ALPINE CITY PLANNING COMMISSION MEETING

NOTICE is hereby given that the **PLANNING COMMISSION** of Alpine City, UT will hold a **Regular Meeting at Alpine City Hall,** 20 North Main, Alpine, Utah on **Tuesday, July 16, 2019 at 7:00 pm** as follows:

I. GENERAL BUSINESS

A. Welcome and Roll Call: Bryce Higbee
B. Prayer/Opening Comments: Sylvia Christiansen
C. Pledge of Allegiance: By Invitation

II. PUBLIC COMMENT

Any person wishing to comment on any item not on the agenda may address the Planning Commission at this point by stepping to the microphone and giving his or her name and address for the record.

III. ACTION ITEMS

A. Commercial Structure Remodel – Alpine Animal Hospital
Planning Commission will review the proposed alterations to the Alpine Animal Hospital and make a recommendation to the City Council.

B. Setback Exception – J & L Automotive
Planning Commission will review the setback exception request and make a recommendation to the City Council.

C. Site Plan – Antenna Upgrade at Beck's Hill – T-Mobile
Planning Commission will review the proposed antenna upgrades and make a recommendation to the City Council.

D. Site Plan – Proposed Wireless Tower at Burgess Park – Verizon Wireless
Planning Commission will review the proposed site plan for a new monopole tower in Burgess Park and make a recommendation to the City Council.

IV. COMMUNICATIONS

V. APPROVAL OF PLANNING COMMISSION MINUTES: June 18, 2019

ADJOURN

Vice-Chair Bryce Higbee
July 16, 2019

THE PUBLIC IS INVITED TO ATTEND ALL PLANNING COMMISSION MEETINGS. If you need a special accommodation to participate in the meeting, please call the City Recorder's Office at 801-756-6347 ext. 5.

CERTIFICATION OF POSTING. The undersigned duly appointed recorder does hereby certify that the above agenda notice was posted at Alpine City Hall, 20 North Main, Alpine, UT. It was also sent by e-mail to The Daily Herald located in Provo, UT a local newspaper circulated in Alpine, UT. This agenda is also available on the City's web site at www.alpinecity.org and on the Utah Public Meeting Notices website at www.utah.gov/pmn/index.html.

PUBLIC MEETING AND PUBLIC HEARING ETIQUETTE

Please remember all public meetings and public hearings are now recorded.

- All comments **must** be recognized by the Chairperson and addressed through the microphone.
- When speaking to the Planning Commission, please stand, speak slowly and clearly into the microphone, and state your name and address for the recorded record.
- Be respectful to others and refrain from disruptions during the meeting. Please refrain from conversation with others in the audience as the microphones are very sensitive and can pick up whispers in the back of the room.
- Keep comments constructive and not disruptive.
- Avoid verbal approval or dissatisfaction of the ongoing discussion (i.e., booing or applauding).
- Exhibits (photos, petitions, etc.) given to the City become the property of the City.
- Please silence all cellular phones, beepers, pagers or other noise making devices.
- Be considerate of others who wish to speak by limiting your comments to a reasonable length, and avoiding repetition of what has already been said. Individuals may be limited to two minutes and group representatives may be limited to five minutes.
- Refrain from congregating near the doors or in the lobby area outside the council room to talk as it can be very noisy and disruptive. If you must carry on conversation in this area, please be as quiet as possible. (The doors must remain open during a public meeting/hearing.)

Public Hearing vs. Public Meeting

If the meeting is a **public hearing**, the public may participate during that time and may present opinions and evidence for the issue for which the hearing is being held. In a public hearing there may be some restrictions on participation such as time limits.

Anyone can observe a **public meeting**, but there is no right to speak or be heard there - the public participates in presenting opinions and evidence at the pleasure of the body conducting the meeting.

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Commercial Structure Remodel – Alpine Animal Hospital

FOR CONSIDERATION ON: 16 July 2019

PETITIONER: Dr. Michael Kendig

ACTION REQUESTED BY PETITIONER: Recommend approval of proposed remodel.

BACKGROUND INFORMATION:

The Alpine Animal Hospital is seeking to remodel their facility with new siding. The colors and design of the building would be changing from the current design. Article 3.11.030 of the Alpine City Development Code states the Planning Commission must recommend and the City Council approve, any proposed alteration, reconstruction, enlargement or remodel if such alteration, reconstruction enlargement or remodel involves exterior design, material, finish grade line, landscaping or orientation of the structure. Elevations and material samples have been provided for review. See packet for details on Gateway/Historic Zone requirements.

STAFF RECOMMENDATION:

Review and make a recommendation to City Council.

Siding Solutions & Construction

Render 1 of 1 -- 06/23/19

3.11.010 Purpose And Intent

The purpose of this chapter is to maintain a high character of community development, to protect and preserve property, to promote the stability of property values and to protect real estate from impairment or destruction of value for the general community welfare by regulating the exterior architectural characteristics of structures and preservation and protection of buildings of architectural or historical significance throughout the hereinafter defined Gateway/Historic District.

It is the further purpose of this Title to recognize and preserve the historical and architectural character of this community, which has been greatly influenced by the architecture of an earlier period in this community's history. It is also the intent of the district to allow for a mixture of commercial and residential uses. These purposes shall be served by the regulation of exterior design, use of materials, the finish grade line, landscaping and orientation of all commercial structures hereinafter altered, constructed, reconstructed, erected, enlarged or remodeled, removed or demolished for commercial purposes in the hereinafter defined Gateway/Historic District.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.020 District Boundaries

There is hereby established a Gateway-Historic District Overlay Zone which shall include the area shown as Business Commercial (BC) on the Alpine City Zoning Map.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.030 Applicability

An application for a site plan shall be filed with the City Planner whenever:

1. A commercial structure, as defined by this Zoning Ordinance, whether public or private, within the above describe district is proposed to be constructed or erected; or
2. An existing commercial structure is proposed to be altered, reconstructed, enlarged, or remodeled if such alteration, reconstruction, enlargement, or remodeling involves the exterior design, material, finish grade line, landscaping or orientation of the structure; or
3. An existing structure is proposed to be altered, reconstructed, enlarged or remodeled into a commercial structure, if such alteration, reconstruction, enlargement or remodeling involves the exterior design, material, finish grade line, landscaping or orientation of the structure.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.040 Site Plan Process

1. During the review process, the City Planner and City Engineer, the Planning Commission, and the City Council may request reasonable additional information from the applicant from time to time; and may ask other advisors to review the plan if, in the opinion of the City, it may contribute to a decision in the best interest of the City.

   After submittal of the required application materials, no excavation or alteration of the property may be undertaken prior to written final approval by the City Council of the site plan. Excavation or alteration of the property prior to approval may be cause for disapproval. Additionally, work on existing structures prior to final approval is not permitted.

2. **City Planner and City Engineer**

   a. The applicant shall meet with the City Planner and City Engineer to review the proposed site plan before submitting an application.

   b. The applicant shall prepare a concept site plan, properly and accurately drawn to scale.

   c. The City Planner and City Engineer shall review the site plan to determine compliance with the Alpine City General Plan and applicable City ordinances.

   d. When the City Planner and City Engineer determines that the site plan is ready for Planning Commission review, the City Planner, in consultation with the Planning Commission Chairperson, shall establish a review date. The applicant may prepare a site plan that incorporates all changes recommended by City Planner and City Engineer.

3. **Planning Commission**

   a. The applicant shall submit the following to the City Planner at least fourteen (14) days before the scheduled Planning Commission meeting:

      i. the site plan application;

      ii. pay the associated fee(s) in accordance with the current fee schedule (payable to Alpine City);

      iii. four (4) D size (22" x 34") copies of the site plan;

      iv. ten (10) 11" x 17" copies of the site plan drawn to scale;

      v. building elevations including building height;

      vi. a landscape plan including a list of plant types; and

      vii. an electronic copy of the site plan and building elevations in a compatible format as specified by City Staff.

      In addition, the application shall be accompanied by a detailed narrative description of the proposed design or change of design, use of materials, finish grade line, landscaping. In addition, the Planning Commission may require submission of colored perspectives or architectural renderings in applications where the Planning Commission feels it is required.

   b. The site plan will not be presented to the Planning Commission until the application is complete, including submitting all required information and paying all fees. The application must be complete and accepted in writing by the City Planner.

   c. The Planning Commission shall give guidance to the applicant to assist in meeting the requirements and constraints for development within Alpine City.

   d. The Planning Commission shall determine whether the site plan promotes, preserves and enhances the distinctive historical village character of the community and would not be at variance with existing structures within that portion of the district in which the site plan is or is proposed to be located as to be detrimental to the interests of the District as set forth in DCA 3.11.010. In conducting its review, the Planning Commission shall make examination of and give consideration to the elements of the Gateway Historic District Design Guidelines.

   e. The Planning Commission may recommend exceptions to the Business Commercial Zone requirements regarding parking, building height, signage, setbacks and use if it finds that the plans proposed better implement the design guidelines to the City Council for approval.

   f. If the Planning Commission finds that the proposed site plan complies with all applicable requirements, it shall recommend approval to the City Council. If the Planning Commission finds that the proposed site plan does not meet the requirements, it shall recommend disapproval of the site plan.

4. **City Council**

   a. Following the recommendation of approval or disapproval of the site plan by the Planning Commission, the City Council shall consider the site plan at a public meeting. If the City Council determines that the site plan is in conformity with all applicable requirements and any reasonable conditions as recommended by City Staff, the Planning Commission, or on its own initiative, it shall approve the site plan.

   b. If the City Council determines that the site plan is not in conformity with all applicable requirements or any reasonable conditions imposed, it shall disapprove the site plan specifying the reasons for such disapproval.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.050 Plan Requirements

The site plan shall include the following items:

1. Address of the site plan
2. A vicinity map
3. The property boundaries of the proposed site plan and the names of all adjacent property owners
4. The location of all existing and proposed easements
5. Lot dimensions
6. Location and orientation of all structures on the lot
7. Setbacks of all structures on the lot
8. Location of garbage dumpster
9. Location of all existing and proposed utilities
10. Parking plan
11. Lighting plan
12. Other information which may allow the City Planner, City Engineer, Planning Commission, and City Council to evaluate the proposed site plan.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.060 Repair Or Maintenance Exception

Nothing in this Chapter shall be construed to prevent any ordinary repair or maintenance of an exterior architectural feature or any ordinary planting and landscaping now in the District.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.070 Permitted Uses

The permitted uses listed in the Business Commercial Zone shall be permitted in the Gateway/Historic Zone.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.080 Conditional Uses

The conditional uses listed in the Business Commercial Zone shall be conditional uses in the Gateway/Historic Zone.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.090 Water Rights Requirements

Developments occurring under the provisions of this Chapter must comply with the water rights requirements of Alpine City.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

Gateway Historic District Design Guidelines

Adopted by Resolution 2015-11

Purpose and Intent

Gateway Historic District will become a village of mixed uses, promoting a pedestrian friendly atmosphere and providing excellence in landscaping and architecture, in a setting which honors and preserves the past while promoting the future.

1. In the interest of preserving the character of the Gateway-Historic District, it is necessary to regulate to a certain extent the new construction that is built there. New structures should only affect the district in a positive manner, and not in detrimental ways.

2. Respecting the heritage of Alpine associated with the historical structures in the district.

3. Utilize approaches that have been shown to encourage the sustainability of historic districts and neighborhoods.

The guidelines for the following elements are intended to encourage compatible new construction. In the event that these guidelines conflict with the Alpine City Zoning Ordinance, the Zoning Ordinance will be followed.

Guidelines

1. New developments should:

    a. Mimic details of older buildings
    b. Use similar materials
    c. Make mundane uses look good
    d. Include design features on blank walls

2. All new development projects should achieve a determination of design appropriateness from the Planning Commission.

3. New construction should respect and build upon the historical legacy of downtown Alpine and borrow historic features from the area. It should be

designed for its specific context. Elements that should influence the design of new development include building form, massing, scale, materials and colors.

Gateway Historic District Design Criteria

1. Relation to the Surrounding Area (Massing, Scale, Orientation)
2. Height
3. Exterior Walls and Surfaces
4. Windows and Doors
5. Exterior Trim and Decorative Detailing
6. Roofing
7. Materials (Texture, Color, Finishes)
8. Streetscaping

1

Relation to the Surrounding Area

(Massing, Scale, Orientation)

New construction that utilizes appropriate massing and scale can affect historic districts in a positive manner. New structures should take their own place in time.

Design Standards

- New structures should relate to the fundamental characteristics of the district, but may use their own style and method of construction.
- Orientation of new construction should be to the street to establish a pedestrian-friendly quality.
- One major entrance should orient to each street to which the building abuts for easy access by pedestrians from the street and sidewalk.
- Corner entrances may be used for buildings orienting to two streets at an intersection.
- New construction should not be dramatically greater in scale than surrounding structures in the district.
- The perceived width of new construction should be visually compatible with adjacent structures. Wider buildings should be divided into modules to convey a sense of traditional construction.
- The building form of new construction should be similar to surrounding structures but should not necessarily a direct imitation.

2

Height

New construction should respect the overall height limits established in the city code for the underlying zone.

Design Standards

- The height of buildings should be compatible with adjacent historic structures.
- Creative historic design elements fitting for the area can be considered.

3

Exterior Walls and Surfaces

The type of materials used for new construction can greatly enhance the relationship to surrounding historical structures while maintaining individual identity.

Design Standards

- The use of stone, brick, wood, or stucco is encouraged for use as the primary exterior material.
- Plastics, vinyl and CMU (concrete masonry unit) are prohibited.
- Innovative use of other materials may be considered.

4

Windows and Doors

Windows and doors of new construction should relate to the general character of the area.

Design Standards

- Windows with a vertical emphasis shall be encouraged over a horizontal orientation.
- Scale, proportion, and character of windows and doors should be carefully considered and should relate to the intended general character of the area.
- The simple shape of windows is encouraged.
- If new construction is built to the sidewalk, the use of awnings or canopies should be considered for providing protection to the pedestrian.
- The ground floor of the primary façade should include transparency at the pedestrian level.

5

Exterior Trim and Decorative Detailing

New construction can be enhanced by the wise use of exterior trim and decorative detailing. Using these details to break up uninspiring solid surfaces can help avoid the box-like appearance often seen in new construction.

Design Standards

- Trim and detailing should be simple in material and design.
- Materials that are compatible to the primary exterior material should be used.
- Excessive ornamentation is not recommended.
- The following factors should be considered in determining whether or not a particular finishing material is acceptable:

    1. Durability and low maintenance characteristics.
    2. Consistency with the overall design goals.
    3. Location on the building.
    4. Potential shielding by landscaping or other feature.
    5. The visibility of the site from public streets and neighboring uses.
    6. A mansard roof is prohibited

6

Roofing

The style and form of the roof on new construction can contribute to the success of blending in with surrounding historic structures.

Design Standards

- Traditional rooflines are preferred.
- Smaller structures should use a hip, gable, or shed roof.
- Flat roofs may be considered for use on structures where the context is appropriate.
- Flat roofs shall provide a cornice or other decorative treatment.
- The character or design of the front and rear façades of all buildings shall demonstrate a variety in depth, relief, rhythm and roof line height, with changes occurring in all of these areas at least every forty feet.
- Mechanical equipment shall not be visible from the street.

7

Materials – Texture, Color, Finishes

Good attention to design and color is expected in the Gateway Historic District to help all buildings become more complimentary to each other and assist the creation of a unique and cohesive environment. The materials used for the finish of the exterior surface of new construction should be compatible with the nature of the surrounding area.

Design Standards

- The use of color schemes should be compatible with the surrounding area. Simplicity is encouraged – excessive amounts of different colors should not be used.
- Avoid pure white as a façade color, and if masonry must be painted, it should be done in a natural hue.
- The natural colors of brick masonry, stone, or other existing building materials should dominate the color scheme of the building. Other colors should be respectful of adjacent buildings.
- A predominant color should be used with one or two other accent colors.
- The texture and finish of new construction should attempt to convey a modern building while still respecting the historic character of the area.
- The cornice, window frames, ornamental details, signs and storefronts should all blend in as an attractive harmonious unit.

8

Streetscaping

Streetscapes should be incorporated in sidewalk areas adjacent to Main Street.

Design Standards

- At least one streetscape feature should be installed and maintained every thirty (30) linear feet along sidewalks, nearest to the curb.
- Acceptable streetscape features include, but are not limited to, the following: trees, planters, benches, drinking fountains, decorative garbage canisters, outdoor clocks, bike racks, and water features.
- Businesses are encouraged to coordinate the installation of streetscape elements with surrounding properties.
- Installation of plazas and gathering spaces where people may linger is encouraged.
- Installation of planters with trees and shrubs to create areas to sit are encouraged.
- Providing benches in strategic areas to encourage mingling and gathering is encouraged.

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Setback Exception and Addition – J & L Automotive

FOR CONSIDERATION ON: 16 July 2019

PETITIONER: James Lawrence

ACTION REQUESTED BY PETITIONER: Review and recommend approval of the proposed setback exception and addition.

BACKGROUND INFORMATION:

The petitioner is seeking approval of a new addition for the automotive shop and would need an exception to the setback requirements for a commercial structure in the Business/Commercial Zone. Setback being requested is 12.5 feet.

The property is located at 80 South Main Street. The proposed addition is to be on the front or east side of the building (side closest to Main Street). The front of the property is the only area best suited for expansion on the lot (i.e. any expansion on the back of the property would reduce the parking area, and thus make it so the property no longer met the off-street parking requirement).

All properties in the Business Commercial Zone are required to have at least 20 percent of the lot landscaped, and according to the plans, J & L Automotive would still meet this requirement if the proposed expansion and setback exception were approved.

The Development Code states that the Planning Commission may grant exceptions to the setback requirements for the Business/Commercial and Gateway Historic Zones.

Article 3.07.050.1

> *Front setback shall be not less than thirty (30) feet from the property line on all streets. No portion of the setback area adjacent to a street shall be used for off-street parking.*

Article 3.11.040.3.e

> *The Planning Commission may recommend exceptions to the Business Commercial Zone requirements regarding parking, building height, signage, setbacks and use if it finds that the plans proposed better implement the design guidelines to the City Council for approval.*

Model Motions:

Review and consider approving the proposed addition and setback exception.

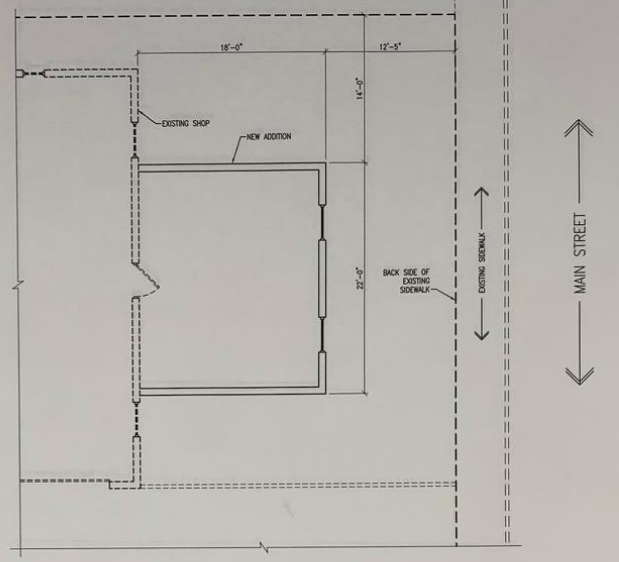
Sample Motion to Approve:
I motion to approve the proposed addition and setback exception as proposed.

Sample Motion to Deny:
I motion that the proposed setback exception be denied based on the following:

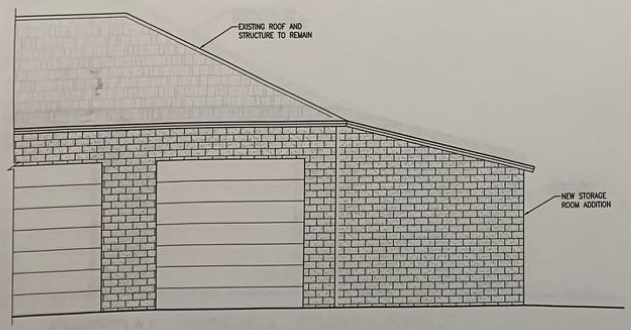
- ***Insert Finding***

WINDOW SCHEDULE				
MARK	SIZE	TYPE	MATERIALS	NOTES
(A)	3'-0" x 4'-0"	SINGLE HUNG	DBL PANE, VINYL FRAME	TO MATCH EXISTING

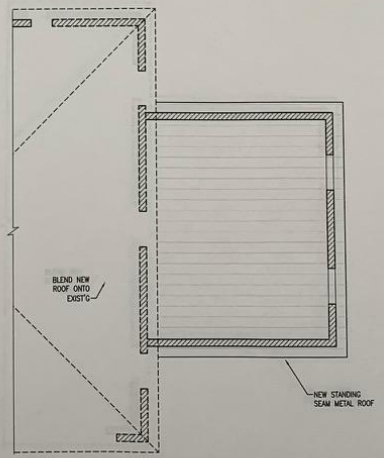
EAST ELEVATION
STORAGE ROOM ADDITION
3/16" = 1'-0"



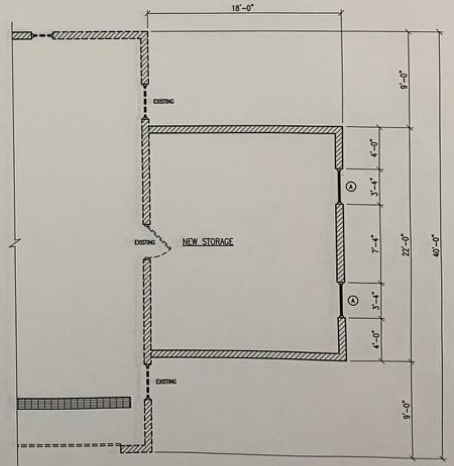
PARTIAL PLOT PLAN
STORAGE ROOM ADDITION
3/16" = 1'-0"



PARTIAL SOUTH ELEVATION
STORAGE ROOM ADDITION
3/16" = 1'-0"



PARTIAL ROOF PLAN
STORAGE ROOM ADDITION
3/16" = 1'-0"



PARTIAL MAIN FLOOR PLAN
STORAGE ROOM ADDITION
3/16" = 1'-0"

DATE:	12-13-18	DESIGNED BY: RTA	DRAWN BY: MSP	CHECKED BY: RTA
REV. #	DATE:	BY:	DESCRIPTION:	
1	8-13-19	RTA/MSP	AS SHOWN	
2	12-14-17	RTA/MSP	AS SHOWN	

VECTOR ENGINEERS

JAMES LAWRENCE
LAWRENCE SHOP - ADDITION
ADDITION PLANS & ELEVATIONS

PRELIMINARY NOT FOR CONSTRUCTION 5/24/2019

U0858-004-141

A1

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Site Plan – Antenna Upgrade at Beck's Hill

FOR CONSIDERATION ON: 16 July 2019

PETITIONER: T-Mobile

ACTION REQUESTED BY PETITIONER: Review and recommend approval of the proposed antenna upgrade.

BACKGROUND INFORMATION:
This item is returning to Planning Commission after it was decided to table the item at the previous Planning Commission meeting on June 18, 2019. Planning Commission had questions and decided to table the item until those questions could be answered.

T-Mobile is seeking to upgrade three antennas, three Remote Radio Heads, and install one hybrid cable. Proposed upgrade is on an existing wireless telecommunications facility at Beck's Hill.

Article 3.27.030 states:

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term ''eligible facilities request'' means any request for modification of an existing wireless tower or base station that involves:

- *collocation of new transmission equipment;*
- *removal of transmission equipment; or*
- *replacement of transmission equipment.*

Proposed upgrades do not substantially change the physical dimensions of the tower or base station. Included in this packet is:

- Cover Letter from the petitioner.
- Project Description from the petitioner.
- Site Plan, engineering, and elevations.
- Full engineered Structural Analysis Report.
- Chronology of FCC Laws.
- FCC Rules and Regulations.
- Alpine City Wireless Telecommunications Ordinance.

CROWN CASTLE

116 Inverness Dr E ESte. 300
Englewood, CO 80112

Phone: (801) 979-9077
Fax:
www.crowncastle.com

May 21, 2019

CITY OF ALPINE, UT
20 North Main Street, Alpine, UT 84004

RE: Eligible Facilities Request to modify equipment on a communications tower located at:
651 S Bateman, Alpine, UT, 84004
Crown Site Number: 822343 / Crown Site Name: Alpine_Shepherd_Hill
Customer Site Number: SL01122A / Application Number: 489718

Crown Castle USA Inc. ("Crown Castle") on behalf of T-Mobile West LLC ("T-Mobile") is submitting the attached Eligible Facilities Request application to replace transmission equipment on a telecommunications tower located at 651 S Bateman, Alpine, UT 84004 in CITY OF ALPINE, UT (the "Alpine_Shepherd_Hill Tower").

Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the "Spectrum Act" (Pub. Law No. 112-96, 126 Stat 156), mandates that state and local governments "may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." Additionally, if "the reviewing State or local government determines that the application is incomplete" [they] "must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information." Under federal law, an Eligible Facilities Request is deemed granted with written notification in sixty (60) days after an application is filed with a local jurisdiction, excluding tolling. Based on the submittal date of May 20, 2019, 30 days will expire on June 19, 2019; 60 days will expire on July 19, 2019.

T-Mobile proposes to modify the "Alpine_Shepherd_Hill Tower" as follows:

- REMOVE (3) ANTENNAS
- REMOVE (3) RRUs
- INSTALL (3) ANTENNAS
- INSTALL (3) RRUs
- INSTALL (1) HYBRID CABLE

Itemized list of submittal documents:

- Eligible Facility Request Letter - Project Description
- Zoning Application
- Building Permit Application
- Construction Drawings, Site Plan, Elevations, Equipment Detail
- Structural Analysis

CROWN CASTLE

116 Inverness Dr E ESte. 300
Englewood, CO 80112

Phone: (801) 979-9077
Fax:
www.crowncastle.com

T-Mobile is committed to working cooperatively with all jurisdictions around the country to secure expeditious approval of requests to modify existing personal wireless service facilities. If you should require more information regarding the Spectrum Act, please do not hesitate to contact me with your questions.

Sincerely,

Craig Chagnon

Craig Chagnon
Craig.Chagnon@crowncastle.com
(801) 979-9077

Crown Castle
2055 S. Stearman Drive
Chandler, AZ 85286

Site Name:	822343 - Alpine_Shepherd_Hill
Site Location:	651 S Bateman, Alpine, UT 84004
Tower Owner:	Crown Castle
Project Applicant:	Crown Castle
Project Name:	T-Mobile L600 Equipment Upgrade

Scope of Work:

Application is for T-Mobile L600 equipment. Customer proposes to remove (3) antennas and install (3) antennas, remove (3) Remote Radio Heads, and install (3) Remote Radio Heads, install (1) hybrid cable.

Maintenance:

The subject site is a single-carrier site, so the anticipated maintenance schedule would be very light. As the facility operator, Crown Castle would visit the site at least once/year to perform scheduled inspections, brush clearance, and generally ensure that the facility is compliant. As Crown's tenant, it is anticipated that T-Mobile would visit the site perhaps 4 to 6 times annually. These inspections would be to inspect cellular ground equipment, antennas, coax cabling, electrical systems, etc. to ensure seamless and proper delivery of wireless services. Both inspections are done by standard trucks or similar vehicles during daytime hours.

Service Area:

The T-Mobile L600 project is a technology/network upgrade of the equipment on site. It will provide an increase in capacity and will provide faster service for the network users in this area. The service area of this tower is small, a mile or less in any direction. This is a unique location and a critical site providing immediate area coverage that would not otherwise be available.

Licenses and Permits:

T-Mobile and Crown Castle are active and current with all required licenses from the FAA and FCC.

Radio Frequency Emissions:

T-Mobile has an excellent record of compliance with all applicable FCC radio frequency emission regulations and is committed to maintain their record as a leader within their industry.

Crown Castle agrees to comply with all applicable Federal Communication Commission RF requirements and regulations.

Liaison:CRAIG CHAGNON
Real Estate Specialist
Rocky Mountain Region, UT, WY, CO
CROWN CASTLE | WEST AREA
801-979-9077
Craig.chagnon@crowncastle.com
116 INVERNESS DR. EAST STE# 280
ENGLEWOOD, CO 80112
www.CrownCastle.com

T-Mobile

T-MOBILE SITE NUMBER: SL01122A
T-MOBILE SITE NAME: ALPINE_SHEPHERD_HILL
SITE TYPE: MONOPOLE
TOWER HEIGHT: 22'-0"

BUSINESS UNIT #: 822343
SITE ADDRESS: 651 S BATEMAN ALPINE, UT 84004
COUNTY: UTAH
JURISDICTION: CITY OF ALPINE, UT

T-MOBILE L600 PROJECT

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	ALPINE_SHEPHERD_HILL
SITE ADDRESS:	651 S BATEMAN ALPINE, UT 84004
COUNTY:	UTAH
MAP/PARCEL #:	11-023-0117
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	40° 26' 39.30"
LONGITUDE:	-111° 46' 46.30"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	5,000 FT
CURRENT ZONING:	----
JURISDICTION:	CITY OF ALPINE, UT
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CLYDE SHEPHERD
TOWER OWNER:	CROWN CASTLE USA INC 116 INVERNESS DR. EAST STE# 280 ENGLEWOOD, CO 80112
APPLICANT/CARRIER:	T-MOBILE 121 W. ELECTION RD., SUITE 330 DRAPER, UT 84020
CROWN CASTLE USA INC. APPLICATION ID:	489718
ELECTRIC PROVIDER:	ROCKY MOUNTAIN POWER (866) 870-3419
TELCO PROVIDER:	CENTURYLINK (800) 244-1111

PROJECT TEAM

DESIGNER FIRM:	BROADUS SERVICES 4 COUNTRY PLACE CIRCLE DALWORTHINGTON GARDENS, TX 76016 PH: (817) 349-3449
ENGINEER FIRM:	JACOB GORALSKI, PLLC 1106 COLBI ST. KENNEDALE, TX 76060 PH: (817) 456-2621 CONTACT: JACOB GORALSKI, PLLC
CROWN CASTLE CONTACTS:	116 INVERNESS DR. EAST STE# 280 ENGLEWOOD, CO 80112 TALISSA FUGATE - PROJECT MANAGER TALISSA.FUGATE@CROWNCASTLE.COM (602) 845-1719 NATHAN STRONG - CONSTRUCTION MANAGER NATHAN.STRONG.CONTRACTOR@CROWNCASTLE.COM (801) 376-2448 NICK CHAPMAN - A&E SPECIALIST NICHOLAS.CHAPMAN@CROWNCASTLE.COM (480) 734-2434
T-MOBILE CONTACTS :	BLAKE HANSON BLAKE@RAGEDEVELOPMENT.COM

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING AND FINAL EQUIPMENT LAYOUTS
C-2	EXISTING AND FINAL ELEVATIONS
C-3	ANTENNA PLAN AND SCHEDULE
C-4	ANTENNA SPECIFICATIONS
C-5	EQUIPMENT SPECIFICATIONS
C-6	ANTENNA CONFIGURATION KEY
C-7	EQUIPMENT CONFIGURATION KEY
G-1	ANTENNA AND UTILITY FRAME GROUNDING DETAILS
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER
- REMOVE (3) ANTENNAS
- REMOVE (3) RRUs
- INSTALL (3) ANTENNAS
- INSTALL (3) RRUs
- INSTALL (1) HYBRID CABLE

GROUND
- NO CHANGE

DESIGN PACKAGE BASED ON THE APPLICATION
ID: 489718
REVISION: 0

NOTES:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT 800-788-7011 & CROWN CONSTRUCTION MANAGER

CALL UTAH ONE CALL
(800) 662-4111
CALL 3 WORKING DAYS
BEFORE YOU DIG!

LOCATION MAP

NO SCALE

DRIVING DIRECTIONS FROM T-MOBILE LOCAL OFFICE (121 W. ELECTION RD. DRAPER, UT 84020) HEAD WEST TOWARD S ELECTION RD. TURN RIGHT TOWARD S ELECTION RD. TURN LEFT ONTO S ELECTION RD. TURN LEFT ONTO LONE PEAK PKWY. USE THE 2ND FROM THE LEFT LANE TO TURN LEFT ONTO W 12300 S. SLIGHT RIGHT TO MERGE ONTO I-15 S TOWARD PROVO. TAKE EXIT 284 TOWARD HIGHLAND ALPINE. KEEP LEFT, FOLLOW SIGNS FOR UT-92 AND MERGE ONTO UT-92 E. SLIGHT RIGHT ONTO UT-92/TIMPANOGOS HWY COMMUTER LN. CONTINUE TO FOLLOW UT-92. TURN LEFT ONTO 5300 W. CONTINUE ONTO UT-74 N/S MAIN ST. TURN RIGHT ONTO SUNSET DR. TURN LEFT ONTO BATEMAN LN.

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS 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:

CODE TYPE	CODE
BUILDING	2015 IBC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:
STRUCTURAL ANALYSIS: BY OTHERS

MOUNT ANALYSIS: BY OTHERS

SITE PHOTO:

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

BROADUS services
4 COUNTRY PLACE CIRCLE
DALWORTHINGTON GARDENS
TEXAS 76016
OFFICE: (817) 349 3449
FAX: 800 401 4234

T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

PROFESSIONAL ENGINEER
No. 9226401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

JACOB GORALSKI, PLLC
CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: T-1
REVISION: 0

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
3. ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF TIA 1019 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
4. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS.
5. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
6. 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 DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE PROJECT SPECIFICATIONS.
12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
13. NOTICE TO PROCEED- NO WORK TO COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF A PURCHASE ORDER.
14. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN STANDARD CED-STD-10253 INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH THE ANSI/TIA-322 (LATEST EDITION).

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
3. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8"ø ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
4. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. SLAB FOUNDATION DESIGN ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER.....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALLS.....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

MASONRY NOTES:

1. HOLLOW CONCRETE MASONRY UNITS SHALL MEET A.S.T.M. SPECIFICATION C90, GRADE N. TYPE 1. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF CONCRETE MASONRY (F'm) SHALL BE 1500 PSI.
2. MORTAR SHALL MEET THE PROPERTY SPECIFICATION OF A.S.T.M. C270 TYP. "S" MORTAR AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
3. GROUT SHALL MEET A.S.T.M. SPECIFICATION C475 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.
4. CONCRETE MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
5. WALL SHALL RECEIVE TEMPORARY BRACING. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL GROUT IS FULLY CURED.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR-	
SUBCONTRACTOR-	GENERAL CONTRACTOR (CONSTRUCTION)
CARRIER-	T-MOBILE
TOWER OWNER-	CROWN CASTLE USA INC.
OEM-	ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR AND CROWN CASTLE USA INC.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR AND CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

ABBREVIATIONS AND SYMBOLS:

ABBREVIATIONS:

AGL	ABOVE GRADE LEVEL
BTS	BASE TRANSCEIVER STATION
(E)	EXISTING
MIN.	MINIMUM
REF	REFERENCE
RF	RADIO FREQUENCY
T.B.D.	TO BE DETERMINED
T.B.R.	TO BE RESOLVED
TYP	TYPICAL
REQ	REQUIRED
EGR	EQUIPMENT GROUND RING
AWG	AMERICAN WIRE GAUGE
MGB	MASTER GROUND BAR
EG	EQUIPMENT GROUND
BCW	BARE COPPER WIRE
SIAD	SMART INTEGRATED ACCESS DEVICE
GEN	GENERATOR
IGR	INTERIOR GROUND RING (HALO)
RBS	RADIO BASE STATION

SYMBOLS:

- SOLID GROUND BUS BAR
- SOLID NEUTRAL BUS BAR
- SUPPLEMENTAL GROUND CONDUCTOR
- 2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- CHEMICAL GROUND ROD
- TEST WELL
- DISCONNECT SWITCH
- METER
- EXOTHERMIC WELD (CADWELD) (UNLESS OTHERWISE NOTED)
- MECHANICAL CONNECTION
- GROUNDING WIRE

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC, HILTI EPOXY ANCHORS ARE REQUIRED BY CROWN CASTLE USA INC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET & DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION WITH OUTER JACKET LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT) OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
21. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER).
22. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHIN ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL; SHALL MEET OR EXCEED UL 50 AND RATED NEMA 1 (OR BETTER) INDOORS OR NEMA 3R (OR BETTER) OUTDOORS.
24. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
28. INSTALL PLASTIC LABEL ON THE METER CENTER TO SHOW "T-MOBILE".
29. ALL CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 AWG SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS, WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 TINNED SOLID IN 3/4" LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

NEC INSULATOR COLOR CODE

DESCRIPTION	PHASE/CODE LETTER	WIRE COLOR
240/120 1Ø	LEG 1	BLACK
	LEG 2	RED
AC NEUTRAL	N	WHITE
GROUND (EGC)	G	GREEN
VDC POS	+	*RED-POLARITY MARK AT TERMINATION
VDC NEG	-	*BLACK-POLARITY MARK AT TERMINATION
240V OR 208V, 3Ø	PHASE A	BLACK
	PHASE B	RED(ORG. IF HI LEG)
	PHASE C	BLUE
480V, 3Ø	PHASE A	BROWN
	PHASE B	ORANGE
	PHASE C	YELLOW

* SEE NEC 210.5(C)(1) AND (2)

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TEXAS 76016
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FAX: 800 401 4234

T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

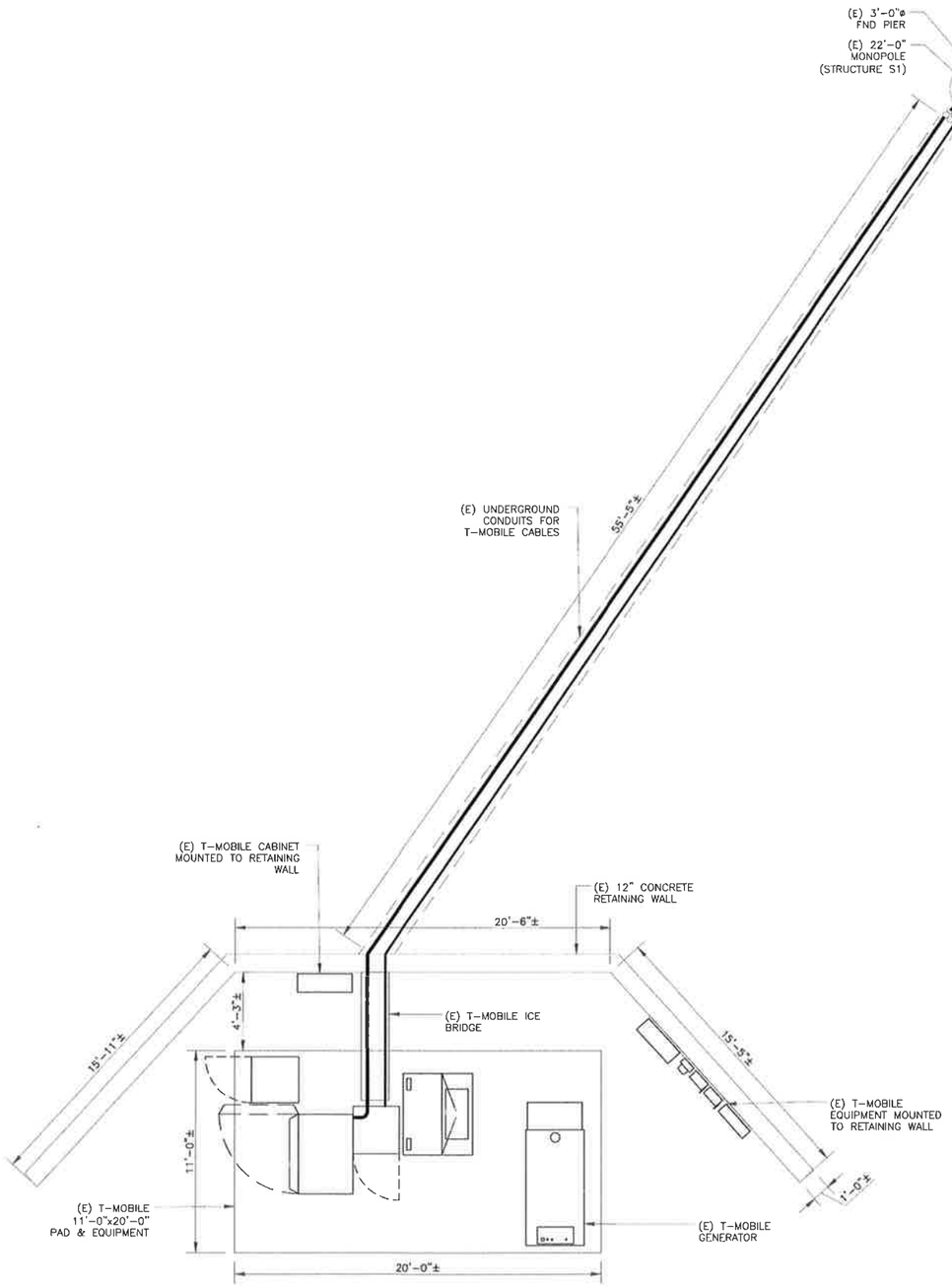
PROFESSIONAL ENGINEER
No. 9228401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

JACOB GORALSKI, PLLC
CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: T-2

REVISION: 0



1 SITE PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

N

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UT PE# 9226401-2202
1106 COLBI ST.
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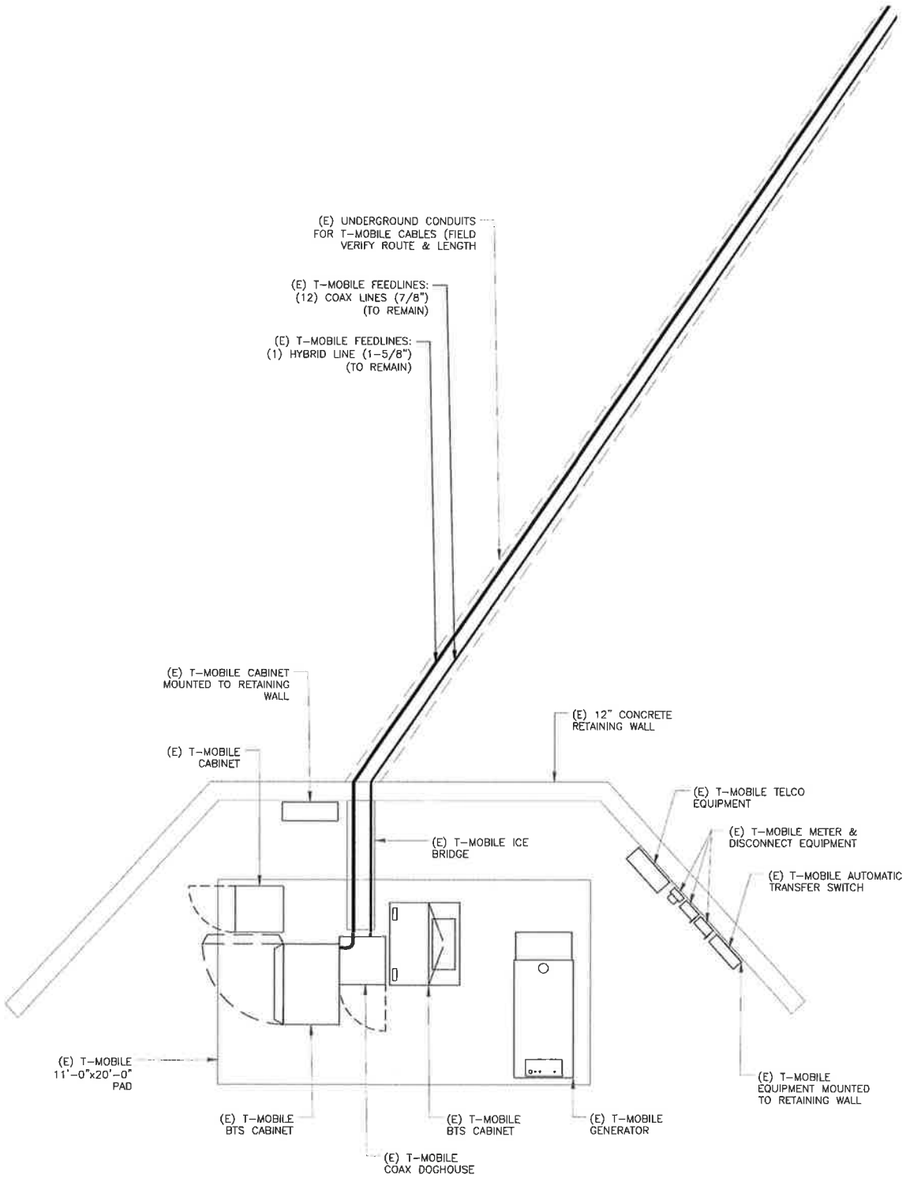
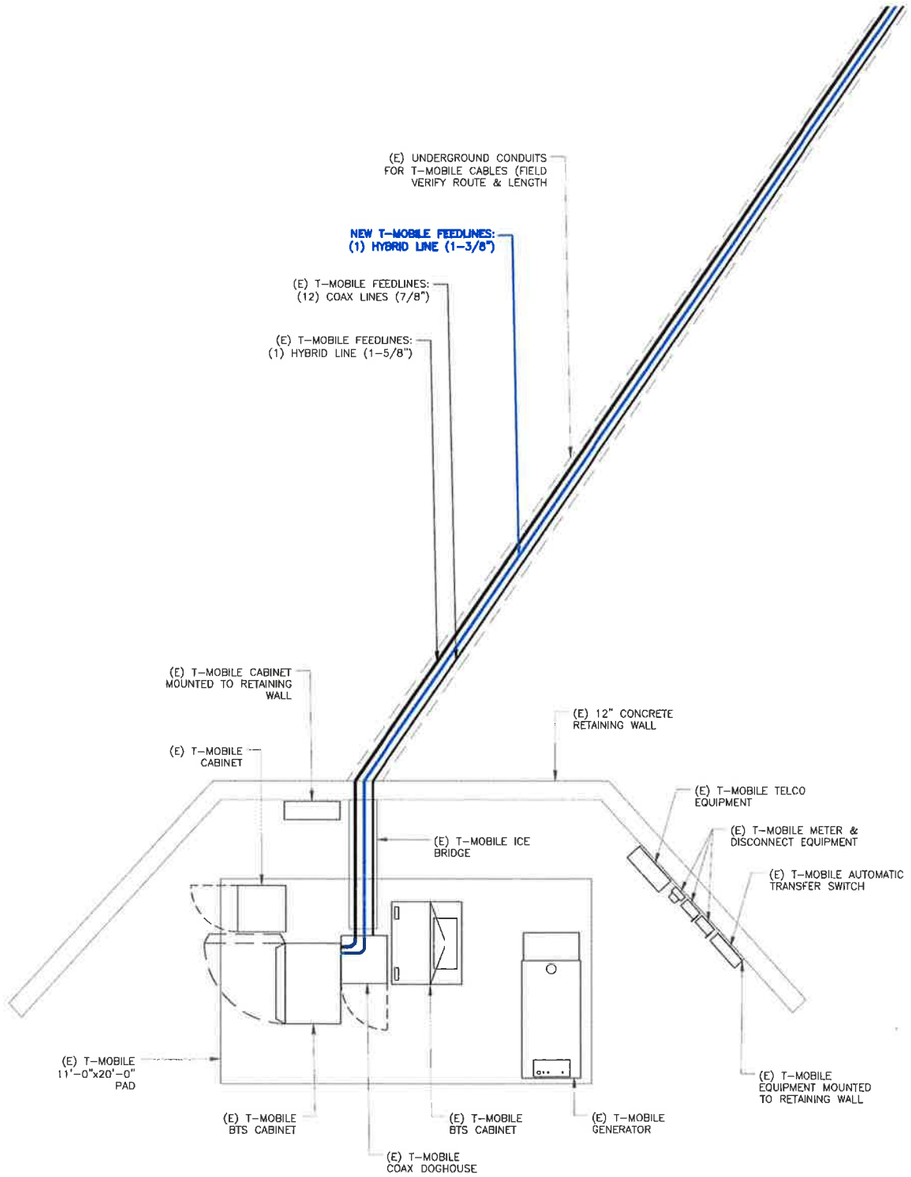
SHEET NUMBER: C-1.1
REVISION: 0



1 EXISTING EQUIPMENT LAYOUT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N



GROUND SCOPE OF WORK

REMOVED
(1) DUS41

REMAIN
(1) DUW30, (1) DUG20, (6) RUS01 B2

NEW
(2) BB 6630

2 FINAL EQUIPMENT LAYOUT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N

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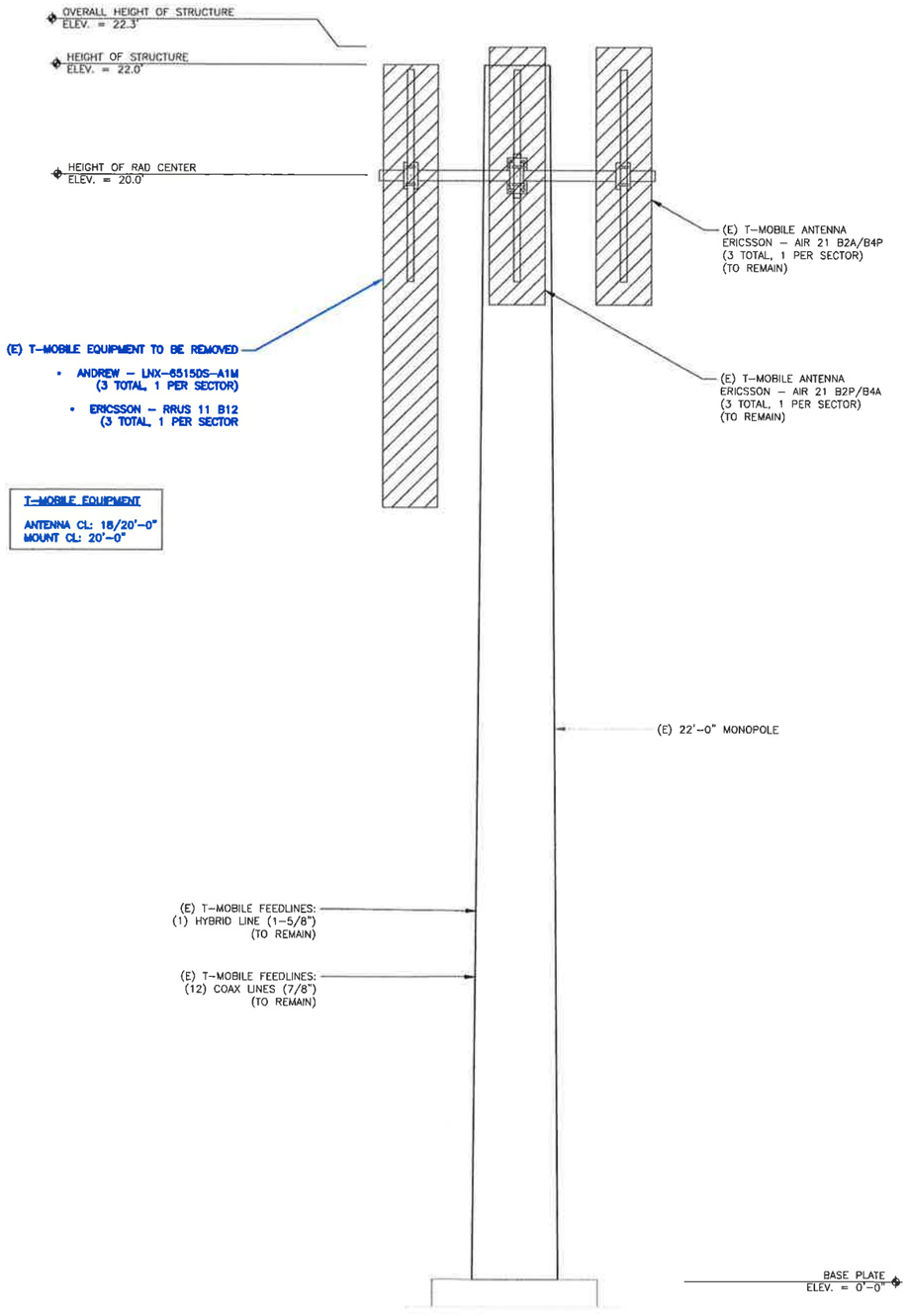
SHEET NUMBER: C-1.2

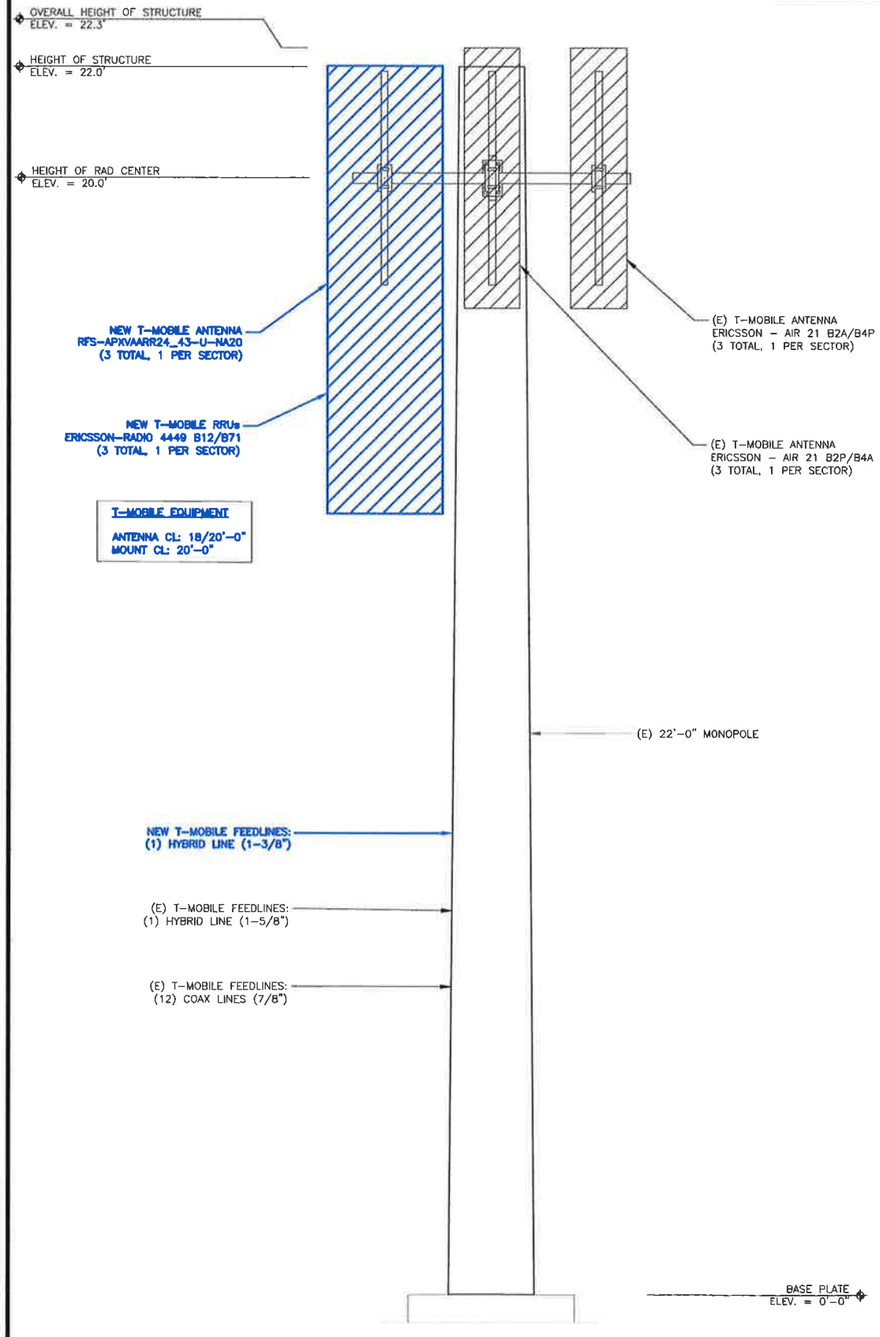
REVISION: 0



1 EXISTING ELEVATION
SCALE: NOT TO SCALE

MOUNT ANALYSIS NOTE:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER/GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.



2 FINAL ELEVATION
SCALE: NOT TO SCALE

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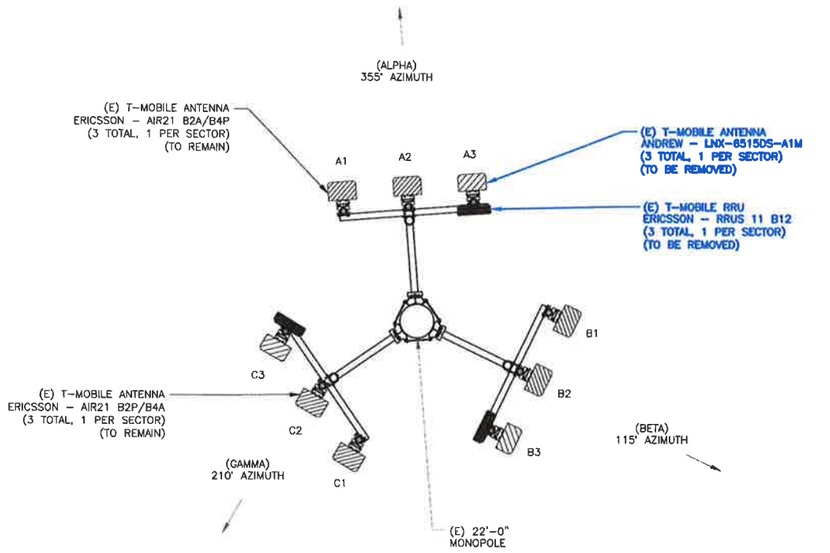
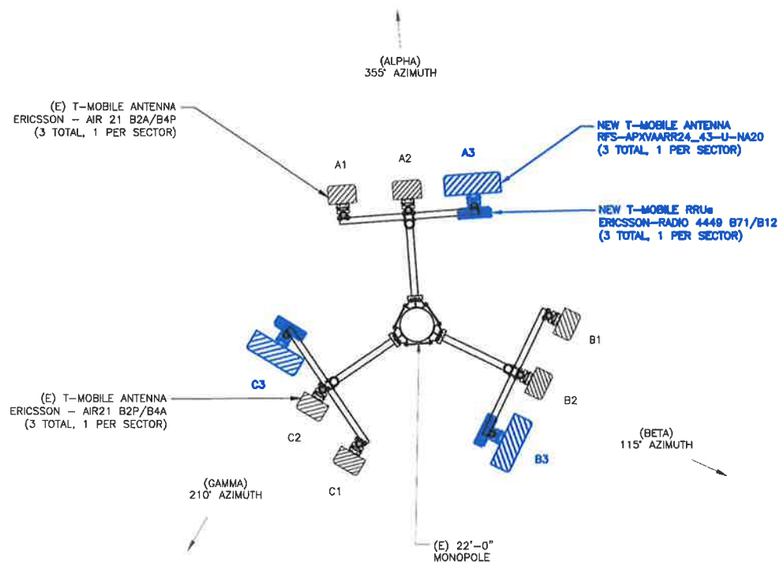
SHEET NUMBER: C-2

REVISION: 0



1 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE

N



2 NEW ANTENNA LAYOUT
SCALE: NOT TO SCALE

N

3 ANTENNA PHOTO
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

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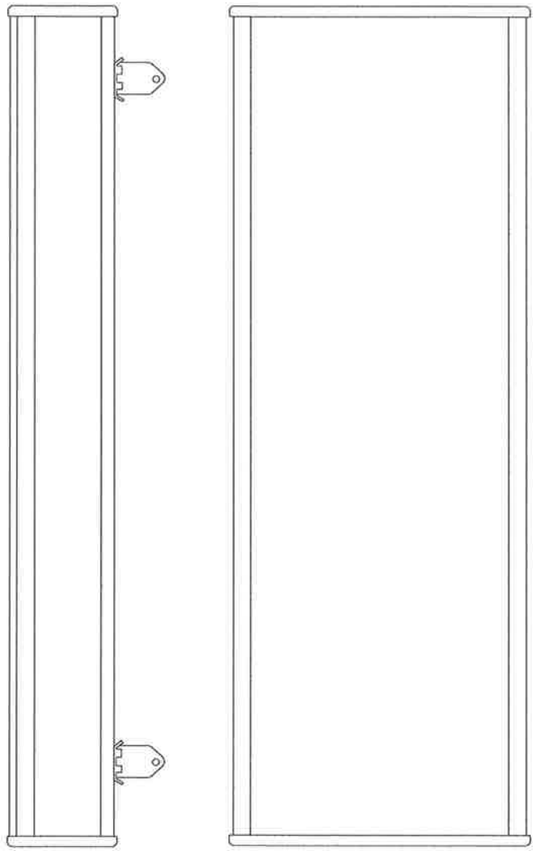
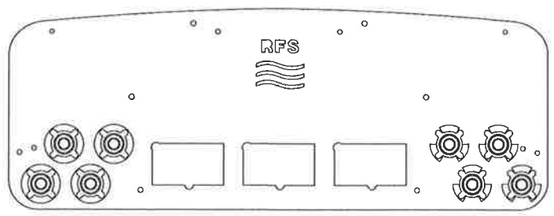
SHEET NUMBER: C-3
REVISION: 0





RFS – APXVAARR24_43-U-NA20
SIZE (HxWxD): 95.9x24x8.7 IN.
MOUNTING HARDWARE P/N: BSAMNT-4
RATED WIND VELOCITY:150.0 MPH
CONNECTOR TYP: 8 X 4.3-10 FEMALE

1 RFS – APXVAARR24_43-U-NA20
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

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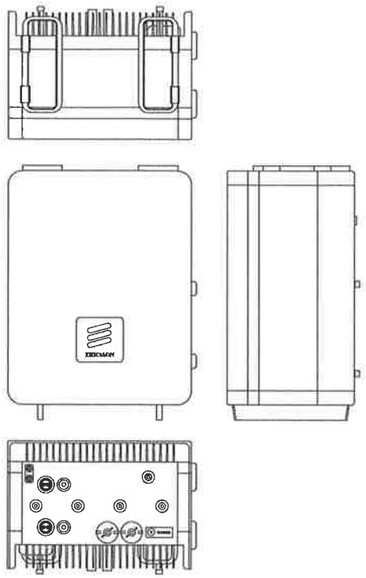
SHEET NUMBER: C-4
REVISION: 0

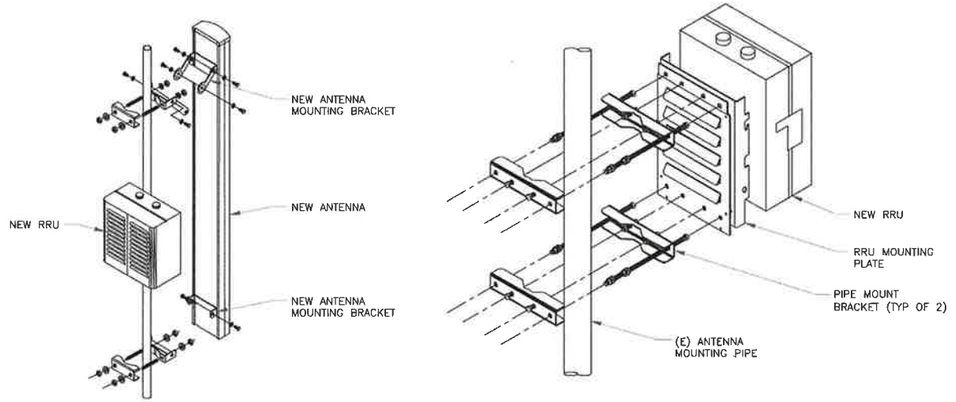


ERICSSON – RADIO 4449 B12/B71
WEIGHT: 75.0 LBS
SIZE (HxWxD): 15.0x13.2x10.4 IN.

1 ERICSSON–RADIO 4449 B12/B71
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE



NOTE:
ALL PIPES BRACKETS AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE

4 ANTENNA & RRU MOUNTING DETAIL
SCALE: NOT TO SCALE

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JACOB GORALSKI, PLLC
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JACOB GORALSKI, PLLC
UT PE# 9226401–2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456–2621

SHEET NUMBER: C-5
REVISION: 0

ANTENNA KEY														
STATUS	ANTENNA NUMBER	COLOR CODE	BEAM WIDTH	ANTENNA VENDOR	MODEL NO.	AZIMUTH	ELECTRICAL DOWNTILT	MECHANICAL DOWNTILT	ANTENNA ℄ AGL	TYPE	COAXIAL FEEDER		HYBRID CABLE FEEDER	
											SIZE	LENGTH	QUANTITY	COLOR CODE
EXISTING	A1	RED 1/RW+BW RED 2/RW+BW – –	TBD	ERICSSON	AIR 21 B2A/B4P	355°	2°	0°	22'-0"	UMTS PCS GSM PCS –	7/8"	100'	(2) HYBRID CABLE	GREY 1
EXISTING	A2	– – RED 3/YB RED 4/YB	TBD	ERICSSON	AIR 21 B2P/B4A	355°	2°	0°	22'-0"	– LTE AWS	7/8"	100'	SHARED WITH A1	GREY 1
NEW	A3	RED 1/RB+W RED 2/RB+W RED 3/RB+W RED 4/RB+W – – – –	TBD	RFS	APXVAARR24_43-U-NA20	355°	2°	0°	18'-0"	LTE 700 LTE 600 –	– –	– –	SHARED WITH A1 SHARED WITH A1	GREY 1 GREY 1
EXISTING	B1	YELLOW 1/RW+BW YELLOW 2/RW+BW – –	TBD	ERICSSON	AIR 21 B2A/B4P	115°	2°	0°	22'-0"	UMTS PCS GSM PCS –	7/8"	100'	SHARED WITH A1	GREY 1
EXISTING	B2	– – YELLOW 3/YB YELLOW 4/YB	TBD	ERICSSON	AIR 21 B2P/B4A	115°	2°	0°	22'-0"	– LTE AWS	7/8"	100'	SHARED WITH A1	GREY 1
NEW	B3	YELLOW 1/RB+W YELLOW 2/RB+W YELLOW 3/RB+W YELLOW 4/RB+W – – – –	TBD	RFS	APXVAARR24_43-U-NA20	115°	2°	0°	18'-0"	LTE 700 LTE 600 –	– –	– –	SHARED WITH A1 SHARED WITH A1	GREY 1 GREY 1
EXISTING	C1	BLUE 1/RW+BW BLUE 2/RW+BW – –	TBD	ERICSSON	AIR 21 B2A/B4P	210°	5°	0°	22'-0"	UMTS PCS GSM PCS –	7/8"	100'	SHARED WITH A1	GREY 1
EXISTING	C2	– – BLUE 3/YB BLUE 4/YB	TBD	ERICSSON	AIR 21 B2P/B4A	210°	5°	0°	22'-0"	– LTE AWS	7/8"	100'	SHARED WITH A1	GREY 1
NEW	C3	BLUE 1/RB+W BLUE 2/RB+W BLUE 3/RB+W BLUE 4/RB+W – – – –	TBD	RFS	APXVAARR24_43-U-NA20	210°	6°	0°	18'-0"	LTE 700 LTE 600 –	– –	– –	SHARED WITH A1 SHARED WITH A1	GREY 1 GREY 1

1 ANTENNA CONFIGURATION KEY
SCALE: NOT TO SCALE

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1106 COLBI ST.
KENNEDALE, TX 76060
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SHEET NUMBER: C-6
REVISION: 0

ANTENNA NOTES:

1. ANTENNA CONTRACTOR SHALL INSURE THAT ALL ANTENNA MOUNTING PIPES ARE PLUMB.
2. COAXIAL FEEDER & FIBER LENGTHS INDICATED ARE APPROXIMATE.
3. ANTENNA COAXIAL FEEDERS & ANTENNA JUMPERS SHALL BE COLOR CODED PER T-MOBILE REQUIREMENTS. IN ADDITION TO THE COLOR CODE IN THE ANTENNA KEY THE FOLLOWING CHECKER STRIPE SHALL BE ADDED TO EACH ANTENNA COAXIAL FEEDER & ANTENNA JUMPER.

   LTE 600 – WHITE STRIPE
   LTE 700 – RED-BLACK CHECKER STRIPE
   LTE PCS – GREEN-BLACK CHECKER STRIPE
   LTE AWS – YELLOW-BLACK CHECKER STRIPE
   UMTS PCS – RED-WHITE CHECKER STRIPE
   UMTS AWS – GREEN-WHITE CHECKER STRIPE
   GSM PCS – BLACK-WHITE CHECKER STRIPE

4. LMU COAXIAL FEEDERS & JUMPERS SHALL BE COLOR CODED BROWN 1 STRIPE & BROWN 2 STRIPE. IN ADDITION TO THE COLOR CODE THE FOLLOWING ANTENNA SECTOR COLOR STRIPE SHALL BE ADDED TO EACH ANTENNA SECTOR LMU COAXIAL FEEDER & JUMPER.

   ALPHA- RED STRIPE
   BETA- YELLOW STRIPE
   GAMMA- BLUE STRIPE
   DELTA- GREEN STRIPE
   EPSILON- WHITE STRIPE
   ZETA- PURPLE STRIPE

5. UMTS AWS LINE 1 & 2 TO HAVE TMA, MOUNTED ON PIPE BEHIND ANTENNA POSITION #2.
6. MULTI-PORTS ANTENNAS: TERMINATE UNUSED ANTENNA PORTS WITH CONNECTOR CAP & WEATHERPROOF THOROUGHLY. JUMPERS FROM TMAS MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTOR.
7. CONTRACTOR MUST FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS REGARDING THE INSTALLATION OF COAXIAL CABLES, CONNECTORS & ANTENNAS.
8. MINIMUM BEND RADIUS:

   LDF4-50A (1/2" HARD LINE) = 5"
   FSJ4-50B (1/2" SUPER FLEX) = 1 1/4"
   AVA5-50A (7/8" HARD LINE) = 10"
   AVA7-50A (1 5/8 HARD LINE) = 15"
   LDF7-50A (1 5/8" HARD LINE) = 20"

9. CONTRACTOR SHALL RECORD THE SERIAL, SECTOR & POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND FURNISH THE INFORMATION TO T-MOBILE.
10. WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF-AMALGAMATING TAPE.
11. ANTENNA CONTRACTOR SHALL PERFORM A "TAPE DROP" MEASUREMENT TO CONFIRM/VALIDATE ANTENNA CENTERLINE (ACL) HEIGHT. CONTRACTOR SHALL SUBMIT A COMPLETED HEIGHT VERIFICATION FORM TO THE CONSTRUCTION MANAGER.
12. ALL FIBER RUNS CONTAINED IN ONE COMMSCOPE HYBRID DC-FIBER CABLE MODEL #ASU9325TYP01 FROM LOWER COVP TO UPPER COVP. HYBRID SHALL BE COLOR CODED PER T-MOBILE REQUIREMENTS. (CONTRACTOR SHALL VERIFY REQUIRED LENGTH WITH T-MOBILE OPERATIONS)

EQUIPMENT KEY – GROUND EQUIPMENT

LOCATION	VENDOR	EQUIPMENT	MODEL NO.	TECH	QTY.	STATUS
MOUNTED IN CABINET	ERICSSON	SYSTEM MODULE	DUW30	UTMS PCS	2	EXISTING
			DUG20	GSM PCS	1	EXISTING
			BB 6630	**LTE 700, LTE 600, LTE AWS**	**1**	**NEW**
			BB 6630	**N600 (DARK)**	**1**	**NEW**
			RUS01 B2	UMTS PCS, GSM PCS	6	EXISTING

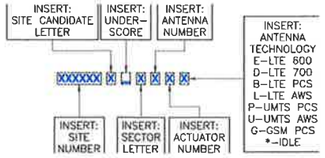
EQUIPMENT KEY – TOWER EQUIPMENT

ANTENNA SECTOR	VENDOR	EQUIPMENT	MODEL NO.	TECH	QTY.	STATUS
1 PER SECTOR	**ERICSSON**	**RRU**	**RADIO 4449 B71+B12**	**LTE 600 LTE 700**	**3**	**NEW**

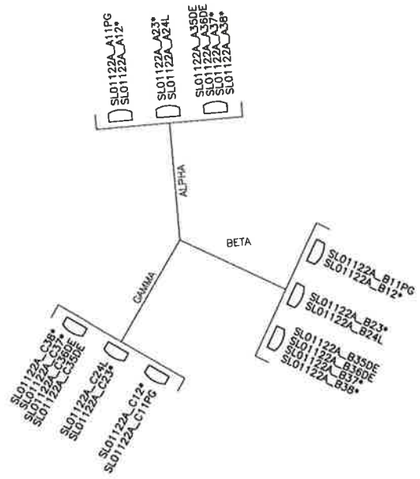
EQUIPMENT KEY – FEEDLINE

LOCATION	VENDOR	EQUIPMENT	MODEL NO.	LENGTH	QTY.	STATUS
MULTI-SECTOR	HUBER+SUHNER	HYBRID CABLE	MLE HYBRID 9PWR/18FIBER RL2	100'-0'	1	EXISTING
MULTI-SECTOR	ANDREW	COAX	AVA5-50	100'-0'	12	EXISTING
MULTI-SECTOR	**ERICSSON**	**HYBRID CABLE**	**HCS 8X12 6AWG**	**100'-0'**	**1**	**NEW**

1 EQUIPMENT CONFIGURATION KEYS
SCALE: NOT TO SCALE



BASE STATION ID
(TO BE USED FOR "BASE STATION ID" DATA FIELD IN THE TMO UPGRADE APPLICATION SOFTWARE)



2 RET ACTUATOR NAMING DIAGRAM
SCALE: NOT TO SCALE

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DALWORTHINGTON GARDENS
TEXAS 76016
OFFICE: (817) 349 3449
FAX: 800 401 4234

T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

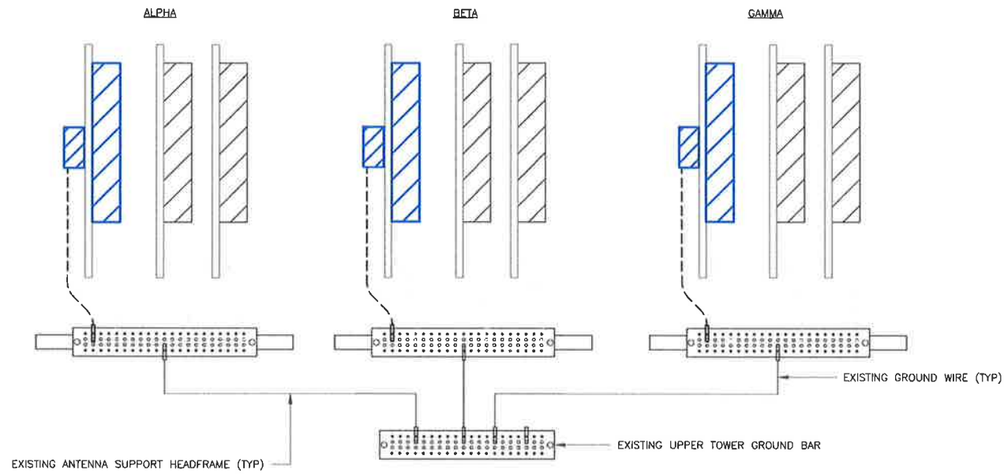
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

PROFESSIONAL ENGINEER
No. 9226401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

JACOB GORALSKI, PLLC
CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: C-7
REVISION: 0



1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

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4 COUNTRY PLACE CIRCLE
DALWORTHINGTON GARDENS
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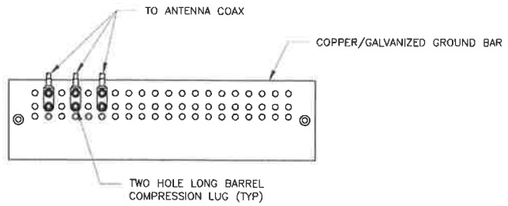
CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

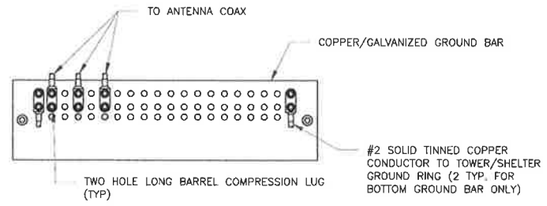
SHEET NUMBER: G-1
REVISION: 0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL.

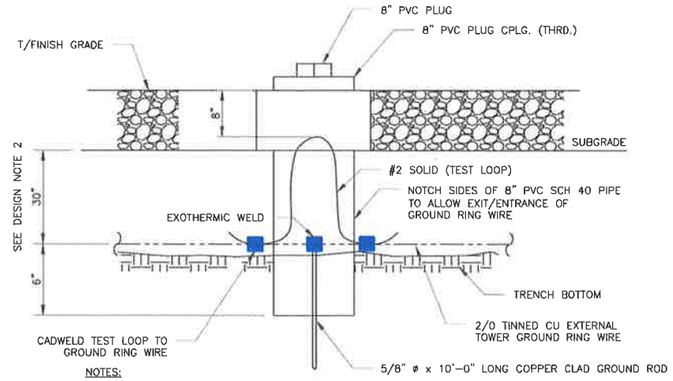
1 ANTENNA GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

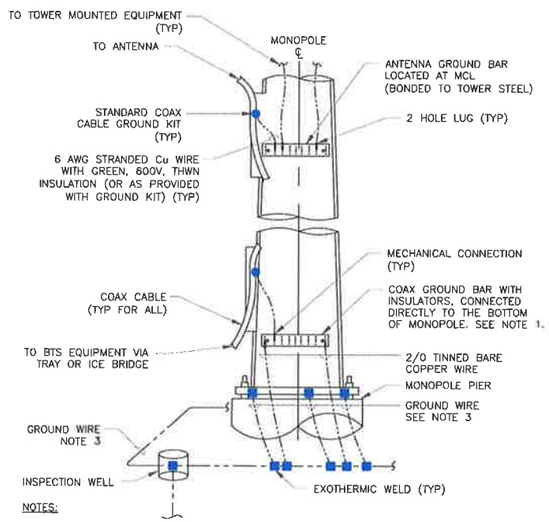
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

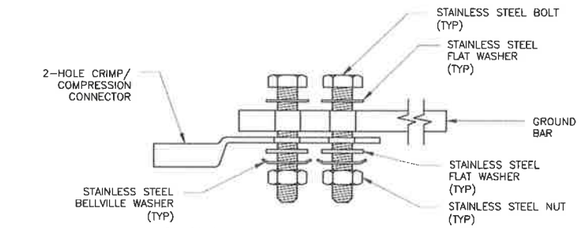
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



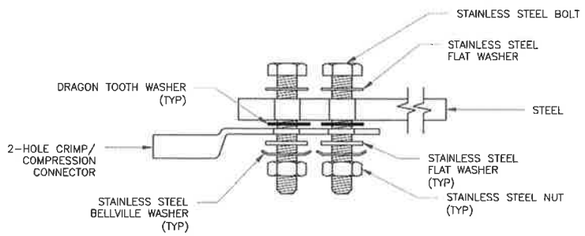
NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

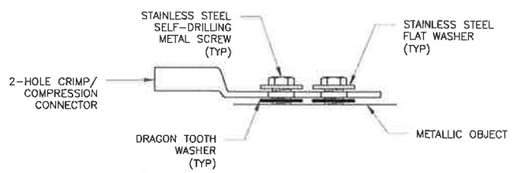
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

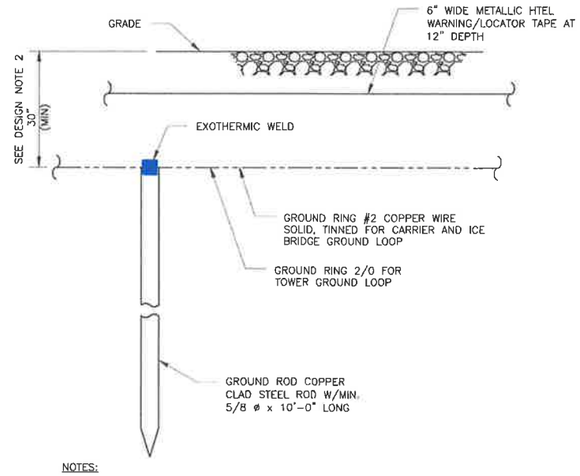


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T··Mobile···
12920 SE 38TH STREET
BELLEVUE, WA 98006

BROADUS services
4 COUNTRY PLACE CIRCLE
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PROFESSIONAL ENGINEER
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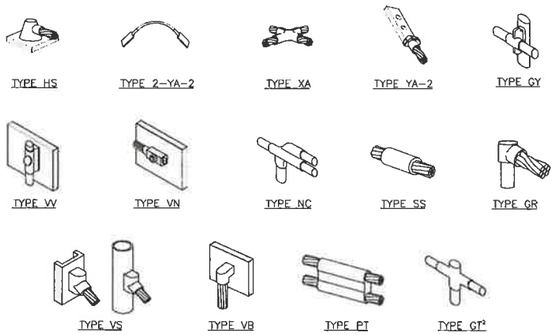
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: G-2
REVISION: 0

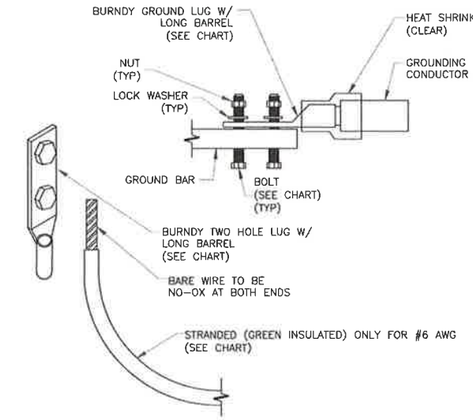


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

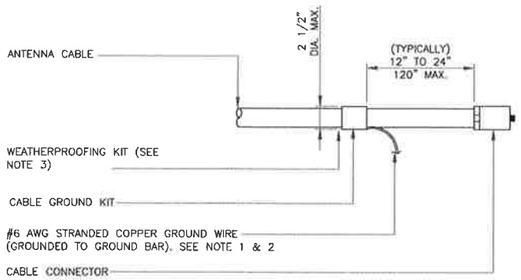
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER,GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

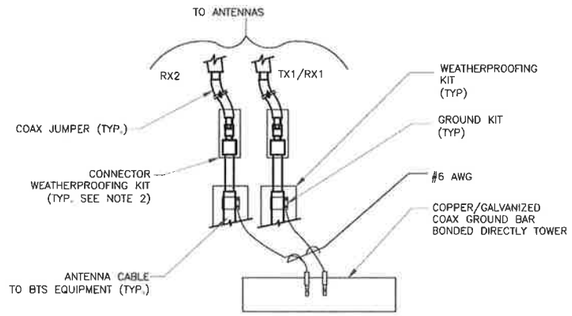
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

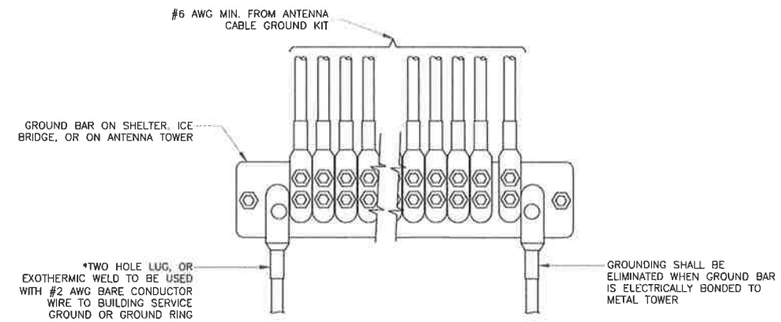
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



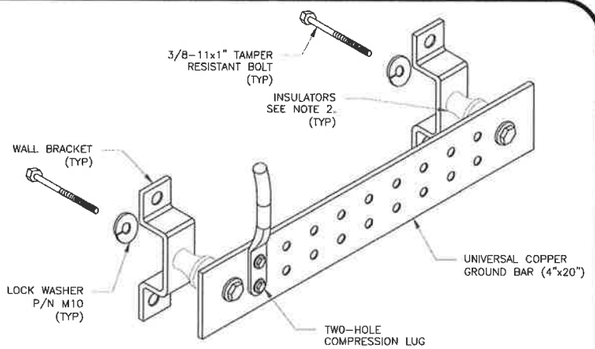
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



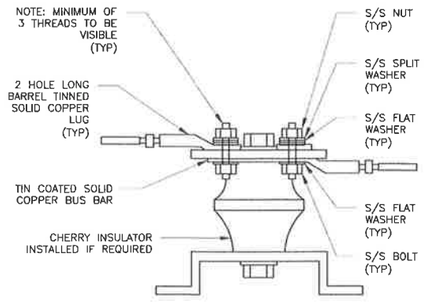
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



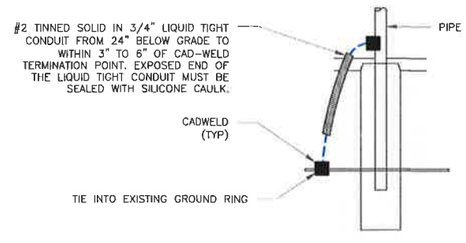
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

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12920 SE 38TH STREET
BELLEVUE, WA 98006

BROADUS services
4 COUNTRY PLACE CIRCLE
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CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: G-3
REVISION: 0

Date: **April 26, 2019**

MORRISON HERSHFIELD

Ms. Heather Simeone
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379 8500

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	SL01122A
	Carrier Site Name:	Alpine_Shepherd_Hill
Crown Castle Designation:	**Crown Castle BU Number:**	822343
	Crown Castle Site Name:	Alpine_Shepherd_Hill
	Crown Castle JDE Job Number:	570464
	Crown Castle Work Order Number:	1728618
	Crown Castle Order Number:	489718 Rev. 0
Engineering Firm Designation:	**Morrison Hershfield Project Number:**	CN6-517 / 1900361
Site Data:	**651 S Bateman, Alpine, Utah County, UT 84004** **Latitude *40° 26' 39.3"*, Longitude *-111° 46' 46.3"*** **20 Foot – Valmont Monopole Tower**	

Dear Ms. Simeone,

Morrison Hershfield is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 115 mph as required by the 2015 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (UT License No. 6297930-2202)
Senior Engineer

G. Lance Cooke
2019.04.26
07:47:05-07'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 20 ft Valmont monopole and the original drawings are not available. A tower mapping was performed by Tower Engineering Professionals, Inc. in May of 2013. The tower geometry and member sizes have been obtained from the above mentioned report and are considered to be accurate.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	0.5 in
Wind Speed with Ice:	40 mph
Seismic Ss:	1.234
Seismic S1:	0.452
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
20.0	20.0	3	Ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	12 1 1	7/8 1-5/8 1-3/8
		3	Ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	RFS	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		3	Ericsson	RADIO 4449 B12/B71		
		1	-	T-Arm Mount [TA 702-3]		

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Tower Engineering Professionals, Inc.	3842115	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Tower Engineering Professionals, Inc. (Mapped)	3865964	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Tower Engineering Professionals, Inc. (Mapped)	3865960	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 1 and the referenced drawings.
3) Yield strengths of 35 ksi for the monopole shaft, 36 ksi for the base plate and anchor bolts have been assumed based on experience with similar towers and are considered to be correct.
4) Structural reinforcement details of the foundation are unknown. The rebar area was assumed to be 0.33% of the foundation area.
5) Concrete compressive strength of 3 ksi and reinforcement yield strength of 60 ksi are assumed based on experience with similar towers and are considered to be correct.

This analysis may be affected if any assumptions are not valid or have been made in error. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	20 - 17	Pole	Pipe 12.75" x 0.330" (SCH30)	1	-2.38	425.88	5.4	Pass
L2	17 - 0	Pole	Pipe 12.75" x 0.330" (SCH30)	2	-3.43	425.88	34.9	Pass
							Summary	
						Pole (L2)	34.9	Pass
						Rating =	34.9	Pass

Table 4 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	32.1	Pass
1	Base Plate		14.7	Pass
1	Base Foundation	0	12.7	Pass
1	Base Foundation Soil Interaction		46.4	Pass

Structure Rating (max from all components) =	46.4%*

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
2) *Rating per TIA-222-H, Section 15.5.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi			

TOWER DESIGN NOTES

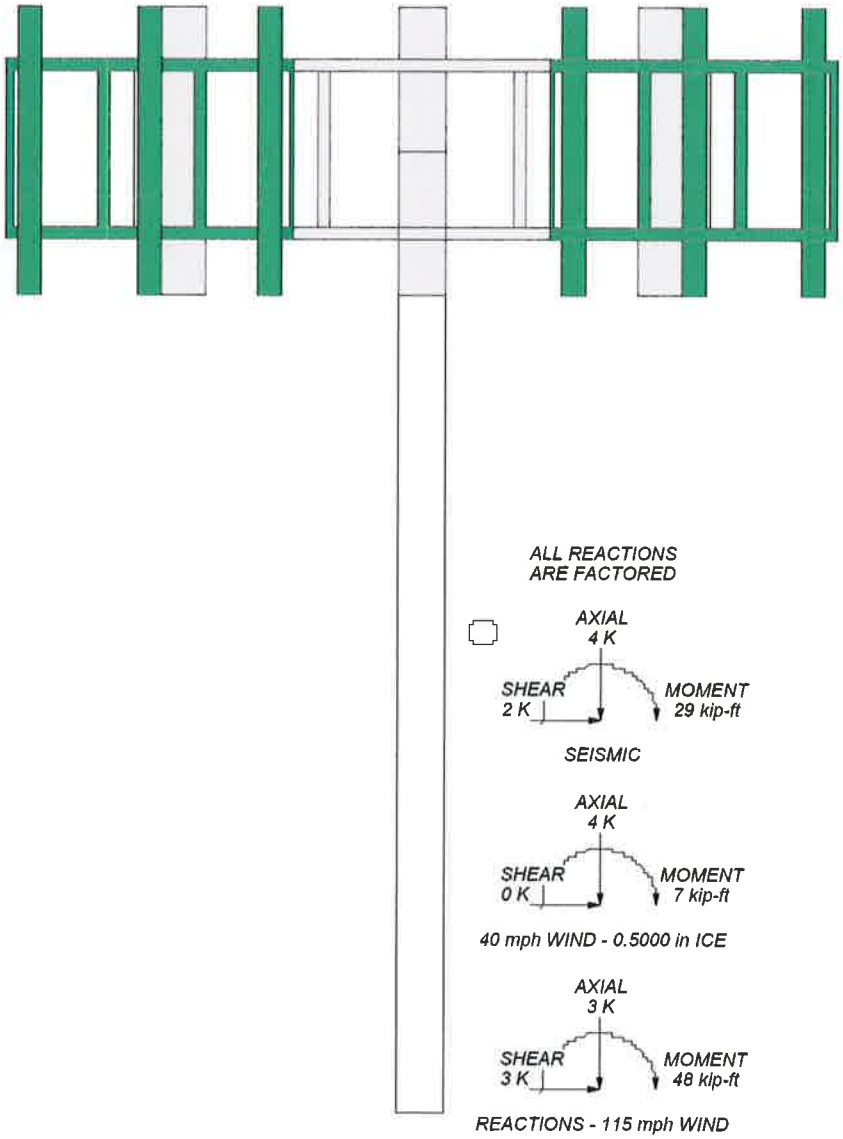
1. Tower is located in Utah County, Utah.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 40 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. CCISeismic Note: Seismic loads generated by CCISeismic 3.2.3
9. CCISeismic Note: Seismic calculations are in accordance with TIA-222-H
10. TOWER RATING: 34.9%

Section	Size	Length (ft)	Grade	Weight (K)
1	Pipe 12.75" x 0.330" (SCH30)	3.00	A53-B-35	0.1
2	Pipe 12.75" x 0.330" (SCH30)	17.00		0.7

20.0 ft

17.0 ft

0.0 ft



ALL REACTIONS ARE FACTORED

SEISMIC

40 mph WIND - 0.5000 in ICE

REACTIONS - 115 mph WIND

Morrison Hershfield
Consulting Engineers
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
Phone: (770) 379 8500
FAX: (770) 379 8501

Job: CN6-517 / 1900361		
Project: 822343 / Alpine_Shepherd_Hill		
Client: Crown Castle USA	Drawn by: KCM	App'd:
Code: TIA-222-H	Date: 04/26/19	Scale: NTS
Path:		Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Utah County, Utah.
Tower base elevation above sea level: 5028.00 ft.
Basic wind speed of 115 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 0.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 40 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
CCISeismic Note: Seismic loads generated by CCISeismic 3.2.3.
CCISeismic Note: Seismic calculations are in accordance with TIA-222-H.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.05.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$, $K_{es}(E_v \text{ and } E_h) = 1.0$.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Pole Section Geometry

Section	*Elevation*	*Section Length*	*Pole Size*	*Pole Grade*	*Socket Length*
	ft	*ft*			*ft*
L1	20.00-17.00	3.00	Pipe 12.75" x 0.330" (SCH30)	A53-B-35 (35 ksi)	
L2	17.00-0.00	17.00	Pipe 12.75" x 0.330" (SCH30)	A53-B-35 (35 ksi)	

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
L1 20.00-17.00				1	1	1			
L2 17.00-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
******										
Safety Line 3/8"	A	No	Surface Ar (CaAa)	20.00 - 1.00	1	1	0.450 0.450	0.3750		0.22
Climbing Pegs	A	No	Surface Ar (CaAa)	20.00 - 9.00	1	1	0.400 0.500	0.7050		1.80
******										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
******									
AVA5-50(7/8)	C	No	No	Inside Pole	20.00 - 1.50	12	No Ice	0.00	0.30
							1/2" Ice	0.00	0.30
***									
HCS 6X12 6AWG(1-3/8)	C	No	No	Inside Pole	20.00 - 1.50	1	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	C	No	No	Inside Pole	20.00 - 1.50	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
******									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	20.00-17.00	A	0.000	0.000	0.324	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	17.00-0.00	A	0.000	0.000	1.164	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.10

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	20.00-17.00	A	0.401	0.000	0.000	0.805	0.000	0.01
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L2	17.00-0.00	A	0.371	0.000	0.000	2.945	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.10

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	20.00-17.00	-0.1010	-0.9610	-0.1150	-1.0943
L2	17.00-0.00	-0.0673	-0.6407	-0.0788	-0.7500

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	2	Safety Line 3/8"	17.00 - 20.00	1.0000	1.0000
L1	3	Climbing Pegs	17.00 - 20.00	1.0000	1.0000
L2	2	Safety Line 3/8"	1.00 - 17.00	1.0000	1.0000
L2	3	Climbing Pegs	9.00 - 17.00	1.0000	1.0000

User Defined Loads - Seismic

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CCISeismic Tower Section 1 - 1	18.50	0.00	0.0000	0.02	0.00	0.00	0.08
CCISeismic Tower Section 2 - 1	13.50	0.00	0.0000	0.05	0.00	0.00	0.14
CCISeismic Tower Section 2 - 2	5.00	0.00	0.0000	0.07	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic 5' horizontal x 3" Pipe Mount	20.00	0.00	0.0000	0.01	0.00	0.00	0.03
CCISeismic 5' horizontal x 3" Pipe Mount	20.00	0.00	0.0000	0.01	0.00	0.00	0.03
CCISeismic 5' horizontal x 3" Pipe Mount	20.00	0.00	0.0000	0.01	0.00	0.00	0.03
CCISeismic tower mounts (cci) T-Arm Mount [TA 702-3]	20.00	0.00	0.0000	0.06	0.00	0.00	0.23
CCISeismic ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.00	0.0000	0.03	0.00	0.00	0.11
CCISeismic rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.00	0.0000	0.03	0.00	0.00	0.11
CCISeismic rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.00	0.0000	0.03	0.00	0.00	0.11
CCISeismic ericsson RADIO 4449 B12/B71	20.00	0.00	0.0000	0.01	0.00	0.00	0.05
CCISeismic ericsson RADIO 4449 B12/B71	20.00	0.00	0.0000	0.01	0.00	0.00	0.05
CCISeismic ericsson RADIO 4449 B12/B71	20.00	0.00	0.0000	0.01	0.00	0.00	0.05
CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (1ft to10ft)	5.50	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic Climbing Pegs From 9 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.01
CCISeismic Climbing Pegs From 9 to 20 (9ft to10ft)	9.50	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.01	0.00	0.00	0.02
CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (1.5ft to10ft)	5.75	0.00	0.0000	0.01	0.00	0.00	0.01
CCISeismic ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.01

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CCISeismic ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20 (1.5ft to10ft)	5.75	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.01
CCISeismic huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20 (1.5ft to10ft)	5.75	0.00	0.0000	0.00	0.00	0.00	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
******									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.33 6.78	5.64 6.43	0.11 0.17
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.33 6.78	5.64 6.43	0.11 0.17
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.33 6.78	5.64 6.43	0.11 0.17
5' horizontal x 3" Pipe Mount	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.25 1.63	1.25 1.63	0.04 0.07
5' horizontal x 3" Pipe Mount	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.25 1.63	1.25 1.63	0.04 0.07
5' horizontal x 3" Pipe Mount	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.25 1.63	1.25 1.63	0.04 0.07
T-Arm Mount [TA 702-3]	C	None		0.0000	20.00	No Ice 1/2" Ice	5.64 6.55	5.64 6.55	0.34 0.43
***									
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.32 6.76	5.63 6.41	0.11 0.17
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.32 6.76	5.63 6.41	0.11 0.17
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.32 6.76	5.63 6.41	0.11 0.17
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	20.48 21.23	11.02 12.55	0.16 0.30
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	20.48 21.23	11.02 12.55	0.16 0.30
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	20.48 21.23	11.02 12.55	0.16 0.30
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.65 1.81	1.30 1.44	0.08 0.09
RADIO 4449 B12/B71	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.65 1.81	1.30 1.44	0.08 0.09
RADIO 4449 B12/B71	C	From Leg	4.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.65 1.81	1.30 1.44	0.08 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft	C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
******			0.00					

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service
51	1.2 Dead+1.0 Ev+1.0 Eh 0 deg
52	0.9 Dead-1.0 Ev+1.0 Eh 0 deg
53	1.2 Dead+1.0 Ev+1.0 Eh 30 deg
54	0.9 Dead-1.0 Ev+1.0 Eh 30 deg
55	1.2 Dead+1.0 Ev+1.0 Eh 60 deg

Comb. No.	Description
56	0.9 Dead-1.0 Ev+1.0 Eh 60 deg
57	1.2 Dead+1.0 Ev+1.0 Eh 90 deg
58	0.9 Dead-1.0 Ev+1.0 Eh 90 deg
59	1.2 Dead+1.0 Ev+1.0 Eh 120 deg
60	0.9 Dead-1.0 Ev+1.0 Eh 120 deg
61	1.2 Dead+1.0 Ev+1.0 Eh 150 deg
62	0.9 Dead-1.0 Ev+1.0 Eh 150 deg
63	1.2 Dead+1.0 Ev+1.0 Eh 180 deg
64	0.9 Dead-1.0 Ev+1.0 Eh 180 deg
65	1.2 Dead+1.0 Ev+1.0 Eh 210 deg
66	0.9 Dead-1.0 Ev+1.0 Eh 210 deg
67	1.2 Dead+1.0 Ev+1.0 Eh 240 deg
68	0.9 Dead-1.0 Ev+1.0 Eh 240 deg
69	1.2 Dead+1.0 Ev+1.0 Eh 270 deg
70	0.9 Dead-1.0 Ev+1.0 Eh 270 deg
71	1.2 Dead+1.0 Ev+1.0 Eh 300 deg
72	0.9 Dead-1.0 Ev+1.0 Eh 300 deg
73	1.2 Dead+1.0 Ev+1.0 Eh 330 deg
74	0.9 Dead-1.0 Ev+1.0 Eh 330 deg

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	20 - 17	Pole	Max Tension	26	0.00	0.00	0.00
			Max. Compression	26	-3.21	0.00	0.00
			Max. Mx	20	-2.38	6.80	0.00
			Max. My	2	-2.38	0.00	6.79
			Max. Vy	20	-2.29	6.80	0.00
			Max. Vx	2	-2.29	0.00	6.79
L2	17 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-4.36	0.02	0.01
			Max. Mx	20	-3.43	47.80	0.01
			Max. My	2	-3.43	0.01	47.80
			Max. Vy	20	-2.53	47.80	0.01
			Max. Vx	2	-2.53	0.01	47.80
			Max. Torque	4			-0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	4.36	0.00	0.00
	Max. H_x	21	2.58	2.52	0.00
	Max. H_z	2	3.43	0.00	2.52
	Max. M_x	2	47.80	0.00	2.52
	Max. M_z	8	47.78	-2.52	0.00
	Max. Torsion	34	0.00	0.18	-0.32
	Min. Vert	60	2.10	-1.37	-0.79
	Min. H_x	8	3.43	-2.52	0.00
	Min. H_z	14	3.43	0.00	-2.52
	Min. M_x	14	-47.78	0.00	-2.52
	Min. M_z	20	-47.80	2.52	0.00
	Min. Torsion	28	-0.00	-0.18	0.32

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	2.86	0.00	0.00	-0.01	0.01	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	3.43	0.00	-2.52	-47.80	0.01	0.00
0.9 Dead+1.0 Wind 0 deg - No Ice	2.58	0.00	-2.52	-47.71	0.01	0.00
1.2 Dead+1.0 Wind 30 deg - No Ice	3.43	1.26	-2.19	-41.39	-23.88	0.00
0.9 Dead+1.0 Wind 30 deg - No Ice	2.58	1.26	-2.19	-41.32	-23.84	0.00
1.2 Dead+1.0 Wind 60 deg - No Ice	3.43	2.19	-1.26	-23.90	-41.37	0.00
0.9 Dead+1.0 Wind 60 deg - No Ice	2.58	2.19	-1.26	-23.86	-41.30	0.00
1.2 Dead+1.0 Wind 90 deg - No Ice	3.43	2.52	0.00	-0.01	-47.78	0.00
0.9 Dead+1.0 Wind 90 deg - No Ice	2.58	2.52	0.00	-0.01	-47.69	0.00
1.2 Dead+1.0 Wind 120 deg - No Ice	3.43	2.19	1.26	23.89	-41.37	0.00
0.9 Dead+1.0 Wind 120 deg - No Ice	2.58	2.19	1.26	23.85	-41.30	0.00
1.2 Dead+1.0 Wind 150 deg - No Ice	3.43	1.26	2.19	41.38	-23.88	0.00
0.9 Dead+1.0 Wind 150 deg - No Ice	2.58	1.26	2.19	41.31	-23.84	0.00
1.2 Dead+1.0 Wind 180 deg - No Ice	3.43	0.00	2.52	47.78	0.01	0.00
0.9 Dead+1.0 Wind 180 deg - No Ice	2.58	0.00	2.52	47.70	0.01	0.00
1.2 Dead+1.0 Wind 210 deg - No Ice	3.43	-1.26	2.19	41.38	23.91	0.00
0.9 Dead+1.0 Wind 210 deg - No Ice	2.58	-1.26	2.19	41.31	23.86	0.00
1.2 Dead+1.0 Wind 240 deg - No Ice	3.43	-2.19	1.26	23.89	41.40	0.00
0.9 Dead+1.0 Wind 240 deg - No Ice	2.58	-2.19	1.26	23.85	41.32	0.00
1.2 Dead+1.0 Wind 270 deg - No Ice	3.43	-2.52	0.00	-0.01	47.80	0.00
0.9 Dead+1.0 Wind 270 deg - No Ice	2.58	-2.52	0.00	-0.01	47.72	0.00
1.2 Dead+1.0 Wind 300 deg - No Ice	3.43	-2.19	-1.26	-23.90	41.40	0.00
0.9 Dead+1.0 Wind 300 deg - No Ice	2.58	-2.19	-1.26	-23.86	41.32	0.00
1.2 Dead+1.0 Wind 330 deg - No Ice	3.43	-1.26	-2.19	-41.39	23.91	0.00
0.9 Dead+1.0 Wind 330 deg - No Ice	2.58	-1.26	-2.19	-41.32	23.86	0.00
1.2 Dead+1.0 Ice+1.0 Temp	4.36	0.00	0.00	-0.01	0.02	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	4.36	0.00	-0.37	-6.66	0.02	0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	4.36	0.18	-0.32	-5.77	-3.30	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	4.36	0.32	-0.18	-3.34	-5.74	0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	4.36	0.37	0.00	-0.01	-6.63	0.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	4.36	0.32	0.18	3.31	-5.74	0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	4.36	0.18	0.32	5.75	-3.30	0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	4.36	0.00	0.37	6.64	0.02	-0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	4.36	-0.18	0.32	5.75	3.34	-0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	4.36	-0.32	0.18	3.31	5.78	-0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	4.36	-0.37	0.00	-0.01	6.67	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	4.36	-0.32	-0.18	-3.34	5.78	0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	4.36	-0.18	-0.32	-5.77	3.34	0.00
Dead+Wind 0 deg - Service	2.86	0.00	-0.68	-12.60	0.01	0.00
Dead+Wind 30 deg - Service	2.86	0.34	-0.59	-10.91	-6.28	0.00
Dead+Wind 60 deg - Service	2.86	0.59	-0.34	-6.30	-10.89	0.00
Dead+Wind 90 deg - Service	2.86	0.68	0.00	-0.01	-12.58	0.00
Dead+Wind 120 deg - Service	2.86	0.59	0.34	6.29	-10.89	0.00
Dead+Wind 150 deg - Service	2.86	0.34	0.59	10.90	-6.28	0.00
Dead+Wind 180 deg - Service	2.86	0.00	0.68	12.58	0.01	0.00
Dead+Wind 210 deg - Service	2.86	-0.34	0.59	10.90	6.31	0.00
Dead+Wind 240 deg - Service	2.86	-0.59	0.34	6.29	10.91	0.00
Dead+Wind 270 deg - Service	2.86	-0.68	0.00	-0.01	12.60	0.00
Dead+Wind 300 deg - Service	2.86	-0.59	-0.34	-6.30	10.91	0.00
Dead+Wind 330 deg - Service	2.86	-0.34	-0.59	-10.91	6.31	0.00
1.2 Dead+1.0 Ev+1.0 Eh 0 deg	3.91	0.00	-1.58	-29.34	0.01	0.00
0.9 Dead-1.0 Ev+1.0 Eh 0 deg	2.10	0.00	-1.58	-29.23	0.01	0.00
1.2 Dead+1.0 Ev+1.0 Eh 30 deg	3.91	0.79	-1.37	-25.41	-14.65	0.00
0.9 Dead-1.0 Ev+1.0 Eh 30 deg	2.10	0.79	-1.37	-25.32	-14.60	0.00
1.2 Dead+1.0 Ev+1.0 Eh 60 deg	3.91	1.37	-0.79	-14.68	-25.39	0.00
0.9 Dead-1.0 Ev+1.0 Eh 60 deg	2.10	1.37	-0.79	-14.62	-25.30	0.00
1.2 Dead+1.0 Ev+1.0 Eh 90 deg	3.91	1.58	0.00	-0.01	-29.32	0.00
0.9 Dead-1.0 Ev+1.0 Eh 90 deg	2.10	1.58	0.00	-0.01	-29.22	0.00
1.2 Dead+1.0 Ev+1.0 Eh 120 deg	3.91	1.37	0.79	14.66	-25.39	0.00
0.9 Dead-1.0 Ev+1.0 Eh 120 deg	2.10	1.37	0.79	14.61	-25.30	0.00
1.2 Dead+1.0 Ev+1.0 Eh 150 deg	3.91	0.79	1.37	25.40	-14.65	0.00
0.9 Dead-1.0 Ev+1.0 Eh 150 deg	2.10	0.79	1.37	25.31	-14.60	0.00
1.2 Dead+1.0 Ev+1.0 Eh 180 deg	3.91	0.00	1.58	29.33	0.01	0.00
0.9 Dead-1.0 Ev+1.0 Eh 180 deg	2.10	0.00	1.58	29.22	0.01	0.00
1.2 Dead+1.0 Ev+1.0 Eh 210 deg	3.91	-0.79	1.37	25.40	14.68	0.00
0.9 Dead-1.0 Ev+1.0 Eh 210 deg	2.10	-0.79	1.37	25.31	14.62	0.00

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Ev+1.0 Eh 240 deg	3.91	-1.37	0.79	14.66	25.42	0.00
0.9 Dead-1.0 Ev+1.0 Eh 240 deg	2.10	-1.37	0.79	14.61	25.32	0.00
1.2 Dead+1.0 Ev+1.0 Eh 270 deg	3.91	-1.58	0.00	-0.01	29.35	0.00
0.9 Dead-1.0 Ev+1.0 Eh 270 deg	2.10	-1.58	0.00	-0.01	29.24	0.00
1.2 Dead+1.0 Ev+1.0 Eh 300 deg	3.91	-1.37	-0.79	-14.68	25.42	0.00
0.9 Dead-1.0 Ev+1.0 Eh 300 deg	2.10	-1.37	-0.79	-14.62	25.32	0.00
1.2 Dead+1.0 Ev+1.0 Eh 330 deg	3.91	-0.79	-1.37	-25.41	14.68	0.00
0.9 Dead-1.0 Ev+1.0 Eh 330 deg	2.10	-0.79	-1.37	-25.32	14.62	0.00

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-2.86	0.00	0.00	2.86	0.00	0.000%
2	0.00	-3.43	-2.52	0.00	3.43	2.52	0.000%
3	0.00	-2.58	-2.52	0.00	2.58	2.52	0.000%
4	1.26	-3.43	-2.19	-1.26	3.43	2.19	0.000%
5	1.26	-2.58	-2.19	-1.26	2.58	2.19	0.000%
6	2.19	-3.43	-1.26	-2.19	3.43	1.26	0.000%
7	2.19	-2.58	-1.26	-2.19	2.58	1.26	0.000%
8	2.52	-3.43	0.00	-2.52	3.43	0.00	0.000%
9	2.52	-2.58	0.00	-2.52	2.58	0.00	0.000%
10	2.19	-3.43	1.26	-2.19	3.43	-1.26	0.000%
11	2.19	-2.58	1.26	-2.19	2.58	-1.26	0.000%
12	1.26	-3.43	2.19	-1.26	3.43	-2.19	0.000%
13	1.26	-2.58	2.19	-1.26	2.58	-2.19	0.000%
14	0.00	-3.43	2.52	0.00	3.43	-2.52	0.000%
15	0.00	-2.58	2.52	0.00	2.58	-2.52	0.000%
16	-1.26	-3.43	2.19	1.26	3.43	-2.19	0.000%
17	-1.26	-2.58	2.19	1.26	2.58	-2.19	0.000%
18	-2.19	-3.43	1.26	2.19	3.43	-1.26	0.000%
19	-2.19	-2.58	1.26	2.19	2.58	-1.26	0.000%
20	-2.52	-3.43	0.00	2.52	3.43	0.00	0.000%
21	-2.52	-2.58	0.00	2.52	2.58	0.00	0.000%
22	-2.19	-3.43	-1.26	2.19	3.43	1.26	0.000%
23	-2.19	-2.58	-1.26	2.19	2.58	1.26	0.000%
24	-1.26	-3.43	-2.19	1.26	3.43	2.19	0.000%
25	-1.26	-2.58	-2.19	1.26	2.58	2.19	0.000%
26	0.00	-4.36	0.00	0.00	4.36	0.00	0.000%
27	0.00	-4.36	-0.37	0.00	4.36	0.37	0.000%
28	0.18	-4.36	-0.32	-0.18	4.36	0.32	0.000%
29	0.32	-4.36	-0.18	-0.32	4.36	0.18	0.000%
30	0.37	-4.36	0.00	-0.37	4.36	0.00	0.000%
31	0.32	-4.36	0.18	-0.32	4.36	-0.18	0.000%
32	0.18	-4.36	0.32	-0.18	4.36	-0.32	0.000%
33	0.00	-4.36	0.37	0.00	4.36	-0.37	0.000%
34	-0.18	-4.36	0.32	0.18	4.36	-0.32	0.000%
35	-0.32	-4.36	0.18	0.32	4.36	-0.18	0.000%
36	-0.37	-4.36	0.00	0.37	4.36	0.00	0.000%
37	-0.32	-4.36	-0.18	0.32	4.36	0.18	0.000%
38	-0.18	-4.36	-0.32	0.18	4.36	0.32	0.000%
39	0.00	-2.86	-0.68	0.00	2.86	0.68	0.000%
40	0.34	-2.86	-0.59	-0.34	2.86	0.59	0.000%
41	0.59	-2.86	-0.34	-0.59	2.86	0.34	0.000%
42	0.68	-2.86	0.00	-0.68	2.86	0.00	0.000%
43	0.59	-2.86	0.34	-0.59	2.86	-0.34	0.000%
44	0.34	-2.86	0.59	-0.34	2.86	-0.59	0.000%
45	0.00	-2.86	0.68	0.00	2.86	-0.68	0.000%
46	-0.34	-2.86	0.59	0.34	2.86	-0.59	0.000%
47	-0.59	-2.86	0.34	0.59	2.86	-0.34	0.000%
48	-0.68	-2.86	0.00	0.68	2.86	0.00	0.000%
49	-0.59	-2.86	-0.34	0.59	2.86	0.34	0.000%
50	-0.34	-2.86	-0.59	0.34	2.86	0.59	0.000%
51	0.00	-3.91	-1.58	0.00	3.91	1.58	0.000%
52	0.00	-2.10	-1.58	0.00	2.10	1.58	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
53	0.79	-3.91	-1.37	-0.79	3.91	1.37	0.000%
54	0.79	-2.10	-1.37	-0.79	2.10	1.37	0.000%
55	1.37	-3.91	-0.79	-1.37	3.91	0.79	0.000%
56	1.37	-2.10	-0.79	-1.37	2.10	0.79	0.000%
57	1.58	-3.91	0.00	-1.58	3.91	0.00	0.000%
58	1.58	-2.10	0.00	-1.58	2.10	0.00	0.000%
59	1.37	-3.91	0.79	-1.37	3.91	-0.79	0.000%
60	1.37	-2.10	0.79	-1.37	2.10	-0.79	0.000%
61	0.79	-3.91	1.37	-0.79	3.91	-1.37	0.000%
62	0.79	-2.10	1.37	-0.79	2.10	-1.37	0.000%
63	0.00	-3.91	1.58	0.00	3.91	-1.58	0.000%
64	0.00	-2.10	1.58	0.00	2.10	-1.58	0.000%
65	-0.79	-3.91	1.37	0.79	3.91	-1.37	0.000%
66	-0.79	-2.10	1.37	0.79	2.10	-1.37	0.000%
67	-1.37	-3.91	0.79	1.37	3.91	-0.79	0.000%
68	-1.37	-2.10	0.79	1.37	2.10	-0.79	0.000%
69	-1.58	-3.91	0.00	1.58	3.91	0.00	0.000%
70	-1.58	-2.10	0.00	1.58	2.10	0.00	0.000%
71	-1.37	-3.91	-0.79	1.37	3.91	0.79	0.000%
72	-1.37	-2.10	-0.79	1.37	2.10	0.79	0.000%
73	-0.79	-3.91	-1.37	0.79	3.91	1.37	0.000%
74	-0.79	-2.10	-1.37	0.79	2.10	1.37	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000001
5	Yes	4	0.00000001	0.00000001
6	Yes	4	0.00000001	0.00000001
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00000001
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000001
13	Yes	4	0.00000001	0.00000001
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000001
17	Yes	4	0.00000001	0.00000001
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000001
21	Yes	4	0.00000001	0.00000001
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000001
25	Yes	4	0.00000001	0.00000001
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001

40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001
51	Yes	4	0.00000001	0.00000001
52	Yes	4	0.00000001	0.00000001
53	Yes	4	0.00000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.00000001	0.00000001
56	Yes	4	0.00000001	0.00000001
57	Yes	4	0.00000001	0.00000001
58	Yes	4	0.00000001	0.00000001
59	Yes	4	0.00000001	0.00000001
60	Yes	4	0.00000001	0.00000001
61	Yes	4	0.00000001	0.00000001
62	Yes	4	0.00000001	0.00000001
63	Yes	4	0.00000001	0.00000001
64	Yes	4	0.00000001	0.00000001
65	Yes	4	0.00000001	0.00000001
66	Yes	4	0.00000001	0.00000001
67	Yes	4	0.00000001	0.00000001
68	Yes	4	0.00000001	0.00000001
69	Yes	4	0.00000001	0.00000001
70	Yes	4	0.00000001	0.00000001
71	Yes	4	0.00000001	0.00000001
72	Yes	4	0.00000001	0.00000001
73	Yes	4	0.00000001	0.00000001
74	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	20 - 17	0.913	71	0.3229	0.0000
L2	17 - 0	0.711	71	0.3164	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
20.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	71	0.913	0.3229	0.0000	3891
18.50	CCISeismic Tower Section 1 - 1	71	0.810	0.3210	0.0000	3891
15.00	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (10ft to20ft)	71	0.592	0.3023	0.0000	3891
13.50	CCISeismic Tower Section 2 - 1	71	0.511	0.2860	0.0000	4022
9.50	CCISeismic Climbing Pegs From 9 to 20 (9ft to10ft)	71	0.327	0.2224	0.0000	5652
5.75	CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (1.5ft to10ft)	71	0.186	0.1426	0.0000	9339
5.50	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (1ft to10ft)	71	0.177	0.1367	0.0000	9763
5.00	CCISeismic Tower Section 2 - 2	71	0.160	0.1249	0.0000	10740

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	20 - 17	1.506	22	0.5366	0.0000
L2	17 - 0	1.171	22	0.5249	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
20.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	22	1.506	0.5366	0.0000	2311
18.50	CCISeismic Tower Section 1 - 1	22	1.335	0.5330	0.0000	2311
15.00	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (10ft to20ft)	22	0.973	0.5013	0.0000	2311
13.50	CCISeismic Tower Section 2 - 1	22	0.840	0.4741	0.0000	2388
9.50	CCISeismic Climbing Pegs From 9 to 20 (9ft to10ft)	22	0.536	0.3683	0.0000	3356
5.75	CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (1.5ft to10ft)	22	0.304	0.2360	0.0000	5545
5.50	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (1ft to10ft)	22	0.290	0.2263	0.0000	5797
5.00	CCISeismic Tower Section 2 - 2	22	0.262	0.2068	0.0000	6377

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	20 - 17 (1)	Pipe 12.75" x 0.330" (SCH30)	3.00	0.00	0.0	12.8761	-2.38	405.60	0.006
L2	17 - 0 (2)	Pipe 12.75" x 0.330" (SCH30)	17.00	0.00	0.0	12.8761	-3.43	405.60	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	20 - 17 (1)	Pipe 12.75" x 0.330" (SCH30)	6.80	133.66	0.051	0.00	133.66	0.000
L2	17 - 0 (2)	Pipe 12.75" x 0.330" (SCH30)	47.81	133.66	0.358	0.00	133.66	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	20 - 17 (1)	Pipe 12.75" x 0.330" (SCH30)	2.29	121.68	0.019	0.00	132.87	0.000
L2	17 - 0 (2)	Pipe 12.75" x 0.330" (SCH30)	2.53	121.68	0.021	0.00	132.87	0.000

Pole Interaction Design Data

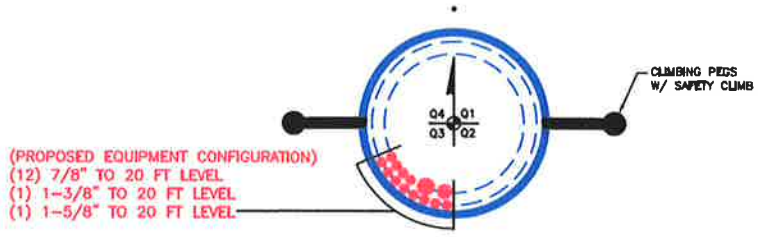
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	20 - 17 (1)	0.006	0.051	0.000	0.019	0.000	0.057	1.050	4.8.2
L2	17 - 0 (2)	0.008	0.358	0.000	0.021	0.000	0.367	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	20 - 17	Pole	Pipe 12.75" x 0.330" (SCH30)	1	-2.38	425.88	5.4	Pass
L2	17 - 0	Pole	Pipe 12.75" x 0.330" (SCH30)	2	-3.43	425.88	34.9	Pass
							Summary	
						Pole (L2)	34.9	Pass
						RATING =	**34.9**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 22343 TOWER BASE

APPENDIX C

ADDITIONAL CALCULATIONS

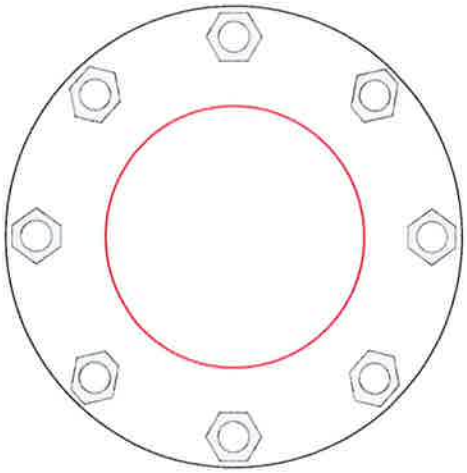
Monopole Base Plate Connection

Site Info	
BU #	822342
Site Name	Alpine_Shepherd_Hill
Order #	489718 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{er} (in)	2.5

Applied Loads	
Moment (kip-ft)	47.81
Axial Force (kips)	3.43
Shear Force (kips)	2.53

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(8) 1-1/2" ø bolts (A36 N; Fy=36 ksi, Fu=58 ksi) on 19.5" BC

Base Plate Data

22.5" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

12.75" x 0.33" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_c = 15.1	ϕPn_c = 50.76	**Stress Rating**
Vu = 0.32	ϕVn = 15.23	**32.1%**
Mu = 0.51	ϕMn = 12.99	**Pass**

Base Plate Summary

Max Stress (ksi):	4.99	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**14.7%**	**Pass**

Drilled Pier Foundation

BU # :	822343
Site Name:	Alpine_Shepherd_Hill
Order Number:	489718 Rev. 0

TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	47.81	
Axial Force (kips)	3.43	
Shear Force (kips)	2.53	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi

Pier Design Data		
Depth	6.33	ft
Ext. Above Grade	0.45833	ft
Pier Section 1		
From 0.45833' above grade to 0.91667' below grade		
Pier Diameter	3.5	ft
Rebar Quantity	8	
Rebar Size	7	
Clear Cover to Ties	3	in
Tie Size	3	
Pier Section 2		
From 0.91667' below grade to 8.33' below grade		
Pier Diameter	4	ft
Rebar Quantity	10	
Rebar Size	7	
Clear Cover to Ties	3	in
Tie Size	3	

Analysis Results		
Soil Lateral Capacity	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	4.29	-
Soil Safety Factor	2.73	-
Max Moment (kip-ft)	58.29	-
Rating*	*46.4%*	-
Soil Vertical Capacity	*Compression*	*Uplift*
Skin Friction (kips)	14.49	-
End Bearing (kips)	216.30	-
Weight of Concrete (kips)	19.15	-
Total Capacity (kips)	230.79	-
Axial (kips)	22.58	-
Rating*	*9.3%*	-
Reinforced Concrete Capacity	*Compression*	*Uplift*
Critical Depth (ft from TOC)	4.25	-
Critical Moment (kip-ft)	58.28	-
Critical Moment Capacity	436.36	-
Rating*	*12.7%*	-

Min. Steel is assumed

Soil Interaction Rating*	**46.4%**
Structural Foundation Rating*	**12.7%**

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	n/a	ft	# of Layers: 3

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	108	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	6	2.5	108	150	0	39	0.000	0.000	0.27	0.27			Cohesionless
3	6	8.33	2.33	108	150	0	36	0.000	0.000	0.37	0.37	22.95		Cohesionless

CROWN CASTLE

BU:	822343	Structure:	A
WO:	1728618		
Order:	489718	Rev:	0

Location

	Decimal Degrees		Deg	Min	Sec
Lat:	40.444250	+	40	26	39.30
Long:	-111.779528	-	111	46	46.30

Code and Site Parameters

Seismic Design Code:	TIA-222-H*	
Site Soil:	D	Dense Soil/Soft Rock
Risk Category:	II	

USGS Seismic Reference			
	S_S:	1.2340	g
	S_1:	0.4520	g
	T_L:	8	s

Seismic Design Category Determination

Importance Factor, I_e:	1
Acceleration-based site coefficient, F_a:	1.0064
Velocity-based site coefficient, F_v:	1.5480

Design spectral response acceleration short period, S_{DS}:	0.8279	g
Design spectral response acceleration 1 s period, S_{D1}:	0.4665	g

Seismic Design Category Based on S_{DS}:	D
Seismic Design Category Based on S_{D1}:	D
Seismic Design Category Based on S_1:	N/A
Controlling Seismic Design Category:	D

*Using ASCE 7-10 Seismic Parameters

CROWN CASTLE

BU:	822343	Structure:	A
WO:	1728618		
Order:	489718	Rev:	0

Tower Details

Tower Type:	Stepped Monopole		
Height, h:	20	ft	
Effective Seismic Weight, W:	2.86	kips	
Amplification Factor, A_s:	1.0		2.7.8.1

Seismic Base Shear

Response Modification Factor, R:	1.5		
Discrete Appurtenance Weight in Top 1/3 of Structure, W_u:	1.84401	kips	
W_L:	1.018161367	kips	
E:	29000.0	ksi	
g:	386.088	in/s^2	
Average Moment of Inertia, I_{avg}:	248.4534906	in^4	
F_a:	2.708625061	hz	
Approximate Fundamental Period Monopole, T_a:	0.3692	s	2.7.7.1.3.3
Seismic Response Coefficient, C_s	0.5520		2.7.7.1.1
Seismic Response Coefficient Max 1, C_{smax}	0.8423		2.7.7.1.1
Seismic Response Coefficient Max 2, C_{smax}	N/A		2.7.7.1.1
Seismic Response Coefficient Min 1, C_{smin}	0.0364		2.7.7.1.1
Seismic Response Coefficient Min 2, C_{smin}	N/A		2.7.7.1.1
Controlling Seismic Response Coefficient, C_{sc}	0.5520		
Seismic Base Shear, V	1.580	kips	2.7.7.1.1

Vertical Distribution Factors

Period Related Exponent, k:	1.000	2.7.7.1.2
Sum of $w_i h_i^k$	47.24	2.7.7.1.2

Tower Section Loads								
Section Number	Length	Top Height	Mid Height, h_x	Section Weight, w_x	$w_x h_x^k$	C_{vx}	F_{ah}	F_{av}
1 - 1	3.00	20.00	18.50	0.1314	2.43	0.0515	0.0813	0.0218
2 - 1	7.00	17.00	13.50	0.3067	4.14	0.0876	0.1385	0.0508
2 - 2	10.00	10.00	5.00	0.4381	2.19	0.0464	0.0733	0.0726
			Sum					

Discrete Loads						
Name	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{ah}	F_{av}
ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
5' horizontal x 3" Pipe Mount	20.00	0.0417	0.83	0.0176	0.0279	0.0069
5' horizontal x 3" Pipe Mount	20.00	0.0417	0.83	0.0176	0.0279	0.0069
5' horizontal x 3" Pipe Mount	20.00	0.0417	0.83	0.0176	0.0279	0.0069
tower mounts (cci) T-Arm Mount [TA 702-3]	20.00	0.3390	6.78	0.1435	0.2267	0.0561
ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.1600	3.20	0.0677	0.1070	0.0265
rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.1600	3.20	0.0677	0.1070	0.0265
rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.1600	3.20	0.0677	0.1070	0.0265
ericsson RADIO 4449 B12/B71	20.00	0.0800	1.60	0.0339	0.0535	0.0132
ericsson RADIO 4449 B12/B71	20.00	0.0800	1.60	0.0339	0.0535	0.0132
ericsson RADIO 4449 B12/B71	20.00	0.0800	1.60	0.0339	0.0535	0.0132
Sum		[illegible]	[illegible]			

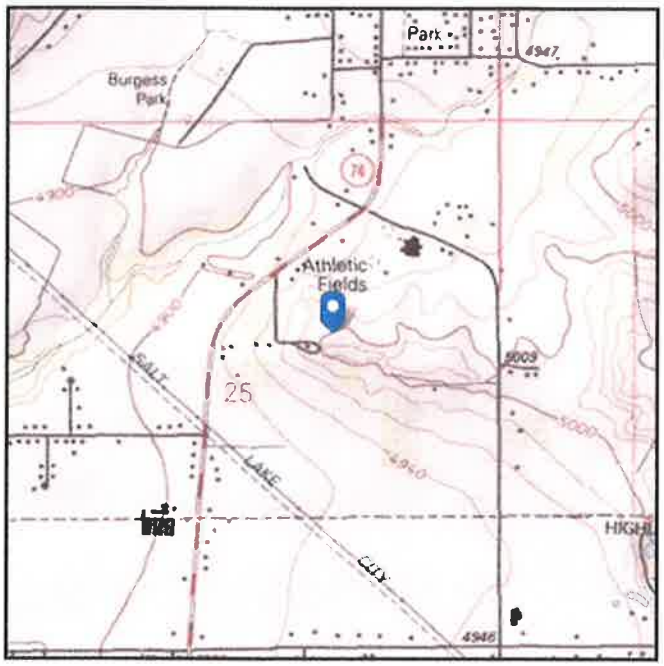
Linear Loads								
Name	Start Height	End Height	h_i	w_i	$w_i h_i^k$	C_{vi}	F_{ph}	F_{pv}
miscl (mh) Safety Line 3/8" From 1 to 20	10.00	20.00	15.00	0.0022	0.03	0.0007	0.0011	0.0004
miscl (mh) Safety Line 3/8" From 1 to 20	1.00	10.00	5.50	0.0020	0.01	0.0002	0.0004	0.0003
Climbing Pegs From 9 to 20	10.00	20.00	15.00	0.0180	0.27	0.0057	0.0090	0.0030
Climbing Pegs From 9 to 20	9.00	10.00	9.50	0.0018	0.02	0.0004	0.0006	0.0003
(12) andrew AVA5-50(7/8) From 1.5 to 20	10.00	20.00	15.00	0.0360	0.54	0.0114	0.0181	0.0060
(12) andrew AVA5-50(7/8) From 1.5 to 20	1.50	10.00	5.75	0.0306	0.18	0.0037	0.0059	0.0051
ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20	10.00	20.00	15.00	0.0170	0.26	0.0054	0.0085	0.0028
ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20	1.50	10.00	5.75	0.0145	0.08	0.0018	0.0028	0.0024
huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20	10.00	20.00	15.00	0.0107	0.16	0.0034	0.0054	0.0018
huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20	1.50	10.00	5.75	0.0091	0.05	0.0011	0.0017	0.0015
			Sum	[illegible]	[illegible]			

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 5027.98 ft (NAVD 88)
Latitude: 40.44425
Longitude: -111.779528



Wind

Results:

Wind Speed:	115 Vmph
10-year MRI	76 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Thu Apr 25 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

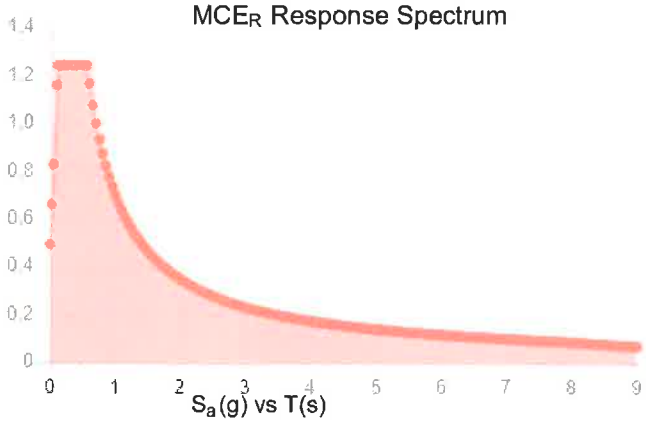
Site Soil Class: D - Stiff Soil

Results:

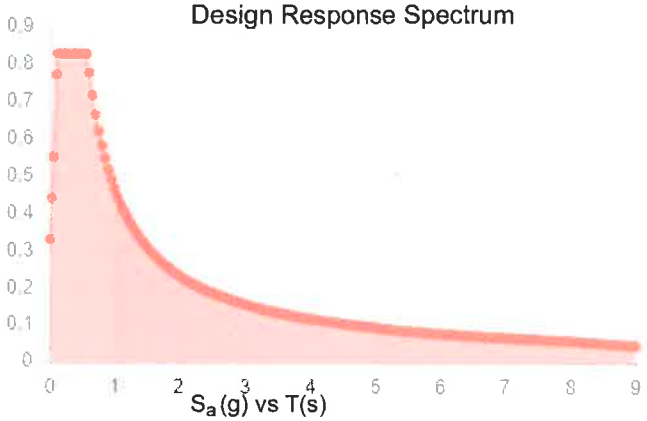
S_S :	1.234	S_{DS} :	0.828
S_1 :	0.452	S_{D1} :	0.466
F_a :	1.006	T_L :	8
F_v :	1.548	PGA :	0.531
S_{MS} :	1.242	PGA_M :	0.531
S_{M1} :	0.699	F_{PGA} :	1
		I_e :	1

Seismic Design Category D

MCE_R Response Spectrum



Design Response Spectrum



Data Accessed: Thu Apr 25 2019

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Ice

Results:

Ice Thickness:	0.25 in.
Concurrent Temperature:	15 F
Gust Speed:	40 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Apr 25 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

FCC (Federal Communications Commission)

Timeline / Chronology of events

Red indicates a Law

- **Mar 16, 2001** – Nationwide Programmatic Agreement for the Collocation of Wireless Antennas – defined "Substantial Change"
- **Feb 22, 2012** – 6409 of the Middle Class Tax Relief and Job Creation Act (aka Spectrum Act)
- **Jan 25, 2013** – PUBLIC NOTICE guidance statement issued for 6409
- **Sept 26, 2013** – In order to seek input from interested parties on much needed clarifications to 6409, the FCC undertook the process of "NPRM" ***Notice of Proposed Rulemaking***
- **Oct 17, 2014** – Report and Order Adopted – FCC 14-153
- **Jan 8, 2015** – Federal Register "The Law" – Summary/Clarification of the R&O – "the implementation"
- **Apr 8, 2015** – Report and Order became Effective; Published in the National Register – FCC 14-153 "***Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies***"
- Several jurisdictions partnered together and filed a lawsuit against the FCC implementation
- **Dec 18, 2015** – Court decision made. Litigation was not successful and the plaintiffs chose not to file with the US Supreme Court. We're done—there are no more legal challenges available.

FEDERAL REGISTER

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Part IV

Federal Communications Commission

47 CFR Parts 1 and 17
Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies; Final Rule

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1 and 17

[WT Docket Nos. 13–238, 13–32; WC Docket No. 11–59; FCC 14–153]

Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) adopts rules to update and tailor the manner in which it evaluates the impact of proposed deployments of wireless infrastructure on the environment and historic properties. The Commission also adopts rules to clarify and implement statutory requirements applicable to State and local governments in their review of wireless infrastructure siting applications, and it adopts an exemption from its environmental public notification process for towers that are in place for only short periods of time. Taken together, these steps will reduce the cost and delays associated with facility siting and construction, and thereby facilitate the delivery of more wireless capacity in more locations to consumers throughout the United States.

DATES: Effective February 9, 2015, except for § 1.40001, which shall be effective April 8, 2015; however, §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which have new information collection requirements, will not be effective until approved by the Office of Management and Budget (OMB). The Commission will publish a document in the **Federal Register** announcing OMB approval and the relevant effective date.

FOR FURTHER INFORMATION CONTACT: Peter Trachtenberg, Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, (202) 418–7369, email *Peter.Trachtenberg@fcc.gov.*

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order (R&O), WT Docket Nos. 13–238, 13–32; WC Docket No. 11–59; FCC 14–153, adopted October 17, 2014 and released October 21, 2014. The full text of this document is available for inspection and copying during business hours in the FCC Reference Information Center, Portals II, 445 12th Street SW., Room CY–A257, Washington, DC 20554. Also, it may be purchased from the Commission's duplicating contractor at Portals II, 445 12th Street SW., Room CY–B402, Washington, DC 20554; the contractor's Web site, *http://www.bcpiweb.com;* or by calling (800) 378–3160, facsimile (202) 488–5563, or email *FCC@BCPIWEB.com.* Copies of the R&O also may be obtained via the Commission's Electronic Comment Filing System (ECFS) by entering the docket number WT Docket 13–238. Additionally, the complete item is available on the Federal Communications Commission's Web site at *http://www.fcc.gov.*

I. NEPA and NHPA Review of Small Wireless Facilities

1. The Commission first adopts measures to update its review processes under the National Environmental Policy Act of 1969 (NEPA) and section 106 of the National Historic Preservation Act of 1966 (NHPA or section 106), with a particular emphasis on accommodating new wireless technologies that use smaller antennas and compact radio equipment to provide mobile voice and broadband service. These technologies, including distributed antenna systems (DAS), small cells, and others, can be deployed on a variety of non-traditional structures such as utility poles, as well as on rooftops and inside buildings, to enhance capacity or fill in coverage gaps. Updating the Commission's environmental and historic preservation rules will enable these innovations to flourish, delivering more broadband service to more communities, while reducing the need for potentially intrusive new construction and safeguarding the values the rules are designed to protect.

2. The Commission's environmental and historic preservation rules have traditionally been directed toward the deployment of macrocells on towers and other tall structures. Since 1974, these rules have excluded collocations of antennas from most of the requirements under the Commission's NEPA review process, recognizing the benefits to the environment and historic properties from the use of existing support structures over the construction of new structures. These exclusions have limitations. The collocation exclusion under NEPA, which was first established in 1974, on its face encompasses only deployments on existing towers and buildings, as these were the only support structures widely used 40 years ago, and does not encompass collocations on existing utility poles, for example. The collocation exclusions in the Commission's process for historic preservation review under section 106 do not consider the scale of small wireless facility deployments.

3. Thus, while small wireless technologies are increasingly deployed to meet the growing demand for high mobile data speeds and ubiquitous coverage, the Commission's rules and processes under NEPA and section 106, even as modified over time, have not reflected those technical advances. Accordingly, the Commission concludes that it will serve the public interest to update its environmental and historic preservation rules in large measure to account for innovative small facilities, and the Commission takes substantial steps to advance the goal of widespread wireless deployment, including clarifying and amending its categorical exclusions. The Commission concludes that these categorical exclusions, as codified in Section 1.1306(c) and Note 1 of its rules, do not have the potential for individually or cumulatively significant environmental impacts. The Commission finds that these clarifications and amendments will serve both the industry and the conservation values its review process was intended to protect. These steps will eliminate many unnecessary review processes and the sometimes cumbersome compliance measures that accompany them, relieving the industry of review process requirements in cases where they are not needed. These steps will advance the goal of spurring efficient wireless broadband deployment while also ensuring that the Commission continues to protect environmental and historic preservation values.

A. NEPA Categorical Exclusions

1. Regulatory Background

4. Section 1.1306 (Note 1) clarifies that the requirement to file an Environmental Assessment (EA) under section 1.1307(a) generally does not apply to ''the mounting of antenna(s) on an existing building or antenna tower'' or to the installation of wire or cable in an existing underground or aerial corridor, even if an environmentally sensitive circumstance identified in section 1.1307(a) is present. Note 1 reflects a preference first articulated by the Commission in 1974, and codified into Note 1 in 1986, that ''[t]he use of existing buildings, towers or corridors is an environmentally desirable alternative to the construction of new facilities and is encouraged.''

2. Antennas Mounted on Existing Buildings and Towers

a. Clarification of ''Antenna''

5. The Commission first clarifies that the term ''antenna'' as used in Note 1 encompasses all on-site equipment associated with the antenna, including transceivers, cables, wiring, converters, power supplies, equipment cabinets and shelters, and other comparable equipment. The Commission concludes that this is the only logically consistent interpretation of the term, as associated equipment is a standard part of such collocations, and the antennas subject to NEPA review cannot operate without it. Thus, interpreting the term ''antenna'' as omitting associated equipment would eviscerate the categorical exclusion by requiring routine NEPA review for nearly every collocation. Such an interpretation would frustrate the categorical exclusion's purpose. The Commission also notes that its interpretation of ''antenna'' in this context is consistent with how the Commission has defined the term ''antenna'' in the comparable context of its process for reviewing effects of proposed deployments on historic properties. Specifically, the Commission's section 106 historic preservation review is governed by two programmatic agreements, and in both, the term ''antenna'' encompasses all associated equipment.

6. Further, if associated equipment presented significant concerns, the Commission would expect that otherwise excluded collocations that included such equipment would, at some point over the past 40 years, have been subject to environmental objections or petitions to deny. The Commission is unaware of any such objections or petitions directed at backup generators or any other associated equipment, or of any past EAs that found any significant environmental effect from such equipment. The Commission finds some commenters' generalized assertions of a risk of environmental effects to be unpersuasive, and the Commission reaffirms that the collocations covered by Note 1, including the collocation of associated equipment addressed by its clarification, will not individually or cumulatively have a significant effect on the human environment. While Alexandria *et al.* submit a declaration from Joseph Monaco asserting that ''[m]inor additions to existing facilities could have significant effects even if only incremental to past disturbances,'' the Commission finds this position is inconsistent with the Commission's finding that the mounting of antennas on existing towers and buildings will not have significant effects, and with the Commission's experience administering the NEPA process, in which a collocation has never been identified by the Commission or the public to have caused a significant environmental effect. The Commission further notes that the proffered examples appear to confuse consideration under the Commission's NEPA process with review under local process, which the Commission does not address here. To the extent that rare circumstances exist where ''even the smallest change could result in a significant effect, based on the intrinsic sensitivity of a particular resource,'' the Commission concludes that such extraordinary circumstances are appropriately addressed through sections 1.1307(c) and (d), as necessary.

7. The Commission finds unpersuasive Tempe's argument that the NEPA categorical exclusion for collocation should not encompass backup generators in particular. Tempe argues that generators cause ''fumes, noise, and the potential for exposure to hazardous substances if there is a leak or a spill'' and ''should not be allowed to be installed without the appropriate oversight.'' The Wireless Telecommunications Bureau addressed all of these potential impacts in its Final Programmatic Environmental Assessment for the Antenna Structure Registration Program (PEA), and did not find any to be significant. Tempe's own comments, moreover, confirm that backup generators are already subject to extensive local, State, and Federal regulation, suggesting that further oversight from the Commission would not meaningfully augment existing environmental safeguards. In assessing environmental effect, an agency may factor in an assumption that the action is performed in compliance with other applicable regulatory requirements in the absence of a basis in the record beyond mere speculation that the action threatens violations of such requirements. Tempe's comments support the Commission's conclusion that such regulations applicable to backup generators address Tempe's concerns. The Commission finds that cell sites with such generators will rarely if ever be grouped in sufficient proximity to present a risk of cumulative effects.

8. The Commission finds no reason to interpret ''antenna'' in the Note 1 NEPA collocation categorical exclusion to omit backup generators or other kinds of backup power equipment. The Commission finds that the term ''antenna'' as used in the categorical exclusion should be interpreted to encompass the on-site equipment associated with the antenna, including backup power sources. Further, the need for such power sources at tower sites is largely undisputed, as backup power is critical for continued service in the event of natural disasters or other power disruptions—times when the need and demand for such service is often at its greatest. The Commission amends Note 1 to clarify that the categorical exclusion encompasses equipment associated with the antenna, including the critical component of backup power.

9. Finally, the Commission notes that sections 1.1306(b)(1)–(3) and 1.1307(c) and (d) of its rules provide for situations where environmental concerns are presented and, as called for by the requirement that categorical exclusions include consideration of extraordinary circumstances, closer scrutiny and potential additional environmental review are appropriate. The Commission concludes that individual cases presenting extraordinary circumstances in which collocated generators or other associated equipment may have a significant effect on the environment, including cases in which closely spaced generators may have a significant cumulative effect or where the deployment of such generators would violate local codes in a manner that raises environmental concerns, will be adequately addressed through these provisions.

b. Antennas Mounted in the Interior of Buildings

10. The Commission clarifies that the existing NEPA categorical exclusion for mounting antennas ''on'' existing buildings applies to installations in the interior of existing buildings. An antenna mounted on a surface inside a building is as much ''on'' the building as an antenna mounted on a surface on the exterior, and the Commission finds nothing in the language of the categorical exclusion, in the adopting order, or in the current record supporting a distinction between collocations on the exterior or in the interior that would limit the scope of the categorical exclusion to exterior collocations. To the contrary, it is even more likely that indoor installations will have no significant environmental effects in the environmentally sensitive areas in which proposed deployments would generally trigger the need to prepare an EA, such as wilderness areas, wildlife preserves, and flood plains. The existing Note 1 collocation categorical exclusion reflects a finding that collocations do not individually or cumulatively have a significant effect on

the human environment, even if they would otherwise trigger the requirement of an EA under the criteria identified in sections 1.1307(a)(1)–(3) and (5)–(8). The Commission finds that this conclusion applies equally or even more strongly to an antenna deployed inside a building than to one on its exterior, since the building's exterior structure would serve as a buffer against any effects. The Commission notes that the First Responder Network Authority (FirstNet), the National Telecommunications and Information Administration (NTIA), and other agencies have adopted categorical exclusions covering internal modifications and equipment additions inside buildings and structures. For example, in adopting categorical exclusions as part of its implementation of the Broadband Technology Opportunities Program, NTIA noted that excluding interior modifications and equipment additions reflects long-standing categorical exclusions and administrative records, including in particular ''the legacy categorical exclusions from the U.S. Department of Agriculture, U.S. Department of Homeland Security, and the Federal Emergency Management Agency.'' While a Federal agency cannot apply another agency's categorical exclusion to a proposed Federal action, it may substantiate a categorical exclusion of its own based on another agency's experience with a comparable categorical exclusion. This long-standing practice of numerous agencies that conduct comparable activities, reflecting experience that confirms the propriety of the categorical exclusion, provides further support for the conclusion that internal collocations will not individually or cumulatively have a significant effect on the human environment. With respect to Tempe's concern about generators being placed inside buildings as the result of collocations, the Commission relies on local building, noise, and safety regulations to address these concerns, and the Commission anticipates that such regulations will almost always require generators to be outside of any residential buildings where their use would present health or safety concerns or else place very strict requirements on any placement in the interior. The Commission finds it appropriate to amend Note 1 to clarify that the Note 1 collocation categorical exclusion applies to the mounting of antennas in the interior of buildings as well as the exterior.

c. Antennas Mounted on Other Structures

11. The Commission adopts its proposal to extend the categorical exclusion for collocations on towers and buildings to collocations on other existing man-made structures. The Commission concludes that deployments covered by this extension will not individually or cumulatively have a significant impact on the human environment. The Commission updates the categorical exclusion adopted as part of Note 1 in 1986 to reflect the modern development of wireless technologies that can be collocated on a much broader range of existing structures. This measure will facilitate collocations and speed deployment of wireless broadband to consumers without significantly affecting the environment.

12. In finding that it is appropriate to broaden the categorical exclusion contained in section 1.1306 Note 1 to apply to other structures, the Commission relies in part on its prior findings regarding the environmental effects of collocations. In implementing NEPA requirements in 1974, for example, the Commission found that mounting an antenna on an existing building or tower ''has no significant aesthetic effect and is environmentally preferable to the construction of a new tower, provided there is compliance with radiation safety standards.'' In revising its NEPA rules in 1986, the Commission found that antennas mounted on towers and buildings are among those deployments that will normally have no significant impact on the environment. The Commission notes in particular that collocations will typically add only marginal if any extra height to a structure, and that in 2011, in a proceeding addressing the Commission's NEPA requirements with respect to migratory birds, the Commission reaffirmed that collocations on towers and buildings are unlikely to have environmental effects and thus such collocations are categorically excluded from review for impact on birds. Further, given that towers and buildings are typically much taller than other man-made structures on which antennas will be collocated, the Commission expects that there will be even less potential for significant effects on birds from collocations on such other structures.

13. In the *Infrastructure NPRM,* the Commission tentatively concluded that the same determination applies with regard to collocations on other structures such as utility poles and water towers. Numerous commenters support this determination, and opponents offer no persuasive basis to distinguish the environmental effects of collocations on antenna towers and buildings from the effects of collocations on other existing structures. Indeed, in this regard, the Commission notes that buildings and towers, which are already excluded under Note 1, are typically taller than structures such as utility poles and road signs. While some commenters raise concerns about possible water-tank contamination or driver distraction, these concerns do not present persuasive grounds to limit the categorical exclusion. Under sections 1.1306(a) and (b), collocations on structures such as water tanks and road signs are already categorically excluded from the obligation to file an EA unless they occur in the environmentally sensitive circumstances identified in sections 1.1307(a) or (b) (such as in wildlife preserves or flood plains). Nothing in the record leads the Commission to find that collocations in such sensitive areas that currently require EAs present greater risks of water tank contamination or driver distraction than collocations outside such areas. For similar reasons, the Commission is also not persuaded by Springfield's argument that extending the categorical exclusion to other structures without ''qualifying delimitations for how DAS facilities are defined and where they may be installed may have unacceptable impacts on historic and other sensitive neighborhoods.'' Springfield offers no argument to explain why the NEPA categorical exclusion for collocations on utility poles should be more restrictive than the exclusion for collocations on buildings. Moreover, the Commission notes that the NEPA categorical exclusion the Commission addresses here does not exclude the proposed collocation from NHPA review for effects on historic properties or historic districts.

14. The Commission also notes that the exclusion from section 106 review in the Collocation Agreement is not limited to collocations on towers and buildings but also specifically includes collocations on other existing non-tower structures. Further, the U.S. Fish and Wildlife Service has found collocations on existing non-tower structures to be environmentally desirable with regard to impacts on birds, noting that they will in virtually every circumstance have less impact than would construction of a new tower.

15. Considering that collocating on these structures is necessary for broadband deployment, and in light of the environmental benefits of

encouraging collocation rather than the construction of new structures, the Commission finds that extending the categorical exclusion to other structures advances the public interest and meets its obligations under NEPA.

3. Categorical Exclusion of Deployments in Communications or Utilities Rights-of-Way

16. The Commission adopts a categorical exclusion for certain wireless facilities deployed in above-ground utility and communications rights-of-way. The Commission finds that such deployments will not individually or cumulatively have a significant effect on the environment. Given that DAS and small-cell nodes are often deployed in communications and utilities rights-of-way, the Commission concludes that the categorical exclusion will significantly advance the deployment of such facilities in a manner that safeguards environmental values.

17. Specifically, this categorical exclusion, which the Commission incorporates into its rules as section 1.1306(c), covers construction of wireless facilities, including deployments on new or replacement poles, only if: (1) The facility will be located in a right-of-way that is designated by a Federal, State, local, or Tribal government for communications towers, above-ground utility transmission or distribution lines, or any associated structures and equipment; (2) the right-of-way is in active use for such designated purposes; and (3) the facility will not constitute a substantial increase in size over existing support structures that are located in the right-of-way within the vicinity of the proposed construction.

18. Although the Commission sought comment, in the *Infrastructure NPRM,* on whether to adopt a categorical exclusion that covered facilities also located within fifty feet of a communications or utility right-of-way, similar to the exclusion from section 106 review in section III.E. of the National Programmatic Agreement (NPA), the Commission limits its NEPA categorical exclusion to facilities deployed within existing communications and utility rights-of-way. Industry commenters that support applying the categorical exclusion to deployments within fifty feet of a right-of-way do not explain why the conclusion that deployments in the right-of-way will not have a significant effect on the human environment also apply outside of a right-of-way. Such ground would not necessarily be in active use for the designated purposes, and there could well be a greater potential outside the right-of-way for visual impact or new or significant ground disturbance that might have the potential for significant environmental effects. Finally, the record supports the conclusion that a categorical exclusion limited to deployments within the rights-of-way will address most of the deployments that would be covered by a categorical exclusion that also encompassed deployments nearby. Sprint, for example, emphasizes that ''many DAS and small cells will be attached to existing structures and installed *within utility rights-of-way corridors.*''

19. For purposes of this categorical exclusion, the Commission defines a substantial increase in size in similar fashion to how it is defined in the Collocation Agreement. Thus, a deployment would result in a substantial increase in size if it would: (1) Exceed the height of existing support structures that are located in the right-of-way within the vicinity of the proposed construction by more than 10% or twenty feet, whichever is greater; (2) involve the installation of more than four new equipment cabinets or more than one new equipment shelter; (3) add an appurtenance to the body of the structure that would protrude from the edge of the structure more than twenty feet, or more than the width of the structure at the level of the appurtenance, whichever is greater (except that the deployment may exceed this size limit if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable); or (4) involve excavation outside the current site, defined as the area that is within the boundaries of the leased or owned property surrounding the deployment or that is in proximity to the structure and within the boundaries of the utility easement on which the facility is to be deployed, whichever is more restrictive.

20. The Commission notes that it has found a similar test appropriate in other contexts, including under its environmental rules. In particular, the first three criteria that the Commission specifies above to define the scope of the NEPA rights-of-way categorical exclusion also define the scope of the rights-of-way exclusion from historic preservation review under the NPA. Similarly, for purposes of Antenna Structure Registration, the Commission does not require environmental notice for a proposed tower replacement if, among other criteria, the deployment will not cause a substantial increase in size under the first three criteria of the Collocation Agreement, and there will be no construction or excavation more than 30 feet beyond the existing antenna structure property. Further, given that the industry now has almost a decade of experience applying this substantial increase test to construction in the rights-of-way under the NPA exclusion, and in light of the efficiencies to be gained from using a similar test here, the Commission finds the Collocation Agreement test, as modified here, to be appropriate in this context.

21. The Commission concludes that facilities subject to this categorical exclusion will not have a significant effect on the environment either individually or cumulatively, and that the categorical exclusion is appropriate. In the *NPA Report and Order,* 70 FR 556 Jan 4, 2005, the Commission found that excluding construction in utilities or communications rights-of-way from historic preservation review was warranted because, ''[w]here such structures will be located near existing similar poles, . . . the likelihood of an incremental adverse impact on historic properties is minimal.'' The Commission finds that the potential incremental impacts on the environment are similarly minimal. Indeed, deploying these facilities should rarely involve more than minimal new ground disturbance, given that constructing the existing facilities likely disturbed the ground already and given the limitations on the size of any new poles. Moreover, any new pole will also cause minimal visual effect because by definition comparable structures must already exist in the vicinity of the new deployment in that right-of-way, and new poles covered by this categorical exclusion will not be substantially larger. Further, because such corridors are already employed for utility or communications uses, and the new deployments will be comparable in size to such existing uses, these additional uses are unlikely to trigger new NEPA concerns. Any such concerns would have already been addressed when such corridors were established, and the size of the deployments the Commission categorically excludes will not be substantial enough to raise the prospect of cumulative effects.

22. The Commission also finds support for these conclusions in the categorical exclusions adopted by other agencies, including FirstNet. In establishing its own categorical exclusions, FirstNet noted as part of its Administrative Record that its anticipated activities in constructing a nationwide public safety broadband network would primarily include ''the installation of cables, cell towers, antenna collocations, buildings, and

power units,'' for example in connection with ''Aerial Plant/Facilities,'' ''Towers,'' ''Collocations,'' ''Power Units,'' and ''Wireless Telecommunications Facilit[ies.]'' It defined a ''Wireless Telecommunications Facility'' as ''[a]n installation that sends and/or receives radio frequency signals, including directional, omni-directional, and parabolic antennas, structures, or towers (no more than 199 feet tall with no guy wires), to support receiving and/or transmitting devices, cabinets, equipment rooms, accessory equipment, and other structures, and the land or structure on which they are all situated.'' To address its NEPA obligations in connection with these activities, FirstNet adopted a number of categorical exclusions, including a categorical exclusion for ''[c]onstruction of wireless telecommunications facilities involving no more than five acres (2 hectares) of physical disturbance at any single site.'' In adopting this categorical exclusion, FirstNet found that it was ''supported by long-standing categorical exclusions and administrative records. In particular, these include categorical exclusions from the U.S. Department of Commerce, U.S. Department of Agriculture, and U.S. Department of Energy.''

23. The Commission finds that FirstNet's anticipated activities encompass the construction of wireless facilities and support structures in the rights-of-way, and are therefore comparable to the wireless facility deployments the Commission addresses here. Further, the Commission notes that the categorical exclusions adopted by FirstNet are broader in scope than the categorical exclusion the Commission adopts for facilities deployed within existing rights-of-way. The Commission further notes that several other agencies have found it appropriate to categorically exclude other activities in existing rights-of-way unrelated to telecommunications.

24. The Commission finds that the categorical exclusion addresses some concerns raised by municipalities, and the Commission finds that other concerns they raise are not relevant to the environmental review process. First, the Commission notes that the categorical exclusion it adopts addresses Coconut Creek's objection to above-ground deployments in areas with no above-ground infrastructure because the Commission limits it to rights-of-way in active use for above-ground utility structures or communications towers. Second, concerns about hazards to vehicular or pedestrian traffic are logically inapplicable. As the Commission noted in connection with deployments on structures other than communications towers and buildings, such concerns do not currently warrant the submission of an EA. Rather, EAs are routinely required for deployments in communications or utility rights-of-way only if they meet one of the criteria specified in section 1.1307(a) or (b). Deployments in the communications or utility rights-of-way have never been identified in the Commission's rules as an environmentally sensitive category; indeed, the use of such rights-of-way for antenna deployments is environmentally desirable as compared to deployments in other areas. Finally, the Commission finds it unnecessary to adopt Tempe's proposed limitation, whether it is properly understood as a proposal to categorically exclude only one non-substantial increase at a particular site or in the same general vicinity, as such limitation has proven unnecessary in the context of historic preservation review. Having concluded that wireless facility deployments in communications or utility rights-of-way have no potentially significant environmental effects individually or cumulatively, the Commission finds no basis to limit the number of times such a categorical exclusion is used either at a particular site or in the same general vicinity. Indeed, the categorical exclusion encourages an environmentally responsible approach to deployment given that, as Note 1 and section 1.1306(c) make clear, the use of existing corridors ''is an environmentally desirable alternative to the construction of new facilities.'' And, apart from environmental considerations, it would be contrary to the public interest to unnecessarily limit the application of this categorical exclusion.

25. To the extent that commenters propose extending the Note 1 aerial and underground corridor categorical exclusion to include components of telecommunications systems other than wires and cables, the Commission declines to do so. The Commission finds that the new section 1.1306(c) categorical exclusion the Commission adopts for deployments in communications or utilities rights-of-way will provide substantial and appropriate relief, and that the record in this proceeding does not justify a further expansion of the Note 1 categorical exclusion. Further, the existing Note 1 categorical exclusion for wires and cables in underground and aerial corridors is broader than the categorical exclusion for installations on existing buildings or antenna towers because it is not limited by section 1.1307(a)(4) (section 106 review) or 1.1307(b) (RF emissions), while collocations on existing buildings or towers are subject to these provisions. The Commission notes that even parties advocating an extension of the categorical exclusion for installation of wire and cable to additional telecommunications components concede that the extension should not apply to review of RF emissions exposure, as the existing categorical exclusion does. This distinction underscores that the existing categorical exclusion of cables and wires in aerial and underground corridors is based on an analysis that does not directly apply to other communications facilities.

B. NHPA Exclusions

1. Regulatory Background

26. Section 1.1307(a)(4) of the Commission's rules directs licensees and applicants, when determining whether a proposed action may affect historic properties, to follow the procedures in the rules of the Advisory Council on Historic Preservation (ACHP) as modified by the Collocation Agreement and the NPA, two programmatic agreements that took effect in 2001 and 2005, respectively. The Collocation Agreement excludes collocations on buildings or other non-tower structures outside of historic districts from routine section 106 review unless: (1) The structure is inside the boundary of a historic district, or it is within 250 feet of the boundary of a historic district and the antenna is visible from ground level within the historic district; (2) the structure is a designated National Historic Landmark or is listed in or eligible for listing in the National Register of Historic Places (National Register); (3) the structure is over 45 years old; or (4) the proposed collocation is the subject of a pending complaint alleging adverse effect on historic properties.

2. New Exclusions

27. In addition to seeking comment on whether the Commission should add an exclusion from section 106 review for DAS and small cells generally, the *Infrastructure NPRM* sought comment on whether to expand the existing categorical exclusion for collocations to cover collocations on structures subject to review solely because of the structure's age—that is, to deployments that are more than 45 years old but that are not (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a

designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties.

28. As an initial matter, the Commission finds no basis to hold categorically that small wireless facilities such as DAS and small cells are not Commission undertakings. While PCIA argues that small facilities could be distinguished, it does not identify any characteristic of such deployments that logically removes them from the analysis applicable to other facilities. Having determined that DAS and small cell deployments constitute Federal undertakings subject to section 106, the Commission considers its authority based on section 800.3(a)(1) of ACHP's rules to exclude such small facility deployments from section 106 review. It is clear under the terms of section 800.3(a)(1) that a Federal agency may determine that an undertaking is a type of activity that does not have the potential to cause effects to historic properties, assuming historic properties were present, in which case, ''the agency has no further obligations under section 106 or this part [36 part 800, subpart B].''

29. The commenters that propose a general exclusion for DAS and small cell deployments assert that under any circumstances, such deployments have the potential for at most minimal effects, but they do not provide evidence to support such a broad conclusion. Moreover, several commenters, including several SHPOs, express concerns that such deployments do have the potential for effects in some cases. The Commission cannot find on this record that DAS and small-cell facilities qualify for a general exclusion, and the Commission therefore concludes, after consideration of the record, that any broad exclusion of such facilities must be implemented at this time through the development of a ''program alternative'' as defined under ACHP's rules. The Commission is committed to making deployment processes as efficient as possible without undermining the values that section 106 protects. The Commission staff are working on a program alternative that, through consultation with stakeholders, will ensure thorough consideration of all applicable interests, and will culminate in a system that eliminates additional bureaucratic processes for small facilities to the greatest extent possible consistent with the purpose and requirements of section 106.

30. The Commission further concludes that it is in the public interest to immediately adopt targeted exclusions from its section 106 review process that will apply to small facilities (and in some instances larger antennas) in many circumstances and thereby substantially advance the goal of facilities deployment. The Commission may exclude activities from section 106 review upon determining that they have no potential to cause effects to historic properties, assuming such properties are present. As discussed in detail below, the Commission finds two targeted circumstances that meet this test, one applicable to utility structures and the other to buildings and any other non-tower structures. Pursuant to these findings the Commission establishes two exclusions.

31. First, the Commission excludes collocations on existing utility structures, including utility poles and electric transmission towers, to the extent they are not already excluded in the Collocation Agreement, if: (1) The collocated antenna and associated equipment, when measured together with any other wireless deployment on the same structure, meet specified size limitations; and (2) the collocation will involve no new ground disturbance. Second, the Commission excludes collocations on a building or other non-tower structure, to the extent they are not already excluded in the Collocation Agreement, if: (1) There is an existing antenna on the building or other structure; (2) certain requirements of proximity to the existing antenna are met, depending on the visibility and size of the new deployment; (3) the new antenna will comply with all zoning conditions and historic preservation conditions on existing antennas that directly mitigate or prevent effects, such as camouflage or concealment requirements; and (4) the deployment will involve no new ground disturbance. With respect to both of these categories—utility structures and other non-tower structures—the Commission extends the exclusion only to deployments that are not (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties. In other words, these exclusions address collocations on utility structures and other non-tower structures where historic preservation review would otherwise be required under existing rules only because the structures are more than 45 years old. The Commission's action here is consistent with its determination in the NPA to apply a categorical exclusion based upon a structure's proximity to a property listed in or eligible to be listed in the National Register rather than whether a structure is over 45 years old regardless of eligibility. Consistent with section 800.3(a)(1), the Commission finds collocations meeting the conditions stated above have no potential to affect historic properties even if such properties are present. The Commission nevertheless finds it appropriate to limit the adopted exclusions. Given the sensitivities articulated in the record, particularly those from the National Conference of State Historic Preservation Officers (NCSHPO) and other individual commenting SHPOs, regarding deployments in historic districts or on historic properties, the Commission concludes that any broader exclusions require additional consultation and consideration, and are more appropriately addressed and developed through the program alternative process that Commission staff have already begun.

a. Collocations on Utility Structures

32. Pursuant to section 800.3(a)(1) of ACHP's rules, the Commission finds that antennas mounted on existing utility structures have no potential for effects on historic properties, assuming such properties are present, where the deployment meets the following conditions: (1) The antenna and any associated equipment, when measured together with any other wireless deployments on the same structure, meets specified size limitations; and (2) the deployment will involve no new ground disturbance. Notwithstanding this finding of no potential for effects even assuming historic properties are present, the Commission limits this exclusion (as described above) in light of the particular sensitivities related to historic properties and districts. Accordingly, this exclusion does not apply to deployments that are (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties. In other words, this new targeted exclusion addresses collocations on utility structures where historic preservation review would otherwise be required under existing rules only because the structures are more than 45 years old.

33. For purposes of this exclusion, the Commission defines utility structures as utility poles or electric transmission towers in active use by a ''utility'' as defined in section 224 of the Communications Act, but not including light poles, lamp posts, and other structures whose primary purpose is to provide public lighting. Utility structures are, by their nature, designed to hold a variety of electrical, communications, or other equipment, and they already hold such equipment. Their inherent characteristic thus incorporates the support of attachments, and their uses have continued to evolve with changes in technology since they were first used in the mid-19th century for distribution of telegraph services. Indeed, the Commission notes that other, often larger facilities are added to utility structures without review. For example, deployments of equipment supporting unlicensed wireless operations like Wi-Fi access occur without the Commission's section 106 review in any case, as do installations of non-communication facilities such as municipal traffic management equipment or power equipment such as electric distribution transformers. The addition of DAS or small cell facilities to these structures is therefore fully consistent with their existing use.

34. While the potential for effects from any deployments on utility structures is remote at most, the Commission concludes that the additional conditions described above support a finding that there is no such potential at all, assuming the presence of historic properties. First, the Commission limits the size of equipment covered by this exclusion. In doing so, the Commission draws on a PCIA proposal, which includes separate specific volumetric limits for antennas and for enclosures of associated equipment, but the Commission modifies the definition in certain respects to meet the standard in ACHP's rules that the undertaking must have no potential for effects. Specifically, the Commission provides that the deployment may include covered antenna enclosures no more than three cubic feet in volume per enclosure, or exposed antennas that fit within an imaginary enclosure of no more than three cubic feet in volume per imaginary enclosure, up to an aggregate maximum of six cubic feet. The Commission further provides that all equipment enclosures (or imaginary enclosures) associated with the collocation on any single structure, including all associated equipment but not including separate antennas or enclosures for antennas, must be limited cumulatively to seventeen cubic feet in volume. Further, collocations under this rule will be limited to collocations that cause no new ground disturbance.

35. Because the Commission finds that multiple collocations on a utility structure could have a cumulative impact, the Commission further applies the size limits defined above on a cumulative basis taking into account all pre-existing collocations. Specifically, if there is a pre-existing wireless deployment on the structure, and any of this pre-existing equipment would remain after the collocation, then the volume limits apply to the cumulative volume of such pre-existing equipment and the new collocated equipment. Thus, for the new equipment to come under this exclusion, the sum of the volume of all pre-existing associated equipment that remains after the collocation and the new equipment must be no greater than seventeen cubic feet, and the sum of the volume of all collocated antennas, including pre-existing antennas that remain after the collocation, must be no greater than six cubic feet. The Commission further provides that the cumulative limit of seventeen cubic feet for wireless equipment applies to all equipment on the ground associated with an antenna on the structure as well as associated equipment physically on the structure. Thus, application of the limit is the same regardless of whether equipment associated with a particular deployment is deployed on the ground next to a structure or on the structure itself. While some commenters oppose an exclusion based solely on PCIA's volumetric definition, the Commission finds that the Commission's exclusion addresses their concerns. For example, Tempe and the CA Local Governments express concern that PCIA's definition would allow an unlimited number of ground-mounted cabinets. The Commission's approach provides that associated ground equipment must also come within the volumetric limit for equipment enclosures, however, and therefore does not allow for unlimited ground-based equipment. Further, because the Commission applies the size limit on a cumulative basis, the Commission's exclusion directly addresses concerns that the PCIA definition would allow multiple collocations that cumulatively exceed the volumetric limits. Consistent with a proposal by PCIA, the Commission finds that certain equipment should be omitted from the calculation of the equipment volume, including: (1) Vertical cable runs for the connection of power and other services, the volume of which may be impractical to calculate and which should in any case have no effect on historic properties, consistent with the established exclusion of cable in pre-existing aerial or underground corridors; (2) ancillary equipment installed by other entities that is outside of the applicant's ownership or control, such as a power meter installed by the electric utility in connection with the wireless deployment, and (3) comparable equipment from pre-existing wireless deployments on the structure.

36. To meet the standard under section 800.3(a)(1), the Commission further imposes a requirement of no new ground disturbance, consistent for the most part with the NPA standard. Under the NPA standard, no new ground disturbance occurs so long as the depth of previous disturbance exceeds the proposed construction depth (excluding footings and other anchoring mechanisms) by at least two feet. The Commission finds that footings and anchorings should be included in this context to ensure no potential for effects. Therefore, the Commission's finding is limited to cases where there is no ground disturbance or the depth and width of previous disturbance exceeds the proposed construction depth and width, including the depth and width of any proposed footings or other anchoring mechanisms, by at least two feet. Some Tribal Nations have indicated that exclusions of small facilities from section 106 review might be reasonable if there is no excavation but that any ground disturbance would be cause for concern. The Commission finds that the restrictions it places on both of the Commission's new section 106 exclusions are sufficient to address this concern and ensure that there is no potential for effects on historic properties of Tribal religious or cultural significance. These restrictions include a strict requirement for both exclusions of no new ground disturbance and restrictions on the size and placement of equipment. Furthermore, both exclusions are limited to collocations (and therefore do not include new or replacement support structures).

37. Adoption of this exclusion will provide significant efficiencies in the section 106 process for DAS and small-cell deployments. Many DAS and small-cell installations involve collocations on utility structures. PCIA also estimates that excluding collocations on these wooden poles would increase the estimated number of excluded collocation structures by a factor of 10—which would dramatically advance wireless infrastructure deployment

without impacting historic preservation values.

b. Collocations on Buildings and Other Non-Tower Structures

38. Verizon proposes an exclusion for collocations on any building or other structure over 45 years old if: (1) The antenna will be added in the same location as other antennas previously deployed; (2) the height of the new antenna will not exceed the height of the existing antennas by more than three feet, or the new antenna will not be visible from the ground regardless of the height increase; and (3) the new antenna will comply with any requirements placed on the existing antennas by the State or local zoning authority or as a result of any previous historic preservation review process.

39. Section 800.3(a)(1) of ACHP rules authorizes an exclusion only where the undertaking does not have the potential to cause effects on historic properties, assuming such historic properties are present. While the Commission concludes that this standard allows for an exclusion applicable to many collocations on buildings and other structures that already house collocations, the Commission finds insufficient support in the record to adopt Verizon's proposed exclusion in its entirety. While Verizon states that adding an antenna to a building within the scope of its proposal would not have an effect that differs from those caused by existing antennas, the Commission must also consider the cumulative effects of additional deployments on the integrity of a historic property to the extent that they add incompatible visual elements. Further, while Verizon relies heavily on the requirement that any new deployment must meet the same conditions as the existing deployment, the Commission cannot assume that conditions placed on a previous deployment are always sufficient to prevent any effects, particularly in the event of multiple additional deployments. Indeed, it is often the case that mitigating conditions are designed to offset effects rather than eliminate or reduce them entirely. The Commission concludes that with certain modifications to Verizon's proposal, deployments covered by the test would have no potential for effects.

40. Specifically, the Commission finds that collocations on buildings or other non-tower structures over 45 years old will have no potential for effects on historic properties if: (1) There is an existing antenna on the building or structure; (2) one of the following criteria is met: (a) The new antenna will not be visible from any adjacent streets or surrounding public spaces and will be added in the same vicinity as a pre-existing antenna; (b) the new antenna will be visible from adjacent streets or surrounding public spaces, provided that (i) it will replace a pre-existing antenna, (ii) the new antenna will be located in the same vicinity as the pre-existing antenna, (iii) the new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna, (iv) the new antenna will not be more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and (v) no new equipment cabinets will be visible from the adjacent streets or surrounding public spaces; or (c) the new antenna will be visible from adjacent streets or surrounding public spaces, provided that (i) it will be located in the same vicinity as a pre-existing antenna, (ii) the new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna, (iii) the pre-existing antenna was not deployed pursuant to the exclusion based on this finding, (iv) the new antenna will not be more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and (v) no new equipment cabinets will be visible from the adjacent streets or surrounding public spaces; (3) the new antenna will comply with all zoning conditions and historic preservation conditions applicable to existing antennas in the same vicinity that directly mitigate or prevent effects, such as camouflage or concealment requirements; and (4) the deployment of the new antenna will involve no new ground disturbance. Notwithstanding its finding of no potential for effects even assuming historic properties are present, the Commission limits this exclusion in light of many parties' particular sensitivities related to historic properties and districts. As with the exclusion for collocations on utility poles, this exclusion does not apply to deployments that are (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties. In other words, this new targeted exclusion addresses collocations on non-tower structures where historic preservation review would otherwise be required under existing rules only because the structures are more than 45 years old.

41. Consistent with the Verizon proposal, the Commission requires that there must already be an antenna on the building or other structure and that the new antenna be in the same vicinity as the pre-existing antenna. For this purpose, a non-visible new antenna is in the ''same vicinity'' as a pre-existing antenna if it will be collocated on the same rooftop, façade or other surface, and a visible new antenna is in the ''same vicinity'' as a pre-existing antenna if it is on the same rooftop, façade, or other surface and the centerpoint of the new antenna is within 10 feet of the centerpoint of the pre-existing antenna. Combined with the other criteria discussed below, this requirement is designed to assure that a new antenna will not have any incremental effect on historic properties, assuming they exist, as there will be no additional incompatible elements.

42. In addition to Verizon's proposed requirement that the deployment be in the same vicinity as an existing antenna, the Commission also adopts a condition of no-visibility from adjoining streets or any surrounding public spaces, with two narrow exceptions. For the general case, the Commission's no-effects finding will apply only to a new antenna that is not visible from any adjacent streets or surrounding public spaces and is added in the same vicinity as a pre-existing antenna. In adopting this standard, the Commission is informed by the record and also in part by General Services Administration (GSA) Preservation Note 41, entitled ''Administrative Guide for Submitting Antenna Projects for External Review.'' Preservation Note 41 recommends that an agency may recommend a finding of no effect where the antenna will not be visible from the surrounding public space or streets and the antenna will not harm original historic materials or their replacements-in-kind. The Commission notes that, in addition to the measures ensuring that there are no incremental visual effects from covered facilities, the Commission's finding of no effects in this case is also implicitly based on a requirement, as the GSA Note recommends, that the deployment will not harm original historic materials. Even assuming a building is historic, however, as required by section 800.3(a)(1), this ''no harm'' criterion would be satisfied by ensuring that any anchoring on the building was not performed on the historic materials of the property or their replacements-in-kind. It is therefore unnecessary to expressly impose a ''no harm'' condition

in this case, as the exclusion the Commission adopts does not apply to historic properties. Necessarily, any anchoring of deployments subject to the exclusion will not be in any historic materials of the property. The Commission also notes that, under the criteria the Commission adopts, the deployment will occur only where another antenna has already been reviewed under section 106 and approved for deployment in the same vicinity, and any conditions imposed on that prior deployment to minimize or eliminate historic impact, including specifications of where, how, or under what conditions to construct, are part of the Commission's ''no effect'' finding and would apply as a condition of the exclusion.

43. The Commission makes a narrow exception to the no-visibility requirement where the new antenna would replace an existing antenna in the same vicinity and where the addition of the new antenna would not constitute a substantial increase in size over the replaced antenna. In this situation, no additional incompatible visual element is being added, as one antenna is a substitution for the other. The Commission permits an insubstantial increase in size in this situation. For purposes of this criterion, the replacement facility would represent a substantial increase in size if it is more than three feet larger in height or width (including all protuberances) than the existing facility, or if it involves any new equipment cabinets that are visible from the street or adjacent public spaces. The Commission declines to adopt the NPA definition of ''substantial increase,'' which allows greater increases in height or width in some cases, because it applies to towers, not to antenna deployments, and it is therefore overbroad with respect to the replacement of an existing antenna. The Commission further notes that no one has objected to Verizon's proposed limit on increases of three feet in this context. Also, since the Commission is required to ensure no potential for effects on historic properties assuming such properties are present, the Commission finds it appropriate to adopt a more stringent test than in the context of a program alternative. For these reasons, any increase in the number of equipment cabinets that are visible from the street or adjacent public spaces in connection with a replacement antenna constitutes a substantial increase in size. In combination with the requirements that the new antenna be within 10 feet of the replaced antenna and that the pre-existing antenna be visible from any ground perspective that would afford a view of the new antenna these requirements ensure that the replacement deployment will not have an additional visual effect.

44. Under its second partial exception to the no-visibility requirement, the new antenna may be in addition to, rather than a replacement of, a pre-existing antenna, but must meet the other requirements applicable to replacement antennas. The Commission requires that the pre-existing antenna itself not have been deployed pursuant to this exception. While this exception will allow an additional visual element to be added, the element is again limited to a comparably-sized antenna in the same viewshed (and again does not include any new visible associated equipment). Further, because the pre-existing antenna may not itself have been deployed pursuant to this no-effects finding, deployments cannot be daisy-chained across the structure, which might present a potential for cumulative effects.

45. Consistent with the Verizon proposal, the Commission requires that the new antenna comply with all zoning and historic preservation conditions applicable to existing antennas in the same vicinity that directly mitigate or prevent effects, such as camouflage, concealment, or painting requirements. The Commission does not extend that requirement to conditions that have no direct relationship to the facility's effect or how the facility is deployed, such as a condition that requires the facility owner to pay for historic site information signs or other conditions intended to offset harms rather than prevent them. Its goal is to assure that any new deployments have no effects on historic properties. Payments or other forms of mitigation applied to antennas previously deployed on the building or structure that were intended to compensate for any adverse effect on historic properties caused by those antennas but were not intended to prevent that effect from occurring do not advance its goal of assuring no effects from such collocations. The Commission does not require that the new antenna comply with such conditions.

46. As with the exclusion the Commission adopts for collocations on utility structures, the Commission imposes a strict requirement of no new ground disturbance. Thus, the exclusion will permit ground disturbance only where the depth and width of previous disturbance exceeds the proposed construction depth and width (including footings and other anchoring mechanisms) by at least two feet.

3. Antennas Mounted in the Interior of Buildings

47. The Collocation Agreement provides that ''[a]n antenna may be mounted on a building'' without section 106 review except under certain circumstances, *e.g.,* the building is a historic property or over 45 years of age. The Commission clarifies that section V of the Collocation Agreement covers collocations in buildings' interiors. Given the limited scope of the exclusion of collocations on buildings under the Collocation Agreement (*e.g.,* the building may not itself be listed in or eligible for listing in the National Register or in or near a historic district), there is no reason to distinguish interior collocations from exterior collocations for purposes of assessing impacts on historic properties.

II. Environmental Notification Exemption for Registration of Temporary Towers

48. If pre-construction notice of a tower to the FAA is required, the Commission's rules also require the tower owner to register the antenna structure in the Commission's Antenna Structure Registration (ASR) system, prior to construction or alteration. To fulfill responsibilities under NEPA, the Commission requires owners of proposed towers, including temporary towers that must be registered in the ASR system to provide local and national notice prior to submitting a completed ASR application. Typically, the ASR notice process takes approximately 40 days.

49. On May 15, 2013, in the *Environmental Notification Waiver Order* (*Waiver Order*), the Commission granted an interim waiver of the ASR environmental notification requirements for temporary towers meeting certain criteria. The Commission provided that the interim waiver would remain in effect pending the completion of a rulemaking to address the issues raised in the petition. In the *Infrastructure NPRM,* the Commission proposed to adopt a permanent exemption from the ASR pre-construction environmental notification requirements consistent with the interim exemption granted in the *Waiver Order.*

50. The Commission now adopts a permanent exemption from its ASR environmental notification requirements for temporary towers that (1) will be in place for no more than 60 days; (2) require notice of construction to the FAA; (3) do not require marking or lighting under FAA regulations; (4) will be less than 200 feet in height; and (5) will either involve no excavation or

involve excavation only where the depth of previous disturbance exceeds the proposed construction depth (excluding footings and other anchoring mechanisms) by at least two feet. The Commission finds that establishing the proposed exemption is consistent with its obligations under NEPA and the Council on Environmental Quality (CEQ) regulations, and will serve the public interest.

51. As the Commission observed in the *Infrastructure NPRM,* the ASR notice process takes approximately 40 days and can take as long as two months. The record confirms that absent the exemption, situations would arise where there is insufficient time to complete this process before a temporary tower must be deployed to meet near-term demand. The record, as well as the Commission's own experience in administering the environmental notice rule, shows that a substantial number of temporary towers that would qualify for the exemption require registration. The Commission finds that absent an exemption, application of the ASR notice process to these temporary towers will interfere with the ability of service providers to meet important short term coverage and capacity needs.

52. At the same time, the benefits of environmental notice are limited in the case of temporary towers meeting these criteria. The purpose of environmental notice is to facilitate public discourse regarding towers that may have a significant environmental impact. The Commission finds that towers meeting the specified criteria are highly unlikely to have significant environmental effects due to their short duration, limited height, absence of marking or lighting, and minimal to no excavation. As the Commission explained in the *Waiver Order,* its experience in administering the ASR public notice process confirms that antenna structures meeting the waiver criteria rarely if ever generate public comment regarding potentially significant environmental effects or are determined to require further environmental processing. In particular, since the *Waiver Order* has been in place, the Commission has seen no evidence that a temporary tower exempted from notification by the waiver has had or may have had a significant environmental effect. The Commission finds that the limited benefits of notice in these cases do not outweigh the potential detriment to the public interest of prohibiting the deployment of towers in circumstances in which the notification process cannot be completed quickly enough to address short-term deployment needs. Further, having concluded that pre-construction environmental notification is categorically unnecessary in the situations addressed here, the Commission finds it would be inefficient to require the filing and adjudication of individual waiver requests for these temporary towers. The Commission concludes that adoption of the exemption is warranted.

53. The Commission also adopts the proposal to require no post-construction environmental notice for temporary towers that qualify for the exemption. Ordinarily, when pre-construction notice is waived due to an emergency situation, the Commission requires environmental notification shortly after construction because such a deployment may be for a lengthy or indefinite period of time. The Commission finds that requiring post-construction notification for towers intended to be in place for the limited duration covered by the exemption is not in the public interest as the exempted period is likely to be over or nearly over by the time the notice period ends. Additionally, the Commission notes again that it has rarely seen temporary antenna structures generate public comment regarding potentially significant environmental effects. The Commission further notes that of the many commenters supporting an exemption, none opposed its proposal to exempt qualifying temporary towers from post-construction environmental notification.

54. The Commission finds that the objections to the proposed exemption raised by Lee County, Tempe, and Orange County are misplaced. They express concerns that a temporary towers exemption would eliminate local review (including local environmental review) and antenna structure registration requirements. The exemption the Commission adopts does neither of these things. First, the temporary towers measure does not exempt any deployment from any otherwise applicable requirement under the Commission's rules to provide notice to the FAA, to obtain an FAA ''no-hazard'' determination, or to complete antenna structure registration. In raising its concern, Orange County notes that it ''operates . . . a large regional airport that has recently expanded through construction of a third terminal.'' The Commission finds the exemption poses no threat to air safety. As noted, deployments remains subject to all applicable requirements to notify the FAA and register the structure in the ASR system. If the Commission or the FAA requires either painting or lighting, *i.e.,* because of a potential threat to aviation, the exemption does not apply. Nor does the exemption impact any local requirements. Further, the Commission provides, as proposed in the *Infrastructure NPRM,* that towers eligible for the notification exemption are still required to comply with the Commission's other NEPA requirements, including filing an EA in any of the environmentally sensitive circumstances identified by the rules. The Commission further provides that if an applicant determines that it needs to complete an EA for a temporary tower otherwise eligible for the exemption, or if the relevant bureau makes this determination pursuant to section 1.1307(c) or (d) of the Commission's rules, the application will not be exempt from the environmental notice requirement.

55. The Commission concludes that making the exemption available for towers less than 200 feet above ground level is appropriate and adequate to ensure that the exemption serves the public interest both by minimizing potential significant environmental effects and by enabling wireless providers to more effectively respond to large or unforeseen spikes in demand for service. CTIA indicates that carriers deploy temporary towers more than 150 feet tall to replace damaged towers of similar height, and that having to use shorter towers to stand in for damaged towers may reduce coverage and thereby limit the availability of service during emergencies. The Commission agrees with CTIA that reducing the maximum tower height could undermine the intended purpose of the exemption. Further, the proposed limit of less than 200 feet will allow appropriate flexibility for taller temporary models, as they become available.

56. The Commission concludes that 60 days is an appropriate time limit for the deployment of towers under this exemption. This time limit has substantial support in the record, and the Commission finds that 60 days strikes the proper balance between making this exemption a useful and effective tool for facilitating urgently needed short term communications deployments and facilitating public involvement in Commission decisions that may affect the environment. The brief duration of the covered deployments renders post-construction notification unnecessary in the public interest because the deployment will be removed by the time a post-construction notice period is complete or shortly thereafter. As the intended deployment period grows, however, the applicability of that reasoning erodes. For emergency deployments that may last up to six months or even longer, post-

construction notice will generally be warranted, as the Commission has indicated previously. Thus, the Commission finds that the existing procedure—*i.e.,* site-specific waivers that are generally conditioned on post-construction notice—remains appropriate for emergency towers that will be deployed for longer periods than those covered by the narrow exemption the Commission establishes in this proceeding.

57. The Commission declines to define consequences or to adopt special enforcement mechanisms for misuse of the exemption, as proposed by some commenters. The Commission agrees with Springfield, however, that the Commission should adopt a measure to prevent the use of consecutive deployments under the exemption to effectively exceed the time limit. The Commission therefore requires that at least 30 days must pass following the removal of one exempted temporary tower before the same applicant may rely on the exemption for another temporary tower covering substantially the same service area. While AT&T argues that the Commission should not adopt measures to prevent ''speculative abuses,'' the Commission concludes that this narrow limitation on the consecutive use of the exemption will help to ensure that it applies only to deployments of brief duration, as intended. Further, the Commission is not persuaded by CTIA's argument that such a restriction would interfere with a carrier's flexibility to respond to unforeseen events. The restriction places no limit on the number of exempt towers that can be deployed at any one time to cover a larger combined service area. The Commission also notes that its rule provides for extensions of the 60-day period in appropriate cases, which should further ensure that applicants have sufficient flexibility to respond to unforeseen events.

58. The Commission further clarifies that under appropriate conditions, such as natural disasters or national emergencies, the relevant bureau may grant waivers of this limitation applicable to defined geographic regions and periods. In addition, a party subject to this limitation at a particular site may still request a site-specific waiver of the notice requirements for a subsequent temporary deployment at that site.

59. To implement the new temporary towers exemption, Commission staff will modify FCC Form 854. The Commission notes that the modification of the form is subject to approval by the Office of Management and Budget (OMB). To ensure clarity, the Commission provides that the exemption will take effect only when the Wireless Telecommunications Bureau issues a Public Notice announcing OMB's approval. The Commission further provides that, until the new exemption is effective, the interim waiver of notification requirements for temporary towers remains available.

III. Implementation of Section 6409(a)

A. Background

60. Congress adopted section 6409 in 2012 as a provision of Title VI of the Middle Class Tax Relief and Job Creation Act of 2012, which is more commonly known as the Spectrum Act. Section 6409(a), entitled ''Facility Modifications,'' has three provisions. Subsection (a)(1) provides that ''[n]otwithstanding section 704 of the Telecommunications Act of 1996 [codified as 47 U.S.C. 332(c)(7)] or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.'' Subsection (a)(2) defines the term ''eligible facilities request'' as any request for modification of an existing wireless tower or base station that involves (a) collocation of new transmission equipment; (b) removal of transmission equipment; or (c) replacement of transmission equipment. Subsection (a)(3) provides that ''[n]othing in paragraph (a) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.'' Aside from the definition of ''eligible facilities request,'' section 6409(a) does not define any of its terms. Similarly, neither the definitional section of the Spectrum Act nor that of the Communications Act contains definitions of the section 6409(a) terms. In the *Infrastructure NPRM,* the Commission sought comment on whether to address the provision more conclusively and comprehensively. The Commission found that it would serve the public interest to seek comment on implementing rules to define terms that the provision left undefined, and to fill in other interstices that may serve to delay the intended benefits of section 6409(a).

B. Discussion

61. After reviewing the voluminous record in this proceeding, the Commission decides to adopt rules clarifying the requirements of section 6409(a), and implementing and enforcing these requirements, in order to prevent delay and confusion in such implementation. As the Commission noted in the *Infrastructure NPRM,* collocation on existing structures is often the most efficient and economical solution for mobile wireless service providers that need new cell sites to expand their existing coverage area, increase their capacity, or deploy new advanced services. The Commission agrees with industry commenters that clarifying the terms in section 6409 will eliminate ambiguities in interpretation and thus facilitate the zoning process for collocations and other modifications to existing towers and base stations. Although these issues could be addressed over time through judicial decisions, the Commission concludes that addressing them now in a comprehensive and uniform manner will ensure that the numerous and significant disagreements over the provision do not delay its intended benefits.

62. The record demonstrates very substantial differences in the views advanced by local government and wireless industry commenters on a wide range of interpretive issues under the provision. While many localities recommend that the Commission defer to best practices to be developed on a collaborative basis, the Commission finds that there has been little progress in that effort since enactment of section 6409(a) well over two years ago. While the Commission generally encourages the development of voluntary best practices, the Commission is also concerned that voluntary best practices, on their own, may not effectively resolve many of the interpretive disputes or ensure uniform application of the law in this instance. In light of these disputes, the Commission takes this opportunity to provide additional certainty to parties.

63. *Authority.* The Commission finds that it has authority under section 6003 of the Spectrum Act to adopt rules to clarify the terms in section 6409(a) and to establish procedures for effectuating its requirements. The Commission also has broad authority to ''take any action necessary to assist [FirstNet] in effectuating its duties and responsibilities'' to construct and operate a nationwide public safety broadband network. The rules the Commission adopts reflect the authority conferred by these provisions, as they will facilitate and expedite infrastructure deployment in qualifying cases and thus advance wireless broadband deployment by commercial entities as well as FirstNet.

1. Definition of Terms in Section 6409(a)

a. Scope of Covered Services

64. The Commission first addresses the scope of wireless services to which the provision applies through the definitions of both ''transmission equipment'' and ''wireless tower or base station.'' After considering the arguments in the record, the Commission concludes that section 6409(a) applies both to towers and base stations and to transmission equipment used in connection with any Commission-authorized wireless communications service. The Commission finds strong support in the record for this interpretation. With respect to towers and base stations, the Commission concludes that this interpretation is warranted given Congress's selection of the broader term ''wireless'' in section 6409(a) rather than the narrow term ''personal wireless service'' it previously used in section 332(c)(7), as well as Congress's express intent that the provisions of the Spectrum Act ''advance wireless broadband service,'' promoting ''billions of dollars in private investment,'' and further the deployment of FirstNet. The Commission finds that interpreting ''wireless'' in the narrow manner that some municipal commenters suggest would substantially undermine the goal of advancing the deployment of broadband facilities and services, and that interpreting section 6409(a) to facilitate collocation opportunities on a broad range of suitable structures will far better contribute to meeting these goals, and is particularly important to further the deployment of FirstNet. The Spectrum Act directs the FirstNet authority, in carrying out its duty to deploy and operate a nationwide public safety broadband network, to ''enter into agreements to utilize, to the maximum extent economically desirable, existing . . . commercial or other communications infrastructure; and . . . Federal, State, tribal, or local infrastructure.'' For all of these reasons, the Commission finds it appropriate to interpret section 6409(a) as applying to collocations on infrastructure that supports equipment used for all Commission-licensed or authorized wireless transmissions.

65. The Commission is not persuaded that Congress's use of the term ''base station'' implies that the provision applies only to mobile service. As noted in the *Infrastructure NPRM,* the Commission's rules define ''base station'' as a feature of a mobile communications network, and the term has commonly been used in that context. It is important, however, to interpret ''base station'' in the context of Congress's intention to advance wireless broadband service generally, including both mobile and fixed broadband services. The Commission notes, for example, that the Spectrum Act directs the Commission to license the new commercial wireless services employing H Block, AWS–3, and repurposed television broadcast spectrum under ''flexible-use service rules''—*i.e.,* for fixed as well as mobile use. Moreover, in the context of wireless broadband service generally, the term ''base station'' describes fixed stations that provide fixed wireless service to users as well as those that provide mobile wireless service. Indeed, this is particularly true with regard to Long Term Evolution (LTE), in which base stations can support both fixed and mobile service. The Commission finds that, in the context of section 6409(a), the term ''base station'' encompasses both mobile and fixed services.

66. The Commission is also not persuaded that it should exclude ''broadcast'' from the scope of section 6409(a), both with respect to ''wireless'' towers and base stations and with respect to transmission equipment. The Commission acknowledges that the term ''wireless providers'' appears in other sections of the Spectrum Act that do not encompass broadcast services. The Commission does not agree, however, that use of the word ''wireless'' in section 6409's reference to a ''tower or base station'' can be understood without reference to context. The Commission interprets the term ''wireless'' as used in section 6409(a) in light of the purpose of this provision in particular and the larger purposes of the Spectrum Act as a whole. The Commission finds that Congress intended the provision to facilitate collocation in order to advance the deployment of commercial and public safety broadband services, including the deployment of the FirstNet network. The Commission agrees with NAB that including broadcast towers significantly advances this purpose by ''supporting the approximately 25,000 broadcast towers as collocation platforms.'' The Commission notes that a variety of industry and municipal commenters likewise support the inclusion of broadcast towers for similar reasons. Finally, the Commission observes that this approach is consistent with the Collocation Agreement and the NPA, both of which define ''tower'' to include broadcast towers. These agreements address ''wireless'' communications facilities and collocation for any ''communications'' purposes. They extend to any ''tower'' built for the sole or primary purpose of supporting any ''FCC-licensed'' facilities. The Commission finds these references particularly persuasive in ascertaining congressional intent, since section 6409(a) expressly references the Commission's continuing obligations to comply with NEPA and NHPA, which form the basis for these agreements.

67. The Commission further concludes that a broad interpretation of ''transmission equipment'' is similarly appropriate in light of the purposes of section 6409(a) in particular and the Spectrum Act more generally. The statute's Conference Report expresses Congress's intention to advance wireless broadband service generally, and as PCIA states, a broad definition of this term will ensure coverage for all wireless broadband services, including future services not yet contemplated. Defining ''transmission equipment'' broadly will facilitate the deployment of wireless broadband networks and will ''minimize the need to continually redefine the term as technology and applications evolve.'' The Commission also notes that a broad definition reflects Congress's definition of a comparable term in the context of directly related provisions in the same statute; in section 6408, the immediately preceding provision addressing uses of adjacent spectrum, Congress defined the term ''transmission system'' broadly to include ''any telecommunications, broadcast, satellite, commercial mobile service, or other communications system that employs radio spectrum.''

68. The Commission disagrees with commenters who contend that including broadcast equipment within covered transmission equipment does not advance the goals of the Spectrum Act. While broadcast equipment does not itself transmit wireless broadband signals, its efficient collocation pursuant to section 6409(a) will expedite and minimize the costs of the relocation of broadcast television licensees that are reassigned to new channels in order to clear the spectrum that will be offered for broadband services through the incentive auction, as mandated by the Spectrum Act. The Commission concludes that inclusion of broadcast service equipment in the scope of transmission equipment covered by the provision furthers the goals of the legislation and will contribute in particular to the success of the post-incentive auction transition of television broadcast stations to their new channels. The Commission notes that the language of section 6409(a) is broader than that used in section

332(c)(7), and it is reasonable to construe it in a manner that does not differentiate among various Commission-regulated services, particularly in the context of mandating approval of facilities that do not result in any substantial increase in physical dimensions.

69. The Commission further rejects arguments that Congress intended these terms to be restricted to equipment used in connection with personal wireless services and public safety services. The Communications Act and the Spectrum Act already define those narrower terms, and Congress chose not to employ them in section 6409(a), determining instead to use the broader term, ''wireless.'' The legislative history supports the conclusion that Congress intended to employ broader language. In the Conference Report, Congress emphasized that a primary goal of the Spectrum Act was to ''advance wireless broadband service,'' which would ''promot[e] billions of dollars in private investment, and creat[e] tens of thousands of jobs.'' In light of its clear intent to advance wireless broadband deployment through enactment of section 6409(a), the Commission finds it implausible that Congress meant to exclude facilities used for such services.

b. Transmission Equipment

70. The Commission adopts the proposal in the *Infrastructure NPRM* to define ''transmission equipment'' to encompass antennas and other equipment associated with and necessary to their operation, including power supply cables and backup power equipment. The Commission finds that this definition reflects Congress's intent to facilitate the review of collocations and minor modifications, and it recognizes that Congress used the broad term ''transmission equipment'' without qualifications that would logically limit its scope.

71. The Commission is further persuaded by wireless industry commenters that power supplies, including backup power, are a critical component of wireless broadband deployment and that they are necessary to ensure network resiliency. Indeed, including backup power equipment within the scope of ''transmission equipment'' under section 6409(a) is consistent with Congress's directive to the FirstNet Authority to ''ensure the . . . resiliency of the network.'' Tempe's assertion that backup power is not technically ''necessary'' because transmission equipment can operate without it is unpersuasive. Backup power is certainly necessary to operations during those periods when primary power is intermittent or unavailable. The Commission also concludes that ''transmission equipment'' should be interpreted consistent with the term ''antenna'' in the NPA and, given that the NPA term encompasses ''power sources'' without limitation, the Commission finds that ''transmission equipment'' includes backup power sources. Finally, while the Commission recognizes the concerns raised by local government commenters regarding the potential hazards of backup power generators, the Commission finds that these concerns are fully addressed in the standards applicable to collocation applications discussed below.

72. The Commission defines ''transmission equipment'' under section 6409(a) as any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and backup power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast, and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.

c. Existing Wireless Tower or Base Station

73. The Commission adopts the definitions of ''tower'' and ''base station'' proposed in the *Infrastructure NPRM* with certain modifications and clarifications, in order to give independent meaning to both of these statutory terms, and consistent with Congress's intent to promote the deployment of wireless broadband services. First, the Commission concludes that the term ''tower'' is intended to reflect the meaning of that term as it is used in the Collocation Agreement. The Commission defines ''tower'' to include any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities.

74. As proposed in the *Infrastructure NPRM,* the Commission interprets ''base station'' to extend the scope of the provision to certain support structures other than towers. Specifically, the Commission defines that term as the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network. The Commission finds that the term includes any equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply, and comparable equipment. The Commission notes that this definition reflects the types of equipment included in its definition of ''transmission equipment,'' and that the record generally supports this approach. For example, DC argues that the Commission should define a base station as ''generally consist[ing] of radio transceivers, antennae, coaxial cable, a regular and backup power supply, and other associated electronics.'' TIA concurs that the term ''base station'' encompasses transmission equipment, including antennas, transceivers, and other equipment associated with and necessary to their operation, including coaxial cable and regular and backup power equipment.

75. The Commission further finds, consistent with the Commission's proposal, that the term ''existing . . . base station'' includes a structure that, at the time of the application, supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a ''base station'' as defined above, even if the structure was not built for the sole or primary purpose of providing such support. As the Commission noted in the *Infrastructure NPRM,* while ''tower'' is defined in the Collocation Agreement and the NPA to include only those structures built for the sole or primary purpose of supporting wireless communications equipment, the term ''base station'' is not used in these agreements. The Commission rejects the proposal to define a ''base station'' to include any structure that is merely capable of supporting wireless transmission equipment, whether or not it is providing such support at the time of the application. The Commission agrees with municipalities' comments that by using the term ''existing,'' section 6409(a) preserves local government authority to initially determine what types of structures are appropriate for supporting wireless transmission equipment if the structures were not built (and thus were not previously approved) for the sole or primary purpose of supporting such equipment. Some wireless industry commenters also support its interpretation that,

while a tower that was built for the primary purpose of housing or supporting communications facilities should be considered ''existing'' even if it does not currently host wireless equipment, other structures should be considered ''existing'' only if they support or house wireless equipment at the time the application is filed.

76. The Commission finds that the alternative definitions proposed by many municipalities are unpersuasive. First, the Commission rejects arguments that a ''base station'' includes only the transmission system equipment, not the structure that supports it. This reading conflicts with the full text of the provision, which plainly contemplates collocations on a base station as well as a tower. Section 6409(a) defines an ''eligible facilities request'' as a request to modify an existing wireless tower or *base station* by collocating on it (among other modifications). This statutory structure precludes the Commission from limiting the term ''base station'' to transmission equipment; collocating on base stations, which the statute envisions, would be conceptually impossible unless the structure is part of the definition as well. The Commission further disagrees that defining ''base station'' to include supporting structures will deprive ''tower'' of all independent meaning. The Commission interprets ''base station'' not to include wireless deployments on towers. Further, the Commission interprets ''tower'' to include all structures built for the sole or primary purpose of supporting Commission-licensed or authorized antennas, and their associated facilities, regardless of whether they currently support base station equipment at the time the application is filed. Thus, ''tower'' denotes a structure that is covered under section 6409(a) by virtue of its construction. In contrast, a ''base station'' includes a structure that is not a wireless tower only where it already supports or houses such equipment.

77. The Commission is also not persuaded by arguments that ''base station'' refers only to the equipment compound associated with a tower and the equipment located upon it. First, no commenters presented evidence that ''base station'' is more commonly understood to mean an equipment compound as opposed to the broader definition of all equipment associated with transmission and reception and its supporting structures. Furthermore, the Collocation Agreement's definition of ''tower,'' which the Commission adopts in the R&O, treats equipment compounds as part of the associated towers for purposes of collocations; if towers include their equipment compounds, then defining base stations as equipment compounds alone would render the term superfluous. The Commission also notes that none of the State statutes and regulations implementing section 6409(a) has limited its scope to equipment and structures associated with towers. In addition, the Commission agrees with commenters who argue that limiting the definition of ''base station'' (and thus the scope of section 6409(a)) to structures and equipment associated with towers would compromise the core policy goal of bringing greater efficiency to the process for collocations. Other structures are increasingly important to the deployment of wireless communications infrastructure; omitting them from the scope of section 6409(a) would mean the statute's efficiencies would not extend to many if not most wireless collocations, and would counterproductively exclude virtually all of the small cell collocations that have the least impact on local land use.

78. Some commenters arguing that section 6409(a) covers no structures other than those associated with towers point to the Conference Report, which, in describing the equivalent provision in the House bill, states that the provision ''would require approval of requests for modification of cell towers.'' The Commission does not find this ambiguous statement sufficient to overcome the language of the statute as enacted, which refers to ''modification of an existing wireless tower *or base station.''* Moreover, this statement from the report does not expressly state a limitation on the provision, and thus may reasonably be read as a simplified reference to towers as an important application of its mandate. The Commission does not view this language as indicating Congress's intention that the provision encompasses only modifications of structures that qualify as wireless towers.

79. The Commission thus adopts the proposed definition of ''base station'' to include a structure that currently supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station at the time the application is filed. The Commission also finds that ''base station'' encompasses the relevant equipment in any technological configuration, including DAS and small cells. The Commission disagrees with municipalities that argue that ''base station'' should not include DAS or small cells. As the record supports, there is no statutory language limiting the term ''base station'' in this manner. The definition is sufficiently flexible to encompass, as appropriate to section 6409(a)'s intent and purpose, future as well as current base station technologies and technological configurations, using either licensed or unlicensed spectrum.

80. While the Commission does not accept municipal arguments to limit section 6409(a) to equipment or structures associated with towers, the Commission rejects industry arguments that section 6409(a) should apply more broadly to include certain structures that neither were built for the purpose of housing wireless equipment nor have base station equipment deployed upon them. The Commission finds no persuasive basis to interpret the statutory provision so broadly. The Commission agrees with Alexandria et al. that the scope of section 6409(a) is different from that of the Collocation Agreement, as the statutory provision clearly applies only to collocations on an existing ''wireless tower or base station'' rather than any existing ''tower or structure.'' Further, interpreting ''tower'' to include structures ''similar to a tower'' would be contrary to the very Collocation Agreement to which these commenters point, which defines ''tower'' in the narrower fashion that the Commission adopts. The Commission also agrees with municipalities as a policy matter that local governments should retain authority to make the initial determination (subject to the constraints of section 332(c)(7)) of which non-tower structures are appropriate for supporting wireless transmission equipment; its interpretations of ''tower'' and ''base station'' preserve that authority.

81. Finally, the Commission agrees with Fairfax that the term ''existing'' requires that wireless towers or base stations have been reviewed and approved under the applicable local zoning or siting process or that the deployment of existing transmission equipment on the structure received another form of affirmative State or local regulatory approval (*e.g.,* authorization from a State public utility commission). Thus, if a tower or base station was constructed or deployed without proper review, was not required to undergo siting review, or does not support transmission equipment that received another form of affirmative State or local regulatory approval; the governing authority is not obligated to grant a collocation application under section 6409(a). The Commission further clarifies that a wireless tower that does not have a permit because it was not in a zoned area when it was built, but was lawfully constructed, is an ''existing'' tower. The Commission finds that its

interpretation of ''existing'' is consistent with the purposes of section 6409(a) to facilitate deployments that are unlikely to conflict with local land use policies and preserve State and local authority to review proposals that may have impacts. First, it ensures that a facility that was deployed unlawfully does not trigger a municipality's obligation to approve modification requests under section 6409(a). Further, it guarantees that the structure has already been the subject of State or local review. This interpretation should also minimize incentives for governing authorities to increase zoning or other regulatory review in cases where minimally intrusive deployments are currently permitted without review. For example, under this interpretation, a homeowner's deployment of a femtocell that is not subject to any zoning or other regulatory requirements will not constitute a base station deployment that triggers obligations to allow deployments of other types of facilities at that location under section 6409(a). By thus preserving State and local authority to review the first base station deployment that brings any non-tower structure within the scope of section 6409(a), the Commission ensures that subsequent collocations of additional transmission equipment on that structure will be consistent with congressional intent that deployments subject to section 6409(a) will not pose a threat of harm to local land use values.

82. On balance, the Commission finds that the foregoing definitions are consistent with congressional intent to foster collocation on various types of structures, while addressing municipalities' valid interest in preserving their authority to determine which structures are suitable for wireless deployment, and under what conditions.

d. Collocation, Replacement, Removal, Modification

83. The Commission concludes again that it is appropriate to look to the Collocation Agreement for guidance on the meaning of analogous terms, particularly in light of section 6409(a)(3)'s specific recognition of the Commission's obligations under NHPA and NEPA. As proposed in the *Infrastructure NPRM* and supported by the record, the Commission concludes that the definition of ''collocation'' for purposes of section 6409(a) should be consistent with its definition in the Collocation Agreement. The Commission defines ''collocation'' under section 6409(a) as ''the mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.'' The term ''eligible support structure'' means any structure that falls within the definitions of ''tower'' or ''base station.'' Consistent with the language of section 6409(a)(2)(A)–(C), the Commission also finds that a ''modification'' of a ''wireless tower or base station'' includes collocation, removal, or replacement of an antenna or any other transmission equipment associated with the supporting structure.

84. The Commission disagrees with municipal commenters who argue that collocations are limited to mounting equipment on structures that already have transmission equipment on them. That limitation is not consistent with the Collocation Agreement's definition of ''collocation,'' and would not serve any reasonable purpose as applied to towers built for the purpose of supporting transmission equipment. Nevertheless, the Commission observes that the Commission's approach leads to the same result in the case of ''base stations;'' since its definition of that term includes only structures that already support or house base station equipment, section 6409(a) will not apply to the first deployment of transmission equipment on such structures. Thus, the Commission disagrees with CA Local Governments that adopting the Commission's proposed definition of collocation would require local governments to approve deployments on anything that could house or support a component of a base station. Rather, section 6409(a) will apply only where a State or local government has approved the construction of a structure with the sole or primary purpose of supporting covered transmission equipment (*i.e.,* a wireless tower) or, with regard to other support structures, where the State or local government has previously approved the siting of transmission equipment that is part of a base station on that structure. In both cases, the State or local government must decide that the site is suitable for wireless facility deployment before section 6409(a) will apply.

85. The Commission finds that the term ''eligible facilities request'' encompasses hardening through structural enhancement where such hardening is necessary for a covered collocation, replacement, or removal of transmission equipment, but does not include replacement of the underlying structure. The Commission notes that the term ''eligible facilities request'' encompasses any ''modification of an existing wireless tower or base station that involves'' collocation, removal, or replacement of transmission equipment. Given that structural enhancement of the support structure is a modification of the relevant tower or base station, the Commission notes that permitting structural enhancement as a part of a covered request may be particularly important to ensure that the relevant infrastructure will be available for use by FirstNet because of its obligation to ''ensure the safety, security, and resiliency of the [public safety broadband] network. . . .'' In addition to hardening for Public Safety, commercial providers may seek structural enhancement for many reasons, for example, to increase load capacity or to repair defects due to corrosion or other damage. The Commission finds that such modification is part of an eligible facilities request so long as the modification of the underlying support structure is performed in connection with and is necessary to support a collocation, removal, or replacement of transmission equipment. The Commission further clarifies that, to be covered under section 6409(a), any such structural enhancement must not constitute a substantial change as defined below.

86. The Commission agrees with Alexandria et al., that ''replacement,'' as used in section 6409(a)(2)(C), relates only to the replacement of ''transmission equipment,'' and that such equipment does not include the structure on which the equipment is located. Even under the condition that it would not substantially change the physical dimensions of the structure, replacement of an entire structure may affect or implicate local land use values differently than the addition, removal, or replacement of transmission equipment, and the Commission finds no textual support for the conclusion that Congress intended to extend mandatory approval to new structures. Thus, the Commission declines to interpret ''eligible facilities requests'' to include replacement of the underlying structure.

e. Substantial Change and Other Conditions and Limitations

87. After careful review of the record, the Commission adopts an objective standard for determining when a proposed modification will ''substantially change the physical dimensions'' of an existing tower or base station. The Commission provides that a modification substantially changes the physical dimensions of a tower or base station if it meets any of the following criteria: (1) for towers

outside of public rights-of-way, it increases the height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for those towers in the rights-of-way and for all base stations, it increases the height of the tower or base station by more than 10% or 10 feet, whichever is greater; (2) for towers outside of public rights-of-way, it protrudes from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for those towers in the rights-of-way and for all base stations, it protrudes from the edge of the structure more than six feet; (3) it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; (4) it entails any excavation or deployment outside the current site of the tower or base station; (5) it would defeat the existing concealment elements of the tower or base station; or (6) it does not comply with conditions associated with the prior approval of construction or modification of the tower or base station unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding ''substantial change'' thresholds identified above. The Commission further provides that the changes in height resulting from a modification should be measured from the original support structure in cases where the deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act. Beyond these standards for what constitutes a substantial change in the physical dimensions of a tower or base station, the Commission further provides that for applications covered by section 6409(a), States and localities may continue to enforce and condition approval on compliance with generally applicable building, structural, electrical, and safety codes and with other laws codifying objective standards reasonably related to health and safety.

88. The Commission initially concludes that it should adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the Intergovernmental Advisory Committee (IAC) and municipalities. Congress took care to refer, in excluding certain modifications from mandatory approval requirements, to those that would substantially change the tower or base station's ''physical dimensions.'' The Commission also finds that Congress intended approval of covered requests to occur in a timely fashion. While the Commission acknowledges that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, the Commission is concerned that it would invite lengthy review processes that conflict with Congress's intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective case-by-case approach could take even longer than their review of collocations absent section 6409(a). The Commission also anticipates that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC's open-ended and context-specific approach. The Commission finds that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. The Commission finds further support for this approach in State statutes that have implemented section 6409(a), all of which establish objective standards.

89. The Commission further finds that the objective test for ''substantial increase in size'' under the Collocation Agreement should inform its consideration of the factors to consider when assessing a ''substantial change in physical dimensions.'' This reflects its general determination that definitions in the Collocation Agreement and NPA should inform its interpretation of similar terms in section 6409(a). Further, as noted in the *Infrastructure NPRM,* the Commission has previously relied on the Collocation Agreement's test in comparable circumstances, concluding in the *2009 Declaratory Ruling* that collocation applications are subject to a shorter shot clock under section 332(c)(7) to the extent that they do not constitute a ''substantial increase in size of the underlying structure.'' The Commission has also applied a similar objective test to determine whether a modification of an existing registered tower requires public notice for purposes of environmental review. The Commission notes that some municipalities support this approach, and the Commission further observes that the overwhelming majority of State collocation statutes adopted since the passage of the Spectrum Act have adopted objective criteria similar to the Collocation Agreement test for identifying collocations subject to mandatory approval. The Commission notes as well that there is nothing in the record indicating that any of these objective State-law tests have resulted in objectionable collocations that might have been rejected under a more subjective approach. The Commission is persuaded that it is reasonable to look to the Collocation Agreement test as a starting point in interpreting the very similar ''substantial change'' standard under section 6409(a). The Commission further decides to modify and supplement the factors to establish an appropriate balance between promoting rapid wireless facility deployment and preserving States' and localities' ability to manage and protect local land-use interests.

90. First, the Commission declines to adopt the Collocation Agreement's exceptions that allow modifications to exceed the usual height and width limits when necessary to avoid interference or shelter the antennas from inclement weather. The Commission agrees with CA Local Governments that these issues pose technically complex and fact-intensive questions that many local governments cannot resolve without the aid of technical experts; modifications that would not fit within the Collocation Agreement's height and width exceptions are thus not suitable for expedited review under section 6409(a).

91. Second, the Commission concludes that the limit on height and width increases should depend on the type and location of the underlying structure. Under the Collocation Agreement's ''substantial increase in size'' test, which applies only to towers, a collocation constitutes a substantial increase in size if it would increase a tower's height by 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater. In addition, the Collocation Agreement authorizes collocations that would protrude by twenty feet, or by the width of the tower structure at the level of the appurtenance, whichever is greater. The Commission finds that the Collocation Agreement's height and width criteria are generally suitable for towers, as was contemplated by the Agreement.

92. These tests were not designed with non-tower structures in mind, and the Commission finds that they may often fail to identify substantial changes to non-tower structures such as

buildings or poles, particularly insofar as they would permit height and width increases of 20 feet under all circumstances. Instead, considering the proposals and arguments in the record and the purposes of the provision, the Commission concludes that a modification to a non-tower structure that would increase the structure's height by more than 10% or 10 feet, whichever is greater, constitutes a substantial change under section 6409(a). Permitting increases of up to 10% has significant support in the record. Further, the Commission finds that the adoption of a fixed minimum best serves the intention of Congress to advance broadband service by expediting the deployment of minor modifications of towers and base stations. Without such a minimum, the Commission finds that the test will not properly identify insubstantial increases on small buildings and other short structures, and may undermine the facilitation of collocation, as vertically collocated antennas often need 10 feet of separation and rooftop collocations may need such height as well. Further, the fact that the 10-foot minimum is substantially less than the 20-foot minimum limit under the Collocation Agreement and many State statutes or the 15-foot limit proposed by some commenters provides additional assurance that the Commission's interpretation of what is considered substantial under section 6409(a) is reasonable.

93. The Commission also provides, as suggested by Verizon and PCIA, that a proposed modification of a non-tower structure constitutes a ''substantial change'' under section 6409(a) if it would protrude from the edge of the structure more than six feet. The Commission finds that allowing for width increases up to six feet will promote the deployment of small facility deployments by accommodating installation of the mounting brackets/arms often used to deploy such facilities on non-tower structures, and that it is consistent with small facility deployments that municipalities have approved on such structures. The Commission further notes that it is significantly less than the limits in width established by most State collocation statutes adopted since the Spectrum Act. The Commission finds that six feet is the appropriate objective standard for substantial changes in width for non-tower structures, rather than the alternative proposals in the record.

94. The Commission declines to apply the same substantial change criteria to utility structures as apply to towers. While Verizon argues in an *ex parte* that this approach is justified because of the ''significant similarities'' between towers and utility structures, its own comments note that in contrast to ''macrocell towers,'' utility structures are ''smaller sites[.]'' Because utility structures are typically much smaller than traditional towers, and because utility structures are often located in easements adjacent to vehicular and pedestrian rights-of-way where extensions are more likely to raise aesthetic, safety, and other issues, the Commission does not find it appropriate to apply to such structures the same substantial change criteria applicable to towers. The Commission further finds that towers in the public rights-of-way should be subject to the more restrictive height and width criteria applicable to non-tower structures rather than the criteria applicable to other towers. The Commission notes that, to deploy DAS and small-cell wireless facilities, carriers and infrastructure providers must often deploy new poles in the rights-of-way. Because these structures are constructed for the sole or primary purpose of supporting Commission-licensed or authorized antennas, they fall under the definition of ''tower.'' They are often identical in size and appearance to utility poles in the area, which do not constitute towers. As a consequence, applying the tower height and width standards to these poles constructed for DAS and small-cell support would mean that two adjacent and nearly identical poles could be subject to very different standards. To ensure consistent treatment of structures in the public rights-of-way, and because of the heightened potential for impact from extensions in such locations, the Commission provides that structures qualifying as towers that are deployed in public rights-of-way will be subject to the same height and width criteria as non-tower structures.

95. The Commission agrees with commenters that its substantial change criteria for changes in height should be applied as limits on cumulative changes; otherwise, a series of permissible small changes could result in an overall change that significantly exceeds the adopted standards. Specifically, the Commission finds that whether a modification constitutes a substantial change must be determined by measuring the change in height from the dimensions of the ''tower or base station'' as originally approved or as of the most recent modification that received local zoning or similar regulatory approval prior to the passage of the Spectrum Act, whichever is greater.

96. The Commission declines to provide that changes in height should always be measured from the original tower or base station dimensions, as suggested by some municipalities. As with the original tower or base station, discretionary approval of subsequent modifications reflects a regulatory determination of the extent to which wireless facilities are appropriate, and under what conditions. At the same time, the Commission declines to adopt industry commenters' proposal always to measure changes from the last approved change or the effective date of the rules. Measuring from the last approved change in all cases would provide no cumulative limit at all. In particular, since the Spectrum Act became law, approval of covered requests has been mandatory and approved changes after that time may not establish an appropriate baseline because they may not reflect a siting authority's judgment that the modified structure is consistent with local land use values. Because it is impractical to require parties, in measuring cumulative impact, to determine whether each pre-existing modification was or was not required by the Spectrum Act, the Commission provides that modifications of an existing tower or base station that occur after the passage of the Spectrum Act will not change the baseline for purposes of measuring substantial change. Consistent with the determination that a tower or base station is not covered by section 6409(a) unless it received such approval, this approach will in all cases limit modifications that are subject to mandatory approval to the same modest increments over what the relevant governing authority has previously deemed compatible with local land use values. The Commission further finds that, for structures where collocations are separated horizontally rather than vertically (such as building rooftops), substantial change is more appropriately measured from the height of the original structure, rather than the height of a previously approved antenna. Thus, for example, the deployment of a 10-foot antenna on a rooftop would not mean that a nearby deployment of a 20-foot antenna would be considered insubstantial.

97. Again drawing on the Collocation Agreement's test, the Commission further provides that a modification is a substantial change if it entails any excavation or deployment outside the current site of the tower or base station. As in the Collocation Agreement, the Commission defines the ''site'' for

towers outside of the public rights-of-way as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site. For other towers and all base stations, the Commission further restricts the site to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

98. The Commission also rejects the PCIA and Sprint proposal to expand the Collocation Agreement's fourth prong, as modified by the 2004 NPA, to allow applicants to excavate outside the leased or licensed premises. Under the NPA, certain undertakings are excluded from the section 106 review, including ''construction of a replacement for an existing communications tower and any associated excavation that . . . does not expand the boundaries of the leased or owned property surrounding the tower by more than 30 feet in any direction or involve excavation outside these expanded boundaries or outside any existing access or utility easement related to the site.'' The NPA exclusion from section 106 review applies to replacement of ''an existing communications tower.'' In contrast, ''replacement,'' as used in section 6409(a)(2)(C), relates only to the replacement of ''transmission equipment,'' not the replacement of the supporting structures. Thus, the activities covered under section 6409(a) are more nearly analogous to those covered under the Collocation Agreement than under the replacement towers exclusion in the NPA. The Commission agrees with localities comments that any eligible facilities requests that involve excavation outside the premises should be considered a substantial change, as under the fourth prong of the Collocation Agreement's test.

99. Based on its review of the record and various state statutes, the Commission further finds that a modification constitutes a substantial change in physical dimensions under section 6409(a) if the change (1) would defeat the existing concealment elements of the tower or base station, or (2) does not comply with pre-existing conditions associated with the prior approval of construction or modification of the tower or base station. The first of these criteria is widely supported by both wireless industry and municipal commenters, who generally agree that a modification that undermines the concealment elements of a stealth wireless facility, such as painting to match the supporting façade or artificial tree branches, should be considered substantial under section 6409(a). The Commission agrees with commenters that in the context of a modification request related to concealed or ''stealth''-designed facilities—*i.e.,* facilities designed to look like some feature other than a wireless tower or base station—any change that defeats the concealment elements of such facilities would be considered a ''substantial change'' under section 6409(a). Commenters differ on whether any other conditions previously placed on a wireless tower or base station should be considered in determining substantial change under section 6409(a). After consideration, the Commission agrees with municipal commenters that a change is substantial if it violates any condition of approval of construction or modification imposed on the applicable wireless tower or base station, unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding ''substantial change'' thresholds. In other words, modifications qualify for section 6409(a) only if they comply, for example, with conditions regarding fencing, access to the site, drainage, height or width increases that exceed the thresholds the Commission adopted and other conditions of approval placed on the underlying structure. This approach, the Commission finds, properly preserves municipal authority to determine which structures are appropriate for wireless use and under what conditions, and reflects one of the three key priorities identified by the IAC in assessing substantial change.

100. The Commission agrees with PCIA that legal, non-conforming structures should be available for modification under section 6409(a), as long as the modification itself does not ''substantially change'' the physical dimensions of the supporting structure as defined here. The Commission rejects municipal arguments that any modification of an existing wireless tower or base station that has ''legal, non-conforming'' status should be considered a ''substantial change'' to its ''physical dimensions.'' As PCIA argues, the approach urged by municipalities could thwart the purpose of section 6409(a) altogether, as simple changes to local zoning codes could immediately turn existing structures into legal, non-conforming uses unavailable for collocation under the statute. Considering Congress's intent to promote wireless facilities deployment by encouraging collocation on existing structures, and considering the requirement in section 6409(a) that States and municipalities approve covered requests ''[n]otwithstanding . . . any other provision of law,'' the Commission finds the municipal commenters' proposal to be unsupportably restrictive.

101. The record also reflects general consensus that wireless facilities modification under section 6409(a) should remain subject to building codes and other non-discretionary structural and safety codes. As municipal commenters indicate, many local jurisdictions have promulgated code provisions that encourage and promote collocations and replacements through a streamlined approval process, while ensuring that any new facilities comply with building and safety codes and applicable Federal and State regulations. Consistent with that approach on the local level, the Commission finds that Congress did not intend to exempt covered modifications from compliance with generally applicable laws related to public health and safety. The Commission concludes that States and localities may require a covered request to comply with generally applicable building, structural, electrical, and safety codes or with other laws codifying objective standards reasonably related to health and safety, and that they may condition approval on such compliance. In particular, the Commission clarifies that section 6409(a) does not preclude States and localities from continuing to require compliance with generally applicable health and safety requirements on the placement and operation of backup power sources, including noise control ordinances if any. The Commission further clarifies that eligible facility requests covered by section 6409(a) must still comply with any relevant Federal requirement, including any applicable Commission, FAA, NEPA, or section 106 requirements. The Commission finds that this interpretation is supported in the record, addresses a concern raised by several municipal commenters and the IAC, and is consistent with the express direction in section 6409(a) that the provision is not intended to relieve the Commission from the requirements of NEPA and NHPA.

102. In sum, the Commission finds that the definitions, criteria, and related clarifications it adopts for purposes of section 6409(a) will provide clarity and certainty, reducing delays and litigation, and thereby facilitate the rapid deployment of wireless infrastructure and promote advanced wireless broadband services. At the same time, the Commission concludes that its approach also addresses concerns

voiced by municipal commenters and reflects the priorities identified by the IAC. The Commission concludes that this approach reflects a reasonable interpretation of the language and purposes of section 6409(a) and will serve the public interest.

2. Application Review Process, Including Timeframe for Review

103. As an initial matter, the Commission finds that State or local governments may require parties asserting that proposed facilities modifications are covered under section 6409(a) to file applications, and that these governments may review the applications to determine whether they constitute covered requests. As the Bureau observed in the *Section 6409(a) PN,* the statutory provision requiring a State or local government to approve an ''eligible facilities request'' implies that the relevant government entity may require an applicant to file a request for approval. Further, nothing in the provision indicates that States or local governments must approve requests merely because applicants claim they are covered. Rather, under section 6409(a), only requests that do in fact meet the provision's requirements are entitled to mandatory approval. Therefore, States and local governments must have an opportunity to review applications to determine whether they are covered by section 6409(a), and if not, whether they should in any case be granted.

104. The Commission further concludes that section 6409(a) warrants the imposition of certain requirements with regard to application processing, including a specific timeframe for State or local government review and a limitation on the documentation States and localities may require. While section 6409(a), unlike section 332(c)(7), does not expressly provide for a time limit or other procedural restrictions, the Commission concludes that certain limitations are implicit in the statutory requirement that a State or local government ''may not deny, and shall approve'' covered requests for wireless facility siting. In particular, the Commission concludes that the provision requires not merely approval of covered applications, but approval within a reasonable period of time commensurate with the limited nature of the review, whether or not a particular application is for ''personal wireless service'' facilities covered by section 332(c)(7). With no such limitation, a State or local government could evade its statutory obligation to approve covered applications by simply failing to act on them, or it could impose lengthy and onerous processes not justified by the limited scope of review contemplated by the provision. Such unreasonable delays not only would be inconsistent with the mandate to approve but also would undermine the important benefits that the provision is intended to provide to the economy, competitive wireless broadband deployment, and public safety. The Commission requires that States and localities grant covered requests within a specific time limit and pursuant to other procedures outlined below.

105. The Commission finds substantial support in the record for adopting such requirements. It is clear from the record that there is significant dispute as to whether any time limit applies at all under section 6409(a) and, if so, what that limit is. The Commission also notes that there is already some evidence in the record, albeit anecdotal, of significant delays in the processing of covered requests under this new provision, which may be partly a consequence of the current uncertainty regarding the applicability of any time limit. Because the statutory language does not provide guidance on these requirements, the Commission is concerned that, without clarification, future disputes over the process could significantly delay the benefits associated with the statute's implementation. Moreover, the Commission finds it important that all stakeholders have a clear understanding of when an applicant may seek relief from a State or municipal failure to act under section 6409(a). The Commission finds further support for establishing these process requirements in analogous State statutes, nearly all of which include a timeframe for review.

106. Contrary to the suggestion of municipalities, the Commission disagrees that the Tenth Amendment prevents the Commission from exercising its authority under the Spectrum Act to implement and enforce the limitations imposed thereunder on State and local land use authority. These limitations do not require State or local authorities to review wireless facilities siting applications, but rather preempt them from choosing to exercise such authority under their laws other than in accordance with Federal law—*i.e.,* to deny any covered requests. The Commission therefore adopts the following procedural requirements for processing applications under section 6409(a).

107. First, the Commission provides that in connection with requests asserted to be covered by section 6409(a), State and local governments may only require applicants to provide documentation that is reasonably related to determining whether the request meets the requirements of the provision. The Commission finds that this restriction is appropriate in light of the limited scope of review applicable to such requests and that it will facilitate timely approval of covered requests. At the same time, under this standard, State or local governments have considerable flexibility in determining precisely what information or documentation to require. The Commission agrees with PCIA that States and localities may not require documentation proving the need for the proposed modification or presenting the business case for it. The Commission anticipates that over time, experience and the development of best practices will lead to broad standardization in the kinds of information required. As discussed above, even as to applications covered by section 6409(a), State and local governments may continue to enforce and condition approval on compliance with non-discretionary codes reasonably related to health and safety, including building and structural codes. The Commission finds that municipalities should have flexibility to decide when to require applicants to provide documentation of such compliance, as a single documentation submission may be more efficient than a series of submissions, and municipalities may also choose to integrate such compliance review into the zoning process. Accordingly, the Commission clarifies that this documentation restriction does not prohibit States and local governments from requiring documentation needed to demonstrate compliance with any such applicable codes.

108. In addition to defining acceptable documentation requirements, the Commission establishes a specific and absolute timeframe for State and local processing of eligible facilities requests under section 6409(a). The Commission finds that a 60-day period for review, including review to determine whether an application is complete, is appropriate. In addressing this issue, it is appropriate to consider not only the record support for a time limit on review but also State statutes that facilitate collocation applications. Many of these statutes impose review time limits, thus providing valuable insight into States' views on the appropriate amount of time. Missouri, New Hampshire, and Wisconsin, for example, have determined that 45 days is the maximum amount of time available to a municipality to review applications, while Georgia, North

Carolina, and Pennsylvania have adopted a 90-day review period, including review both for completeness and for approval. Michigan's statute provides that after the application is filed, the locality has 14 days to deem the application complete and an additional 60 days to review. The Commission finds it appropriate to adopt a 60-day time period as the time limit for review of an application under section 6409(a).

109. The Commission finds that a period shorter than the 90-day period applicable to review of collocations under section 332(c)(7) of the Communications Act is warranted to reflect the more restricted scope of review applicable to applications under section 6409(a). The Commission further finds that a 60-day period of review, rather than the 45-day period proposed by many industry commenters, is appropriate to provide municipalities with sufficient time to review applications for compliance with section 6409(a), because the timeframe sets an absolute limit that—in the event of a failure to act—results in a deemed grant. Thus, whereas a municipality may rebut a claim of failure to act under section 332(c)(7) if it can demonstrate that a longer review period was reasonable, that is not the case under section 6409(a). Rather, if an application covered by section 6409(a) has not been approved by a State or local government within 60 days from the date of filing, accounting for any tolling, as described below, the reviewing authority will have violated section 6409(a)'s mandate to approve and not deny the request, and the request will be deemed granted.

110. The Commission further provides that the foregoing section 6409(a) timeframe may be tolled by mutual agreement or in cases where the reviewing State or municipality informs the applicant in a timely manner that the application is incomplete. As with tolling for completeness under section 332(c)(7) (as discussed in the R&O), an initial determination of incompleteness tolls the running of the period only if the State or local government provides notice to the applicant in writing within 30 days of the application's submission. The Commission also requires that any determination of incompleteness must clearly and specifically delineate the missing information in writing, similar to determinations of incompleteness under section 332(c)(7). Further, consistent with the documentation restriction established above, the State or municipality may only specify as missing information and supporting documents that are reasonably related to determining whether the request meets the requirements of section 6409(a).

111. The timeframe for review will begin running again when the applicant makes a supplemental submission, but may be tolled again if the State or local government provides written notice to the applicant within 10 days that the application remains incomplete and specifically delineates which of the deficiencies specified in the original notice of incompleteness have not been addressed. The timeframe for review will be tolled in this circumstance until the applicant supplies the relevant authority with the information delineated. Consistent with determinations of incompleteness under section 332(c)(7) as described below, any second or subsequent determination that an application is incomplete may be based only on the applicant's failure to provide the documentation or information the State or municipality required in its initial request for additional information. Further, if the 10-day period passes without any further notices of incompleteness from the State or locality, the period for review of the application may not thereafter be tolled for incompleteness.

112. The Commission further finds that the timeframe for review under section 6409(a) continues to run regardless of any local moratorium. This is once again consistent with its approach under section 332(c)(7), and is further warranted in light of section 6409(a)'s direction that covered requests shall be approved ''[n]otwithstanding . . . any other provision of law.''

113. Some additional clarification of time periods and deadlines will assist in cases where both section 6409(a) and section 332(c)(7) apply. In particular, the Commission notes that States and municipalities reviewing an application under section 6409(a) will be limited to a restricted application record tailored to the requirements of that provision. As a result, the application may be complete for purposes of section 6409(a) review but may not include all of the information the State or municipality requires to assess applications not subject to section 6409(a). In such cases, if the reviewing State or municipality finds that section 6409(a) does not apply (because, for example, it proposes a substantial change), the Commission provides that the presumptively reasonable timeframe under section 332(c)(7) will start to run from the issuance of the State's or municipality's decision that section 6409(a) does not apply. To the extent the State or municipality needs additional information at that point to assess the application under section 332(c)(7), it may seek additional information subject to the same limitations applicable to other section 332(c)(7) reviews. The Commission recognizes that, in such cases, there might be greater delay in the process than if the State or municipality had been permitted to request the broader documentation in the first place. The Commission finds that applicants are in a position to judge whether to seek approval under section 6409(a), and the Commission expects they will have strong incentives to do so in a reasonable manner to avoid unnecessary delays. Finally, as the Commission proposed in the *Infrastructure NPRM,* the Commission finds that where both section 6409(a) and section 332(c)(7) apply, section 6409(a) governs, consistent with the express language of section 6409(a) providing for approval ''[n]otwithstanding'' section 332(c)(7) and with canons of statutory construction that a more recent statute takes precedence over an earlier one and that ''normally the specific governs the general.''

114. Beyond the guidance provided in the R&O, the Commission declines to adopt the other proposals put forth by commenters regarding procedures for the review of applications under section 6409(a) or the collection of fees. The Commission concludes that its clarification and implementation of this statutory provision strikes the appropriate balance of ensuring the timely processing of these applications and preserving flexibility for State and local governments to exercise their rights and responsibilities. Given the limited record of problems implementing the provision, further action to specify procedures would be premature.

3. Remedies

115. After a careful assessment of the statutory provision and a review of the record, the Commission establishes a deemed granted remedy for cases in which the applicable State or municipal reviewing authority fails to issue a decision within 60 days (subject to any tolling, as described above) on an application submitted pursuant to section 6409(a). The Commission further concludes that a deemed grant does not become effective until the applicant notifies the reviewing jurisdiction in writing, after the time period for review by the State or municipal reviewing authority as prescribed in the Commission's rules has expired, that the application has been deemed granted.

116. The Commission's reading of section 6409(a) supports this approach.

The provision states without equivocation that the reviewing authority ''may not deny, and shall approve'' any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria; once the application meets these criteria, the law forbids the State or local government from denying it. Moreover, while State and local governments retain full authority to approve or deny an application depending on whether it meets the provision's requirements, the statute does not permit them to delay this obligatory and non-discretionary step indefinitely. In the R&O, the Commission defines objectively the statutory criteria for determining whether an application is entitled to a grant under this provision. Given the objective nature of this assessment, then, the Commission concludes that withholding a decision on an application indefinitely, even if an applicant can seek relief in court or in another tribunal, would be tantamount to denying it, in contravention of the statute's pronouncement that reviewing authorities ''may not deny'' qualifying applications. The Commission finds that the text of section 6409(a) supports adoption of a deemed granted remedy, which will directly serve the broader goal of promoting the rapid deployment of wireless infrastructure. The Commission notes as well that its approach is consistent with other Federal agencies' processes to address inaction by State and local authorities.

117. Many municipalities oppose the adoption of a deemed granted remedy primarily on the ground that it arguably represents an intrusion into local decision-making authority. The Commission fully acknowledges and values the important role that local reviewing authorities play in the siting process, and, as the Commission stated in the *Infrastructure NPRM,* ''[the Commission's] goal is not to 'operate as a national zoning board.' '' At the same time, its authority and responsibility to implement and enforce section 6409(a) as if it were a provision of the Communications Act obligate the Commission to ensure effective enforcement of the congressional mandate reflected therein. To do so, given its ''broad grant of rulemaking authority,'' the importance of ensuring rapid deployment of commercial and public safety wireless broadband services as reflected in the adoption of the Spectrum Act, and in light of the record of disputes in this proceeding, as well as the prior experience of the Commission with delays in municipal action on wireless facility siting applications that led to the *2009 Declaratory Ruling,* the Commission concludes it is necessary to balance these federalism concerns against the need for ensuring prompt action on section 6409(a) applications. The Commission adopts this approach in tandem with several measures that safeguard the primacy of State and local government participation in local land use policy, to the extent consistent with the requirements of section 6409(a). First, the Commission has adopted a 60-day time period for States and localities to review applications submitted under section 6409(a). While many industry commenters proposed a 45-day review period based on the non-discretionary analysis that the provision requires, the Commission has provided more time in part to ensure that reviewing authorities have sufficient time to assess the applications.

118. Second, the Commission is establishing a clear process for tolling the 60-day period when an applicant fails to submit a complete application, thus ensuring that the absence of necessary information does not prevent a State or local authority from completing its review before the time period expires.

119. Third, even in the event of a deemed grant, the section 106 historic preservation review process—including coordination with State and Tribal historic preservation officers—will remain in place with respect to any proposed deployments in historic districts or on historic buildings (or districts and buildings eligible for such status).

120. Fourth, a State or local authority may challenge an applicant's written assertion of a deemed grant in any court of competent jurisdiction when it believes the underlying application did not meet the criteria in section 6409(a) for mandatory approval, would not comply with applicable building codes or other non-discretionary structural and safety codes, or for other reasons is not appropriately ''deemed granted.''

121. Finally, and perhaps most importantly, the deemed granted approach does not deprive States and localities of the opportunity to determine whether an application is covered; rather, it provides a remedy for a failure to act within the fixed but substantial time period within which they must determine, on a non-discretionary and objective basis, whether an application fits within the parameters of section 6409(a).

122. The Commission emphasizes as well that it expects deemed grants to be the exception rather than the rule. To the extent there have been any problems or delays due to ambiguity in the provision, the Commission anticipates that the framework it has established, including the specification of substantive and procedural rights and applicable remedies, will address many of these problems. The Commission anticipates as well that the prospect of a deemed grant will create significant incentives for States and municipalities to act in a timely fashion.

123. With respect to the appropriate forum for redress or for resolving disputes, including disputes over the application of the deemed grant rule, the Commission finds that the most appropriate course for a party aggrieved by operation of section 6409(a) is to seek relief from a court of competent jurisdiction. Although the Commission finds that it has authority to resolve such disputes under its authority to implement and enforce that provision, the Commission also finds that requiring that these disputes be resolved in court, and not by the Commission, will better accommodate the role of the States and local authorities and serve the public interest for the reasons the municipal commenters identify and as discussed in the R&O.

124. A number of factors persuade the Commission to require parties to adjudicate claims under section 6409(a) in court rather than before the Commission. First, Commission adjudication would impose significant burdens on localities, many of which are small entities with no representation in Washington, DC and no experience before the Commission. The possible need for testimony to resolve disputed factual issues, which may occur in these cases, would magnify the burden. The Commission is also concerned that it may simply lack the resources to adjudicate these matters in a timely fashion if the Commission enables parties to seek its review of local zoning disputes arising in as many as 38,000 jurisdictions, thus thwarting Congress's goal of speeding up the process. The Commission also agrees with municipalities that it does not have any particular expertise in resolving local zoning disputes, whereas courts have been adjudicating claims of failure to act on wireless facility siting applications since the adoption of section 332(c)(7).

125. The Commission requires parties to bring claims related to section 6409(a) in a court of competent jurisdiction. Such claims would appear likely to fall into one of three categories. First, if the State or local authority has denied the application, an applicant might seek to challenge that denial. Second, if an

applicant invokes its deemed grant right after the requisite period of State or local authority inaction, that reviewing authority might seek to challenge the deemed grant. Third, an applicant whose application has been deemed granted might seek some form of judicial imprimatur for the grant by filing a request for declaratory judgment or other relief that a court may find appropriate. In light of the policy underlying section 6409(a) to ensure that covered requests are granted promptly, and in the self-interest of the affected parties, the Commission would expect that these parties would seek judicial review of any such claims relating to section 6409(a) expeditiously. The enforcement of such claims is a matter appropriately left to such courts of competent jurisdiction. Given the foregoing Federal interest reflected in section 6409(a), it would appear that the basis for equitable judicial remedies would diminish significantly absent prompt action by the aggrieved party. In its judgment, based on the record established in this proceeding, the Commission finds no reason why (absent a tolling agreement by parties seeking to resolve their differences) such claims cannot and should not be brought within 30 days of the date of the relevant event (*i.e.,* the date of the denial of the application or the date of the notification by the applicant to the State or local authority of a deemed grant in accordance with the Commission's rules).

4. Non-application to States or Municipalities in Their Proprietary Capacities

126. As proposed in the *Infrastructure NPRM* and supported by the record, the Commission concludes that section 6409(a) applies only to State and local governments acting in their role as land use regulators and does not apply to such entities acting in their proprietary capacities. As discussed in the record, courts have consistently recognized that in ''determining whether government contracts are subject to preemption, the case law distinguishes between actions a State entity takes in a proprietary capacity—actions similar to those a private entity might take—and its attempts to regulate.'' As the Supreme Court has explained, ''[i]n the absence of any express or implied implication by Congress that a State may not manage its own property when it pursues its purely proprietary interests, and when analogous private conduct would be permitted, this Court will not infer such a restriction.'' Like private property owners, local governments enter into lease and license agreements to allow parties to place antennas and other wireless service facilities on local-government property, and the Commission finds no basis for applying section 6409(a) in those circumstances. The Commission finds that this conclusion is consistent with judicial decisions holding that sections 253 and 332(c)(7) of the Communications Act do not preempt ''non regulatory decisions of a state or locality acting in its proprietary capacity.''

127. The Commission declines at this time to further elaborate as to how this principle should apply to any particular circumstance in connection with section 6409(a). The Commission agrees with Alexandria et al. that the record does not demonstrate a present need to define what actions are and are not proprietary, and the Commission concludes in any case that such a task is best undertaken, to the extent necessary, in the context of a specific municipal action and associated record.

5. Effective Date

128. Based on its review of the record, the Commission is persuaded that a transition period is necessary and appropriate. The Commission agrees with certain municipal commenters that affected State and local governments may need time to make modifications to their laws and procedures to conform to and comply with the rules the Commission adopts in the R&O implementing and enforcing section 6409(a), and that a transition period is warranted to give them time to do so. The Commission concludes as proposed by the IAC and other parties that the rules adopted to implement section 6409(a) will take effect 90 days after **Federal Register** publication.

IV. Section 332(c)(7) and the 2009 Declaratory Ruling

A. Background

129. In 2009, the Commission adopted a Declaratory Ruling in response to a petition requesting clarification on two points: what constitutes a ''reasonable period of time'' after which an aggrieved applicant may file suit asserting a failure to act under section 332(c)(7), and whether a zoning authority may restrict competitive entry by multiple providers in a given area under section 332(c)(7)(B)(i)(II). In the *2009 Declaratory Ruling,* the Commission interpreted a ''reasonable period of time'' under section 332(c)(7)(B)(ii) to be 90 days for processing collocation applications, and 150 days for processing applications other than collocations. The Commission further determined that failure to meet the applicable timeframe presumptively constitutes a failure to act under section 332(c)(7)(B)(v), enabling an applicant to pursue judicial relief within the next 30 days.

130. In the *Infrastructure NPRM,* while stating that it would not generally revisit the *2009 Declaratory Ruling,* the Commission sought comment on six discrete issues arising under section 332(c)(7) and the *2009 Declaratory Ruling:* (1) Whether and how to clarify when a siting application is considered complete for the purpose of triggering the *2009 Declaratory Ruling*'s shot clock; (2) whether to clarify that the presumptively reasonable period for State or local government action on an application runs regardless of any local moratorium; (3) whether the *2009 Declaratory Ruling* applies to DAS and small-cell facilities; (4) whether to clarify the types of actions that constitute ''collocations'' for purposes of triggering the shorter shot clock; (5) whether local ordinances establishing preferences for deployment on municipal property violate section 332(c)(7)(B)(i)(I); and (6) whether to adopt an additional remedy for failures to act in violation of section 332(c)(7).

B. Discussion

1. Completeness of Applications

131. The Commission finds that it should clarify under what conditions the presumptively reasonable timeframes may be tolled on grounds that an application is incomplete. As an initial matter, the Commission notes that under the *2009 Declaratory Ruling,* the presumptively reasonable timeframe begins to run when an application is first submitted, not when it is deemed complete. Accordingly, to the extent municipalities have interpreted the clock to begin running only after a determination of completeness, that interpretation is incorrect.

132. Further, consistent with proposals submitted by Crown Castle and PCIA, the Commission clarifies that, following a submission in response to a determination of incompleteness, any subsequent determination that an application remains incomplete must be based solely on the applicant's failure to supply information that was requested within the first 30 days. The shot clock will begin running again after the applicant makes a supplemental submission. The State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. In other words, a subsequent

determination of incompleteness can result in further tolling of the shot clock only if the local authority provides it to the applicant in writing within 10 days of the supplemental submission, specifically identifying the information the applicant failed to supply in response to the initial request. Once the 10-day period passes, the period for review of the application may not thereafter be tolled for incompleteness.

133. The Commission further provides that, in order to toll the timeframe for review on grounds of incompleteness, a municipality's request for additional information must specify the code provision, ordinance, application instruction, or otherwise publically-stated procedures that require the information to be submitted. This requirement will avoid delays due to uncertainty or disputes over what documents or information are required for a complete application. Further, while some municipal commenters argue that ''[n]ot all jurisdictions codify detailed application submittal requirements because doing so would require a code amendment for even the slightest change,'' the Commission's approach does not restrict them to reliance on codified documentation requirements.

134. Beyond these procedural requirements, the Commission declines to enumerate what constitutes a ''complete'' application. The Commission finds that State and local governments are best suited to decide what information they need to process an application. Differences between jurisdictions make it impractical for the Commission to specify what information should be included in an application.

135. The Commission finds that these clarifications will provide greater certainty regarding the period during which the clock is tolled for incompleteness. This in turn provides clarity regarding the time at which the clock expires, at which point an applicant may bring suit based on a ''failure to act.'' Further, the Commission expects that these clarifications will result in shared expectations among parties, thus limiting potential miscommunication and reducing the potential or need for serial requests for more information. These clarifications will facilitate faster application processing, reduce unreasonable delay, and accelerate wireless infrastructure deployment.

2. Moratoria

136. The Commission clarifies that the shot clock runs regardless of any moratorium. This is consistent with a plain reading of the *2009 Declaratory Ruling,* which specifies the conditions for tolling and makes no provision for moratoria. Moreover, its conclusion that the clock runs regardless of any moratorium means that applicants can challenge moratoria in court when the shot clock expires without State or local government action, which is consistent with the case-by-case approach that courts have generally applied to moratoria under section 332(c)(7). This approach, which establishes clearly that an applicant can seek redress in court even when a jurisdiction has imposed a moratorium, will prevent indefinite and unreasonable delay of an applicant's ability to bring suit.

137. Some commenters contend that this approach would, in effect, improperly require municipal staff to simultaneously review and update their regulations to adapt to new technologies while also reviewing applications. The Commission recognizes that new technologies may in some cases warrant changes in procedures and codes, but finds no reason to conclude that the need for any such change should freeze all applications. The Commission is confident that industry and local governments can work together to resolve applications that may require more staff resources due to complexity, pending changes to the relevant siting regulations, or other special circumstances. Moreover, in those instances in which a moratorium may reasonably prevent a State or municipality from processing an application within the applicable timeframe, the State or municipality will, if the applicant seeks review, have an opportunity to justify the delay in court. The Commission clarifies that the shot clock continues to run regardless of any moratorium.

138. The Commission declines at this time to determine that a moratorium that lasts longer than six months constitutes a *per se* violation of the obligation to take action in a reasonable period of time. Although some have argued that a six-month limit would ''discourage localities from circumventing the intent of the Commission's shot clock rules,'' others disagree, and the record provides insufficient evidence to support a *per se* determination at this juncture. Given its clarification that the presumptively reasonable timeframes apply regardless of moratoria, any moratorium that results in a delay of more than 90 days for a collocation application or 150 days for any other application will be presumptively unreasonable.

3. Application to DAS and Small Cells

139. The Commission clarifies that to the extent DAS or small-cell facilities, including third-party facilities such as neutral host DAS deployments, are or will be used for the provision of personal wireless services, their siting applications are subject to the same presumptively reasonable timeframes that apply to applications related to other personal wireless service facilities. The Commission notes that courts have addressed the issue and, consistent with its conclusion, have found that the timeframes apply to DAS and small-cell deployments.

140. Some commenters argue that the shot clocks should not apply because some providers describe DAS and small-cell deployments as wireline, not wireless, facilities. Determining whether facilities are ''personal wireless service facilities'' subject to section 332(c)(7) does not rest on a provider's characterization in another context; rather, the analysis turns simply on whether they are facilities used to provide personal wireless services. Based on its review of the record, the Commission finds no evidence sufficient to compel the conclusion that the characteristics of DAS and small-cell deployments somehow exclude them from section 332(c)(7) and the *2009 Declaratory Ruling.* For similar reasons, the Commission rejects Coconut Creek's argument that the shot clocks should apply only to neutral host deployments.

141. Some commenters suggest revising the Commission's proposal on the grounds that the unique qualities of DAS and small-cell systems require longer timeframes for municipal review. The Commission declines to adjust the timelines as these commenters suggest. The Commission notes that the timeframes are presumptive, and the Commission expects applicants and State or local governments to agree to extensions in appropriate cases. Moreover, courts will be positioned to assess the facts of individual cases—including whether the applicable time period ''t[ook] into account the nature and scope of [the] request''—in instances where the shot clock expires and the applicant seeks review. The Commission also notes that DAS and small-cell deployments that involve installation of new poles will trigger the 150-day time period for new construction that many municipal commenters view as reasonable for DAS and small-cell applications. The Commission finds it unnecessary to modify the presumptive timeframes as they apply to DAS applications.

4. Definition of Collocation

142. After reviewing the record, the Commission declines to make any changes or clarifications to the existing standard established in the *2009 Declaratory Ruling* for applying the 90-day shot clock for collocations. In particular, the Commission declines to apply the ''substantial change'' test that the Commission establishes in the R&O for purposes of section 6409(a). The Commission observes that sections 6409(a) and 332(c)(7) serve different purposes, and the Commission finds that the tests for ''substantial change'' and ''substantial increase in size'' are appropriately distinct. More specifically, the test for a ''substantial increase in size'' under section 332(c)(7) affects only the length of time for State or local review, while the test the Commission adopts under section 6409(a) identifies when a State or municipality must grant an application. This is a meaningful distinction that merits a more demanding standard under section 6409(a).

143. Considering that these provisions cover different (though overlapping) pools of applications, it is appropriate to apply them differently. Further, the Commission finds no compelling evidence in the record that using the same test for both provisions would provide significant administrative efficiencies or limit confusion, as some have argued. The Commission preserves distinct standards under the two provisions.

5. Preferences for Deployments on Municipal Property

144. The Commission finds insufficient evidence in the record to make a determination that municipal property preferences are *per se* unreasonably discriminatory or otherwise unlawful under section 332(c)(7). To the contrary, most industry and municipal commenters support the conclusion that many such preferences are valid. Consistent with the majority of comments on this issue, the Commission declines at this time to find municipal property preferences per se unlawful under section 332(c)(7).

6. Remedies

145. After reviewing the record, the Commission declines to adopt an additional remedy for State or local government failures to act within the presumptively reasonable time limits. The Commission also notes that a party pursuing a ''failure to act'' claim may ask the reviewing court for an injunction granting the application. Moreover, in the case of a failure to act within the reasonable timeframes set forth in the Commission's rules, and absent some compelling need for additional time to review the application, the Commission believes that it would also be appropriate for the courts to treat such circumstances as significant factors weighing in favor of such relief.

V. Procedural Matters

A. Final Regulatory Flexibility Analysis

146. As required by section 603 of the Regulatory Flexibility Act (RFA), the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the expected impact on small entities of the requirements adopted in the R&O. To the extent that any statement contained in the FRFA is perceived as creating ambiguity with respect to the Commission's rules, or statements made in the R&O, the rules and R&O statements shall be controlling.

1. Need for, and Objectives of, the Report and Order

147. In the R&O, the Commission takes important steps to promote the deployment of wireless infrastructure, recognizing that it is the physical foundation that supports all wireless communications. The R&O adopts and clarifies rules in four specific areas in an effort to reduce regulatory obstacles and bring efficiency to wireless facility siting and construction. The Commission does this by eliminating unnecessary reviews, thus reducing the burden on State and local jurisdictions and also on industry, including small businesses. In particular, the Commission updates and tailors the manner in which the Commission evaluates the impact of proposed deployments on the environment and historic properties. The Commission also adopts rules to clarify and implement statutory requirements related to State and local government review of infrastructure siting applications, and the Commission adopts an exemption from its environmental public notification process for towers that are in place for only short periods of time. Taken together, these steps will further facilitate the delivery of more wireless capacity in more locations to consumers throughout the United States. Its actions will expedite the deployment of equipment that does not harm the environment or historic properties, as well as recognize the limits on Federal, State, Tribal, and municipal resources available to review those cases that may adversely affect the environment or historic properties.

148. First, the Commission adopts measures to refine its environmental and historic preservation review processes under NEPA and NHPA to account for new wireless technologies, including physically small facilities like those used in DAS networks and small-cell systems that are a fraction of the size of macrocell installations. Among these, the Commission expands an existing categorical exclusion from NEPA review so that it applies not only to collocations on buildings and towers, but also to collocations on other structures like utility poles. The Commission also adopts a new categorical exclusion from NEPA review for some kinds of deployments in utilities or communications rights-of-way. With respect to NHPA, the Commission creates new exclusions from section 106 review to address certain collocations that are currently subject to review only because of the age of the supporting structure. The Commission takes these steps to assure that, as the Commission continues to meet its responsibilities under NEPA and NHPA, the Commission also fulfills its obligation under the Communications Act to ensure that rapid, efficient, and affordable radio communications services are available to all Americans.

149. Second, regarding temporary towers, the Commission adopts a narrow exemption from the Commission's requirement that owners of proposed towers requiring ASR provide 30 days of national and local notice to give members of the public an opportunity to comment on the proposed tower's potential environmental effects. The exemption from notification requirements applies only to proposed temporary towers meeting defined criteria, including limits on the size and duration of the installation, that greatly reduce the likelihood of any significant environmental effects. Allowing licensees to deploy temporary towers meeting these criteria without first having to complete the Commission's environmental notification process will enable them to more effectively respond to emergencies, natural disasters, and other planned and unplanned short-term spikes in demand without undermining the purposes of the notification process. This exemption will ''remove an administrative obstacle to the availability of broadband and other wireless services during major events and unanticipated periods of localized high demand'' where expanded or substitute service is needed quickly.

150. Third, the Commission adopts rules to implement and enforce section 6409(a) of the Spectrum Act. Section 6409(a) provides, in part, that ''a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.'' By requiring timely approval of eligible requests, Congress intended to advance wireless broadband service for both public safety and commercial users. Section 6409(a) includes a number of undefined terms that bear directly on how the provision applies to infrastructure deployments, and the record confirms that there are substantial disputes on a wide range of interpretive issues under the provision. The Commission adopts rules that clarify many of these terms and enforce their requirements, thus advancing Congress's goal of facilitating rapid deployment. These rules will serve the public interest by providing guidance to all stakeholders on their rights and responsibilities under the provision, reducing delays in the review process for wireless infrastructure modifications, and facilitating the rapid deployment of wireless infrastructure and promoting advanced wireless broadband services.

151. Finally, the Commission clarifies issues related to section 332(c)(7) of the Communications Act and the Commission's *2009 Declaratory Ruling.* Among other things, the Commission explains when a siting application is complete so as to trigger the presumptively reasonable timeframes for local and State review of siting applications under the *2009 Declaratory Ruling,* and how the shot clock timeframes apply to local moratoria and DAS or small-cell facilities. These clarifications will eliminate many disputes under section 332(c)(7), provide certainty about timing related to siting applications (including the time at which applicants may seek judicial relief), and preserve State and municipal governments' critical role in the siting application process.

152. Taken together, the actions the Commission takes in the R&O will enable more rapid deployment of vital wireless facilities, delivering broadband and wireless innovations to consumers across the country. At the same time, they will safeguard the environment, preserve historic properties, protect the interest of Tribal Nations in their ancestral lands and cultural legacies, and address municipalities' concerns over impacts to aesthetics and other local values.

2. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

153. No commenters directly responded to the IRFA. Some commenters raised issues of particular relevance to small entities, and the Commission addresses those issues in the FRFA.

3. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

154. Pursuant to the Small Business Jobs Act of 2010, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

4. Description and Estimate of the Number of Small Entities To Which Rules Will Apply

155. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the rules, if adopted. The RFA generally defines the term ''small entity'' as having the same meaning as the terms ''small business,'' ''small organization,'' and ''small government jurisdiction.'' In addition, the term ''small business'' has the same meaning as the term ''small business concern'' under the Small Business Act. A small business concern is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

156. The R&O adopts rule changes regarding local and Federal regulation of the siting and deployment of communications towers and other wireless facilities. Due to the number and diversity of owners of such infrastructure and other responsible parties, including small entities that are Commission licensees as well as non-licensees, the Commission classifies and quantify them in the remainder of this section.

157. Small Businesses, Small Organizations, and Small Governmental Jurisdictions. The Commission's action may, over time, affect a variety of small entities. To assist in assessing the R&O's effect on these entities, the Commission describes three comprehensive categories—small businesses, small organizations, and small governmental jurisdictions—that encompass entities that could be directly affected by the rules the Commission adopts. As of 2010, there were 27.9 million small businesses in the United States, according to the SBA. A ''small organization'' is generally ''any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.'' Nationwide, as of 2007, there were approximately 1,621,315 small organizations. Finally, the term ''small governmental jurisdiction'' is defined generally as ''governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.'' Census Bureau data for 2007 indicate that there were 89,527 governmental jurisdictions in the United States. The Commission estimates that, of this total, as many as 88,761 entities may qualify as ''small governmental jurisdictions.'' Thus, the Commission estimates that most governmental jurisdictions are small.

158. Wireless Telecommunications Carriers (except satellite). The Census Bureau defines this category as follows: ''This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services.'' The appropriate size standard under SBA rules is for the category Wireless Telecommunications Carriers (except Satellite). In this category, a business is small if it has 1,500 or fewer employees. For this category, census data for 2007 show that there were 1,383 firms that operated for the entire year. Of this total, 1,368 firms had employment of 999 or fewer employees and 15 had employment of 1000 employees or more. According to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, PCS, and Specialized Mobile Radio (SMR) telephony services. Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees. Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, the Commission estimates that the majority of wireless firms can be considered small.

159. Personal Radio Services. Personal radio services provide short-range, low-power radio for personal communications, radio signaling, and business communications not provided

for in other services. Personal radio services include services operating in spectrum licensed under part 95 of the Commission's rules. These services include Citizen Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service. There are a variety of methods used to license the spectrum in these rule parts, from licensing by rule, to conditioning operation on successful completion of a required test, to site-based licensing, to geographic area licensing. Under the RFA, the Commission is required to make a determination of which small entities are directly affected by the rules the Commission adopts. Since all such entities are wireless, the Commission applies the definition of Wireless Telecommunications Carriers (except Satellite), pursuant to which a small entity is defined as employing 1,500 or fewer persons. Many of the licensees in these services are individuals, and thus are not small entities. In addition, due to the mostly unlicensed and shared nature of the spectrum utilized in many of these services, the Commission lacks direct information upon which to base an estimation of the number of small entities under an SBA definition that might be directly affected by the R&O.

160. Public Safety Radio Services. Public safety radio services include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services. There are a total of approximately 127,540 licensees within these services. Governmental entities as well as private businesses comprise the licensees for these services. All governmental entities in jurisdictions with populations of less than 50,000 fall within the definition of a small entity.

161. Private Land Mobile Radio. Private Land Mobile Radio (PLMR) systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories that operate and maintain switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services. The SBA has not developed a definition of small entity specifically applicable to PLMR licensees due to the vast array of PLMR users. The Commission believes that the most appropriate classification for PLMR is Wireless Communications Carriers (except satellite). The size standard for that category is that a business is small if it has 1,500 or fewer employees. For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year. Of this total, 10,791 establishments had employment of 999 or fewer employees and 372 had employment of 1000 employees or more. Thus under this category and the associated small business size standard, the Commission estimates that the majority of PLMR licensees are small entities that may be affected by its action.

162. Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, PCS, and SMR telephony services. Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees. Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, the Commission estimates that the majority of wireless firms can be considered small.

163. The Commission's 1994 Annual Report on PLMRs indicates that at the end of fiscal year 1994 there were 1,087,267 licensees operating 12,481,989 transmitters in the PLMR bands below 512 MHz. Because any entity engaged in a commercial activity is eligible to hold a PLMR license, the rules the Commission adopts could potentially impact every small business in the United States.

164. Multiple Address Systems. Entities using Multiple Address Systems (MAS) spectrum, in general, fall into two categories: (1) Those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, the Commission defines ''small entity'' for MAS licensees as an entity that has average annual gross revenues of less than $15 million over the three previous calendar years. ''Very small business'' is defined as an entity that, together with its affiliates, has average annual gross revenues of not more than $3 million over the preceding three calendar years. The SBA has approved these definitions. The majority of MAS operators are licensed in bands where the Commission has implemented a geographic area licensing approach that requires the use of competitive bidding procedures to resolve mutually exclusive applications. The Commission's licensing database indicates that, as of April 16, 2010, there were a total of 11,653 site-based MAS station authorizations. Of these, 58 authorizations were associated with common carrier service. In addition, the Commission's licensing database indicates that, as of April 16, 2010, there were a total of 3,330 Economic Area market area MAS authorizations. The Commission's licensing database indicates that, as of April 16, 2010, of the 11,653 total MAS station authorizations, 10,773 authorizations were for private radio service. In addition, an auction for 5,104 MAS licenses in 176 EAs was conducted in 2001. Seven winning bidders claimed status as small or very small businesses and won 611 licenses. In 2005, the Commission completed an auction (Auction 59) of 4,226 MAS licenses in the Fixed Microwave Services from the 928/959 and 932/941 MHz bands. Twenty-six winning bidders won a total of 2,323 licenses. Of the 26 winning bidders in this auction, five claimed small business status and won 1,891 licenses.

165. With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definition developed by the SBA would be more appropriate than the Commission's definition. The applicable definition of small entity in this instance appears to be the ''Wireless Telecommunications Carriers (except satellite)'' definition under the SBA rules. Under that SBA category, a business is small if it has 1,500 or fewer employees. For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year. Of this total, 10,791 establishments had employment of 99 or fewer employees and 372 had employment of 100 employees or more. Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by its action.

166. Broadband Radio Service and Educational Broadband Service. Broadband Radio Service systems—previously referred to as Multipoint

Distribution Service (MDS) and Multichannel Multipoint Distribution Service systems, and ''wireless cable''—transmit video programming to subscribers and provide two-way high speed data operations using the microwave frequencies of the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service). In connection with the 1996 BRS auction, the Commission established a small business size standard as an entity that had annual average annual gross revenues of no more than $40 million over the previous three calendar years. The BRS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. BRS also includes licensees of stations authorized prior to the auction. The Commission previously estimated that of the 61 small business BRS auction winners, based on its review of licensing records, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 86 incumbent BRS licensees that are considered small entities; 18 incumbent BRS licensees do not meet the small business size standard. After adding the number of small business auction licensees to the number of incumbent licensees not already counted, there are currently approximately 133 BRS licensees that are defined as small businesses under either the SBA's rules or the Commission's rules. In 2009, the Commission conducted Auction 86, which involved the sale of 78 licenses in the BRS areas. The Commission established three small business size standards that were used in Auction 86: (i) An entity with attributed average annual gross revenues that exceeded $15 million and did not exceed $40 million for the preceding three years was considered a small business; (ii) an entity with attributed average annual gross revenues that exceeded $3 million and did not exceed $15 million for the preceding three years was considered a very small business; and (iii) an entity with attributed average annual gross revenues that did not exceed $3 million for the preceding three years was considered an entrepreneur. Auction 86 concluded in 2009 with the sale of 61 licenses. Of the 10 winning bidders, two bidders that claimed small business status won four licenses; one bidder that claimed very small business status won three licenses; and two bidders that claimed entrepreneur status won six licenses. The Commission notes that, as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service.

167. In addition, the SBA's placement of Cable Television Distribution Services in the category of Wired Telecommunications Carriers is applicable to cable-based educational broadcasting services. Since 2007, Wired Telecommunications Carriers have been defined as follows: ''This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies.'' Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services; wired (cable) audio and video programming distribution; and wired broadband Internet services. Establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry. The SBA has determined that a business in this category is a small business if it has 1,500 or fewer employees. Census data for 2007 shows that there were 3,188 firms in this category that operated for the duration of that year. Of those, 3,144 had fewer than 1000 employees, and 44 firms had more than 1000 employees. Thus under this category and the associated small business size standard, the majority of such firms can be considered small. In addition to Census data, the Commission's Universal Licensing System indicates that as of July 2013, there are 2,236 active EBS licenses. The Commission estimates that of these 2,236 licenses, the majority are held by non-profit educational institutions and school districts, which are by statute defined as small businesses.

168. Location and Monitoring Service (LMS). LMS systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined a ''small business'' as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed $15 million. A ''very small business'' is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed $3 million. These definitions have been approved by the SBA. An auction for LMS licenses commenced on February 23, 1999 and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses.

169. Television Broadcasting. This Economic Census category ''comprises establishments primarily engaged in broadcasting images together with sound. These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public.'' The SBA has created the following small business size standard for such businesses: Those having $38.5 million or less in annual receipts. The 2007 U.S. Census indicates that 2,076 television stations operated in that year. Of that number, 1,515 had annual receipts of $10,000,000 dollars or less, and 561 had annual receipts of more than $10,000,000. Since the Census has no additional classifications on the basis of which to identify the number of stations whose receipts exceeded $38.5 million in that year, the Commission concludes that the majority of television stations were small under the applicable SBA size standard.

170. Apart from the U.S. Census, the Commission has estimated the number of licensed commercial television stations to be 1,387. In addition, according to Commission staff review of the BIA Advisory Services, LLC's *Media Access Pro Television Database* on March 28, 2012, about 950 of an estimated 1,300 commercial television stations (or approximately 73 percent) had revenues of $14 million or less. The Commission estimates that the majority of commercial television broadcasters are small entities.

171. The Commission notes, that in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations must be included. Its estimate likely overstates the number of small entities that might be affected by its action because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, an element of the definition of ''small business'' is that the entity not be dominant in its field of operation. The Commission is unable at this time to define or quantify the criteria that would establish whether a specific television station is dominant in its field of operation. The estimate of small businesses to which rules may apply does not exclude any television station

from the definition of a small business on this basis and is possibly over-inclusive to that extent.

172. In addition, the Commission has estimated the number of licensed noncommercial educational (NCE) television stations to be 395. These stations are non-profit, and considered to be small entities.

173. There are also 2,414 LPTV stations, including Class A stations, and 4,046 TV translator stations. Given the nature of these services, the Commission will presume that all of these entities qualify as small entities under the above SBA small business size standard.

174. Radio Broadcasting. The SBA defines a radio broadcast station as a small business if it has no more than $35.5 million in annual receipts. Business concerns included in this category are those ''primarily engaged in broadcasting aural programs by radio to the public.'' According to review of the BIA Publications, Inc. Master Access Radio Analyzer Database as of November 26, 2013, about 11,331 (or about 99.9 percent) of 11,341 commercial radio stations have revenues of $38.5 million or less and thus qualify as small entities under the SBA definition. The Commission notes that in assessing whether a business concern qualifies as small under the above definition, revenues from business (control) affiliations must be included. This estimate likely overstates the number of small entities that might be affected, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies.

175. In addition, an element of the definition of ''small business'' is that the entity not be dominant in its field of operation. The Commission is unable at this time to define or quantify the criteria that would establish whether a specific radio station is dominant in its field of operation. The estimate of small businesses to which rules may apply does not exclude any radio station from the definition of a small business on this basis and may be over-inclusive to that extent. Also, as noted, an additional element of the definition of ''small business'' is that the entity must be independently owned and operated. The Commission notes that it can be difficult to assess this criterion in the context of media entities and the estimates of small businesses to which they apply may be over-inclusive to this extent.

176. FM translator stations and low power FM stations. The rules and clarifications the Commission adopts could affect licensees of FM translator and booster stations and low power FM (LPFM) stations, as well as potential licensees in these radio services. The same SBA definition that applies to radio broadcast licensees would apply to these stations. The SBA defines a radio broadcast station as a small business if such station has no more than $38.5 million in annual receipts. Currently, there are approximately 6,155 licensed FM translator and booster stations and 864 licensed LPFM stations. Given the nature of these services, the Commission will presume that all of these licensees qualify as small entities under the SBA definition.

177. Multichannel Video Distribution and Data Service (MVDDS). MVDDS is a terrestrial fixed microwave service operating in the 12.2–12.7 GHz band. The Commission adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits. It defined a very small business as an entity with average annual gross revenues not exceeding $3 million for the preceding three years; a small business as an entity with average annual gross revenues not exceeding $15 million for the preceding three years; and an entrepreneur as an entity with average annual gross revenues not exceeding $40 million for the preceding three years. These definitions were approved by the SBA. On January 27, 2004, the Commission completed an auction of 214 MVDDS licenses (Auction No. 53). In this auction, ten winning bidders won a total of 192 MVDDS licenses. Eight of the ten winning bidders claimed small business status and won 144 of the licenses. The Commission also held an auction of MVDDS licenses on December 7, 2005 (Auction 63). Of the three winning bidders who won 22 licenses, two winning bidders, winning 21 of the licenses, claimed small business status.

178. Satellite Telecommunications. Two economic census categories address the satellite industry. Both establish a small business size standard of $32.54 million or less in annual receipts.

179. The first category, ''Satellite Telecommunications,'' ''comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.'' Census Bureau data for 2007 show that 607 Satellite Telecommunications establishments operated for that entire year. Of this total, 533 had annual receipts of under $10 million, and 74 establishments had receipts of $10 million or more. Consequently, the Commission estimates that the majority of Satellite Telecommunications firms are small entities that might be affected by its action.

180. The second category, ''All Other Telecommunications,'' comprises ''establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.'' For this category, Census data for 2007 shows that there were a total of 2,639 establishments that operated for the entire year. Of those, 2,333 operated with annual receipts of less than $10 million and 306 with annual receipts of $10 million or more. Consequently, the Commission estimates that a majority of All Other Telecommunications establishments are small entities that might be affected by its action.

181. Non-Licensee Tower Owners. Although at one time most communications towers were owned by the licensee using the tower to provide communications service, many towers are now owned by third-party businesses that do not provide communications services themselves but lease space on their towers to other companies that provide communications services. The Commission's rules require that any entity, including a non-licensee, proposing to construct a tower over 200 feet in height or within the glide slope of an airport must register the tower with the Commission on FCC Form 854. Thus, non-licensee tower owners may be subject to the environmental notification requirements associated with ASR registration, and may benefit from the exemption for certain temporary antenna structures that the Commission adopts in the R&O. In addition, non-licensee tower owners may be affected by its interpretations of section 6409(a) of the Spectrum Act or by its revisions to its interpretation of section 332(c)(7) of the Communications Act.

182. As of September 5, 2014, the ASR database includes approximately 116,643 registration records reflecting a ''Constructed'' status and 13,972 registration records reflecting a ''Granted, Not Constructed'' status. These figures include both towers registered to licensees and towers registered to non-licensee tower owners. The Commission does not keep information from which it can easily determine how many of these towers are registered to non-licensees or how many non-licensees have registered towers. Regarding towers that do not require ASR registration, the Commission does not collect information as to the number of such towers in use and cannot estimate the number of tower owners that would be subject to the rules the Commission adopts. Moreover, the SBA has not developed a size standard for small businesses in the category ''Tower Owners.'' The Commission is unable to determine the number of non-licensee tower owners that are small entities. The Commission believes that when all entities owning 10 or fewer towers and leasing space for collocation are included, non-licensee tower owners number in the thousands, and that nearly all of these qualify as small businesses under the SBA's definition for ''All Other Telecommunications.'' In addition, there may be other non-licensee owners of other wireless infrastructure, including DAS and small cells that might be affected by the regulatory measures the Commission adopts. The Commission does not have any basis for estimating the number of such non-licensee owners that are small entities.

5. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

183. The R&O adopts a narrow exemption from the Commission's requirement that owners of proposed towers requiring ASR registration provide 30 days of national and local notice to give members of the public an opportunity to comment on the proposed tower's potential environmental effects. The exemption from the notice requirements applies only to applicants seeking to register temporary antenna structures meeting certain criteria that greatly reduce the likelihood of any significant environmental effects. Specifically, proposed towers exempted from the Commission's local and national environmental notification requirement are those that (i) will be in use for 60 days or less, (ii) require notice of construction to the Federal Aviation Administration (FAA), (iii) do not require marking or lighting pursuant to FAA regulations, (iv) will be less than 200 feet in height, and (v) will involve minimal or no excavation.

184. The Commission's rules require that any entity, including a non-licensee, proposing to construct a tower over 200 feet in height or within the glide slope of an airport must register the tower with the Commission on FCC Form 854. An applicant seeking to claim the temporary towers exemption from the environmental notification process must indicate on its FCC Form 854 that it is claiming the exemption for a new, proposed temporary tower and demonstrate that the proposed tower satisfies the applicable criteria. While small entities must comply with these requirements in order to take advantage of the exemption, on balance, the relief from compliance with local and national environmental notification requirements provided by the exemption greatly reduces burdens and economic impacts on small entities.

185. The applicant may seek an extension of the exemption from the Commission's local and national environmental notification requirement of up to sixty days through another filing of Form 854, if the applicant can demonstrate that the extension of the exemption period is warranted due to changed circumstances or information that emerged after the exempted tower was deployed. The exemption adopted in the R&O is intended specifically for proposed towers that are intended and expected to be deployed for no more than 60 days, and the option to apply for an extension is intended only for cases of unforeseen or changed circumstances or information. Small entities, like all applicants, are expected to seek extensions of the exemption period only rarely and any burdens or economic impacts incurred by applying for such extensions should be minimal.

6. Steps Taken To Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

186. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): ''(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.'' The FRFA incorporates by reference all discussion in the R&O that considers the impact on small entities of the rules adopted by the Commission. In addition, the Commission's consideration of those issues as to which the impact on small entities was specifically discussed in the record is summarized below.

187. The actions taken in the R&O encourage and promote the deployment of advanced wireless broadband and other services by tailoring the regulatory review of new wireless network infrastructure consistent with the law and the public interest. The Commission anticipates that the steps taken in the R&O will not impose any significant economic impacts on small entities, and will in fact help reduce burdens on small entities by reducing the cost and delay associated with the deployment of such infrastructure.

188. In the R&O, the Commission takes action in four major areas relating to the regulation of wireless facility siting and construction. In each area, the rules the Commission adopts and clarifications the Commission makes will not increase burdens or costs on small entities. To the contrary, its actions will reduce costs and burdens associated with deploying wireless infrastructure.

189. First, the Commission adopts measures with regard to its NEPA process for review of environmental effects regarding wireless broadband deployment that should reduce existing regulatory costs for small entities that construct or deploy wireless infrastructure, and will not impose any additional costs on such entities. Specifically, the Commission clarifies that the existing NEPA categorical exclusion for antenna collocations on buildings and towers includes equipment associated with the antennas (such as wiring, cabling, cabinets, or backup-power), and that it also covers collocations in a building's interior. The Commission also expands the NEPA collocation categorical exclusion to cover collocations on structures other than buildings and towers, and adopts a new NEPA categorical exclusion for deployments, including deployments of new poles, in utility or communications rights-of-way that are in active use for such purposes, where the deployment does not constitute a substantial increase in size over the existing utility or communications uses. The Commission also adopts measures concerning its section 106 process for review of impact on historic properties. First, the Commission adopts certain

exclusions from section 106 review, and the Commission clarifies that the existing exclusions for certain collocations on buildings under the Commission's programmatic agreements extend to collocations inside buildings. These new exclusions and clarifications will reduce environmental compliance costs of small entities by providing that eligible proposed deployments of small wireless facilities do not require the preparation of an Environmental Assessment.

190. Second, the Commission adopts an exemption from the Commission's requirement that ASR applicants must provide local and national environmental notification prior to submitting a completed ASR application for certain temporary antenna structures meeting criteria that makes them unlikely to have significant environmental effects. Specifically, the Commission exempts antenna structures that (1) will be in place for 60 days or less; (2) require notice of construction to the FAA; (3) do not require marking or lighting under FAA regulations; (4) will be less than 200 feet above ground level; and (5) will involve minimal or no ground excavation. This exemption will reduce the burden on wireless broadband providers and other wireless service providers, including small entities.

191. Third, the Commission adopts several rules to clarify and implement the requirements of section 6409(a) of the Spectrum Act. In interpreting the statutory terms of this provision, such as ''wireless tower or base station,'' ''transmission equipment,'' and ''substantially change the physical dimensions,'' the Commission generally does not distinguish between large and small entities, as the statute provides no indication that such distinctions were intended, and such distinctions have been proposed. Further, these clarifications will help limit potential ambiguities within the rule and thus reduce the burden associated with complying with this statutory provision, including the burden on small entities. Generally, the Commission clarifies that section 6409(a) applies only to State and local governments acting in their regulatory role and does not apply to such entities acting in their proprietary capacities.

192. With regard to the process for reviewing an application under section 6409(a), the Commission provides that a State or local government may only require applicants to provide documentation that is reasonably related to determining whether the eligible facility request meets the requirements of section 6409(a) and that, within 60 days from the date of filing (accounting for tolling), a State or local government shall approve an application covered by section 6409(a). Where a State or local government fails to act on an application covered under section 6409(a) within the requisite time period, the application is deemed granted. Parties may bring claims under section 6409(a) to a court of competent jurisdiction. The Commission declines to entertain such disputes in a Commission adjudication, which would impose significant burdens on localities, many of which are small entities with no representation in Washington, DC or experience before the Commission. Limiting relief to court adjudication lessens the burden on applicants in general, and small entities specifically.

193. Lastly, the Commission adopts clarifications of its 2009 Declaratory Ruling, which established the time periods after which a State or local government has presumptively failed to act on a facilities siting application ''within a reasonable period of time'' under section 332(c)(7) of the Act. Specifically, the Commission clarifies that the timeframe begins to run when an application is first submitted, not when it is deemed complete by the reviewing government. Further, a determination of incompleteness tolls the shot clock only if the State or local government provides notice to the applicant in writing within 30 days of the application's submission, specifically delineating all missing information. Following a submission in response to a determination of incompleteness, any subsequent determination that an application remains incomplete must be based solely on the applicant's failure to supply missing information that was identified within the first 30 days. These clarifications will provide greater certainty in the application process and reduce the potential or need for serial requests for more information. These clarifications will facilitate faster application processing, reduce unreasonable delay, and reduce the burden on regulated entities, including small businesses.

194. The Commission also clarifies that to the extent DAS or small-cell facilities, including third-party facilities such as neutral host DAS deployments, are or will be used for the provision of personal wireless services, their siting applications are subject to the same presumptively reasonable timeframes that apply to applications related to other personal wireless service facilities under section 332(c)(7). The Commission clarifies further that the presumptively reasonable timeframes run regardless of any applicable moratoria, and that municipal property preferences are not per se unreasonably discriminatory or otherwise unlawful under section 332(c)(7). Finally, the Commission concludes that the explicit remedies under section 332(c)(7) preclude adoption of a deemed granted remedy for failures to act. These clarifications reduce confusion and delay within the siting process which in turn reduces the burden on industry and State and local jurisdictions alike, which may include small entities.

7. Federal Rules That Might Duplicate, Overlap, or Conflict With the Rules

195. None.

8. Report to Congress

196. The Commission will send a copy of the R&O, including the FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act.

9. Report to Small Business Administration

197. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the R&O, including the FRFA, to the Chief Counsel for Advocacy of the SBA.

B. Paperwork Reduction Act

198. The R&O contains revised information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104–13. It will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies will be invited to comment on the modified information collection requirements contained in this proceeding in a separate **Federal Register** Notice. In addition, the Commission notes that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, see 44 U.S.C. 3506(c)(4), the Commission previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. In addition, the Commission has described impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the FRFA.

C. Congressional Review Act

199. The Commission will send a copy of the R&O in a report to be sent to Congress and the Government Accountability Office pursuant to the

Congressional Review Act (CRA), see 5 U.S.C. 801(a)(1)(A).

VI. Ordering Clauses

200. *It is ordered,* pursuant to sections 1, 2, 4(i), 7, 201, 301, 303, 309, and 332 of the Communications Act of 1934, as amended, sections 6003, 6213, and 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112–96, 126 Stat. 156, 47 U.S.C. 151, 152, 154(i), 157, 201, 301, 303, 309, 332, 1403, 1433, and 1455(a), section 102(C) of the National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4332(C), and section 106 of the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470f, that the R&O IS *hereby adopted.* If any section, subsection, paragraph, sentence, clause or phrase of the R&O or the rules adopted therein is declared invalid for any reason, the remaining portions of the R&O and the rules adopted therein *shall be* severable from the invalid part and *shall remain* in full force and effect.

201. *It is further ordered* that parts 1 and 17 of the Commission's Rules ARE *amended* as set forth in Appendix B of the R&O (see the Final Rules contained in this summary), and that these changes *shall be effective* 30 days after publication in the **Federal Register**, except for section 1.40001, which *shall be effective* 90 days after publication in the **Federal Register**; provided that those rules and requirements that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act *shall become effective* after the Commission publishes a notice in the **Federal Register** announcing such approval and the relevant effective date.

202. *It is further ordered* that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects

47 CFR Part 1

Administrative practice and procedure, Communications common carriers, Environmental impact statements, Federal buildings and facilities, Radio, Reporting and recordkeeping requirements, Satellites, Telecommunications.

47 CFR Part 17

Aviation safety, Communications equipment, Reporting and recordkeeping requirements.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 1 and part 17 as follows:

PART 1—PRACTICE AND PROCEDURE

■ 1. The authority citation for part 1 is amended to read as follows:

Authority: 15 U.S.C. 79, *et seq.;* 47 U.S.C. 151, 154(i), 154(j), 155, 157, 160, 201, 225, 227, 303, 309, 332, 1403, 1404, 1451, 1452, and 1455.

■ 2. Section 1.1306 is amended by adding paragraph (c) and revising the first sentence of Note 1 read as follows:

§ 1.1306 Actions which are categorically excluded from environmental processing.

* * * * *

(c)(1) Unless § 1.1307(a)(4) is applicable, the provisions of § 1.1307(a) requiring the preparation of EAs do not encompass the construction of wireless facilities, including deployments on new or replacement poles, if:

(i) The facilities will be located in a right-of-way that is designated by a Federal, State, local, or Tribal government for communications towers, above-ground utility transmission or distribution lines, or any associated structures and equipment;

(ii) The right-of-way is in active use for such designated purposes; and

(iii) The facilities would not

(A) Increase the height of the tower or non-tower structure by more than 10% or twenty feet, whichever is greater, over existing support structures that are located in the right-of-way within the vicinity of the proposed construction;

(B) Involve the installation of more than four new equipment cabinets or more than one new equipment shelter;

(C) Add an appurtenance to the body of the structure that would protrude from the edge of the structure more than twenty feet, or more than the width of the structure at the level of the appurtenance, whichever is greater (except that the deployment may exceed this size limit if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable); or

(D) Involve excavation outside the current site, defined as the area that is within the boundaries of the leased or owned property surrounding the deployment or that is in proximity to the structure and within the boundaries of the utility easement on which the facility is to be deployed, whichever is more restrictive.

(2) Such wireless facilities are subject to § 1.1307(b) and require EAs if their construction would result in human exposure to radiofrequency radiation in excess of the applicable health and safety guidelines cited in § 1.1307(b).

Note 1: The provisions of § 1.1307(a) requiring the preparation of EAs do not encompass the mounting of antenna(s) and associated equipment (such as wiring, cabling, cabinets, or backup-power), on or in an existing building, or on an antenna tower or other man-made structure, unless § 1.1307(a)(4) is applicable. * * *

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■ 3. Section 1.1307 is amended by redesignating paragraph (a)(4) as (a)(4)(i), and by adding new paragraph (a)(4)(ii) and a Note to paragraph (a)(4)(ii) to read as follows:

§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

(a) * * *

(4) * * *

(ii) The requirements in paragraph (a)(4)(i) of this section do not apply to:

(A) The mounting of antennas (including associated equipment such as wiring, cabling, cabinets, or backup-power) on existing utility structures (including utility poles and electric transmission towers in active use by a ''utility'' as defined in Section 224 of the Communications Act, 47 U.S.C. 224, but not including light poles, lamp posts, and other structures whose primary purpose is to provide public lighting) where the deployment meets the following conditions:

(*1*) All antennas that are part of the deployment fit within enclosures (or if the antennas are exposed, within imaginary enclosures) that are individually no more than three cubic feet in volume, and all antennas on the structure, including any pre-existing antennas on the structure, fit within enclosures (or if the antennas are exposed, within imaginary enclosures) that total no more than six cubic feet in volume;

(*2*) All other wireless equipment associated with the structure, including pre-existing enclosures and including equipment on the ground associated with antennas on the structure, are cumulatively no more than seventeen cubic feet in volume, exclusive of

(i) Vertical cable runs for the connection of power and other services;

(*ii*) Ancillary equipment installed by other entities that is outside of the applicant's ownership or control, and

(*iii*) Comparable equipment from pre-existing wireless deployments on the structure;

(*3*) The deployment will involve no new ground disturbance; and

(*4*) The deployment would otherwise require the preparation of an EA under paragraph (a)(4)(i) of this section solely because of the age of the structure; or

(B) The mounting of antennas (including associated equipment such as wiring, cabling, cabinets, or backup-power) on buildings or other non-tower structures where the deployment meets the following conditions:

(*1*) There is an existing antenna on the building or structure;

(*2*) One of the following criteria is met:

(*i*) *Non-Visible Antennas.* The new antenna is not visible from any adjacent streets or surrounding public spaces and is added in the same vicinity as a pre-existing antenna;

(*ii*) *Visible Replacement Antennas.* The new antenna is visible from adjacent streets or surrounding public spaces, provided that

(*A*) It is a replacement for a pre-existing antenna,

(*B*) The new antenna will be located in the same vicinity as the pre-existing antenna,

(*C*) The new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna,

(*D*) The new antenna is not more than 3 feet larger in height or width (including all protuberances) than the pre-existing antenna, and

(*E*) No new equipment cabinets are visible from the adjacent streets or surrounding public spaces; or

(*iii*) *Other Visible Antennas.* The new antenna is visible from adjacent streets or surrounding public spaces, provided that

(*A*) It is located in the same vicinity as a pre-existing antenna,

(*B*) The new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna,

(*C*) The pre-existing antenna was not deployed pursuant to the exclusion in this subsection (§ 1.1307(a)(4)(ii)(B)(*2*)(*iii*)),

(*D*) The new antenna is not more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and

(*E*) No new equipment cabinets are visible from the adjacent streets or surrounding public spaces;

(*3*) The new antenna complies with all zoning conditions and historic preservation conditions applicable to existing antennas in the same vicinity that directly mitigate or prevent effects, such as camouflage or concealment requirements;

(*4*) The deployment of the new antenna involves no new ground disturbance; and

(*5*) The deployment would otherwise require the preparation of an EA under paragraph (a)(4) of this section solely because of the age of the structure.

Note to paragraph (a)(4)(ii): A non-visible new antenna is in the ''same vicinity'' as a pre-existing antenna if it will be collocated on the same rooftop, façade or other surface. A visible new antenna is in the ''same vicinity'' as a pre-existing antenna if it is on the same rooftop, façade, or other surface and the centerpoint of the new antenna is within ten feet of the centerpoint of the pre-existing antenna. A deployment causes no new ground disturbance when the depth and width of previous disturbance exceeds the proposed construction depth and width by at least two feet.

* * * * *

■ 4. Add Subpart CC to part 1 to read as follows:

Subpart CC—State and Local Review of Applications for Wireless Service Facility Modification

§ 1.40001 Wireless Facility Modifications.

(a) *Purpose.* These rules implement section 6409 of the Spectrum Act (codified at 47 U.S.C. 1455), which requires a State or local government to approve any eligible facilities request for a modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station.

(b) *Definitions.* Terms used in this section have the following meanings.

(1) *Base station.* A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in this subpart or any equipment associated with a tower.

(i) The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(ii) The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).

(iii) The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in paragraphs (b)(1)(i) through (ii) of this section that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.

(iv) The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in paragraphs (b)(1)(i)–(ii) of this section.

(2) *Collocation.* The mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

(3) *Eligible facilities request.* Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:

(i) Collocation of new transmission equipment;

(ii) Removal of transmission equipment; or

(iii) Replacement of transmission equipment.

(4) *Eligible support structure.* Any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section.

(5) *Existing.* A constructed tower or base station is existing for purposes of this section if it has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, provided that a tower that has not been reviewed and approved because it was not in a zoned area when it was built, but was lawfully constructed, is existing for purposes of this definition.

(6) *Site.* For towers other than towers in the public rights-of-way, the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site, and, for other eligible support structures, further restricted to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

(7) *Substantial change.* A modification substantially changes the physical dimensions of an eligible

support structure if it meets any of the following criteria:

(i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;

(A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.

(ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six feet;

(iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;

(iv) It entails any excavation or deployment outside the current site;

(v) It would defeat the concealment elements of the eligible support structure; or

(vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in § 1.40001(b)(7)(i) through (iv).

(8) *Transmission equipment.* Equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(9) *Tower.* Any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site.

(c) *Review of applications.* A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

(1) *Documentation requirement for review.* When an applicant asserts in writing that a request for modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.

(2) *Timeframe for review.* Within 60 days of the date on which an applicant submits a request seeking approval under this section, the State or local government shall approve the application unless it determines that the application is not covered by this section.

(3) *Tolling of the timeframe for review.* The 60-day period begins to run when the application is filed, and may be tolled only by mutual agreement or in cases where the reviewing State or local government determines that the application is incomplete. The timeframe for review is not tolled by a moratorium on the review of applications.

(i) To toll the timeframe for incompleteness, the reviewing State or local government must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information. Such delineated information is limited to documents or information meeting the standard under paragraph (c)(1) of this section.

(ii) The timeframe for review begins running again when the applicant makes a supplemental submission in response to the State or local government's notice of incompleteness.

(iii) Following a supplemental submission, the State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. The timeframe is tolled in the case of second or subsequent notices pursuant to the procedures identified in this paragraph (c)(3). Second or subsequent notices of incompleteness may not specify missing documents or information that were not delineated in the original notice of incompleteness.

(4) *Failure to act.* In the event the reviewing State or local government fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted. The deemed grant does not become effective until the applicant notifies the applicable reviewing authority in writing after the review period has expired (accounting for any tolling) that the application has been deemed granted.

(5) *Remedies.* Applicants and reviewing authorities may bring claims related to Section 6409(a) to any court of competent jurisdiction.

PART 17—CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES

■ 5. The authority citation for part 17 continues to read as follows:

Authority: Sections 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply sections 301, 309, 48 Stat. 1081, 1085 as amended; 47 U.S.C. 301, 309.

■ 6. Amend § 17.4 by revising paragraphs (c)(1)(v) and (c)(1)(vi), and adding paragraph (c)(1)(vii) to read as follows:

§ 17.4 Antenna structure registration.

* * * * *

(c) * * *

(1) * * *

(v) For any other change that does not alter the physical structure, lighting, or geographic location of an existing structure;

(vi) For construction, modification, or replacement of an antenna structure on Federal land where another Federal agency has assumed responsibility for evaluating the potentially significant environmental effect of the proposed antenna structure on the quality of the human environment and for invoking any required environmental impact statement process, or for any other structure where another Federal agency has assumed such responsibilities pursuant to a written agreement with the Commission (*see* § 1.1311(e) of this chapter); or

(vii) For the construction or deployment of an antenna structure that will:

(A) Be in place for no more than 60 days,

(B) Requires notice of construction to the FAA,

(C) Does not require marking or lighting under FAA regulations,

(D) Will be less than 200 feet in height above ground level, and

(E) Will either involve no excavation or involve excavation only where the depth of previous disturbance exceeds the proposed construction depth (excluding footings and other anchoring mechanisms) by at least two feet. An applicant that relies on this exception must wait 30 days after removal of the antenna structure before relying on this exception to deploy another antenna structure covering substantially the same service area.

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3.27 Wireless Telecommunications Ordinance

T- Mobile
Antenna Upgrade

3.27.010 General Provisions

1. **Title**. This Ordinance shall be known as the Wireless Telecommunications Ordinance.
2. **Purpose & Intent**. The unique character, landscapes and scenic vistas of Alpine are among its most valuable assets. Preserving and promoting those assets are essential to the long- range social and economic wellbeing of the City and its inhabitants. Protecting these assets requires sensitive placement and design of wireless communication facilities so that these facilities remain in scale and harmony with the existing character of the community.
    a. To amend Ordinance No. 2006-06 to accommodate new technology and develop regulations on the use and development of City property for new cell tower facilities.
    b. To regulate personal wireless services antennas, with or without support structures, and related electronic equipment and equipment structures.
    c. To provide for the orderly establishment of personal wireless services facilities in the City.
    d. To minimize the number of antenna support structures by encouraging the co-location of multiple antennas on a single new or existing structure.
    e. To establish siting, appearance and safety standards that will help mitigate the potential impacts related to the construction, use and maintenance of personal wireless communication facilities.
    f. To comply with the Telecommunication Act of 1996 by establishing regulations that (1) do not prohibit or have the effect of prohibiting the provision of personal wireless services, (2) do not unreasonably discriminate among providers of functionally equivalent services, and (3) are not based on the environmental effects of radio frequency emissions to the extent that such facilities comply with the Federal Communications Commission's regulations concerning such emissions.
3. **Findings**
    a. Personal wireless services facilities (PWSF) are an integral part of the rapidly growing and evolving telecommunications industry, and present unique zoning challenges and concerns by the City.
    b. The City needs to balance the interests and desires of the telecommunications industry and its customers to provide competitive and effective telecommunications systems in the City, against the sometimes differing interests and desires of others concerning health, safety, welfare, and aesthetics, and orderly planning of the community.
    c. The City has experienced an increased demand for personal wireless services facilities to be located in the City, and expects the increased demand to continue in the future.
    d. It is in the best interests of the City to have quality personal wireless services facilities available, which necessarily entails the erection of personal wireless services facilities in the City.
    e. The unnecessary proliferation of personal wireless services facilities through the City creates a negative visual impact on the community.
    f. The visual effects of personal wireless services facilities can be mitigated by fair standards regulating their siting, construction, maintenance and use.
    g. A private property owner who leases space for a personal wireless services facility is the only one who receives compensation for the facility, even though numerous other property owners in the area are adversely affected by the location of the facility.
    h. Chapter 69-3, Utah Code Annotated, grants cities the authority to create or acquire sites to accommodate the erection of telecommunications tower in order to promote the location of telecommunication towers in a manageable area and to protect the aesthetics and environment of the area. The law also allows the City to require the owner of any tower to accommodate the multiple use of the tower by other companies where feasible and to pay the City the fair market rental value for the use of any City-owned site.
    i. Telecommunications towers located on government property with the lease payments being paid to Alpine City instead of individual property owners evenly distributes the income from the lease payments to all citizens of Alpine through increased government services thus indirectly compensating all of the citizens of Alpine for the impact all citizens experience. The public policy objectives to reduce the proliferation of telecommunications towers and to mitigate their impact can be best facilitated by locating telecommunications and antenna support structures on property owned, leased or used by Alpine City as a highest priority whenever feasible.

4. **Definitions**. The following words shall have the described meaning when used in this ordinance, unless a contrary meaning is apparent from the context of the word.
    a. Antenna. A transmitting or receiving device used in telecommunications that radiates or captures radio signals.
    b. Antenna Support Structure. Any structure that can be used for the purpose of supporting an antenna(s).
    c. City. The City of Alpine, Utah.
    d. City-owned property. Real property that is owned by the City.
    e. Close to Tower Mount. Also known as slim mount, antennas on cell towers mounted very close to tower in order to appeal less noticeable.
    f. Co-location. The location of an antenna on an existing structure, tower or building that is already being used for personal wireless services facilities.
    g. Monopole. A single, self-supporting, cylindrical pole that acts as the support structure for one (1) or more antennas for a personal wireless services facility.
    h. Personal Wireless Services. Commercial mobile telecommunications services, unlicensed wireless communications services, and common carrier wireless telecommunications exchange access services.
    i. Personal Wireless Services Antenna. An antenna used in connection with the provision of personal wireless services.
    j. Personal Wireless Services Facilities (PWSF). Facilities for the provision of personal wireless services. Personal wireless services facilities include transmitters, antennas, structures supporting antennas, and electronic equipment that is typically installed in close proximity to a transmitter.
    k. Private Property. Any real property not owned by the City, even if the property is owned by another public or government entity.
    l. Quasi public use. Uses such as a school or church or other uses defined as quasi public uses in DCA 3.01.110.
    m. Tower. A freestanding structure that is used as a support structure for antenna.
    n. Whip antenna. An antenna that is cylindrical in shape. Whip antennas can be directional or omnidirectional and vary in size depending on the frequency and gain for which they are designed.

5. **Applicability**. This ordinance (the Wireless Telecommunications Ordinance) applies to both commercial and private low power radio services and facilities, such as "cellular" or PCS (personal communications system) communications and paging systems. This ordinance shall not apply to the following types of communications devices, although they may be regulated by other City ordinances and policies.
    a. Amateur Radio. Any tower or antenna owned and operated by an amateur radio operator licensed by the Federal Communication Commission.
    b. Amateur T.V. Any tower or antenna owned and operated by an amateur T.V. operator licensed by the Federal Communication Commission.
    c. Satellite. Any device designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service or direct satellite service.
    d. Cable. Any cable television head-end or hub towers and antennas used solely for cable television services.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.020 Location And Types Of Towers/Antennas

1. **Personal Wireless Services Facilities Site Locations**. The following are currently approved locations:
    a. Co-location on an existing tower.
    b. City owned property.
    c. Property in conjunction with a quasi-public or public use.

d. Commercial property in the business commercial zone.

No new towers shall be located in Lambert Park.

New towers shall be located no closer than a one-quarter (1/4) mile radius from another tower and shall be no closer to a residence than two (2) times the height of the tower.

If the applicant desires to locate on a site other than the approved sites listed above, the applicant shall have the burden of demonstrating to the City why it cannot locate on an approved site. To do so, the applicant shall provide the following information to the City:

i. The identity and location of any approved sites located within the desired service area.

ii. The reason(s) why the approved sites are not technologically, legally, or economically feasible. The applicant must make a good faith effort to locate towers and antennas on an approved site. The City may request information from outside sources to justify or
rebut the applicant's reason(s) for rejecting an approved site.

iii. Why the proposed site is essential to meet the service demands of the geographic service area and the citywide network. If the applicant desires to construct a monopole, the applicant shall also submit a detailed written description of why the applicant cannot obtain coverage using existing towers.

2. **Permitted and Non-Permitted Towers and Antennas**

a. Permitted. The following are permitted:

i. Co-location on existing towers.

ii. Existing towers may be maintained, used, and upgraded or replaced. A replacement tower shall not exceed the height of the tower being replaced.

iii. Monopoles are permitted subject to the following:

(1) A monopole shall not exceed eighty feet (80').

iv. Roof-mounted Antennas are permitted subject to the following:

(1) A roof-mounted antenna shall be screened, constructed, and/or colored to match the structure to which it is attached.

(2) A roof-mounted antenna shall be set back from the building edge one (1) foot for every one (1) foot of antenna height and shall not exceed fifteen (15) feet in height.

v. All new antennas shall be slim-mounted or mounted to an existing array.

b. Not Permitted. The following are not permitted:

i. Lattice Towers. Lattice appearance is not permitted.

ii. Guyed Towers.

3. **Co-location Requirement**. Unless otherwise authorized by the approving authority for good cause shown, every new tower shall be designed and constructed to be of sufficient size and capacity to accommodate at least two (2) additional wireless telecommunications providers on the structure in the future.

4. **Lease Agreement**. The City has no implied obligation to lease any particular parcel of City-owned property to an applicant. The City shall enter into a standard lease agreement with the applicant for any facility built on City property. The Mayor or designee is hereby authorized to execute the standard lease agreement on behalf of the City. The lease shall contain the condition that the approving authority must first approve the site plan before the lease can take effect, and that failure to obtain such approval renders the lease null and void.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.030 Procedure

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves:

- collocation of new transmission equipment;

- removal of transmission equipment; or
- replacement of transmission equipment.

1. **Application Requirements**. Any person desiring to develop, construct or establish a personal wireless services facility in the City shall submit an application for site plan approval to the City. A site plan shall be required for all new towers and antennas and any modification or replacement of a tower or antenna. The City shall not consider the application until all required information has been included. The application shall be submitted to the City Planner at least fourteen (14) days prior to the public meeting at which it will be presented to the Planning Commission. The applicant shall include the following:

    a. Fee. The applicable fee shall be paid to the City Recorder, payable to Alpine City, as set forth in the Alpine City Consolidated Fee Schedule.

    b. Site Plan. A site plan meeting the City's standard requirements for site plans.

    c. Notification Letter. The applicant shall submit a list of all property owners within five hundred (500) feet of the boundaries of the property where the proposed tower or antenna is to be located. The applicant shall also submit envelopes that have been stamped and addressed to all property owners on the list. The City may require a greater distance if deemed necessary or appropriate. The City shall prepare a notification letter to be sent to the property owners on the list submitted by the applicant to be mailed out at least seven (7) days prior to the public meeting at which the application will be presented to Planning Commission. The letter shall contain the following information:

        i. Address or location of the proposed tower, co-location, tower modification, etc.

        ii. Name of the applicant.

        iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)

        iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    d. Sign. The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:

        i. Shall be 4 ft. (H) x 8 ft. (W)

        ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and

        iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:

            (1) Address of location of the proposed tower, co-location, tower modification, etc.

            (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)

            (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    e. Written Information. The following written information shall be submitted:

        i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.

        ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.

        iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.

        iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.

        v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process**. The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. The application and site plan will be reviewed by Planning Commission for a recommendation to City Council. The City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

   The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

3. **Building Permits**

   a. General Requirements. No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.

   b. Additional Requirements for New Towers. If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:

      i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.

      ii. Seismic load design and wind load design for the new tower.

      iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.

      iv. Structural failure characteristics of the new tower and a demonstration that the site and setbacks are adequate size to contain debris.

      v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.040 Safety

1. **Regulation Compliance**

   a. Compliance with FCC and FAA Regulations. All operators of personal wireless services facilities shall demonstrate compliance with applicable Federal Communication Commission (FCC) and Federal Aviation Administration (FAA) regulations, including FCC radio frequency regulations, at the time of application and periodically thereafter as requested by the City. Failure to comply with the applicable regulations shall be grounds for revoking a site plan.

   b. Other Licenses and Permits. The operator of every personal wireless services facility shall submit copies of all licenses and permits required by other agencies and governments with the jurisdiction over the design, construction, location and operation of the facility to the City, shall maintain such licenses and permits in good standing, and shall provide evidence of renewal or extension thereof upon request by the City.

2. **Protection Against Climbing**. Towers shall be protected against unauthorized climbing by removing the climbing pegs from the lower 20 feet of the towers.

3. **Fencing**. Towers shall be fully enclosed by a minimum 6-foot tall fence or wall, as directed by the City, unless the City determines that a wall or fence is not needed or appropriate for a particular site due to conditions specific to the site.

4. **Security Lighting Requirement**. Towers shall comply with the FAA requirements for lighting. The City may also require security lighting for the site. If security lighting is used, the lighting impact on surrounding residential areas shall be minimized by using indirect lighting, where appropriate.

5. **Emergency**. The City shall have the authority to move or alter a personal wireless services facility in case of emergency. Before taking any such action, the City shall first notify the owner of the facility, if feasible.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.050 Additional Requirements

1. **Regulations for Accessory Structures**

    a. Storage Areas and Solid Waste Receptacles. No outside storage or solid waste receptacles shall be permitted on site.

    b. Equipment Enclosures. All electronic and other related equipment and appurtenances necessary for the operation of any personal wireless services facility shall, whenever possible, be located within a lawfully pre-existing structure or completely below grade. When a new structure is required to house such equipment, the structure shall be harmonious with, and blend with, the natural features, buildings and structures surrounding such structure.

    c. Accessory Buildings. Freestanding accessory buildings used with a personal wireless services facility shall not exceed 450 square feet and shall comply with the setback requirements for structures in the zone in which the facility is located.

2. **Parking**. The City may require a minimum of one (1) parking stall for sites containing a personal wireless services facility and/or accessory buildings, if there is insufficient parking available on the site.
3. **Maintenance Requirements**. All personal wireless services facilities shall be maintained in a safe, neat, and attractive manner.
4. **Landscaping**. A landscaping plan shall be submitted to the Planning Commission who will make a recommendation to the City Council who will approve the landscape plan.
5. **Site Restoration Upon Abandonment**. All sites shall be restored to the original configuration upon abandonment.
6. **Fencing**. The City will determine the type of fencing used on wireless telecommunications sites on a case by case basis. In the case of the Rodeo Grounds, the fencing shall match the existing fencing. Fencing will recommend by the Planning Commission and approved by the City Council.
7. **Color and material standards**. The City shall make an administrative decision as to the color. To the extent the personal wireless services facilities extend above the height of the vegetation immediately surround it, they shall be painted in a nonreflective light gray, light blue or other hue, which blends with the skyline and horizon or a brown to blend in with the surrounding hillside.
8. **Facility Lighting and Signage Standards**. Facility lighting shall be designed so as to meet but not exceed minimum requirements for security, safety and/or FAA regulations. Lighting of antennas or support structures shall be prohibited unless required by the FAA and no other alternatives are available. In all instances, the lighting shall be designed so as to avoid glare and minimize illumination on adjacent properties. Lighting shall also comply with any applicable City lighting standards.
9. **Facility Signs**. Signs shall be limited to those needed to identify the numbers to contact in an emergency, public safety warnings, certifications or other required seals. These signs shall also comply with the requirements of the City's sign regulations.
10. **Utility Lines**. All utility lines serving new cell towers shall be located underground.
11. **Business License**. Each facility shall be considered as a separate use; and an annual business license shall be required for each facility.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Site Plan – Proposed Wireless Tower at Burgess Park

FOR CONSIDERATION ON: 16 July 2019

PETITIONER: Verizon Wireless

ACTION REQUESTED BY PETITIONER: Review and recommend approval of the proposed site plan.

BACKGROUND INFORMATION:

This item is returning after the Planning Commission decided to table the item at the June 18, 2019 Planning Commission meeting. The item was tabled for the purpose of requesting that "…Verizon consider additional alternative sites for the proposed cell tower that would be less impactful to nearby residents, schools, and school children".

The petitioner has reviewed alternative sites, including Lakeview Drive (as was recommended by residents of Alpine), and concluded that Lakeview Drive is too far away (3/4 of a mile). Verizon is trying to improve their service to the community around Burgess Park and feels that the community is best served by locating the proposed facility near the users. The proposed site was selected based on this network's maturity, unique coverage and capacity needs. The petitioner has stated that moving the site even a few hundred feet, outside of the target area, could affect coverage, creating the need for one or more additional sites.

The proposed wireless telecommunications tower is an 80-foot tall monopole tower designed to look like a pine tree ("Monopine" design). It is proposed that the tower be located at the south end of Burgess Park, just north of the southern baseball diamond.

Staff are recommending that the City work with the provider on selecting a site for the new tower. The City ordinance states that the preferred location for a new wireless telecommunications facility is on City property since it provides the City the opportunity to lease the tower and facility, thus creating a revenue for the City to help offset the impact of the facility on the community.

Staff have reviewed the proposed site plan and found that it meets the requirements set forth in the Development Code for a new tower. New wireless communications towers shall meet the following requirements found in Article 3.27 of the Aline City Development Code:

a) Location
    i. The proposed site is on City owned property, which is an approved location. Tower is also to be located away from other towers (1/4 mile) and can be no closer than two times the height of the tower to a residence, and the proposed tower meets these requirements.

b) Type of Tower
    i. The proposed tower is a monopole type tower, which is a permitted type of tower, and does not exceed the 80-foot height limit.

c) Co-Location
    i. Towers shall be large enough to "accommodate at least two (2) additional wireless telecommunications providers". The tower is a 3-carrier tower.

d) Safety
    i. Towers must comply with FCC and FAA regulations. The petitioner has submitted documentation to support this.
    ii. Tower must be protected against unauthorized climbing. Plans show no climbing pegs on the lower portion of the tower.
    iii. Fencing. Tower must be enclosed by a minimum 6-foot high fence. Plans show 6-foot chain-link with barb wire.
    iv. Lighting. Must meet FAA regulations. Petitioner has submitted site plan data to FAA for review.
    v. Emergency. City holds the right to move or alter the facility in case of an emergency.

e) Additional Requirements
    i. Accessory Structures. Any structure on site cannot exceed 450 square feet. Plans show no structures that exceed the requirement.
    ii. Parking. If no parking is present it must be provided. Burgess Park has plenty of parking.
    iii. Maintenance. Site will be visited once per month by certified tech.
    iv. Landscaping. A landscaping plan is required, which has been provided as part of the site plan. To be reviewed and recommended by Planning Commission and approved by City Council.
    v. Fencing. City can determine the type of fencing if needed.
    vi. Color and materials. City typically makes an administrative decision as to the look of the tower; however, the City Council reviewed the proposal for color and materials and selected the Monopine design.
    vii. Facility Signs. Facility shall only have signs for emergency contact info, public safety, warnings, certification, and other required seals.
    viii. Utility Lines. Line shall be buried. The proposed plans show the utilities located underground.
    ix. Business License. Annual business license shall be required for each facility.

Petitioner is asking that the Planning Commission to review and recommend approval of the proposed site plan. Staff has reviewed the proposed site plan and application and it appears to meet the requirements set forth in the Development Code.

STAFF RECOMMENDATION:

Review and consider approving the proposed site plan and conditional use.

Sample Motion to Approve:
I motion to approve the site plan as proposed.

Sample Motion to Deny:
I motion that the site plan be denied based on the following:

- ***Insert Finding***

PRO Digious- CUP Application
Verizon Wireless at Burgess Park
Plan Review Narrative

1. There will be a tech visiting the site once a month to test the system performance of the site. They will park a standard work truck near the site and access the compound to run diagnostics on the equipment. This will be the only required maintenance at the site barring an emergency or malfunctioning antennas, which are rare occurrences.

2. This site is to alleviate capacity issues in the Alpine City area. With the number of residences and schools in the area, this site is necessary to help improve capacity and to improve the overall quality of the Verizon Wireless network in Alpine City. As the number of wireless users increase in the area, this site will be necessary to insure that capacity needs will be met for Verizon customers in the community.

3. Since the communications facility is proposed to be located on Alpine City owned property, we have been and will continue to work with the City on the site approval and its construction.

4. Verizon commits to complying with all applicable Federal Communications Commission (FCC) regulations pertaining to radio frequency emissions.

5. The liaison for this project is Troy Benson of Technology associates. He can be reached at (801) 608-7042 and troy.benson@taec.net . His office is located at 7896 South Highland Drive, Suite 200, Cottonwood Heights, UT 84121. Please feel free to reach out to him with any questions or comments on this project.

Sincerely,

Troy Benson
Technology Associates EC INC.
Real Estate Specialist | troy.benson@taec.net | (801) 608-7042
7896 South Highland Drive, Suite 200 | Cottonwood Heights | Utah 84121

verizon

PRO - DIGIOUS

SITE INFORMATION

APPLICANT:
VERIZON WIRELESS
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

SITE ADDRESS:
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

LATITUDE AND LONGITUDE:
N 40°27'02.58", W 111°47'06.88"

ZONING JURISDICTION:
ALPINE CITY

PROJECT DESCRIPTION:
VZW IS PROPOSING TO CONSTRUCT AN UNMANNED COMMUNICATIONS FACILITY CONSISTING OF ANTENNAS MOUNTED TO A NEW MONOPINE WITH OUTDOOR EQUIPMENT AND GENERATOR

TYPE OF CONSTRUCTION:
OUTDOOR EQUIPMENT AND GENERATOR, MONOPINE, AND ANTENNAS

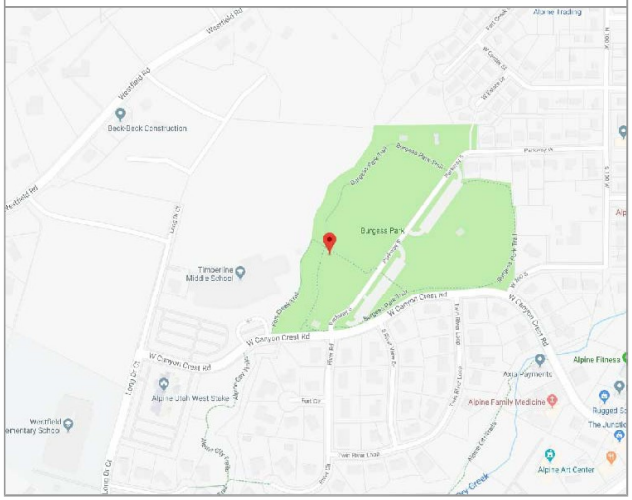
HANDICAP REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAP ACCESS REQUIREMENTS DO NOT APPLY

POWER COMPANY:
ROCKY MOUNTAIN POWER, 1-888-221-7070

CONTACT INFORMATION

SITE ACQUISITION:
TECHNOLOGY ASSOCIATES EC, INC
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CONTACT: TROY BENSON
PHONE: 801-608-7042

LOCATION MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, AND EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

DRIVING DIRECTIONS

FROM THE VZW WEST JORDAN OFFICES, TAKE I-15 SOUTH FOR 6 MILES TO HIGHLAND/ALPINE EXIT #284 FOR S.R. 92. TURN LEFT (HEADING EAST) AND TAKE A SLIGHT RIGHT ON THE TIMPANOGOS HIGHWAY COMMUTER LANE AND CONTINUE EAST FOR 5.3 MILES TO 5300 WEST. TURN LEFT AND HEAD NORTH FOR 1.2 MILES TO THE TRAFFIC CIRCLE. TAKE THE THIRD EXIT OF THE TRAFFIC SIGNAL FOR CANYON CREST ROAD AND HEAD NORTHWESTERLY FOR 0.5 MILES TO PARKWAY DRIVE. TURN RIGHT AND GO NORTH TO THE PARKING LOT ON THE RIGHT (EAST) SIDE OF THE STREET. THE VZW FACILITY WILL BE LOCATED NORTH OF THE BASEBALL FIELD ON THE LEFT (WEST) SIDE OF THE STREET.

APPROVALS

VERIZON WIRELESS REPRESENTATIVE:	
VERIZON WIRELESS RF ENGINEER:	
TAEC SITE ACQUISITION:	
TAEC CONSTRUCTION MANAGER:	
SITE OWNER:	

DRAWING INDEX

SHEET NO.	SHEET TITLE	REV	REV DATE
T100	TITLE SHEET, VICINITY MAP, GENERAL SITE INFORMATION	0	
SURV	SITE SURVEY	0	
C100	OVERALL SITE PLAN	0	
C101	ENLARGED SITE PLAN	0	
C200	SITE ELEVATIONS	0	

UNDERGROUND SERVICE ALERT, CALL 'BLUE STAKES OF UTAH' @ 811 OR 1-800-662-4111
THREE WORKING DAYS BEFORE YOU DIG

verizon
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates
UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
TITLE SHEET
VICINITY MAP
GENERAL INFORMATION

SHEET NUMBER
T100

ASAC INFORMATION SHEET 91:003

INFORMATION REGARDING SURVEY DATA SUBMITTED TO THE FAA

FAA Order 8260.19c requires proponents of certain proposed construction (located beneath instrument procedures) provide the FAA with a site survey and/or letter, from a licensed land surveyor, which certifies the site coordinates and the surface elevation at the site. On October 15, 1992, the FAA started using the North American Datum of 1983 (NAD-83), and therefore all site coordinates should be based on NAD-83. The FAA requires that the survey letter contain an accuracy statement that meets accuracy tolerances required by the FAA. The most requested tolerances are +/- 50 feet in the horizontal and +/- 20 feet in the vertical (2-C). When the site coordinates and/or site elevation can be certified to a greater accuracy than requested by the FAA, please do so.

In order to avoid FAA processing delays, the original site survey or certifying letter should be attached to the 7460 when it is filed at the FAA's regional office. It must be signed and sealed by the licensed land surveyor having performed or supervised the survey.

The FAA accuracy codes and a sample accuracy statement are listed below.

ACCURACY CODES:

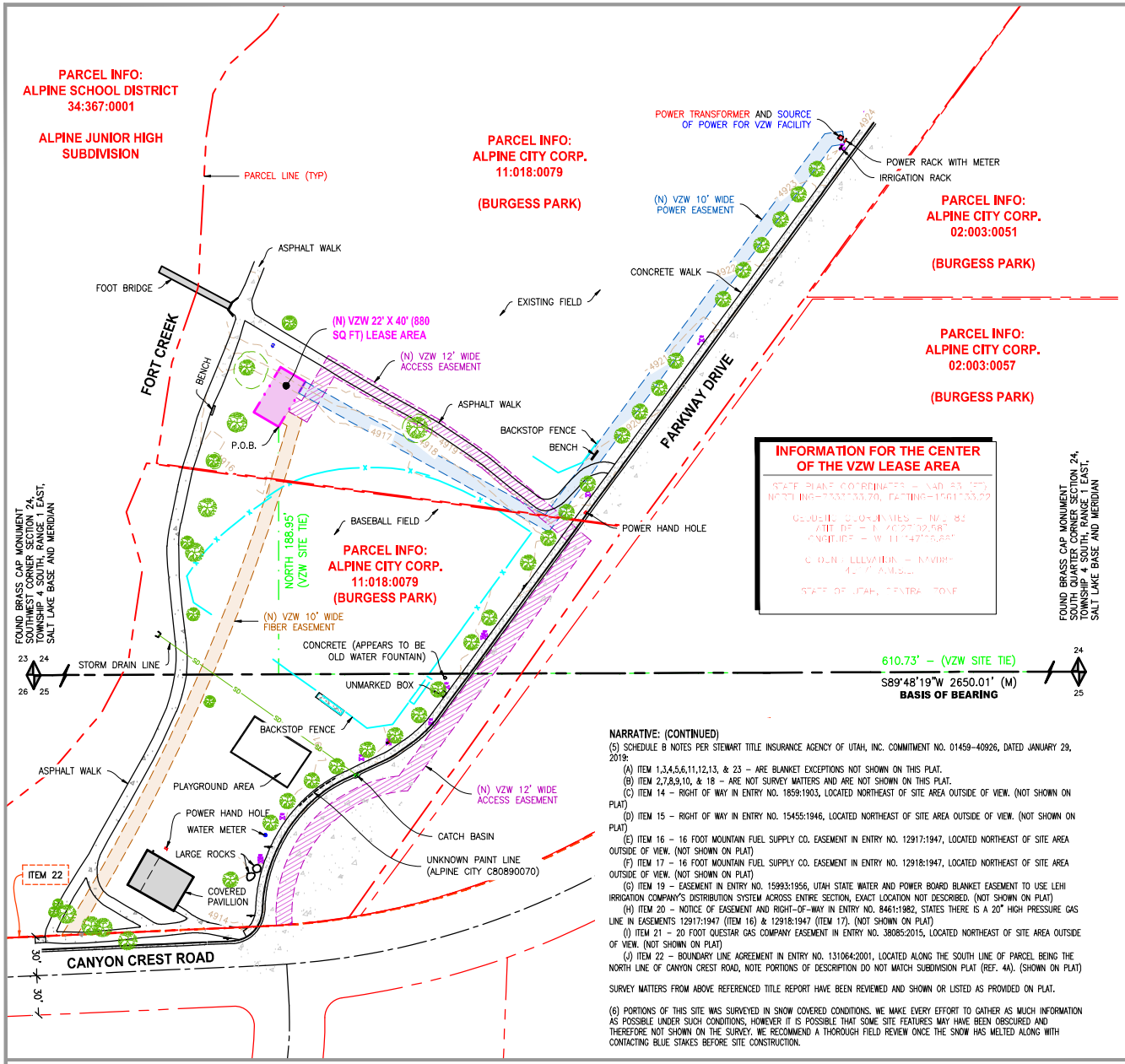
HORIZONTAL		VERTICAL	
Code	Tolerance	Code	Tolerance
1	+/- 15 ft	A	+/- 3 ft
2	+/- 50 ft	B	+/- 10 ft
3	+/- 100 ft	C	+/- 20 ft
4	+/- 250 ft	D	+/- 50 ft
5	+/- 500 ft	E	+/- 125 ft
6	+/- 1000 ft	F	+/- 250 ft
7	+/- 1/2 NM	G	+/- 500 ft
8	+/- 1 NM	H	+/- 1000 ft
9	Unknown	I	Unknown

Date: APRIL 22, 2019

Re: PRO - DIGIOUS
SW 1/4 OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE MERIDIAN

I certify that the latitude of N 40°27'02.58", and the longitude of W 111°47'06.88", are accurate to within 15 feet horizontally and the site elevation of 4917 feet, AMSL (American Mean Sea Level), is accurate to within +/- 3 feet vertically. The horizontal datum (coordinates) are in terms of the North American Datum of 1983 (NAD-83) and are expressed as degrees, minutes and seconds, to the nearest (tenth/hundredth) of a second. The vertical datum (heights) are in terms of the (NAVD88) and are determined to the nearest foot.

Professional Licensed Land Surveyor: _____
1-A FAA Letter Jerry Fletcher, Utah LS no. 6436064



CERTIFICATE OF SURVEY:
I, JERRY FLETCHER, PROFESSIONAL LAND SURVEYOR, STATE OF UTAH, LICENSE NUMBER 6436064, CERTIFY THAT I HAVE SUPERVISED A SURVEY ON THE GROUND AS SHOWN HEREON:

VERIZON WIRELESS LEASE SITE DESCRIPTION:
LOCATED IN THE SOUTHWEST QUARTER OF SECTION 24 AND THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN, UTAH COUNTY, STATE OF UTAH, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT LOCATED SOUTH 89°48'19" WEST 610.73 FEET ALONG SECTION LINE AND NORTH 188.95 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE NORTH 59°27'43" WEST 22.00 FEET; THENCE NORTH 30°32'17" EAST 40.00 FEET; THENCE SOUTH 59°27'43" EAST 22.00 FEET; THENCE SOUTH 30°32'17" WEST 40.00 FEET TO THE POINT OF BEGINNING.

CONTAINS: 880 SQ. FT. OR 0.020 ACRES, MORE OR LESS, (AS DESCRIBED).

VERIZON WIRELESS ACCESS EASEMENT DESCRIPTION:
A 12 FOOT WIDE ACCESS AND UTILITY EASEMENT FOR THE PURPOSE OF INGRESS AND EGRESS, BEING 6 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTHEASTERLY LINE OF THE VERIZON WIRELESS LEASE AREA, SAID POINT BEING SOUTH 89°48'19" WEST 600.56 FEET ALONG SECTION LINE AND NORTH 206.14 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH 59°27'43" EAST 11.00 FEET; THENCE NORTH 30°32'17" 40.24 FEET; THENCE SOUTH 59°56'17" EAST 92.25 FEET; THENCE SOUTH 55°23'02" EAST 46.93 FEET; THENCE SOUTH 49°31'21" EAST 94.45 FEET; THENCE SOUTH 36°15'48" WEST 228.45 FEET; THENCE ALONG A 100.60 FOOT NON-TANGENT ARC TO THE LEFT 156.93 FEET (CHORD BEARS SOUTH 40°02'29" WEST 141.50 FEET), MORE OR LESS, TO NORTH RIGHT-OF-WAY LINE OF CANYON CREST ROAD AND TERMINATING.

CONTAINS: 0.185 ACRES, MORE OR LESS, (AS DESCRIBED).

VERIZON WIRELESS UTILITY EASEMENT DESCRIPTION:
A 10 FOOT WIDE UTILITY EASEMENT FOR THE PURPOSE OF INSTALLING UNDERGROUND UTILITIES, BEING 5 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTHEASTERLY LINE OF THE VERIZON WIRELESS LEASE AREA, SAID POINT BEING SOUTH 89°48'19" WEST 592.94 FEET ALONG SECTION LINE AND NORTH 219.03 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH 60°57'43" EAST 213.92 FEET; THENCE NORTH 36°15'36" EAST 363.08 FEET; THENCE NORTH 81°15'36" EAST 9.82 FEET, MORE OR LESS, TO AN EXISTING POWER TRANSFORMER AND TERMINATING.

CONTAINS: 0.135 ACRES, MORE OR LESS, (AS DESCRIBED).

VERIZON WIRELESS FIBER EASEMENT DESCRIPTION:
A 10 FOOT WIDE FIBER EASEMENT FOR THE PURPOSE OF INSTALLING UNDERGROUND UTILITIES, BEING 5 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTHEASTERLY LINE OF THE VERIZON WIRELESS LEASE AREA, SAID POINT BEING SOUTH 89°48'19" WEST 606.15 FEET ALONG SECTION LINE AND NORTH 196.69 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH 59°27'43" EAST 8.85 FEET; THENCE ALONG A 1511.02 FOOT RADIUS NON-TANGENT CURVE TO THE RIGHT 428.83 FEET, (CHORD BEARS SOUTH 23°43'37" WEST 427.39 FEET), MORE OR LESS, TO NORTH RIGHT-OF-WAY LINE OF CANYON CREST ROAD AND TERMINATING.

CONTAINS: 0.100 ACRES, MORE OR LESS, (AS DESCRIBED).

NARRATIVE:
(1) THE PURPOSE OF THIS SURVEY IS TO LOCATE AND SURVEY A PROPOSED COMMUNICATIONS TOWER SITE.

(2) THE BASIS OF BEARING USED FOR THIS SURVEY IS AS SHOWN ON THIS PLAT, FROM FOUND MONUMENTS AS LOCATED IN THE FIELD.
(M) = MEASURED BEARING OR DISTANCE.
(R)= RECORDED BEARING OR DISTANCE.
(CALC)= CALCULATED BEARING OR DISTANCE.

(3) PARCEL LINES ARE SHOWN AS REFERENCE PER RECORD INFORMATION AND DOES NOT CONSTITUTE OR PURPORT TO BE A BOUNDARY SURVEY.

(4) REFERENCE PLATS:
(A) PLAT "A" AMENDED TWIN RIVERS ESTATES PRD SUBDIVISION, IN ENTRY NO. 15134:2003, ON JANUARY 31, 2003.
(B) ALPINE JUNIOR HIGH SUBDIVISION PLAT, IN ENTRY NO. 57356:2003, ON APRIL 15, 2003.

NARRATIVE: (CONTINUED)
(5) SCHEDULE B NOTES PER STEWART TITLE INSURANCE AGENCY OF UTAH, INC. COMMITMENT NO. 01459-40926, DATED JANUARY 29, 2019:
(A) ITEM 1,3,4,5,6,11,12,13, & 23 – ARE BLANKET EXCEPTIONS NOT SHOWN ON THIS PLAT.
(B) ITEM 2,7,8,9,10, & 18 – ARE NOT SURVEY MATTERS AND ARE NOT SHOWN ON THIS PLAT.
(C) ITEM 14 – RIGHT OF WAY IN ENTRY NO. 1859:1903, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(D) ITEM 15 – RIGHT OF WAY IN ENTRY NO. 15455:1946, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(E) ITEM 16 – 16 FOOT MOUNTAIN FUEL SUPPLY CO. EASEMENT IN ENTRY NO. 12917:1947, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(F) ITEM 17 – 16 FOOT MOUNTAIN FUEL SUPPLY CO. EASEMENT IN ENTRY NO. 12918:1947, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(G) ITEM 19 – EASEMENT IN ENTRY NO. 15993:1956, UTAH STATE WATER AND POWER BOARD BLANKET EASEMENT TO USE LEHI IRRIGATION COMPANY'S DISTRIBUTION SYSTEM ACROSS ENTIRE SECTION, EXACT LOCATION NOT DESCRIBED. (NOT SHOWN ON PLAT)
(H) ITEM 20 – NOTICE OF EASEMENT AND RIGHT-OF-WAY IN ENTRY NO. 8461:1982, STATES THERE IS A 20" HIGH PRESSURE GAS LINE IN EASEMENTS 12917:1947 (ITEM 16) & 12918:1947 (ITEM 17). (NOT SHOWN ON PLAT)
(I) ITEM 21 – 20 FOOT QUESTAR GAS COMPANY EASEMENT IN ENTRY NO. 38085:2015, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(J) ITEM 22 – BOUNDARY LINE AGREEMENT IN ENTRY NO. 131064:2001, LOCATED ALONG THE SOUTH LINE OF PARCEL BEING THE NORTH LINE OF CANYON CREST ROAD, NOTE PORTIONS OF DESCRIPTION DO NOT MATCH SUBDIVISION PLAT (REF. 4A). (SHOWN ON PLAT)

SURVEY MATTERS FROM ABOVE REFERENCED TITLE REPORT HAVE BEEN REVIEWED AND SHOWN OR LISTED AS PROVIDED ON PLAT.

(6) PORTIONS OF THIS SITE WAS SURVEYED IN SNOW COVERED CONDITIONS. WE MAKE EVERY EFFORT TO GATHER AS MUCH INFORMATION AS POSSIBLE UNDER SUCH CONDITIONS, HOWEVER IT IS POSSIBLE THAT SOME SITE FEATURES MAY HAVE BEEN OBSCURED AND THEREFORE NOT SHOWN ON THE SURVEY. WE RECOMMEND A THOROUGH FIELD REVIEW ONCE THE SNOW HAS MELTED ALONG WITH CONTACTING BLUE STAKES BEFORE SITE CONSTRUCTION.

NORTH

verizon
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates
UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

SURVEY PREPARED BY:
SUPERIOR SURVEYING, LLC
PHONE: 801-230-8968
EMAIL: JERRY@SUPERIOR-SURVEYING.COM

DRAWN BY:	JERRY F
CHECKED BY:	JERRY F

REV	DATE	DESCRIPTION
0	03.04.2019	SITE SURVEY

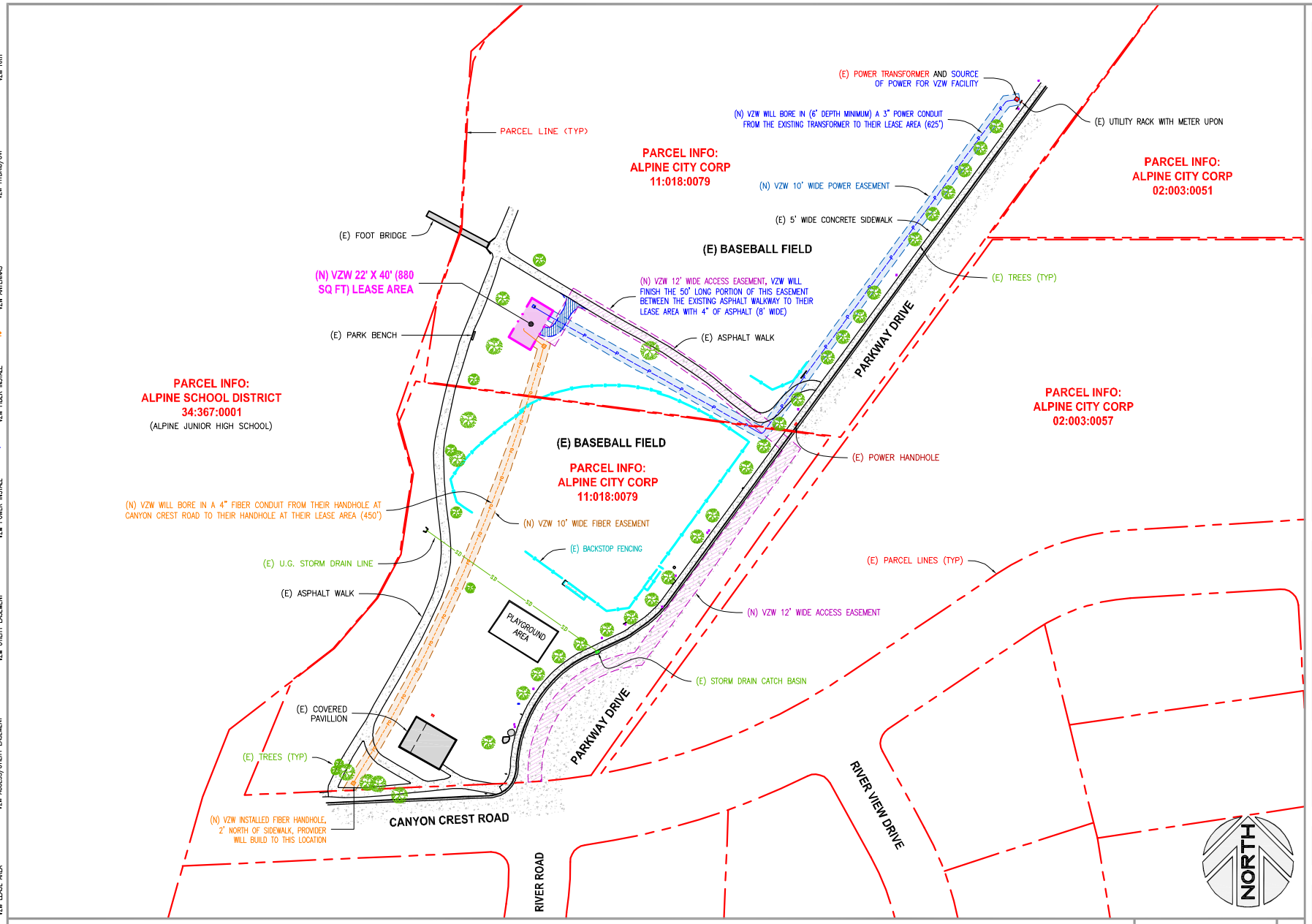
PROFESSIONAL LAND SURVEYOR
03-04-19
No. 6436064
JERRY FLETCHER
STATE OF UTAH

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
SITE SURVEY

SHEET NUMBER
SURV

SITE SURVEY | SCALE: 1" = 80'-0" | 1



OVERALL SITE PLAN

SCALE: 1/4" = 20'-0"

1

verizon

9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates

UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121

CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

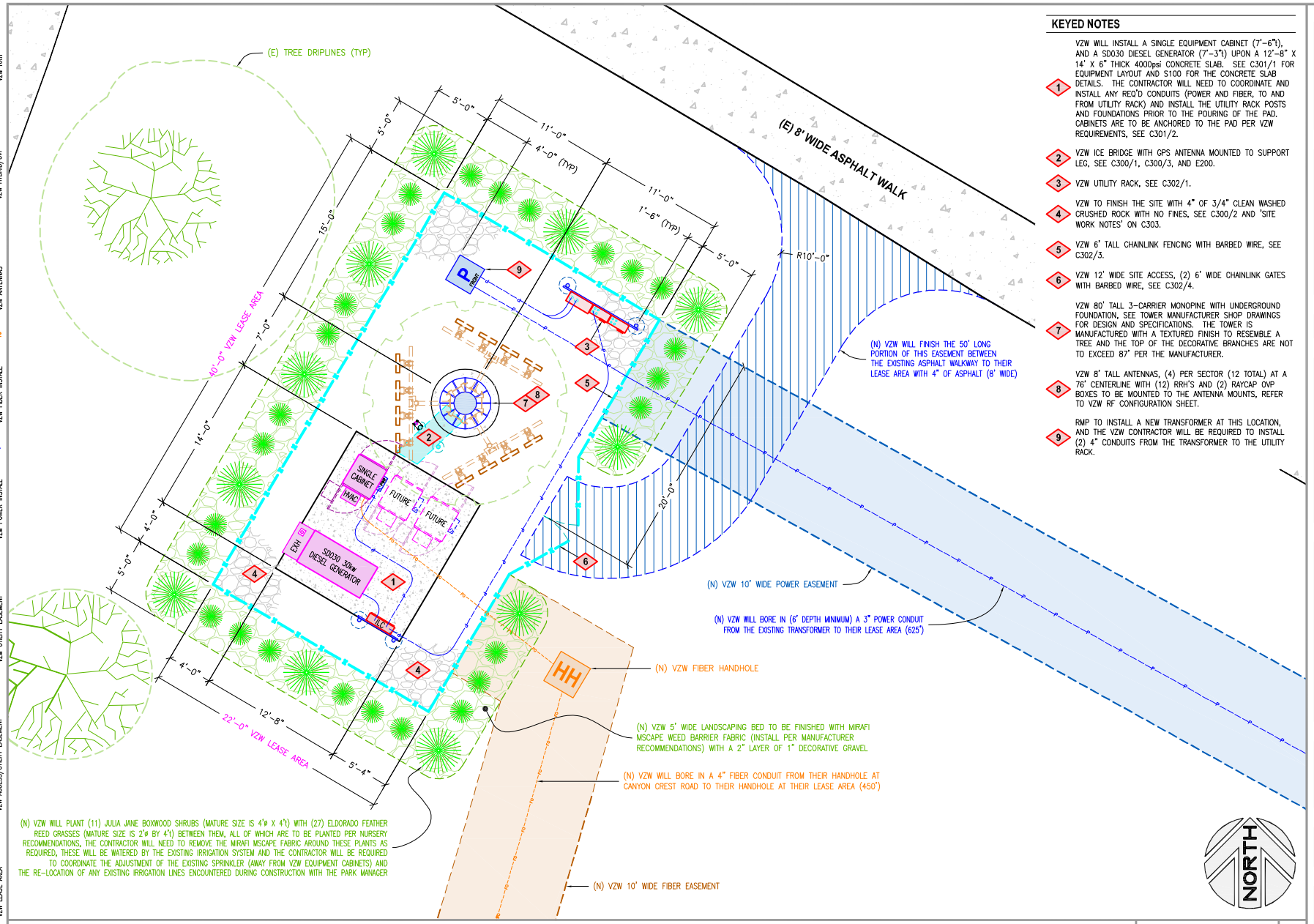
DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
C100



EXISTING WATER / VZW RRH
EXISTING STORM DRAIN / VZW HYBRID/DVP
EXISTING SEWER / VZW ANTENNAS
EXISTING TELCO/FIBER / VZW FIBER INSTALL
EXISTING POWER / VZW POWER INSTALL
EXISTING FENCING / VZW UTILITY EASEMENT
EXISTING RIGHT-OF-WAY LINE / VZW ACCESS/UTILITY EASEMENT
EXISTING PARCEL LINE / VZW LEASE AREA

KEYED NOTES

1. VZW WILL INSTALL A SINGLE EQUIPMENT CABINET (7'-6"t), AND A SD030 DIESEL GENERATOR (7'-3"t) UPON A 12'-8" X 14' X 6" THICK 4000psi CONCRETE SLAB. SEE C301/1 FOR EQUIPMENT LAYOUT AND S100 FOR THE CONCRETE SLAB DETAILS. THE CONTRACTOR WILL NEED TO COORDINATE AND INSTALL ANY REQ'D CONDUITS (POWER AND FIBER, TO AND FROM UTILITY RACK) AND INSTALL THE UTILITY RACK POSTS AND FOUNDATIONS PRIOR TO THE POURING OF THE PAD. CABINETS ARE TO BE ANCHORED TO THE PAD PER VZW REQUIREMENTS, SEE C301/2.
2. VZW ICE BRIDGE WITH GPS ANTENNA MOUNTED TO SUPPORT LEG, SEE C300/1, C300/3, AND E200.
3. VZW UTILITY RACK, SEE C302/1.
4. VZW TO FINISH THE SITE WITH 4" OF 3/4" CLEAN WASHED CRUSHED ROCK WITH NO FINES, SEE C300/2 AND 'SITE WORK NOTES' ON C303.
5. VZW 6' TALL CHAINLINK FENCING WITH BARBED WIRE, SEE C302/3.
6. VZW 12' WIDE SITE ACCESS, (2) 6' WIDE CHAINLINK GATES WITH BARBED WIRE, SEE C302/4.
7. VZW 80' TALL 3-CARRIER MONOPINE WITH UNDERGROUND FOUNDATION, SEE TOWER MANUFACTURER SHOP DRAWINGS FOR DESIGN AND SPECIFICATIONS. THE TOWER IS MANUFACTURED WITH A TEXTURED FINISH TO RESEMBLE A TREE AND THE TOP OF THE DECORATIVE BRANCHES ARE NOT TO EXCEED 87' PER THE MANUFACTURER.
8. VZW 8' TALL ANTENNAS, (4) PER SECTOR (12 TOTAL) AT A 76' CENTERLINE WITH (12) RRH'S AND (2) RAYCAP OVP BOXES TO BE MOUNTED TO THE ANTENNA MOUNTS, REFER TO VZW RF CONFIGURATION SHEET.
9. RMP TO INSTALL A NEW TRANSFORMER AT THIS LOCATION, AND THE VZW CONTRACTOR WILL BE REQUIRED TO INSTALL (2) 4" CONDUITS FROM THE TRANSFORMER TO THE UTILITY RACK.

verizon
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates
UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
C101

ENLARGED SITE PLAN | SCALE: 1/8" = 1'-0" | 1

EXISTING WATER — VZW RRH

EXISTING STORM DRAIN — VZW HYBRID/DVP

EXISTING SEWER — VZW ANTENNAS

EXISTING TELCO/FIBER — VZW FIBER INSTALL

EXISTING POWER — VZW POWER INSTALL

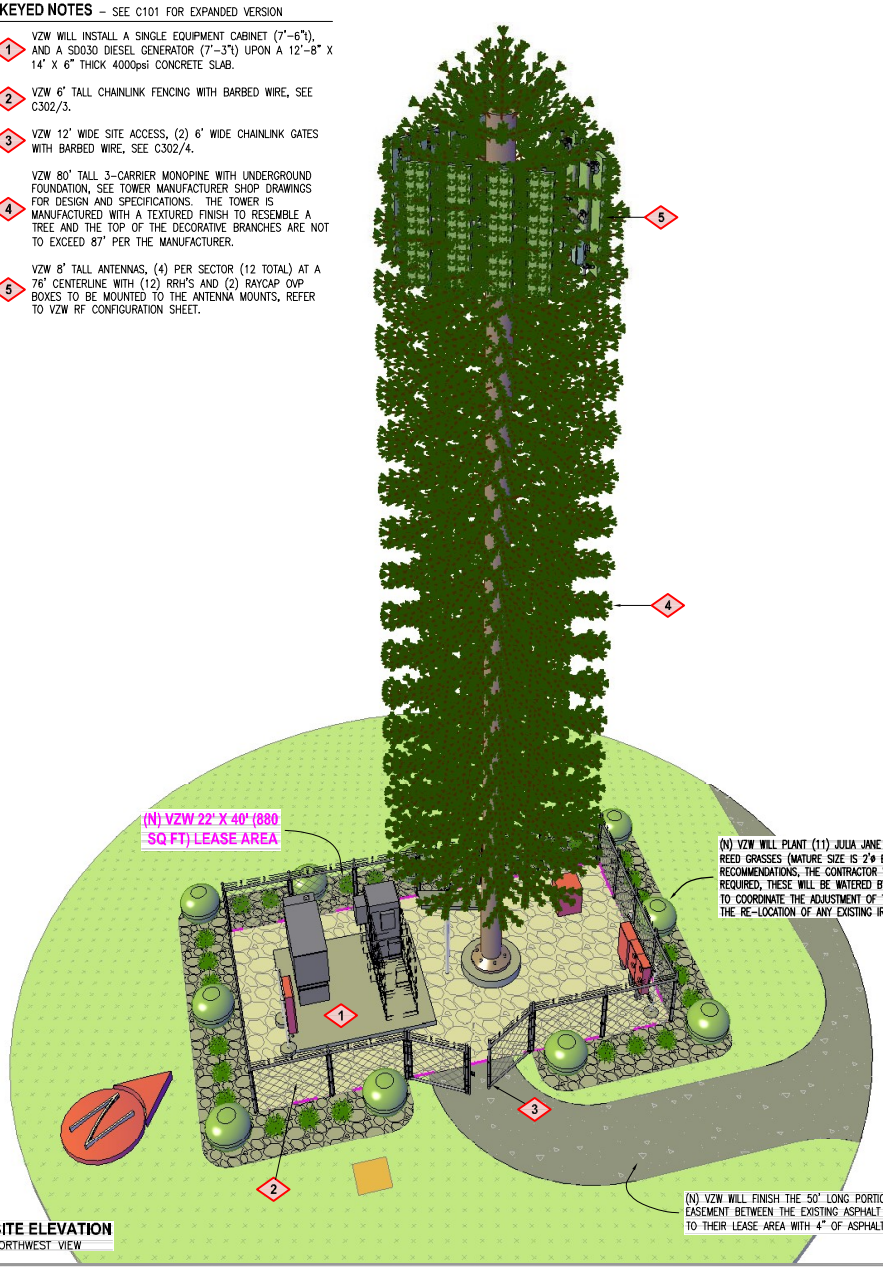
EXISTING FENCING — VZW UTILITY EASEMENT

EXISTING RIGHT-OF-WAY LINE — VZW ACCESS/UTILITY EASEMENT

EXISTING PARCEL LINE — VZW LEASE AREA

KEYED NOTES – SEE C101 FOR EXPANDED VERSION

1. VZW WILL INSTALL A SINGLE EQUIPMENT CABINET (7'–6"t), AND A SD030 DIESEL GENERATOR (7'–3"t) UPON A 12'–8" X 14' X 6" THICK 4000psi CONCRETE SLAB.
2. VZW 6' TALL CHAINLINK FENCING WITH BARBED WIRE, SEE C302/3.
3. VZW 12' WIDE SITE ACCESS, (2) 6' WIDE CHAINLINK GATES WITH BARBED WIRE, SEE C302/4.
4. VZW 80' TALL 3–CARRIER MONOPINE WITH UNDERGROUND FOUNDATION, SEE TOWER MANUFACTURER SHOP DRAWINGS FOR DESIGN AND SPECIFICATIONS. THE TOWER IS MANUFACTURED WITH A TEXTURED FINISH TO RESEMBLE A TREE AND THE TOP OF THE DECORATIVE BRANCHES ARE NOT TO EXCEED 87' PER THE MANUFACTURER.
5. VZW 8' TALL ANTENNAS, (4) PER SECTOR (12 TOTAL) AT A 76' CENTERLINE WITH (12) RRH'S AND (2) RAYCAP OVP BOXES TO BE MOUNTED TO THE ANTENNA MOUNTS, REFER TO VZW RF CONFIGURATION SHEET.

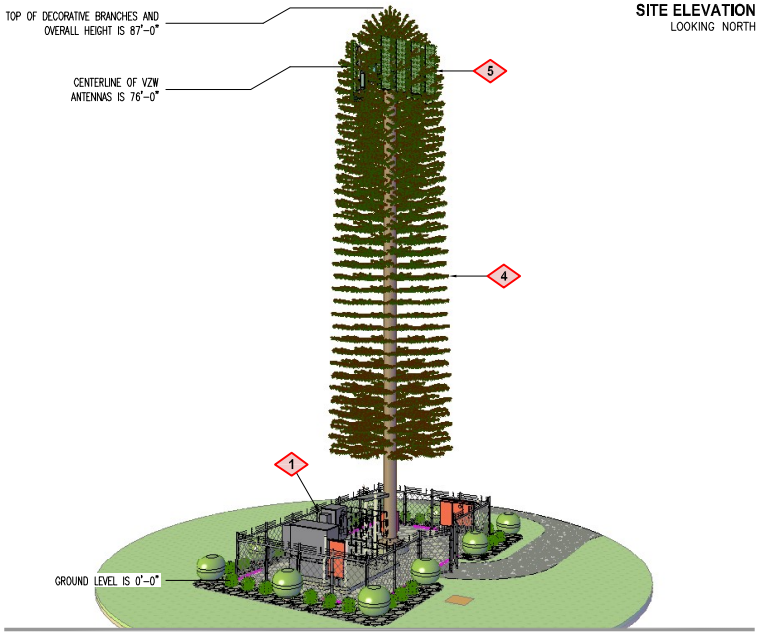


(N) VZW WILL PLANT (11) JUJA JANE BOXWOOD SHRUBS (MATURE SIZE IS 4'ø X 4't) WITH (27) ELDORADO FEATHER REED GRASSES (MATURE SIZE IS 2'ø BY 4't) BETWEEN THEM, ALL OF WHICH ARE TO BE PLANTED PER NURSERY RECOMMENDATIONS, THE CONTRACTOR WILL NEED TO REMOVE THE MIRAFI MSCAPE FABRIC AROUND THESE PLANTS AS REQUIRED, THESE WILL BE WATERED BY THE EXISTING IRRIGATION SYSTEM AND THE CONTRACTOR WILL BE REQUIRED TO COORDINATE THE ADJUSTMENT OF THE EXISTING SPRINKLER (AWAY FROM VZW EQUIPMENT CABINETS) AND THE RE–LOCATION OF ANY EXISTING IRRIGATION LINES ENCOUNTERED DURING CONSTRUCTION WITH THE PARK MANAGER

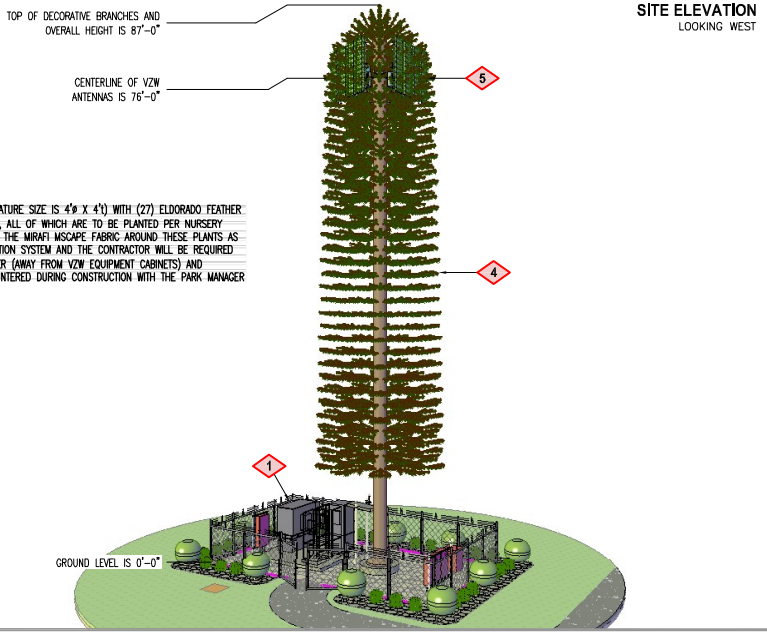
(N) VZW WILL FINISH THE 50' LONG PORTION OF THIS EASEMENT BETWEEN THE EXISTING ASPHALT WALKWAY TO THEIR LEASE AREA WITH 4" OF ASPHALT (8' WIDE)

SITE ELEVATION
NORTHWEST VIEW

SITE ELEVATION
LOOKING NORTH



SITE ELEVATION
LOOKING WEST



verizon
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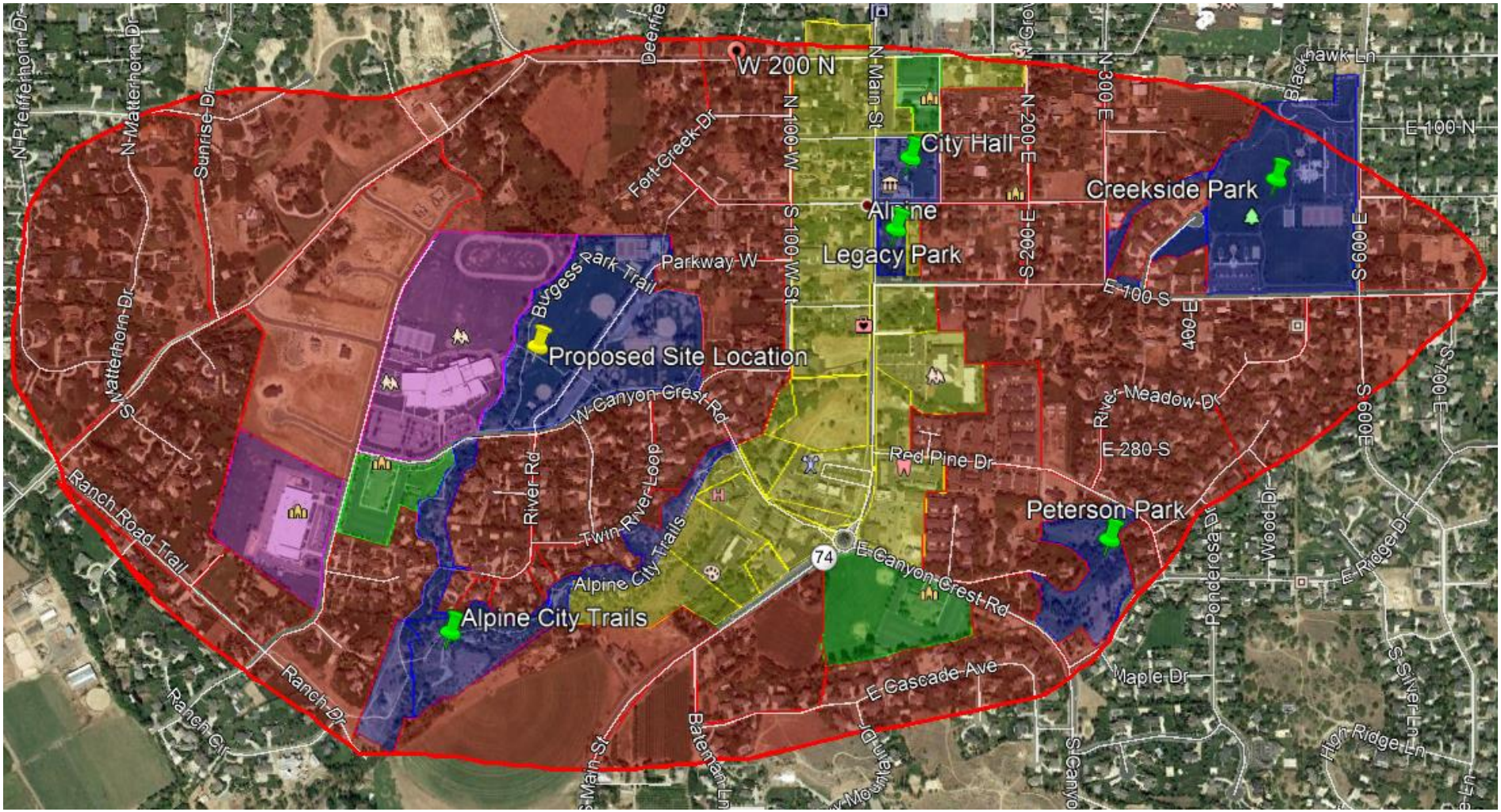
PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
SITE ELEVATIONS

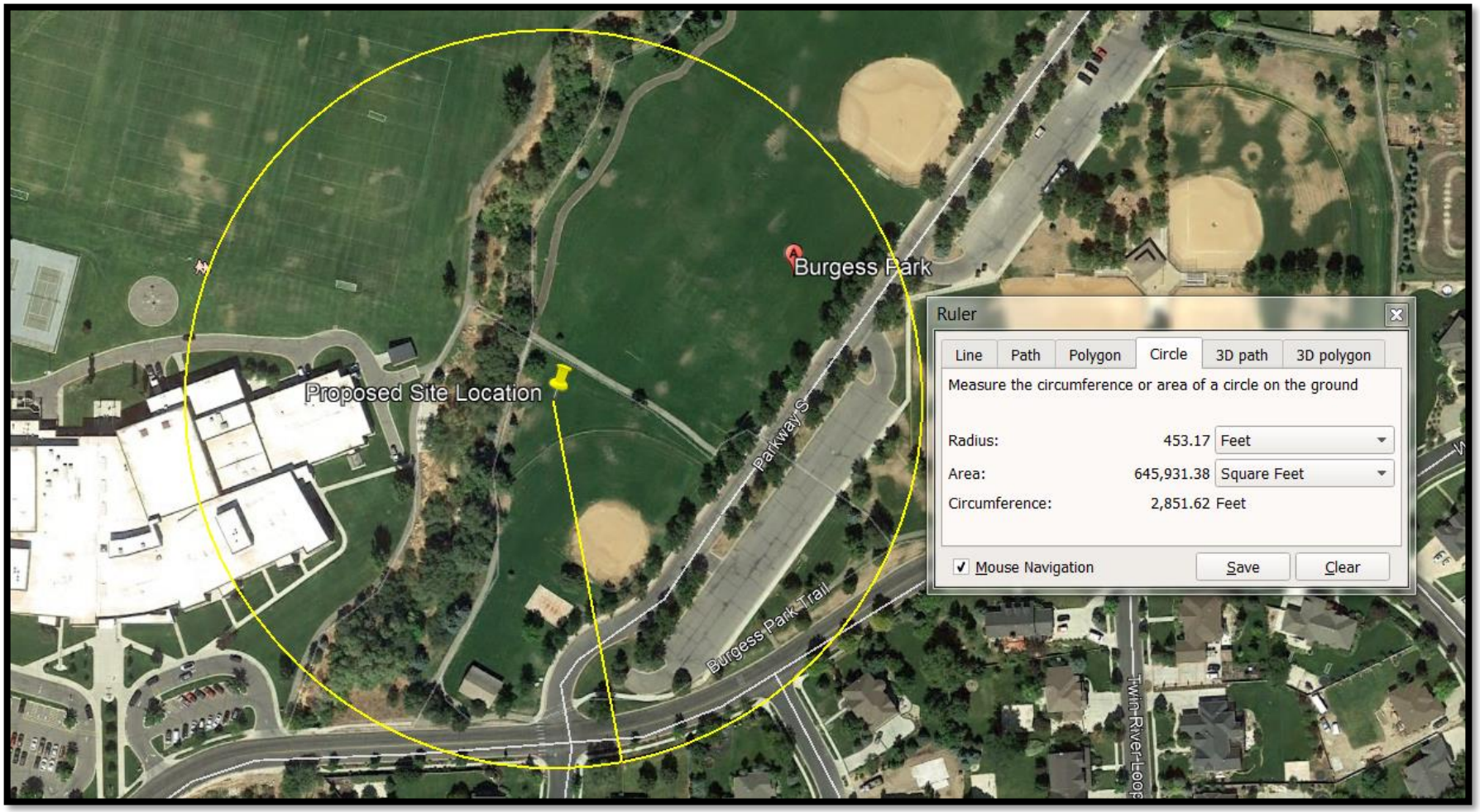
SHEET NUMBER
C200


Proposed
Site Location

PRO Digious – Search Area



Residential Setback



Wireless facilities and property values.

Cell service in and around the home has emerged as a critical factor in home-buying decisions.

National studies demonstrate that most home buyers value good cell service over many other factors including the proximity of schools when purchasing a home.

75%

More than 75% of prospective home buyers said a good cellular connection was important to them.[1]

83%

The same study showed that 83% of Millennials (those born between 1982 and 2004) said cell service was the most important fact in purchasing a home.

90%

90% of U.S. households use wireless service. Citizens need access to 911 and reverse 911 and wireless may be their only connection.[2]

1. RootMetrics/Money, The Surprising Thing Home Buyers Care About More than Schools, June 2, 2015
2. CTIA, June 2015

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Health and safety background.

Health and safety organizations world-wide have studied potential health effects of RF emissions for decades, and studies continue.

1,000 times less

According to the FCC, measurements made near a typical 40 foot cell site have shown that ground-level power densities are 1,000 times less than the FCC's limits for safe exposure.

The Federal Communications Commission (FCC) guidelines for operating wireless networks are based on the recommendations of federal health and safety agencies including:

- The Environmental Protection Agency (EPA)
- The Food and Drug Administration (FDA)
- The National Institute for Occupational Safety and Health (NIOSH)
- The Occupational Safety and Health Administration (OSHA)
- The Institute of Electrical and Electronics Engineers (IEEE)
- The National Council on Radiation Protection and Measurements (NCRP)

Wireless technology, equipment and network operations are highly regulated.

More information can be found through these organizations:

Federal Communications Commission Radio Frequency Safety Program:

http://wireless.fcc.gov/siting/FCC_LSGAC_RF_Guide.pdf

http://www.fcc.gov/oet/rfsafety/

Food & Drug Administration "Cell phone facts":

http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm116282.htm

World Health Organization:

http://www.who.int/peh-emf/publications/facts/fs304/en/

American Cancer Society

http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/cellular-phone-towers

verizon

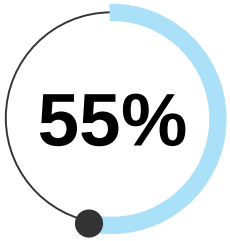
Why are we expanding the wireless network?

More people than ever before rely on wireless connections to manage their lives and businesses.

Verizon is expanding its wireless network to meet the growing demands of today and tomorrow.

But it takes time.

The average North American smartphone user will consume 48 GB of data per month in 2023, up from just 5.2 GB per month in 2016 and 7.1 GB per month in 2017 .[1]



Of American homes are wireless only.[2]

In North America, the average household has 13 connected devices with smartphones outnumbering tablets 6 to 1.[3]

1. Ericsson Mobility Report, November 2017
2. CDC's 2018 Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-July, 2018
3. IHS Market Connected Device Market Monitor: Q1 2016 , June 7, 2016

verizon

Staying ahead of demand.

A wireless network is like a highway system…

More wireless traffic needs more wireless facilities just like more vehicle traffic needs more lanes.

- Many wireless users share each cell site and congestion may result when too many try to use it at the same time.
- Wireless coverage may already exist in an area, but with data usage growth increasing exponentially each year, more capacity is needed.
- To meet capacity demands, we need to add more wireless antennas closer to users and closer to other cell sites to provide the reliable service customers have come to expect from Verizon.

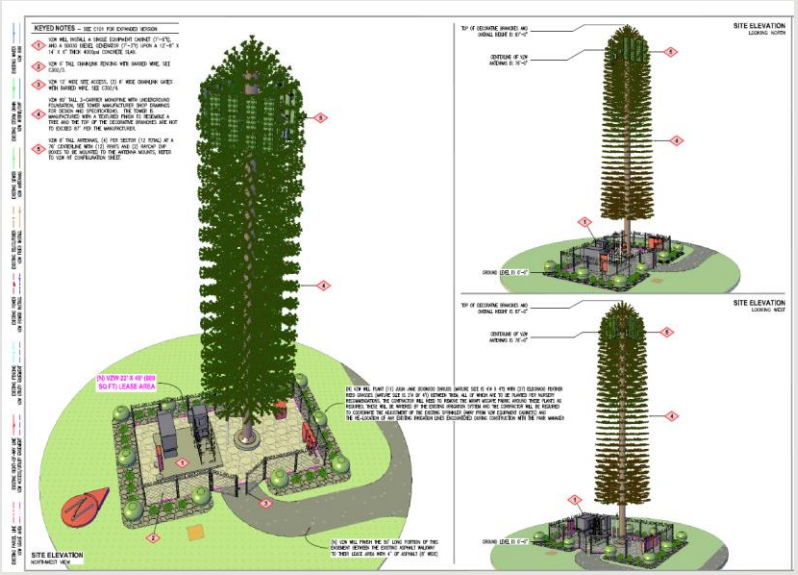
In the US, mobile data traffic was 1.3 Exabytes per month in 2016, the equivalent of 334 million DVDs each month or 3,687 million text messages each second.*

*Cisco VNI Mobile Forecast Highlights, 2016-2021, February 2017

verizon

Verizon Wireless Communications Facility

Engineering Necessity Case – Pro Digious



Prepared by: Jeff Jockumsen

June 28 2019

Rv. 1/18

“Existing” Coverage

verizon

“Improved” Coverage

verizon

“As Is” Footprint

“As Improved” Footprint

verizon

Verizon is part of your community.

Because we live and work there too.

We believe technology can help solve our biggest social problems.

We're working with innovators, community leaders, non-profits, universities and our peers to address some of the unmet challenges in education, healthcare and energy management.

Learn more about our corporate social responsibility at www.verizon.com.

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Verizon

New Tower

3.27.010 General Provisions

1. **Title**. This Ordinance shall be known as the Wireless Telecommunications Ordinance.
2. **Purpose & Intent**. The unique character, landscapes and scenic vistas of Alpine are among its most valuable assets. Preserving and promoting those assets are essential to the long- range social and economic wellbeing of the City and its inhabitants. Protecting these assets requires sensitive placement and design of wireless communication facilities so that these facilities remain in scale and harmony with the existing character of the community.
    a. To amend Ordinance No. 2006-06 to accommodate new technology and develop regulations on the use and development of City property for new cell tower facilities.
    b. To regulate personal wireless services antennas, with or without support structures, and related electronic equipment and equipment structures.
    c. To provide for the orderly establishment of personal wireless services facilities in the City.
    d. To minimize the number of antenna support structures by encouraging the co-location of multiple antennas on a single new or existing structure.
    e. To establish siting, appearance and safety standards that will help mitigate the potential impacts related to the construction, use and maintenance of personal wireless communication facilities.
    f. To comply with the Telecommunication Act of 1996 by establishing regulations that (1) do not prohibit or have the effect of prohibiting the provision of personal wireless services, (2) do not unreasonably discriminate among providers of functionally equivalent services, and (3) are not based on the environmental effects of radio frequency emissions to the extent that such facilities comply with the Federal Communications Commission's regulations concerning such emissions.
3. **Findings**
    a. Personal wireless services facilities (PWSF) are an integral part of the rapidly growing and evolving telecommunications industry, and present unique zoning challenges and concerns by the City.
    b. The City needs to balance the interests and desires of the telecommunications industry and its customers to provide competitive and effective telecommunications systems in the City, against the sometimes differing interests and desires of others concerning health, safety, welfare, and aesthetics, and orderly planning of the community.
    c. The City has experienced an increased demand for personal wireless services facilities to be located in the City, and expects the increased demand to continue in the future.
    d. It is in the best interests of the City to have quality personal wireless services facilities available, which necessarily entails the erection of personal wireless services facilities in the City.
    e. The unnecessary proliferation of personal wireless services facilities through the City creates a negative visual impact on the community.
    f. The visual effects of personal wireless services facilities can be mitigated by fair standards regulating their siting, construction, maintenance and use.
    g. A private property owner who leases space for a personal wireless services facility is the only one who receives compensation for the facility, even though numerous other property owners in the area are adversely affected by the location of the facility.
    h. Chapter 69-3, Utah Code Annotated, grants cities the authority to create or acquire sites to accommodate the erection of telecommunications tower in order to promote the location of telecommunication towers in a manageable area and to protect the aesthetics and environment of the area. The law also allows the City to require the owner of any tower to accommodate the multiple use of the tower by other companies where feasible and to pay the City the fair market rental value for the use of any City-owned site.
    i. Telecommunications towers located on government property with the lease payments being paid to Alpine City instead of individual property owners evenly distributes the income from the lease payments to all citizens of Alpine through increased government services thus indirectly compensating all of the citizens of Alpine for the impact all citizens experience. The public policy objectives to reduce the proliferation of telecommunications towers and to mitigate their impact can be best facilitated by locating telecommunications and antenna support structures on property owned, leased or used by Alpine City as a highest priority whenever feasible.

4. **Definitions**. The following words shall have the described meaning when used in this ordinance, unless a contrary meaning is apparent from the context of the word.
    a. Antenna. A transmitting or receiving device used in telecommunications that radiates or captures radio signals.
    b. Antenna Support Structure. Any structure that can be used for the purpose of supporting an antenna(s).
    c. City. The City of Alpine, Utah.
    d. City-owned property. Real property that is owned by the City.
    e. Close to Tower Mount. Also known as slim mount, antennas on cell towers mounted very close to tower in order to appeal less noticeable.
    f. Co-location. The location of an antenna on an existing structure, tower or building that is already being used for personal wireless services facilities.
    g. Monopole. A single, self-supporting, cylindrical pole that acts as the support structure for one (1) or more antennas for a personal wireless services facility.
    h. Personal Wireless Services. Commercial mobile telecommunications services, unlicensed wireless communications services, and common carrier wireless telecommunications exchange access services.
    i. Personal Wireless Services Antenna. An antenna used in connection with the provision of personal wireless services.
    j. Personal Wireless Services Facilities (PWSF). Facilities for the provision of personal wireless services. Personal wireless services facilities include transmitters, antennas, structures supporting antennas, and electronic equipment that is typically installed in close proximity to a transmitter.
    k. Private Property. Any real property not owned by the City, even if the property is owned by another public or government entity.
    l. Quasi public use. Uses such as a school or church or other uses defined as quasi public uses in DCA 3.01.110.
    m. Tower. A freestanding structure that is used as a support structure for antenna.
    n. Whip antenna. An antenna that is cylindrical in shape. Whip antennas can be directional or omnidirectional and vary in size depending on the frequency and gain for which they are designed.

5. **Applicability**. This ordinance (the Wireless Telecommunications Ordinance) applies to both commercial and private low power radio services and facilities, such as "cellular" or PCS (personal communications system) communications and paging systems. This ordinance shall not apply to the following types of communications devices, although they may be regulated by other City ordinances and policies.
    a. Amateur Radio. Any tower or antenna owned and operated by an amateur radio operator licensed by the Federal Communication Commission.
    b. Amateur T.V. Any tower or antenna owned and operated by an amateur T.V. operator licensed by the Federal Communication Commission.
    c. Satellite. Any device designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service or direct satellite service.
    d. Cable. Any cable television head-end or hub towers and antennas used solely for cable television services.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.020 Location And Types Of Towers/Antennas

1. **Personal Wireless Services Facilities Site Locations**. The following are currently approved locations:
    a. Co-location on an existing tower.
    b. City owned property.
    c. Property in conjunction with a quasi-public or public use.

d. Commercial property in the business commercial zone.

No new towers shall be located in Lambert Park.

New towers shall be located no closer than a one-quarter (1/4) mile radius from another tower and shall be no closer to a residence than two (2) times the height of the tower.

If the applicant desires to locate on a site other than the approved sites listed above, the applicant shall have the burden of demonstrating to the City why it cannot locate on an approved site. To do so, the applicant shall provide the following information to the City:

i. The identity and location of any approved sites located within the desired service area.

ii. The reason(s) why the approved sites are not technologically, legally, or economically feasible. The applicant must make a good faith effort to locate towers and antennas on an approved site. The City may request information from outside sources to justify or rebut the applicant's reason(s) for rejecting an approved site.

iii. Why the proposed site is essential to meet the service demands of the geographic service area and the citywide network. If the applicant desires to construct a monopole, the applicant shall also submit a detailed written description of why the applicant cannot obtain coverage using existing towers.

2. **Permitted and Non-Permitted Towers and Antennas**

a. Permitted. The following are permitted:

i. Co-location on existing towers.

ii. Existing towers may be maintained, used, and upgraded or replaced. A replacement tower shall not exceed the height of the tower being replaced.

iii. Monopoles are permitted subject to the following:

(1) A monopole shall not exceed eighty feet (80').

iv. Roof-mounted Antennas are permitted subject to the following:

(1) A roof-mounted antenna shall be screened, constructed, and/or colored to match the structure to which it is attached.

(2) A roof-mounted antenna shall be set back from the building edge one (1) foot for every one (1) foot of antenna height and shall not exceed fifteen (15) feet in height.

v. All new antennas shall be slim-mounted or mounted to an existing array.

b. Not Permitted. The following are not permitted:

i. Lattice Towers. Lattice appearance is not permitted.

ii. Guyed Towers.

3. **Co-location Requirement**. Unless otherwise authorized by the approving authority for good cause shown, every new tower shall be designed and constructed to be of sufficient size and capacity to accommodate at least two (2) additional wireless telecommunications providers on the structure in the future.

4. **Lease Agreement**. The City has no implied obligation to lease any particular parcel of City-owned property to an applicant. The City shall enter into a standard lease agreement with the applicant for any facility built on City property. The Mayor or designee is hereby authorized to execute the standard lease agreement on behalf of the City. The lease shall contain the condition that the approving authority must first approve the site plan before the lease can take effect, and that failure to obtain such approval renders the lease null and void.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.030 Procedure

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves:

- collocation of new transmission equipment;

- removal of transmission equipment; or
- replacement of transmission equipment.

1. **Application Requirements**. Any person desiring to develop, construct or establish a personal wireless services facility in the City shall submit an application for site plan approval to the City. A site plan shall be required for all new towers and antennas and any modification or replacement of a tower or antenna. The City shall not consider the application until all required information has been included. The application shall be submitted to the City Planner at least fourteen (14) days prior to the public meeting at which it will be presented to the Planning Commission. The applicant shall include the following:

    a. Fee. The applicable fee shall be paid to the City Recorder, payable to Alpine City, as set forth in the Alpine City Consolidated Fee Schedule.

    b. Site Plan. A site plan meeting the City's standard requirements for site plans.

    c. Notification Letter. The applicant shall submit a list of all property owners within five hundred (500) feet of the boundaries of the property where the proposed tower or antenna is to be located. The applicant shall also submit envelopes that have been stamped and addressed to all property owners on the list. The City may require a greater distance if deemed necessary or appropriate. The City shall prepare a notification letter to be sent to the property owners on the list submitted by the applicant to be mailed out at least seven (7) days prior to the public meeting at which the application will be presented to Planning Commission. The letter shall contain the following information:

        i. Address or location of the proposed tower, co-location, tower modification, etc.

        ii. Name of the applicant.

        iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)

        iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    d. Sign. The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:

        i. Shall be 4 ft. (H) x 8 ft. (W)

        ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and

        iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:

            (1) Address of location of the proposed tower, co-location, tower modification, etc.

            (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)

            (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    e. Written Information. The following written information shall be submitted:

        i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.

        ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.

        iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.

        iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.

        v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process**. The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. The application and site plan will be reviewed by Planning Commission for a recommendation to City Council. The City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

   The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

3. **Building Permits**

   a. General Requirements. No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.

   b. Additional Requirements for New Towers. If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:

      i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.

      ii. Seismic load design and wind load design for the new tower.

      iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.

      iv. Structural failure characteristics of the new tower and a demonstration that the site and setbacks are adequate size to contain debris.

      v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.040 Safety

1. **Regulation Compliance**

   a. Compliance with FCC and FAA Regulations. All operators of personal wireless services facilities shall demonstrate compliance with applicable Federal Communication Commission (FCC) and Federal Aviation Administration (FAA) regulations, including FCC radio frequency regulations, at the time of application and periodically thereafter as requested by the City. Failure to comply with the applicable regulations shall be grounds for revoking a site plan.

   b. Other Licenses and Permits. The operator of every personal wireless services facility shall submit copies of all licenses and permits required by other agencies and governments with the jurisdiction over the design, construction, location and operation of the facility to the City, shall maintain such licenses and permits in good standing, and shall provide evidence of renewal or extension thereof upon request by the City.

2. **Protection Against Climbing**. Towers shall be protected against unauthorized climbing by removing the climbing pegs from the lower 20 feet of the towers.

3. **Fencing**. Towers shall be fully enclosed by a minimum 6-foot tall fence or wall, as directed by the City, unless the City determines that a wall or fence is not needed or appropriate for a particular site due to conditions specific to the site.

4. **Security Lighting Requirement**. Towers shall comply with the FAA requirements for lighting. The City may also require security lighting for the site. If security lighting is used, the lighting impact on surrounding residential areas shall be minimized by using indirect lighting, where appropriate.

5. **Emergency**. The City shall have the authority to move or alter a personal wireless services facility in case of emergency. Before taking any such action, the City shall first notify the owner of the facility, if feasible.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.050 Additional Requirements

1. **Regulations for Accessory Structures**
    a. Storage Areas and Solid Waste Receptacles. No outside storage or solid waste receptacles shall be permitted on site.
    b. Equipment Enclosures. All electronic and other related equipment and appurtenances necessary for the operation of any personal wireless services facility shall, whenever possible, be located within a lawfully pre-existing structure or completely below grade. When a new structure is required to house such equipment, the structure shall be harmonious with, and blend with, the natural features, buildings and structures surrounding such structure.
    c. Accessory Buildings. Freestanding accessory buildings used with a personal wireless services facility shall not exceed 450 square feet and shall comply with the setback requirements for structures in the zone in which the facility is located.
2. **Parking**. The City may require a minimum of one (1) parking stall for sites containing a personal wireless services facility and/or accessory buildings, if there is insufficient parking available on the site.
3. **Maintenance Requirements**. All personal wireless services facilities shall be maintained in a safe, neat, and attractive manner.
4. **Landscaping**. A landscaping plan shall be submitted to the Planning Commission who will make a recommendation to the City Council who will approve the landscape plan.
5. **Site Restoration Upon Abandonment**. All sites shall be restored to the original configuration upon abandonment.
6. **Fencing**. The City will determine the type of fencing used on wireless telecommunications sites on a case by case basis. In the case of the Rodeo Grounds, the fencing shall match the existing fencing. Fencing will recommend by the Planning Commission and approved by the City Council.
7. **Color and material standards**. The City shall make an administrative decision as to the color. To the extent the personal wireless services facilities extend above the height of the vegetation immediately surround it, they shall be painted in a nonreflective light gray, light blue or other hue, which blends with the skyline and horizon or a brown to blend in with the surrounding hillside.
8. **Facility Lighting and Signage Standards**. Facility lighting shall be designed so as to meet but not exceed minimum requirements for security, safety and/or FAA regulations. Lighting of antennas or support structures shall be prohibited unless required by the FAA and no other alternatives are available. In all instances, the lighting shall be designed so as to avoid glare and minimize illumination on adjacent properties. Lighting shall also comply with any applicable City lighting standards.
9. **Facility Signs**. Signs shall be limited to those needed to identify the numbers to contact in an emergency, public safety warnings, certifications or other required seals. These signs shall also comply with the requirements of the City's sign regulations.
10. **Utility Lines**. All utility lines serving new cell towers shall be located underground.
11. **Business License**. Each facility shall be considered as a separate use; and an annual business license shall be required for each facility.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

Petition

Alpine Citizens for a Safe Community
STOP THE BURGESS PARK CELL TOWER

Alpine City is considering approving a cell tower in Burgess Park or on the school property adjoining the park. This development will cause hardship on local residents and the environment as outlined below.

Local residents oppose the plan due to severe detriment to quality of life, real estate values and the impact on the environment. The most extreme consequence is the impact on the health of the residents living closest to the tower, the high danger zone, which is **at least** a radius of one third of a mile. Two peer reviewed scientific journal studies indicate long term constant exposure to RF radiation increasing cancer risk by four-fold. Other quality of life impacts include sleep disruption, suppression of the production of melatonin resulting in fatigue, depressed immunity, hormonal imbalances, and an increased risk of mood disorder. All of these concerns are documented in multiple peer reviewed science journals from around the world. (References listed below.)

Because many of today's consumers are armed with the knowledge of the negative effects of living close to a cell tower, real estate property values can decrease by as much as 20% if this tower is approved. This will create hardship for those homeowners situated near the tower who have done nothing to deserve lower property values. Those who choose to move away after the tower construction will suffer the additional expense of paying relocation costs.

Burgess Park is a beautiful example of our natural environment. It is home to our local wildlife species whose patterns of life will be disrupted by the use of the land for high power RF transmissions. In addition, our children, joggers, and school sports teams use the park nearly year around. There is a real concern for the safety of young children in an environment where they do not understand the hazards of playing near, trying to climb or throw things at a monopine tower.

There is no demonstrated gap in infrastructure coverage that would benefit the greater public. Just one more tower added to the network.

Though the Telecommunications Act of 1996 does not allow us to prevent this tower on health concerns alone, the many above-mentioned hardships are reason enough for the City to stop the construction of this tower. We call on the City of Alpine to deny the permit for this tower.

References:
Wolf R and Wolf D, Increased Incidence of Cancer Near a Cell-phone Transmitter Station, International Journal of Cancer Prevention, (Israel) VOLUME 1, NUMBER 2, APRIL 2004
The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer (Umwelt-Medizin-Gesellschaft 17,4 2004)
Navarro EA, Segura J. Portoles M, Gomez-Perretta C, The Microwave Syndrome: A Preliminary Study. 2004 (Spain) Electromagnetic Biology and Medicine, Volume 22, Issue 2, (2003): 161-169
For Additional Reference to peer-reviewed scientific journals on health and current events regarding the cell tower placement debate nationwide please visit the following websites:
www.ehtrust.org
www.mdsafetech.org/cell-tower-and-city-ordinances

Sign & Print Name & Address:

1. LeeAnn Lorenzon
   Lee Ann Lorenzon – 177 W. Parkway – Alpine, UT. 84004
2. Richard Lorenzon
   Richard LORENZON 177 W Parkway, Alpine UT 84004
3. Andrea Passey
   Andrea Passey 155 Parkway W Alpine UT 84004
4. Laura Haacke
   Laura Haacke 133 W. Parkway, Alpine, UT 84004
5. Allan Bailey
   130 Parkway, Alpine, UT
6. Paul Ponnie
   PAUL PONNIE 178 WEST PARKWAY Alpine, UTAH
7. Shelley Ruiz
   Shelley Ruiz 210 Parkway W. Alpine,
8. Alberto Ruiz 210 Parkway W. Alpine
9. Jeri Devitt
   Jeri Devitt 185 W. Parkway Alpine
10. Russell Devitt
    Russell Devitt 185 W. Parkway, Alpine
11. Amie Lepore
    Amie Lepore 209 Parkway W. Alpine
12. Roland Lépore
    ROLAND LÉPORÉ " " " "
13. Sue Lytle
    SUE LYTLE 209 Parkway W Alpine " " " "
14. Richard Lytle
    Richard Lytle 209 PARKWAY W., ALPINE " " "
15. Karen Hampton
    Karen Hampton 207 Parkway W. Alpine
16. Lega Pennie
    Lega Pennie 178 W. Parkway Alpine

Sign & Print Name & Address:

17. Kathy Bailey Kathy Bailey 130 Parkway W.
18. Laura Jarman
LAURA JARMAN 146 W. Parkway Alpine
19 Stephen Wright STEPHEN WRIGHT 239 PARKWAY W ALPINE
20 Sherri Wright Sherri Wright 239 Parkway W. Alpine, UT
21 Elijah Renner Elijah Renner 270 west Fort creek dr Alpine
22 Bradley Renner Bradley Renner "
23. Khadley Khirstin Hadley 136 W. 150 N. Alpine
24. Gene Hadley GENO HADLEY 136 W. 150 N. Alpine
25. Kiersten Belnap Kiersten Belnap 191 W. Center St. Alpine
26. Tyler Belnap Tyler Belnap 191 W. Center St. Alpine
27. Cierra Hadley Cierra Hadley 136 W. 150 N. Alpine.
28 Melanie Hulme Melanie Hulme 108 S. 100 W. Alpine
29. Laura Haacke Laura Haacke 133 W. Parkway Alpine
30. Cindy Hutchinson Cindy Hutchinson 239 Fort Creek Dr

Sign & Print Name & Address:

S Wardle	Sharon Wardle	153 N 100 W Alpine
	Mark Wardle	153 N 100 W Alpine
Perry L. Nuffer	PERRY Q. NUFFER	265 W FORT CREEK DR.
Sheri L. Nuffer	SHERI L. NUFFER	265 W FORT CREEK DR
	Andy Winmer	226 FORT CREEK DR
Marné G Reneer	Marné G. Reneer	270 FORT CREEK DR.
Camille Beck	Camille Beck	110 W Parkway Alpine
Kiersten Belnap		191 W center St.
Corbi Wright	Corbi Wright	239 PARKWAY W
Sarah D Larsen	Sarah D Larsen	380 Fort Cir Alpine 84004
~~Gina Stark~~	Gina Stark	196 W Center St
Janice Hanson	Janice Hanson	173 Fort Creek Dr. Alpine
Jeffrey B Hanson	Jeffrey B. Hanson	173 Fort Creek Dr - Alpine
Julie Hvam		190 N 100 W ALPINE
Lori Volmar	Lori Volmar	235 Estate Dr Alpine
Lyn Carlisle	LYN CARLISLE	138 EAST Center Alpine
Julie Hebbert	Julie Hebbert	248 E. 200 N Alpine
Daryl Hughes	Daryl Hughes	431 River Circle, Alpine
	HAROLD F. HUGHES	431 RIVER CIRCLE, ALPINE
	THOMSEN	151 N 100 W ALPINE
	Carlisle	60 W 120 S ALPINE
Jean Francis	JEAN FRANCIS	283 River Road, Alpine
Greg Hughes	GREG HUGHES	431 River Cir, Alpine
	Kimberly Loveland	444 Fort Cir Alpine
Heather Christensen	Heather Christensen	174 W center Alpine
	Dallan Christensen	174 W center Alpine
Sandra Cottle	Sandra Cottle	351 River Road Alpine
Kevin Cottle	Kevin Cottle	351 River Rd Alpine

Sign & Print Name & Address:

Sharon Ward Sharon Ward 135 West 150 North

[illegible] DAVE JOHNSTON 123 W. 150 N.

Stephanie-Wilkinson 113 W. 150 N.

[illegible] 113 W 150 N

Lanette Wilkinson 113 W. 150 N.

[illegible] 140 W 150 N

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Planning Commission Minutes June 18, 2019

FOR CONSIDERATION ON: 16 July 2019

PETITIONER: Staff

ACTION REQUESTED BY PETITIONER: Approve Minutes

BACKGROUND INFORMATION:

Minutes from the June 18, 2019 Planning Commission Meeting.

STAFF RECOMMENDATION:

Review and approve the Planning Commission Minutes.

ALPINE CITY PLANNING COMMISSION MEETING
Alpine City Hall, 20 North Main, Alpine, UT
June 18, 2019

I. GENERAL BUSINESS

A. Welcome and Roll Call: The meeting was called to order at 7:00 pm by Chairman David Fotheringham. The following were present and constituted a quorum:

Chairman: David Fotheringham
Commission Members: Alan MacDonald, John MacKay, Jane Griener, Jessica Smuin, Sylvia Christiansen
Excused: Bryce Higbee
Staff: Jed Muhlestein, Austin Roy, Marla Fox
Others: Adam Peterson, Kiersten Belnap, Randy Austin, Hal Hughes, Daryl Hughes, Brian Cropper, Leslie Austin, Troy Benson, Amy Thacheray, Shelley Ruiz, Olivia Helms, Lon Helms, Daniel Thurgood, Bradley Reneer, Glen Judd, Will Jones, Eric Palsson, Cheri Palsson, Sarah Kendig, Michael Kendig, Paul Anderson, Marci Anderson, Kathy Bailey, Laura Hackey, Marti Reneer

B. Prayer/Opening Comments: Sylvia Christiansen
C. Pledge of Allegiance: Randy Austin

II. PUBLIC COMMENT
There were no public comments.

III. ACTION ITEMS

A. Public Hearing – Site Plan – Proposed Wireless Tower at Burgess Park – Verizon Wireless

Austin Roy stated that the petitioner had submitted a site plan for a new wireless telecommunications tower. The proposed tower was an 80-foot tall monopole tower designed to look like a pine tree (the so-called "Monopine" design). The proposed site was located at the south end of Burgess Park, north of the Southern baseball diamond. Austin Roy explained that the City ordinance allowed wireless telecommunications within the City. The Act had been passed in 1996 and stated that the City could not be prohibit these structures nor could there be discrimination between providers or functionality of these equipment services. He added that the decision to add a tower could not be based on environmental effects such as radio frequency emissions to the extent that the facility complied with the Federal Communications regulations. When such a structure was to come to the City, the Staff looked at it and determined whether the plans met the City's development code. He continued that in the code, there was a criterium stating that these facilities were allowed, though regulated. He continued that there were specific locations where these towers could be placed: a new tower could be built where an existing tower had been. He continued that each tower added in the City had to have the capacity to hold up to three providers. Another location, he added, was on City owned property. The third

location was a property in conjunction with a quasi-public use, such as a school. Business and Commercial zones could also be used. These were the only places where cell towers were allowed. He continued that the City allowed these structures because it was in the best interest of the City to do so: a quality personal cell service was important, he continued. He added that another part of the ordinance stipulated that the City had to balance the interests and desires of the telecommunication industry with its customer to provide competitive and effective telecommunication systems. These interests could sometimes be at odds with the need for health, safety, welfare, aesthetics, and orderly planning. He explained that Staff had studied the development code, understanding that towers were allowed in the City, as long as they met certain criteria. He continued that the location and the type of tower had been studied and stipulated that the maximum height was 80 feet. He continued that the tower had to have to capacity to hold three different carriers. Each tower had to meet a number of safety regulations stipulated by the FCC and FAA. The tower also had to be protected against unauthorized climbing. Fencing was typically required around such structure as was lighting. In case of an emergency, the City had the right to move or alter the facility. He continued that landscaping had to be provided when these structures were built. He also mentioned that there were regulations for the type of accessory structures allowed. Finally, the fencing material and color was selected by the City. He explained that this issue had been taken to the City Council when the tower was proposed and added the Council had asked the City about the type of tower it wished to have. The Council had opted for a pine tree look. An alternative, he continued, would be to paint the tower a neutral color. Austin Roy added that facility signs were required to publish emergency and public safety warnings. He stated that all utility lines had to be buried and that the cell provider had to receive a business license to operate within the City. When the tower was on City-owned property, the City leased the land to the carrier which provided the City with a monetary benefit for having a carrier in town.

Austin Roy showed the Commission the proposed site plan. He reiterated the exact location and added that the ordinance required that anyone living within 500 feet of the tower be notified. He believed that many of the attendees were present to discuss this issue. Austin Roy added that Staff had reviewed the proposed site plan and found that it met the requirements set forth in the Development Code for a new tower. New wireless communications towers shall meet the following requirements found in Article 3.27 of the Alpine City Development Code:

a) Location
    i. The proposed site is on City owned property, which is an approved location. Tower is also to be located away from other towers (1/4 mile) and can be no closer than two times the height of the tower to a residence and the proposed tower meets these requirements.
b) Type of Tower
    i. The proposed tower is a monopole type tower, which is a permitted type of tower, and does not exceed the 80-foot height limit.
c) Co-Location
    i. Towers shall be large enough to "accommodate at least two (2) additional wireless telecommunications providers". The tower is a 3-carrier tower.
d) Safety

i. Towers must comply with FCC and FAA regulations. The petitioner has submitted documentation to support this.
ii. Tower must be protected against unauthorized climbing. Plans show no climbing pegs on the lower portion of the tower.
iii. Fencing. Tower must be enclosed by a minimum 6-foot high fence. Plans show 6-foot chain-link with barb wire.
iv. Lighting. Must meet FAA regulations. Petitioner has submitted site plan data to FAA for review.
v. Emergency. City holds the right to move or alter the facility in case of an emergency.

e) Additional Requirements
i. Accessory Structures. Any structure on site cannot exceed 450 square feet. Plans show no structures that exceed the requirement.
ii. Parking. If no parking is present it must be provided. Burgess Park has plenty of parking.
iii. Maintenance. Site will be visited once per month by certified tech.
iv. Landscaping. A landscaping plan is required, which has been provided as part of the site plan. To be reviewed and recommended by Planning Commission and approved by City Council.
v. Fencing. City can determine the type of fencing if needed.
vi. Color and materials. City typically makes an administrative decision as to the look of the tower; however, the City Council reviewed the proposal for color and materials and selected the Monopine design.
vii. Facility Signs. Facility shall only have signs for emergency contact info, public safety, warnings, certification, and other required seals.
viii. Utility Lines. Line shall be buried. The proposed plans show the utilities located underground.
ix. Business License. Annual business license shall be required for each facility.

Austin Roy stated the carrier would rent the land from the City so the City would receive monetary value from having the tower on City property.

Alan Macdonald asked whether other sites had been looked at. Austin Roy explained that Verizon had proposed a couple other sites. Staff had provided its feedback and had then discussed the best location with the City Council. Burgess Park was chosen because it was the least impactful since the location wasn't as close to homes. He continued that the City did not control where the carrier wished to place its tower: this decision was made based on where coverage was needed. Alan MacDonald asked whether the other proposed sites were as close to schools and parks as this one was. Austin Roy stated that the other sites were not as close to schools. The other locations, however, were parks and open spaces. He explained Verizon was limited on where it could place its towers.

Alan MacDonald asked why Verizon couldn't add its new tower to an existing one. Austin Roy stated the reason Verizon chose this site was because there was limited coverage on the West side of town with no cell towers. He added that the service was needed in that specific area. He

mentioned that the representative could clarify this, but that he was under the impression that more coverage was needed in this specific area.

Sylvia Christiansen asked whether the Staff could unequivocally state that the tower complied with the FAA regulations. Austin Roy stated that the burden of proof was placed on the carrier which would have to provide documentation and proof of compliance. Sylvia Christiansen stated that if the motion were made it would be made as per ordinances.

David Fotheringham invited Troy Benson from Technology Assoc., representing Verizon, to come answer questions. David Fotheringham asked about the distances from the current towers to the closest schools or homes. Troy Benson said he did not know the exact distances in Alpine but added that throughout the State, Verizon had sites located on school property. Austin Roy stated it was actually very common for such towers to be placed on school property. He continued they could also be placed on quasi-public property. David Fotheringham asked whether the history of school districts was that they approved such structures on school property. Austin Roy explained that there was a precedent for this.

Sylvia Christiansen asked why the pole had to be 80 feet tall. Troy Benson stated that the higher the pole was, the greater the reception. He added that Verizon utilized 10 feet of space. The remainder of the height was used by additional carriers and having a shorter tower did not allow for additional co-locators. He continued that the additional height allowed Verizon to have the proper line of sight to provide the needed coverage.

Alan Macdonald asked what the other options existed if the City denied this particular site. Troy Benson stated that with the City code as it was, there were limitations. He mentioned that there were no existing towers in the area. He added that there was better service on the East side of town, which was about one mile away from the proposed location. Another option was for Verizon to be on City owned property. He explained that he suggested having the structure built on a City owned property. He continued having worked with the City to find a potential location. He had proposed Creekside Park as well as Peterson Park. The City, he continued, had voiced that Burgess Park would be the preferred location. He explained that there were trees around the tower which would aesthetically minimize the impact.

Jane Griener asked whether a public open space would be an approved location. Austin Roy stated that it would. He added that the City's ordinance did allow further towers in Lambert Park. Jane Griener asked whether there were any other public open spaces that would not be as maintained as a park: an undeveloped open space. Austin Roy stated as long as the space was owned by the City and was public land, it could be a location where the City would permit a tower. Jane Griener asked whether any such location existed within the stipulated area. Troy Benson stated that in his search for the area, the only option had been to go at a park: there was no other City owned open space available.

Sylvia Christiansen asked whether Mr. Benson could prove, unequivocally, that the tower would comply with FCC regulations. Troy Benson stated that Verizon held a license with the FCC, and that their sites operated at a level that was well below the maximum power emissions these sites were allowed. He continued that anyone could at any time test the power levels and report them

to the FCC. He added that Verizon had to operate these sites below the maximum limits. Sylvia Christiansen asked how the trench would be dug in order to put the fiber optics in. Jed Muhlestein said that the trench was on the plans and that it would be bored underground.

Alan MacDonald asked about Verizon's position on the health and safety risks of a cell tower to young adults and children. He mentioned that he was concerned about the tower being quite close to a junior high school. Troy Benson stated the FCC allowed these towers and continued to do studies. He added that they had not found anything significantly dangerous to people who lived close to a tower.

Jessica Smuin asked why the tower could not be pushed further back into the park, away from the school. She added that the site was a main though fare, visible to everyone and those other sites might be more discreet. Troy Benson stated Verizon required good access to the site and addedthat this site provided this ideal access. Further north, the tower would be closer to residents. He continued that the tower should be located as far away from residents as possible: they didn't have to see the tower from their window.

Alan MacDonald acknowledged that Mr. Benson was in a tough position with a hostile crowd in attendance. He continued that Mr. Benson was not an expert on the health aspects of these towers. He added that it was not merely fringe groups which had expressed concerns: the American Academy of Pediatrics had too. He continued that there were legitimate Harvard and Columbia studies showing the effects of these microwaves on a human brain, human cells, and DNA, in particular in young adults and children. Mr. Benson stated that while these studies existed, the FCC's position on the locations of these sites and the levels of operation had not changed. He added that there were studies showingthat the cell phones we carry emitted a stronger signal than cell towers did. He continued that more exposure took place with cell phones than did standing underneath a tower.

David Fotheringham opened the Public Hearing.

Brian Cropper stated that his house was the closest home to the pole. He added that there were many childrenwho played sports at Burgess Park and listed several sports. He added he felt that many balls would end up behind the tower's fence and continued that other areas, including other areas within Burgess Park, should be considered. He mentioned that he understood that no one wanted to see the tower from their front window, but that the selected location was the closest to houses of any location in Burgess Park. He added that he did not find this location to be a logical one if the only issue was that the building crew would have to drive over some grass. He asked that Verizon consider other locations. With respect to safety, he continued, this location was the most ill-advised. David Fotheringham clarified what locations Mr. Cropper referred to. Mr. Cropper stated he was referring to other locations both inside the park and outside. He pointed to the top of a building where the tower might be placed. He continued that all other possible options had to be considered and that he felt that Burgess Park was the park used to dump all such projects.

Bradley Reneer stated that FCC regulations allowed such towers. He added there always was a lag between health studies about health risks and legislation. He explained knowing someone

who had died of thyroid cancer at a young age. He explained that the individual had been radiated for his acne and explained that, at the time, there were no known health risks for radiating a child who had acne. He continued that when searching for "Dangers of EMF" on the web, one of the first things that would come up was cancer.gov. He explained this site gave a false sense of security as it stated that there was no known mechanism by which non ionized EMF could cause cancer. However, on the same site, the government discussed brain tumors and leukemia in children living close to high power lines. Most of the studies, he added, had found that a correlation with children living in homes with high levels of magnetic fields. He reiterated that there would be a lag between technologies' development and our understanding of their true health risks. He added that it was unwise for the City to put cell towers in their neighborhood knowing they emitted large amounts of radiation and that it was even more unwise to do so next to schools. He continued that, as Alan MacDonald had explained, there were reputable sources showing that these towers presented health risks. He stated it was unwise to allow a tower to be put in so close to a school and concluded that individuals who had been radiated for acne did not have any signs of cancer for nine to forty years after radiations. He asked whether ten to thirty years from now, the children of Alpine would be pointing their finger to this group, asking why the citizens had allowed this to happen.

Daryl Hughes stated she had lived in Alpine for 27 years. She explained that she had information to give the commission. She continued that it was important to not let an industry representative say there were no health consequences from cell towers and that they were safe. She pointed that the safety standard had been set in 1996 and continued that in the twenty years since, there had been over 20,000 studies done, which showed the mechanism by which towers were damaging to health. She pointed to the information she had provided in the handouts. Mrs. Hughes explained that there would be a loss of property value between 5% and 20%. She added that buyer perception would be an issue as nobody wanted to live next to a cell tower. She asked who would compensate homeowners for the loss of their property value.She inquired about which individuals in the audience would be willing to buy a home next to a cell tower to raise their hand. No hand was raised. She mentioned that the City had to recognize the hazards that came with cell towers. She further stated that cell towers failed because they were affected by weather: lightning, fire, wind, and snow. She concluded that towers were not aestheticand damagedthe living trees that surrounded them.

Randy Austin explained he was very close to Burgess Park. He stated that he had brought some information and passed out some pamphlets. He continued by saying that he was grateful for the work the Commission did. He mentioned that everyone had cell phones in their pocket and in their homes. He added being aware that they emitted waves. He mentioned that, unlike a tower, a cell phone could be turned off and kept away from the person. The cell tower, he continued, would be turned on at all times and expose all those around it to radiation. He explained that studies had been done in other countries to gauge the effects on population. These studies, he continued, showed there were effects to such towers and added that children were more vulnerable. Mr. Austin stated that the FCC was basing its decisions on1986 studies which were out of date. He addedthat the studies focused on thermal effects, which, he continued, were not the primary concern with such towers. He mentioned that he was a lawyer and that essentially, the City was on notice concerning the risks of such towers. He continued that because towers were revenue producing, he wasn't sure whether this fell into governmental functions. He

continued by saying that he was not sure the City was immune. He further asked whether Verizon had agreed to indemnify the City from any possible claim that might eventually come.

Amy Thackery explained she had lived in her home for 13 years. She added she had Crohn's disease and Hashimoto's disease. She pointed that these were incurable auto immune diseases. One disease, she continued, had to do with her thyroid, while the other had to do with her gastrointestinal system. She further stated that there were some forms of treatments available for Hashimoto but added that currently there were few medical procedures. She explained that the City had talked about children, and pointed to enrollment numbers: Timberline had 1,400 students while Westfield had 600. She continued that between both schools, there were 2,000 students and mentioned that there were many children in the area also due to the multiple sports programs. Mrs. Thackery continued that with her auto immune diseases and compromised health, she would be negatively affected by the tower. She explained that beyond the children, adults would also suffer consequences. She added that there was information on the topic in the packets that had been passed to the Commission. She explained that page six of the pamphlet showed a 900% increase in cancer in women. Having Crohn's disease, she continued, she had a 25% increase in the risk of a cancer. She stated that she wanted to be there for her children and wanted to have her neighbors raise their children in safety. She explained that Alpine was a great city and continued that while she was no longer a child, she would like to be considered in this decision as she would suffer health consequences.

Sylvia Christiansen asked Austin Roy how many letters had been sent to residents. He explained that he did not have the figure with him but added that the City had all of the names of the different households that he believed the number was around 100.

Marty Reneer explained she had lived in Alpine for 25 years. She mentioned that she found the City to be a beautiful place to live. She added wanting to second what had been said and stated that she had brought a petition from residents in the area. Mrs. Reneer explained that she found some irony in the fact that there had been a meeting in Timberline for parents and studentsto discuss addiction to cell phones. Children had been encouraged to go outside and do things in nature. She mentioned that it might be a blessing to have holes in coverage to force people to disconnect.

Laura Hackey stated that Burgess Park was a very special area. She mentioned that it was populated by many children. She further asked whether the look of the tower was more important than the safety issues. Mrs. Hackey added she was going through Stage 3 breast cancer. She mentioned that she was wearing a wig and that she had been through chemo, surgery, radiations, and would continue taking medications for five to ten years. She concluded she was lucky as she would survive cancer but continued that she didn't want any child to go through what she had been through.

Shelley Ruiz stated that her family had moved to Alpine six months prior. She explained that she was thrilled by the beauty of the area and added she had spent a lot of time riding her bike in the park and enjoying nature. She continued that she could not imagine having to look at something like the cell tower in the park. She mentioned her long history of health problems and stated she became vegan a few months prior to try to curb some of these issues. She added that

there were not enough antioxidants in the world to counteract the toxicity of a nearby cell tower. She pointed that her house was quite close to the proposed tower and continued that she would never have purchased her home if she had known this cell tower would be in her back yard. She also stated she used Verizon and had no problem with her service. She mentioned that if service were the only issue at hand, the tower was not needed.

Glen Judd stated there were no health problems caused bynon-ionizingradiations. He explained that there were conflations between ionizing and non-ionizing. Mr. Judd had brought a radio with him and he turned it on. He explained that the radio had 800 billion times the power that a student in the nearby schools would receive from the towers. He continued there was evidence to supports that these towers did not pose dangers. He added that in his lifetime, cell phone use had increased exponentially while cancer rates had not increased. He continued that if cell phones were a cause of cancer, there would have been a more drastic increase in cancer. Mr. Judd explained that if the goal was to decrease the exposure, the tower would be helpful as the exposure did not come from the tower but rather from phones. He explained that radio strength decreased in inverse R squared, therefore, as one got away from the tower, the radiation increased. He explained that when phones had poor signal, they searched for signal strength at a greater rate, which made them more dangerous. Having the tower closer to the kids at the school, he continued, wouldbe safer for the kids as their phoneswould not have to work so hard to find a tower. Mr. Judd stated that he had a PhD in Computer Science.

Hal Hughes stated he was one half of the architecture review board. He stated that he was a former assistant United States Attorney as well as a Special Assistant United States Attorney in Utah. He continued that had appeared before as well as represented the FCC. He explained that he was speaking before the Commission on behalf of his mother in law who was 90 years old, blind, and who lived within 500 feet of the cell tower. He pointed that his mother in law had received the notice for this hearing one business day before it was scheduled to take place. He mentioned that this site would be surrounded by a six-foot chain-link fence topped by barbed wire. He reminded the Commission that the City had control over the fence and its aesthetics and pointed that a chain-link fence would not be compatible with park ordinances. He explained that the razor wire confirmed that the site was dangerous. In addition, he continued, Verizon had stated that there would be a thirty-kilowatt diesel generator. He pointed that the site plan did not show how the fuel would be delivered and added it would require a pipeline or a storage tank. Mr. Hughes pointed that such a tank would have to be underground and provide at least a double wall with other protectionto avoid diesel fuel leaks. He explained that the fuel could leak in the ground water or the adjoining creek. The cleanup, he continued would be costly and difficult. He added that Verizon was requiring the City to give them six easements. This included the walkway being expanded from four feet to eight feet with a twelve-foot easement. He explained that Verizon also wanted to build a new thirty foot asphalt drive up to the barbed wire gate with a ten-foot-wide and fifty-foot-long separate additional power easement as well as a ten foot wide power easement running eighty feet from the pickle ball courts to the site. He pointed to another twelve-foot easement on Parkway Drive. He pointed that Parkway Drive was public, and he did not understand why Verizon needed that much space on a public street in addition to the easement running through the Park. He added that the City had to look out for the health and welfare of the community. He added that the FCC was not a health and safety agency and stated they had based their conclusion on 1986 studies that looked at thermal information. Mr. Hughes

stated that if the City approved the tower, it needed to get insurance, indemnification, or bonding.

Kathy Bailey stated that a public park was for families and recreations and that was not a commercial business. She read the purpose of a park. She explained that she saw hundreds of individuals using the park each day and explained that the structure being proposed would go against the functionality of the park. She asked the Commission to not forget why the park had been created in the first place.

Kiersten Hadley stated that she switched her cell service from Verizon to T-Mobil. The reason for doing so, she continued was because the service was poor in some areas. She pointed to specific areas in Lehi where the coverage was next to inexistent. She added that the price was high. She mentioned, however, that she did have good coverage in Alpine and that the tower should go where the coverage is poor.

David Fotheringham closed the Public Hearing.

Jane Griener asked whether the Planning Commission's role was merely to ensure that the tower met code. David Fotheringham explained that this was correct. Jane Griener further asked whether the final decision would be made by the City Council. She added that the Council might want to have a specialist come in to analyze the data that had been presented during the meeting. She continued that there already were cell phone towers in Alpine.

Jessica Smuin stated that she had some concerns about location. Looking at the City boundaries she continued, there was City property near Sight Drive. She asked whether this would be a better location. She added that Verizon had come to the Staff to find the best location. Austin Roy explained that this was the case and that the Staff had given three potential locations. Mrs. Smuin explained that it would be possible to look at locations that were not parks. Jane Griener stated that she would approve one such motion. She wanted to know if this tower benefitedthe residents or was this just a business opportunity for Verizon. She asked whether the project benefitted the community in a significant way. While she understood that the City was under the obligation to assist these companies, the Commission should consider the true benefit to residents.

MOTION: Jane Griener moved to recommend denial of the proposed wireless tower at Burgess Park and torequest other sites be considered that are not in the vicinity of schools, parks, or homes. Alan Macdonald seconded the motion. This motion was withdrawn.

David Fotheringham explained that a study had to take place to find the best location.

MOTION: Alan MacDonald moved to recommend the denial of the current proposal and recommendation that Verizon consider additional alternative sites for the proposed cell tower that would be less impactful to residents and schools. John MacKay seconded. This motion was withdrawn.

Troy Benson asked to table the motion to give the Commission time to look for another location. He said this location was chosen because the usage was going up, and Verizon wanted to stay ahead of the demand in order to provide better coverage. David Fotheringham asked whether there were a lot of complaints regarding poor coverage. Mr. Benson explained that technicians had driven through the area and ran tests to gauge coverage. With the increase in usage, he continued, the site would need to handle the added traffic. This particular search could be expanded to other potential sites. Mr. Benson stated that he had looked to the area thoroughly to find a better location. He continued that the Burgess Park was the best he had found. He added that he would try to identify other location. Jane Griener asked how far west Verizon was looking at servicing customers. Mr. Benson stated that it would cover one mile west.

MOTION: Alan MacDonald moved to table the current proposal and recommend and request that Verizon consider additional alternative sites for the proposed cell tower that would be less impactful to nearby residents, schools, and school children. Jane Griener seconded.

When asked whether the tower could be denied altogether, David Fotheringham explained that the tower would not be denied.

Ayes:	**Nays:**
Alan MacDonald	None
John MacKay	
David Fotheringham	
Jane Griener	
Jessica Smuin	
Sylvia Christiansen	

Jane Griener stated that the Staff and the Council needed to know that more studying of the location was required. Property values were then discussed. It was noted that a market analysis on the nearest house would not require including the tower in the considerations. A small percentage of people might not be interested in the property as a result of the tower, but this would not make the house sell for less. It was easy to find buyers in Alpine but the poor cell service might prompt people not to buy a house. The Planning Commission's role was to decide whether the tower fell within the development code. The Commission had to balance the interests and desires of the telecommunication industry and its customers with those of the residents.

B. Public Hearing – Site Plan – Antenna Upgrade at Beck's Hill – T-Mobile

Austin Roy stated that T-Mobile was seeking to upgrade three antennas, three Remote Radio Heads, and install one hybrid cable. He added that the proposed upgrade was on an existing wireless telecommunications facility at Beck's Hill. Unlike a new cell tower, he continued there were less requirements and restrictions. Article 3.27.030 states:

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term ''eligible

facilities request'' means any request for modification of an existing wireless tower or base station that involves:

- *collocation of new transmission equipment;*
- *removal of transmission equipment; or*
- *replacement of transmission equipment.*

Proposed upgrades do not substantially change the physical dimensions of the tower or base station. Austin Roy stated that Staff had looked at this application and didn't think it proposed any substantial change.

David Fotheringham opened the Public Hearing.

Rick Clark mentioned he lived across the street of the antenna being discussed. He asked whether these new antennae generated more microwaves than the old antenna. Since there was norepresentative at the meeting, his questions could not be answered. David Fotheringham stated a single cable sounded better than several, but that he too wanted to know about the emissions.

Olivia Helms asked about the aesthetics and the height of the tower and whether the new towers would be located in the same places. She asked whether the towers could be combined. According to the ordinance, she continued, landscaping was required around the towers. She explained that she would like more information because she was a two-time cancer survivor. She continued having been her home for 19 years and stated she would like to know more about the output.

Austin Roy showed pictures of what the changes would be. He explained the pictures were part of the packet that had been distributed prior to the meeting. He described the images to the attendees. The Commission discussed the width of the towers, and it was pointed out that a T-Mobile representative would have been needed. Jane Griener stated she was not able to make a vote unless she could ask questions to a representative. She added that there were concerns about color as well.

David Fotheringham closed the Public Hearing

Austin Roy explained that some of the answers were in the engineering drawing and that the Commission could review them if they wished. Alan MacDonald studied Article 3.2.7.030 and explained that what was being requested was not in alignment. While the government could not deny some requests, part of the proposal went beyond, he added. He explained he also had questions about emissions. He continued that T-Mobile, like Verizon, should have sent a representative to answer questions. He mentioned that he wasn't sure if these upgrades fell under the ordinance and added he did not want to make a recommendation without questions being answered by a representative.

MOTION: Sylvia Christiansen moved to table the proposed Antenna Upgrade at Beck's Hill until we can have a T-Mobile representative here to answer questions. Jane Griener seconded the motion.

David Fotheringham explained he agreed with this motion. Alan MacDonald stated that the task was to determine whether the change to the tower was substantial. He added that while the Commission had the plan, it was hard to determine. The discrepancy between the plan and scale of the images were pointed out. David Fotheringham stated that he did not see a substantial difference but agreed there might be discrepancy. Austin Roy stipulated what the definition of "substantial" was and added it was federally provided by the FCC in the Spectrum Act.

Jane Griener stated that when telecommunication companies requested changes, it gave the City a chance to ask them to clean up the area, beautify, etc. She added that the City did not have any way to request these changes otherwise. Austin Roy stated that the issue had been brought up in City Council before. He continued that the argument was that the Federal Government's intention, through the FCC, was that no government could restrict the upgrade of a tower as required. He continued that the Commission needed to take this fact into consideration as they prepared their motion. Alan MacDonald stated that he wanted to take that fact into consideration but needed to be fully informed. He continued that he had two basic questions, but that since no T-Mobile representative was there to answer them, he could not make a decision. Sylvia Christiansen stated that T-Mobile needed to represent itself to the Commission.

There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays:**
Alan MacDonald	None
John MacKay	
David Fotheringham	
Jane Griener	
Jessica Smuin	
Sylvia Christiansen	

C. Public Hearing – Amendment to Development Code – Uses Within Buildings in Business/Commercial Zone

Austin Roy stated that Staff had reviewed an amendment to the Development Code concerning the Business/Commercial section of said Code. He continued that the change had been discussed in City Council. One of the Council Members had recommended that the language be modified to make it more restrictive. The article in question was Article 3.07.080.1, and the proposed change sought to simplify and clean up the language regarding uses permitted within buildings in the Business/Commercial Zone. Staff had taken out the word *etc*. and the phrase, *but not limited to*, which meant the same thing as etc. then add the word *and* in between the word repair and temporary.

David Fotheringham opened the Public Hearing. There were no comments and David Fotheringham closed the Public Hearing.

MOTION: Alan MacDonald moved to recommend approval of the proposed Amendment to Development Code Article 3.07.080, Uses Within Buildings in Business/Commercial Zone. John MacKay seconded the motion.

Jane Griener stated that she used to own a company where she was tasked to write the policies. She explained that every new employee hired created a new challenge. Therefore, she continued, she liked having "etc." in the text. She asked whether it could be changed to something that would not limit the City. Alan MacDonald explained that this portion of the text limited the things that were customarily done outside of a building. He added that the code stated that all retail sales had to be conducted indoors. The change limited what kinds of things could be done outdoors. He continued that the intention was to close a loophole.

David Fotheringham explained that someone with a property and a lawncould do activities there and asked if closing the loophole would prevent simple activities from taking place. Austin Roy stated that the ordinance was still open to some interpretation. David Fotheringham disagreed. Alan MacDonald sided with Austin Roy. David Fotheringham pointed to food trucks which were not entirely outside. Jane Griener stated that food trucks were not permanent fixtures. Sylvia Christiansen explained that the language was the same as saying "etc.": the decision was up to the City. Austin Roy stated that the language was not changing what was being said: it merely tightened it. Jane Griener stated that she wanted the motion to be redone so the word "entirely" was struck.

MOTION: Sylvia Christiansen moved to amend the motion to strike the word *entirely*from Article 3.07.080.0.1

John MacKay seconded the motion. There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays**
Alan MacDonald	None
John MacKay	
David Fotheringham	
Jane Griener	
Jessica Smuin	
Sylvia Christiansen	

D. Setback Exception – Proposed Site Plan in Business/Commercial Zone – Paul Anderson

Austin Roy stated that the petitioner was seeking an exception to the setback requirements for a commercial structure in the Business/Commercial Zone. He added that there was a potential new buyer for the property who had requested a change. The plan was for a physical therapy/ fitness center. He explained that the property was an odd shaped lot adjacent to Dry Creek and the Main Street Bridge. He continued that the potential buyer wished to build a structure and was asking for an exception on the setbacks, particularly when it came to the 15 fifteen-foot front setbacks. The petitioner, he continued was seeking two different setback exceptions: first, a

front-setback of 15 feet from the front property line on Main Street and second, a zero side-setback for the north property boundary bordering Dry Creek. He added that the petitioner had stated that without the exceptions it would be difficult to place a building on the odd shaped lot. He pointed to the screen with the initial concept.

Austin Roy stated that the ordinance granted the Planning Commission with the power to recommend exceptions to the setback requirements. He added having examples in town. He pointed to the State Farm building example, which, he explained had a setback of 15 feet. He continued that the zero foot setbacks (due to the dry creek and the parking lot) would impact the neighboring properties to the North.

Sylvia Christiansen asked if there was a trail through the area. Austin Roy responded that there was one such trail as part of the Master Plan. He pointed that the school district owned the dry creek bed. Sylvia Christiansen askedwhetherthere was an easement for the trail. Austin Roy added the City did not, but that this was the proposed trail. Sylvia Christiansen asked whether the neighbors have any say in this decision. Austin Roy stated that they did not as this was not a public hearing. He pointed that there were other buildings around the town that had received exceptions. Sylvia Christiansen stated that the purpose of the setback was to create cohesion amongst structures and to create space between them. Austin Roy stated that there was a significant amount of space even with the exception.

David Fotheringham asked how tall the structure would be. The petitioner, Paul Anderson, came before the Commission to explain his project. He stated living on 255 Main Street. He continued stating that this property had had significant issues. The previous property owner had lost $90,000 when the market went down. He explained that his wife and he had bought the house. He added that an easement went through the property. He stated that there was a gas line going through the property as well. Nobody wanted this property and stated that he was hoping to present a good project to the Commission to make the property a beautiful one. He pointed to the easement that went through the property by using images. He explained that he had worked on the lot to remove all the weeds and trash that had accumulated over time. He discussed the purpose of the code and added that he had talked about the situation with neighbors who seemed to approve of his plan. He went on to describe the adjacent properties. Paul Anderson explained that the easement would always pose a problem as would the gas line. He explained that he had cut the trees that were falling over the creek. He continued there had been complaints from the neighbors regarding the creek and added that the school had had to spray the area. He explained that the portion of land he was describing could possibly be donated to him. He explained that he wanted his property to look nice and mentioned that he had spent $10,000 to clean up the creek. He pointed to the next property owner who was making the trail part of his landscaping and explained that the City had also received grants to take care of the trail. He explained that the property in the back of the trail was high. He continued that he was invested in the property and wanted to make sure it was safe for everyone. He further explained the different projects he had undertaken or was planning to undertake as part of the landscaping. He stated that a beautiful building could now be added. Jane Griener explained that the trail was a goodwill gesture as the property belonged to the school. She added that the City could not just say it was part of the Alpine Trail system without some agreement. Paul Anderson explained he had gone before the School Board who had allowed him to work on the property. He explained he had

used an Eagle Scout project to clean up the land and that the School Board would give him the land, if it could. Alan MacDonald asked if the School Board had been able to grant an easement for the trail system. David Fotheringham stated that to complete what the petitioner was asking for, an easement would have to be granted. Paul Anderson stated that he did not see a reason why the School Board would not want to forgo the expense of the land. He explained that the easements would be necessary. He added that the gas line would not be an issue as long as he did not do a basement. Jane Griener stated she was concerned the gas line would have to be removed to have a structure there. Paul Anderson stated he had already discussed this and had been told it would not need to be the case. He pointed to the current nearby structures and the current properly line and explained that his project would make his neighbors happy.

Jane Griener asked about one of the easements. Paul Anderson explained this had been built into the property as it was supposed to be a different kind of development. The owner however, had started selling the land in pieces which had created issues. All the parcels were separately owned. Austin Roy stated that the easement was meant to allow access to the public road. Eventually another access was created. Jane Griener asked whether the easement would be removed. She was told that it would not be unless the petitioner asked for a plat amendment. Paul Anderson explained that the properties set up made it unlikely. Sylvia Christiansen asked what usage the petitioner was considering. Austin Roy answered that the usage was physical therapy which was permitted in the Business/Commercial zone. Sylvia Christiansen asked about the motion. Austin Roy stated that the motion would allow for the exception on the setback to be granted if the petitioner bought the property.

The Development Code stated that the Planning Commission may grant exceptions to the setback requirements for the Business/Commercial and Gateway Historic Zones.

Article 3.07.050.2

In commercial developments adjacent to other commercial areas, the side yard and rear yard setbacks will be not less than 20 feet unless recommended by the Planning Commission and approved by the City Council where circumstances justify.

Article 3.11.040.3.e

The Planning Commission may recommend exceptions to the Business Commercial Zone requirements regarding parking, building height, signage, setbacks and use if it finds that the plans proposed better implement the design guidelines to the City Council for approval.

MOTION: Sylvia Christiansen moved to recommend approval of the proposed setback exceptions. Alan MacDonald seconded the motion.

David Fotheringham asked whether, once the motion was passed, the petitioner could build a two-story building. Austin Roy stated that it was possible, as long as the building complied with the code. Jane Griener stated that there might be other options than to change the setback. She explained that she was not sure what use was the ordinance since so many exceptions were granted. The petitioner mentioned that for the particular property, the setback exception was the only way. Sylvia Christiansen explained that while she agreed with Jane Greiner, she also felt that the new building would be a nice addition.

There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays:**
Alan MacDonald	None
John MacKay	
David Fotheringham	
Jane Griener	
Jessica Smuin	
Sylvia Christiansen	

IV. Communications

David Fotheringham asked about weeds on the lot on the corner of Healy and Canyon Crest. He inquired about whether there was an ordinance planning to clean this lot. Austin Roy said the code enforcer was in the process of sending out letters to property owners to stipulate that unless the weeds were removed, the City would cut them down and bill the owner.

Jessica Smuin stated the City was working with Draper City and MAG on connecting the Alpine Trail and the Bonneville Shoreline Trail. She explained that she would meet the group in the following week to delineate the trails.

V. APPROVAL OF PLANNING COMMISSION MINUTES: June 4, 2019

MOTION: Jessica Smuin moved to approve the minutes for June 4, 2019, as written. Alan Macdonald seconded the motion. There were 6 Ayes and 0 Nays (recorded below). The motion passed.

Ayes:	**Nays:**
Alan MacDonald	None
John MacKay	
David Fotheringham	
Jane Griener	
Jessica Smuin	
Sylvia Christiansen	

The meeting was adjourned at 9:15 pm.