## COUNTY OF MENDOCINO DEPARTMENT OF PLANNING AND BUILDING SERVICES

860 North Bush Street · Ukiah · California · 95482 120 West Fir Street · Ft. Bragg · California · 95437 S FAX: 707-964-5379
FB PHONE: 707-964-5379
FB FAX: 707-964-5379
FB FAX: 707-961-2427
pbs@mendocinocounty.gov
www.mendocinocounty.org/pbs

September 27, 2024

Department of Transportation Environmental Health -Fort Bragg Building Inspection - Fort Bragg Assessor Agriculture Commissioner Air Quality Management Caltrans Cloverdale Rancheria Redwood Valley Rancheria Sherwood Valley Band of Pomo Indians Fort Bragg Rural Fire District

CASE#: AP\_2024-0028

DATE FILED: 9/11/2024

OWNER: THOMAS MCGUIRE

APPLICANT: TIHTINA SINTAYEHU

**REQUEST:** Administrative Permit to authorize an eligible facilities request for modifications to an existing wireless communication facility that includes the installation of one Commscope USX6-11W microwave dish, two Ceragon-Fibeair 1P-20A\_RFU-D-HP ODU, two Amphenol-Duplex Armor I/O MW line, 2 Amphenol-2CX14AWG

MW line, one 2" Innerduct, Commscope-RM-DM-6 with modifications per mount analysis by Trylon

**LOCATION:** 3± miles northeast of the City of Fort Bragg, lying on the east side of Bald Hill Road (CR 421A), 1.95± miles northeast of its intersection with Pudding Creek Road (CR 421); located at 21929 Bald Hill Rd., Fort

Bragg; APN: 069-270-14.

**SUPERVISORIAL DISTRICT:** 4

**STAFF PLANNER:** KEITH GRONENDYKE **RESPONSE DUE DATE:** October 11, 2024

#### PROJECT INFORMATION CAN BE FOUND AT:

www.mendocinocounty.org

Select "Government" from the drop-down; then locate Planning and Building Services/Public Agency Referrals.

Mendocino County Planning & Building Services is soliciting your input, which will be used in staff analysis and forwarded to the appropriate public hearing. You are invited to comment on any aspect of the proposed project(s). Please convey any requirements or conditions your agency requires for project compliance to the project coordinator at the above address, or submit your comments by email to <a href="mailto:pbs@mendocinocounty.org">pbs@mendocinocounty.org</a>. Please note the case number and name of the project coordinator with all correspondence to this department.

We have reviewed the above application and recommend the following (please check one):						
☐ No comment at this time.						
Recommend conditional approval (attached).						
Applicant to submit additional information (attach items needed, or contact the applicant directly, copying Planning and Building Services in any correspondence you may have with the applicant)						
☐ Recommend denial (Attach reasons for	recommending denial).					
☐ Recommend preparation of an Environm	nental Impact Report (attach reasons why	an EIR should be required).				
Other comments (attach as necessary).						
REVIEWED BY:						
Signature [	Department	Date				

CASE: AP\_2024-0028

OWNER: MCGUIRE FAMILY TRUST

T-MOBILE WEST LLC **APPLICANT:** 

CROWN CASTLE INC. (TIHTINA SINTAYEHU) AGENT:

**REQUEST:** Administrative Permit to authorize an eligible facilities request for modifications to an existing wireless

> communication facility that includes the installation of one Commscope USX6-11W microwave dish, two Ceragon-Fibeair 1P-20A RFU-D-HP ODU, two Amphenol-Duplex Armor I/O MW line, 2 Amphenol-2CX14AWG MW line, one 2" Innerduct, Commscope-RM-DM-6 with modifications per mount analysis by

Trylon

LOCATION: 3± miles northeast of the City of Fort Bragg, lying on the east side of Bald Hill Road (CR 421A), 1.95± miles

northeast of its intersection with Pudding Creek Road (CR 421); located at 21929 Bald Hill Rd., Fort Bragg;

APN: 069-270-14.

APN/S: 069-270-14

**PARCEL SIZE:** 314± Acres

**GENERAL PLAN:** Rangeland 160-Acre Minimum (RL:160)

**ZONING:** Rangeland (R-L 160)

**EXISTING USES:** Wireless Communication Facility, Agricultural

**DISTRICT:** 4 (Gjerde)

U 22-99 (Install four (4) fifteen (15) foot antennas and four (4) in GPS antenna); UM 22-99/2007 **RELATED CASES:** (colocation – install six-foot diameter microwave dish); UM 22/99-2009 (Install nine (9) panel antennas to replace three (3) omni-whip antennas); UM 22-99/2010 (install six (6) panel antennas); AP 2015-0026 (Install one (1) six-foot diameter microwave dish); AP 2019-0084 (Add two (2) new antennas and a 4 foot by 4 foot cabinet to hold support equipment); AP\_2021-0015 (Remove/Replace RRU & Antenna)

**ADJACENT GENERAL PLAN ADJACENT ZONING ADJACENT LOT SIZES ADJACENT USES** 160±; 78± acres Agriculture

NORTH: Range Land (RL160);

Timber Pro

Timber Production

(TP160)

Range Land (RL160);

Timber Pro

Rural Residential (RR5,

RR2)

Range Land (RL:160); Timber Pr

**Timber Production** (TP:160)

Range Land (RL:160);

Timber Pr

Rural Residential (RR:5,

44+ acres

81.8±; 88± acres

11 Various (11± - 1±

Residential

Institutional

Agriculture

RR:2) acres)

## **REFERRAL AGENCIES**

LOCAL **TRIBAL** STATE

Agricultural Commissioner

🔀 Air Quality Management District

Assessor's Office

**EAST:** 

SOUTH:

WEST:

Building Division Fort Bragg

Department of Transportation

Environmental Health (EH)

□ Fort Bragg Rural Fire District

Redwood Valley Rancheria

Sherwood Valley Band of Pomo Indians

ADDITIONAL INFORMATION: Related projects include the following:

STAFF PLANNER: KEITH GRONENDYKE **DATE:** 9/27/2024

## **ENVIRONMENTAL DATA**

1. MAC:

GIS

None.

2. FIRE HAZARD SEVERITY ZONE:

CALFIRE FRAP maps/GIS

High

3. FIRE RESPONSIBILITY AREA:

CALFIRE FRAP maps/GIS

State Responsibility Area (SRA).

4. FARMLAND CLASSIFICATION:

GIS

Grazing Land.

**5. FLOOD ZONE CLASSIFICATION:** 

FEMA Flood Insurance Rate Maps (FIRM)

None

6. COASTAL GROUNDWATER RESOURCE AREA:

Coastal Groundwater Study/GIS

N/A.

7. SOIL CLASSIFICATION:

Mendocino County Soils Study Eastern/Western Part

Western Soil Map Unit No. 221.

8. PYGMY VEGETATION OR PYGMY CAPABLE

SOIL:

LCP maps, Pygmy Soils Maps; GIS

N/A.

9. WILLIAMSON ACT CONTRACT:

GIS/Mendocino County Assessor's Office

Yes.

**10. TIMBER PRODUCTION ZONE:** 

GIS

No.

11. WETLANDS CLASSIFICATION:

GIS

No.

12. EARTHQUAKE FAULT ZONE:

Earthquake Fault Zone Maps; GIS

No.

13. AIRPORT LAND USE PLANNING AREA:

Airport Land Use Plan; GIS

No.

14. SUPERFUND/BROWNFIELD/HAZMAT SITE:

GIS; General Plan 3-11

No.

15. NATURAL DIVERSITY DATABASE:

CA Dept. of Fish & Wildlife Rarefind Database/GIS

Yes.

16. STATE FOREST/PARK/RECREATION AREA ADJACENT:

ADJACE

GIS; General Plan 3-10

No.

17. LANDSLIDE HAZARD:

Hazards and Landslides Map; GIS; Policy RM-61; General

Plan 4-44

No.

18. WATER EFFICIENT LANDSCAPE REQUIRED:

Policy RM-7; General Plan 4-34

No.

19. WILD AND SCENIC RIVER:

www.rivers.gov (Eel Only); GIS

No.

20. SPECIFIC PLAN/SPECIAL PLAN AREA:

Various Adopted Specific Plan Areas; GIS

No.

21. STATE CLEARINGHOUSE REQUIRED:

Policy

No.

22. OAK WOODLAND AREA:

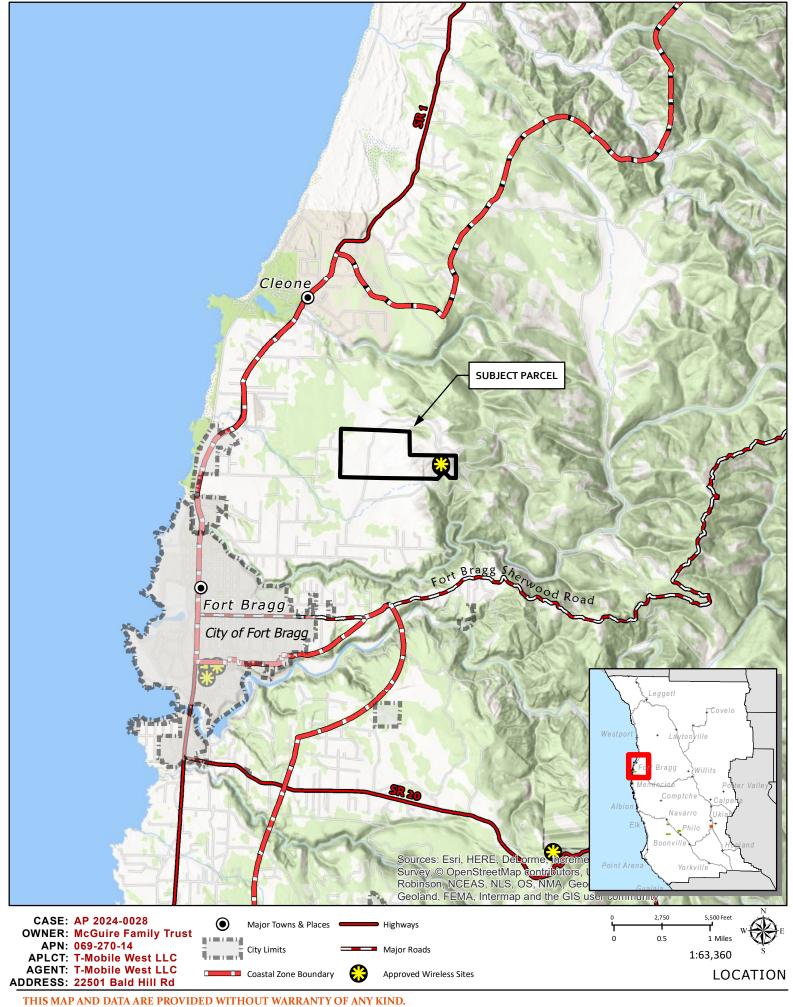
USDA

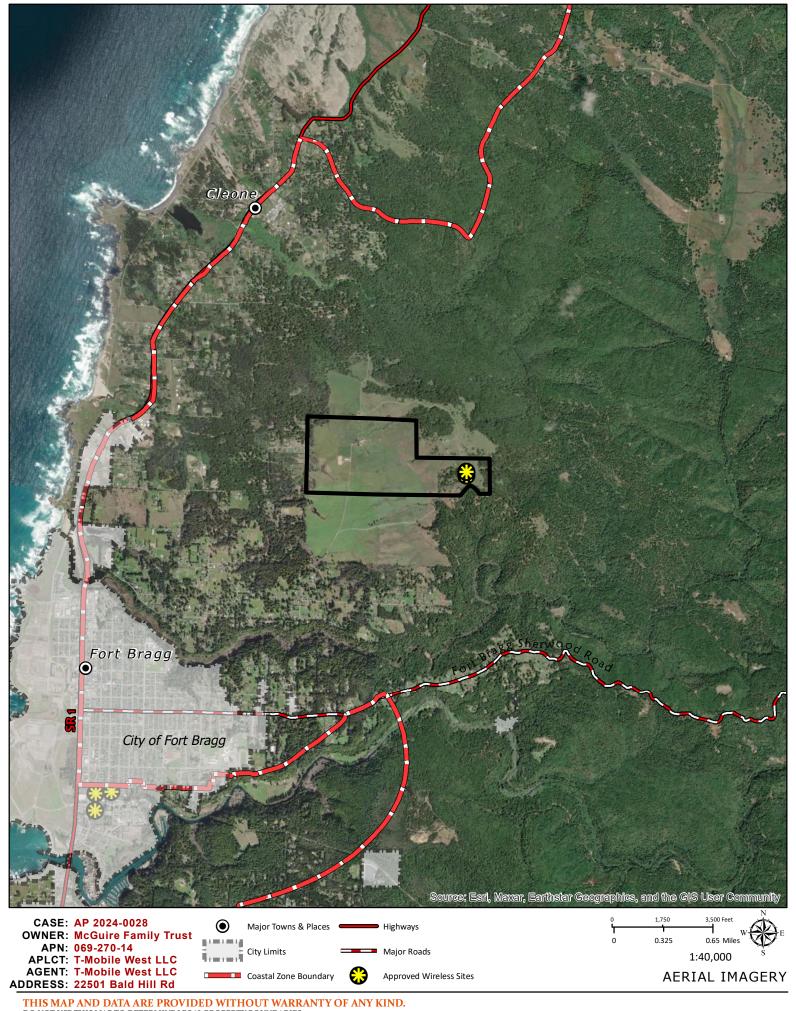
No.

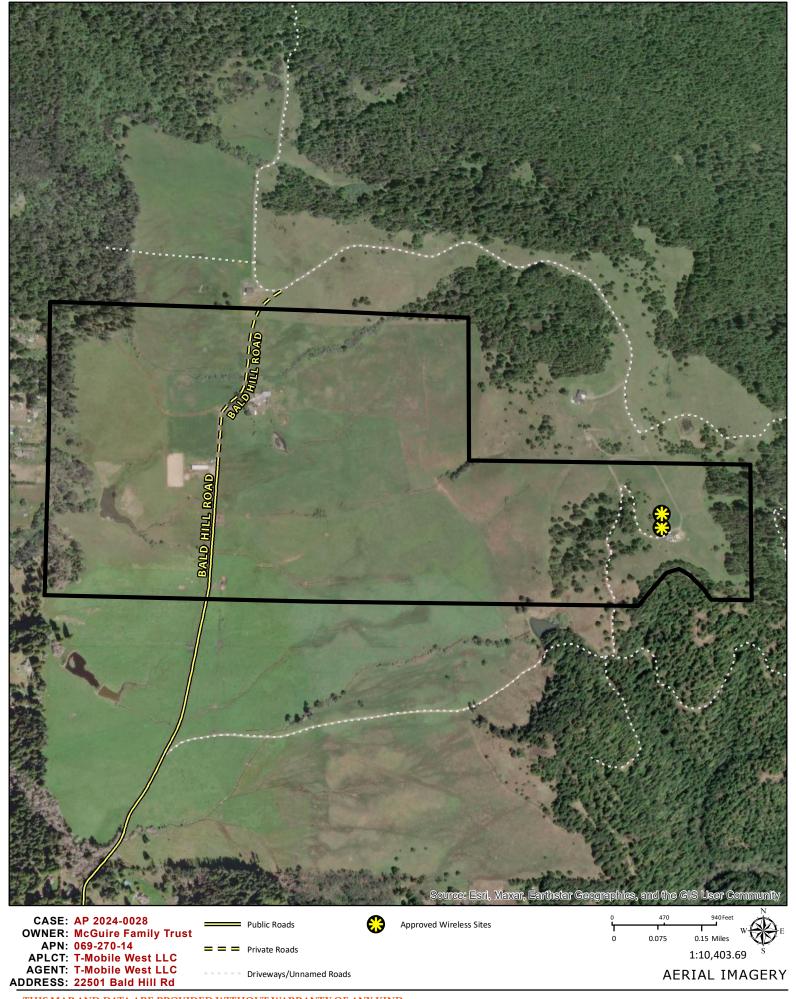
23. HARBOR DISTRICT:

Sec. 20.512

No.









## PLANNING & BUILDING SERVICES

CASE NO:	
DATE FILED:	
FEE:	
RECEIPT NO:	
RECEIVED BY:	
	Office Use Only

## **APPLICATION FORM**

## **APPLICANT:**

Name: T-Mobile West LLC by Agent c/o Crown Castle Inc, on behlaf Tihtina Sintayehu			Phone:	206-336-3228
	Sintayehu 2000 CORPORATE DRIVI	E CANONSBURG, PA 1533	17	
_	_State/Zip:_			tihtina.sintayehu@crowncastle.com
PROPERTY OW	/NER:			
Name:	MCGUIRE FAMILY	/ TRUST	Phone:	
Mailing Address:	22504 5415 1111 50	AD FORT BRAGG, C		
			Email:	
AGENT:				
Name:	Same as applicant		Phone:	
Mailing Address:				
City:	State/Zip:_		Email:	
ASSESSOR'S PA	ARCEL NUMBER/S:	069-270-14-00		
TYPE OF APPLI	CATION:			
☐ Agricultural P ☐ Agricultural P ☐ Airport Land I ☐ Development ☐ Exception	reserve: New Contract reserve: Cancellation reserve: Rescind & ReEnter Use	☐ General Plan A ☐ Land Division — ☐ Land Division — ☐ Land Division — ☐ Land Division — ☐ Modification o ☐ Reversion to A ☐ Rezoning	- Minor - Major - Parcel - Re-Subdivisio f Conditions	☐ Use Permit – Cottage ☐ Use Permit – Minor ☐ Use Permit – Major ☐ Use Permit – Modification ☐ Variance ☐ Other

I certify that the information submitted with this application is true and accurate.

Agent Crown Castle Anc. Tiktina Sintayehu

08/30/24 please see attached letter of authorization

Signature of Applicant/Agent Date Signature of Owner Date

## SITE AND PROJECT DESCRIPTION QUESTIONNAIRE

The purpose of this questionnaire is to relate information concerning your application to the Department of Planning and Building Services and other agencies who will be reviewing your project proposal. Please remember that the clearer picture that you give us of your project and the site, the easier it will be to promptly process your application. Please answer all questions. Those questions which do not pertain to your project please indicate "Not applicable" or "N/A".

## THE PROJECT

TOWER SCOPE OF WORK: •INS	STALL (1) COMMSCOPE	- USX6-11W MICROW	AVE DISH •INSTALL	(2) CERAGON - FIE	BEAIR
IP-20A_RFU-D-HP ODU •INSTA					
LINE •INSTALL (1) 2" INNERDU	CT •INSTALL COMMSCO	OPE - RM-DM-6 WITH	MODIFICATIONS PE	R MOUNT ANALYS	SIS BY TRYLON
DATED 07/05/24					
	NO CO	FLINITE		NADE FOOTAGE	
2. Structures/Lot Coverage	NO. O	F UNITS	SC	QUARE FOOTAGE	
2. Structures/Lot Coverage	NO. O	F UNITS PROPOSED	SC	QUARE FOOTAGE PROPOSED	TOTAL
· · · · ·		<b>T</b>			·
☐ Single Family		<b>T</b>			TOTAL
☐ Single Family ☐ Mobile Home		<b>T</b>			TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex		<b>T</b>	EXISTING		TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily		<b>T</b>	EXISTING		TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other:		<b>T</b>	EXISTING		TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other: ☑ Other:		<b>T</b>	EXISTING		TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other: ☑ Other: Existing wirelss facitly	EXISTING	PROPOSED	EXISTING		TOTAL
<ul><li>□ Duplex</li><li>□ Multifamily</li><li>□ Other:</li><li>☑ Other:</li></ul>	EXISTING	PROPOSED	EXISTING		TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other: ☒ Other: Existing wirelss facitly	EXISTING	PROPOSED	EXISTING		T
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other: ☑ Other: Existing wirelss facitly  GRAND TOTAL (Equal to gross area	EXISTING  a of Parcel): 3,724 s	PROPOSED q ft	EXISTING  3,724 sq ft	PROPOSED	TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other: ☑ Other: Existing wirelss facitly  GRAND TOTAL (Equal to gross area	EXISTING  a of Parcel): 3,724 s  rial, or institutional? If	PROPOSED q ft	EXISTING  3,724 sq ft	PROPOSED	TOTAL
☐ Single Family ☐ Mobile Home ☐ Duplex ☐ Multifamily ☐ Other: ☑ Other: Existing wirelss facitly  GRAND TOTAL (Equal to gross area	EXISTING  a of Parcel): 3,724 s  rial, or institutional? If  N/A	PROPOSED q ft	EXISTING  3,724 sq ft  If no, skip to item 4	PROPOSED	TOTAL

4. Will the pro	ject be phased? (Work bei	ng done over separate periods of t	ime)
■ NO	☐ <b>YES</b> If yes, explain	your plans for phasing:	
5. Will vegetat	ion be removed on areas o	other than the building sites and ro	pads?
6. Will the pro	ject involve the use or disp ☐ YES If yes, explain:		erials such as toxic substances, flammables, or explosives?
7. How much o	No. of covered spaces: No. of uncovered spaces: No. of standard spaces: No. of accessible spaces: Existing no. of spaces: Proposed additional space Total:		Size
8. Is any road o		nned? If yes, grading and drainag escribe the terrain to be traversed.	e plans may be required. (e.g., steep, moderate slope, flat, etc.)
9. For grading	or road construction, com	plete the following:	
Amount of	cut:	cubic yards	
Amount of	fill:	cubic yards	
Max. heigh	t of fill slope:	feet	
Max. heigh	t of cut slope:	feet	
Amount of	import/export:	cubic yards	
Location of	borrow or disposal site:		

	Does the pro	pject involve sand removal, mining or gravel extraction? If yes, detailed extraction, reclamation and monitoring plans
IIIa	■ NO	 □ YES
11.	Will the prop	posed development convert land currently or previously used for agriculture to another use? $\square$ YES
12.	Will the dev	elopment provide public or private recreation opportunities?  □ YES If yes, explain how:
13.	Is the propo	sed development visible from State Route 1 or other scenic route?
14.	Is the propo	sed development visible from a park, beach or other recreational area? $\square$ YES
15.	Does the de	velopment involve diking, filling, dredging or placing structures in open coastal water, wetlands, estuaries or lakes?
	Diking: Filling: Dredging: Structures:	■ NO
	If so, what is	the amount of material to be dredged/filled?: cubic yards
	Location of d	redged material disposal site?:
	Has a U.S. Ar	my Corps of Engineers permit been applied for? $\square$ NO $\square$ YES
16.	Will there be	e any exterior lighting?  — YES If yes, describe below and identify the location of all exterior lighting on the plot and building plans.
17.	<b>Utilities will</b> Electricity:	be supplied to the site as follows:  ■ Utility Company (service exists to parcel)  □ Utility Company (requires extension of service to site): feet miles  □ On Site Generation – Specify:
	Gas:	<ul> <li>☐ Utility Company/Tank</li> <li>☐ On Site Generation – Specify:</li> <li>■ None</li> </ul>
	Telephone:	■ NO □ YES

18. What will be the method of sewage disposal?
☐ Community Sewage System (specify supplier):
□ Septic Tank ■ Other (specify): No sewage on site
19. What will be the domestic water source:
☐ Community Water System (specify supplier):
☐ Well ☐ Spring
□ spring ■ Other (specify): No water on site
20. Are there any associated projects and/or adjacent properties under your ownership?
■ NO □ YES If yes, list below (Assessor's Parcel Number, address, etc.)
21. List and describe any other related permits and other public approval required for this project, including those required by other
County departments, city, regional, State and Federal agencies:
22. Describe the location of the site in terms of readily identifiable landmarks: (e.g., mailboxes, mile posts, street intersections, etc.)
22. And there existing atmost one and the property 2 if you and the property is found subdivision, describe heless and identify the year of
23. Are there existing structures on the property? If yes and the proposal is for a subdivision, describe below and identify the use of each structure on the plot plan or tentative map.
□ NO ■ YES
This is a modification to an existing cell tower, no subdivision.
This is a modification to an existing cell tower, no subdivision.
24. Will any existing structure be demolished or removed? If yes, describe the type of development to be demolished or removed,
including the relocation site, if applicable.
■ NO □ YES

25. What is the	maximur	n height of a	II structures	?					
Existing: 56'		feet							
Proposed: 50	6'	feet							
26. What is the	gross floo	or areas of al	ll structures,	including cov	vered parki	ng and accesso	ory buildings	?	
Existing: no c	hange	square feet	ī						
Proposed: no	change	square feet	:						
27. What is the	total lot a	area within p	property line	s?					
Total Lot Are		=	□ acres 🗏 sq						
-	ants and a	-				_	_		eir uses, slopes, at you feel would
29. Briefly desc Indicate the type be helpful. Pasture land			-	_		-	-		-
30. Indicate the									
				Commercial		•	Timberland	Other	
North:		X							
East:		X							
South:		X							
West:		K							

## **CERTIFICATION AND SITE VIEW AUTHORIZATION**

- I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this
  application, and all attached appendices and exhibits, is complete and correct. I understand that the failure to provide any
  requested information or any misstatements submitted in support of the application shall be grounds for either refusing to
  accept this application, for denying the permit, for suspending or revoking a permit issued on the basis of such
  misrepresentations, or for seeking of such further relief as may seem proper to the County.
- 2. I hereby grant permission for County Planning and Building Services staff and hearing bodies to enter upon and site view the premises for which this application is made in order to obtain information necessary for the preparation of required reports and render its decision.

	Agent Crown Castle Anc. Tiktina Sintayehu	08/30/2024
	Owner/Authorized Agent	Date
NOTE: IF SIGNE	D BY AGENT, <u>OWNER MUST SIGN BELOW</u> .	
AUTHORIZATION	OF AGENT	
I hereby authoriz		of authorizationto act as my representative
and to bind me	in all matters concerning this application.	
	Please see attached letter of authorization	08/30/2024
	Owner	Date

#### **MAIL DIRECTION**

To facilitate proper handling of this application, please indicate the names and mailing addresses of individuals to whom you wish correspondence and/or staff reports mailed <u>if different from those identified on Page 1 of the application form.</u>

Name	Name	Name
Tihtina Sintayehu Agent c/o Crown Castle Inc, on behalf of T-Mobile West LLC		
Mailing Address	Mailing Address	Mailing Address
2000 CORPORATE DRIVE CANONSBURG, PA 15317		

COMPLETE FOR PROJECTS
LOCATED IN THE COASTAL
ZONE ONLY

#### **DECLARATION OF POSTING**

At the time the application is submitted for filing, the applicant must **Post**, at a conspicuous place, easily read by the public and as close as possible to the site of the proposed development, notice that an application for the proposed development has been submitted. Such notice shall contain a general description of the nature of the proposed development and shall be on the standard form provided in the application packet. If the applicant fails to post the completed notice form and sign the **Declaration of Posting**, the Department of Planning and Building Services cannot process the application.

As Proof of Posting, please sign and date this Declaration of Posting form when the site is posted; it serves as proof of posting. It should be returned to the Department of Planning and Building Services with the application. Pursuant to the requirements of Section 20.532.025(H) of the Mendocino County Code, I hereby certify that on \_\_\_\_\_\_ (date of posting), I or my authorized representative posted the "NOTICE OF PENDING PERMIT" for application to obtain a Coastal Development Permit for the development of: (Description of development) Located at: (Address of development and Assessor's Parcel Number) The public notice was posted at: (A conspicuous place, easily seen by the public and as close as possible to the site of proposed development) Owner/Authorized Representative

(A copy of the notice which was posted shall be attached to this form).

**NOTE:** YOUR APPLICATION CANNOT BE PROCESSED UNTIL THIS "<u>DECLARATION OF POSTING</u>" IS SIGNED AND RETURNED TO PLANNING AND BUILDING SERVICES.

Date

COMPLETE FOR PROJECTS
LOCATED IN THE COASTAL
ZONE ONLY

## **NOTICE OF PENDING PERMIT**

A COASTAL PERMIT APPLICATION FOR DEVELOPMENT ON THIS SITE IS PENDING BEFORE THE COUNTY OF MENDOCINO.

PROPOSED DEVELOPMENT:

LOCATION:

APPLICANT:

ASSESSOR'S PARCEL NUMBER:

DATE NOTICE POSTED:

## **FURTHER INFORMATION IS AVAILABLE AT:**

COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING & BUILDING SERVICES
pbs@mendocinocounty.org
860 North Bush Street, Ukiah, CA 95482, 707-234-6650
120 West Fir Street, Fort Bragg, CA 95437, 707-964-5379

HOURS: 8:00 - 5:00

## **Indemnification And Hold Harmless**

ORDINANCE NO. 3780, adopted by the Board of Supervisors on June 4, 1991, requires applicants for discretionary land use approvals, to sign the following Indemnification Agreement. Failure to sign this agreement will result in the application being considered incomplete and withheld from further processing.

## **Indemnification Agreement**

As part of this application, applicant agrees to defend, indemnify, release and hold harmless the County of Mendocino, its agents, officers, attorneys, employees, boards and commissions, as more particularly set forth in Mendocino County Code Section 1.04.120, from any claim, action or proceeding brought against any of the foregoing individuals or entities, the purpose of which is to attack, set aside, void or annul the approval of this application or adoption of the environmental document which accompanies it. The indemnification shall include, but not be limited to, damages, costs, expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent, passive or active negligence on the part of the County, its agents, officers, attorneys, employees, boards and commissions.

08/30/24	Tihtina Sintayehu Agent c/o Crown Castle Inc, on behalf of T-Mobile West LLC
Date	Applicant

## **Coastal Zone Development**

Complete for projects located in the coastal zone only

List all property owners within 300 feet and occupants within 100 feet along with the corresponding Assessor's Parcel Number for each owner/occupant. **This form must be typed.** 

ADNI	
APN Lastname, Firstname Street Address City, State Zip	
,, r	

T-MOBILE SITE NUMBER: SF40870D

CROWN BALD HILL T-MOBILE SITE NAME:

**MICROWAVE** T-MOBILE PROJECT:

**BUSINESS UNIT #:** 814771

22501 BALD HILL RD **SITE ADDRESS:** 

FT. BRAGG, CA 95437

DATE

**MENDOCINO COUNTY: MONOPOLE** SITE TYPE:

**APPROVALS** 

SIGNATURE

51'-0" **TOWER HEIGHT:** 

# The Mobile of the second secon



T-MOBILE SITE NUMBER: SF40870D

BU #: **814771** FORT BRAGG (REVISED)

22501 BALD HILL RD FT. BRAGG, CA 95437

> EXISTING 51'-0" MONOPOLE

	ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/30/24	CDM	CONSTRUCTION	MB
1	08/15/24	CDM	CONSTRUCTION	MB

# Maliam Barima C 83084

CROWN CASTLE USA INC. IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION

OF A LICENSED PROFESSIONAL ENGINEER,

TO ALTER THIS DOCUMENT.

8/16/2024 | 10:18:52 AM CDT

SHEET NUMBER

**REVISION:** 

SITE INFORMATION

CROWN CASTLE USA INC.

FORT BRAGG (REVISED) SITE NAME: BU NUMBER:

TOWER OWNER: CROWN CASTLE

2000 CORPORATE DRIVE CANONSBURG, PA 15317

CARRIER/APPLICANT: T-MOBILE

1200 CONCORD AVENUE SUITE 500

CONCORD, CA 94520

SITE ADDRESS: 22501 BALD HILL RD FT. BRAGG, CA 95437

COUNTY: MENDOCINO

LATITUDE: 39° 27′ 54.0″ / 39.465° LONGITUDE: -123° 45' 32.3" / -123.759° LAT/LONG TYPE: GROUND ELEVATION: 749.6'+/- MSL

EXISTING AREA OF CONSTRUCTION: **CURRENT ZONING:** MAP/PARCEL #: 069-270-14-00

OCCUPANCY CLASSIFICATION: U

TYPE OF CONSTRUCTION:

A.D.A. COMPLIANCE:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

PROPERTY OWNER: MCGUIRE FAMILY TRUST 22501 BALD HILL ROAD FORT BRAGG, CA 95437

JURISDICTION: COUNTY OF MENDOCINO

860 NORTH BUSH STREET UKIAH, CA 95482

ELECTRIC PROVIDER: PG&E (800) 743-5000

MICROWAVE MOUNTING DETAILS AND SPECIFICATIONS **OPERATIONS** MICROWAVE DATA CUT SHEETS MOUNT MODIFICATION (BY OTHERS)

**NETWORK** 

**BACKHAUL** 

T-MOBILE

APPROVAL

CONSTRUCTION MANAGER

PROPERTY OWNER OR REP.

LAND USE PLANNER

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

## PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:

- INSTALL (1) COMMSCOPE USX6-11W MICROWAVE DISH
- INSTALL (2) CERAGON FIBEAIR IP-20A\_RFU-D-HP ODU
- INSTALL (2) AMPHENOL DUPLEX ARMOR I/O MW LINE
- INSTALL (2) AMPHENOL 2CX14AWG MW LINE
- INSTALL (1) 2" INNERDUCT
- INSTALL COMMSCOPE RM-DM-6 WITH MODIFICATIONS PER MOUNT ANALYSIS BY TRYLON DATED 07/05/24

# **APPLICABLE CODES &**

NO SCALE

**LOCATION MAP** 

**CROWN BALD HILL** 

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

> 2022 CALIFORNIA MECHANICAL CODE (CMC) 2022 CALIFORNIA ELECTRICAL CODE (CEC)

MICROWAVE PATH: IQ.LINK DATED: 03/06/24

ORDER ID: 670425

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDE UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT ANALYSIS BY TRYLON DATED 07/05/24.

TWIST AND SWAY LIMITATIONS OF TIA 222 G ANNEX D FOR THIS DISH DO NOT DEGRADATION. THEY DO MEET THE 10 DE DEGRADATION LIMIT.

# PROJECT TEAM

A&E FIRM:

CROWN CASTLE USA, INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317

CROWN CASTLE USA INC. CONTACTS:

2000 CORPORATE DRIVE CANONSBURG, PA 15317

CANDI CONGER - PROJECT MANAGER CANDI.CONGER@CROWNCASTLE.COM

OLEG GAPONOV - AES

OLEG.GAPONOV@CROWNCASTLE.COM

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

THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME. CALL CALIFORNIA ONE CALL
(800) 227-2600
DAYS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS

AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY

BEFORE YOU DIG!

**DRAWING INDEX** 

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TITLE SHEET

SITE PLAN

GENERAL NOTES

ANTENNA PLANS

TOWER ELEVATIONS

REFERENCE DOCUMENTS

PERMIT WORK NOT CONFORMING TO THESE CODES: CODE TYPE 2022 CALIFORNIA BUILDING CODE (CBC)

MECHANICAL ELECTRICAL

Glen Blair Junction

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: CROWN CASTLE DATED: 7/15/24

MOUNT ANALYSIS: TRYLON DATED: 07/05/24

REVISION: 0

MEET THE ALLOWABLE 3 DB

Map data ©202

MAINTENANCE AND CONTRACTOR NOTICE TICKET.

- 1. NOTICE TO PROCEED— NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- 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 CASTLE USA INC. 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 ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
- 6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- 7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION. 10. 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 CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR 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 E)
- 11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- 12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY
- 13. 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, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES
- 14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- 15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED
- SURFACE APPLICATION. 17. 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 CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS. 18. CONTRACTOR 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.
- 19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION
- 20. CONTRACTOR 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.
- 21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- 22. 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.

## GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION T-MOBILE
- TOWER OWNER: CROWN CASTLE USA INC. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN

ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR

- MISCELLANEOUS WORK NOT EXPLICITLY SHOWN. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSI<mark>ONS AND MEASUREMENTS ON</mark> THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR 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 CROWN CASTLE
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- 11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- 12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY
- DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC. 13. CONTRACTOR 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 14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

## CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

- 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.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED
- OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF
- CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
- #4 BARS AND SMALLER..... .40 ksi
- #5 BARS AND LARGER... ...60 ksi THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE
- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH... CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER.. #5 BARS AND SMALLER. ..1-1/2" CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS.... BEAMS AND COLUMNS.
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

## GREENFIELD GROUNDING NOTES:

CONSTRUCTION SAFETY PROCEDURES.

- 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.
- THE CONTRACTOR SHALL PERFORM IEEE FALL—OF—POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND
- ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS THE CONTRACTOR 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. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS
- 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.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS. 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.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED. 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 RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- 19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING 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 CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., 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 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- 21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/O COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

## **ELECTRICAL INSTALLATION NOTES:**

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE
- FEDERAL, STATE, AND LOCAL CODES/ORDINANCES. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED
- AND TRIP HAZARDS ARE ELIMINATED. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC. 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO
- REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR 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.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED. 10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH
- TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED. 11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS
- OTHERWISE SPECIFIED. 12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TO CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION 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 NOT 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
- 15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- 16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS. 17. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC ON STRAIGHTS AND SCHEDULE 80 PVC UNDER ALL TRAFFIC EASEMENTS AND ALL ELBOWS/90s. ABOVE GRADE CONDUIT TO BE SCH 80 PVC OR IMC/RMC CONDUIT. EMT IS ALLOWED AT STUB UP LOCATIONS AND INDOORS ONLY.
- 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
- 21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS
- (WIREMOLD SPECMATE WIREWAY). 22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- 23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) 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 BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- 24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- 25. 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 BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- 26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED
- NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS 27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC.

APWA UNIFORM COLOR CODE:

YELLOW GASEOUS MATERIALS

OTABLE WATER

SLURRY LINES

SEWERS AND DRAIN LINES

PROPOSED EXCAVATION

TEMPORARY SURVEY MARKINGS

LECTRIC POWER LINES, CABLES,

CONDUIT, AND LIGHTING CABLES

GAS, OIL, STEAM, PETROLEUM, OR

COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS

ECLAIMED WATER, IRRIGATION, AND

WHITE

- BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- 28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY. 29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T-MOBILE"
- 30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE					
SYSTEM CONDUCTOR		COLOR			
	A PHASE	BLACK			
120/240V, 1Ø	B PHASE	RED			
120/2400, 10	NEUTRAL	WHITE			
	GROUND	GREEN			
	A PHASE	BLACK			
	B PHASE	RED			
120/208V, 3Ø	C PHASE	BLUE			
	NEUTRAL	WHITE			
	GROUND	GREEN			
	A PHASE	BROWN			
	B PHASE	ORANGE OR PURPLE			
277/480V, 3Ø	C PHASE	YELLOW			
	NEUTRAL	GREY			
	GROUND	GREEN			
DC VOLTAGE	POS (+)	RED**			
DC VOLIAGE	NEG (-)	BLACK**			

\* SEE NEC 210.5(C)(1) AND (2) \*\* POLARITY MARKED AT TERMINATION

## ABBREVIATIONS:

- ANTENNA EXISTING
- FACILITY INTERFACE FRAME
- GEN GENERATOR GPS GLOBAL POSITIONING SYSTEM
- GSM GLOBAL SYSTEM FOR MOBILE LONG TERM EVOLUTION
- MGB MASTER GROUND BAR MWMICROWAVE
- NATIONAL ELECTRIC CODE PROPOSED
- POWER PLANT QTY QUANTITY
- RECT RECTIFIER RBS
- RADIO BASE STATION RET REMOTE ELECTRIC TILT
- RADIO FREQUENCY DATA SHEET RRH REMOTE RADIO HEAD RRU REMOTE RADIO UNIT
- SIAD SMART INTEGRATED DEVICE TMA TOWER MOUNTED AMPLIFIER
- TYP TYPICAL UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM UMTS W.P. WORK POINT



T-MOBILE SITE NUMBER: SF40870D

BU #: **814771** FORT BRAGG (REVISED)

> 22501 BALD HILL RD FT. BRAGG, CA 95437

> > EXISTING 51'-0" MONOPOLE

		ISSU	ED FOR:	
REV	DATE	DRWN	DESCRIPTION	DES./Q
0	07/30/24	CDM	CONSTRUCTION	MB
1	08/15/24	CDM	CONSTRUCTION	MB
				+



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SHEET NUMBER

**REVISION:** 

The Mobile of the second secon

CROWN
CASTLE

T-MOBILE SITE NUMBER: **SF40870D** 

BU #: 814771 FORT BRAGG (REVISED)

> 22501 BALD HILL RD FT. BRAGG, CA 95437

> > EXISTING 51'-0" MONOPOLE

ĺ	ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/30/24	CDM	CONSTRUCTION	MB
1	08/15/24	CDM	CONSTRUCTION	MB

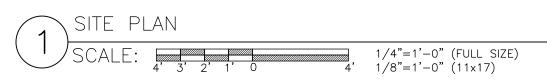


CROWN CASTLE USA INC.

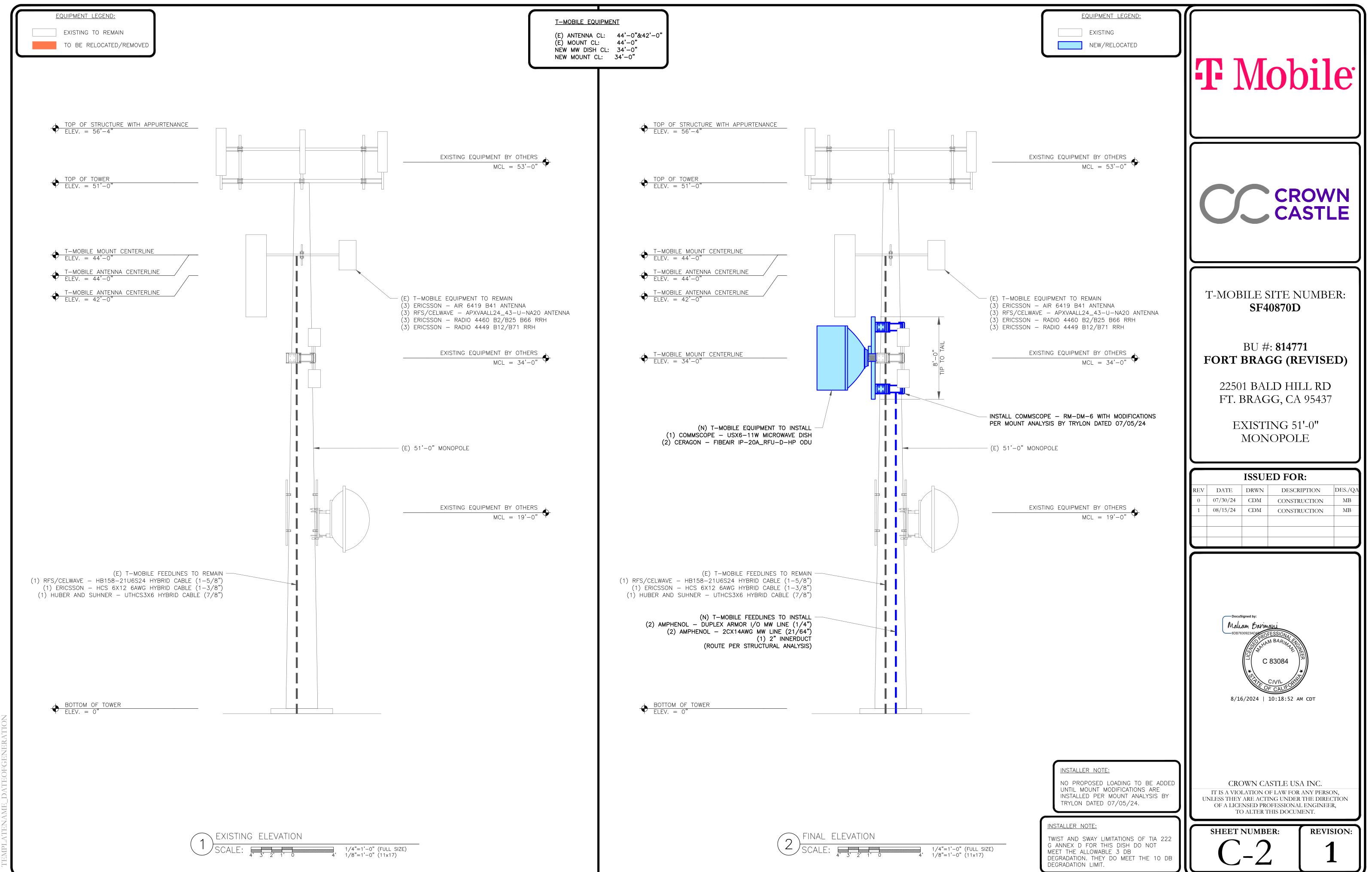
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REVISION:









FORT BRAGG (REVISED)

	ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/30/24	CDM	CONSTRUCTION	MB
1	08/15/24	CDM	CONSTRUCTION	MB

EXISTING ANTENNA PLAN

SCALE: 2' 1' 0 2' 1/4"=1'-0" (FULL SIZE)
1/4"=1'-0" (11×17)

INSTALLER NOTE:

TWIST AND SWAY LIMITATIONS OF TIA 222 G ANNEX D FOR THIS DISH DO NOT MEET THE ALLOWABLE 3 DB DEGRADATION. THEY DO MEET THE 10 DB DEGRADATION LIMIT.

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT ANALYSIS BY TRYLON DATED 07/05/24.

**EQUIPMENT LEGEND:** 

EXISTING

NEW/RELOCATED



T-MOBILE SITE NUMBER: SF40870D

BU #: **814771** FORT BRAGG (REVISED)

> 22501 BALD HILL RD FT. BRAGG, CA 95437

> > EXISTING 51'-0" MONOPOLE

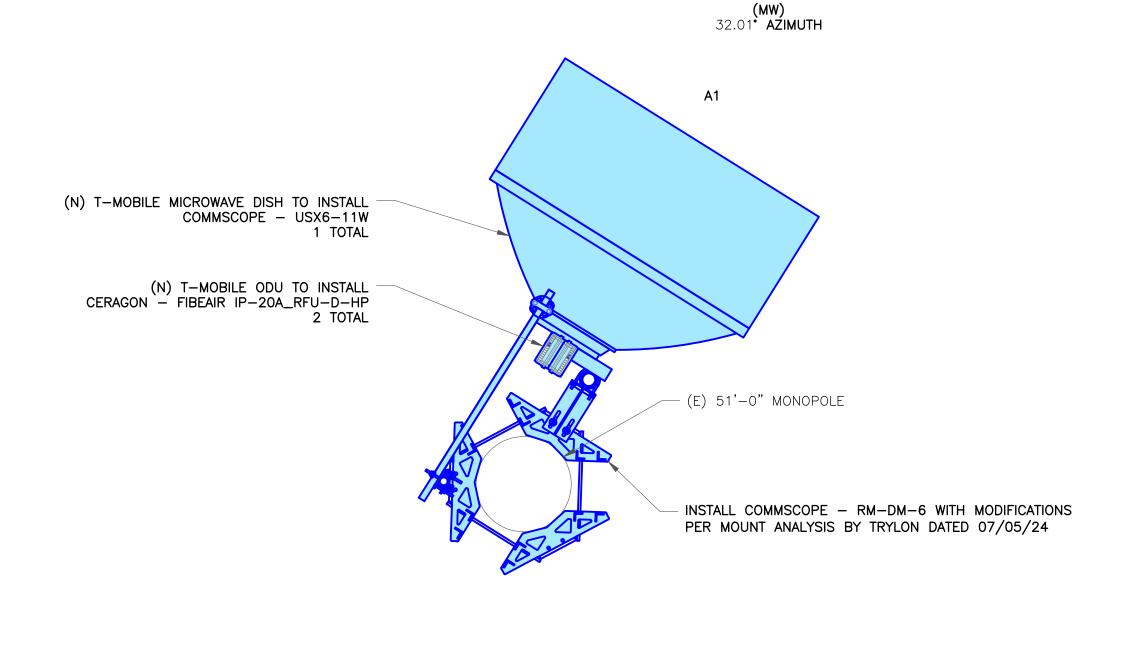
ISSUED FOR:				
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1	08/15/24	CDM	CONSTRUCTION	MB

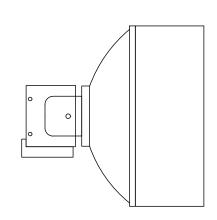
8/16/2024 | 10:18:52 AM CDT

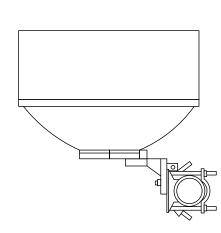
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SHEET NUMBER:

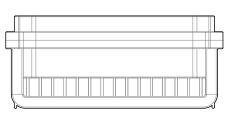


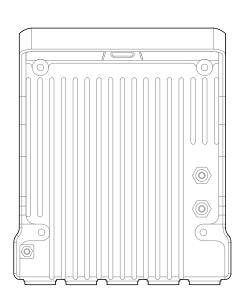


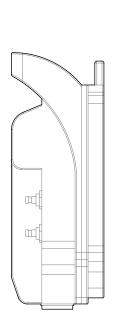


MICROWAVE SPECS			
MANUFACTURER	COMMSCOPE		
MODEL #	USX6-11W		
ØxD	74.8"ø x 59.8"		
WEIGHT	198.4 LBS		

COMMSCOPE - USX6-11W SCALE: NOT TO SCALE

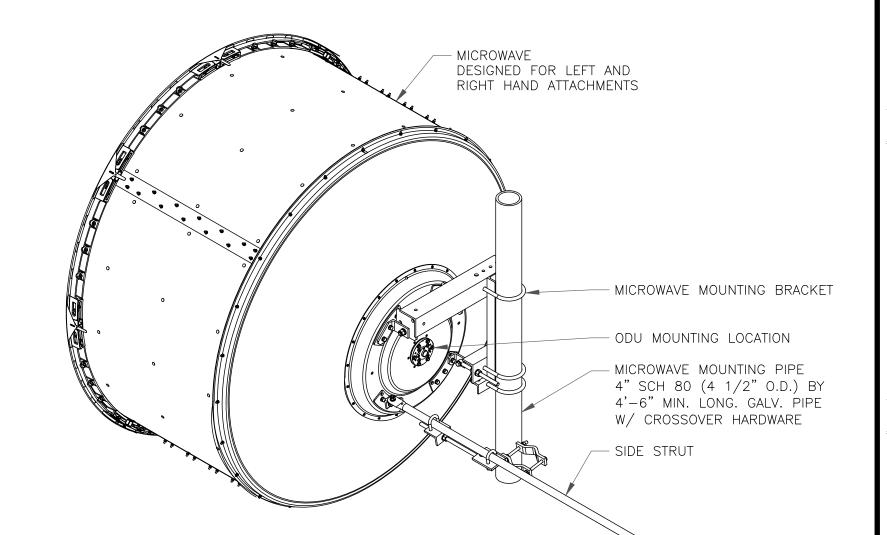






ODU SPECS		
MANUFACTURER	CERAGON	
MODEL #	FIBEAIR IP-20A RFU-D-HP	
HxWxD	12.6" x 11.3" x 4.2"	
WEIGHT	26.5 LBS	

 \ CERAGON - FIBEAIR IP-20A RFU-D-HP 2) SCALE: NOT TO SCALE



MICROWAVE & ODU MOUNTING DETAIL

SCALE: NOT TO SCALE

# T Mobile



T-MOBILE SITE NUMBER: SF40870D

BU #: **814771** FORT BRAGG (REVISED)

> 22501 BALD HILL RD FT. BRAGG, CA 95437

> > EXISTING 51'-0" MONOPOLE

	ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/30/24	CDM	CONSTRUCTION	MB
1	08/15/24	CDM	CONSTRUCTION	MB



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SHEET NUMBER:

**REVISION:** 

(4) SCALE: NOT TO SCALE

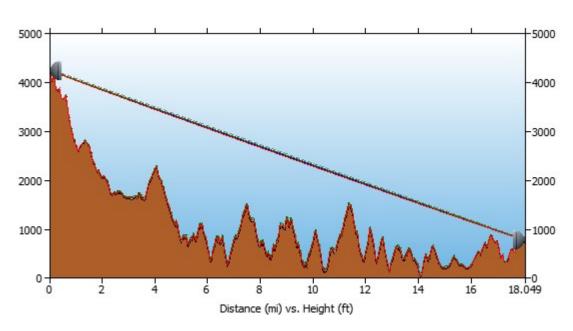
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

## iQ.link — Link Budget Report

Date Printed: 06-MAR-2024 Link ID: 4007919 Region: West

Create Date: 25-SEP-2023 Link Name: SF40872A\_SF40870D Created By: NCuenco1



Path length (18.05 mi)

SF40872A			
Latitude:	39-41-12.2 N		
Longitude:	123-34-46.1 W		
Azimuth:	212.13 Deg		
Elevation:	4212.60 ft		
Antenna CL:	30.00 ft AGL		

Frequency (GHz) = 11.00 GHz						
K1:	1.33					
%F1:	0.60					
K2:	0.67					
%F2:	0.30					
K3:	1.33					
%F3:	1.00					

SF40870D						
Latitude:	39-27-54.1 N					
Longitude:	123-45-32.3 W					
Azimuth:	32.01 Deg					
Elevation:	734.91 ft					
Antenna CL:	34.00 ft AGL					

Transmission details						
SITE ID:	SF40872A	SF40870D				
CLUSTER_ID:	SF40873A	[CLUSTER_ID_B]				
CALL_SIGN:	WRPP509	WRZQ374				
ASR #:		1305586				
AAV_CONTRACT_ID:	TMW01	ATT224				
AAV_CONTRACT_STATUS:	Selected	Selected				
Ethernet Installed:	Ethernet	Ethernet				
Latitude:	39-41-12.2 N	39-27-54.1 N				
Longitude:	123-34-46.1 W	123-45-32.3 W				
Azimuth (deg):	212.13 Deg	32.01 Deg				
Vertical angle (deg):	2.19 Down	1.99 Up				
Elevation:	4212.60 ft	734.91 ft				
Antenna model:	USX6-11W	USX6-11W				
Antenna manufacturer:	ANDREW CORPORATION	ANDREW CORPORATION				
Antenna Id:	291	291				
Antenna gain (dBi):	43.60 dBi	43.60 dBi				
Antenna diameter:	5.91 ft	5.91 ft				
Antenna CL:	30.00 ft AGL	34.00 ft AGL				
Diversity Antenna model:						
Diversity Antenna manufacturer:						
Diversity Antenna Id:						
Diversity Antenna gain (dBi):						
Diversity Antenna diameter:						
Diversity Antenna CL:						
Branch Loss Tx/Rx (dB):	5.10/5.10	5.10/5.10				
Attenuator Common/Tx/Rx (dB):	0.00 9.00 0.00	0.00 9.00 0.00				
Waveguide #1 Model, Len, Loss(dB):						
Waveguide #2 Model, Len, Loss(dB):						
Waveguide #3 Model, Len, Loss(dB):						
Total Waveguide Loss (dB):						
Other Losses (dB):	0.00	0.00				
Frequency (GHz):	11.00	GHz				
Path length:	: 18.05 mi					
Free space loss (dB):	: 142.54 dB					
Atmospheric absorption loss (dB):	0.42 dB					
Obstruction Loss (dB):	0.00 dB (oLOS)					
Field margin (dB):	1.00 dB					
Net path loss (dB):	70.86 dB 70.86 dB					
Configuration:	4+0/DP/RM	4+0/DP/RM				
Radio model:	IP20D-HP11-80X-A_4501	IP20D-HP11-80X-A_4501				
Radio manufacturer:	Ceragon Networks	Ceragon Networks				

Radio Id:	754	754				
Frequency Plan: Frequency (MHz):	Low: 10835.000 /10835.000 /10915.000 /10915.000	High: 11325.000 /11325.000 /11405.000 /11405.000				
Polarization:	H/V/H/V	H/V/H/V				
Emission designator:	80M0D7W	80M0D7W				
Climatic factor:	1.0	00				
Terrain roughness factor:	1.0	00				
Average annual temperature:	50.00 degF					
Design Path Polarity:	Veri	tical				
Rain region:	Eureka, 0	California				
0.01% Rain Rate:	23.3 r	nm/hr				
	Passive Repeaters					
Antenna model:						
Antenna manufacturer:						
Antenna height:						

Modulation / Throughput	Tx Pow (dB	ver A/B Bm)	EIRP A/B (dBm)		Receive Signal A/B (dBm)		Composite Fade Margin A/ B (dB)		Radio Threshold/ ACM Drop Level A/B (dBm)	
BPSK 67.00 Mbps	35.00	35.00	64.50	64.50	-39.96	-39.96	45.34	45.34	-86.30	-86.30
4QAM 136.00 Mbps	35.00	35.00	64.50	64.50	-39.96	-39.96	39.54	39.54	-80.50	-80.50
8QAM 195.00 Mbps	35.00	35.00	64.50	64.50	-39.96	-39.96	35.84	35.84	-76.80	-76.80
16QAM 279.00 Mbps	35.00	35.00	64.50	64.50	-39.96	-39.96	32.84	32.84	-73.80	-73.80
32QAM 368.00 Mbps	35.00	35.00	64.50	64.50	-39.96	-39.96	29.44	29.44	-70.40	-70.40
64QAM 451.00 Mbps	34.00	34.00	63.50	63.50	-40.96	-40.96	25.54	25.54	-67.50	-67.50
128QAM 533.00 Mbps	33.00	33.00	62.50	62.50	-41.96	-41.96	21.54	21.54	-64.50	-64.50
256QAM 614.00 Mbps	32.00	32.00	61.50	61.50	-42.96	-42.96	17.84	17.84	-61.80	-61.80
512QAM 675.00 Mbps	32.00	32.00	61.50	61.50	-42.96	-42.96	15.14	15.14	-59.10	-59.10
1KLQAM 735.00 Mbps	31.00	31.00	60.50	60.50	-43.96	-43.96	10.94	10.94	-55.90	-55.90
1KHQAM 780.00 Mbps	31.00	31.00	60.50	60.50	-43.96	-43.96	10.54	10.54	-55.50	-55.50
2KQAM 826.00 Mbps	31.00	31.00	60.50	60.50	-43.96	-43.96	7.64	7.64	-52.60	-52.60

Modulation/ Worst Month Throughput Multipath		Worst Month Rain		Annual Multipath		Annual Rain		Total Annual		Total Active in Mode		
	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)
BPSK 67.00 Mbps	99.99905 4	24.87	99.99992 7	1.92	99.99976 3	74.60	99.99999 5	1.66	99.99975 8	76.26	0.000672	212.01
4QAM 136.00 Mbps	99.99640 2	94.55	99.99982 1	4.69	99.99910 1	283.64	99.99998 5	4.63	99.99908 6	288.27	0.001223	385.60
8QAM 195.00 Mbps	99.99156 6	221.64	99.99968 3	8.33	99.99789 2	664.91	99.99997 2	8.95	99.99786 3	673.86	0.002119	668.23
16QAM 279.00 Mbps	99.98317	442.22	99.99949	13.36	99.99579	1326.67	99.99995 1	15.42	99.99574 4	1342.10	0.005040	1589.43
32QAM 368.00 Mbps	99.96318 6	967.48	99.99911 7	23.20	99.99079 6	2902.44	99.99990	29.08	99.99070 4	2931.52	0.013491	4254.59

64QAM 451.00 Mbps	99.90963 2	2374.88	99.99830 8	44.47	99.97740 8	7124.65	99.99980 5	61.46	99.97721	7186.12	0.034404	10849.51
128QAM 533.00 Mbps	99.77300 5	5965.44	99.99655 3	90.59	99.94325 1	17896.32	99.99955 8	139.31	99.94280 9	18035.63	0.076870	24241.68
256QAM 614.00 Mbps	99.46787 1	13984.34	99.99281 4	188.86	99.86696 8	41953.03	99.99897 2	324.27	99.86594 0	42277.30	0.115770	36509.22
512QAM 675.00 Mbps	99.00912 9	26040.09	99.98655 9	353.23	99.75228 2	78120.28	99.99788 7	666.24	99.75017 0	78786.52	0.410254	129377.6 4
1KLQAM 735.00 Mbps	97.39374 5	68492.38	99.95480 6	1187.70	99.34843 6	205477.1 3	99.99147 9	2687.03	99.33991 6	208164.1 6	0.064372	20300.42
1KHQAM 780.00 Mbps	97.14229 8	75100.42	99.94791 6	1368.78	99.28557 4	225301.2 6	99.98996 9	3163.31	99.27554 4	228464.5 8	0.705936	222624.0 0
2KQAM 826.00 Mbps	94.42792 2	146434.2 2	99.83653 6	4295.84	98.60698 0	439302.6 5	99.96262 7	11785.93	98.56960 7	451088.5 8	98.56960 7	3108491 1.42

Multipath fading method - VIGANTS Rain fading method - Auto Crane City/Eureka, California Date: July 5, 2024



Trylon 1825 W. Walnut Hill Lane, Suite 302 Irving, TX 75038 214-930-1730

Subject: Mount Analysis - Conditional Passing Report

Carrier Designation: T-Mobile Equipment Change-Out

Carrier Site Number:SF40870DCarrier Site Name:Crown Bald Hill

Crown Castle Designation: BU Number: 814771

Site Name: Fort Bragg (Revised)

**JDE Job Number:** 2115303 **Order Number:** 670425 Rev. 0

Engineering Firm Designation: Trylon Report Designation: 241044

Site Data: 22501 Bald Hill Rd, Ft. Bragg, Mendocino County, CA, 95437

Latitude 39°27'54.00" Longitude -123°45'32.30"

Structure Information: Tower Height & Type: 51.0 ft Monopole

Mount Elevation: 34.0 ft

Mount Width & Type: 6.0 ft Pipe Mount

Trylon is pleased to submit this "Mount Analysis - Conditional Passing Report" to determine the structural integrity of T-Mobile's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Pipe Mount Sufficient\*
\*Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.

This analysis has been performed in accordance with the 2022 California Building Code based upon an ultimate 3-second gust wind speed 92 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Marius Balan

Respectfully Submitted by: Cliff Abernathy, P.E.



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- 3.2) Assumptions

## 4) ANALYSIS RESULTS

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4.1) Recommendations

## 5) APPENDIX A

Wire Frame and Rendered Models

#### 6) APPENDIX B

Software Input Calculations

## 7) APPENDIX C

Software Analysis Output

## 8) APPENDIX D

**Additional Calculations** 

## 9) APPENDIX E

Supplemental Drawings

6.0 ft Pipe Mount Mount Analysis - Conditional Passing Order 670425, Revision 0

## 1) INTRODUCTION

This is a proposed 1 sector 6.0 ft Pipe Mount, designed by CommScope.

#### 2) ANALYSIS CRITERIA

Building Code: 2021 IBC / 2022 CBC

TIA-222 Revision: TIA-222-H

Risk Category:

Ultimate Wind Speed: 92 mph
Exposure Category: C
Topographic Factor at Base: 2.657
Topographic Factor at Mount: 2.402
Seismic S<sub>s</sub>: 1.5
Seismic S<sub>1</sub>: 0.6
Live Loading Wind Speed: 30 mph

**Table 1 - Proposed Equipment Configuration** 

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
		1	CommScope	USX6-11W	6.0 ft Pipe Mount
34.0	34.0	2	Ceragon	FIBEAIR IP- 20A_RFU-D	[CommScope, RM- DM-6]

#### 3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	670425. Rev. 0	CCI Sites
Mount Manufacturer Drawings	CommScope	RM-DM-6	Trylon

#### 3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed, using Microsoft Excel, by Trylon was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision E).

6.0 ft Pipe Mount Mount Analysis - Conditional Passing Order 670425, Revision 0

## 3.2) Assumptions

- The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
- All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
- 5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
- 6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate

HSS (Rectangular)

Pipe

ASTM A36 (GR 36)

ASTM A500 (GR B-46)

ASTM A53 (GR 35)

Connection Bolts

ASTM A325

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

## 4) ANALYSIS RESULTS

Table 3(a) – Mount Component Stresses vs. Capacity (Pipe Mount, Alpha Sector)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1 2	Mount Pipe(s)	M9A		13.2	Pass
1, 4,	Tieback(s)	M11	34.0	1.4	Pass
3, 4	Mount Connection(s)	-		28.0	Pass

Structure Rating (max from all components) =	28.0%

#### Notes:

- See additional documentation in "Appendix C Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) See additional documentation in "Appendix D Additional Calculations" for detailed mount connection calculations.
- 3) Rating per TIA-222-H, Section 15.5

#### 4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the proposed mount listed below must be installed.

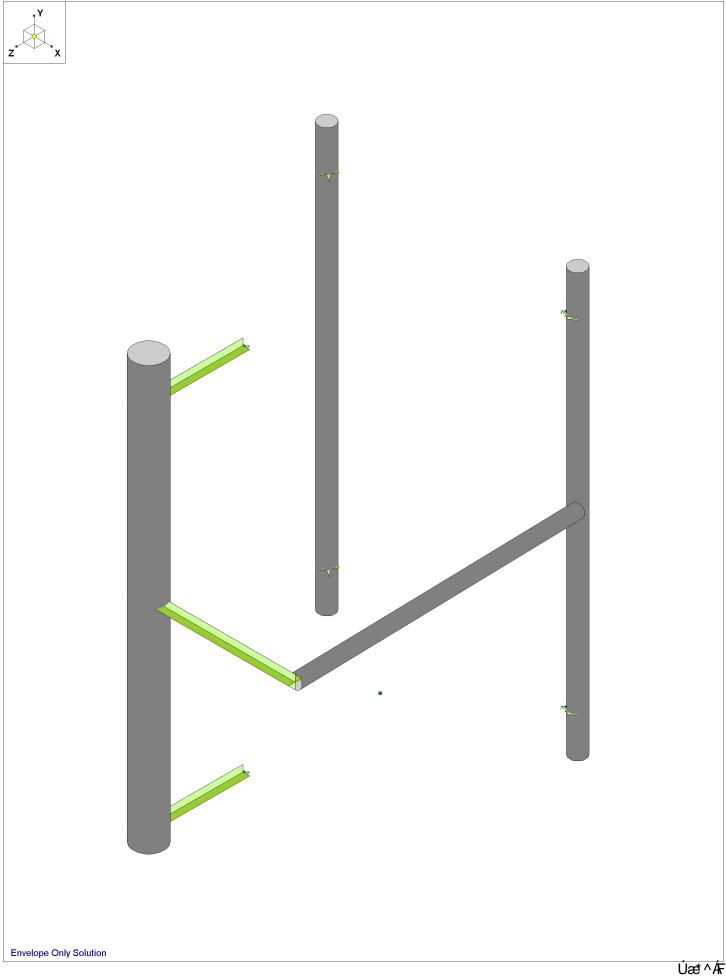
- 1. (1) CommScope, RM-DM-6.
- 2. (1) 1.5" dia. pipe, 4'-6" long, attached to vertical pipe @ mount with (1) Commscope CC-100 crossover clamp.

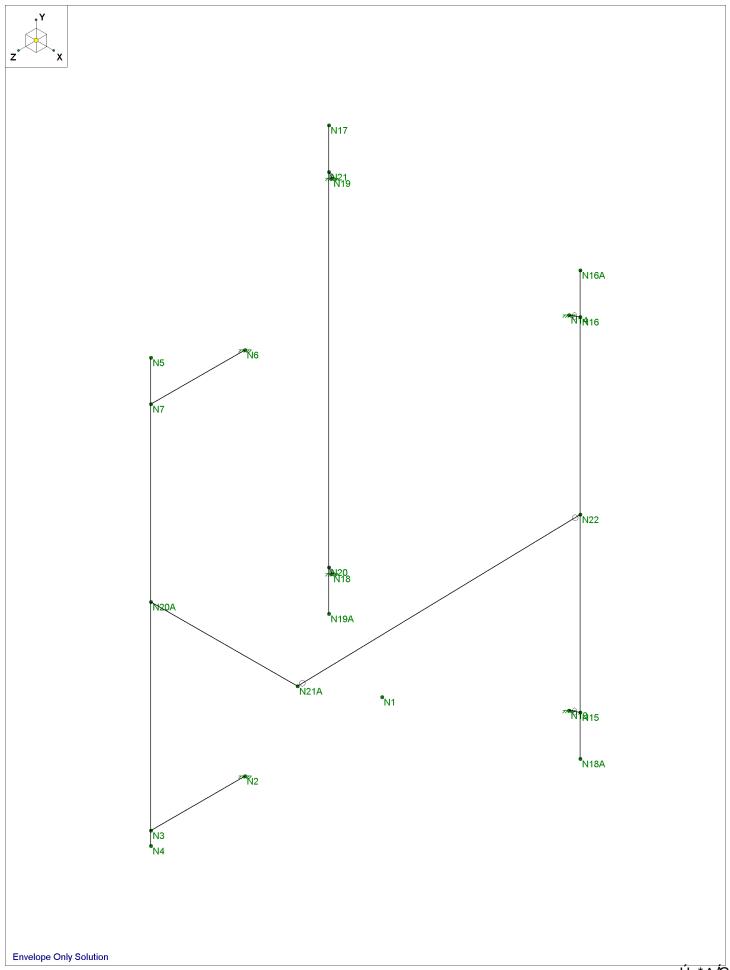
No structural modifications are required at this time, provided that the above-listed changes are implemented.

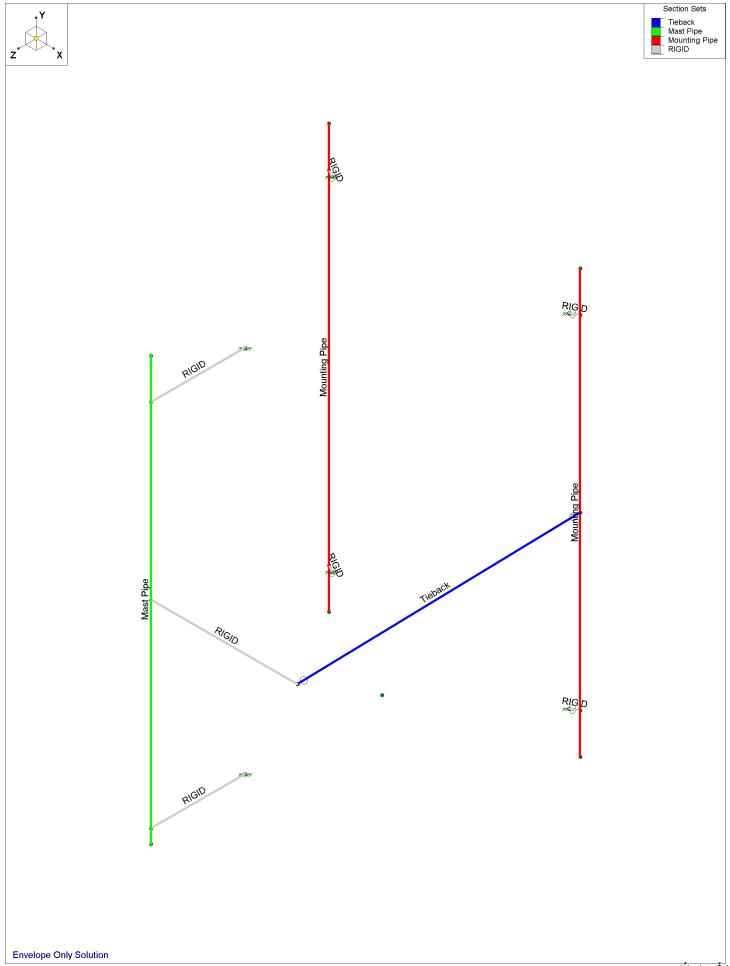
July 5, 2024 CCI BU No 814771 Page 5

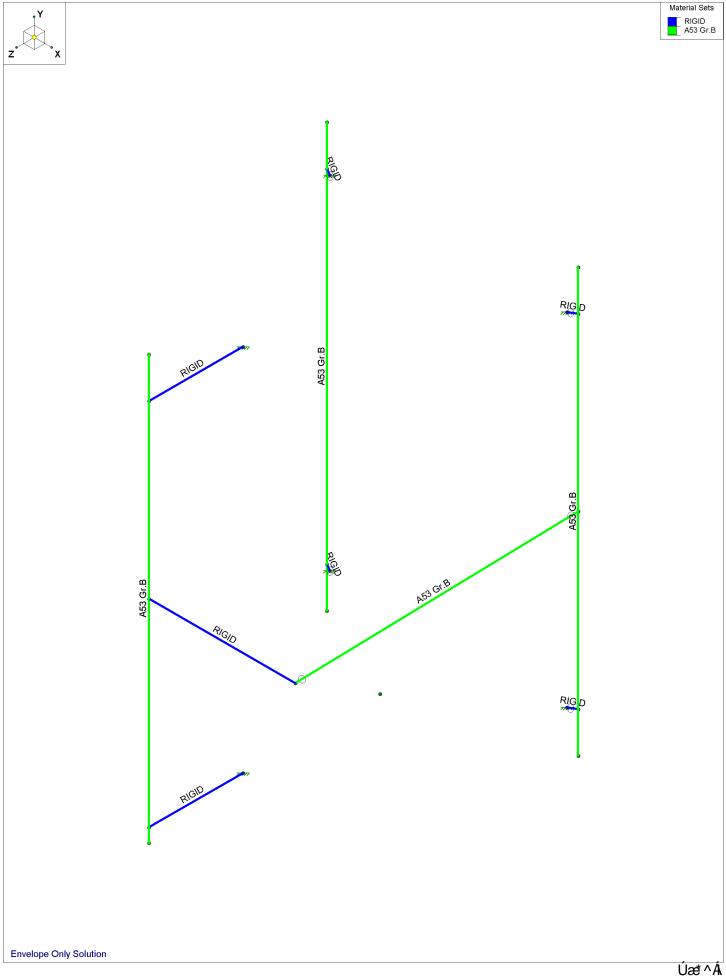
6.0 ft Pipe Mount Mount Analysis - Conditional Passing Order 670425, Revision 0

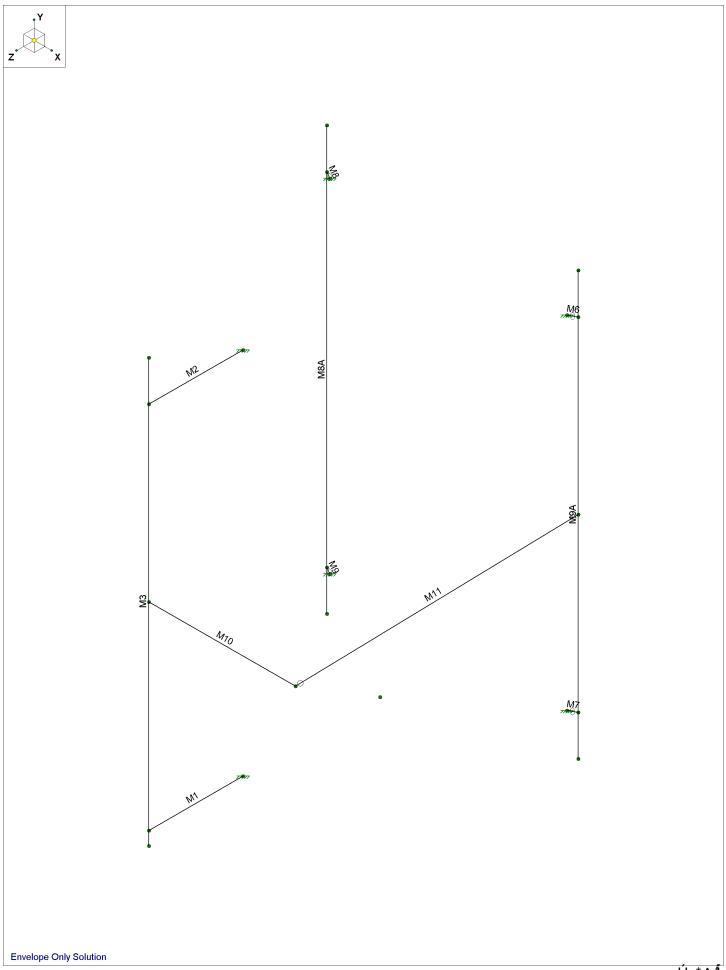
# APPENDIX A WIRE FRAME AND RENDERED MODELS

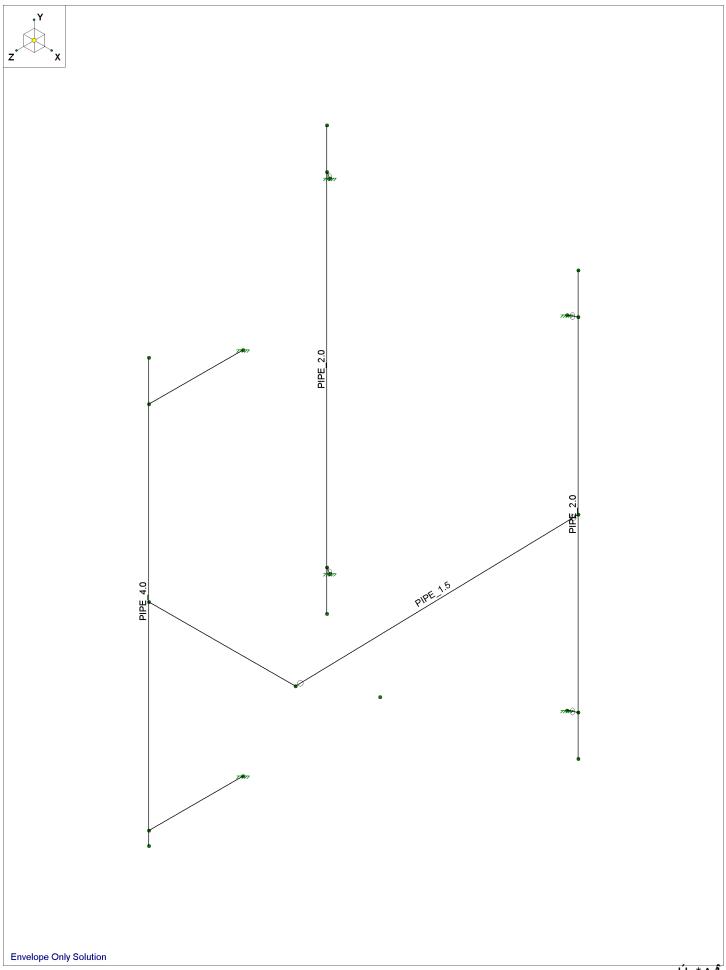


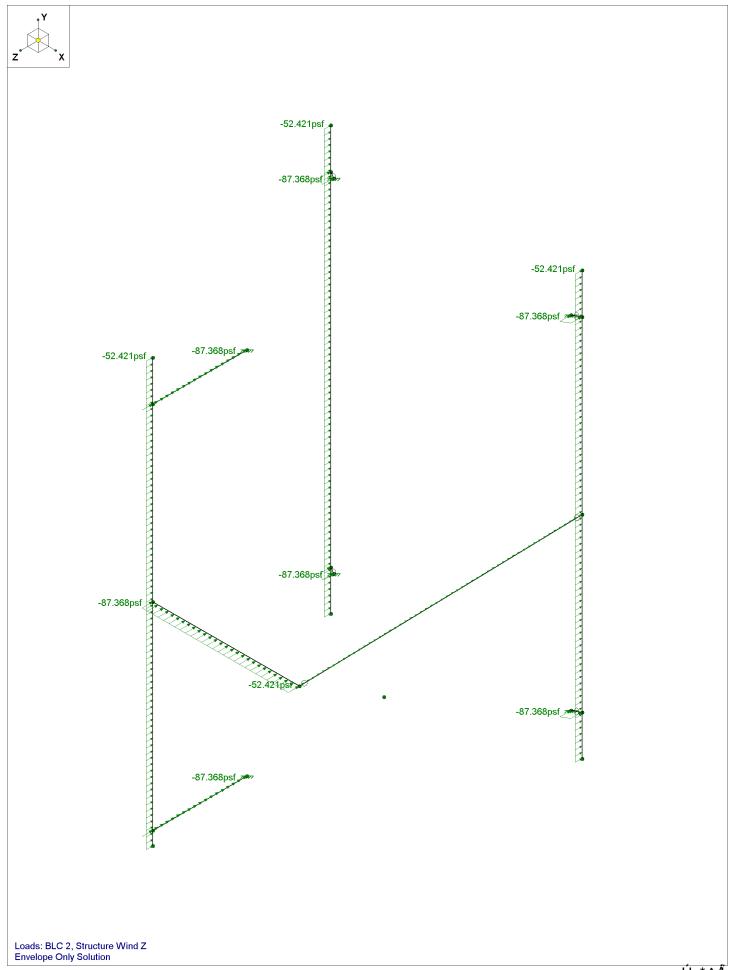


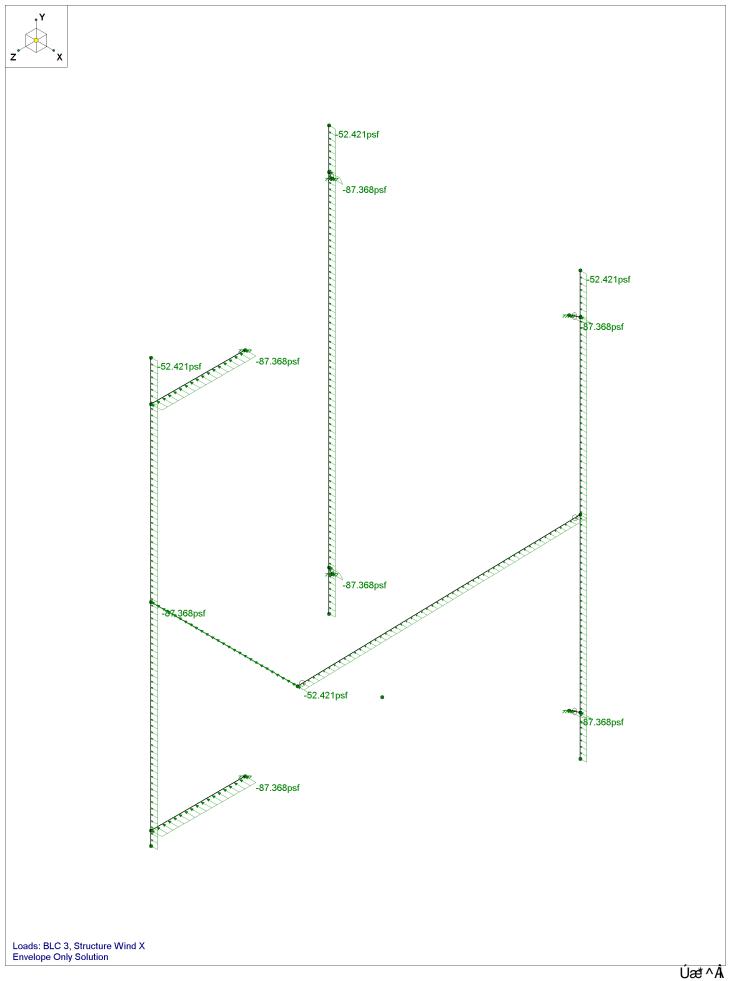


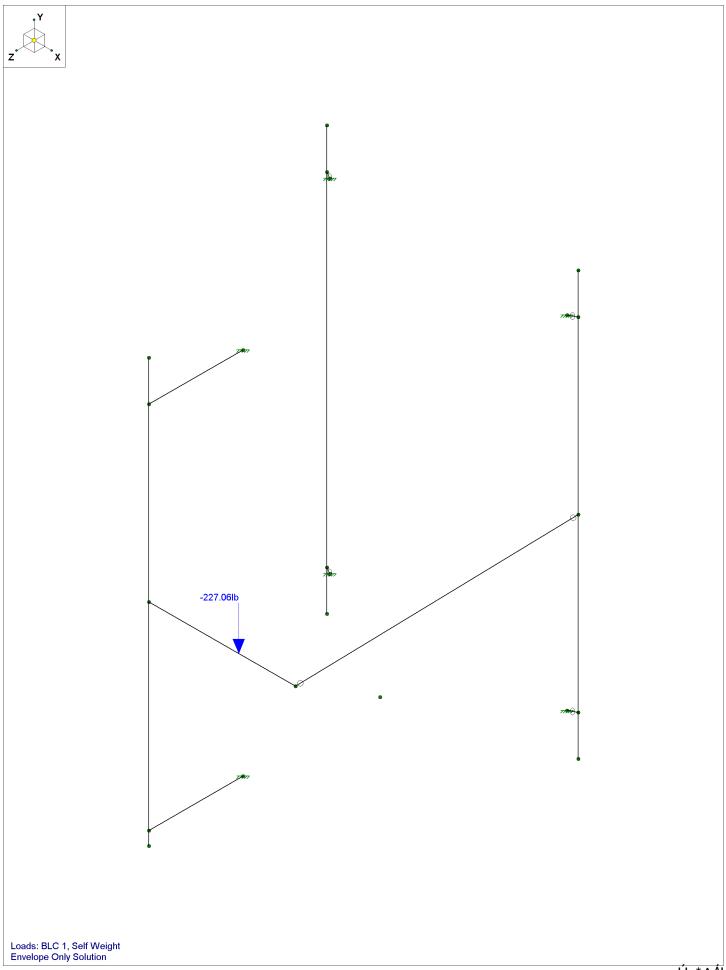


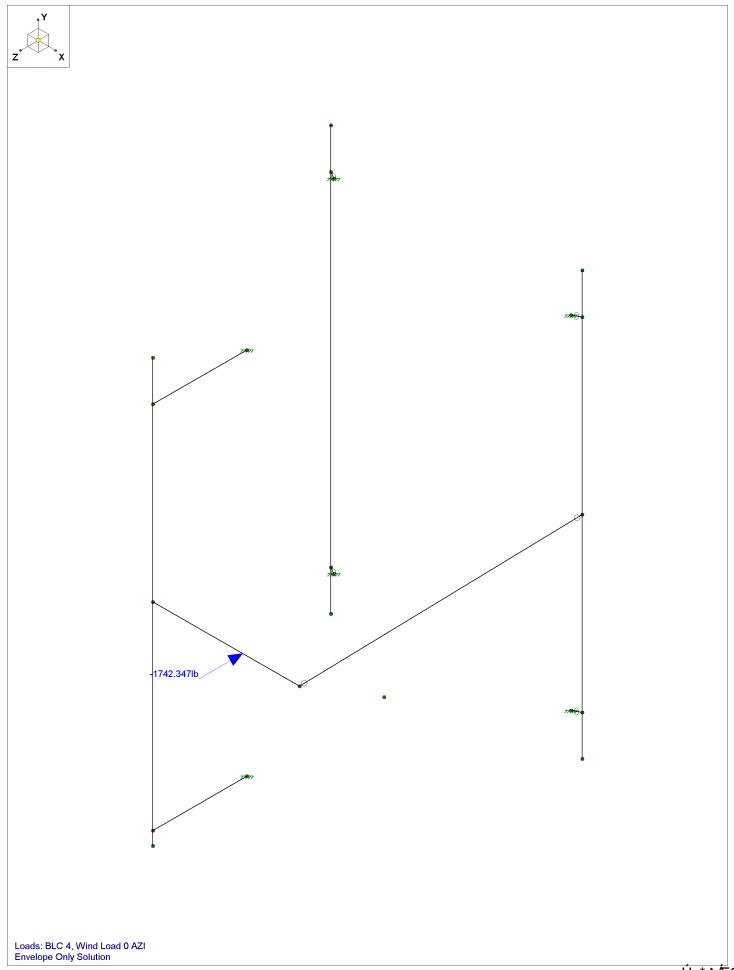


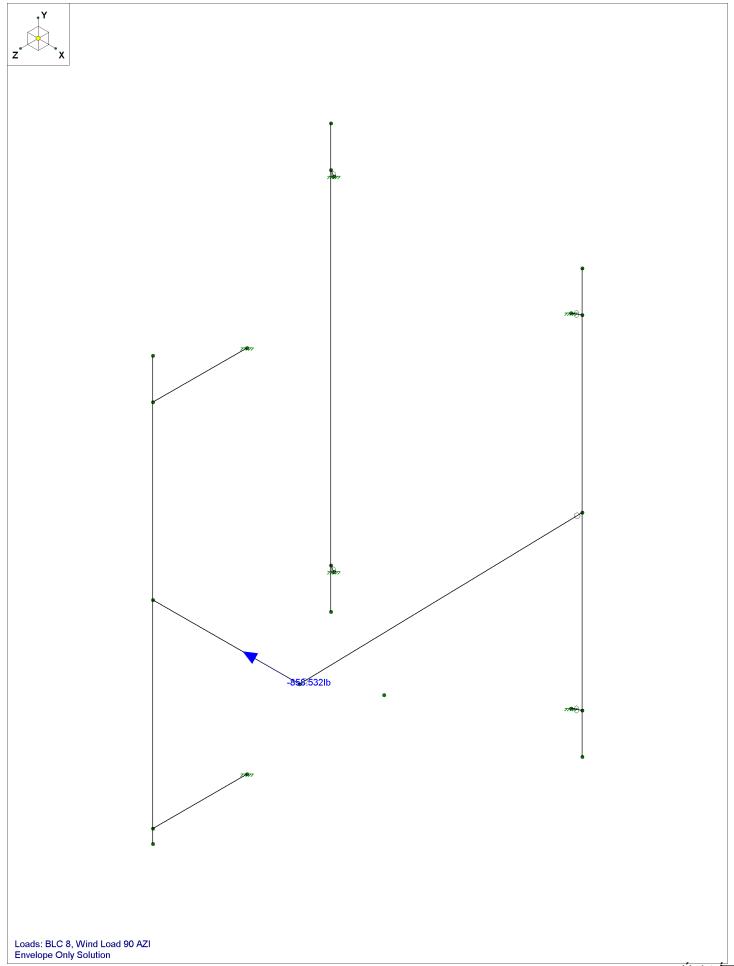


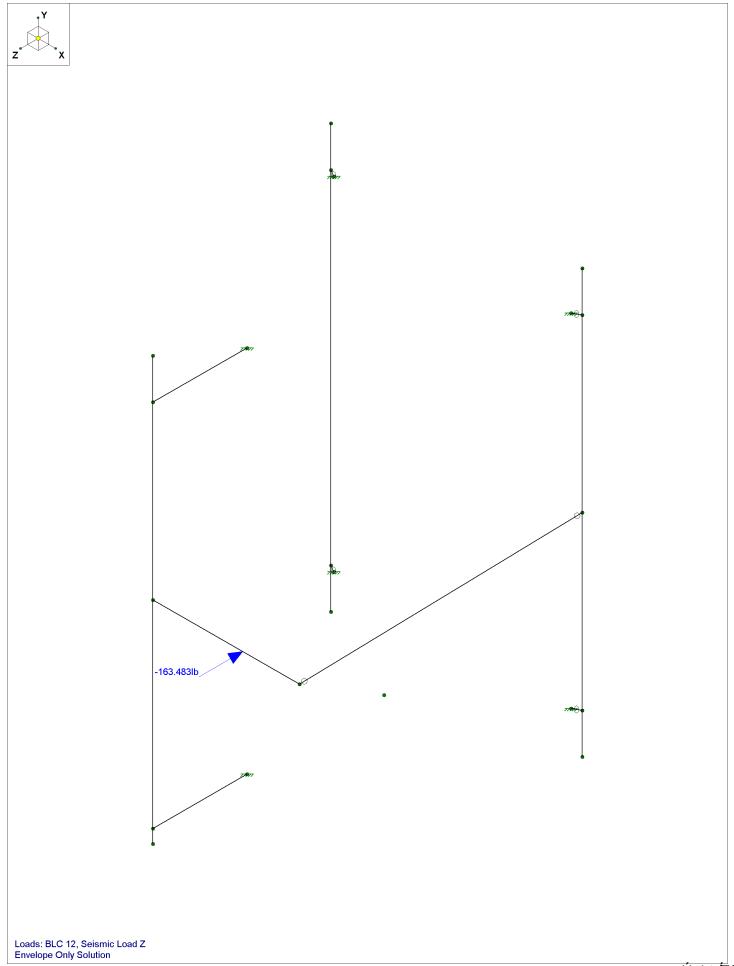


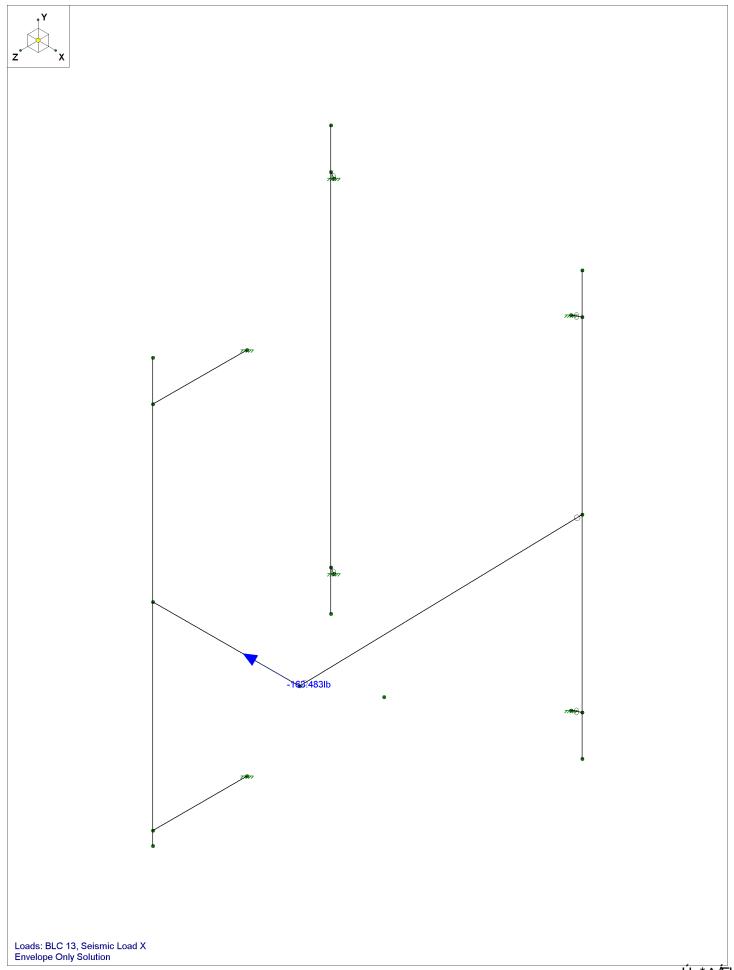












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6.0 ft Pipe Mount Mount Analysis - Conditional Passing Order 670425, Revision 0

# APPENDIX B SOFTWARE INPUT CALCULATIONS



# **ASCE Hazards Report**

Address:

No Address at This Location

Standard: ASCE/SEI 7-16

Risk Category: ||

Soil Class: D - Default (see

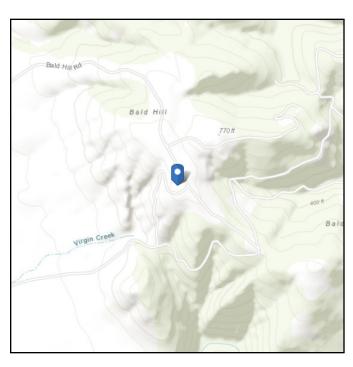
Section 11.4.3)

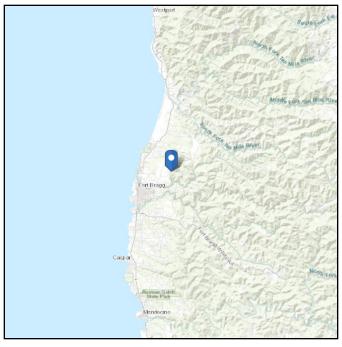
Latitude: 39.465

Longitude: -123.758972

**Elevation:** 746.1612169250584 ft

(NAVD 88)





#### Wind

#### Results:

Wind Speed 92 Vmph 10-year MRI 63 Vmph 25-year MRI 70 Vmph 50-year MRI 74 Vmph 100-year MRI 78 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Fri Jul 05 2024

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 7-16 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 7-16 Section 26.2.



### **Seismic**

Site Soil Class: D - Default (see Section 11.4.3)

Results:

 $S_{\text{S}}$ :  $S_{\text{D1}}$  : 1.5 N/A  $T_L$ : S<sub>1</sub> : 12 0.6  $F_a$ : 1.2 PGA: 0.534  $F_v$ : N/A PGA<sub>M</sub>: 0.641  $S_{MS}$  :  $F_{PGA}$  : 1.8 1.2  $S_{M1}$ : N/A 1  $S_{\text{DS}}$  : 1.2  $C_{v}$ : 1.4

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Fri Jul 05 2024

Date Source: <u>USGS Seismic Design Maps</u>



#### **Ice**

#### Results:

Ice Thickness: 0 in.

Concurrent Temperature: 25 F

Gust Speed 30 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Fri Jul 05 2024

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 500-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.

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#### **TIA LOAD CALCULATOR 2.2**

PROJECT DATA	
Job Code:	241044
Carrier Site ID:	814771
Carrier Site Name:	FORT BRAGG (REVISED)

CODES AND STANDARDS	
Building Code:	2021 IBC
Local Building Code:	2022 CBC
Design Standard:	TIA-222-H

STRUCTURE DETAILS		
Mount Type:	Pipe	
Mount Elevation:	34.0	ft.
Number of Sectors:	3	
Structure Type:	Monopole	
Structure Height:	55.0	ft

ANALYSIS CRITERIA		
Structure Risk Category: II		
Exposure Category:	С	
Site Class:	D - Default	
Ground Elevation:	746.16	ft.

TOPOGRAP	HIC DATA	
Topographic Category:	5.00	
Topographic Feature:	Flat Topped Ridge	
Crest Point Elevation:	745.00	ft.
Base Point Elevation:	370.00	ft.
Crest to Mid-Height (L/2):	660.00	ft.
Distance from Crest (x):	0.00	ft.
Base Topo Factor (K <sub>zt</sub> ):	2.657	
Mount Topo Factor $(K_{zt})$ :	2.402	

WIND PARAMETERS		
Design Wind Speed:	92	mph
Wind Escalation Factor (K <sub>s</sub> ):	1.00	
Velocity Coefficient (K <sub>z</sub> ):	1.01	
Directionality Factor (K <sub>d</sub> ):	0.95	
Gust Effect Factor (Gh):	1.00	
Shielding Factor (K <sub>a</sub> ):	0.90	
Velocity Pressure (q <sub>z</sub> ):	48.54	psf
Ground Elevation Factor (K <sub>e</sub> ):	0.97	

ICE PARAMETERS		
Design Ice Wind Speed:	0	mph
Design Ice Thickness (t <sub>i</sub> ):	0.00	in
Importance Factor (I <sub>i</sub> ):	1.00	
Ice Velocity Pressure (qzi):	0.00	psf
Mount Ice Thickness (tiz):	0.00	in

WIND STRUCTURE C	ALCULATIONS	
Flat Member Pressure:	87.37	psf
Round Member Pressure:	52.42	psf
Ice Wind Pressure:	0.00	psf

SEISMIC PARAMETERS		
Importance Factor (I <sub>e</sub> ):	1.00	
Short Period Accel .(S <sub>s</sub> ):	1.50	g
1 Second Accel (S <sub>1</sub> ):	0.60	g
Short Period Des. $(S_{DS})$ :	1.20	g
1 Second Des. (S <sub>D1</sub> ):	0.68	g
Short Period Coeff. (Fa):	1.20	
1 Second Coeff. (F <sub>v</sub> ):	1.70	
Response Coefficient (Cs):	0.60	
Amplification Factor (A <sub>S</sub> ):	1.20	

# **LOAD COMBINATIONS [LRFD]**

#	Description
1	1.4DL
2	1.2DL + 1WL 0 AZI
3	1.2DL + 1WL 30 AZI
4	1.2DL + 1WL 45 AZI
5	1.2DL + 1WL 60 AZI
6	1.2DL + 1WL 90 AZI
7	1.2DL + 1WL 120 AZI
8	1.2DL + 1WL 135 AZI
9	1.2DL + 1WL 150 AZI
10	1.2DL + 1WL 180 AZI
11	1.2DL + 1WL 210 AZI
12	1.2DL + 1WL 225 AZI
13	1.2DL + 1WL 240 AZI
14	1.2DL + 1WL 270 AZI
15	1.2DL + 1WL 300 AZI
16	1.2DL + 1WL 315 AZI
17	1.2DL + 1WL 330 AZI
18	0.9DL + 1WL 0 AZI
19	0.9DL + 1WL 30 AZI
20	0.9DL + 1WL 45 AZI
21	0.9DL + 1WL 60 AZI
22	0.9DL + 1WL 90 AZI
23	0.9DL + 1WL 120 AZI
24	0.9DL + 1WL 135 AZI
25	0.9DL + 1WL 150 AZI
26	0.9DL + 1WL 180 AZI
27	0.9DL + 1WL 210 AZI
28	0.9DL + 1WL 225 AZI
29	0.9DL + 1WL 240 AZI
30	0.9DL + 1WL 270 AZI
31	0.9DL + 1WL 300 AZI 0.9DL + 1WL 315 AZI
32	0.022 : 1112 0.10 / 121
33	0.9DL + 1WL 330 AZI
34	1.2DL + 1DLi + 1WLi 0 AZI
35	1.2DL + 1DLi + 1WLi 30 AZI
36	1.2DL + 1DLi + 1WLi 45 AZI
37	1.2DL + 1DLi + 1WLi 60 AZI
38	1.2DL + 1DLi + 1WLi 90 AZI
39	1.2DL + 1DLi + 1WLi 120 AZI
40	1.2DL + 1DLi + 1WLi 135 AZI
41	1.2DL + 1DLi + 1WLi 150 AZI

#	Description
42	1.2DL + 1DLi + 1WLi 180 AZI
43	1.2DL + 1DLi + 1WLi 210 AZI
44	1.2DL + 1DLi + 1WLi 225 AZI
45	1.2DL + 1DLi + 1WLi 240 AZI
46	1.2DL + 1DLi + 1WLi 270 AZI
47	1.2DL + 1DLi + 1WLi 300 AZI
48	1.2DL + 1DLi + 1WLi 315 AZI
49	1.2DL + 1DLi + 1WLi 330 AZI
50	(1.2+0.2Sds) + 1.0E 0 AZI
51	(1.2+0.2Sds) + 1.0E 30 AZI
52	(1.2+0.2Sds) + 1.0E 45 AZI
53	(1.2+0.2Sds) + 1.0E 60 AZI
54	(1.2+0.2Sds) + 1.0E 90 AZI
55	(1.2+0.2Sds) + 1.0E 120 AZI
56	(1.2+0.2Sds) + 1.0E 135 AZI
57	(1.2+0.2Sds) + 1.0E 150 AZI
58	(1.2+0.2Sds) + 1.0E 180 AZI
59	(1.2+0.2Sds) + 1.0E 210 AZI
60	(1.2+0.2Sds) + 1.0E 225 AZI
61	(1.2+0.2Sds) + 1.0E 240 AZI
62	(1.2+0.2Sds) + 1.0E 270 AZI
63	(1.2+0.2Sds) + 1.0E 300 AZI
64	(1.2+0.2Sds) + 1.0E 315 AZI
65	(1.2+0.2Sds) + 1.0E 330 AZI
66	(0.9-0.2Sds) + 1.0E 0 AZI
67	(0.9-0.2Sds) + 1.0E 30 AZI
68	(0.9-0.2Sds) + 1.0E 45 AZI
69	(0.9-0.2Sds) + 1.0E 60 AZI
70	(0.9-0.2Sds) + 1.0E 90 AZI
71	(0.9-0.2Sds) + 1.0E 120 AZI
72	(0.9-0.2Sds) + 1.0E 135 AZI
73	(0.9-0.2Sds) + 1.0E 150 AZI
74	(0.9-0.2Sds) + 1.0E 180 AZI
75	(0.9-0.2Sds) + 1.0E 210 AZI
76	(0.9-0.2Sds) + 1.0E 225 AZI
77	(0.9-0.2Sds) + 1.0E 240 AZI
78	(0.9-0.2Sds) + 1.0E 270 AZI
79	(0.9-0.2Sds) + 1.0E 300 AZI
80	(0.9-0.2Sds) + 1.0E 315 AZI
81	(0.9-0.2Sds) + 1.0E 330 AZI
82-88	

#	Description
89	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP1
90	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP1
91	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP1
92	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP1
93	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP1
94	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP1
95	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP1
96	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP1
97	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP1
98	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP1
99	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP1
100	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP1
101	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP1
102	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP1
103	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP1
104	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP1
105	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP2
106	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP2
107	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP2
108	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP2
109	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP2
110	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP2
111	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP2
112	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP2
113	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP2
114	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP2
115	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP2
116	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP2
117	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP2
118	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP2
119	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP2
120	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP2

#	Description
121	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP3
122	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP3
123	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP3
124	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP3
125	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP3
126	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP3
127	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP3
128	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP3
129	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP3
130	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP3
131	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP3
132	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP3
133	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP3
134	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP3
135	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP3
136	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP3
137	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP4
138	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP4
139	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP4
140	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP4
141	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP4
142	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP4
143	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP4
144	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP4
145	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP4
146	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP4
147	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP4
148	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP4
149	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP4
150	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP4
151	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP4
152	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP4

<sup>\*</sup>This page shows an example of maintenance loads for (4) pipes, the number of mount pipe LCs may vary per site

# **EQUIPMENT LOADING**

Appurtenance Name	Qty.	Elevation [ft]		<b>EPA</b> <sub>N</sub> (ft2)	EPA <sub>T</sub> (ft2)	Weight (lbs)
USX6-11W	1	34	No Ice	46.63	37.28	198.40
			w/ Ice	46.63	37.28	0.00
FIBEAIR IP-20C	2	34	No Ice	0.69	0.29	14.33
			w/ Ice	0.69	0.29	0.00
			w/ Ice			
			/ 1			
			w/ Ice			
			/ loo			
			w/ Ice			
			w/ Ice			
			No Ice			
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			No Ice			
			w/ Ice			

# **EQUIPMENT LOADING [CONT.]**

Appurtenance Name	Qty.	Elevation [ft]		EPA <sub>N</sub> (ft2)	EPA <sub>T</sub> (ft2)	Weight (lbs)
			No Ice			
			w/ Ice			
			No Ice			
			w/ Ice			
			No Ice			
			w/ Ice			
			No Ice			
			w/ Ice			
			No Ice			
			w/ Ice			
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			No Ice			
			w/ Ice			
			No Ice			
			w/ Ice			
			No Ice			
			w/ Ice			

# **EQUIPMENT WIND CALCULATIONS**

Appurtenance Name	Qty.	Elevation [ft]	<b>K</b> <sub>zt</sub>	<b>K</b> <sub>z</sub>	$K_d$	t <sub>d</sub>	<b>q</b> <sub>z</sub> [psf]	<b>q</b> <sub>zi</sub> [psf]
USX6-11W	1	34	2.40	1.01	0.95	0.00	48.54	0.00
FIBEAIR IP-20C	2	34	2.40	1.01	0.95	0.00	48.54	0.00

# **EQUIPMENT LATERAL WIND FORCE CALCULATIONS**

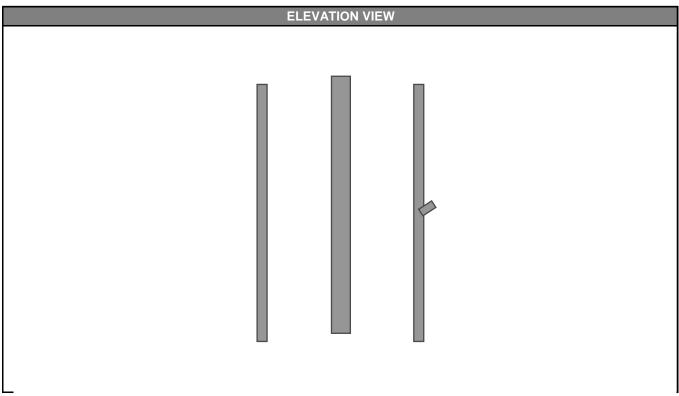
Appurtenance Name	Qty.		0°	30°	60°	90°	120°	150°
Appartenance Name	Giy.		180°	210°	240°	270°	300°	330°
USX6-11W	1	No Ice	1681.93	1045.35	1469.74	833.16	1469.74	1045.35
		w/ Ice	0.00	0.00	0.00	0.00	0.00	0.00
FIBEAIR IP-20C	2	No Ice	30.21	17.07	25.83	12.68	25.83	17.07
		w/ Ice	0.00	0.00	0.00	0.00	0.00	0.00
		w/ Ice						
		/ 1						
		w/ Ice						
		w/ Ice						
		w/ ice						
		w/ Ice						
		No Ice						
		w/ Ice						
		No Ice						
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		w/ Ice						
		No Ice						
		w/ Ice						
		No Ice						
		w/ Ice						
		No Ice w/ Ice						
		No Ice						
		w/ Ice						
		No Ice						
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		No Ice						
		w/ Ice						
		No Ice						
		w/ Ice						
		No Ice						
		w/ Ice						
		No Ice						
		w/ Ice						

# **EQUIPMENT LATERAL WIND FORCE CALCULATIONS [CONT.]**

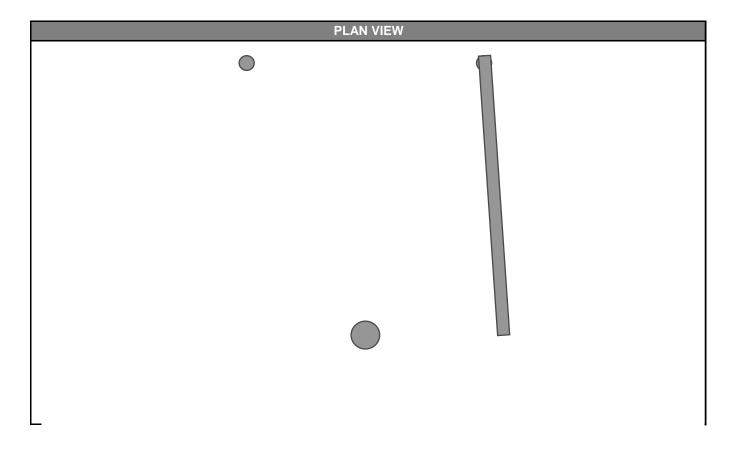
Appurtenance Name	Qty.		0° 180°	30° 210°	60° 240°	90° 270°	120° 300°	150° 330°
		No Ice						
		w/ Ice						
		No Ice						
		w/ Ice						
		No Ice						
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# **EQUIPMENT SEISMIC FORCE CALCULATIONS**

Appurtenance Name	Qty.	Elevation [ft]	Weight [lbs]	<b>F</b> <sub>p</sub> [lbs]
USX6-11W	1	34	198.4	142.85
FIBEAIR IP-20C	2	34	14.33	10.32



\*these drawings are intended to show approximate locations of equipment on the mount and should not be used to determine exact placement of equipment or additional hardware



Equipment Name	Total Quantity	Antenna Centerline	Mount Pipe Positions	Equipment Azimuths
USX6-11W	1	34	M10	32
FIBEAIR IP-20C	2	34	M10	32
0				
0				
0				
0				

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6.0 ft Pipe Mount Mount Analysis - Conditional Passing Order 670425, Revision 0

# APPENDIX C SOFTWARE ANALYSIS OUTPUT



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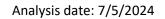
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# APPENDIX D ADDITIONAL CALCULATIONS



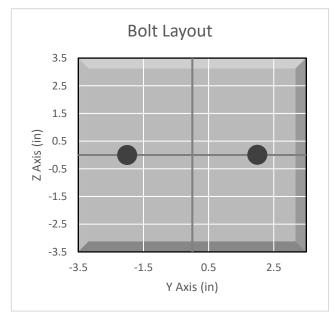


#### **BOLT TOOL 1.5.3**

Projec	ct Data
Job Code:	241044
Carrier Site ID:	814771
Carrier Site Name:	FORT BRAGG (REVISED)

Co	ode
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

Bolt Properties									
Connection Type:	Bolt								
Diameter:	0.625	in							
Grade:	A325								
Yield Strength (Fy):	92	ksi							
Ultimate Strength (Fu):	120	ksi							
Number of Bolts:	2								
Threads Included:	Yes								
Double Shear:	No								
Connection Pipe Size:	6.5	in							



Connection Description			
Standoff to Collar			

Bolt Check*			
Tensile Capacity ( $\phi T_n$ ):	20340.1	lbs	
Shear Capacity (φV <sub>n</sub> ):	13805.8	lbs	
Tension Force (T <sub>u</sub> ):	0.0	lbs	
Shear Force (V <sub>u</sub> ):	4056.7	lbs	
Tension Usage:	0.0%		
Shear Usage:	28.0%		
Interaction:	28.0%	Pass	
Controlling Member:	M2		
Controlling LC:	17		
*Poting nor TIA 222 H Section 15 5			

<sup>\*</sup>Rating per TIA-222-H Section 15.5

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# APPENDIX E SUPPLEMENTAL DRAWINGS

