

### L S ALAM S

#### Community Development—Planning

1000 Central Ave, Suite 150 Los Alamos, NM 87544 505.662.8120 planning@lacnm.us

### **DEVELOPMENT APPLICATION**

PROJECT INFORMATION	
Title:	
Project Address:	
Description:	
Check all application types, if applicable:	
<ul> <li>Administrative Deviation \$25</li> <li>Administrative Wireless Telecom \$250</li> <li>Encroachment Permit \$25</li> <li>Temporary Use Permit \$25</li> <li>Comprehensive Plan Adoption &amp; Amendment* \$250</li> <li>Conditional Use Permit* \$300</li> <li>County Landmark or Historic District Adoption/Amendment* \$250</li> <li>Development Plan* \$250</li> <li>Development Plan Amendment* \$500</li> <li>Major Development Plan Amendment \$250</li> <li>Summary Plat \$100 plus \$25 lot; \$10 / acre for non-residential</li> <li>Sketch Plat, Subdivision* \$250 plus \$175/lot (1-10 lots) \$75/lot (30+ lots)</li> <li>Preliminary Plat, Subdivision* \$250 plus \$175/lot (1-10 lots)</li> <li>\$125/lot (11-30 lots)</li> <li>\$125/lot (11-30 lots)</li> <li>\$125/lot (11-30 lots)</li> </ul>	<ul> <li>Site Plan* \$500 plus \$75 per/Million \$ estimated construction cost</li> <li>Estimated Construction Cost:</li></ul>
\$75/lot (30+ lots) Final Plat, Subdivision* \$250 plus \$175/lot (1-10 lots) \$125/lot (11-30 lots) \$75/lot (30+ lots)	<ul> <li>Small Wireless Facility\$250</li> <li>Major Historic Demolition* \$250</li> <li>Major Historic Property Alteration</li> <li>Certification* \$250</li> </ul>
Landscaping Plan\$500	Minor Historic Property Alteration Certificate \$250
* Application reviews requir	e a pre-application meeting.

### **PROPERTY & OWNER INFORMATION**

Property			
Address:	ity	State	ZIP
Zoning District:	Lot Size - Acres / Sq.	Ft.:	
Existing Structure(s) Sq. Ft.:	Lot Coverage:		
Property Owner(s) Name:			
Owner(s) Email:			
Owner(s) Phone(s)#:			
Owner's Address same as Property Address			
Owner(s)			
Address:	City	State	ZIP
APPLICANT / OWNER'S AGENT INFORMATION			
Applicant is same as Owner			
Applicant Name:			
Applicant			
Address:	ity	State	ZIP
Applicant Email:			
Applicant Phone(s)#:			
ASSOCIATED APPLICATONS			
Application Type:			
Case Number:			
I hereby certify and affirm, under penalty of perjury, the accurate to the best of my knowledge, information, and	-		plication is true and
Signature: Scott Hopper	Date:		
STAFF USE ONLY			
Date Received:	Staff:		
Case No.#:	Meeting Date:		
SUBMITTALS			
<ul> <li>Proof of Ownership or</li> <li>Letter of Authorization from Owner</li> <li>Items from associated Application Checklist</li> </ul>		ion – Date: ed upon verification o	



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### **CONDITIONAL USE CHECKLIST**

Applicants for all development application reviews must complete this checklist and submit it with the Development Application. Refer to the referenced code sections for additional information. Contact the Planning Division with questions regarding these requirements: <a href="mailto:planning@lacnm.us">planning@lacnm.us</a>.

PRE-APPLICATION MEETING	CONDITIONAL USE PERMIT
Date Held:	
VICINITY MAP	
Vicinity Map showing the boundaries of the subject property and all adjacent lots within 300'.	
PLANS	Submit Application to Community Development Department (CDD)
Scaled plans at a minimum of 1" = 100' that illustrates         the following:         Site Plan         Graphic Scale and North Arrow         Property Lines according to recorded survey         Existing and proposed structures         Existing and proposed setbacks         Existing and proposed setbacks         Existing and proposed fencing         Existing and proposed fencing         Existing and proposed lighting         Existing and proposed signage         Parking Plan         Access and parking related to site         Parking stall dimensions         Width of aisle(s)         Parking stall dimensions         Lighting Plan, if applicable         Proposed lighting that notes the Correlated Color Temperature, Color Rendering Index, Lumens and all other attributes related to lighting.         Landscaping Plan         Existing plant material, amount and species and size	Application Review Application deemed complete Public Notice by CDD Public Notice by CDD Pige Planning and Zoning Hearing Papeal Period
ELEVATIONS	
Elevations drawing(s) at a minimum scale of 1/8" = 1' that indicates: Height (above existing grade) of all four sides	

#### See Reverse.

Revision-Jan2023

Code Reference: 16-74 (b)

COV	ERAGE
	FRAGE

Existing (%):

Proposed (%):

### ADDITIONAL SUBMITTALS

Based on staff's review and Interdepartmental Review Committee's recommendation – additional submittals may be required and will be communicated to the applicant by the assigned Case Manager.

### DECISION CRITERIA 16-74-(b)(3)

a.   	The Conditional Use substantially conforms to the intent and policies of the Comprehensive Plan and other adopted County policies and plans. Explain.
-	
-	Staff finds that this criterion has been met
-	Staff finds that this criterion has not been met – more information is needed
b.	The Conditional Use is not detrimental to the public safety, health, or welfare. Explain.
-	
-	
-	
	Staff finds that this criterion has been met
	Staff finds that this criterion has not been met – more information is needed

c.	The Conditional Use is in conformance with all applicable provisions of this Code and other adopted County regulations. Explain.
	Staff finds that this criterion has been met  Staff finds that this criterion has been met  Staff finds that this criterion has not have more information is peeded
	Staff finds that this criterion has not been met – more information is needed
d.	The Conditional Use shall conform to all applicable regulations of the district in which it is located. Explain.
	Staff finds that this criterion has been met
	Staff finds that this criterion has not been met – more information is needed
e.	The Conditional Use does not cause significant adverse impacts on properties in the vicinity. Explain.
	Staff finds that this criterion has been met
	Staff finds that this criterion has not been met – more information is needed

### DECISION CRITERIA 16-74-(b)(3)

f.	There are adequate utilities, access roads, drainage, and other necessary improvements to allow the land use, or improvements are planned to provide adequate measures. Explain.
-	
-	
-	
-	Staff finds that this criterion has been met
	Staff finds that this criterion has not been met – more information is needed
g.	The location, size, design, and operating characteristics of the Conditional Use will be compatible with the use and development of properties in the vicinity. Explain.
-	
-	
-	
-	Staff finds that this criterion has been met
-	Staff finds that this criterion has not been met – more information is needed
h.	The Conditional Use is in compliance with the Site Plan procedures and requirements of Sec. 16- 74(h) and demonstrates that the site development will be compatible with properties in the vicinity. Explain.
-	
-	
-	
-	Staff finds that this criterion has been met
-	Staff finds that this criterion has not been met – more information is needed

#### Attach additional sheets, if needed.

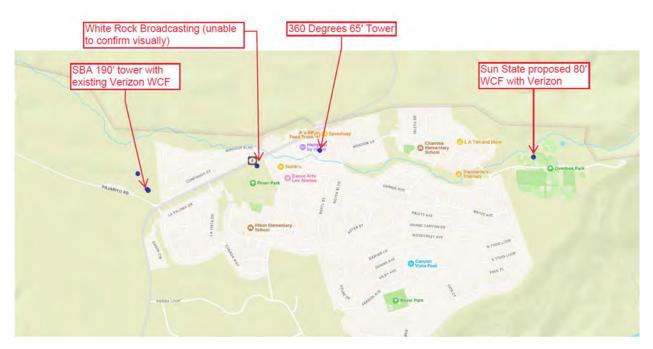
**c.** The Conditional Use is in conformance with all applicable provisions of this Code and other adopted County regulations. Explain.

The WCF substantially complies with all the relevant rules and regulations outlined in the local zoning code and any additional county ordinances. The proposed WCF will not violate any existing laws or regulations regarding land development.

d. The Conditional Use shall conform to all applicable regulations of the district in which it is located. Explain.

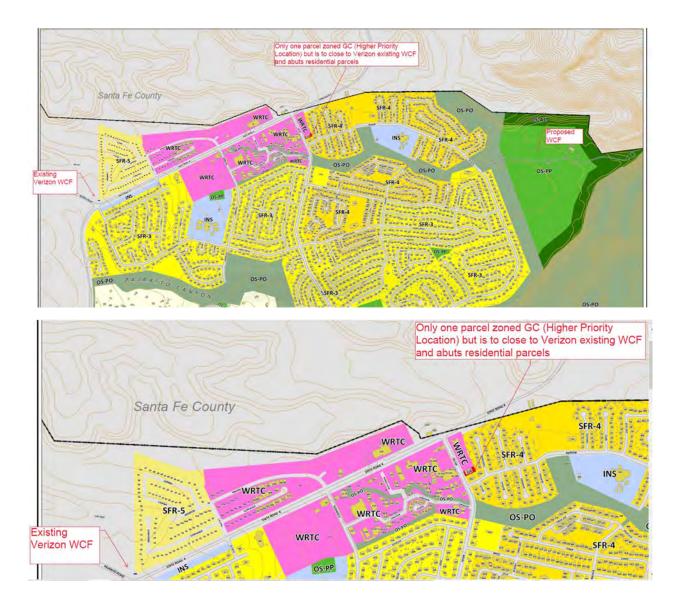
The Proposed WCF substantially conforms with applicable regulations of the district in which it is located.

Collocations and public utility collocation; a search was performed using antennaSearch.com, which lists (3) existing towers, but was only able to confirm (2) visually during a site visit on 07/07/2024. 190' Non-concealed SBA Tower (this is the location Verizon has an existing WCF that is running out of capacity) the other 360 Degrees Non-concealed 65' Tower, is too close to Verizon's existing WCF (SBA 190' Tower) to meet Verizon Capacity objectives. The distance between Verizon's existing WCF and the proposed Sun State proposed concealed WCF is approximately two (2) miles (Please see snippets below).



Sun State / Verizon considered the existing 80' light poles owned by Los Almos County at Overlook Park, but due to interference / shadowing issues that can be caused by the antennas, the separation requirements would be approximately 20' or more below the bottom of the light fixtures, therefore, would not meet Verizon height requirement (76') for Capacity / coverage objective and would limit Sun State's ability to add additional carriers. (Please see Alternative Site & Height Analysis)

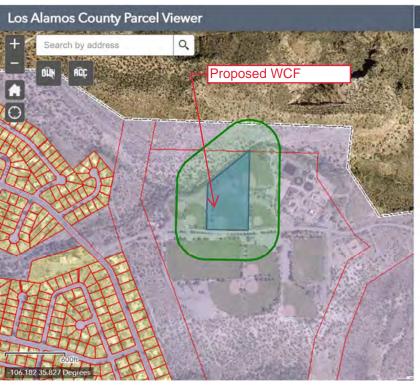
Higher priority locations; The locations zoned WRTC & GC are too close to Verizon's existing WCF to meet Verizon Capacity objectives. (Please see snippets below)



Least intrusive means; The Proposed concealed 80' WCF (Antennas will be housed in a stealth canister shroud), meets and or exceeds all setback requirements, is approximately 1,000 feet from existing residential properties (Please refer to Photo Sims)

Height; 50' is insufficient for reasonable collocation for Verizon and or future carriers to resolve the capacity/coverage objectives in this area. A height Variance application will be submitted with the CUP, requesting a height increase to 80' that will match several existing Ballfield light poles near the WCF. (Please refer to Alternative Site & Height Analysis)

Vicinity Map showing the boundaries of the subject property and all adjacent lots within 300'. Adjacent lots are owned by Los Alamos County (Overlook Park). There are no residential properties within the 300' notification area.



Public Notification		× • >
Select or search for a feature in the map		
		Q
Apply a search distance		
300	Feet	Y
Addressee Layer		
ParcelViewerBaseLayers_AGOL - Parcels		-
Format		
PDF label 1 x 4 inches; 20 per page		



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Case No.

### **OWNER AFFIDAVIT**

(Authorizing an agent to act on behalf of a property owner when making a land development application.)

SS.

### STATE OF NEW MEXICO

### COUNTY OF LOS ALAMOS

L (We) County of Los Alamos

being duly sworn, depose and

say that (*I am*) (*we are*) the owner(s) of property located at: 580 OVERLOOK RD. WHITE ROCK, NM 87544 (Overlook Park), legally described as:

TRACT N, WHITE ROCK SUBDIVISION, AS SHOWN ON PLAT RECORDED

SEPTEMBER 3, 1965 IN BOOK 1, PAGE 62, AND AFFIDAVIT OF CORRECTION

RECORDED ON AUGUST 30, 1966 IN BOOK 7, PAGE 141, RECORDS OF LOS ALAMOS

COUNTY, NEW MEXICO, for which (I am) (we are) requesting a:

Telecommunication Facility (conditional use permits; sketch, preliminary and final plats; site plan; variance; zone change; subdivision; summary plat; temporary use permit; telecommunication facility; historic property; or development plans) through the County of Los Alamos, New Mexico.

Furthermore, (I) (we) hereby appoint \_Scott Hopper of Pinnacle Consulting as our agent to act on our behalf in all matters pertaining to this application.

Signed: Anne Laurent	Signed:
	Address:
Los Alamos, NM 87544	
Telephone: 505-663-1750	Telephone:

Subscribed and sworn to before me this

day of Aust i B. Sal

STATE OF NEW MEXICO NOTARY PUBLIC Jacqueline D. Salazar Commission Number 1102101 My Commission Expires May 24, 2025

My Commission Expires: may 2025



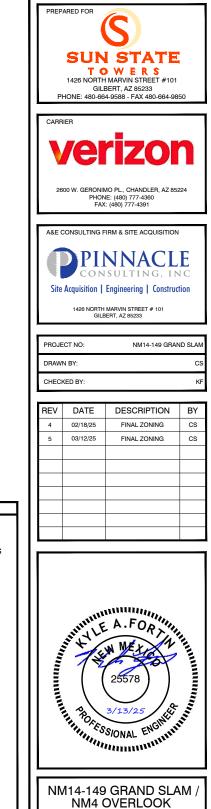
## NM14-149 GRAND SLAM / NM4 OVERLOOK

APN: 104-01-0825-1495

### 580 OVERLOOK RD. LOS ALAMOS, NM 87544 LOS ALAMOS COUNTY

SITE DIRECTIONS	PROJECT DESCRIPTION	CONTACT INFORMATION	PROJECT DATA	GENERAL NOTES
DEPART ALBUQUERQUE INTERNATIONAL AIRPORT. HEAD SOUTH ON YALE BLVD SE. SLIGHT LEFT TO STAY ON YALE BLVD SE. MERGE ONTO SUNPORT BLVD. SLIGHT RIGHT TO STAY ON SUNPORT BLVD. KEEP LEFT TO STAY ON SUNPORT BLVD. USE THE LEFT LANE TO MERGE ONTO SUNPORT LOOP SE. KEEP LEFT TO CONTINUE ON SUNPORT BLVD. USE THE RIGHT 2 LANES TO MERGE ONTO I-25 N VIA THE RAMP TO I-40 N/DOWNTOWN/SANTA FE. MERGE ONTO I-25 N. TAKE EXIT 276 FOR NM-599 S TOWARD MADRID. USE THE LEFT 2 LANES TO TURN LEFT ONTO NM-599 N. TAKE THE US-84 N/US-286 EXIT ON THE LEFT TOWARD ESPAÑOLA. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-275 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS EXIT. MERGE ONTO US-285 N/US-84 W. TAKE THE NM-502 W/LOS ALAMOS RUMERT ANT AND. CONTINUE ONTO NM-502 USE THE RIGHT 2 LANES TO TAKE THE NM-4 RAMP TO WHITE ROCK/BANDELIER NATL MON. CONTINUE ONTO NM-4 W. TURN LEFT ONTO ROVER BLVD. TURN LEFT ONTO MEADOW LN. TURN LEFT ONTO OVERLOOK RD. DESTINATION WILL BE ON THE LEFT.	SCOPE OF WORK         INSTALL PROPOSED 80'-0" SUN STATE TOWERS GALVANIZED STEEL MONOPOLE         INSTALL PROPOSED 20'-0"X30'-0" SPLIT FACE CMU WALL W/ SLOPPED SECURITY TOPPER         INSTALL PROPOSED 4'-0"X12'-0" CONCRETE PAD         INSTALL PROPOSED BATTERY CABINET         INSTALL PROPOSED GPS ANTENNA         INSTALL PROPOSED LECTRICAL SERVICE         INSTALL PROPOSED ANTENNA FRAME         INSTALL PROPOSED ANTENNA S         INSTALL [9] PROPOSED ANTENNAS         INSTALL [2] PROPOSED HYBRIFLEX CABLES	CLIENT / TOWER OWNER: SUN STATE TOWERS 1426 N. MARVIN STREET #101 GILBERT, AZ 85233 CONTACT: CHAD WARD PHONE: [480] 664-9588 PHONE: [480] 664-9588 PHONE: [480] 664-9588 PHONE: [480] 664-9588 CONTACT: JEFF DEWALT	ZONING:       OS-PP         PARCEL #:       104-01-0825-1495         USE:       UNMANNED COMMUNICATIONS         NEW LEASE AREA:       2200 SQ. FT         JURISDICTION:       LOS ALAMOS COUNTY         GOVERNING CODES:       2021 IBC, 2021 NMBC, 2015 NFPA 1, 2020 NMEC         ALL BUILDING CODES LISTED ABOVE       SHALL INCLUDE AMENDMENTS BY THE GOVERNING JURISDICTION	<ol> <li>THIS WIRELESS TELECOMMUNICATIONS FACILITY WILL MEET THE HEALTH AND SAFETY STANDARDS FOR ELECTROMAGNETIC FIELD EMISSIONS AS ESTABLISHED BY THE FEDERAL COMMUNICATIONS COMMISSION OR ANY SUCCESSOR THEREOF, AND ANY OTHER FEDERAL OR STATE AGENCY.</li> <li>THIS WIRELESS TELECOMMUNICATIONS FACILITY WILL MEET THE REGULATIONS OF THE FEDERAL COMMUNICATIONS COMMISSION REGARDING PHYSICAL AND ELECTROMAGNETIC INTERFERENCE.</li> <li>LIGHTING OR SIGNS WILL BE PROVIDED ONLY AS REQUIRED BY FEDERAL OR STATE AGENCIES.</li> <li>DEVELOPMENT AND CONSTRUCTION OF THIS PROJECT WILL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.</li> <li>EXISTING PARKING IS NOT AFFECTED BY THIS PROJECT.</li> <li>THIS PROJECT DOES NOT INCLUDE WATER OR SEWER.</li> <li>THIS PROJECT INCLUDES C-BAND INSTALLATION.</li> </ol>
VICINITY MAP	SHEET INDEX         T-1       PROJECT INFORMATION         Z-1       OVERALL SITE PLAN         Z-2       OVERALL SETBACK PLAN         Z-3       EXISTING SITE PLAN         Z-4       PROPOSED SITE PLAN         Z-5       ENLARGED SITE PLAN AND ANTENNA PLAN         Z-6       ELEVATIONS	SITE ACQUISITION: PINNACLE CONSULTING, INC. 1426 N. MARVIN STREET #101 GILBERT, AZ 85233 CONTACT: MICHELLE JOHNSON PHONE: (480) 664-9588 ext. 230		8. NO ABANDONMENT OF A SMALL WIRELESS FACILITY SHALL BE PERMITTED. ALL SMALL WIRELESS FACILITIES NOT IN SERVICE SHALL BE PHYSICALLY MAINTAINED AS IF IN SERVICE FOR THE PROTECTION AND SAFETY OF THE PUBLIC.
OVERLOOK RD. Overlook Park Paul Spirio Soccer fields Temponity usees Temponity usees Overlook Sports Complex Overlook Date Sports Complex Overlook Date Sports Complex Sports Complex	Z-7       ELEVATIONS         Z-8       ELEVATIONS         Z-9       COMPOUND ENCLOSURE DETAIL	ENGINEERING FIRM: PINNACLE CONSULTING, INC. 1426 N. MARVIN STREET #101 GILBERT, AZ 85233 ENGINEER: KYLE FORTIN, PE	COORDINATES           TOWER COORDINATES:           TOWER LATITUDE         35.826752°         35° 49' 36.31" N [NAD83]           TOWER LONGITUDE         -106.188301°         -106° 11' 17.89" W [NAD83]           TOWER GROUND ELEVATION         6292.8' [NAVD88]	[RF]:       DATE:         [CONST.]:       DATE:         [RE]:       DATE:
White Rock Diverbook Trash Blue Door Whee		PHONE: [623] 217-4235	FIBER MMP (MEET ME POINT) COORDINATES: MMP LATITUDE 35.826074° 35° 49' 33.87" N [NAD83] MMP LONGITUDE -106.188313° -106° 11' 17.93" W [NAD83] HMENT A	LANDLORD: DATE:



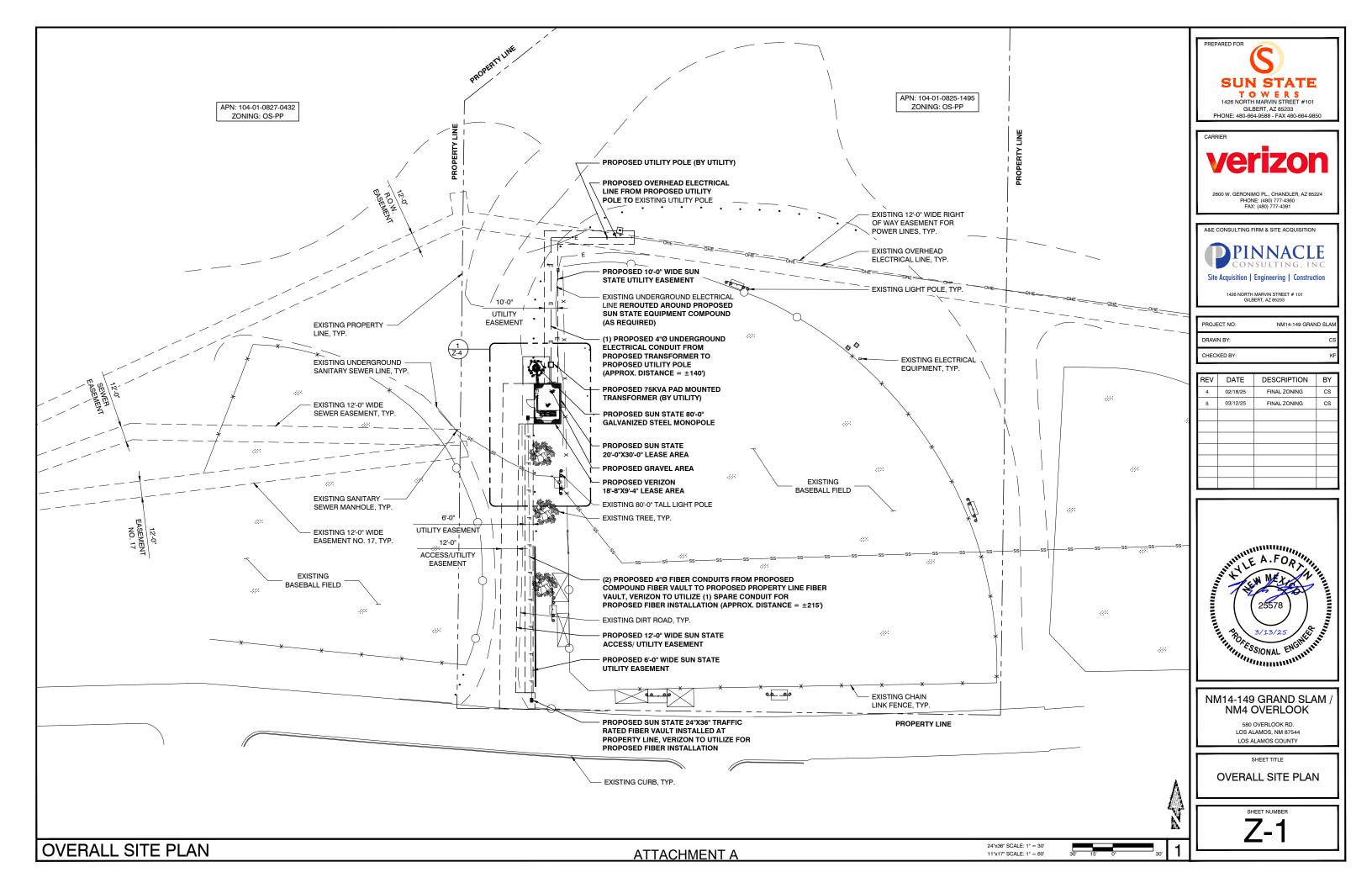


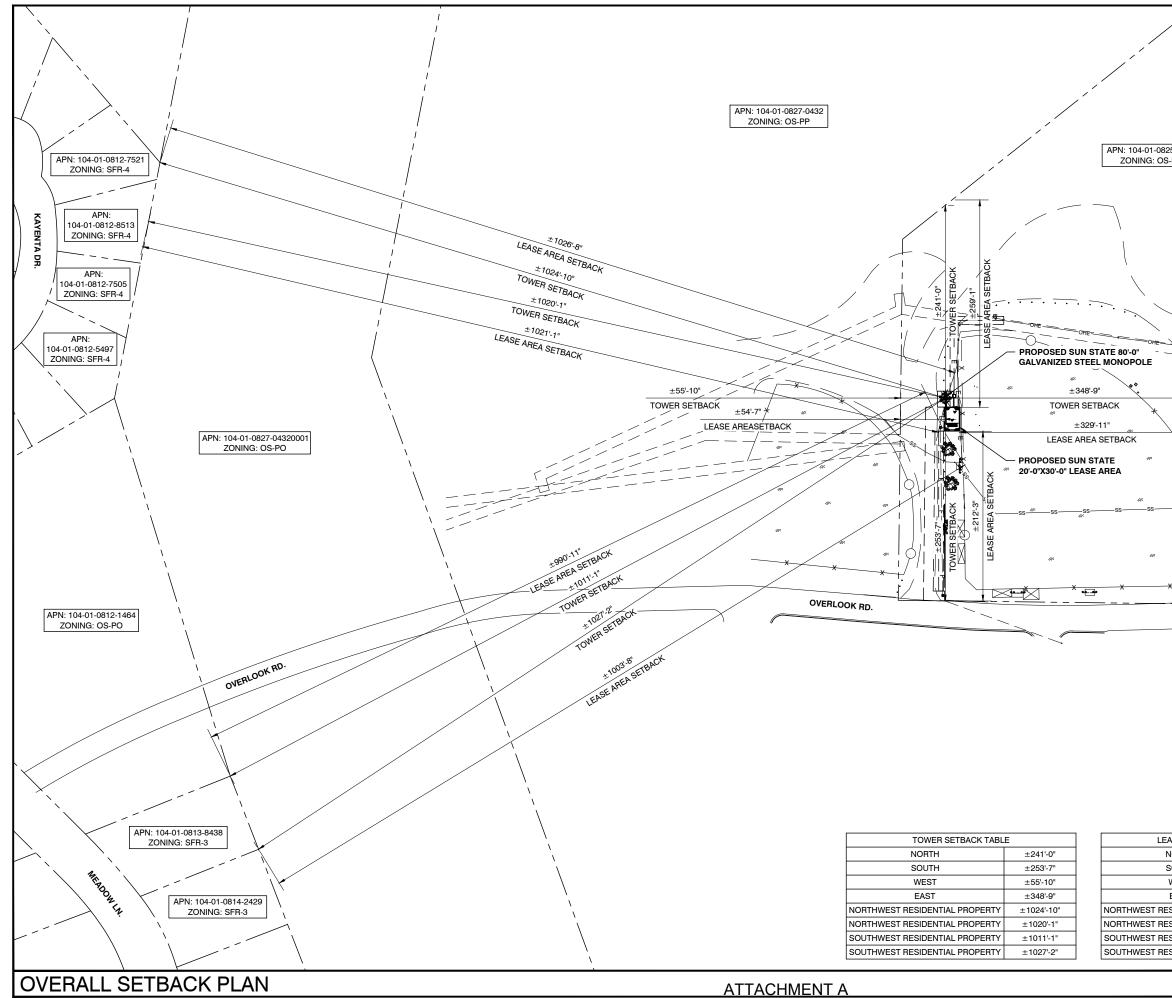
580 OVEBLOOK BD LOS ALAMOS, NM 87544 LOS ALAMOS COUNTY

SHEET TITLE

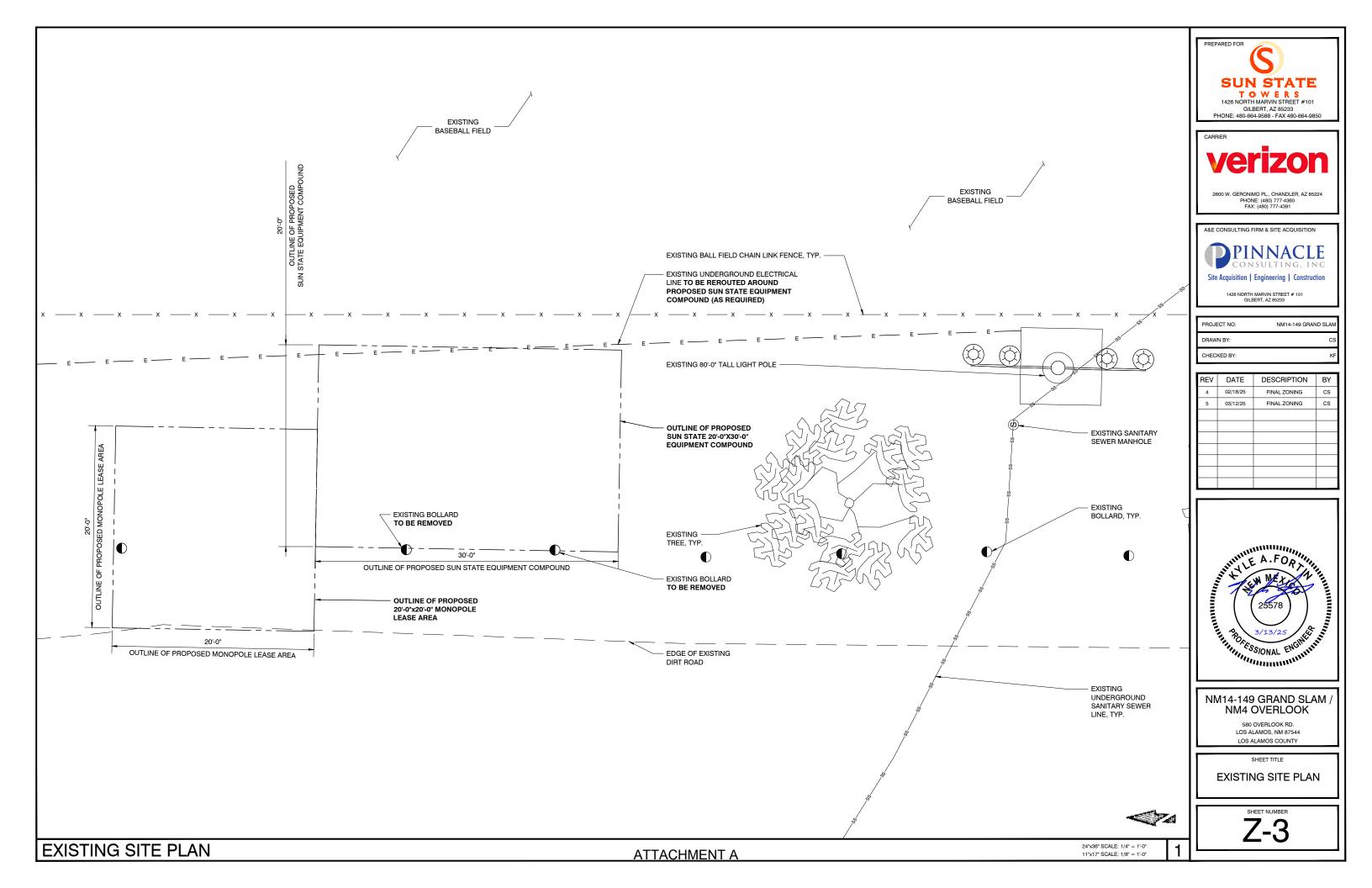
**PROJECT INFORMATION** 

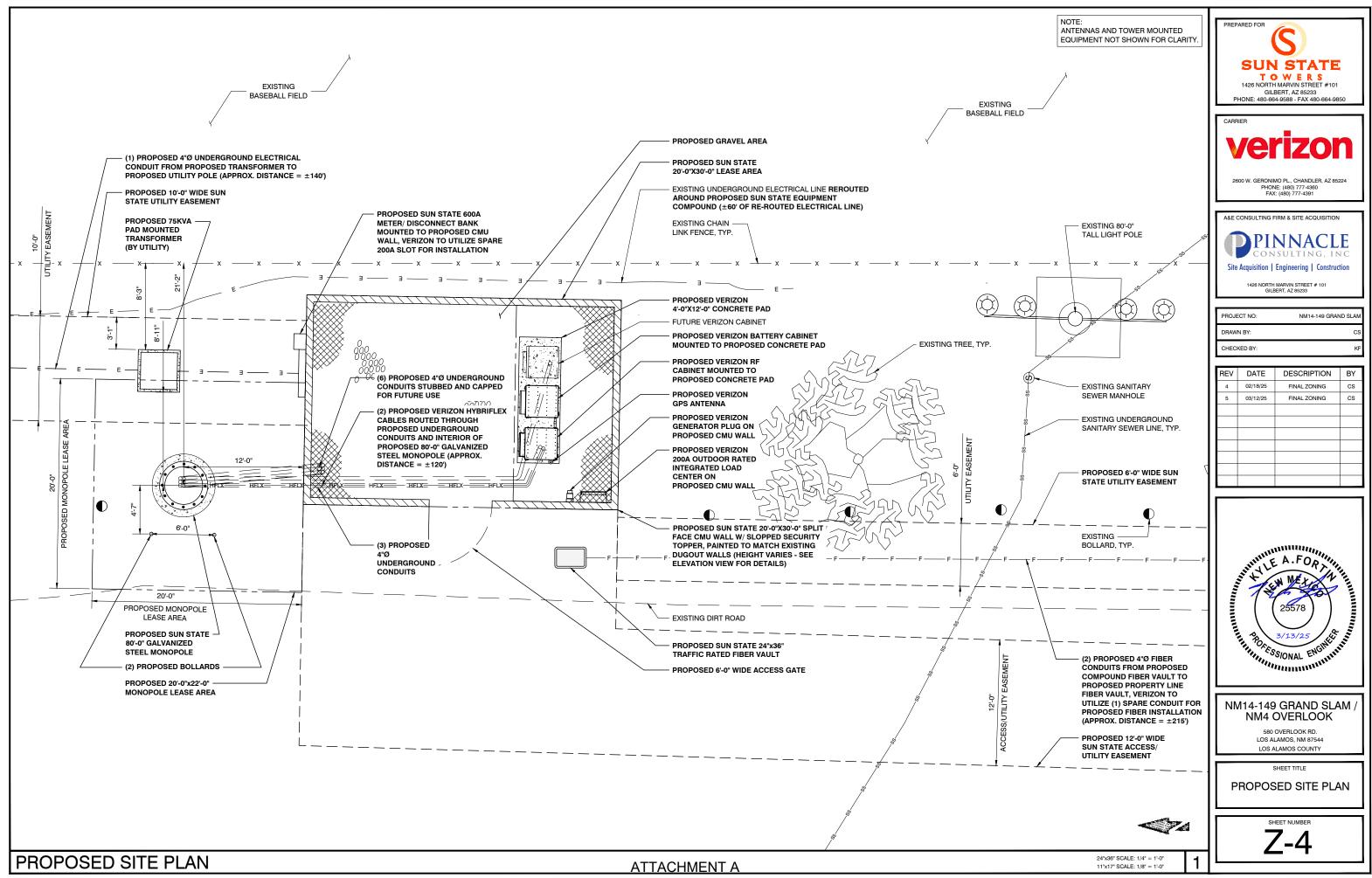


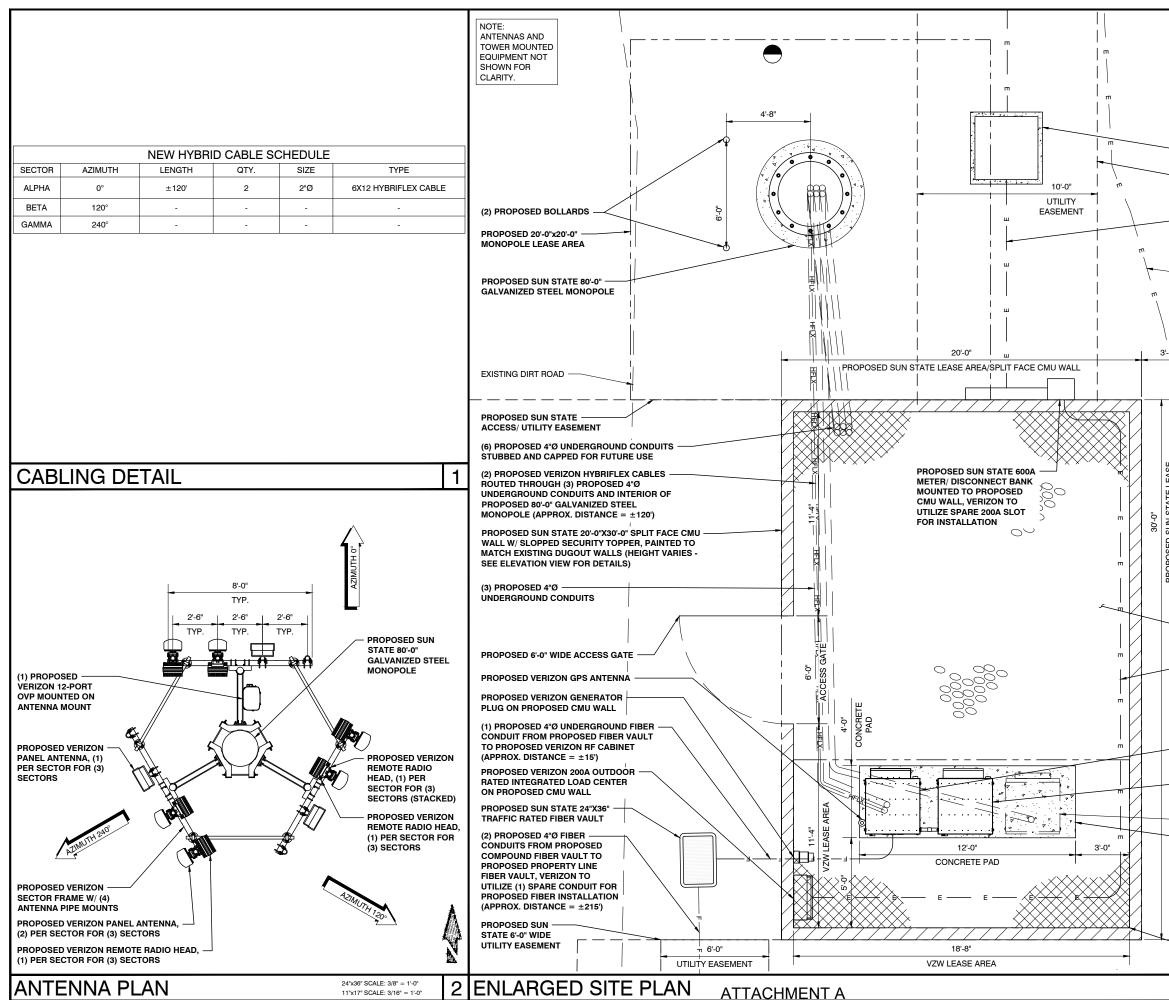




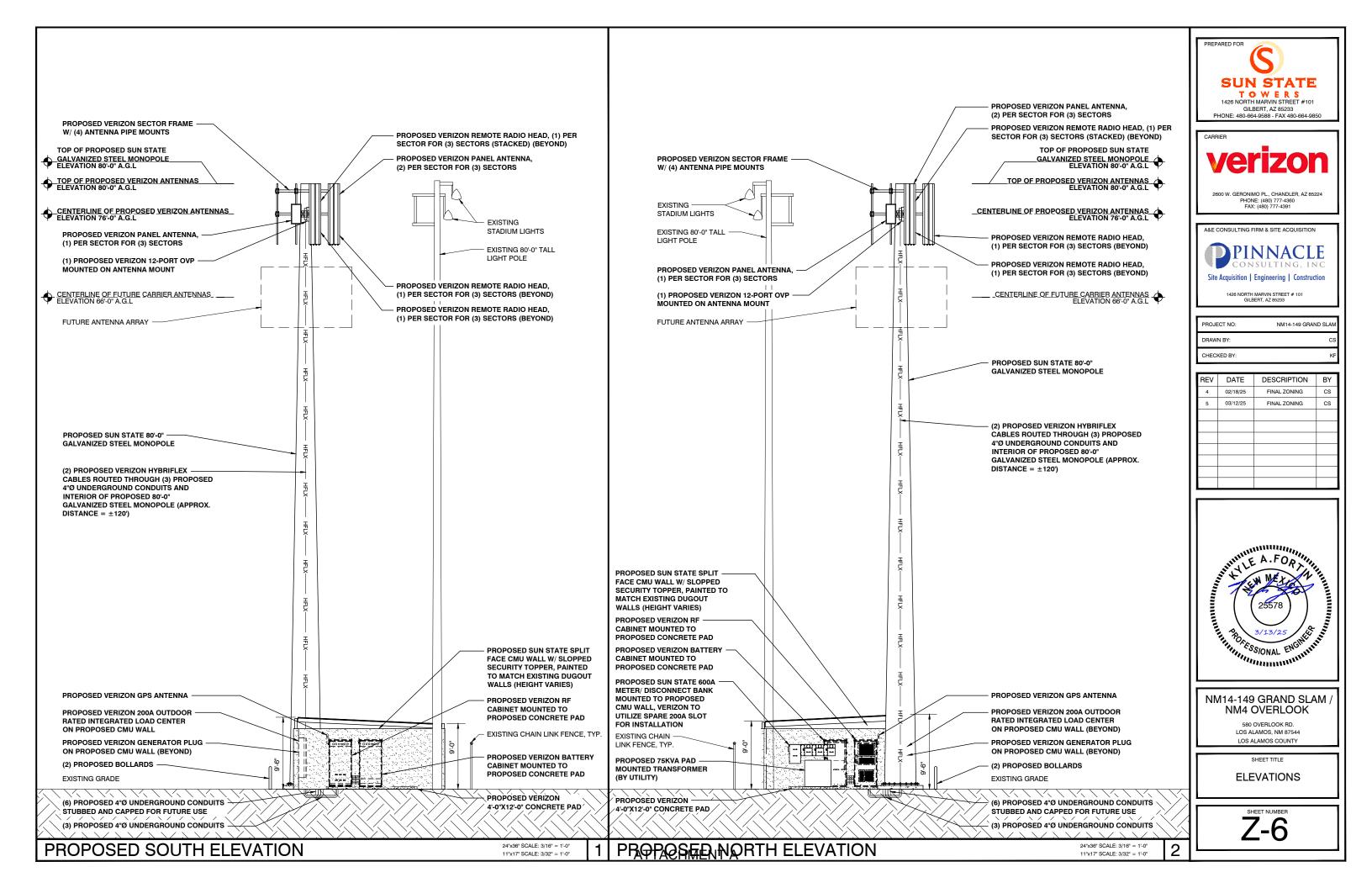
25-1495 S-PP			Pł CARR 26	1426 NORTH GILLIU HONE: 480-66 IER IER OO W. GERONII PHON FAX CONSULTING F Acquisition   1426 NORTH	ABOUT STREET # 101 STATE MARVIN STREET # 101 BERT, AZ 85233 149588 - FAX 480-664-98 CICCON CICON CICON CICCON CICON CICON CICCON CICON CI	224
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EASE AREA SETBACK TA	BLE		NM	NM4 (	GRAND SLA OVERLOOK OVERLOOK RD. LAMOS, NM 87544	M /
NORTH	±259'-1"				LAMOS COUNTY	
SOUTH WEST	±212'-3" ±54'-7"			:	SHEET TITLE	
EAST	±329'-11"		ov	ERALL	SETBACK PI	
ESIDENTIAL PROPERTY	±1026'-8"	Å				
	±1021'-1"	LA	<u> </u>	~		
ESIDENTIAL PROPERTY	±990'-11" ±1003'-8"	N				
		#25.			Z-2	
	24"x36" SCALE: 1"=60' 1"x17" SCALE: 1" = 120'	1				

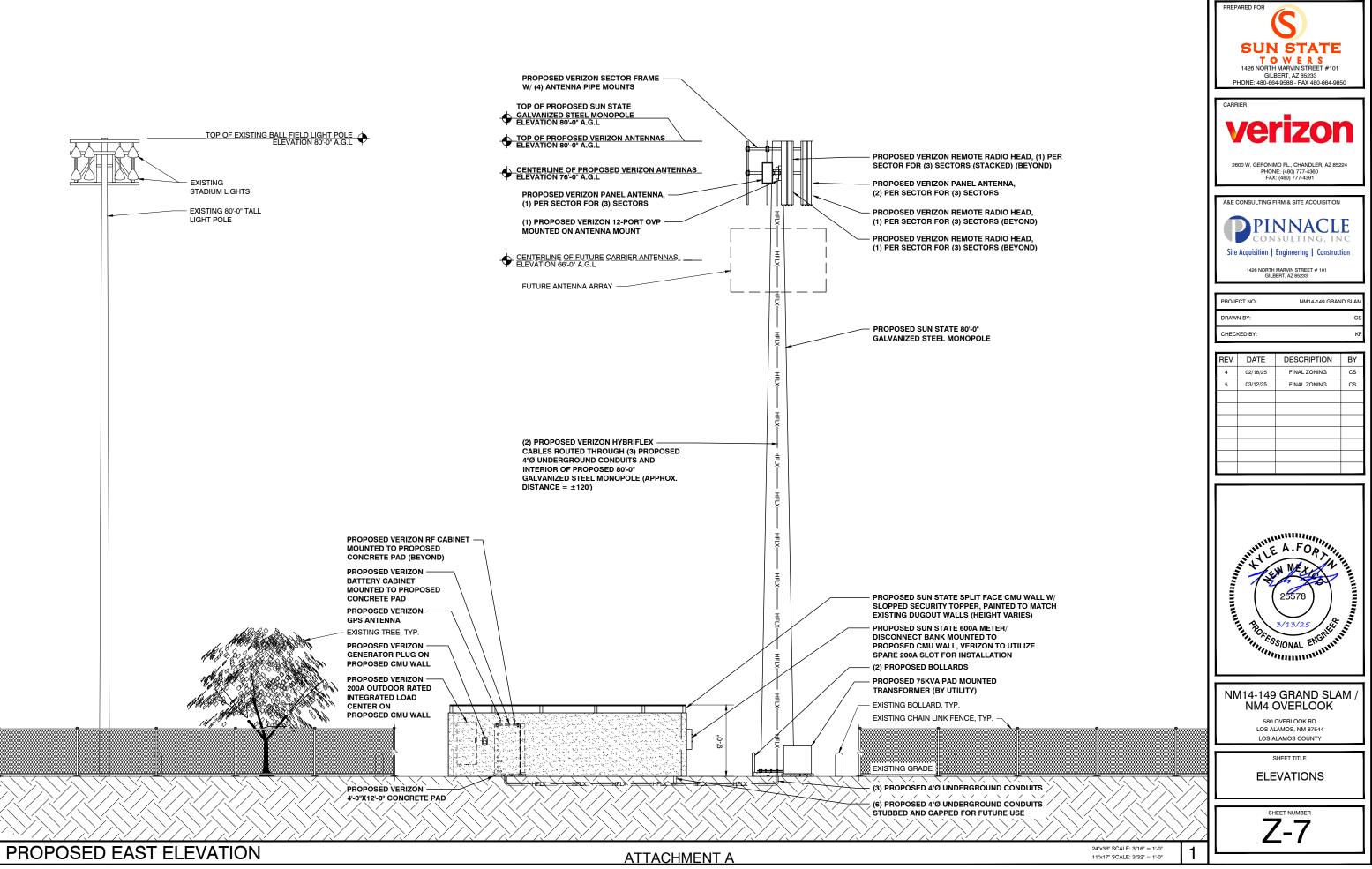


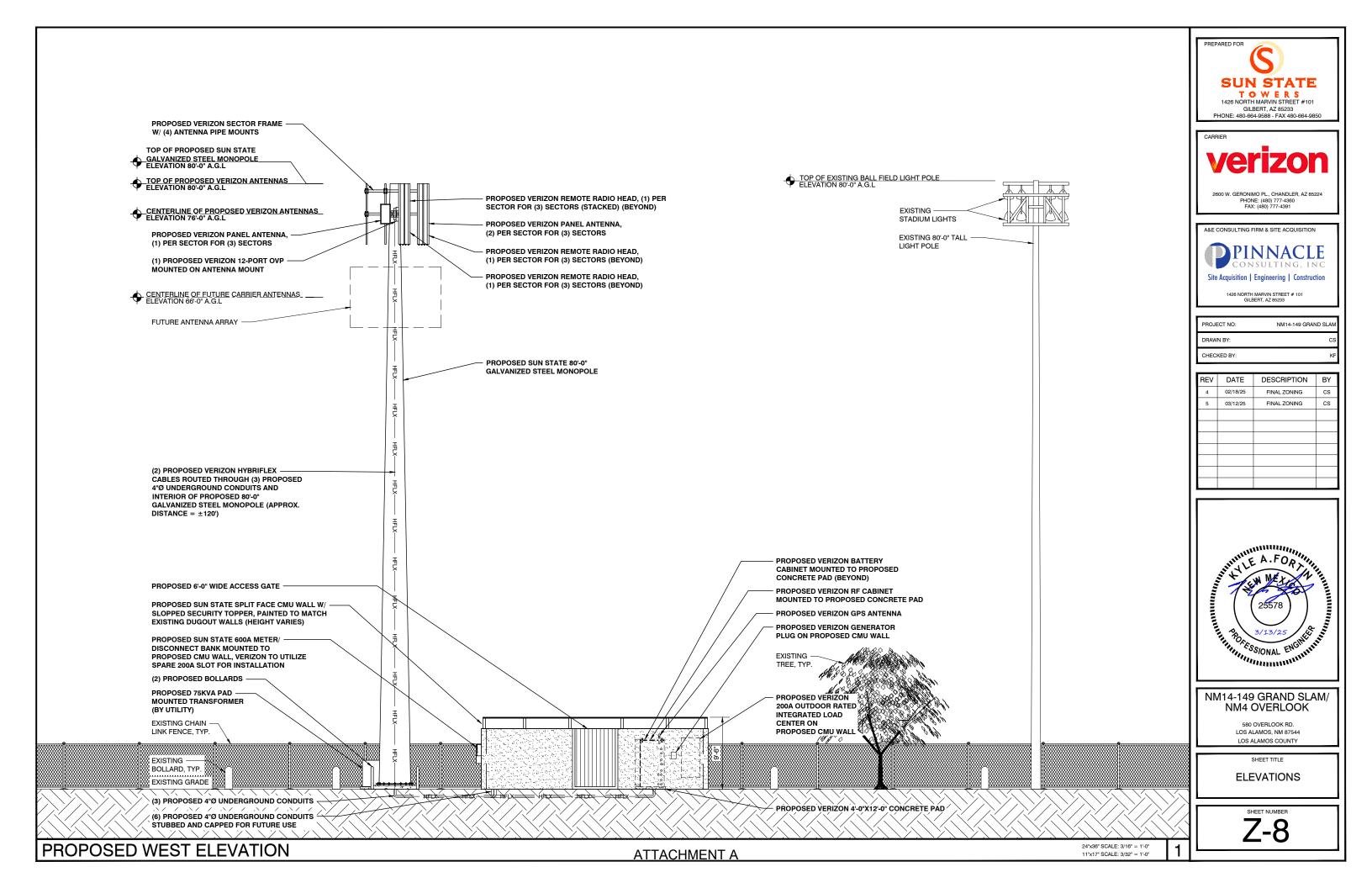


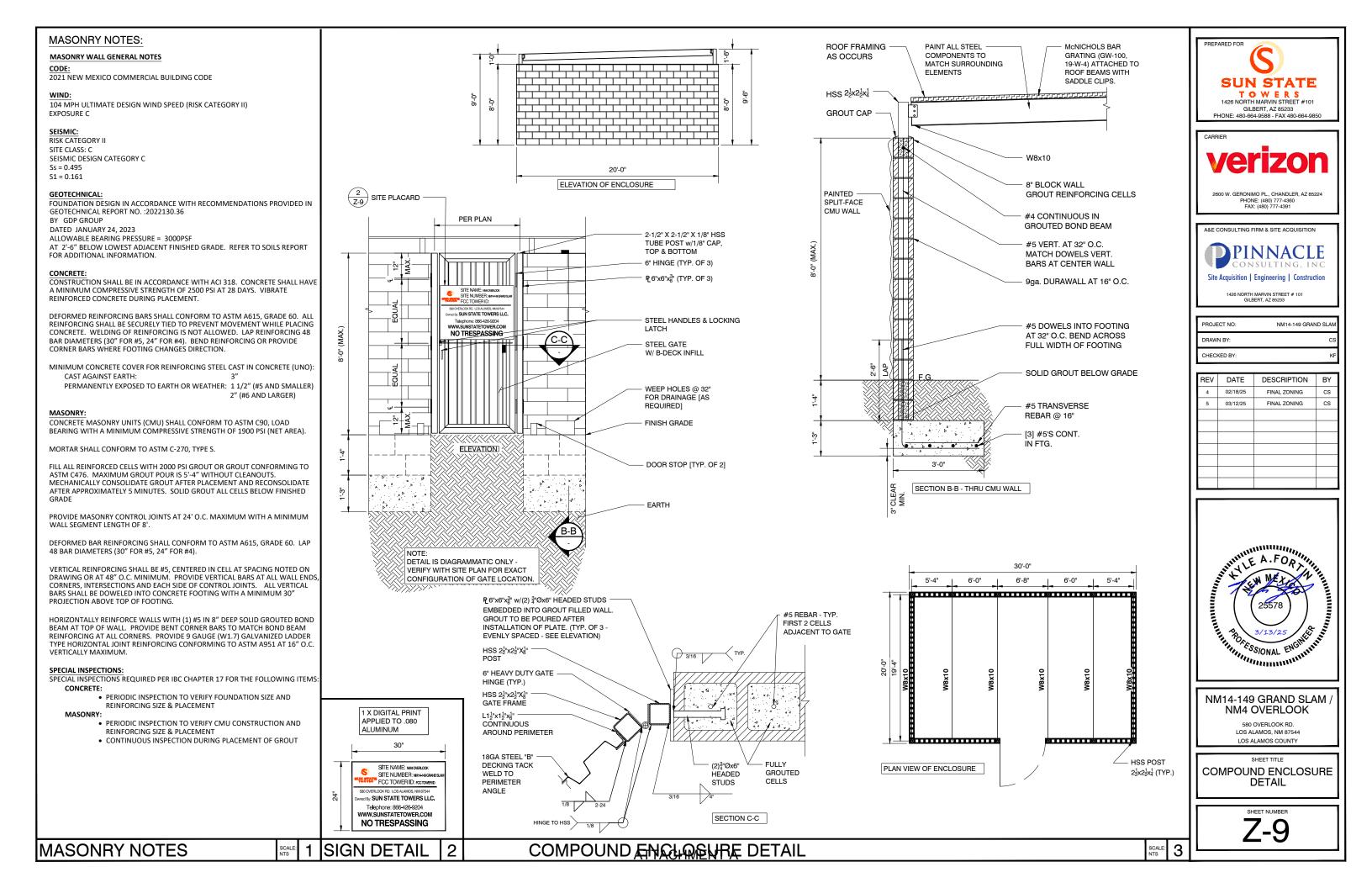


PREPARED FOR	
X   EXISTING BALL FIELD CHAIN LINK FENCE, TYP.   PROPOSED 75KVA PAD MOUNTED TRANSFORMER (BY UTILITY)   PROPOSED 10'-0" WIDE SUN X   STATE UTILITY EASEMENT   (2) PROPOSED 3"Ø ELECTRICAL CONDUITS FROM PROPOSED X   600A METER BANK TO PROPOSED TRANSFORMER (APPROX. DISTANCE = ±10')   X   EXISTING UNDERGROUND ELECTRICAL LINE REROUTED	IND PL, CHANDLER, AZ 85224 NE: (480) 777-4380 X: (480) 777-4380 X: (480) 777-4391
EQUIPMENT COMPOUND (±60' OF RE-ROUTED ELECTRICAL LINE)	Engineering   Construction
-0"	
PROJECT NO:     DRAWN BY:	NM14-149 GRAND SLAM CS
- CHECKED BY:	KF
REV DATE 4 02/18/25	DESCRIPTIONBYFINAL ZONINGCS
ш Б 03/12/25	FINAL ZONING CS
_ <	
PROPOSED GRAVEL AREA	ALLERING
	A.FOR THINK
(1) PROPOSED 2-1/2"Ø UNDERGROUND ELECTRICAL CONDUIT FROM PROPOSED × 600A METER/ DISCONNECT BANK TO PROPOSED INTEGRATED LOAD CENTER (APPROX. DISTANCE = ±50')	25578 3/13/25 Solonal Evolution
× PROPOSED VERIZON RF CABINET MOUNTED TO PROPOSED CONCRETE PAD	SS/ONAL ENGINE INT
FUTURE VERIZON CABINET	9 GRAND SLAM / OVERLOOK
4-0"X12-0" CONCRETE PAD LOS / LOS	O OVERLOOK RD. ALAMOS, NM 87544 ALAMOS COUNTY
	SHEET TITLE GED SITE PLAN NTENNA PLAN
PROPOSED VERIZON 18'-8"X9'-4" LEASE AREA	
24*x36* SCALE: 3/8* = 1*0* 11*x17* SCALE: 3/16* = 1*0* 3	- ~









## WIRELESS NETWORK CONSULTING

NM14-149 Grand Slam / Verizon NM4\_OVERLOOK Capacity Cell Split

# ALTERNATIVE SITE & HEIGHT ANALYSIS

ATTACHMENT A

Riwabkos

an

S

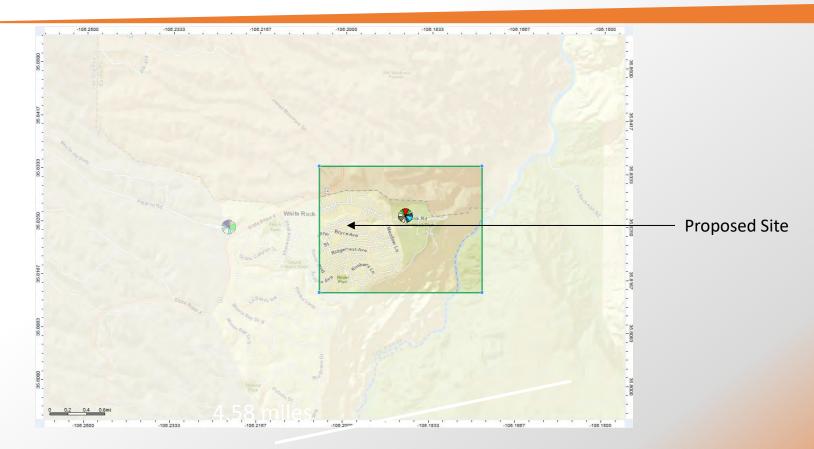
# **Alternate Site & Height Analysis**

- Pinnacle requested a review of alternate site locations and alternative heights
- \* Existing structures within 1000' of proposed
- \* Analysis of lower heights compared to the proposed height
- <sup>†</sup> The sites modeled are as follows:
- \* Alt 1 Approx 80' AGL Light Standard
  - 35.826512 Latitude
  - -106.188241 Longitude
- <sup>†</sup> The alternate site analysis will consider the available height on the towers

# **Proposed and Alternates**



## **Focus Zone**



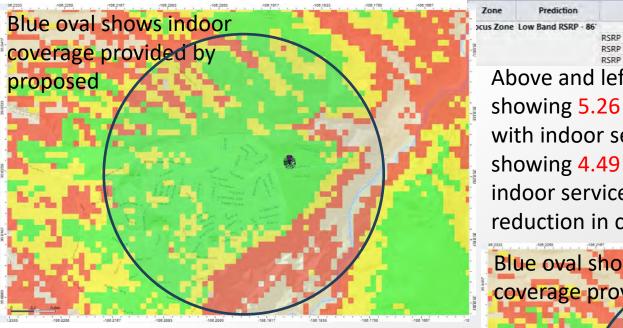
Focus Zone (Inside Green Line) is set up to analyze difference in coverage between the proposed and alternate sites requested by jurisdiction

# **ALTERNATIVE SITE**

## RSRP Coverage - Low Band Proposed vs Alternate 1

LEGEND					
Indoor >= -85 dbm					
	In-Vehicle >= -95 dbm				
	On-Street >= -106 dbm				

Surface (km<sup>2</sup>) % of Covered Area % Focus Zone



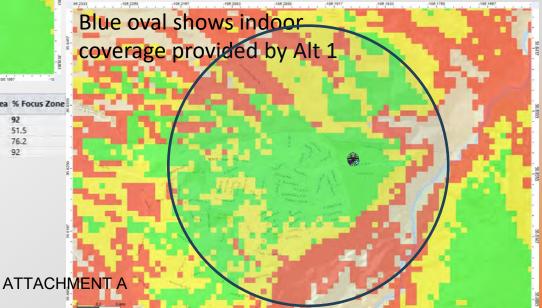
Zone	Prediction	Legend	Zone Surface (km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
Focus Zone	Low Band RSRP - 86'	6'	8.722513	8.028457	100	92
		RSRP Level (DL) (dBm) >= -85		4.491632	55.9	51.5
		RSRP Level (DL) (dBm) >= -95		6.643312	82.7	76.2
		RSRP Level (DL) (dBm) >=-106		8.028457	100	92

Above and left picture shows Proposed data showing 5.26 square kilometers are covered with indoor service vs Alt 1 tower data showing 4.49 square kilometers covered with indoor service. Approximately a 15% reduction in coverage for the objective.

(km<sup>2</sup>

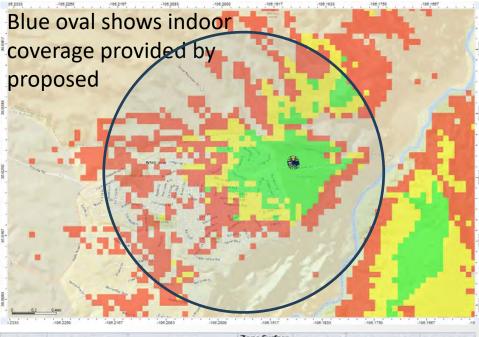
8.722513

Legend



## **RSRP Coverage - Mid Band Proposed vs Alternate 1**

LEGEND						
Indoor >= -85 dbm						
	In-Vehicle >= -95 dbm					
	On-Street >= -106 dbm					



Prediction	Legend	Zone Surface (km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
Low Band RSRP - 86'			3.980608	100	45.6
	RSRP Level (DL) (dBm) >=-85		1.04222	26.2	11.9
	RSRP Level (DL) (dBm) > = -95		1.660828	41.7	19
	RSRP Level (DL) (dBm) > = -106		3.980608	100	45.6
		Low Band RSRP - 86' RSRP Level (DL) (dBm) >=-85 RSRP Level (DL) (dBm) >=-95	Low Band RSRP - 86' 8.722513 RSRP Level (DL) (dBm) >=-85	Low Band RSRP - 86' 8.722513 3.980608 RSRP Level (DL) (dBm) >=-85 1.04222 RSRP Level (DL) (dBm) >=-95 1.660828	(km <sup>*</sup> )         (km <sup>*</sup> )           Low Band RSRP - 86'         8.722513         3.980608         100           RSRP Level (DL) (dBm) >= -85         1.04222         26.2           RSRP Level (DL) (dBm) >= -95         1.660828         41.7

	Zone	Prediction	Legend	Zone Surface (km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
1	Focus Zone	Low Band RSRP - 86'		8.722513	4.895072	100	56.1
			RSRP Level (DL) (dBm) >= -85		1.385144	28.3	15.9
10.00			RSRP Level (DL) (dBm) > = -95		2.313056	47.3	26.5
10			RSRP Level (DL) (dBm) >=-106		4.895072	100	56.1
	A 1		C	1	-		

Above and left picture shows Proposed data showing 1.38 square kilometers are covered with indoor service vs T-Mobile tower data showing 1.04 square kilometers covered with indoor service. Approximately a 25% reduction in coverage for the objective.

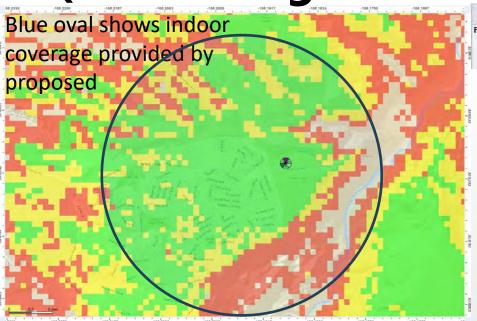




- Reviewing the modeling the alternate site do not provide the same level of service of the proposed
- Locating the antennas on lower heights on the alternate site would provide less coverage than the proposed
- \* The alternate sites were analyzed against the primary objective

# **ALTERNATIVE HEIGHT**

## RSRP Coverage Low Band 76' vs 56' C/L (tower height 80' vs 60' AGL)

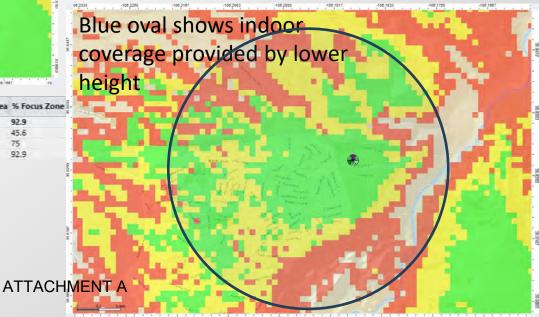


Zone	Prediction	Legend	Zone Surface (km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
Focus Zone	Low Band RSRP - 86'		8.722513	8.102421	100	92.9
		RSRP Level (DL) (dBm) >=-85		3.980608	49.1	45.6
		RSRP Level (DL) (dBm) >=-95		6.542452	80.7	75
		RSRP Level (DL) (dBm) >=-106		8.102421	100	92.9

LEGEND						
	Indoor >= -85 dbm					
	In-Vehicle >= -95 dbm					
	On-Street >= -106 dbm					

	Zone	Prediction	Legend	(km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
-	Focus Zone Low Band RSRP - 86"			8.722513	7.954493	100	91.2
			RSRP Level (DL) (dBm) > = -85		5.264892	66.2	60.4
-1			RSRP Level (DL) (dBm) >=-95		6.750896	84.9	77.4
-			RSRP Level (DL) (dBm) >=-106		7.954493	100	91.2

Above and left picture shows Proposed data showing 5.26 square kilometers are covered with indoor service vs lower height data showing 3.98 square kilometers covered with indoor service. Approximately a 25% reduction in coverage for the objective.



## RSRP Coverage Mid Band 76' vs 56' C/L (tower height 80' vs 60' AGL)

Blue oval shows indoor and in vehicle coverage provided by proposed

Zone	Prediction	Legend	Zone Surface (km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
Focus Zone Low Band RSRP - 86			8.722513	3.49648	100	40.1
		RSRP Level (DL) (dBm) > = -85		0.8405	24	9.6
		RSRP Level (DL) (dBm) >=-95		1.37842	39.4	15.8
		RSRP Level (DL) (dBm) >=-106		3.49648	100	40.1

LEGEND						
	Indoor >= -85 dbm					
	In-Vehicle >= -95 dbm					
	On-Street >= -106 dbm					

1	Zone	Prediction	Legend	Zone Surface (km <sup>2</sup> )	Surface (km <sup>2</sup> )	% of Covered Area	% Focus Zone
-	Focus Zone Low Band RSRP - 86			8.722513	4.895072	100	56.1
			RSRP Level (DL) (dBm) >=-85		1.385144	28.3	15.9
-14			RSRP Level (DL) (dBm) >=-95		2.313056	47.3	26.5
-			RSRP Level (DL) (dBm) > = -106		4.895072	100	56.1

Above and left picture shows Proposed data showing 1.38 square kilometers are covered with indoor service vs lower height data showing .84 square kilometers covered with indoor service. Approximately a 40% reduction in coverage for the objective.

Blue oval shows indoor and in vehicle coverage provided by lower height

# Analysis

- Reviewing the lower height shows that coverage will be impacted as well as the ability to have colocations on the proposed
- \* All (3) major carriers are lacking in quality service in the area, which means with the shorter height may mean more towers in the future
- \* The lower heights were analyzed against the primary objective

## Recommendation

- Arbitrary height restrictions can cause decreases in coverage for tower sites
- <sup>†</sup> This impacts the number of towers in an area and what they provide coverage to
- It increases the chances for more towers as the towers are not able to accommodate more than 1 carrier
- Recommend approval of the proposed at the height requested for Verizon to provide high quality service to the area