRADE A325 WITH A194M NUTS U.O.N.
- ALL NUTS SHALL BE ASTM A563/A563M ALL WASHERS SHALL BE ASTM F436/F436M
- ALL STRUT MEMBERS USED IN EXTERIOR APPLICATIONS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 OR ASTM A153.
- ALL STAINLESS STEEL BOLTED CONNECTIONS SHALL BE ASTM F593-17 ALLOY GROUP 1 OR 2 AND STAINLESS STEEL NUTS SHALL BE ASTM F594-09 (2015).

**EXPANSION & EPOXY ANCHORS**

- EXPANSION AND EPOXY ANCHORS SHALL BE IN CONFORMANCE WITH ALL REQUIREMENTS OF THE 2019 CALIFORNIA BUILDING CODE (CBC).
- ALL ANCHORS PROVIDED SHALL BE INCLUDED IN EVALUATION REPORTS OF THE INTERNATIONAL CODE COUNCIL (ICC), AND SHALL BE EVALUATED FOR 2019 ICC MINIMUM REQUIREMENTS IN THE ICC REPORT.
- CONCRETE EXPANSION ANCHORS SHALL BE KWIK BOLT T22 BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-4266 OR APPROVED EQUIVALENT.
- CMU EXPANSION ANCHORS SHALL BE KWIK BOLT T22 BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-4561 OR APPROVED EQUIVALENT. ANCHORS SHALL BE INSTALLED A MINIMUM OF 1 3/4" FROM ANY VERTICAL MORTAR JOINT TYPICAL. ANCHORS TO BE SPACED 8 INCHES ON CENTER MINIMUM AND LIMITED TO ONE ANCHOR PER CELL.
- CONCRETE ADHESIVE EPOXY ANCHORS SHALL BE HIT RE-500 V3 BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-3814 OR APPROVED EQUIVALENT.
- GROUT FILLED CMU ADHESIVE EPOXY ANCHORS SHALL BE HIT-HY 200 BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-3963 OR APPROVED EQUIVALENT.
- INSTALL EXPANSION AND EPOXY ANCHORS WITH SPECIAL INSPECTION IN ACCORDANCE WITH THE 2019 CBC, TABLE 1705.3, AND ALL REQUIREMENTS OF THE MANUFACTURER, THE MANUFACTURER'S ICC APPROVAL, AND THESE DRAWINGS.
- EXPANSION ANCHORS SHALL BE 304/316 STAINLESS STEEL U.O.N. EPOXY ANCHOR THREADED ROD SHALL BE ASTM F593 OWI (316) (1/2" OR 3/4") OR F593 Q2 (316) (3/4" TO 1 1/4") STAINLESS STEEL U.O.N.
- LOCATE AND AVOID REINFORCEMENT AND OTHER EMBEDDED ITEMS WHEN INSTALLING ANCHORS. TYPICAL SEE CONCRETE CORE DRILLING NOTES FOR ADDITIONAL INFORMATION.
- THE SPECIAL INSPECTOR MUST MAKE PERIODIC INSPECTIONS DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE AND DIMENSIONS, CONCRETE MEMBER THICKNESS, ANCHOR SPACING, EDGE DISTANCES, TIGHTENING TORQUE, HOLE DIAMETER, DEPTH AND CLEANLINESS, ANCHOR EMBEDMENT AND ADHERENCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE NOTE 11 BELOW FOR FREQUENCY OF INSPECTIONS.
- 50% OF ALL ANCHORS, INCLUDING ALTERNATE BOLTS IN A GROUP OF ANCHORS, SHALL BE INSPECTED PER NOTE 10 ABOVE AND TORQUE TESTED PER THE ICC REPORT TEST VALUES NOTED BELOW.

**KB T22 CONCRETE TORQUE TEST VALUES:**

3/8"=30 FT LB	1/2"=40 FT LB	3/4"=60 FT LB	1"=125 FT LB
---------------	---------------	---------------	--------------

**CMU TORQUE TEST VALUES:**

3/8"=15 FT LB	1/2"=25 FT LB	3/4"=35 FT LB	1"=50 FT LB
---------------	---------------	---------------	-------------

**EPOXY ANCHOR CONCRETE TORQUE TEST VALUES:**

3/4"=30 FT LB  
(CONCRETE TENSION TEST VALUES TO BE DETERMINED AS NEEDED. A RFI WILL BE ISSUED IF NEEDED DURING CONSTRUCTION TO ESTABLISH THE REQUIRED TENSION TEST VALUES)

**CFC CHAPTER 12 COMPLIANCE**

TOTAL = 12 BATTERIES x 2.28 kWh/BATTERY = 27.36 kWh  
(SINCE LESS THAN 70kwh OF CAPACITY, CFC CHAPTER 12, SECTIONS 1206.2.1-1206.2.12.6 NOT APPLICABLE)

**BATTERY INFORMATION (BATTERY CAPACITY DATA-12V MONOBLOCKS)**

BATTERY MODEL	TOTAL # OF BATTERY UNITS INSTALLED	AMP HOURS PER UNIT	TOTAL VOLTS PER UNIT	# OF BATTERIES x AMP HOURS PER UNIT x VOLTS PER UNIT / 1000	TOTAL kWh
NORTHSTAR 210FT	12	210Ah	12V	12 x 210Ah x 12V/1000 = 27.36 kWh < 70kwh	

BATTERY DATA CHART

ANTENNA SCHEDULE													
ANTENNA					RADIO UNIT			CABLING					
SECTOR	TECHNOLOGY	ANTENNA MODEL	RAD CENTER	AZIMUTH	RRU MODEL	NO. OF RRUS	NO. OF JUMPERS	JUMPER LENGTH	NO. OF HYBRID CABLES	HYBRID CABLE LENGTH	NO. OF COAX CABLES	COAX DA	COAX LENGTH
ALPHA SECTOR	A1	L600/A700/N500/ L2100/A1900/G1900	RFS-APKVAAM124_43-U-NA20	70°-0°	60°	RRU-4480 B71/B85 RRU-4460 B25/B66	2	8	10'	1	80'	-	-
	A2	L2500/N2500	ERICSSON AIR6419 B41	70°-0°	60°	-	-	-	-	-	-	-	-
BETA SECTOR	B1	L600/A700/N500/ L2100/A1900/G1900	RFS-APKVAAM124_43-U-NA20	70°-0°	180°	RRU-4480 B71/B85 RRU-4460 B25/B66	2	8	10'	1	80'	-	-
	B2	L2500/N2500	ERICSSON AIR6419 B41	70°-0°	180°	-	-	-	-	-	-	-	-

**SA344 395 & WASHOE CITY/O**

827182  
18400 JOY LAKE RD  
WASHOE VALLEY, NV 89704

**ISSUE STATUS**

Δ	DATE	DESCRIPTION	BY
	05/03/22	CD 90X	C.T.C
	09/29/22	CD 95X	S.V.
	09/09/23	CLIENT REV	C.C.
	-	-	-
	-	-	-
	-	-	-

DRAWN BY: C. COLSTON

CHECKED BY: S. SAVIG

APPROVED BY: -

DATE: 09/06/23

**Streamline Engineering**  
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8445 Sierra College Blvd., Suite E Granite Bay, CA 95746  
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**PRELIMINARY: NOT FOR CONSTRUCTION**

KEVIN R. SORENSON  
54469

**CROWN CASTLE**

ONE PARK PLACE, SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:

NOTES

SHEET NUMBER:

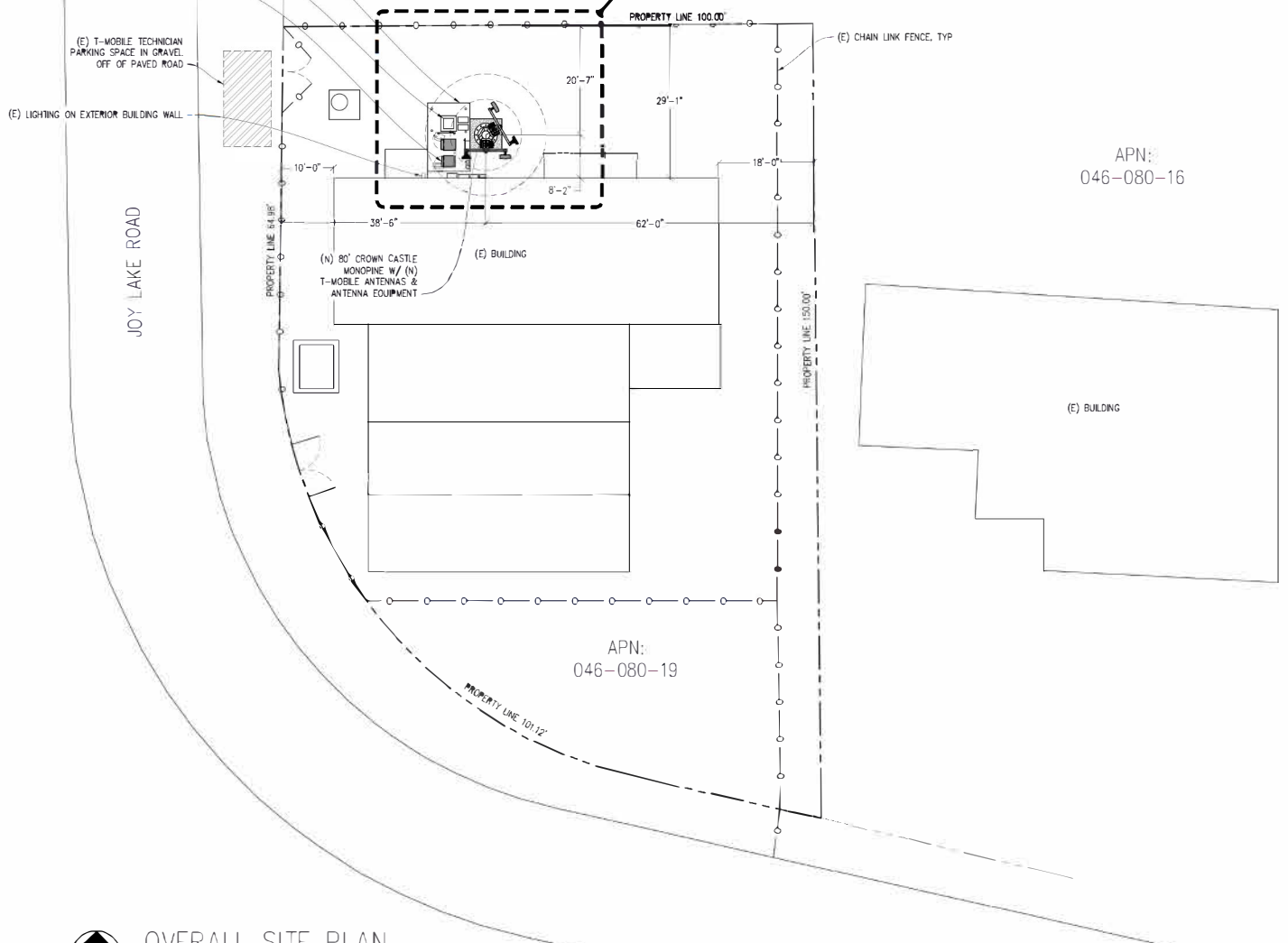
**T-2**

- (E) CROWN CASTLE LEASE AREA W/ (N) & (E) T-MOBILE EQUIPMENT
- (E) CROWN CASTLE MONOPOLE W/ (E) T-MOBILE ANTENNAS TO BE REMOVED @ FINAL PHASE
- (E) SITE ID SIGNAGE ON (E) CABINETS TO BE RELOCATED TO (N) CABINETS

(E) T-MOBILE TECHNICIAN PARKING SPACE IN GRAVEL OFF OF PAVED ROAD

(E) LIGHTING ON EXTERIOR BUILDING WALL

SEE EQUIPMENT PLAN, SHEET A-2  
& SEE ANTENNA PLAN, SHEET A-3



APN: 046-080-16

APN: 046-080-19



OVERALL SITE PLAN  
1"=10'-0"



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	05/03/22	CD 90%	C.T.C
	09/29/22	CD 95%	S.V.
	09/08/23	CLIENT REV	C.C.

DRAWN BY: C. COLSTON  
CHECKED BY: S. SAWG  
APPROVED BY: -  
DATE: 09/06/23

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8445 Sierra College Blvd, Suite E Granite Bay, CA 95748  
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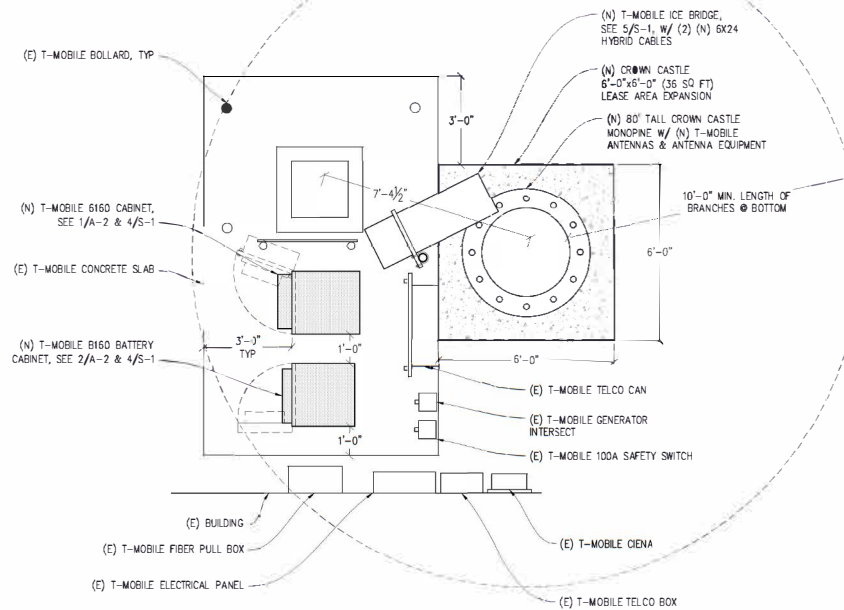
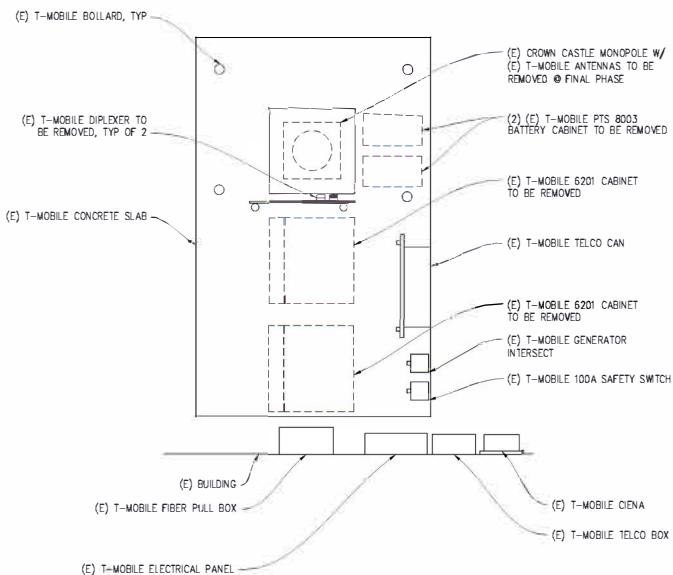
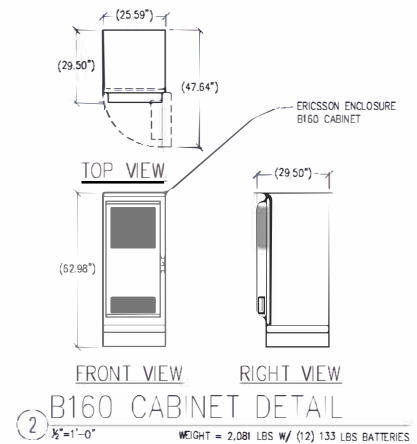
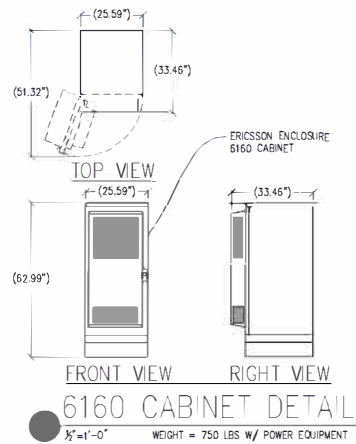
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54469

**CROWN CASTLE**

ONE PARK PLACE SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:  
OVERALL SITE PLAN  
SHEET NUMBER:  
**A-1**



(E) EQUIPMENT PLAN

1/2"=1'-0"



(N) EQUIPMENT PLAN

1/2"=1'-0"



SA344 395 & WASHOE CITY/O

827182  
18400 JOY LAKE RD  
WASHOE VALLEY, NV 89704

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	09/29/22	CD 95%	S.V.
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DRAWN BY: C. COLSTON

CHECKED BY: S. SAWIG

APPROVED BY: -

DATE: 09/06/23

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ONE PARK PLACE, SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:

EQUIPMENT PLAN & DETAILS

SHEET NUMBER:

A-2

WSUP23-0017  
EXHIBIT F



**SA344 395 & WASHOE CITY/O**

827182  
18400 JOY LAKE RD  
WASHOE VALLEY, NV 89704

**ISSUE STATUS**

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	09/06/23	CLIENT REV	C.C.

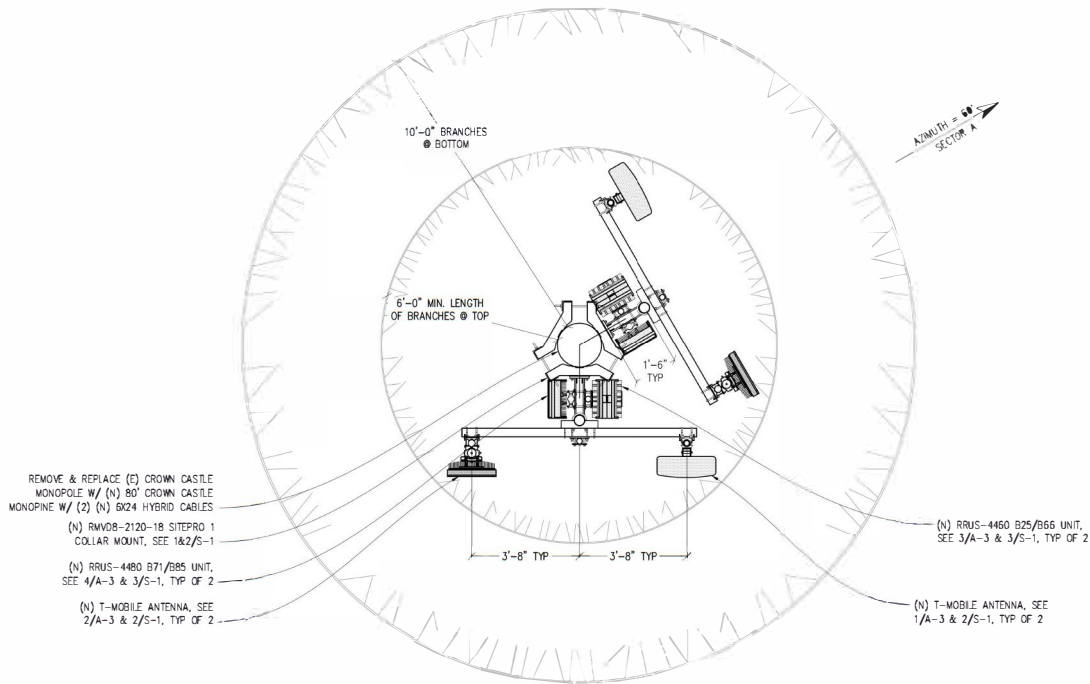
DRAWN BY: C. COLSTON  
CHECKED BY: S. SAVIG  
APPROVED BY: -  
DATE: 09/06/23

**NOTICE**

NEW MONOPOLE TO BE ANALYZED BY OTHERS. STREAMLINE ENGINEERING & DESIGN INC. IS NOT RESPONSIBLE FOR THE EVALUATION OF THE NEW POLE, BASE PLATE, ANCHOR BOLTS, FOUNDATION OR ANTENNA/RRU MOUNT FRAMING & CONNECTIONS FOR THE NEW LOADING CONDITIONS.

**NOTE:**

1. ALL (N) ANTENNA MOUNTS, & EXPOSED CABLES TO BE PAINTED TO MATCH (E) MONOPOLE & BE FULLY WITHIN MONOPOLE BRANCH RADIUS.
2. PAINT OR 3M FILM WRAP ALL (N) ANTENNAS TO MATCH (E) MONOPOLE.

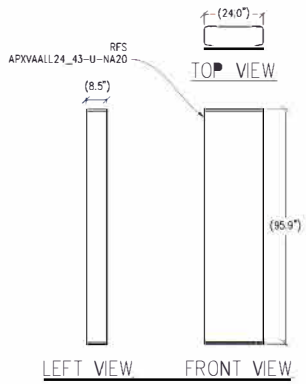


REMOVE & REPLACE (E) CROWN CASTLE MONOPOLE W/ (N) 80' CROWN CASTLE MONOPOLE W/ (2) (N) 6X24 HYBRID CABLES  
(N) RNV09-2120-18 SITEPRO 1 COLLAR MOUNT, SEE 1&2/S-1  
(N) RRU5-4480 B71/B85 UNIT, SEE 4/A-3 & 3/S-1, TYP OF 2  
(N) T-MOBILE ANTENNA, SEE 2/A-3 & 2/S-1, TYP OF 2

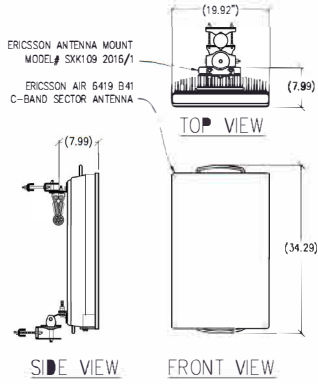
(N) RRU5-4460 B25/B66 UNIT, SEE 3/A-3 & 3/S-1, TYP OF 2

(N) T-MOBILE ANTENNA, SEE 1/A-3 & 2/S-1, TYP OF 2

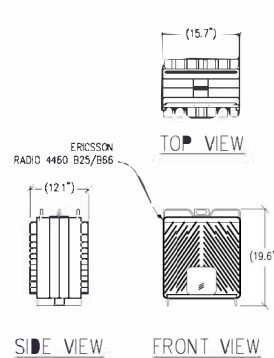
**(N) ANTENNA PLAN**



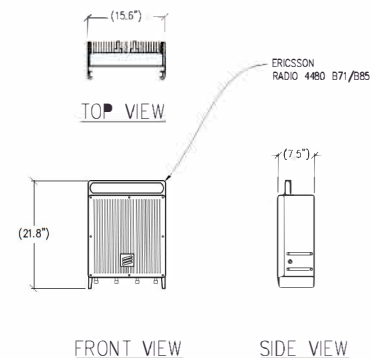
**1** ANTENNA DETAIL  
1/2"=1'-0" MAX WEIGHT: 117.9 LBS



**2** ANTENNA DETAIL  
1"=1'-0" MAX WEIGHT W/ MOUNT: 76.5 LBS



**3** RADIO 4460 B25/B66 DETAIL  
1"=1'-0" MAX WEIGHT: 109 LBS



**4** RADIO 4480 B71/B85 DETAIL  
1"=1'-0" MAX WEIGHT: 93 LBS

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KEVIN R. SORESENSEN  
54469

**CROWN CASTLE**  
ONE PARK PLACE SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:  
ANTENNA PLAN & DETAILS  
SHEET NUMBER:  
**A-3**

**SA344 395 &  
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	09/29/22	CD 858	S.V.
	09/06/23	CLIENT REV	C.C.

DRAWN BY: C. COLSTON  
CHECKED BY: S. SAVIG  
APPROVED BY: -  
DATE: 09/06/23

**Streamline Engineering**  
and  
**am Design Inc.**

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Contact: Kevin Sorenson Phone: 916-660-1930  
E-Mail: kso@streamlineeng.com Fax: 916-660-1941

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ONE PARK PLACE, SUITE 300  
DUBLIN, CA 94568

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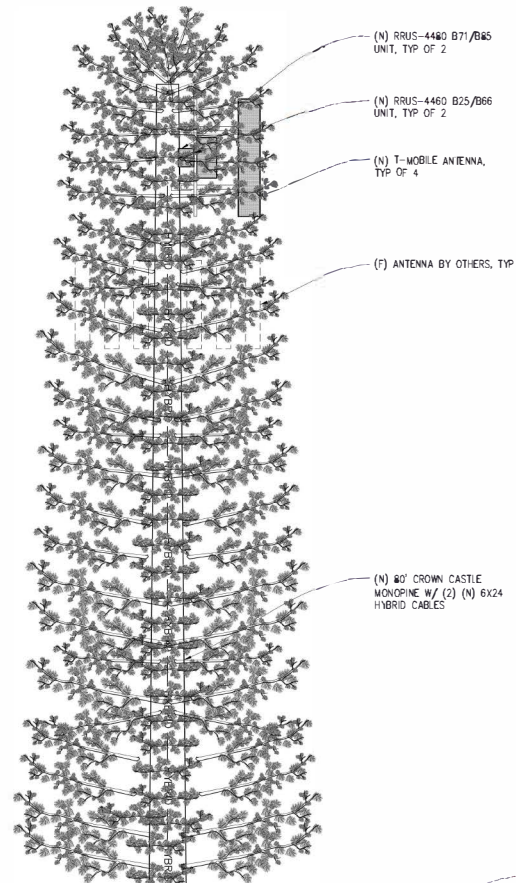
ELEVATIONS

SHEET NUMBER:

A-4

WSUP23-0017  
EXHIBIT F

- TOP OF (N) MONOPINE BRANCHES  
±60'-0" A.G.L.
- TOP OF (N) MONOPINE STEEL  
±75'-0" A.G.L.
- CENTER OF (N) T-MOBILE ANTENNAS  
±70'-0" A.G.L.
- CENTER OF (F) ANTENNAS BY OTHERS  
±60'-0" A.G.L.



(E) T-MOBILE ANTENNA TO BE REMOVED @ FINAL PHASE, TYP OF 2

- CENTER OF (E) T-MOBILE ANTENNAS  
±35'-0" A.G.L.

(E) CROWN CASTLE MONOPOLE TO BE REMOVED @ FINAL PHASE

- BOTTOM OF (N) MONOPINE BRANCHES  
±20'-0" A.G.L.

(E) BUILDING

(E) BUILDING

(E) CROWN CASTLE LEASE AREA W/ T-MOBILE (E) EQUIPMENT

(E) CROWN CASTLE LEASE AREA W/ T-MOBILE (E) & (N) EQUIPMENT

- GROUND LEVEL  
0'-0"

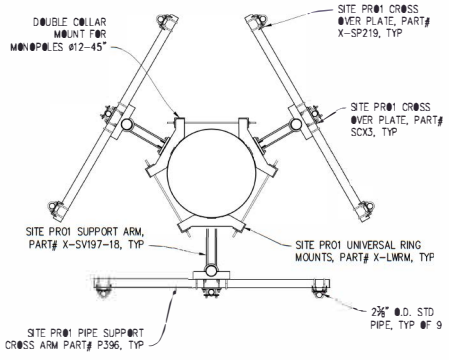
(E) NORTH ELEVATION

(N) NORTH ELEVATION

1/8"=1'-0"

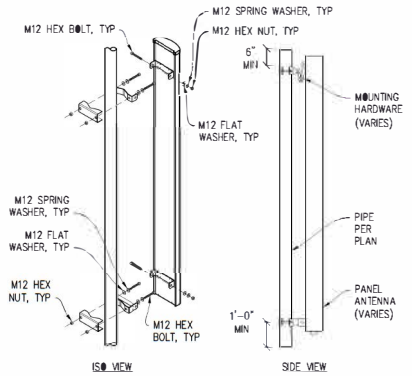
1/8"=1'-0"





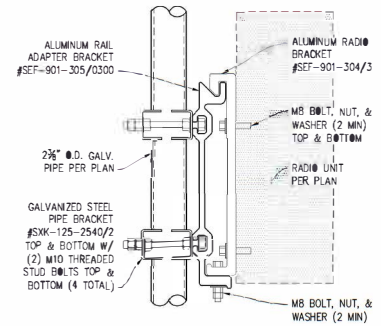
RMVD8-2120-18 MOUNT

1/2"=1'-0"



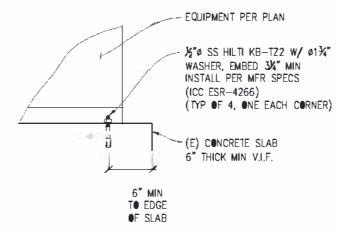
ANTENNA MOUNT

1'-1'-0"



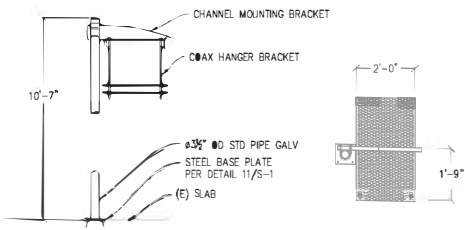
RADIO UNIT MOUNTING

3'-1'-0"



CABINET TO CONG

1/2"=1'-0"



FRONT VIEW

TOP VIEW

ICE BRIDGE DETAIL

1/2"=1'-0"

SA344 395 & WASHOE CITY/O  
 827182  
 18400 JOY LAKE RD  
 WASHOE VALLEY, NV 89704

ISSUE STATUS

Δ	DATE	DESCRIPTION	BY
	05/03/22	CD 90%	C.T.C.
	09/29/22	CD 95%	S.V.
	09/08/23	CLIENT REV	C.C.

DRAWN BY: C. COLSTON  
 CHECKED BY: S. SAUNG  
 APPROVED BY: -  
 DATE: 09/06/23

**Streamline Engineering and Design, Inc.**  
 8445 Sierra College Blvd, Suite E, Granite Bay, CA 95746  
 Contact: Kevin Sorensen Phone: 916-660-1930  
 E-Mail: kevin@streamlineeng.com Fax: 916-660-1941  
Professional Seal of Kevin Sorensen, PE, No. 10000, State of California, License No. 10000, expires 12/31/2024. The State of California Board of Professional Engineers, Architects, and Surveyors is the authority on the validity of this seal.

PRELIMINARY:  
 NOT FOR  
 CONSTRUCTION  
 KEVIN R. SORENSEN  
 S4469

**CROWN CASTLE**  
 ONE PARK PLACE, SUITE 300  
 DUBLIN, CA 94568

SHEET TITLE:  
 STRUCTURAL DETAILS  
 SHEET NUMBER:  
 S-1

**SA344 395 &  
WASHOE  
CITY/O**

827182  
18400 JOY LAKE RD  
WASHOE VALLEY, NV 89704

**ISSUE STATUS**

Δ	DATE	DESCRIPTION	BY
	05/03/22	CD 90X	C.T.C
	09/29/22	CD 95X	S.V.
	09/07/23	CLIENT REV	C.C.

DRAWN BY: C. COLSTON  
CHECKED BY: S. SAVIG  
APPROVED BY: -  
DATE: 09/06/23

**Streamline Engineering**  
and Design, Inc.

8445 Sierra College Blvd, Suite E Granite Bay, CA 95748  
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E-Mail: ksorens@streamlineeng.com Fax: 916-660-1941

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CONSTRUCTION

KEVIN R. SORENSON  
51469

**CROWN  
CASTLE**

ONE PARK PLACE, SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:

ELECTRICAL PLAN

SHEET NUMBER:

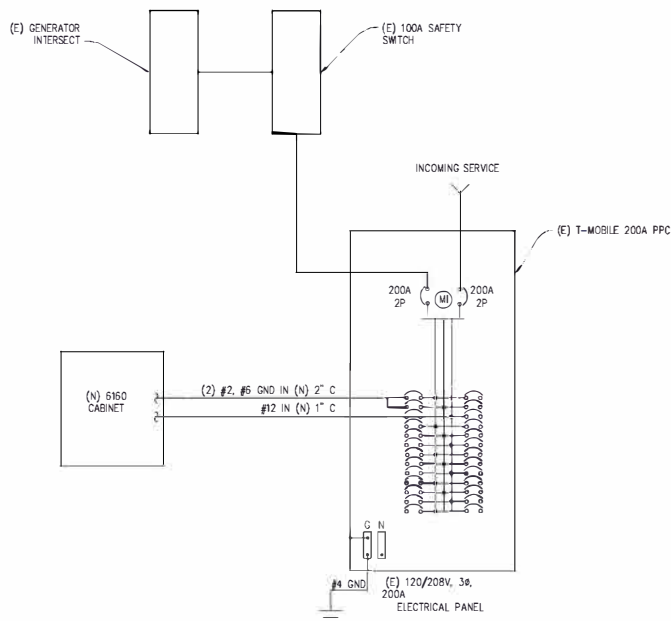
E-1

**ELECTRIC LEGEND**

- (M) MECHANICAL INTERLINK
- (M) METER
- (C) CIRCUIT BREAKER
- ⊥ SERVICE GROUND
- WIRE CONNECTION
- (T) TIMER SWITCH, WATERPROOF
- (O) OUTDOOR LIGHT
- (G) GFI OUTLET, WATERPROOF

**ELECTRICAL NOTES**

- ALL ELECTRICAL WORK SHALL CONFORM TO THE 2019 CEC AS WELL AS ALL ADOPTED STANDARDS, APPLICABLE STATE AND LOCAL CODES.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, CONDUCTORS, PULL BOXES, TRANSFORMER PADS, POLE RISERS, AND PERFORM ALL TRENCHING AND BACKFILLING REQUIRED IN THE PLANS.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER PLAN SPECIFICATIONS.
- ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTION RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED WITH A MINIMUM OF 10,000 A.I.C. OR AS REQUIRED.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
- ELECTRICAL WIRING SHALL BE COPPER #12 AWG MIN WITH TYPE THHN, THWN-2 OR T1-W-2, INSULATION RATED FOR 90°C DRY OR 70°C WET.
- ALL OUTDOOR EQUIPMENT SHALL HAVE NEMA 3R ENCLOSURE.
- ALL BURIED WIRE SHALL RUN THROUGH SCHEDULE 40 PVC CONDUIT UNLESS OTHERWISE NOTED.
- A GROUND WIRE IS TO BE PULLED IN ALL CONDUITS.
- WHERE ELECTRICAL WIRING OCCURS OUTSIDE A STRUCTURE AND HAS THE POTENTIAL FOR EXPOSURE TO WEATHER, WIRING SHALL BE IN WATERTIGHT GALVANIZED RIGID STEEL OR FLEXIBLE CONDUIT.
- WHERE PLANS CALL FOR A NEW ELECTRICAL SERVICE, PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VERIFY PLAN DETAILS WITH THE UTILITY'S SERVICE PLAN & REQ'TS INCLUDING SERVICE VOLTAGE, METER LOCATION, MAIN DISCONNECTING MEANS, AND AIC REQ'T, AND SHALL OBTAIN CLARIFICATION FROM THE PROJECT ENGINEER ON ANY DEVIATIONS FOUND IN THESE PLANS.
- WHERE THESE PLANS SHOW A DC POWER PLANT, THE INSTALLATION OPERATING AT LESS THAN 50 VDC UNGROUNDED, 2-WIRE, SHALL COMPLY WITH ARTICLE 720, AS FOLLOWS:
  - POWER PLANT SHALL BE SUPPLIED BY THE WIRELESS CARRIER AS A PULL-TAG ITEM AND INSTALLED BY THE CONTRACTOR.
  - CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG COPPER MIN, CONDUCTORS FOR BRANCH CIRCUITS SUPPLYING MORE THAN ONE APPLIANCE SHALL BE 10 AWG CU MIN, CONTRACTOR SHALL SIZE CONDUCTORS BASED ON MFG'S DATA FOR THE APPLIANCES SERVED.
  - THERE ARE NO DC RECEPTACLES OR LUMINAIRES ALLOWED ON THIS PROJECT. ALL CIRCUITS SHALL ORIGINATE AT AN INTEGRATED DOUBLE LUG TAP OR SOCKET TERMINATION ON AN INTEGRATED DC CIRCUIT BREAKER AT AN INDIVIDUAL RECTIFIER MODULE AND TERMINATE AT THE SPECIALIZED LUG ON THE RESPECTIVE APPLIANCE AS A SINGLE RUN OF WIRE WITHOUT SPICES. ALL DC WIRING SHALL BE LABELED AT THE DC PLANT WITH THE APPLIANCE SERVED AND THE DC VOLTAGE.
  - ALL CABLING SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND SUPPORTED BY BUILDING STRUCTURE, EG (N) CABLE TRAY OVERHEAD, IN SUCH A MANNER THAT THE CABLE WILL NOT BE DAMAGED BY NORMAL USE.

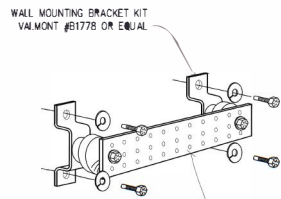


SINGLE LINE DIAGRAM

**PANEL SCHEDULE**

NAMEPLATE : PANEL A				SC LEVEL : 10,000				VOLTS: 120V/208V, 3φ			
LOCATION : OUTSIDE				BUS AMPS: 200A				BUS AMPS: 200A			
MOUNTING : WALL				MAIN CB: 200A				MAIN CB: 200A			
ea	eb	ec		BKR AMP/POLE	CIRCUIT NO	BKR AMP/POLE		ea	eb	ec	
LOAD VA	LOAD VA	LOAD VA	LOAD DESCRIPTION				LOAD DESCRIPTION	LOAD VA	LOAD VA	LOAD VA	
6500			(N) 6160 CABINET	125/2	1 2	--	BLANK				
	6500		"	"	3 4	--	"				
		300	(N) SERVICE OUTLET	15/1	5 6	--	MAIN				0
			BLANK	--	7 8	--	BLANK	0			
			"	--	9 10	--	"				
			"	--	11 12	--	"				
			"	--	13 14	--	"				
			"	--	15 16	--	"				
			"	--	17 18	--	"				
			"	--	19 20	--	"				
			"	--	21 22	--	"				
			"	--	23 24	--	"				
			"	--	25 26	--	"				
6500	6500	300	PHASE TOTALS				PHASE TOTALS	0	0	0	
TOTAL VA =	13300		TOTAL AMP'S =	37							

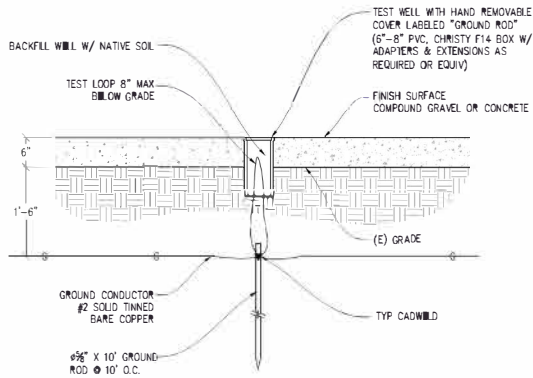
NOTE: EXISTING LOADS HAVE NOT BEEN FIELD VERIFIED. THEY ARE APPROXIMATE BASED ON EXISTING CB SIZES. CONTACT THE ENGINEER IF THE LOADS DIFFER FROM THAT WHICH IS SHOWN ON THE PLANS



COPPER GROUND BUSS 4"X4"X24"  
VALMONT #B2988 OR EQUIV. HOLE CENTERS TO  
MATCH NEMA DOUBLE LUG CONFIGURATION.  
(ACTUAL GROUND BUSS SIZES WILL VARY  
BASED ON THE NUMBER OF GROUND CONNECTIONS)

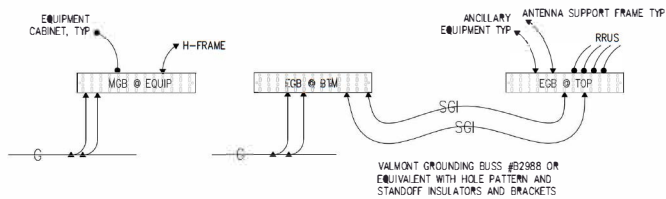
### 1 GROUND BUSS DETAIL

NOT TO SCALE



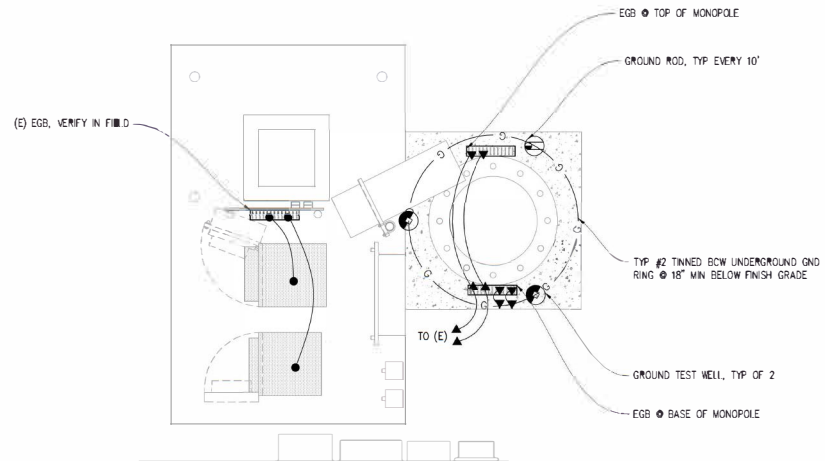
### 2 TEST WELL DETAIL

NOTE: THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS. THE GROUND RODS SHALL BE 1/2" X 10' COPPER CLAD STEEL SPACED AT 10' INTERVALS MAX. RODS SHALL BE INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND WIRE BURIED A MINIMUM 18" BELOW GRADE. AN ONSITE INSPECTION BY THE OWNER SHALL BE REQUIRED PRIOR TO ANY BACKFILL.



### GROUND LEGEND

- MECHANICAL CONNECTION
- ▼ EXOTHERMIC CADWELD
- ⊙ TYP. CADWELD INSPECTION WELL
- ⊕ TYP. 1/2" DIA. X 10'-0" LONG COPPER CLAD GROUND ROD @ 10' O.C. MAX & 18" MIN BELOW FINISH GRADE
- ⌒ GATE GROUNDING STRAP
- ⊖ TYP. #2 TINNED BCW UNDERGROUND GND RING @ 18" MIN BELOW FINISH GRADE
- SGI GROUND WIRE #2 STRANDED GREEN INSULATED WIRE



### GROUNDING PLAN

1/2"=1'-0"

**SA344 395 &  
WASHOE  
CITY/O**

827182  
1800 JOY LAKE RD  
WASHOE VALLEY, NV 89704

### ISSUE STATUS

Δ	DATE	DESCRIPTION	BY
	05/03/22	CD 90X	C.T.C
	09/29/22	CD 95X	S.V
	09/06/23	CLIENT REV	C.C.

DRAWN BY: C. COLSTON  
CHECKED BY: S. SAVIG  
APPROVED BY: -  
DATE: 09/06/23

**Streamline Engineering**  
Civil Design, Inc.

8445 Sierra College Blvd, Suite E Granite Bay, CA 95748  
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E-Mail: kevin@streamlineeng.com Fax: 916 660 1941  
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PRELIMINARY:  
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CONSTRUCTION

KEVIN R. SORENSON  
S4469



ONE PARK PLACE, SUITE 300  
DUBLIN, CA 94568

SHEET TITLE:

GROUNDING PLAN  
& DETAILS

SHEET NUMBER:

E-2

## CHAPPEL, BRITIAN H

---

**From:** MILLER, BRIAHNA J  
**Sent:** Friday, February 10, 2023 3:10 PM  
**To:** CHAPPEL, BRITIAN H; MONTEZ, REBECCA  
**Cc:** TURNER, MICHAEL L  
**Subject:** RE: REQUEST SIGNATURE SC09344 827182 18400 JOY LAKE ROAD WASHOE VALLEY ANCHOR | D&S RT-114866

Hi Brit and Rebecca,

Since there is no impact to the building or land, there are no concerns from GRE to sign this document allowing the project to proceed.

If there are any changes in scope that may impact the building or land, please let me know so we can ensure there is no impact to our assets.

Thank you,  
Briahna

**From:** CHAPPEL, BRITIAN H <bc2892@att.com>  
**Sent:** Monday, January 30, 2023 2:14 PM  
**To:** MILLER, BRIAHNA J <bm0934@att.com>; MONTEZ, REBECCA <rx235e@att.com>  
**Cc:** TURNER, MICHAEL L <mt0932@att.com>  
**Subject:** RE: REQUEST SIGNATURE SC09344 827182 18400 JOY LAKE ROAD WASHOE VALLEY ANCHOR | D&S RT-114866

Briahna,

I see nothing that would impact our building or land and willing to sign the document once approved to proceed. Thanks

*Brit Chappel*

SR Manager Planning, Design & Construction  
AT&T Global Real Estate Operations  
Office (775)858-7531  
Cell (775)200-6438  
Fax (775)858-1842

**From:** MILLER, BRIAHNA J <bm0934@att.com>  
**Sent:** Monday, January 30, 2023 12:48 PM  
**To:** CHAPPEL, BRITIAN H <bc2892@att.com>; MONTEZ, REBECCA <rx235e@att.com>

**Crown Castle on behalf of T-Mobile  
Site BU Number – 827182  
Application ID – 593627  
Site Name – SA344 395 & Washoe  
City/O  
Site Compliance Report**

**18400 Joy Lake Road  
Washoe Valley, NV 89704**

Latitude: N39-19-30.90  
Longitude: W119-48-50.60  
Structure Type: Monopine

Report generated date: June 17, 2022  
Report by: Leo Romero  
Customer Contact: Brian Leegwater

---

**T-Mobile will be compliant upon completion of  
the remediation identified in Section 2.2.**

© 2022 Site Safe, LLC, Vienna, VA



sealed 20jun2022 mike@h2dc.com  
H2DC PLLC NV CoA#: 24139

**Crown Castle on behalf of T-Mobile  
SA344 395 & Washoe City/O - 827182  
Radio Frequency (RF) Site Compliance Report**



**18400 Joy Lake Road, Washoe Valley, NV 89704**





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## 1 Executive Summary

Crown Castle on behalf of T-Mobile has contracted with Site Safe, LLC (Sitesafe), an independent Radio Frequency (RF) regulatory and engineering consulting firm, to determine whether the proposed communications site, 827182 - SA344395 & Washoe City/O, located at 18400 Joy Lake Road, Washoe Valley, NV, is in compliance with the Federal Communications Commission (FCC) Rules and Regulations for RF exposure.

This report contains a detailed summary of the RF environment at the site including:

- Diagram of the site
- Inventory of the make / model of all antennas
- Theoretical MPE based on modeling

This report addresses exposure to radio frequency electromagnetic fields in accordance with the FCC Rules and Regulations for all individuals, classified in two groups, "Occupational or Controlled" and "General Public or Uncontrolled."

**T-Mobile will be compliant** with the FCC Rules and Regulations, as described in OET Bulletin 65, **upon implementation of the proposed remediation.** The corrective actions needed to make this site compliant are located in Section 2.2.

T-Mobile proposes to make modifications to an existing site. The proposed antennas are noted as "Proposed" in the antenna table under Section 4.

This document and the conclusions herein are based on the information provided by Crown Castle on behalf of T-Mobile.

If you have any questions regarding RF safety and regulatory compliance, please do not hesitate to contact Sitesafe's Customer Support Department at (703) 276-1100.

## 2 Site Compliance

### 2.1 Site Compliance Statement

Upon evaluation of the cumulative RF exposure levels from all operators at this site, Sitesafe has determined that:

**T-Mobile will be compliant** with the FCC Rules and Regulations, as described in OET Bulletin 65, **upon implementation of the proposed remediation**. The corrective actions needed to make this site compliant are located in Section 2.2.

The compliance determination is based on theoretical modeling, RF signage placement recommendations, proposed antenna inventory and/or the level of restricted access to the antennas at the site. Any deviation from the proposed T-Mobile deployment plan could result in the site being rendered non-compliant upon further evaluation.

### 2.2 Actions for Site Compliance

Based on common industry practice and our understanding of FCC and OSHA requirements, this section provides a statement of recommendations for site compliance. If required, RF alert signage recommendations have been proposed based on theoretical analysis of MPE levels. Where applicable, barriers can consist of locked doors, fencing, railing, rope, chain, paint striping or tape, combined with RF alert signage.

T-Mobile will be compliant if the following changes are implemented:

#### **Base of Monopine (Proposed)**

(1) Warning sign required.

**Note:** The compound gate or the monopine access/climbing point must be locked/restricted for the site to be in compliance.

**Note:** Ensure all existing signage documented in this report still exist on site unless otherwise indicated.

### 3 Analysis

#### 3.1 RF Exposure Diagram

The RF diagram(s) below display theoretical percentage of the Maximum Permissible Exposure for all systems at the site. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix B.

The key at the bottom of each diagram indicates if percentages displayed are referenced to FCC **General Public** Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:



This table displays the maximum theoretical percentage of the FCC's General Public MPE limits:

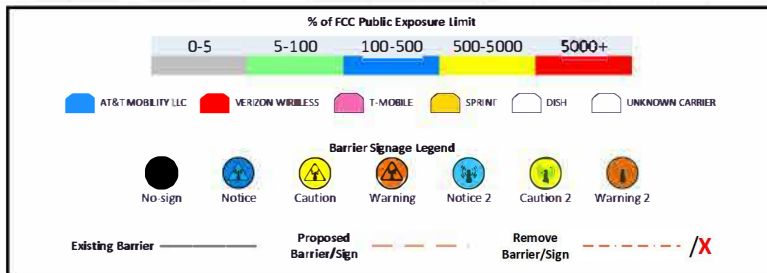
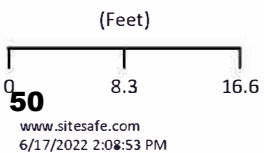
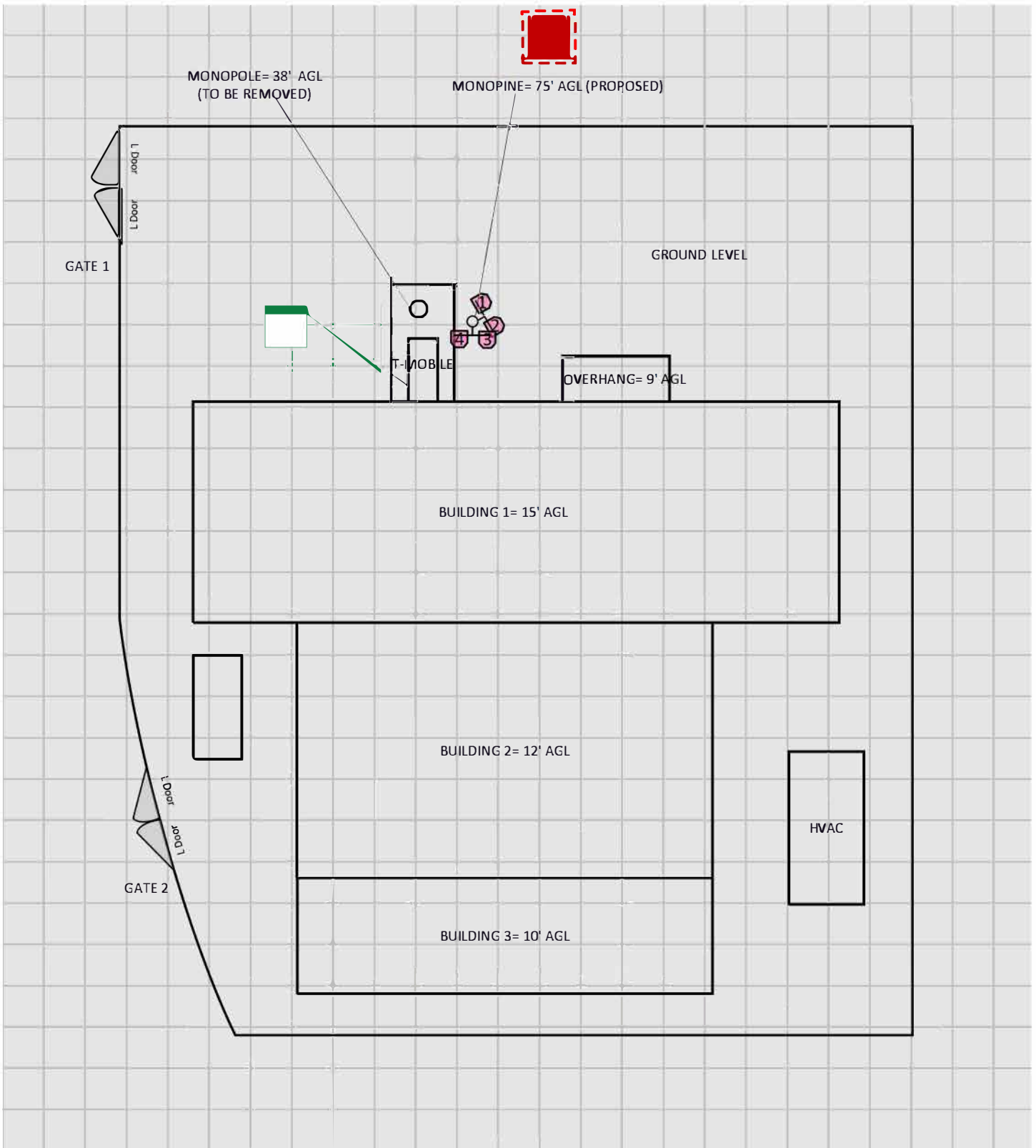
	<b>General Public Levels:</b>	
<b>Exposure Type:</b>	<b>Maximum</b>	<b>Spatial Average</b>
<b>Reference Level:</b>	<b>Antenna</b>	<b>Nearby Buildings / Ground</b>
<b>T-Mobile:</b>	80,120.0%	<1%
<b>Composite:</b>	80,120.0%	<1%

Note: On the diagrams shown below, each level is marked with a height. For all diagrams that are marked as *Spatially Averaged*, the modeling program will spatially average the exposure within the area six feet above each set level. This provides an accurate spatial average of the percentage of the FCC's MPE limits within an accessible area.

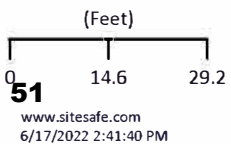
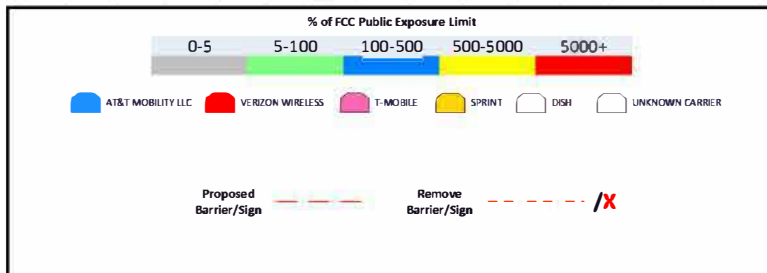
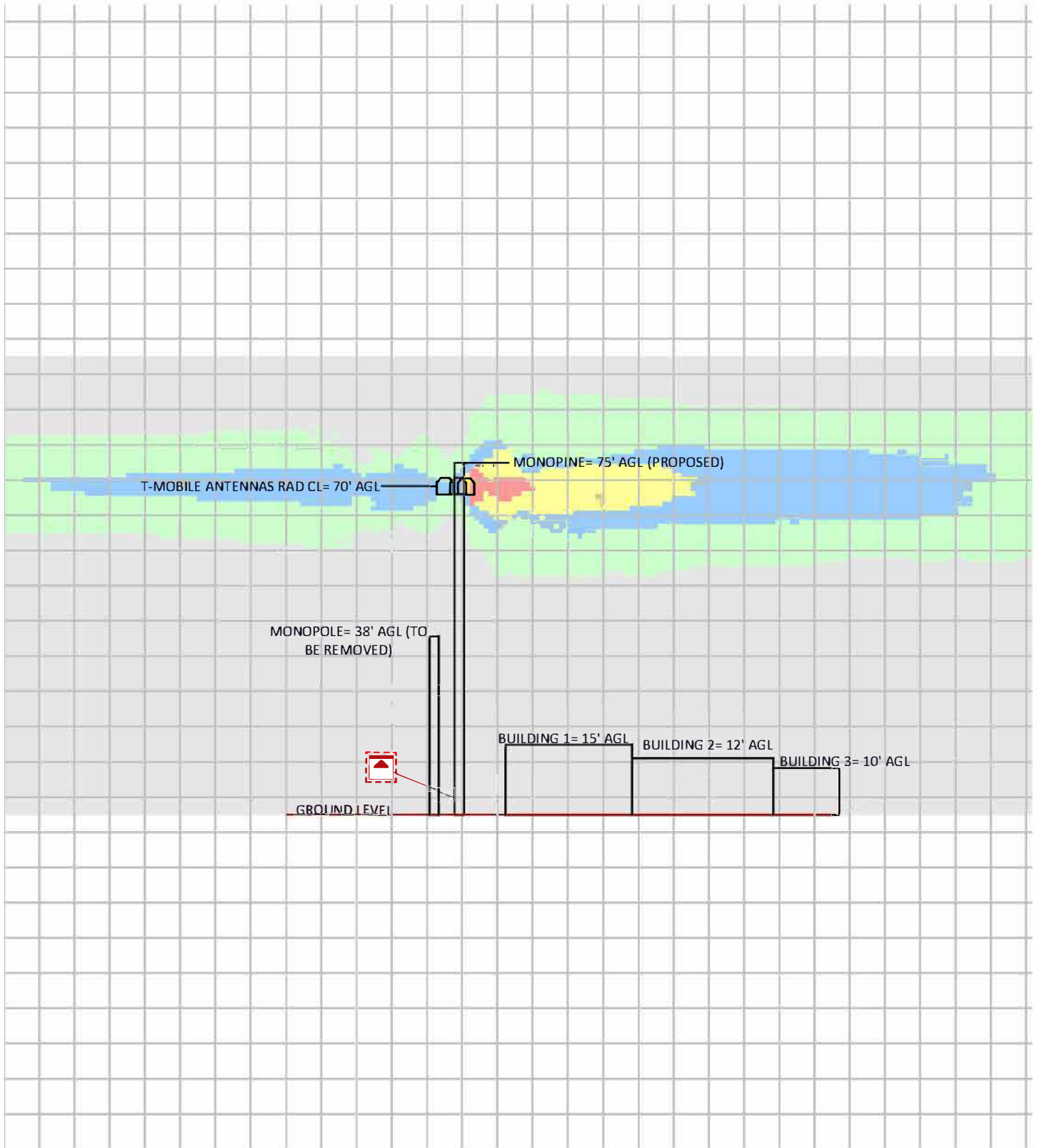
In the RF exposure simulations below, all heights are reflected with respect to ground level. Each different area, rooftop, or platform level is labeled with its height relative to the main site level. Exposure is calculated appropriately based on the relative height and location of that area to all antennas. The analyzed elevations in the RF exposure simulations are as follows:

- Ground Level = 0'
- Building 1 = 15'
- Building 2 = 13'
- Building 3 = 10'
- Overhang = 9'

# RF Exposure Simulation For: SA344 395 & Washoe City/O Composite View



# RF Exposure Simulation For: SA344 395 & Washoe City/O Elevation View



#### 4 Antenna Inventory

The Antenna Inventory shows all transmitting antennas at the site. This inventory was provided by the customer and was utilized by Sitesafe to perform theoretical modeling of RF exposure. The inventory coincides with the site diagrams in this report, identifying each antenna's location at 827182 - SA344 395 & Washoe City/O. The antenna information collected includes the following information:

- Licensee or wireless operator name
- Frequency or frequency band
- Transmitter power – Transmitter Power Output ("TPO"), Effective Radiated Power ("ERP"), or Equivalent Isotropic Radiated Power ("EIRP")
- Antenna manufacturer make, model, and gain



The following antenna inventory was provided by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make and Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	Power	Power Type	Power Units	TX Count	Misc Loss	Total ERP (Watts)	Z (ft) (AGL)	MDT (Deg)	EDT (Deg)
1	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	600	LTE	60	62.8	8	13.35	120.00	TPO	Watt	1	0.00	2595.26	70	0	0
1	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	600	5G	60	62.8	8	13.35	120.00	TPO	Watt	1	0.00	2595.26	70	0	0
1	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	700	LTE	60	63.7	8	13.75	160.00	TPO	Watt	1	0.00	3794.2	70	0	0
1	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	1900	GSM	60	64.9	8	15.25	140.00	TPO	Watt	1	0.00	4689.52	70	0	0
1	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	1900	LTE	60	64.9	8	15.25	140.00	TPO	Watt	1	0.00	4689.52	70	0	0
1	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	2100	LTE	60	59.4	8	16.45	280.00	TPO	Watt	1	0.00	12363.97	70	0	0
2	T-MOBILE (Proposed)	Ericsson AIR6419	Panel	2500	LTE	60	12.5	2.8	22.65	150.00	TPO	Watt	1	0.00	27611.58	70	0	0
2	T-MOBILE (Proposed)	Ericsson AIR6419	Panel	2500	5G	60	12.5	2.8	22.65	150.00	TPO	Watt	1	0.00	27611.58	70	0	0
3	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	600	LTE	180	62.8	8	13.35	120.00	TPO	Watt	1	0.00	2595.26	70	0	0
3	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	600	5G	180	62.8	8	13.35	120.00	TPO	Watt	1	0.00	2595.26	70	0	0
3	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	700	LTE	180	63.7	8	13.75	160.00	TPO	Watt	1	0.00	3794.2	70	0	0
3	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	1900	GSM	180	64.9	8	15.25	140.00	TPO	Watt	1	0.00	4689.52	70	0	0
3	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	1900	LTE	180	64.9	8	15.25	140.00	TPO	Watt	1	0.00	4689.52	70	0	0
3	T-MOBILE (Proposed)	RFS APXVAALL24_43-U-NA20	Panel	2100	LTE	180	59.4	8	16.45	280.00	TPO	Watt	1	0.00	12363.97	70	0	0
4	T-MOBILE (Proposed)	Ericsson AIR6419	Panel	2500	LTE	180	12.5	2.8	22.65	150.00	TPO	Watt	1	0.00	27611.58	70	0	0
4	T-MOBILE (Proposed)	Ericsson AIR6419	Panel	2500	5G	180	12.5	2.8	22.65	150.00	TPO	Watt	1	0.00	27611.58	70	0	0

Note: The Z reference indicates antenna height above ground level (AGL). ERP values provided by the client and used in the modeling may be greater than are currently deployed. For additional modeling information, refer to Appendix B. Proposed equipment is tagged as (Proposed) under Operator or Antenna Make and Model.





## 5 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms:

That I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I, Michael A. McGuire, P.E., am currently and actively licensed to provide (in this state/jurisdiction as indicated within the professional electrical engineering seal on the cover of this document) professional electrical engineering services, as an employee of Hurricane Hill Development Company, PLLC, a duly authorized/registered engineering firm (in this state, as applicable) on behalf of Site Safe, LLC; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Leo Romero.

June 17, 2022



## Appendix A – Statement of Limiting Conditions

Sitesafe will not be responsible for matters of a legal nature that affect the site or property.

Due to the complexity of some wireless sites, Sitesafe performed this analysis and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e. mislabeling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by T-Mobile, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, observed during the survey of the subject property or that Sitesafe became aware of during the normal research involved in performing this survey. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.

## Appendix B – Assumptions and Definitions

### General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a **worst-case** analysis, based on best available data. Areas modeled to predict exposure greater than 100% of the applicable MPE level may not actually occur but are shown as a **worst-case** prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF exposure diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

## Definitions

**5% Rule** – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

**Decibel (dB)** – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

**Gain (of an antenna)** – The ratio, usually expressed in decibels, of the power required at the input of a loss-free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power density at the same distance. When not specified otherwise, the gain refers to the direction of maximum radiation. Gain may be considered for a specified polarization. Gain may be referenced to an isotropic antenna (dBi) or a half-wave dipole (dBd) antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC as an area where RF exposure may occur to persons who are *unaware* of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC as an area where RF exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

**OET Bulletin 65** – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

**OSHA (Occupational Safety and Health Administration)** – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit [www.osha.gov](http://www.osha.gov).

**Radio Frequency Exposure or Electromagnetic Fields** – Electromagnetic waves that are propagated from antennas through space.

**Spatial Average Measurement** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy a 6-foot tall human body will absorb while present in an electromagnetic field of energy.

**Transmitter Power Output (TPO)** – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

## Appendix C – Rules & Regulations

### Explanation of Applicable Rules and Regulations

The FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Specific regulations regarding this topic are listed in Part 1, Subpart I, of Title 47 in the Code of Federal Regulations. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC and OSHA Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations. Individual licensees that contribute less than 5% MPE to any total area out of compliance are not responsible for corrective actions.

OSHA has adopted and enforces the FCC's exposure guidelines. A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

### Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- are exposed to RF energy as a consequence of their employment;
- have been made aware of the possibility of exposure; and
- can exercise control over their exposure.

OSHA guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF exposure diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

All T-Mobile employees who require access to this site must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

## Appendix D – General Safety Recommendations

The following are *general recommendations* appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

1. All individuals needing access to the main site (or the area indicated to be in excess of General Public MPE) should wear a personal protective monitor (PPM), successfully complete proper RF Safety Awareness training, and have and be trained in the use of appropriate personal protective equipment.

2. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.

3. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:

- adding new antennas that may have been located on the site
- removing of any existing antennas
- changes in the radiating power or number of RF emitters

4. Post the appropriate **NOTICE**, **CAUTION**, or **WARNING** sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in Section 3.1 to inform everyone who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. In addition to RF Advisory Signage, a RF Guideline Signage is recommended to be posted at the main site access point(s). The signs below are examples of signs meeting FCC guidelines.



5. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.

6. For a General Public environment the five color levels identified in this analysis can be interpreted in the following manner:

- Gray represents areas predicted to be at 5% or less of the General Public MPE limits. *The General Public can access these areas with no restrictions.*



- Green represents areas predicted to be between 5% and 100% of the General Public MPE limits. *The General Public can access these areas with no restrictions.*
- Blue represents areas predicted to be between 100% and 500% of the General Public MPE limits. *The General Public should be restricted from accessing these areas.*
- Yellow represents areas predicted to be between 500% and 5000% of the General Public MPE limits. *The General Public should be restricted from accessing these areas.*
- Red represents areas predicted to be greater than 5000% of the General Public MPE limits. *The General Public should be restricted from accessing these areas.*

7. For an Occupational environment the five color levels identified in this analysis can be interpreted in the following manner:

- Gray represents areas predicted to be at 1% or less of the Occupational MPE limits. *Workers can access these areas with no restrictions.*
- Green represents areas predicted to be between 1% and 20% of the Occupational MPE limits. *Workers can access these areas with no restrictions.*
- Blue represents areas predicted to be between 20% and 100% of the Occupational MPE limits. *Workers can access these areas assuming they have basic understanding of EME awareness and RF safety procedures and understand how to limit their exposure.*
- Yellow represents areas predicted to be between 100% and 1000% of the Occupational MPE limits. *Workers can access these areas assuming they have basic understanding of EME awareness and RF safety procedures and understand how to limit their exposure. Transmitter power reduction and/or time-averaging may be required.*
- Red represents areas predicted to be greater than 1000% of the Occupational MPE limits. *These areas are not safe for workers to be in for prolonged periods of time. Special procedures must be adhered to, such as lockout/tagout or transmitter power reduction, to minimize worker exposure to EME.*

8. Use of a Personal Protective Monitor (PPM): When working around antennas, Sitesafe strongly recommends the use of a PPM. Wearing a PPM will properly forewarn the individual prior to entering an RF exposure area.

Keep a copy of this report available for all persons who must access the site. They should read this report and be aware of the potential hazards with regards to RF and MPE limits.

### **Additional Information**

Additional RF information is available at the following sites:

<https://www.fcc.gov/general/radio-frequency-safety-0>

<https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety>

OSHA has additional information available at:

<https://www.osha.gov/SLTC/radiofrequencyradiation/index.html>

## Appendix E – Regulatory Basis

### FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for evaluating the effects of RF exposure in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limits. The General Public limits apply to accessible areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

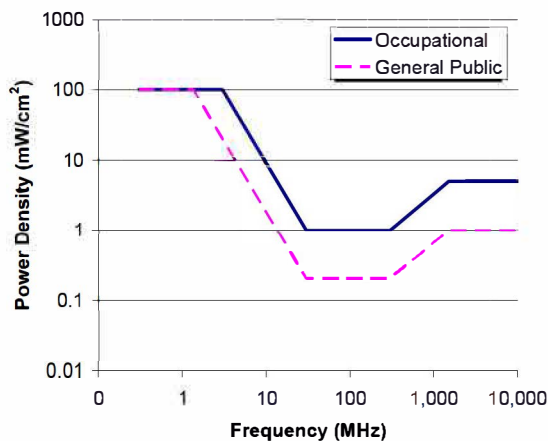
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF hazard signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF hazard signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

**FCC Limits for Maximum Permissible Exposure (MPE)**  
Plane-wave Equivalent Power Density





**Limits for Occupational/Controlled Exposure (MPE)**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

**Limits for General Population/Uncontrolled Exposure (MPE)**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

## Appendix F – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

**General Maintenance Work:** Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

**Training and Qualification Verification:** All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

**Physical Access Control:** Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

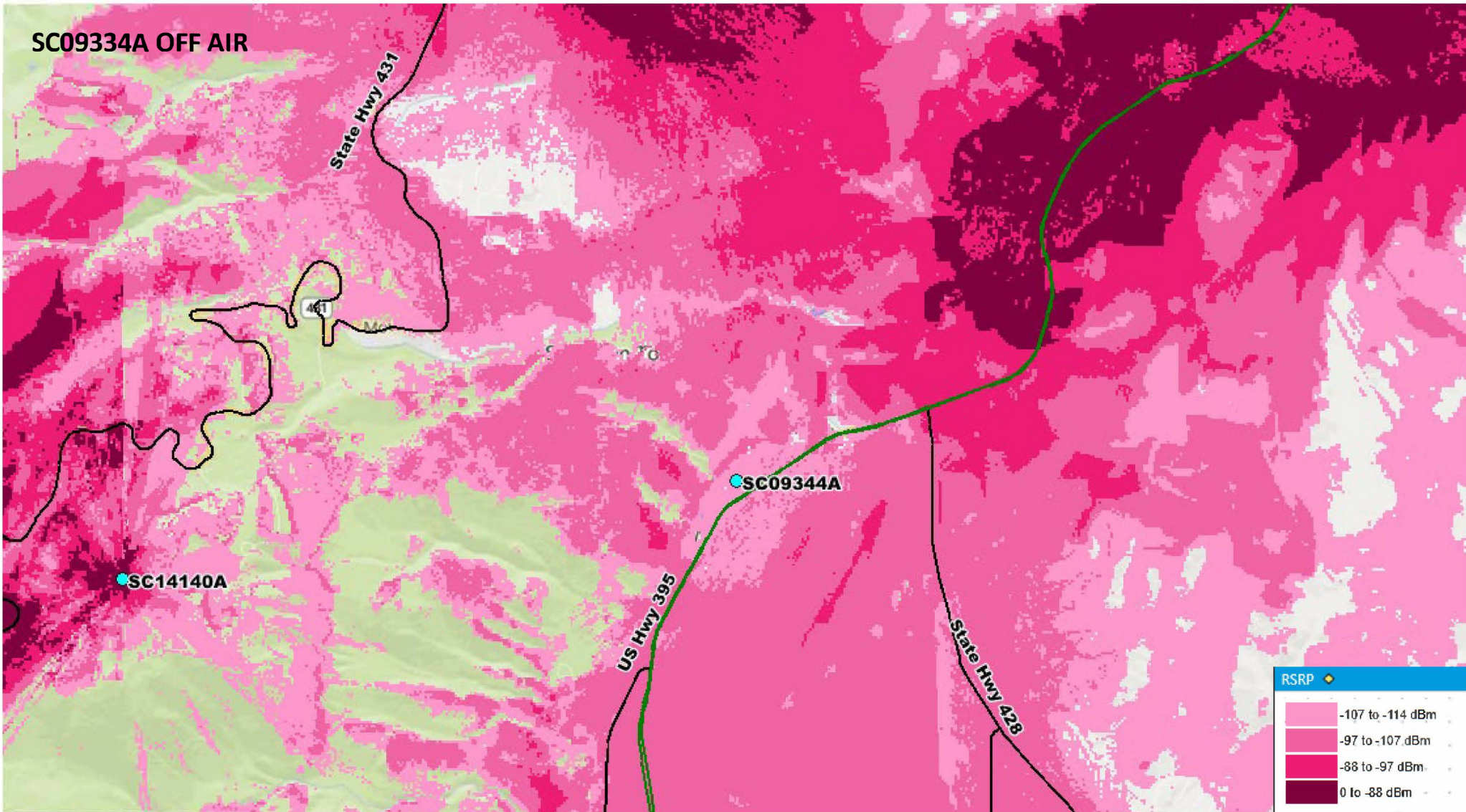
**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

**Assume all antennas are active:** Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

**Site RF Exposure Diagram(s):** Section 3 of this report contains RF Diagram(s) that outline various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.



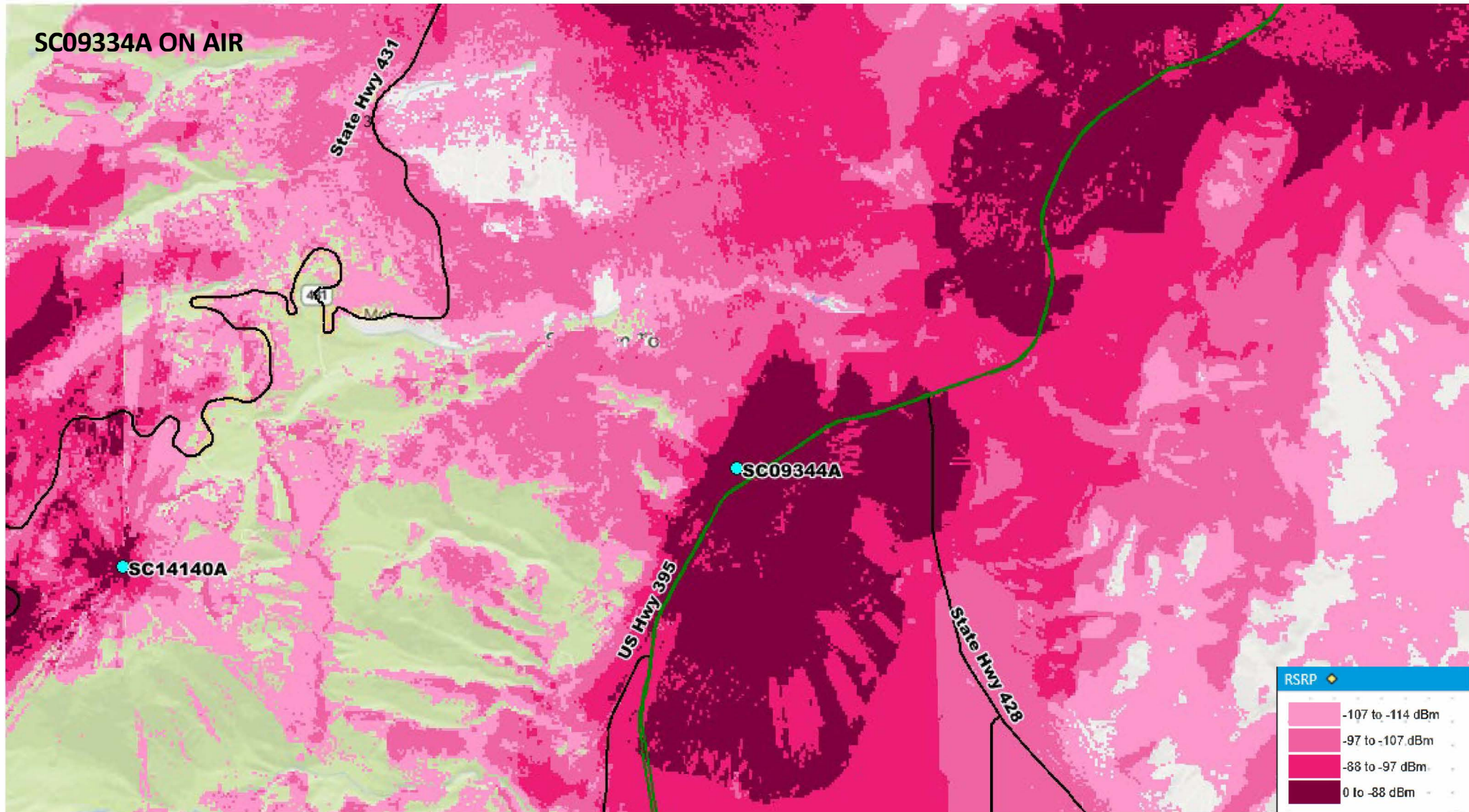
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