

1. Agenda

Documents:

[2023-08-01 PLANNING COMMISSION - PUBLIC AGENDA-1827.PDF](#)

2. Meeting Materials

Documents:

[2023-08-01 PLANNING COMMISSION - FULL AGENDA-1827.PDF](#)

AGENDA

Regular Meeting of the
Nichols Hills Planning Commission
Tuesday, August 1, 2023 at 5:30 PM
City Hall, 6407 Avondale Drive
Nichols Hills, OK 73116

If special assistance is needed for this meeting by any person wishing to attend, please contact the City Clerk's office no later than 48 hours prior to the meeting, and such assistance will be provided.

Official action may be taken by the Planning Commission only on items that appear on this Agenda. The Planning Commission may dispose of the business set out on this Agenda by accepting, approving, adopting, rejecting, amending, or postponing action as to each item, as determined by the Planning Commission.

1. Call to Order
2. Roll Call
3. Citizens Desiring to be Heard
The purpose of this time is to allow members of the public to speak to the Planning Commission on any matter that is not otherwise set for consideration on this Agenda.
4. Minutes
 - a. April 4, 2023 Minutes
5. Public Hearings

Consideration of adoption, approval, acceptance, rejection, amendment, and/or postponement of the following:

- a. PUBLIC HEARING: The issuance of a special permit to Crown Castle USA, Inc., representing Verizon, for the purpose of replacing and/or adding new antennas and other equipment on existing monopole tower located in the 6706 North Pennsylvania Avenue, Nichols Hills, Oklahoma.

- b. PUBLIC HEARING: An Ordinance amending Article V of Chapter 50 of the Nichols Hills City Code and related defined terms regarding the Building Commission review process; repealing all conflicting ordinances or parts of ordinances; providing for severability; and declaring and emergency

6. Adjournment

I certify that the forgoing was filed in the Office of the City Clerk at 2:43 PM on the 28th day of July, 2023 and posted in prominent view on the window at City Hall, 6407 Avondale Drive, at 3:00 PM on the 28th day of July, 2023; posted to the City of Nichols Hills website at <http://www.nicholshills.net> at 5:00 PM on the 28th of July, 2023; and transmitted by email at 5:00 PM on the 28th day of July, 2023 to those persons who have requested to be included on such notices pursuant to the Open Meeting Act and to those who have requested such notice.



City Clerk
City of Nichols Hills, Oklahoma

AGENDA

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City Clerk
City of Nichols Hills, Oklahoma

MINUTES

Regular Meeting of the
Nichols Hills Planning Commission
Tuesday, April 4, 2023 at 5:30 PM
City Hall, 6407 Avondale Drive
Nichols Hills, OK 73116

**Original agenda filed in the Office of the City Clerk at 10:03 AM
on the 31st day of March, 2023.**

1. Call to Order
2. Roll Call

Attendee Name	Title	Status	Arrived
Ron Byrne		Absent	
Mike Biddinger		Present	
Doug Franklin		Present	
Tim Cheek		Present	
Barbara Gilbert		Present	
John McCaleb	Chairman	Present	

3. Citizens Desiring to be Heard

The purpose of this time is to allow members of the public to speak to the Planning Commission on any matter that is not otherwise set for consideration on this Agenda.

No one expressed a desire to be heard.

4. Minutes

- a. March 7, 2023 Minutes

MOTION: Franklin moved to approve the March 7, 2023 minutes as presented. Biddinger seconded the motion.

Attachment: April 4 2023 Minutes (6709 : April 4, 2023 Minutes)

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Doug Franklin
SECONDER:	Mike Biddinger
AYES:	Biddinger, Franklin, Cheek, Gilbert, McCaleb
ABSENT:	Byrne

5. Public Hearings

Consideration of adoption, approval, acceptance, rejection, amendment, and/or postponement of the following:

- a. PUBLIC HEARING: The issuance of a special permit to Crown Castle USA, Inc., represented by Donna Davis, for the purpose of replacing and/or adding new antennas and other equipment on existing monopole tower located in the 6706 North Pennsylvania Avenue, Nichols Hills, Oklahoma.

MOTION: Cheek moved to continue agenda item 5a to a date certain of August 1, 2023, the regular schedule meeting. Franklin seconded the motion.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Tim Cheek
SECONDER:	Doug Franklin
AYES:	Biddinger, Franklin, Cheek, Gilbert, McCaleb
ABSENT:	Byrne

- b. PUBLIC HEARING: An Ordinance adopting outdoor lighting regulations; repealing all conflicting ordinances or parts of ordinances; providing for severability; and declaring an emergency.

Mr. Shane Pate, City Manager, presented an overview of the proposed ordinance to the Planning Commission members.

Following discussion among Planning Commission members, and staff, Chairman McCaleb opened the Public Hearing.

No others expressing a desire to be heard, the public hearing was

closed.

MOTION: Cheek moved to recommend the City Council approve agenda item 5b as presented. Franklin seconded the motion.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Tim Cheek
SECONDER:	Doug Franklin
AYES:	Biddinger, Franklin, Cheek, Gilbert, McCaleb
ABSENT:	Byrne

- c. PUBLIC HEARING: An Ordinance amending Chapter 50 of the Nichols Hills City Code regarding Solar Energy Systems; repealing all conflicting ordinances or parts of ordinances; providing for severability; and declaring an emergency.

Mrs. Carla Sharpe, attorney for the City, presented the proposed ordinance to the Planning Commission. Mr. J.W. Peters, with Solar Power of Oklahoma, answered questions from the Planning Commission members.

Following discussion among Planning Commission members, and staff, Chairman McCaleb opened the Public Hearing.

No others expressing a desire to be heard, the public hearing was closed.

MOTION: Gilbert moved to recommend the City Council approve agenda item 5c subject to amending Section 50-708(a) to “Ground-Mounted Solar Energy Systems are allowed in the Side Yard that is not street facing or Rear Yard only.” Cheek seconded the motion.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Barbara Gilbert
SECONDER:	Tim Cheek
AYES:	Biddinger, Franklin, Cheek, Gilbert, McCaleb
ABSENT:	Byrne

6. Adjournment

MOTION: There being no further business, Franklin moved to adjourn the meeting. Cheek seconded the motion.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Doug Franklin
SECONDER:	Tim Cheek
AYES:	Biddinger, Franklin, Cheek, Gilbert, McCaleb
ABSENT:	Byrne

Chairman
Planning Commission
City of Nichols Hills, Oklahoma

City Manager
Planning Commission
City of Nichols Hills, Oklahoma

City Clerk
City of Nichols Hills, Oklahoma



CITY OF NICHOLS HILLS

NOTICE OF PUBLIC HEARINGS CITY OF NICHOLS HILLS, OKLAHOMA CASE NO. PC-2023-02

Notice is hereby given that Crown Castle USA, Inc, represented by Donna Davis, has filed an application ("the Application") with the City of Nichols Hills, Oklahoma for approval of a special permit for the following described property:

Existing monopole tower located at 6706 North Pennsylvania Avenue, in Nichols Hills, Oklahoma.

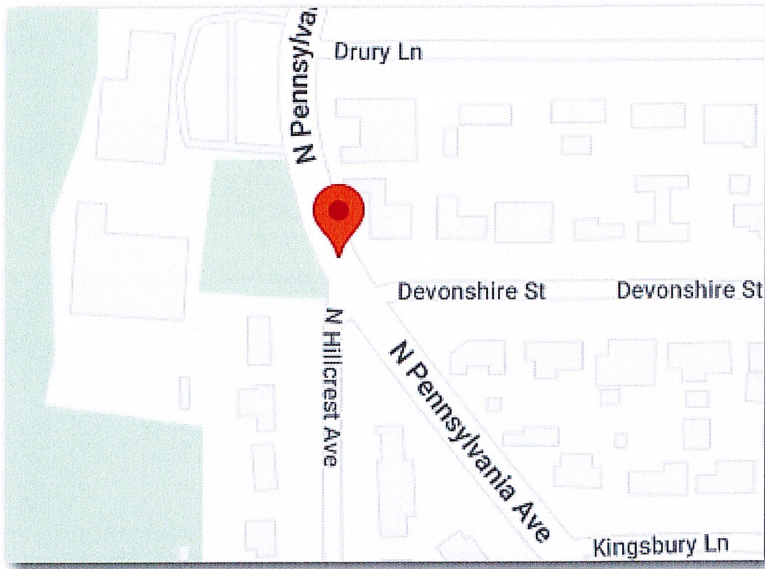
The zoning of this property is "E-1" Estate. The Application requests a special permit to expand the base station footprint and fencing, add new base station equipment, and add new antennas and other equipment for Verizon Wireless and/or its affiliates and subsidiaries, to be located on or adjacent to the existing monopole tower on real property owned by the City of Nichols Hills, Oklahoma. The Application and supporting documentation may be inspected in the office of the City Clerk during regular business hours.

The Application will be considered at public hearings to be held by the Nichols Hills Planning Commission on Tuesday, August 1, 2023 at 5:30 p.m., and by the Nichols Hills City Council on Tuesday, August 8, 2023 at 5:30 p.m. These public hearings will be held in the Council Chambers at Nichols Hills City Hall, 6407 Avondale Drive, Nichols Hills, Oklahoma, 73116.

Any person may address the Nichols Hills Planning Commission and Nichols Hills City Council at the public hearings. Written support for or protest against the proposed special permit may be mailed or hand-delivered to the City Clerk at 6407 Avondale Drive, Nichols Hills, Oklahoma, 73116. Written support or protests must be received by the City Clerk not less than three (3) days before the public hearing.

The following map shows the area affected by the Application:

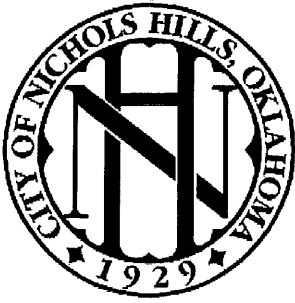
Attachment: PC-2023-02 (6711 : Crown Castle - Special Permit Application Ver)



Dated this 12th day of July, 2023.

Amanda Copeland

Amanda Copeland, City Clerk
City of Nichols Hills, Oklahoma



CITY OF NICHOLS HILLS, OKLAHOMA

Application for Special Permit Communication Device

Staff use only

Case # _____

Date filed _____

Fee receipt # _____

Twelve original sets and one electronic version of this completed application (including 12 original sets of the required attachments listed below) and the required fee should be submitted to the Nichols Hills City Clerk, 6407 Avondale Drive, Nichols Hills, Oklahoma 73116.

Applicant is encouraged to consult Sec. 50-127, *Communications Tower and Antenna Regulations*, of the Nichols Hills City Code when completing this Application. Note that Sec. 50-127 does not require a special permit for all communication devices.

This Application requires recommendation for approval by the Nichols Hills Planning Commission and approval of the Nichols Hills City Council.

Attach a separate sheet to provide complete answers if necessary.

Applicant's name: Cellco Partnership d/b/a Verizon Wireless

Primary contact: Haley Peck, Crown Castle USA Inc., agent for Verizon Wireless

Mailing address: 6191 N. State Hwy. 161 #200, Irving, TX 75038

Telephone number(s): 972-374-4281

Email address(es): haley.peck@crowncastle.com

This is an application to: [check all that apply]

- ☐ Construct a communication tower
- ☐ Locate an at-grade dish antenna(s) with a diameter exceeding two meters
- ☐ Locate an antenna or antenna array within a structure as an architectural element
- ☒ Install an additional antenna(s) or antenna array on an existing communications tower, sign structure, or municipal water tower
- ☐ Replace an antenna(s) or antenna array on an existing communications tower, sign structure, or municipal water tower
- ☐ Use the City's utility pole(s) (traffic signal poles, street light poles, and flag poles) associated with a distributed antenna system

Address or descriptive location of proposed device(s) ¹: 6706 N. Pennsylvania Ave., Nichols Hills, OK 73159

The following must be attached to this Application:

1. **Proof of authority.** Proof of applicant's authority to make this Application as to the property for which the special permit is desired by attaching a copy of the applicable deed evidencing applicant's ownership, a copy of the applicable lease evidencing applicant's leasehold interest, or an affidavit regarding ownership (a form for which is attached to this Application).
2. **Survey and site map.** Certified survey and detailed site map.

¹ If metes and bounds description, please attach.

3. **Project plans.** Detailed and certified project plans.
4. **Structural engineer review.** If a tower or architectural element is included, certified review by a licensed structural engineer.
5. **Scope of proposed work.** A narrative of the need for the proposed device(s) and proposed scope of work in non-technical language in sufficient detail for analysis by the City's Planning Commission and City Council.
6. **List of Owners of Abutting Property.** A report developed from the current records of the Oklahoma County Assessor and/or the Oklahoma County Clerk within the last 30 days, stating the names, addresses, and contact information for the owners of property abutting the proposed site. If the report is not certified by a licensed and bonded abstractor, Applicant will be responsible for the accuracy and completeness of the information in the report.

This Application will be considered officially submitted and filed only after it is examined by the Director of Public Works and the City Clerk and found to have met the applicable requirements of Sec. 50-127 and those set out in this Application and after the fee of \$750 as required by Sec. 50-327 of the Nichols Hills City Code has been paid. At that time, the City Clerk will set the Application for hearing before the Nichols Hills Planning Commission and the Nichols Hills City Council. Applicant will be advised of the date and time for those hearings. It is highly recommended that applicant attend (or have a representative attend) the hearings and be prepared to answer questions.

The above statements in this Application and all attachments to it are true and correct.

Submitted and agreed to this 21st day of April, 2023.

Signature: Haley Peck

Print applicant's full legal name: Haley Peck

Print signatory party's title if applicant is a legal entity: Site Acquisition Specialist

Form of affidavit regarding ownershipAffidavit

STATE OF Oklahoma

COUNTY OF Oklahoma

_____, being first duly sworn, stated:

- ① My name is _____. My address is _____. I am over the age of 18. I am a resident of the State of **Oklahoma**. I have personal knowledge of the matters stated in this Affidavit.
2. I am the applicant for a special permit for a communication device pursuant to the Nichols Hills City Code.
- ③ I am the current and legal owner of the property in the City of Nichols Hills with the address of **6706 N. Pennsylvania Ave., Nichols Hills, OK 73159** and more particularly described as:
A tract of land lying in the Northeast Quarter of Section 6, Township 12 North, Range West of the Indian Meridian, Oklahoma County, Oklahoma.
4. This address and legal description accurately describe the property for which the special permit for a communication device is requested.

I declare to the best of my knowledge and belief that the information in this Affidavit is true, correct, and complete.

Executed this ____ day of _____, 202__.

[Full legal name]

Notary Acknowledgment

Subscribed and sworn to before me this ____ day of _____, 202__.

 Notary Public

My Commission Expires: _____

Comm. No. _____

This conveyance was approved on the ____ day of _____, 202__, by the City Council of the City of Nichols Hills, Oklahoma, pursuant to the Nichols Hills Subdivision Regulations as adopted by the Nichols Hills City Code.

By: _____

Printed name: _____

Title: _____

Date: **July 06, 2022**



Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **Verizon Wireless Co-Locate**
Site Number: 661363
Site Name: Bumpass OK

Crown Castle Designation: **BU Number:** 822901
Site Name: Camden
JDE Job Number: 704884
Work Order Number: 2131938
Order Number: 603795 Rev. 0

Engineering Firm Designation: **Crown Castle Project Number:** 2131938

Site Data: **6706 North Pennsylvania Ave., Nichols Hills, Oklahoma County, OK**
Latitude 35° 32' 42.875", Longitude -97° 33' 0.789"
70 Foot - Monopole Tower

Crown Castle is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above-mentioned tower.

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

LC5: Proposed Equipment Configuration

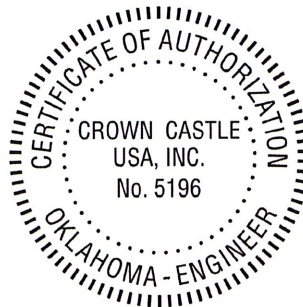
Sufficient Capacity

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

Structural analysis prepared by: Blake Jacobsen, EIT / JKK

Respectfully submitted by:

Terry P. Styran, P.E., S.E.
Senior Project Engineer



Terry P Styran
2022.07.06
19:01:57 -04'00'

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1) INTRODUCTION

This tower is a 70 ft Monopole tower designed by Valmont.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	40 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
57.0	57.0	3	commscope	NNH4-65C-R3B-V1 w/ Mount Pipe	1	2
		1	raycap	RCMDC-6627-PF-48		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4440D-13A		
		1	Perfect Vision	PV-MPM-SFA		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
70.0	70.0	1	federal signal	MOD3012	-	-
67.0	69.0	3	nokia	AHFIB	1	5/8
	67.0	3	nokia	AHLOA		
		3	commscope	FFHH-65C-R3 w/ Mount Pipe		
		1	commscope	HCS 2.0 Part 1		
		1	crown tower mounts	Side Arm Mount [SO 104-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	3514687	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	3514686	CCISITES
4-TOWER MANUFACTURER DRAWINGS	3771030	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	70 - 31.0833	Pole	TP21.9x14.9x0.25	1	-8.948	1035.695	31.3	Pass
L2	31.0833 - 0	Pole	TP27x20.696x0.313	2	-13.062	1649.529	40.1	Pass
							Summary	
						Pole (L2)	40.1	Pass
						Rating =	40.1	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	58.1	Pass
1	Base Plate	0	33.2	Pass
1	Base Foundation (Structure)	0	28.0	Pass
1	Base Foundation (Soil Interaction)	0	8.3	Pass

Structure Rating (max from all components) =	58.1%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

APPENDIX A

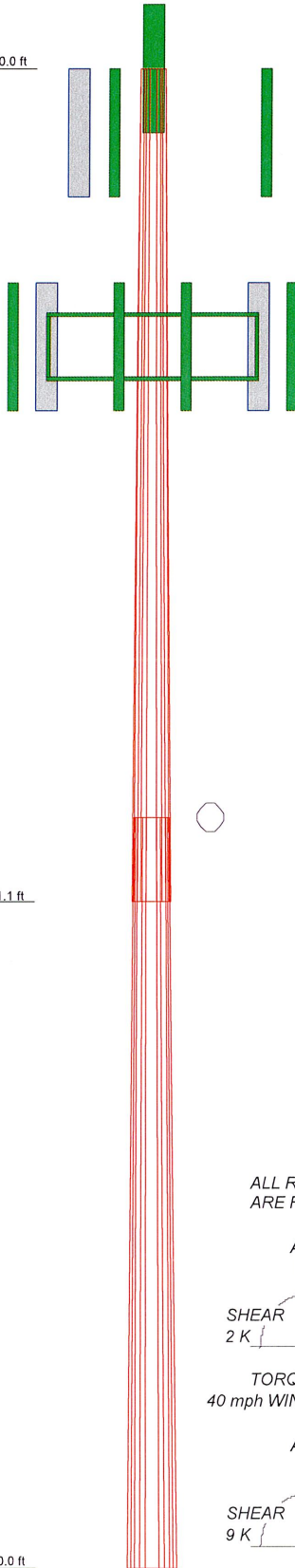
TNXTOWER OUTPUT

Section	1	2	
Length (ft)	38.917	35.000	
Number of Sides	12	12	
Thickness (in)	0.250	0.313	
Socket Length (ft)	3.917		
Top Dia (in)	14.900	20.696	
Bot Dia (in)	21.900	27.000	
Grade	S-22		
Weight (K)	1.9	2.8	4.8

70.0 ft

31.1 ft

0.0 ft

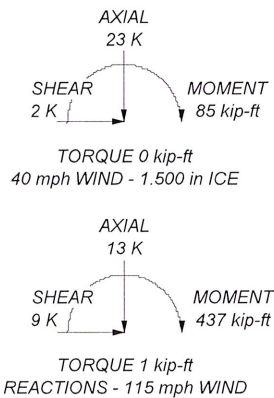


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
S-22	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Oklahoma County, Oklahoma.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 40 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 40.1%

ALL REACTIONS
ARE FACTORED

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

- Tower is located in Oklahoma County, Oklahoma.
- Tower base elevation above sea level: 1213.000 ft.
- Basic wind speed of 115 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.500 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 40 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	70.000-31.083	38.917	3.917	12	14.900	21.900	0.250	1.000	S-22 (65 ksi)
L2	31.083-0.000	35.000		12	20.696	27.000	0.313	1.250	S-22 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	15.337	11.793	323.069	5.245	7.718	41.858	654.625	5.804	3.323	13.293
	22.584	17.428	1042.691	7.751	11.344	91.914	2112.774	8.578	5.199	20.797
L2	22.046	20.510	1087.668	7.297	10.720	101.459	2203.910	10.095	4.709	15.068
	27.842	26.854	2441.268	9.554	13.986	174.551	4946.672	13.217	6.399	20.475

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 70.000- 31.083				1	1	1			
L2 31.083- 0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft²/ft	Weight plf
Safety Line 3/8	C	No	No	CaAa (Out Of Face)	70.000 - 0.000	1	No Ice	0.037	0.220
							1/2" Ice	0.137	0.750
							1" Ice	0.238	1.280
							2" Ice	0.437	2.340
Step Pegs	C	No	No	CaAa (Out Of Face)	70.000 - 0.000	1	No Ice	0.080	2.720
							1/2" Ice	0.180	3.514
							1" Ice	0.280	4.919
							2" Ice	0.480	9.562
67 HCS 2.0 Part 2(5/8)	A	No	No	Inside Pole	67.000 - 0.000	1	No Ice	0.000	0.340
							1/2" Ice	0.000	0.340
							1" Ice	0.000	0.340
							2" Ice	0.000	0.340
57 HFT2406-48SV3- XXX(2)	A	No	No	Inside Pole	57.000 - 0.000	1	No Ice	0.000	3.100
							1/2" Ice	0.000	3.100
							1" Ice	0.000	3.100
							2" Ice	0.000	3.100

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	70.000-31.083	A	0.000	0.000	0.000	0.000	0.093
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.573	0.114

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L2	31.083-0.000	A	0.000	0.000	0.000	0.000	0.107
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.652	0.091

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section n	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	70.000-31.083	A	1.328	0.000	0.000	0.000	0.000	0.093
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	25.250	0.314
L2	31.083-0.000	A	1.181	0.000	0.000	0.000	0.000	0.107
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	20.167	0.251

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	70.000-31.083	-0.641	0.370	-1.839	1.062
L2	31.083-0.000	-0.653	0.377	-2.012	1.162

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
MOD3012 ***67***	A	None		0.000	70.000
FFHH-65C-R3 w/ Mount Pipe	A	From Leg	3.500 -3.500 0.000	0.000	67.000
FFHH-65C-R3 w/ Mount Pipe	B	From Leg	3.500 -3.500 0.000	0.000	67.000
FFHH-65C-R3 w/ Mount Pipe	C	From Leg	3.500 -3.500 0.000	0.000	67.000
AHFIB	A	From Leg	3.500 -3.500 2.000	0.000	67.000
AHFIB	B	From Leg	3.500 -3.500 2.000	0.000	67.000
AHFIB	C	From Leg	3.500 -3.500 2.000	0.000	67.000
AHLOA	A	From Leg	3.500 -3.500 2.000	0.000	67.000
AHLOA	B	From Leg	3.500	0.000	67.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			-3.500		
			2.000		
AHLOA	C	From Leg	3.500	0.000	67.000
			-3.500		
			2.000		
HCS 2.0 Part 1	A	From Leg	3.500	0.000	67.000
			-3.500		
			0.000		
Side Arm Mount [SO 104-3] ***	C	None		0.000	67.000
NNH4-65C-R3B-V1 w/ Mount Pipe	A	From Leg	4.000	0.000	57.000
			0.000		
NNH4-65C-R3B-V1 w/ Mount Pipe	B	From Leg	4.000	0.000	57.000
			0.000		
NNH4-65C-R3B-V1 w/ Mount Pipe	C	From Leg	4.000	0.000	57.000
			0.000		
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	57.000
			0.000		
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	57.000
			0.000		
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	57.000
			0.000		
RCMDC-6627-PF-48	A	From Leg	4.000	0.000	57.000
			0.000		
RF4439D-25A	A	From Leg	4.000	0.000	57.000
			0.000		
RF4439D-25A	B	From Leg	4.000	0.000	57.000
			0.000		
RF4439D-25A	C	From Leg	4.000	0.000	57.000
			0.000		
RF4440D-13A	A	From Leg	4.000	0.000	57.000
			0.000		
RF4440D-13A	B	From Leg	4.000	0.000	57.000
			0.000		
RF4440D-13A	C	From Leg	4.000	0.000	57.000
			0.000		
PV-MPM-SFA	C	None		0.000	57.000
(2) 8' x 3" Mount Pipe	A	From Leg	4.000	0.000	57.000
			0.000		
(2) 8' x 3" Mount Pipe	B	From Leg	4.000	0.000	57.000
			0.000		
(2) 8' x 3" Mount Pipe	C	From Leg	4.000	0.000	57.000
			0.000		
(2) 6' x 3" Mount Pipe	A	From Leg	4.000	0.000	57.000
			0.000		
(2) 6' x 3" Mount Pipe	B	From Leg	4.000	0.000	57.000
			0.000		
			0.000		

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
(2) 6" x 3" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	57.000

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	70 - 31.0833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-17.913	0.529	0.991
			Max. M _x	20	-8.952	165.624	0.258
			Max. M _y	2	-8.948	0.189	167.267
			Max. V _y	20	-6.813	165.624	0.258
			Max. V _x	2	-6.871	0.189	167.267
L2	31.0833 - 0	Pole	Max. Torque	6			0.566
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-23.456	0.791	0.849
			Max. M _x	20	-13.062	433.451	0.205
			Max. M _y	2	-13.062	0.299	436.925
			Max. V _y	20	-8.454	433.451	0.205
			Max. V _x	2	-8.510	0.299	436.925
			Max. Torque	6			0.565

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	38	23.456	0.820	1.427
	Max. H _x	20	13.068	8.445	0.000
	Max. H _z	2	13.068	0.000	8.501
	Max. M _x	2	436.925	0.000	8.501
	Max. M _z	8	432.852	-8.445	0.000
	Max. Torsion	6	0.565	-7.313	4.250
	Min. Vert	11	9.801	-7.313	-4.250
	Min. H _x	8	13.068	-8.445	0.000
	Min. H _z	14	13.068	0.000	-8.501
	Min. M _x	14	-436.514	0.000	-8.501
	Min. M _z	20	-433.451	8.445	0.000
	Min. Torsion	18	-0.565	7.313	-4.250

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	10.890	0.000	0.000	-0.160	0.240	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	13.068	-0.000	-8.501	-436.925	0.299	-0.390
0.9 Dead+1.0 Wind 0 deg - No Ice	9.801	-0.000	-8.501	-433.386	0.222	-0.391
1.2 Dead+1.0 Wind 30 deg - No Ice	13.068	4.222	-7.362	-378.416	-216.276	-0.551
0.9 Dead+1.0 Wind 30 deg - No Ice	9.801	4.222	-7.362	-375.344	-214.626	-0.551
1.2 Dead+1.0 Wind 60 deg - No Ice	13.068	7.313	-4.250	-218.566	-374.821	-0.565
0.9 Dead+1.0 Wind 60 deg - No Ice	9.801	7.313	-4.250	-216.769	-371.906	-0.564
1.2 Dead+1.0 Wind 90 deg - No Ice	13.068	8.445	-0.000	-0.205	-432.852	-0.427
0.9 Dead+1.0 Wind 90 deg - No Ice	9.801	8.445	-0.000	-0.151	-429.475	-0.426
1.2 Dead+1.0 Wind 120 deg - No Ice	13.068	7.313	4.250	218.156	-374.820	-0.174
0.9 Dead+1.0 Wind 120 deg	9.801	7.313	4.250	216.467	-371.906	-0.173

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
- No Ice						
1.2 Dead+1.0 Wind 150 deg	13.068	4.222	7.362	378.006	-216.275	0.125
- No Ice						
0.9 Dead+1.0 Wind 150 deg	9.801	4.222	7.362	375.041	-214.625	0.126
- No Ice						
1.2 Dead+1.0 Wind 180 deg	13.068	-0.000	8.501	436.514	0.299	0.390
- No Ice						
0.9 Dead+1.0 Wind 180 deg	9.801	-0.000	8.501	433.083	0.222	0.391
- No Ice						
1.2 Dead+1.0 Wind 210 deg	13.068	-4.222	7.362	378.006	216.874	0.551
- No Ice						
0.9 Dead+1.0 Wind 210 deg	9.801	-4.222	7.362	375.042	215.069	0.551
- No Ice						
1.2 Dead+1.0 Wind 240 deg	13.068	-7.313	4.250	218.156	375.419	0.565
- No Ice						
0.9 Dead+1.0 Wind 240 deg	9.801	-7.313	4.250	216.468	372.350	0.564
- No Ice						
1.2 Dead+1.0 Wind 270 deg	13.068	-8.445	-0.000	-0.205	433.451	0.427
- No Ice						
0.9 Dead+1.0 Wind 270 deg	9.801	-8.445	-0.000	-0.151	429.920	0.426
- No Ice						
1.2 Dead+1.0 Wind 300 deg	13.068	-7.313	-4.250	-218.566	375.420	0.174
- No Ice						
0.9 Dead+1.0 Wind 300 deg	9.801	-7.313	-4.250	-216.770	372.351	0.174
- No Ice						
1.2 Dead+1.0 Wind 330 deg	13.068	-4.222	-7.362	-378.417	216.875	-0.125
- No Ice						
0.9 Dead+1.0 Wind 330 deg	9.801	-4.222	-7.362	-375.344	215.070	-0.125
- No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	23.456	-0.000	-0.000	-0.849	0.791	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	23.456	-0.000	-1.648	-85.062	0.809	-0.161
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	23.456	0.820	-1.427	-73.783	-41.040	-0.143
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	23.456	1.421	-0.824	-42.967	-71.675	-0.087
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	23.456	1.640	-0.000	-0.873	-82.889	-0.008
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	23.456	1.421	0.824	41.222	-71.675	0.073
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	23.456	0.820	1.427	72.037	-41.040	0.135
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	23.456	-0.000	1.648	83.317	0.809	0.161
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	23.456	-0.820	1.427	72.037	42.658	0.143
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	23.456	-1.421	0.824	41.222	73.294	0.087
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	23.456	-1.640	-0.000	-0.873	84.507	0.008
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	23.456	-1.421	-0.824	-42.967	73.294	-0.073
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	23.456	-0.820	-1.427	-73.783	42.658	-0.135
Dead+Wind 0 deg - Service	10.890	0.000	-2.179	-111.575	0.248	-0.100
Dead+Wind 30 deg - Service	10.890	1.083	-1.887	-96.650	-54.999	-0.142
Dead+Wind 60 deg - Service	10.890	1.875	-1.090	-55.872	-95.443	-0.145
Dead+Wind 90 deg - Service	10.890	2.165	0.000	-0.170	-110.246	-0.110
Dead+Wind 120 deg - Service	10.890	1.875	1.090	55.533	-95.443	-0.045
Dead+Wind 150 deg - Service	10.890	1.083	1.887	96.310	-54.999	0.032
Dead+Wind 180 deg - Service	10.890	0.000	2.179	111.235	0.248	0.100
Dead+Wind 210 deg - Service	10.890	-1.083	1.887	96.310	55.496	0.142
Dead+Wind 240 deg - Service	10.890	-1.875	1.090	55.533	95.940	0.145
Dead+Wind 270 deg - Service	10.890	-2.165	0.000	-0.170	110.743	0.110

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Service						
Dead+Wind 300 deg - Service	10.890	-1.875	-1.090	-55.872	95.940	0.045
Dead+Wind 330 deg - Service	10.890	-1.083	-1.887	-96.650	55.496	-0.032

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-10.890	0.000	0.000	10.890	0.000	0.000%
2	0.000	-13.068	-8.501	0.000	13.068	8.501	0.000%
3	0.000	-9.801	-8.501	0.000	9.801	8.501	0.000%
4	4.222	-13.068	-7.362	-4.222	13.068	7.362	0.000%
5	4.222	-9.801	-7.362	-4.222	9.801	7.362	0.000%
6	7.313	-13.068	-4.250	-7.313	13.068	4.250	0.000%
7	7.313	-9.801	-4.250	-7.313	9.801	4.250	0.000%
8	8.445	-13.068	0.000	-8.445	13.068	0.000	0.000%
9	8.445	-9.801	0.000	-8.445	9.801	0.000	0.000%
10	7.313	-13.068	4.250	-7.313	13.068	-4.250	0.000%
11	7.313	-9.801	4.250	-7.313	9.801	-4.250	0.000%
12	4.222	-13.068	7.362	-4.222	13.068	-7.362	0.000%
13	4.222	-9.801	7.362	-4.222	9.801	-7.362	0.000%
14	0.000	-13.068	8.501	0.000	13.068	-8.501	0.000%
15	0.000	-9.801	8.501	0.000	9.801	-8.501	0.000%
16	-4.222	-13.068	7.362	4.222	13.068	-7.362	0.000%
17	-4.222	-9.801	7.362	4.222	9.801	-7.362	0.000%
18	-7.313	-13.068	4.250	7.313	13.068	-4.250	0.000%
19	-7.313	-9.801	4.250	7.313	9.801	-4.250	0.000%
20	-8.445	-13.068	0.000	8.445	13.068	0.000	0.000%
21	-8.445	-9.801	0.000	8.445	9.801	0.000	0.000%
22	-7.313	-13.068	-4.250	7.313	13.068	4.250	0.000%
23	-7.313	-9.801	-4.250	7.313	9.801	4.250	0.000%
24	-4.222	-13.068	-7.362	4.222	13.068	7.362	0.000%
25	-4.222	-9.801	-7.362	4.222	9.801	7.362	0.000%
26	0.000	-23.456	0.000	0.000	23.456	0.000	0.000%
27	0.000	-23.456	-1.648	0.000	23.456	1.648	0.000%
28	0.820	-23.456	-1.427	-0.820	23.456	1.427	0.000%
29	1.421	-23.456	-0.824	-1.421	23.456	0.824	0.000%
30	1.640	-23.456	0.000	-1.640	23.456	0.000	0.000%
31	1.421	-23.456	0.824	-1.421	23.456	-0.824	0.000%
32	0.820	-23.456	1.427	-0.820	23.456	-1.427	0.000%
33	0.000	-23.456	1.648	0.000	23.456	-1.648	0.000%
34	-0.820	-23.456	1.427	0.820	23.456	-1.427	0.000%
35	-1.421	-23.456	0.824	1.421	23.456	-0.824	0.000%
36	-1.640	-23.456	0.000	1.640	23.456	0.000	0.000%
37	-1.421	-23.456	-0.824	1.421	23.456	0.824	0.000%
38	-0.820	-23.456	-1.427	0.820	23.456	1.427	0.000%
39	0.000	-10.890	-2.179	0.000	10.890	2.179	0.000%
40	1.083	-10.890	-1.887	-1.083	10.890	1.887	0.000%
41	1.875	-10.890	-1.090	-1.875	10.890	1.090	0.000%
42	2.165	-10.890	0.000	-2.165	10.890	0.000	0.000%
43	1.875	-10.890	1.090	-1.875	10.890	-1.090	0.000%
44	1.083	-10.890	1.887	-1.083	10.890	-1.887	0.000%
45	0.000	-10.890	2.179	0.000	10.890	-2.179	0.000%
46	-1.083	-10.890	1.887	1.083	10.890	-1.887	0.000%
47	-1.875	-10.890	1.090	1.875	10.890	-1.090	0.000%
48	-2.165	-10.890	0.000	2.165	10.890	0.000	0.000%
49	-1.875	-10.890	-1.090	1.875	10.890	1.090	0.000%
50	-1.083	-10.890	-1.887	1.083	10.890	1.887	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00014042
3	Yes	4	0.00000001	0.00009109
4	Yes	4	0.00000001	0.00095764
5	Yes	4	0.00000001	0.00062416
6	Yes	5	0.00000001	0.00004668
7	Yes	4	0.00000001	0.00077739
8	Yes	4	0.00000001	0.00020590
9	Yes	4	0.00000001	0.00013592
10	Yes	4	0.00000001	0.00099110
11	Yes	4	0.00000001	0.00064784
12	Yes	5	0.00000001	0.00004075
13	Yes	4	0.00000001	0.00067766
14	Yes	4	0.00000001	0.00014011
15	Yes	4	0.00000001	0.00009095
16	Yes	5	0.00000001	0.00004624
17	Yes	4	0.00000001	0.00076981
18	Yes	4	0.00000001	0.00094927
19	Yes	4	0.00000001	0.00061932
20	Yes	4	0.00000001	0.00020628
21	Yes	4	0.00000001	0.00013610
22	Yes	5	0.00000001	0.00004361
23	Yes	4	0.00000001	0.00072469
24	Yes	5	0.00000001	0.00004171
25	Yes	4	0.00000001	0.00069250
26	Yes	4	0.00000001	0.00001386
27	Yes	4	0.00000001	0.00036247
28	Yes	4	0.00000001	0.00037026
29	Yes	4	0.00000001	0.00036602
30	Yes	4	0.00000001	0.00034663
31	Yes	4	0.00000001	0.00035508
32	Yes	4	0.00000001	0.00035511
33	Yes	4	0.00000001	0.00034617
34	Yes	4	0.00000001	0.00036252
35	Yes	4	0.00000001	0.00036422
36	Yes	4	0.00000001	0.00035665
37	Yes	4	0.00000001	0.00037439
38	Yes	4	0.00000001	0.00037701
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00001753
41	Yes	4	0.00000001	0.00003007
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00001666
44	Yes	4	0.00000001	0.00001840
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00002889
47	Yes	4	0.00000001	0.00001821
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00002361
50	Yes	4	0.00000001	0.00001991

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	70 - 31.0833	5.871	39	0.652	0.003
L2	35 - 0	1.639	39	0.419	0.001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
70.000	MOD3012	39	5.871	0.652	0.003	26465
67.000	FFHH-65C-R3 w/ Mount Pipe	39	5.453	0.636	0.003	26465
57.000	NNH4-65C-R3B-V1 w/ Mount Pipe	39	4.092	0.580	0.002	10179

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	70 - 31.0833	22.983	2	2.548	0.012
L2	35 - 0	6.422	2	1.641	0.004

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
70.000	MOD3012	2	22.983	2.548	0.012	6786
67.000	FFHH-65C-R3 w/ Mount Pipe	2	21.348	2.486	0.012	6786
57.000	NNH4-65C-R3B-V1 w/ Mount Pipe	2	16.020	2.270	0.009	2609

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	70 - 31.0833 (1)	TP21.9x14.9x0.25	38.917	0.000	0.0	16.861	-8.948	986.376	0.009
L2	31.0833 - 0 (2)	TP27x20.696x0.313	35.000	0.000	0.0	26.854	-13.062	1570.980	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M _{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	70 - 31.0833 (1)	TP21.9x14.9x0.25	167.268	524.976	0.319	0.000	524.976	0.000
L2	31.0833 - 0 (2)	TP27x20.696x0.313	436.925	1059.375	0.412	0.000	1059.375	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	70 - 31.0833 (1)	TP21.9x14.9x0.25	6.871	295.913	0.023	0.288	545.198	0.001
L2	31.0833 - 0 (2)	TP27x20.696x0.313	8.510	471.293	0.018	0.390	1106.367	0.000

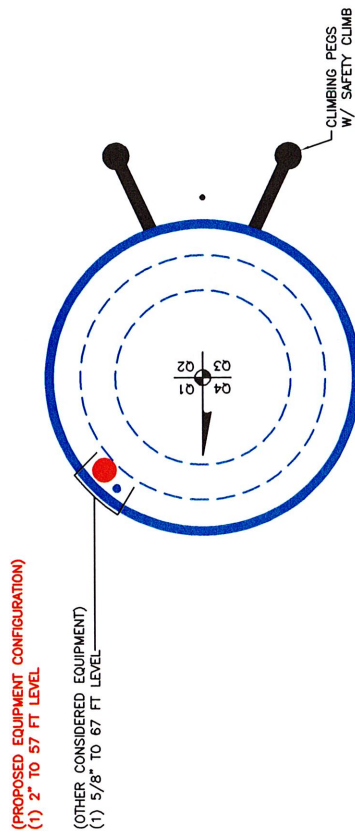
Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	70 - 31.0833 (1)	0.009	0.319	0.000	0.023	0.001	0.328	1.050	4.8.2
L2	31.0833 - 0 (2)	0.008	0.412	0.000	0.018	0.000	0.421	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	70 - 31.0833	Pole	TP21.9x14.9x0.25	1	-8.948	1035.695	31.3	Pass
L2	31.0833 - 0	Pole	TP27x20.696x0.313	2	-13.062	1649.529	40.1	Pass
							Summary	
							Pole (L2)	Pass
							RATING = 40.1	Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C

ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

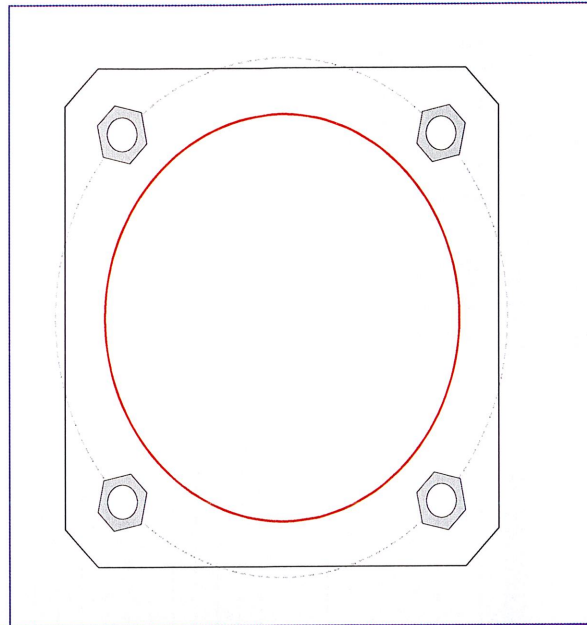


Site Info	
BU #	822901
Site Name	Camden
Order #	603795 Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
I_{ar} (in)	0.25

Applied Loads	
Moment (kip-ft)	436.93
Axial Force (kips)	13.06
Shear Force (kips)	8.51

*TIA-222-H Section 15.5 Applied



Connection Properties

Anchor Rod Data

(4) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 34.45" BC

Base Plate Data

33" W x 2.5" Plate (S-128; $F_y=60$ ksi, $F_u=80$ ksi); Clip: 2.5 in

Stiffener Data

N/A

Pole Data

27" x 0.3125" 12-sided pole (S-22; $F_y=65$ ksi, $F_u=80$ ksi)

Analysis Results

Anchor Rod Summary

(units of kips, kip-in)

$P_{u,t} = 148.66$	$\phi P_{n,t} = 243.75$	Stress Rating
$V_u = 2.13$	$\phi V_n = 149.1$	58.1%
$M_u = n/a$	$\phi M_n = n/a$	Pass

Base Plate Summary

Max Stress (ksi):	18.81	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	33.2%	Pass

Drilled Pier Foundation

BU # : 1822901
Site Name: Camden
Order Number: 603795 Rev.0
TIA-222 Revision: H
Tower Type: Monopole



Check Limitation
Apply TIA-222-H Section 15.5: ☒
N/A ☐
Additional Longitudinal Rebar
Input Effective Depths (else Actual): ☐
Shear Design Options
Check Shear along Depth of Pier: ☒
Utilize Shear-Friction Methodology: ☐
Override Critical Depth: ☐

[Go to Soil Calculations](#)

Analysis Results			
Soil Lateral Check		Compression	Uplift
D _{req} (ft from TOC)		5.20	-
Soil Safety Factor		15.30	-
Max Moment (kip-ft)		479.37	-
Rating*		8.3%	-
Soil Vertical Check		Compression	Uplift
Skin Friction (kips)		360.50	-
End Bearing (kips)		689.63	-
Weight of Concrete (kips)		58.32	-
Total Capacity (kips)		1050.13	-
Axial (kips)		71.39	-
Rating*		6.5%	-
Reinforced Concrete Flexure		Compression	Uplift
Critical Depth (ft from TOC)		5.09	-
Critical Moment (kip-ft)		479.33	-
Critical Moment Capacity		2052.14	-
Rating*		22.2%	-
Reinforced Concrete Shear		Compression	Uplift
Critical Depth (ft from TOC)		11.62	-
Critical Shear (kip)		95.79	-
Critical Shear Capacity		325.77	-
Rating*		28.0%	-
Structural Foundation Rating*		28.0%	
Soil Interaction Rating*		8.3%	

*Rating per TIA-222-H Section 15.5

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Belled Pier Inputs](#)

Soil Profile			
Groundwater Depth	38	# of Layers	4

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3	3	105	150	0	0	0.000	0.000	0.00	0.00	0.00		Cohesionless
2	3	4	1	105	150	1.5	0	0.825	0.825	0.60	0.60	0.60		Cohesive
3	4	7	3	110	150	2.5	0	1.375	1.375	1.00	1.00	1.00		Cohesive
4	7	16	9	120	150	7.5	0	3.375	3.375	3.00	3.00	45		Cohesive

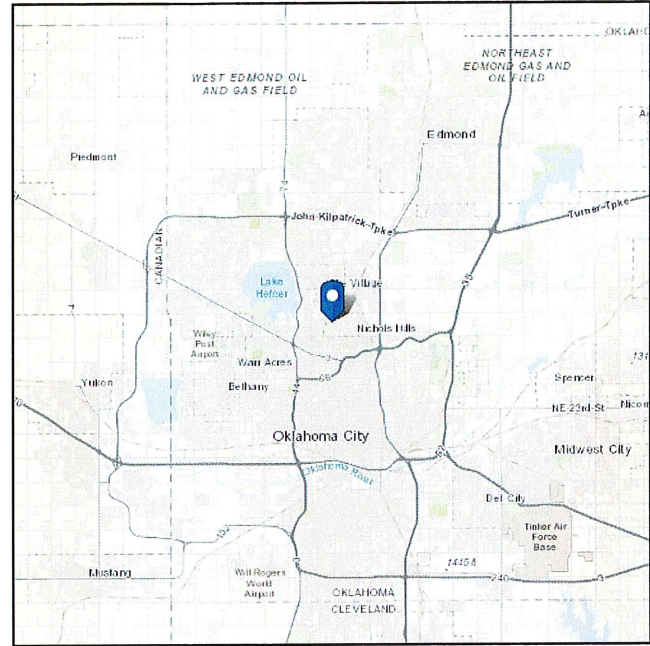
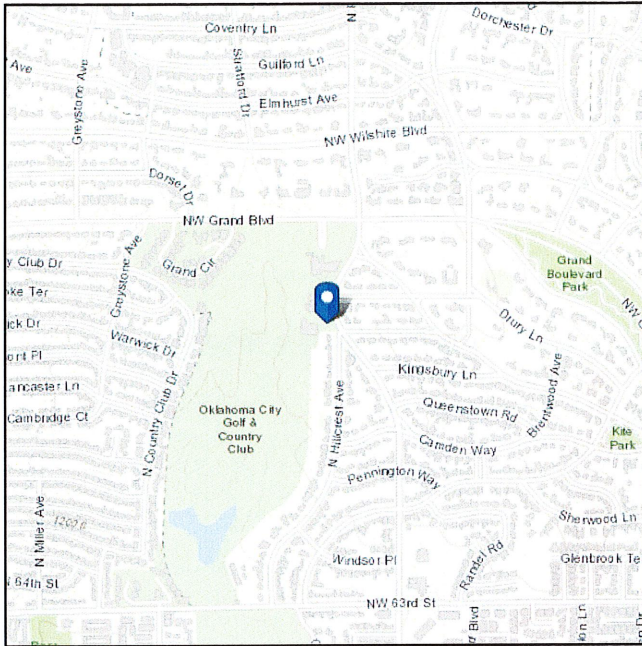


ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 1212.71 ft (NAVD 88)
Latitude: 35.545243
Longitude: -97.550219



Wind

Results:

Wind Speed	115 Vmph
10-year MRI	76 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Tue Jul 05 2022

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

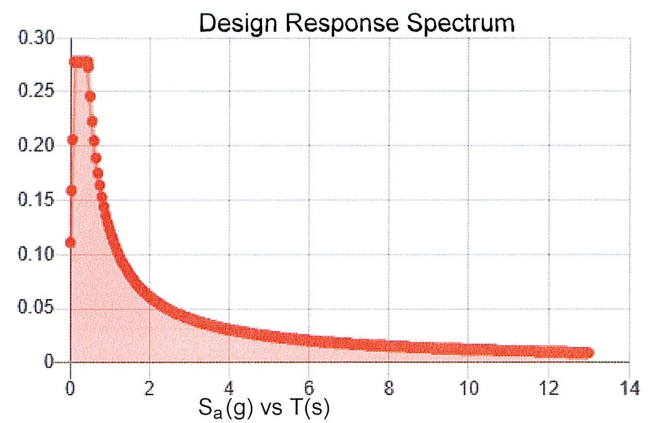
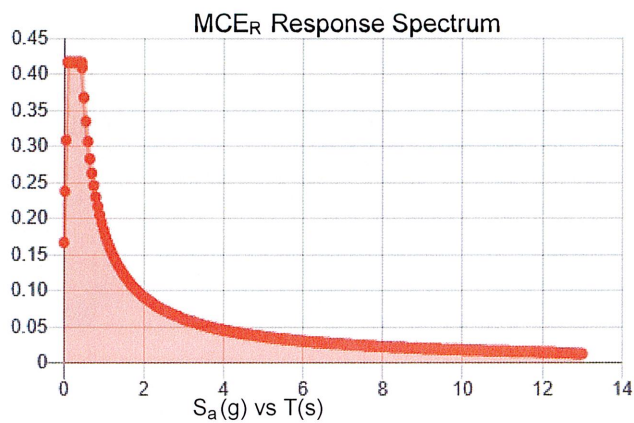
Site is not in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.262	S_{DS} :	0.278
S_1 :	0.077	S_{D1} :	0.123
F_a :	1.59	T_L :	12
F_v :	2.4	PGA :	0.155
S_{MS} :	0.417	PGA _M :	0.231
S_{M1} :	0.184	F_{PGA} :	1.491
		I_e :	1

Seismic Design Category B



Data Accessed: Tue Jul 05 2022

Date Source:

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

**Results:**

Ice Thickness: 0.75 in.
 Concurrent Temperature: 5 F
 Gust Speed: 40 mph

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

Date Accessed: Tue Jul 05 2022

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

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

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Owner: OKLA CITY GOLF & COUNTRY CLUB

Account Number: R169711495

Physical Address: 7000 NW GRAND BLVD NICHOLS HILLS

Owner Name1: OKLA CITY GOLF & COUNTRY CLUB

Owner Name2:

Owner Name3:

Mailing Address1: 7000 NW GRAND BLVD

City: NICHOLS HILLS

State: OK

ZipCode: 73116-4199

Tax District: 500

Tax District Name: Oklahoma City #89

Owner: SROUJI NABIL E & PENELOPE TRS

Account Number: R169862000

Physical Address: 1820 DRURY LN NICHOLS HILLS

Owner Name1: SROUJI NABIL E & PENELOPE TRS

Owner Name2: SROUJI NABIL E REV TRUST

Owner Name3:

Mailing Address1: 1820 DRURY LN

City: NICHOLS HILLS

State: OK

ZipCode: 73116-5312

Tax District: 500

Tax District Name: Oklahoma City #89

Owner: RICHARDSON RONALD L 2008 REV TRUST

Account Number: R169862100

Physical Address: 1829 DEVONSHIRE ST NICHOLS HILLS

Owner Name1: RICHARDSON RONALD L 2008 REV TRUST

Owner Name2:

Owner Name3:

Mailing Address1: 1829 DEVONSHIRE ST

City: NICHOLS HILLS

State: OK

ZipCode: 73116

Tax District: 500

Tax District Name: Oklahoma City #89

Owner: LAMBERT WILLIAM D IV

Account Number: R169863300

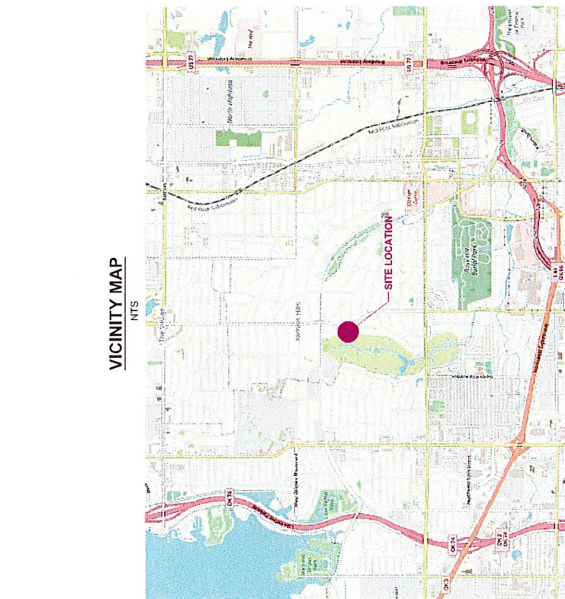
Physical Address: 1824 DEVONSHIRE ST NICHOLS HILLS

Owner Name1: LAMBERT WILLIAM D IV
Owner Name2: LAMBERT ALLYSON BANDY
Owner Name3:
Mailing Address1: 1824 DEVONSHIRE ST
City: NICHOLS HILLS
State: OK
ZipCode: 73116
Tax District: 500
Tax District Name: Oklahoma City #89

Owner: STOCKYARD PROPERTY LLC

Account Number: R169577259
Physical Address: 6621 N HILLCREST AVE NICHOLS HILLS
Owner Name1: STOCKYARD PROPERTY LLC
Owner Name2:
Owner Name3:
Mailing Address1: 11201 SE 44TH ST
City: OKLAHOMA CITY
State: OK
ZipCode: 73150
Tax District: 500
Tax District Name: Oklahoma City #89

CAMDEN
822901
6706 NORTH PENNSYLVANIA AVE.
NICHOLS HILLS, OK 73159



<u>CONTENTS</u>
COVER SHEET
PROPERTY/EASEMENT OVERVIEW
LEGAL DESCRIPTIONS

AREA SUMMARY		
AREA	SQ. FT.	ACRES
LEASE SPACE	400±	0.01±
ADDITIONAL LAND SPACE	263±	0.01±
COMBINED LAND SPACE	663±	0.02±
20' ACCESS/UTILITY EASEMENT	498±	0.01±
10' UTILITY EASEMENT	798±	0.02±

ABBREVIATIONS	
POC	POINT OF COMMENCEMENT
POB	POINT OF BEGINNING
ROW	RIGHT OF WAY
(R)	RECORD DESCRIPTION INFORMATION
(M)	MEASURED DESCRIPTION

REV	DATE	DESCRIPTION	DWGN
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

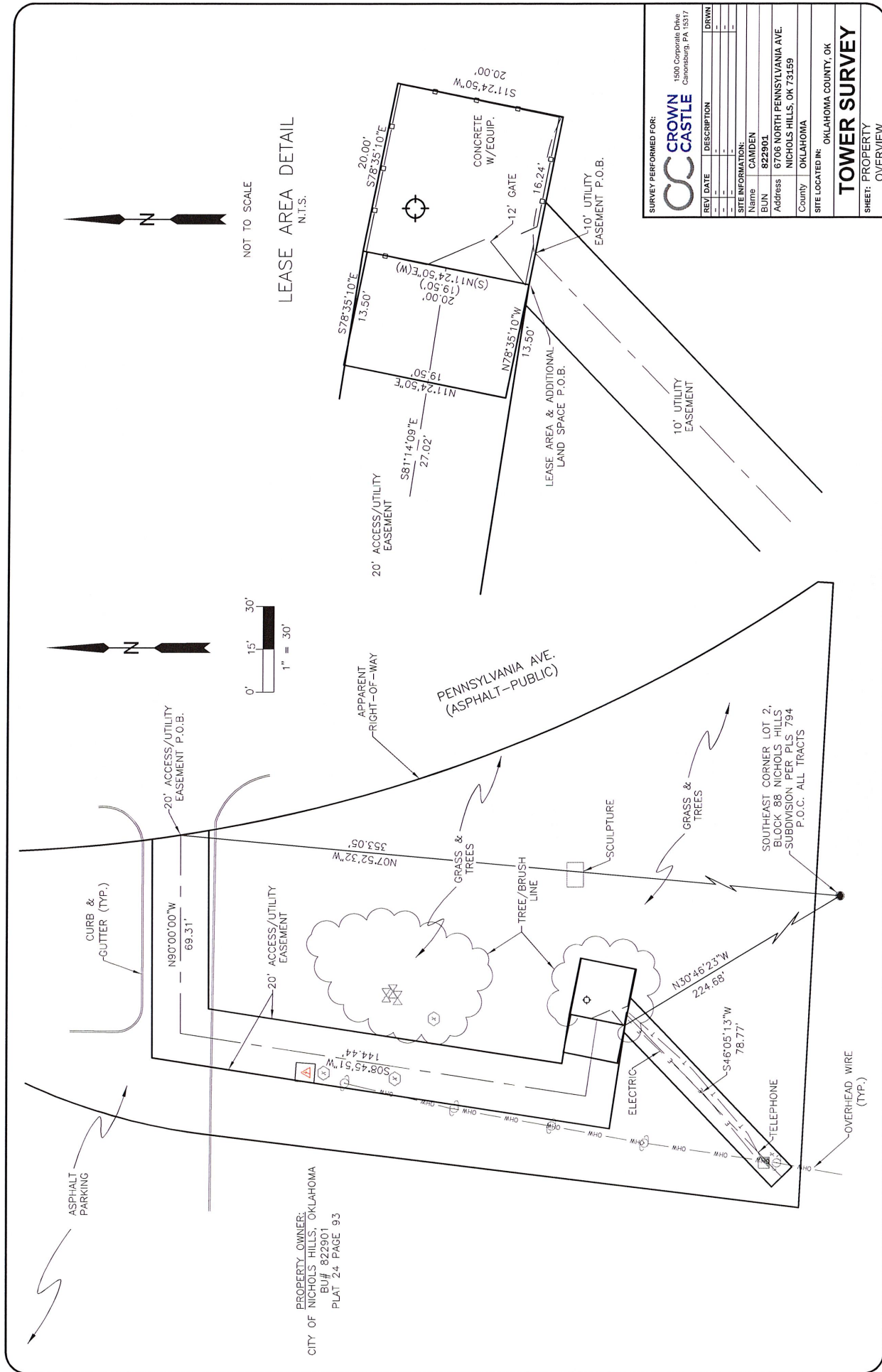
SITE INFORMATION ON:	
Name	CAMDEN
BUN	822301
Address	6705 NORTH PENNSYLVANIA AVE. NICHOLS HILLS, OK 73159
County	OKLAHOMA
SITE LOCATED IN: OKLAHOMA COUNTY, OK	

TOWER SURVEY

SHEET: COVER
SHEET: SHEET

SHEET: COVER SHEET

5.a.a



A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: A 10.00 FOOT EASEMENT FOR INGRESS AND EGRESS LYING 5.00 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46'23" WEST A DISTANCE OF 224.68 FEET; THENCE NORTH 11°24'50" EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 78°35'10" EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 11°24'50" WEST A DISTANCE OF 20.00 FEET; THENCE NORTH 78°35'10" WEST A DISTANCE OF 16.24 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 46°05'13" WEST A DISTANCE OF 78.77 FEET, FOR A TERMINUS.

ITEM 3. OCMIA DRILLING RULES RECORDED IN BOOK 5957
PAGE 0674 STATES RULES FOR DRILLING WELLS

SHEET: **LEGAL**

SHEET: 1 EGAI

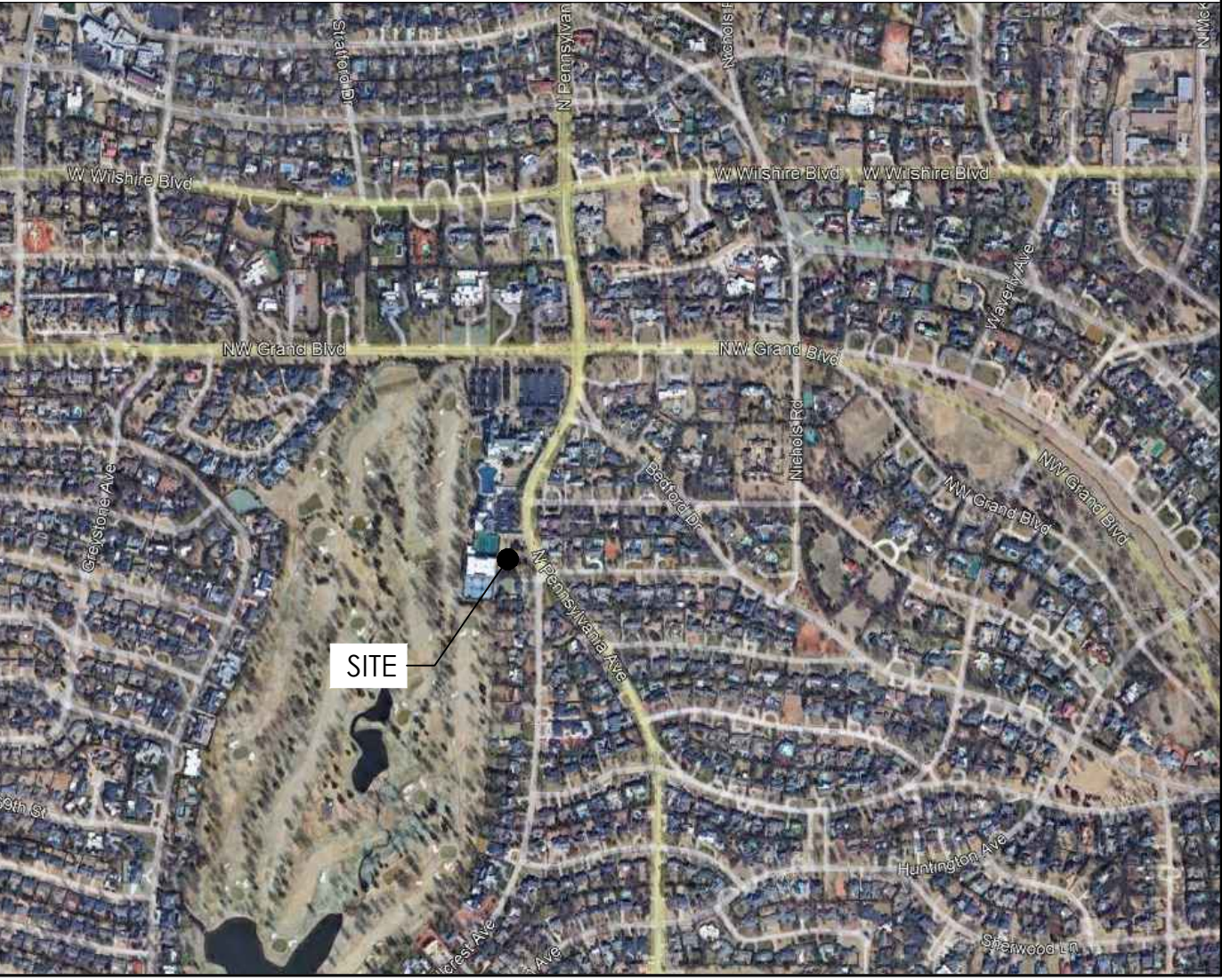


Crown Castle
6191 State Hwy 161
Suite 200
Irving, TX 75038

Special Permit Communication Device Request – 6706 N. Pennsylvania Ave. – Project Narrative

Verizon Wireless is proposing to collocate as a new carrier on this existing cell tower. They plan to install antennas at a 57' centerline while the tower is 70' tall and highest appurtenance is 77'-9" tall. In addition, the existing fenced compound will need to be expanded to fit Verizon's new ground equipment/cabinets. As this cell tower is located on city owned property, an amendment for the new ground space/compound expansion has already been executed and approved by City Council. The new fence would match the existing fence. The antennas would be painted to match the tower. Verizon Wireless identified a need for this area for additional coverage and connectivity and it is always the better solution to collocate on an existing tower instead of building a new tower in the same general area.

Attachment: PC-2023-02 (6711 : Crown Castle - Special Permit Application Ver)



- INSTALL NEW VERIZON EQUIPMENT ON (2) CONCRETE PADS AND (1) H-FRAME
- INSTALL NEW AWNING OVER PROPOSED EQUIPMENT CABINETS
- INSTALL (1) THREE SECTOR FRAME MOUNT
- INSTALL (3) COMMSCOPE NNH4-65C-R3B-V1 ANTENNAS
- INSTALL (3) SAMSUNG MT6407-77A ANTENNA/RRH
- INSTALL (3) COMMSCOPE BASMNT-SBS-1-2 ANTENNA MOUNT BRACKETS
- INSTALL (1) COMMSCOPE RCMDC-6627-PF-48 OVPs (EQUIPMENT LEVEL)
- INSTALL (1) COMMSCOPE RCMD2-6627-PF-48 OVPs (ANTENNA LEVEL)
- INSTALL (1) 1-1/4" HYBRID DC/FIBER CABLES
- INSTALL (3) SAMSUNG RF4439D-25A LTE RRHS (ANTENNA LEVEL)
- INSTALL (3) SAMSUNG RF4440D-13A LTE RRHS (ANTENNA LEVEL)
- INSTALL (3) SAMSUNG CBRS RRRH-RT4401-48A RRHS
- INSTALL (1) RAYCAP OVP-12 OVP

CONTRACTOR'S WORK SHALL COMPLY WITH NATIONAL, STATE & LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION FOR THE LOCATION. CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

- 2018 INTERNATIONAL BUILDING CODE
- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL PLUMBING CODE
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2018 INTERNATIONAL PROPERTY MAINTENANCE CODE
- 2018 INTERNATIONAL EXISTING BUILDING CODE
- 2018 INTERNATIONAL FIRE CODE
- 2017 NATIONAL ELECTRICAL CODE

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS IS NOT REQUIRED.

PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT 800-788-7011 & CROWN CONSTRUCTION MGR. THE HEIGHT OF THE TOWER WILL NOT BE INCREASED, NOR WILL THERE BE AN EXPANSION OF THE GROUND/LEASE AREA.

BUMPASS OK

661 363

EXISTING - 70' MONOPOLE TOWER
(70'-0" EXISTING TOWER HEIGHT; 77'-9" TO TOP OF HIGHEST APPURTENANCE)



822901 / 603795



6801 PORTWEST DRIVE
SUITE 100
HOUSTON, TX 77024
713-677-0964

1. PRIOR TO ACCESSING/ENTERING THE SITE, YOU MUST CONTACT THE CROWN
NOC AT 800-788-7011 AND CROWN CM (JOEL DUBOIS / 210-367-1927).
2. THE HEIGHT OF THE TOWER WILL NOT BE INCREASED, NOR AN EXPANSION OF
THE GROUND/LEASE AREA WHEN AND WHERE APPLICABLE.

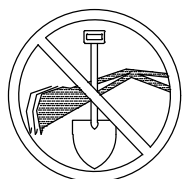
SITE ADDRESS:	6706 NORTH PENNSYLVANIA AVE NICHOLS HILLS, OK 73159
LATITUDE:	35° 32' 42.87" N (NAD83)
LONGITUDE:	97° 33' 00.79" W (NAD83)
ELEVATION:	1215' AMSL
JURISDICTION:	CITY OF NICHOLS HILLS
PARCEL ID:	TBD
ZONING:	TBD
TOWER OWNER:	CCTMO LLC (CROWN CASTLE) 6191 STATE HWY 161, SUITE 200 IRVING, TX 75038 LAUREN WADE LAUREN.WADE@CROWNCASTLE.COM
APPLICANT:	VERIZON WIRELESS 6696 TRI COUNTY PARKWAY, SUITE 100 SHERTZ, TX 78154
ENGINEER:	P. MARSHALL & ASSOCIATES 6801 PORTWEST DR, STE. 100 HOUSTON, TX 77024 PATRICK W MARSHALL, P.E. 713-677-0964
POWER:	OGE ELECTRIC SERVICES
FIBER:	TBD

TOWER OWNER:	CROWN CASTLE
TOWER OWNER SITE NAME:	CAMDEN
TOWER TYPE:	MONOPOLE
TOWER HEIGHT:	70'
ELEVATION OF WORK ON TOWER:	57' - AGL

T-1	TITLE SHEET & PROJECT INFORMATION
P-1	SITE PHOTOS
-	SURVEY
-	PHOTO SIMS
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C-2A	OVERALL SITE PLAN W/ AERIAL IMAGE
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E-1	GENERAL ELECTRICAL & GROUNDING NOTES
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E-4	GROUNDING DETAILS

- AWNING DRAWINGS



CALL OKLAHOMA ONE CALL
(800) 522-OKIE
CALL 3 WORKING DAYS
BEFORE YOU DIG!



12725 MORRIS ROAD EXTENSION
SUITE 400
ALPHARETTA, GA 30004

6706 NORTH PENNSYLVANIA AVE
NICHOLS HILLS, OK 73159

661363

[illegible]

DESIGNED: JY
DRAWN: JY
CHECKED: DA

JOB #:
22CCV7N-022

TITLE SHEET & PROJECT INFORMATION

T-1

A photograph of a grassy field, likely a park or sports field. In the foreground on the left, a utility pole with multiple cross-arms and wires stands prominently. A yellow vertical pole is also visible near the base of the utility pole. The field is covered in green grass. In the middle ground, there are several large, leafy green trees. Behind the trees, a blue structure, possibly a fence or part of a building, is visible. In the background, a parking lot with several cars and a building can be seen under a blue sky with scattered white clouds. The overall scene is bright and sunny.



12725 MORRIS ROAD EXTENSION
SUITE 400
ALPHARETTA, GA 30004

BUMPASS OK

6706 NORTH PENNSYLVANIA AV
NICHOLS HILLS, OK 73159

LOCATION CODE:
661363

[illegible]

DESIGNED: JY
DRAWN: JY
CHECKED: DA

JOB #:
22CCV7N-022

SITE PHOTOS

P-1

AS-BUILT SURVEY

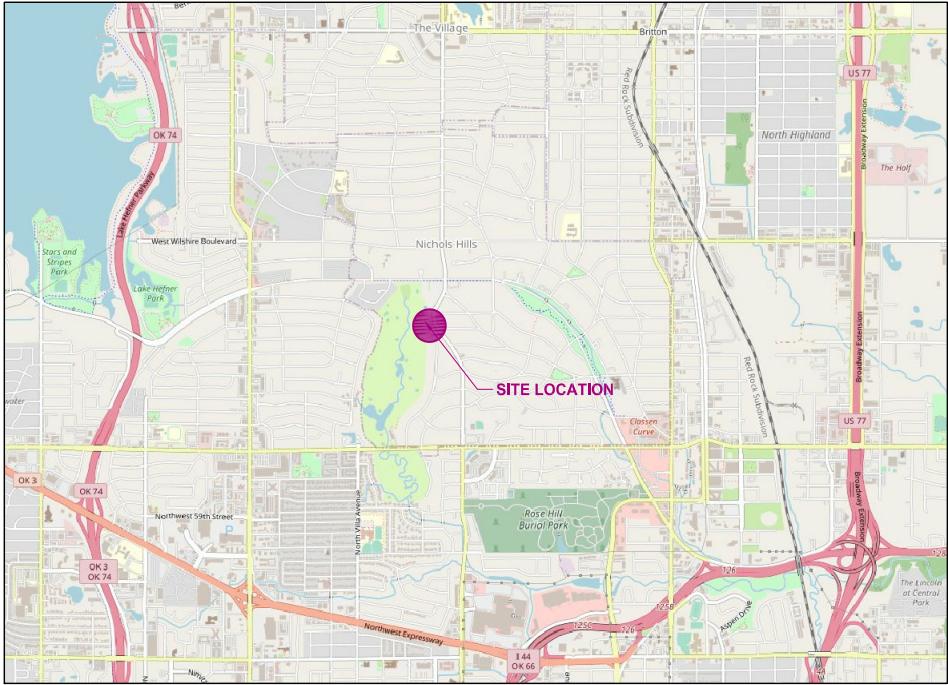
CAMDEN
822901
6706 NORTH PENNSYLVANIA AVE.
NICHOLS HILLS, OK 73159

LEGEND

Additional Land	Set 1/2" Rebar W/Cap Stamped "GEOLINE / LB 7082"	Transformer (Aerial)
Building	IP / Rebar Monu- Found	Transformer Pad
Asphalt Pavement	Cased Monu	Catch Basin
Contour - Major	Cased Monu - Found	Inlet
Contour - Minor	Traverse Point	Culvert
Easement	Survey Point	Utility Vault
Guiderail	Gravel	Manhole
Jurisdiction Line	Dirt	Handhole
Property Line	Concrete	Pull box
Property Tie	Retaining Wall	Pedestal
Parent Property	Stairs	Riser
Tower Easement	Door / Gate	Meter
Right of Way	Double Door / Gate	Valve
Setback	Gate - Sliding	Cleanout
Treeline	Signs	Junction Box
Wetland	Mailbox	Spot Light
Railroad Tracks	Tower	Utility Box
Centerline	Utility Pole	Controller
Road Centerline	Guyed Pole	HVAC
Stream	Pole	Generator
Stream (Directional)	Bollard	
Ditch	Fire Hydrant	
Channel	Flag Pole	
Fence	Treeline	
Cable UG	Tree - Palm	
Combined Sewer	Tree - Coniferous	
Cable TV & Elec	Tree - Deciduous	
Cable TV & Elec UG		
Cable, Elec, & Tele		
Cable, Elec, & Tele UG		
Electric		
Electric UG		
Fiber		
Fiber UG		
Gas		
Sewer		
Storm		
Telephone		
Telephone UG		
Unknown Utility		
Water		
Topo - High Point		
Topo - Low Point		
Breakline		
Match line		
Property Tie		

VICINITY MAP

NTS



CONTENTS

COVER SHEET
PROPERTY/EASEMENT OVERVIEW
LEGAL DESCRIPTIONS

AREA SUMMARY

AREA	SQ. FT.	ACRES
LEASE SPACE	400±	0.01±
ADDITIONAL LAND SPACE	263±	0.01±
20' ACCESS/UTILITY EASEMENT	4,816±	0.11±
10' UTILITY EASEMENT	788±	0.02±

ABBREVIATIONS

POC	POINT OF COMMENCEMENT
POB	POINT OF BEGINNING
ROW	RIGHT OF WAY
(R)	RECORD DESCRIPTION INFORMATION
(M)	MEASURED DESCRIPTION

SURVEY PERFORMED FOR:



1500 Corporate Drive
Canonsburg, PA 15317

SURVEY COORDINATED BY:

GEOLINE SURVEYING, INC., LB 7082
13430 NW 104th Terrace, Suite A, Alachua, FL 32615
Tele: (386) 418-0500 | Fax: (386) 462-9986

SURVEY PERFORMED BY: PATRICK BRYANT

P.O. BOX 1343
JOPLIN, MO 64802
479-479-7784

DRAWN BY: SC CHK BY: SC JOB NO.: 22111

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY TO CCTMO, LLC, CROWN CASTLE USA INC., INCLUDING ITS PARENTS, SUBSIDIARIES AND AFFILIATED ENTITIES, AND WESTCOR LAND TITLE INSURANCE COMPANY.

LEASE AREA ZONING:

TBD

LEASE AREA FLOOD NOTE:

THE TOWER AREA AND EASEMENTS ARE LOCATED WITHIN A AREA OF MINIMAL (ZONE X) FLOODING PER FEMA MAP #440109C0170H, EFFECTIVE 12-18-2009.

BEARING BASIS:

OK SPCS - NORTH ZONE
EPSG: 15931

NOTES:

1. SURVEY PERFORMED ON 12/2022.
2. DATA PROJECTED IN OKLAHOMA STATE PLANE COORDINATE SYSTEM NORTH ZONE [EPSG: 15931]
3. BURIED UTILITIES DEPICTED HEREON WERE DETECTED AND MARKED BY OTHERS USING INDIRECT METHODS. NO SUBSURFACE EXCAVATION WAS PERFORMED TO VERIFY THE TYPE AND LOCATION OF THE BURIED UTILITIES DEPICTED HEREON. IT IS POSSIBLE THAT OTHER UTILITIES SERVING THE SUBJECT TOWER SITE EXIST THAT WENT UNDETECTED AS A PART OF THIS SURVEY.
4. NOT ALL SYMBOLS ARE DEPICTED TO SCALE.
5. ALL VISIBLE TOWER EQUIPMENT AND IMPROVEMENTS ARE CONTAINED WITHIN THE DESCRIBED AREA, UNLESS OTHERWISE NOTED HEREON.
6. REPRODUCTIONS OF THIS SKETCH ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A LICENSED SURVEYOR.

REV	DATE	DESCRIPTION	DRWN
-	-	-	-
-	-	-	-
-	-	-	-

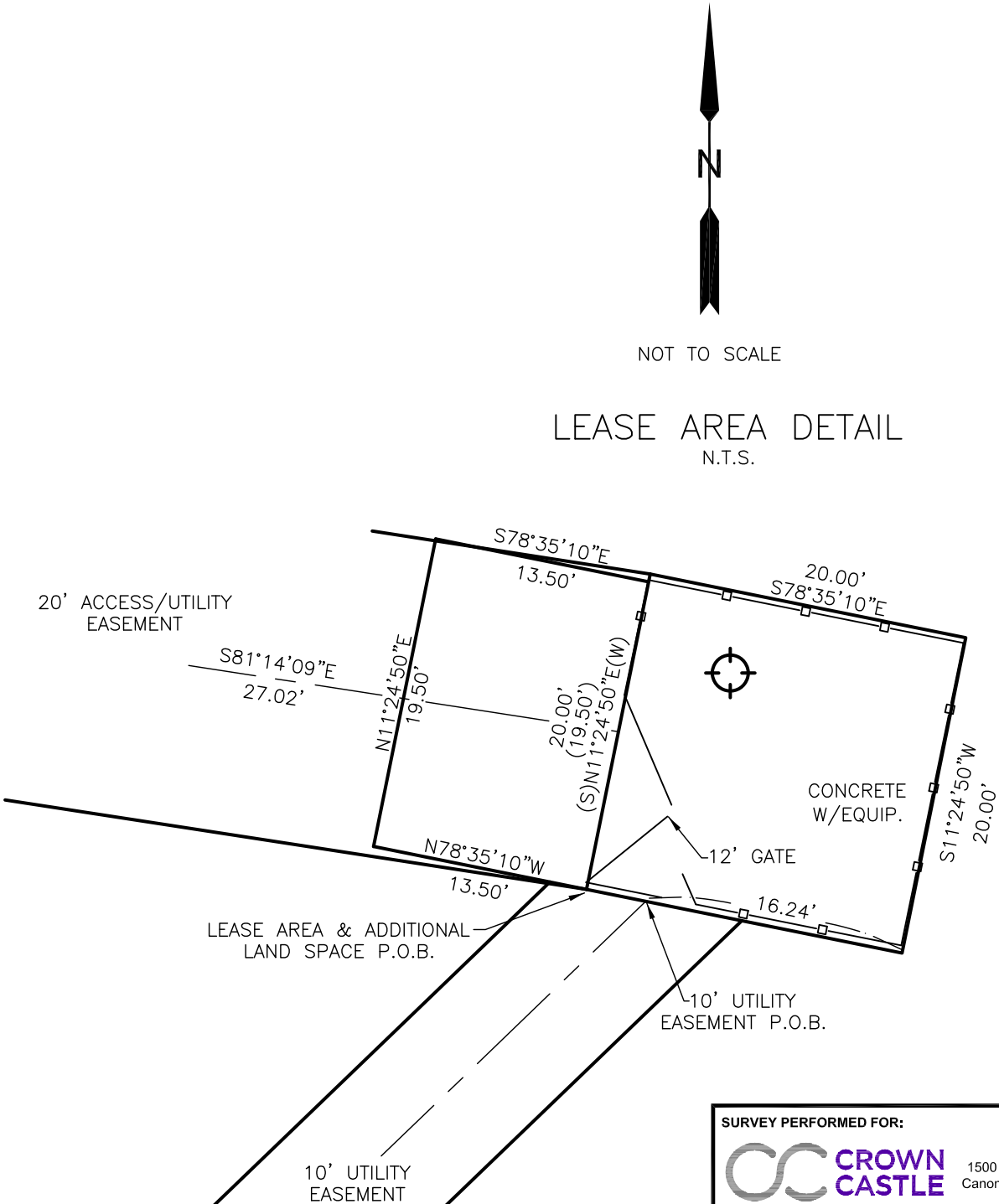
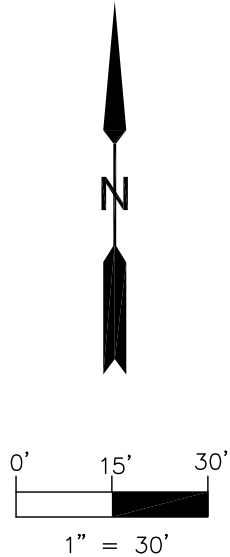
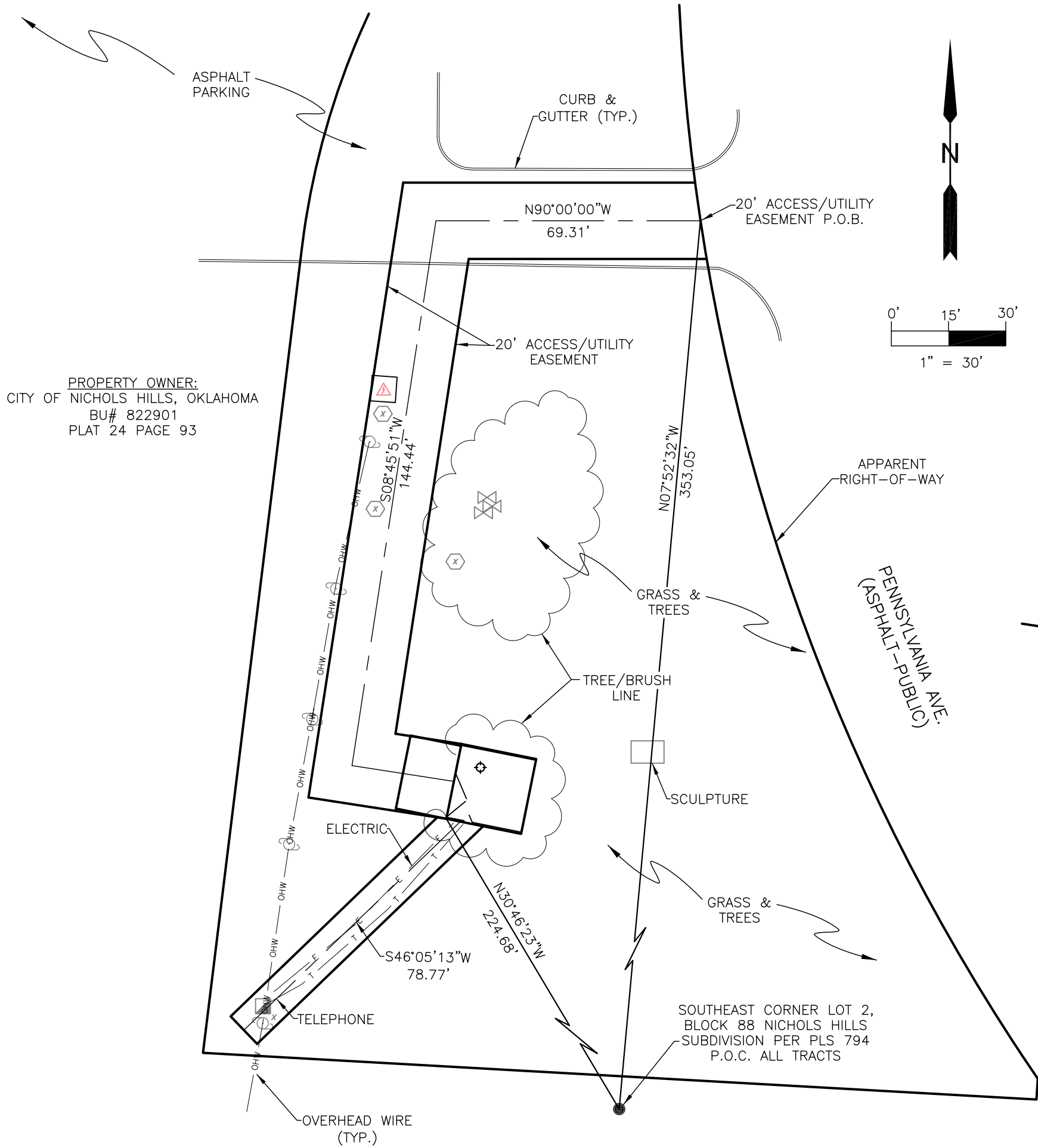
SITE INFORMATION:

Name	CAMDEN
BUN	822901
Address	6706 NORTH PENNSYLVANIA AVE. NICHOLS HILLS, OK 73159
County	OKLAHOMA

SITE LOCATED IN: OKLAHOMA COUNTY, OK

AS-BUILT SURVEY

SHEET: COVER
SHEET



SURVEY PERFORMED FOR:			
		1500 Corporate Drive Canonsburg, PA 15317	
REV	DATE	DESCRIPTION	DRWN
--	--	--	--
--	--	--	--
--	--	--	--
SITE INFORMATION:			
Name	CAMDEN		
BUN	822901		
Address	6706 NORTH PENNSYLVANIA AVE. NICHOLS HILLS, OK 73159		
County	OKLAHOMA		
SITE LOCATED IN:			
OKLAHOMA COUNTY, OK			
AS-BUILT SURVEY			
SHEET: PROPERTY OVERVIEW			

TOWER LEASE DESCRIPTION (PROVIDED BY OTHERS)

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46’23” WEST A DISTANCE OF 224.68 FEET TO THE POINT OF BEGINNING; THENCE NORTH 11°24’50” EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 78°35’10” EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 11°24’50” WEST A DISTANCE OF 20.00 FEET; THENCE NORTH 78°35’10” WEST A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING.

20’ ACCESS/UTILITY EASEMENT DESCRIPTION (PROVIDED BY OTHERS)

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: A 20.00 FOOT EASEMENT FOR INGRESS AND EGRESS LYING 10.00 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 07°52’32” WEST A DISTANCE OF 353.05 FEET TO THE POINT OF BEGINNING; THENCE NORTH 90°00’00” WEST A DISTANCE OF 69.31 FEET; THENCE SOUTH 08°45’51” WEST A DISTANCE OF 144.44 FEET; THENCE SOUTH 81°14’09” EAST A DISTANCE OF 27.02 FEET TO THE POINT OF TERMINATION.

TOWER LEASE DESCRIPTION (PROVIDED BY OTHERS)

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: A 10.00 FOOT EASEMENT FOR INGRESS AND EGRESS LYING 5.00 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46’23” WEST A DISTANCE OF 224.68 FEET; THENCE NORTH 11°24’50” EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 78°35’10” EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 11°24’50” WEST A DISTANCE OF 20.00 FEET; THENCE NORTH 78°35’10” WEST A DISTANCE OF 16.24 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 46°05’13” WEST A DISTANCE OF 78.77 FEET, FOR A TERMINUS.

ADDITIONAL LAND SPACE DESCRIPTION (CREATED FOR THIS PROJECT)

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46’23” WEST A DISTANCE OF 224.68 FEET TO THE POINT OF BEGINNING; THENCE NORTH 78°35’10” WEST A DISTANCE OF 13.50 FEET; THENCE NORTH 11°24’50” EAST A DISTANCE OF 19.50 FEET; THENCE SOUTH 78°35’10” EAST A DISTANCE OF 13.50 FEET; THENCE SOUTH 11°24’50” WEST A DISTANCE OF 19.50 FEET TO THE POINT OF BEGINNING.

TITLE COMMITMENT NOTES

LIMITED TITLE REPORT PREPARED BY TOWER TITLE.TITLE FILE NUMBER CCI-1411964-PR, DATED NOVEMBER 8, 2022.

ITEM 1. ORDINANCE NO. 1099 DATED MAY 9, 2017 AND RECORDED IN BOOK 13442 PAGE 1526 PROVIDES FOR EXPANSION OF THE CITY LIMITS.

ITEM 2. MEMORANDUM OF FIRST AMENDMENT RECORDED IN BOOK 14748 PAGE 84 PROVIDES FOR THE TOWER SPACE.

ITEM 3. OCMIA DRILLING RULES RECORDED IN BOOK 5957 PAGE 0674 STATES RULES FOR DRILLING WELLS.

SURVEY PERFORMED FOR:

CROWN CASTLE

1500 Corporate Drive
Canonsburg, PA 15317

REV	DATE	DESCRIPTION	DRWN
-	-	-	-
-	-	-	-
-	-	-	-

SITE INFORMATION:

Name

CAMDEN

BUN

822901

Address

6706 NORTH PENNSYLVANIA AVE.
NICHOLS HILLS, OK 73159

County

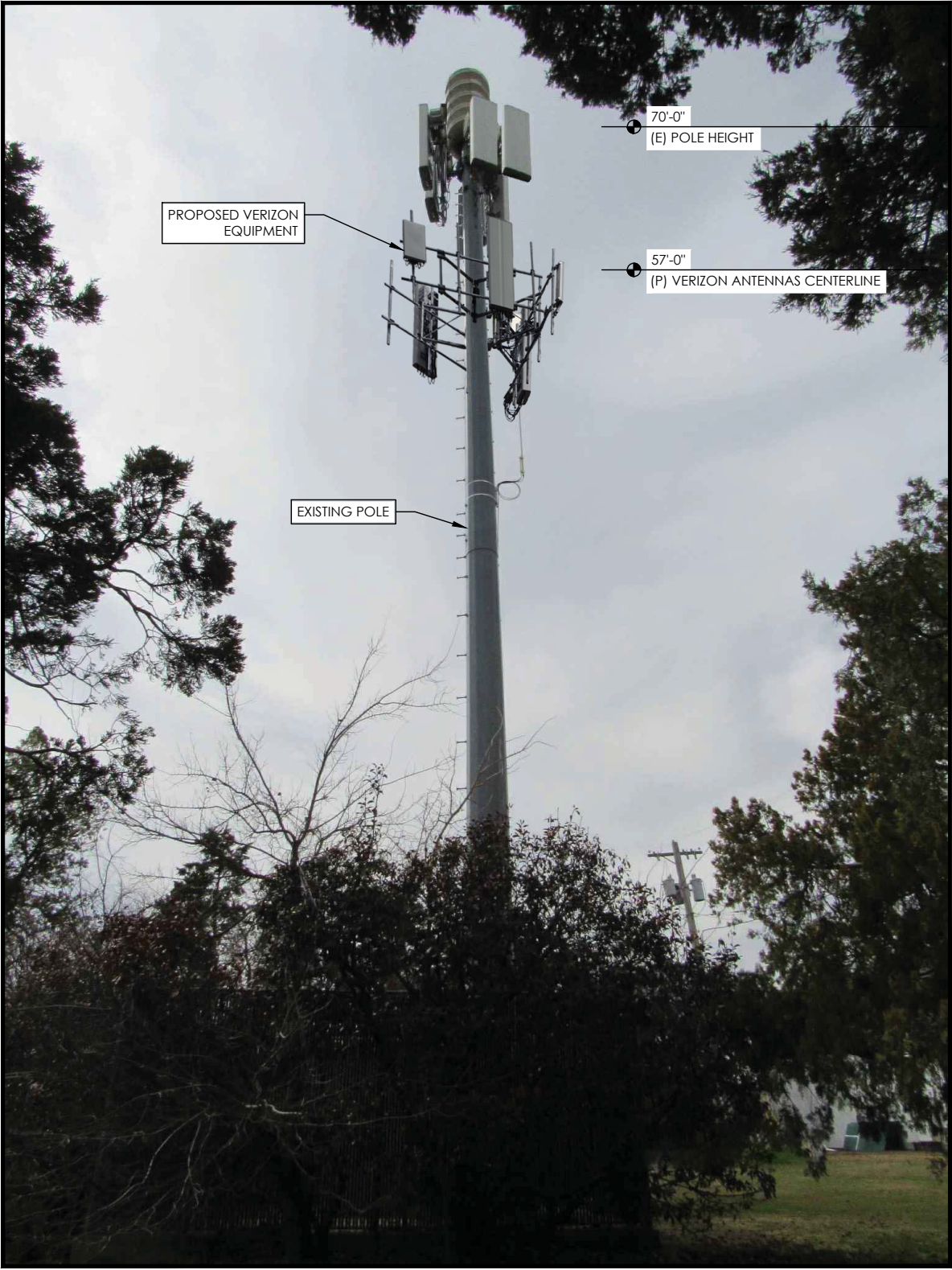
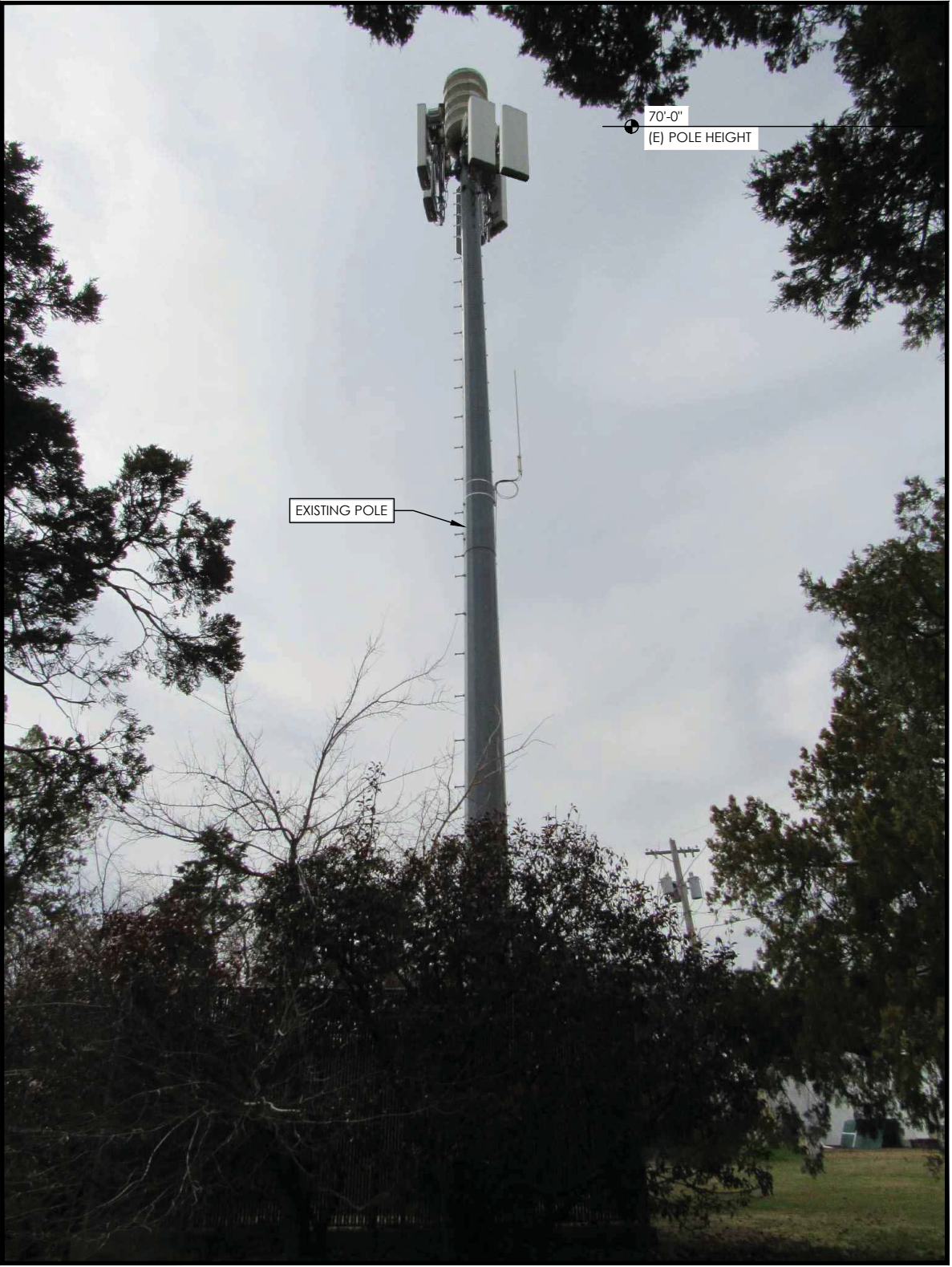
OKLAHOMA

SITE LOCATED IN:

OKLAHOMA COUNTY, OK

AS-BUILT SURVEY

SHEET: LEGAL
DESCRIPTIONS



6801 PORTWEST DRIVE SUITE 100
HOUSTON, TX 77024
713-677-0964

VERIZON SITE NAME:
BUMPASS OK

LOCATION CODE:
661363

BU NUMBER:
822901

LATITUDE:
35.545242°

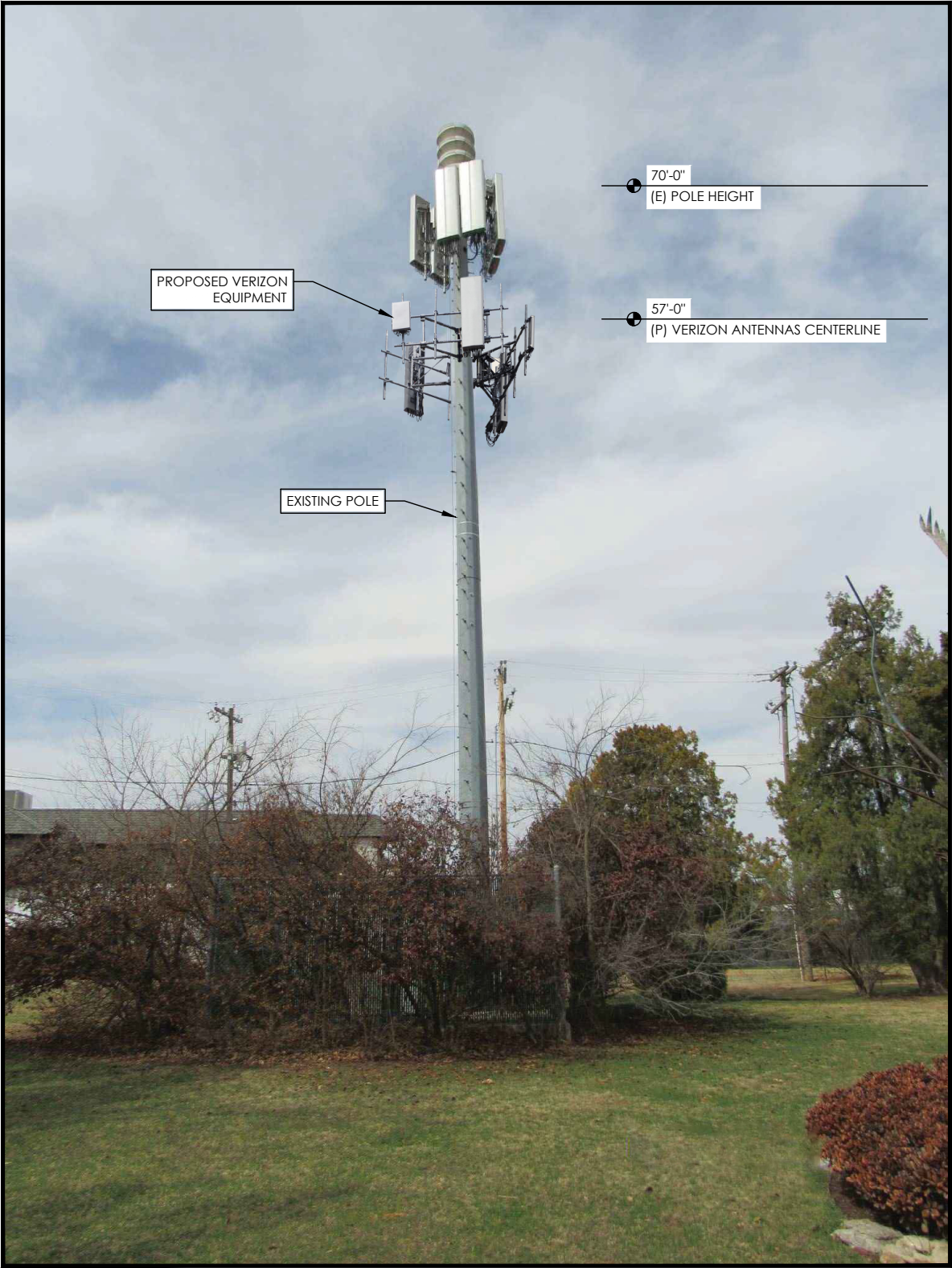
LONGITUDE:
-97.550219°

SHEET TITLE:
UTILITY POLE
CONFIGURATION
- NORTH VIEW

EXISTING VIEW

PROPOSED VIEW

SHEET NUMBER:
1 OF 5



P. MARSHALL & ASSOCIATES
6801 PORTWEST DRIVE SUITE 100
HOUSTON, TX 77024
713-677-0964

VERIZON SITE NAME:
BUMPASS OK

LOCATION CODE:
661363

BU NUMBER:
822901

LATITUDE:
35.545242°

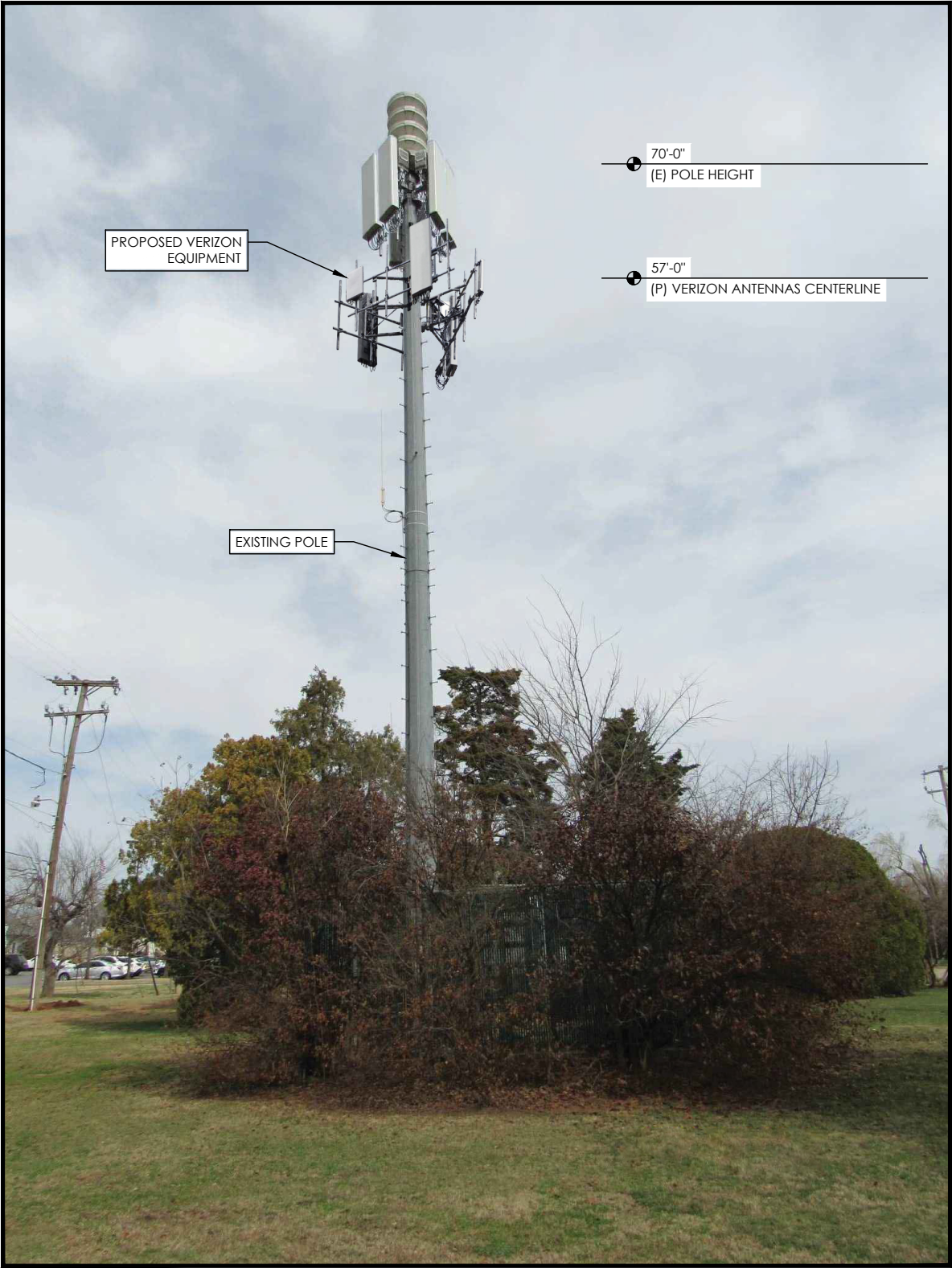
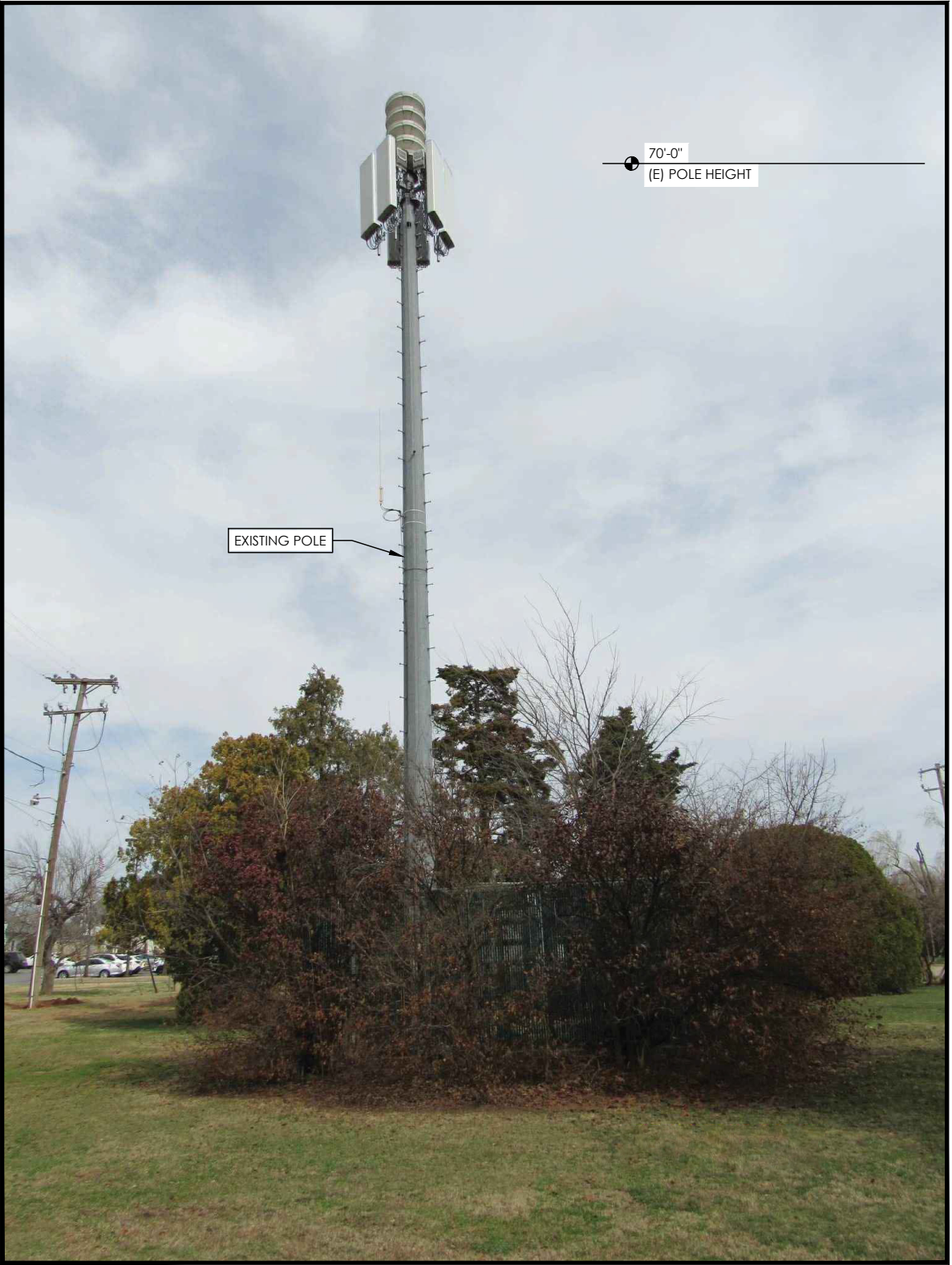
LONGITUDE:
-97.550219°

SHEET TITLE:
UTILITY POLE
CONFIGURATION
- EAST VIEW

EXISTING VIEW

PROPOSED VIEW

SHEET NUMBER:
2 OF 5



P. MARSHALL & ASSOCIATES
6801 PORTWEST DRIVE SUITE 100
HOUSTON, TX 77024
713-677-0964

VERIZON SITE NAME:
BUMPASS OK

LOCATION CODE:
661363

BU NUMBER:
822901

LATITUDE:
35.545242°

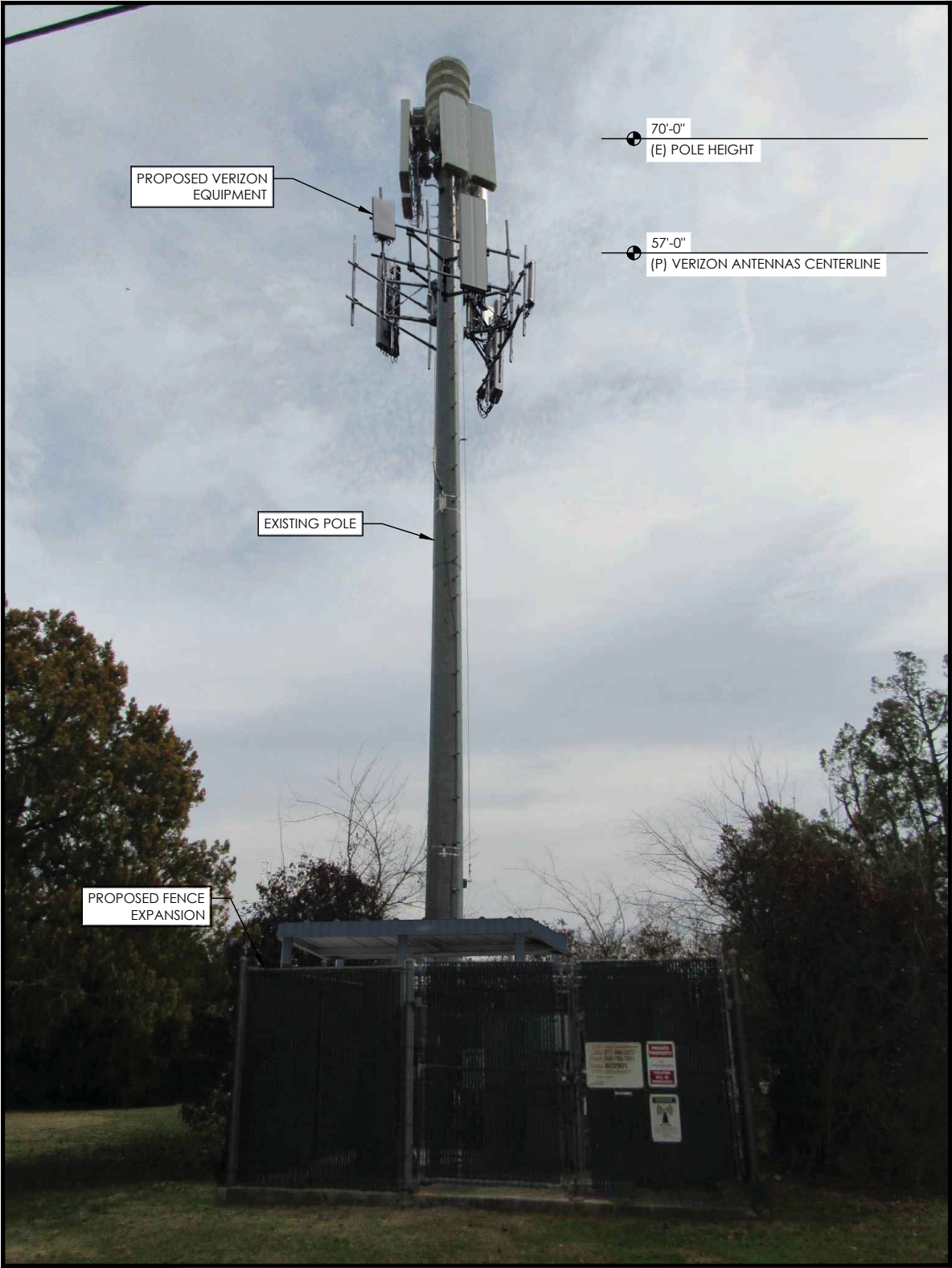
LONGITUDE:
-97.550219°

SHEET TITLE:
UTILITY POLE
CONFIGURATION
- SOUTH VIEW

EXISTING VIEW

PROPOSED VIEW

SHEET NUMBER:
3 OF 5



P. MARSHALL & ASSOCIATES
6801 PORTWEST DRIVE SUITE 100
HOUSTON, TX 77024
713-677-0964

VERIZON SITE NAME:
BUMPASS OK

LOCATION CODE:
661363

BU NUMBER:
822901

LATITUDE:
35.545242°

LONGITUDE:
-97.550219°

SHEET TITLE:
UTILITY POLE
CONFIGURATION
- WEST VIEW

EXISTING VIEW

PROPOSED VIEW

SHEET NUMBER:
4 OF 5



verizon

CROWN
CASTLE

PM&A

P. MARSHALL & ASSOCIATES
6801 PORTWEST DRIVE SUITE 100
HOUSTON, TX 77024
713-677-0964

VERIZON SITE NAME:
BUMPASS OK

LOCATION CODE:
661363

BU NUMBER:
822901

LATITUDE:
35.545242°

LONGITUDE:
-97.550219°

SHEET TITLE:
UTILITY POLE
CONFIGURATION
- COMPOUND VIEW

EXISTING VIEW

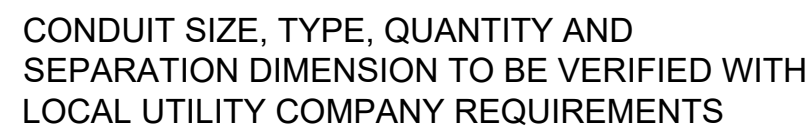
PROPOSED VIEW

SHEET NUMBER:
5 OF 5

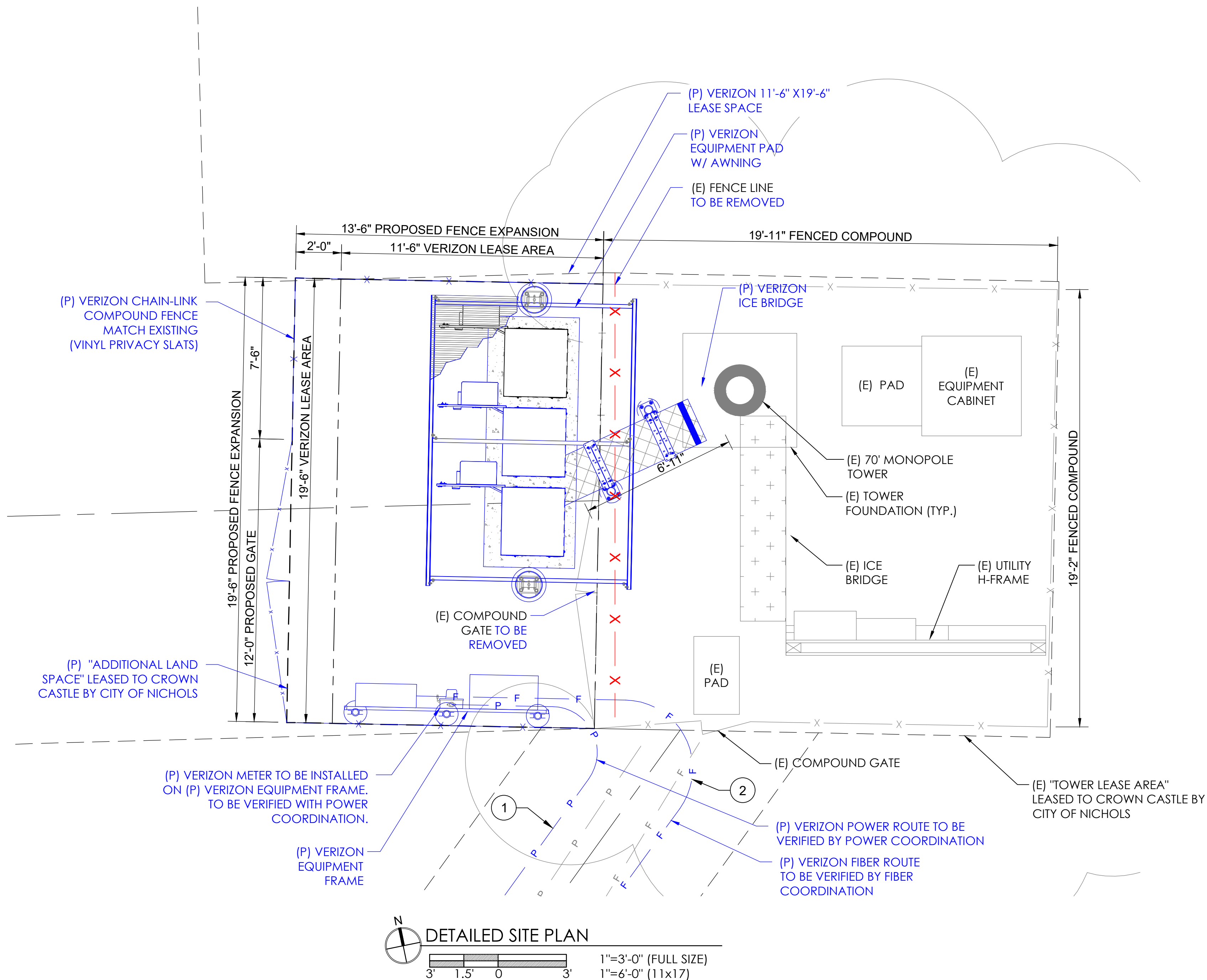
1. PROPOSED 3" SCH-40 PVC UNDERGROUND CONDUIT FROM THE EXISTING UTILITY POLE W/ TRANSFORMER TO THE PROPOSED METER ON VERIZON EQUIPMENT H-FRAME. (± 85 FT) (TO BE VERIFIED WITH POWER COORDINATION)
2. PROPOSED VERIZON 2" SCH. 80 PVC CONDUIT WITH (2) PULLSTRINGS, 36" DEEP, FROM THE PROPOSED HANDHOLE AT EXISTING UTILITY POLE TO THE EQUIPMENT LOCATION (± 95 FT) GC TO VERIFY EXACT LOCATION.

20' ACCESS/UTILITY EASEMENT DESCRIPTION (PROVIDED BY OTHERS)
A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: A 20.00 FOOT EASEMENT FOR INGRESS AND EGRESS LYING 10.00 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 07°52'32" WEST A DISTANCE OF 353.05 FEET TO THE POINT OF BEGINNING; THENCE NORTH 90°00'00" WEST A DISTANCE OF 69.31 FEET; THENCE SOUTH 08°45'51" WEST A DISTANCE OF 144.44 FEET; THENCE SOUTH 81°14'09" EAST A DISTANCE OF 27.02 FEET TO THE POINT OF TERMINATION.

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NOT TO SCALE



PROPOSED TOWER & ANTENNA NOTES:

ALL PROPOSED ANTENNAS & VISIBLE TOWER-MOUNTED TO BE PAINTED TO MATCH THE EXISTING TOWER OR TO A COLOR APPROVED BY THE PLANNING COMMISSION & COUNCIL.

[illegible]



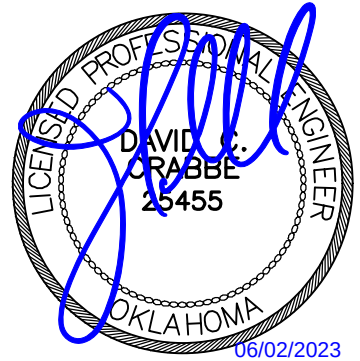
12725 MORRIS ROAD EXTENSION
SUITE 400
ALPHARETTA, GA 30004

BUMPASS OK

6706 NORTH PENNSYLVANIA AVE
NICHOLS HILLS, OK 73159

LOCATION CODE:

661363

[illegible]

DESIGNED: JY
DRAWN: JY
CHECKED: DA

JOB #:
22CCV7N-022

GRADING, SEDIMENT & EROSION CONTROL PLAN

C-6

CONSTRUCTION EXIT - TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE CONSTRUCTION AREA ONTO PUBLIC RIGHT-OF-WAYS, STREETS, ALLEYS, SIDEWALKS, OR PARKING AREAS.

TYPE C SEDIMENT BARRIER - TO PREVENT ANY SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE AND ENTERING NATURAL DRAINAGE WAYS OR STORM DRAINAGE SYSTEMS.

DISTURBED AREA STABILIZATION (TEMPORARY) - TO ESTABLISH A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.

DISTURBED AREA STABILIZATION (PERMANENT) - TO ESTABLISH A PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREAS.

DISTURBED AREA DUST CONTROL - TO CONTROL THE SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADWAYS, AND SIMILAR SITES.

DISTURBED AREAS LEFT IDLE SHALL BE STABILIZED WITH TEMPORARY VEGETATION AFTER 14 DAYS; AFTER 30 DAYS PERMANENT VEGETATION SHALL BE ESTABLISHED

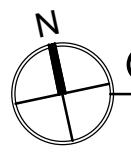
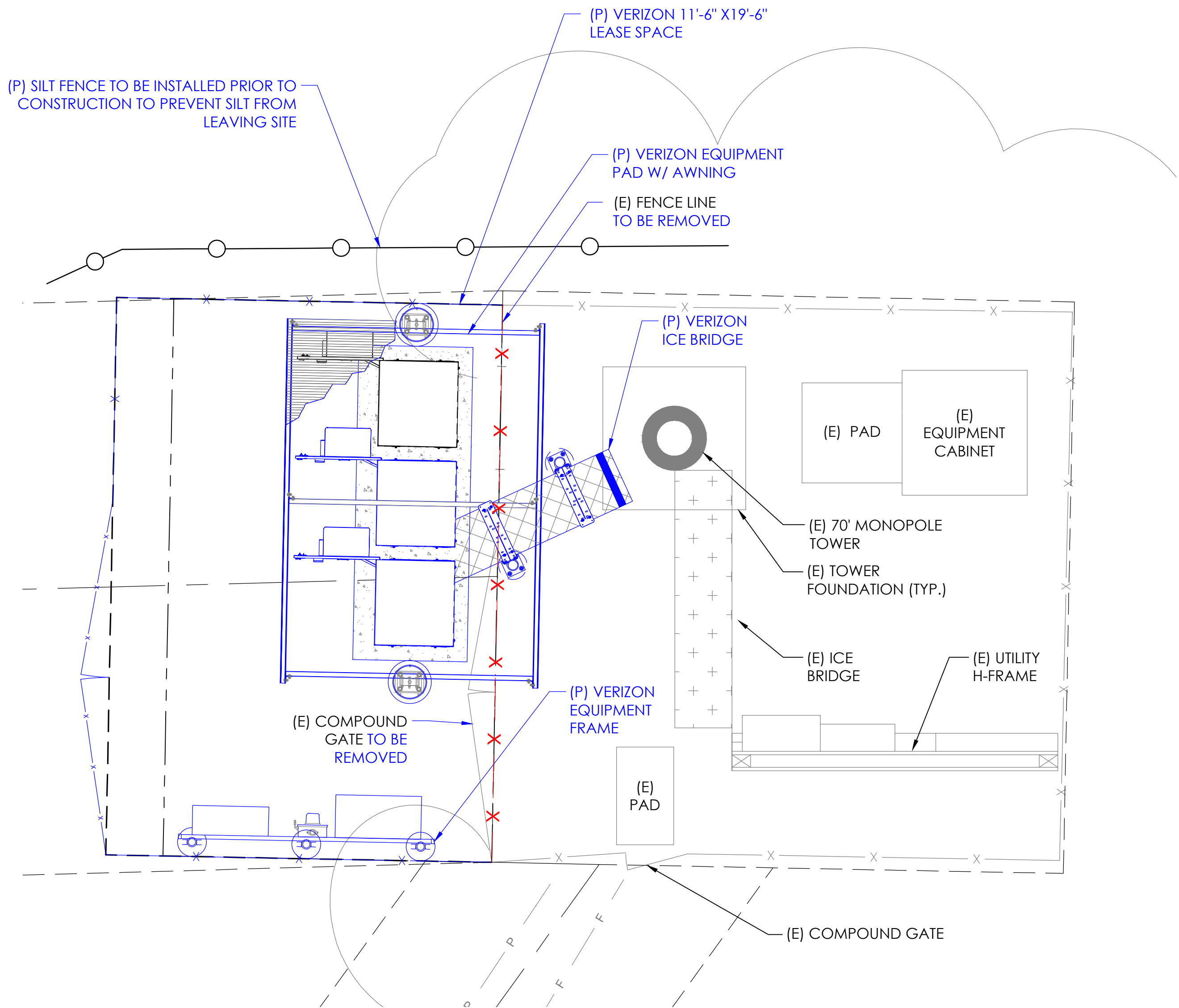
MAINTENANCE STATEMENT
EROSION CONTROL MEASURES WILL BE INSPECTED
AT LEAST WEEKLY, AFTER EACH RAIN AND REPAIRED
BY THE GENERAL CONTRACTOR

ADDITIONAL EROSION CONTROL MEASURES WILL
BE INSTALLED IF DEEMED NECESSARY BY ON-SITE
INSPECTION

PROPOSED SITE LOCATION:
LATITUDE: 35° 32' 42.87" N (NAD83)
LONGITUDE: 97° 33' 00.79" W (NAD83)
GROUND ELEV: 1215' AMSL

FLOOD PLAIN NOTE:
THE SITE IS NOT LOCATED WITHIN A
FLOODPLAIN (ZONE X) PER FEMA MAP
40109C0170H DATED 12/18/2009

GRUBBING NOTE:
CONTRACTOR SHALL GRUB APPROXIMATELY 6" OF TOP SOIL FROM PROPOSED ACCESS ROAD AND FENCED COMPOUND AREA. TOP SOIL SHALL BE REMOVED AND REPLACED WITH CLEAN FILL PRIOR TO THE INSTALLATION OF GEOFABRIC.



GRADING SEDIMENT & EROSION CONTROL PLAN

A horizontal bar of total length 10' is divided into four segments. From left to right, the segments are: a 5' segment with diagonal hatching, a 2.5' segment with horizontal hatching, a 0' segment (a point), and a 5' segment with diagonal hatching. The labels 5', 2.5', 0, and 5' are placed below the bar at the boundaries of the segments.

1"=5'-0" (FULL SIZE)
1"=10'-0" (11x17)





12725 MORRIS ROAD EXTENSION
SUITE 400
ALPHARETTA, GA 30004

BUMPASS OK

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LOCATION CODE:

661363

[illegible]

DESIGNED: JY
DRAWN: JY
CHECKED: DA

JOB #:
22CCV7N-022

GRADING, SEDIMENT & EROSION CONTROL DETAILS

C-8

PIEDMONT VEGETATIVE COVERS

CALENDAR MONTH	TEMPORARY SEED	APPLICATION RATE/ACRE	PERMANENT SEED	APPLICATION RATE/ACRE
1. JANUARY	RYE GRASS	40-50 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA	2 8-10 LB. 30-40 LB. 1
2. FEBRUARY			UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	2 8-10 LB. 30-40 LB. 30-50 LB.
3. MARCH	RYE ANNUAL LESPEDEZA WEEPING LOVE GRASS	2-3 BU. 20-25 LB. 4-6 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
4. APRIL	RYE BROWN TOP MILLET ANNUAL LESPEDEZA SUDAN ANNUAL	2-3 BU. 30-40 LB. 20-25 LB. 35 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAHIA	4-6 LB. 5-6 LB. 40-60 LB.
5. MAY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MILLET	4-6 LB. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAHIA	4-6 LB. 5-6 LB. 40-60 LB.
6. JUNE	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MILLET	4-6 LB. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAHIA	4-6 LB. 5-6 LB. 40-60 LB.
7. JULY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MILLET	4-6 LB. 35 LB. 30-40 LB.		
8. AUGUST	RYE GRASS WEEPING LOVE GRASS	40-50 LB. 4-6 LB.		
9. SEPTEMBER			TALL FESCUE	30-50 LB.
10. OCTOBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	2 8-10 LB. 30-40 LB. 30-50 LB.
11. NOVEMBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
12. DECEMBER	RYE RYE GRASS WHEAT	2-3 BU. 40-50 LB. 2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.

¹ USE A MINIMUM OF 40 LBS. SCARIFIED SEED. THE REMAINDER MAY BE UNSCARIFIED, CLEAN HULLED SEED.

² USE EITHER COMMON SERALA OR INTERSTATE SERICEA LESPEDEZA.

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT ON ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTION, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

HYDRAULIC SEEDING EQUIPMENT: WHEN HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS USED, NO GRADING AND SHAPING OR SEEDBED PREPARATION WILL BE REQUIRED. THE FERTILIZER, SEED AND WOOD CELLULOSE FIBER MULCH WILL BE MIXED WITH WATER AND APPLIED IN A SLURRY. ALL SLURRY INGREDIENTS MUST BE COMBINED TO FORM A HOMOGENOUS MIXTURE, AND SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER MIXTURE IS MADE. STRAW OR HAY MULCH AND ASPHALT EMULSION WILL BE APPLIED WITH BLOWER-TYPE MULCH SPREADING EQUIPMENT WITHIN 24 HOURS AFTER SEEDING. THE MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

A. SEEDING WITH MULCH: (HYDRAULIC SEEDING EQUIPMENT ON SLOPES 3:1 AND STEEPER)

AGRICULTURAL LIMESTONE #75 FERTILIZER, 5-10-15 MULCH (STRAW OR HAY) OR WOOD CELLULOSE FIBER MULCH	4000 LBS./ACRE 1500 LBS./ACRE 5000 LBS./ACRE 1000 LBS./ACRE	
SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
SERICEA LESPEDEZA, SCARIFIED WEEPING LOVE GRASS, OR COMMON BERMUDA, HULLED	60 LBS. 4 LBS. 6 LBS.	3/1 - 6/15
FESCUE SERICEA LESPEDEZA, UNSCARIFIED	40 LBS. 60 LBS.	9/1 - 10/31
FESCUE SERICEA LESPEDEZA, UNSCARIFIED RYE	40 LBS. 75 LBS. 50 LBS.	11/1 - 2/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15 - 8/31

B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

FERTILIZER (AMMONIUM NITRATE 33.5%)	300 LBS./ACRE
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C. SECOND-YEAR TREATMENT:

FERTILIZER (0-20-20 OR EQUIVALENT)	500 LBS./ACRE
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GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT ON ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTION, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

CONVENTIONAL SEEDING EQUIPMENT: GRADE, SHAPE, AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL BE SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED, AND FIRMED. SEEDING WILL BE DONE WITH A CULTIPLACKER-SEEDER, DRILL, ROTARY SEEDER, OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESHLY PREPARED SEEDBED AND COVERED LIGHTLY. WITHIN 24 HOURS AFTER SEEDING, STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD WITH BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT IS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

A. SEEDING WITH MULCH: (CONVENTIONAL SEEDING EQUIPMENT ON SLOPES LESS THAN 3:1)

AGRICULTURAL LIMESTONE #75	4000 LBS./ACRE
FERTILIZER, 5-10-15	1500 LBS./ACRE
MULCH (STRAW OR HAY)	5000 LBS./ACRE

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
HULLED COMMON BERMUDA GRASS	10 LBS.	3/1 - 6/15
FESCUE	50 LBS.	9/1 - 10/31
FESCUE RYE GRASS	50 LBS. 50 LBS.	11/1 - 2/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15 - 8/31

B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

FERTILIZER (AMMONIUM NITRATE 33.5%)	300 LBS./ACRE
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C. SECOND-YEAR TREATMENT:

FERTILIZER (5-10-15 OR EQUIVALENT)	800 LBS./ACRE
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DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

C-9

1' 6" 0 1' 3/4"=1'-0" (FULL SIZE)
 1' 0" 0 1' 3/8"=1'-0" (11x17)

- ① PRIMARY CABINET
- ② BATTERY CABINET
- ③ GROWTH CABINET
- ④ OVP
- ⑤ (RESERVE SPACE FOR
FUTURE GROUND RADIOS)
- ⑥ ILC CABINET
- ⑦ DARK FIBER JUNCTION BOX
(RESERVE SPACE FOR CHARLES
TELCO CABINET IF NECESSARY)
- ⑧ METER/DISCONNECT



C-9A

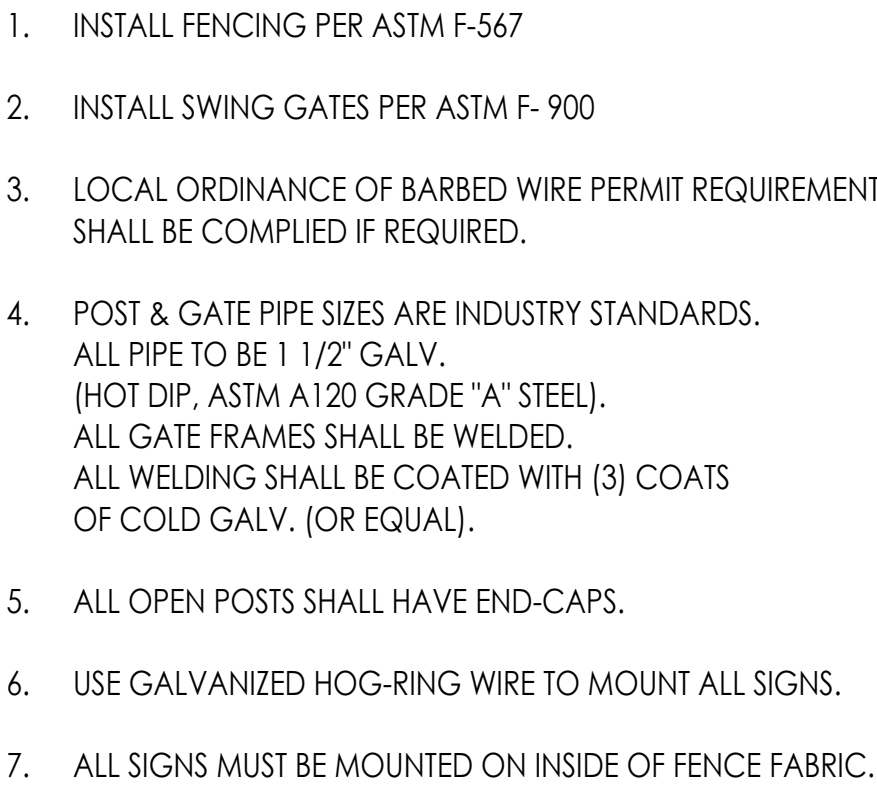


ICE BRIDGE ELEVATION DETAILS

NOT TO SCALE

GPS ANTENNA MOUNTING DETAIL

NOT TO SCALE



ELECTRICAL INSTALLATION NOTES:

3. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75 °C (90 °C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
18. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
19. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
22. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS
24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

GROUNDING NOTES:

3. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATIONS, RADIO, LIGHTNING PROTECTION SYSTEMS, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH SPECIFICATION 24782-000-3PS-EG00-00001. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
3. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. 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.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
8. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
9. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
10. EACH INTERIOR BTS CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH #6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH # 2 AWG SOLID TIN-PLATED COPPER WIRE.
11. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE EXTERIOR UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM VERIZON MARKET REPRESENTATIVE.
13. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
14. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
15. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP BTS EQUIPMENT AND STRUCTURAL STEEL.
16. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO HOLED MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
17. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
18. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
19. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
20. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH # 2 SOLID AWG TIN-PLATED COPPER GROUND CONDUCTOR.
21. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.



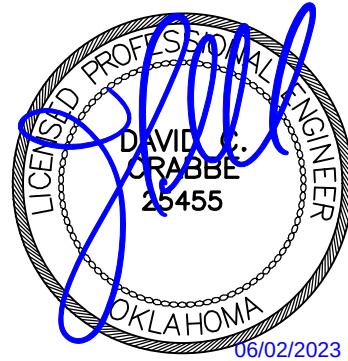
12725 MORRIS ROAD EXTENSION
SUITE 400
ALPHARETTA, GA 30004

BUMPASS OK

6706 NORTH PENNSYLVANIA AVE
NICHOLS HILLS, OK 73159

LOCATION CODE:

661363

[illegible]

DESIGNED: JY
DRAWN: JY
CHECKED: DA

JOB #:
22CCV7N-022

GENERAL ELECTRICAL & GROUNDING NOTES

E-1

E-2

GROUNDING PLAN

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

1' 6" 0 1'

TO UTILITY TRANSFORMER

UTILITY METER 120/240 VAC

SERVICE DISCONNECT/ CIRCUIT BREAKER

200A

4 AWG MJB
4 AWG GEC

3-#3/0 AWG
#6 AWG EG
2" CONDUIT
(130 LF MAX)

200A ILC

No

L

200A

WIRELESS ILC CABINET WITH /200A UTILITY BREAKER

INTEGRATED LOAD CENTER

3-#12 AWG
#12 AWG EG
1" CONDUIT

GFCI RECPT.

LIGHT

1" CONDUIT FOR GEN & ILC ALARMS

8-#10 AWG, 1-#10 AWG EG, IN (1) 1-1/2" CONDUIT
(INSTALL (1) 1-1/2' CONDUIT WITH PULL STRING FOR FUTURE RECTIFIER CIRCUITS) ROUTE CONDUIT ABOVE GROUND SECURED TO EQUIPMENT FRAME

PRIMARY CABINET

1" CONDUITS

BATTERY CABINETS

OVP-12

12-#6 AWG (6 PAIRS)
#6 AWG EG

NOTE:
ELECTRICAL ONE-LINE SHOWN IS PRELIMINARY AND SHALL BE FINALIZED FOLLOWING POWER COORDINATION WITH UTILITY PROVIDER.

SCALE: NTS

NOTES:

1. ALL EQUIPMENT SHALL BE NEMA 3R RATED.
2. ALL EQUIPMENT SHALL BE LIGHTNING PROTECTED IN ACCORDANCE WITH TIA-222-G AND VERIZON WIRELESS STANDARDS.
3. CONDUCTOR SIZES AND DISTANCES HAVE BEEN SIZED FOR 3% MAX VOLTAGE DROP (TOTAL SYSTEM VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST DEMAND SHALL NOT EXCEED 5%).
4. WIRE SIZING AND MAXIMUM DISTANCE FROM GENERATOR TO ILC ASSUMES POWER FACTOR OF 0.9.
5. BELOW GRADE CONDUIT SHALL BE SCHEDULE 80 PVC. ABOVE GRADE CONDUIT SHALL BE GALVANIZED RIGID CONDUIT. BELOW GRADE PVC CONDUIT SHALL TRANSITION TO GRC PRIOR TO RISING ABOVE GRADE. ALL BENDS SHALL HAVE A MINIMUM 24" RADIUS. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. VERIFY CONDUIT TYPE WITH LOCAL CONSTRUCTION MANAGER AND ADJUST IF NECESSARY. ALL CONDUIT SHALL MEET NEC, STATE, AND LOCAL CODE REQUIREMENTS AS REQUIRED.

The diagram illustrates the fiber optic cable installation path from the Right of Way (ROW) to the equipment cabinet. The components and connections are as follows:

- Fiber Handhole/Meet-Me Point at ROW:** The starting point of the installation.
- Conduit:** (1) 2" SCH 80 CONDUIT FOR DARK FIBER * AND (1) 2" CONDUIT FOR EBH IF NEEDED ** runs from the ROW to the VZW Fiber Handhole.
- VZW Fiber Handhole (or Junction Box on Common Use Utility Frame) in Compound:** The central connection point in the compound.
- Conduit to VZW Equipment Frame:** (1) 2" CONDUIT (FOR DARK FIBER OR EBH AS NEEDED) runs from the VZW Fiber Handhole to the VZW Equipment Frame.
- VZW Equipment Frame Termination Point (18"x18" Fiber Junction Box for Dark Fiber or Charles Cabinet as Needed for EBH):** The termination point for the fiber from the compound.
- Conduit to Equipment Cabinet:** (1) 2" RGC STRAIGHT RUN AT GRADE (CLAMP TO EQUIPMENT FRAME POSTS), TRANSITION TO 2" LMFC AT EACH FOR EQUIPMENT CABINET CONNECTIONS runs from the VZW Equipment Frame to the Primary Cabinet.
- Primary Cabinet:** The destination equipment cabinet.
- Internal Connections:** 1-1/2" LMFC FOR FIBER AND ALARM (SHIELDED CAT 5) AS NEEDED connects the Primary Cabinet to the OVP-12.
- OVP-12:** The Optical Video Processor.
- EBH Demarc:** (1) 2" CONDUIT (FOR EBH IF NEEDED) runs from the VZW Fiber Handhole to the EBH Demarc (IF REQUIRED, VERIFY REQUIREMENTS WITH EBH PROVIDER).

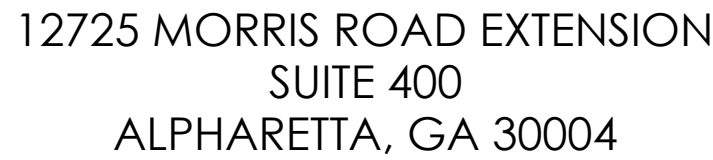
SCALE: NTS

NOTES:

- * ADD (1) ADDITIONAL 2" CONDUIT FOR DARK FIBER (2 TOTAL) IF REQUIRED BY LOCAL MARKET FACILITIES, VERIFY PRIOR TO CONSTRUCTION. (ADD 2 PULL STRINGS TO EACH CONDUIT)
- ** VERIFY EBH REQUIREMENTS WITH TELCO PROVIDER PRIOR TO CONSTRUCTION. (ADD 2 PULL STRINGS TO EACH CONDUIT)



PMA
P. MARSHALL & ASSOCIATES



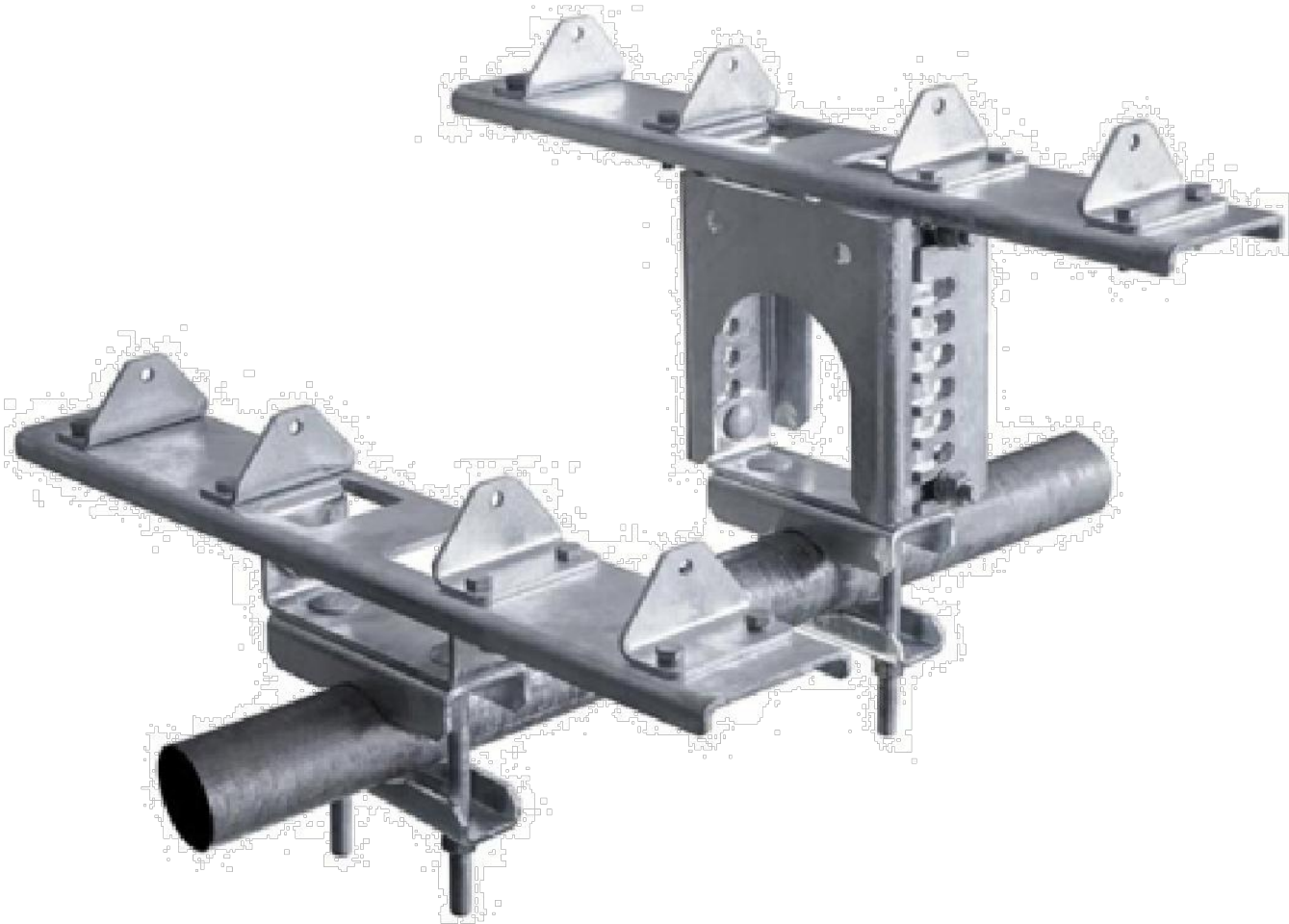
6706 NORTH PENNSYLVANIA AVE
NICHOLS HILLS, OK 73159

661363

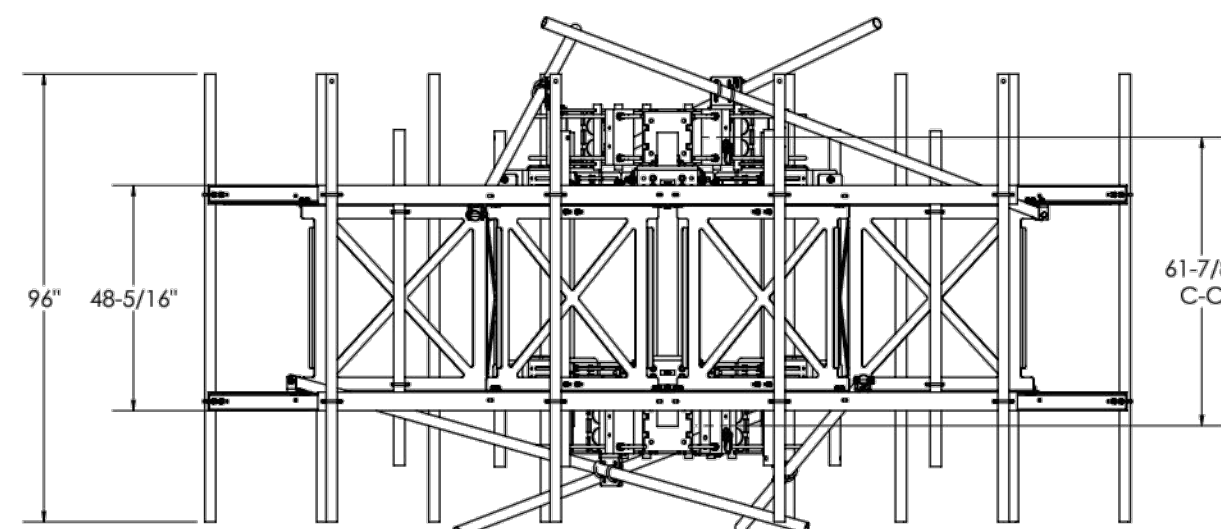
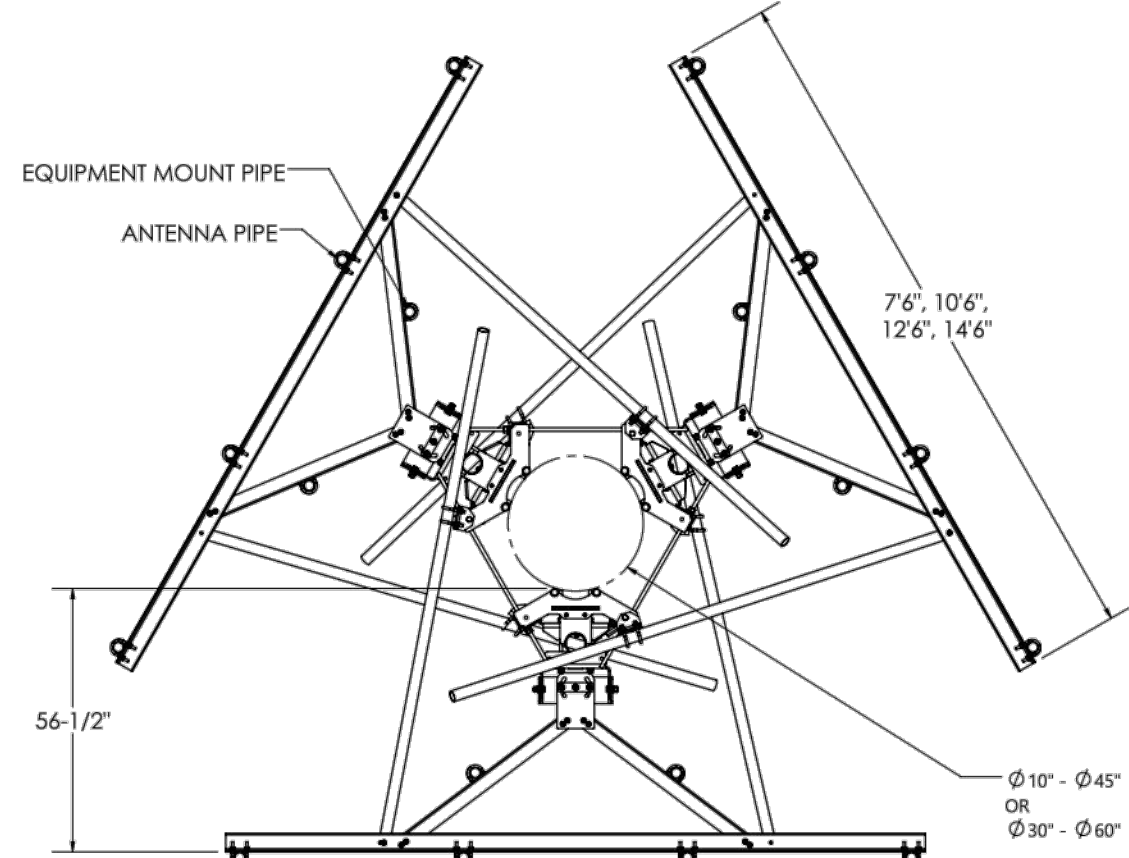
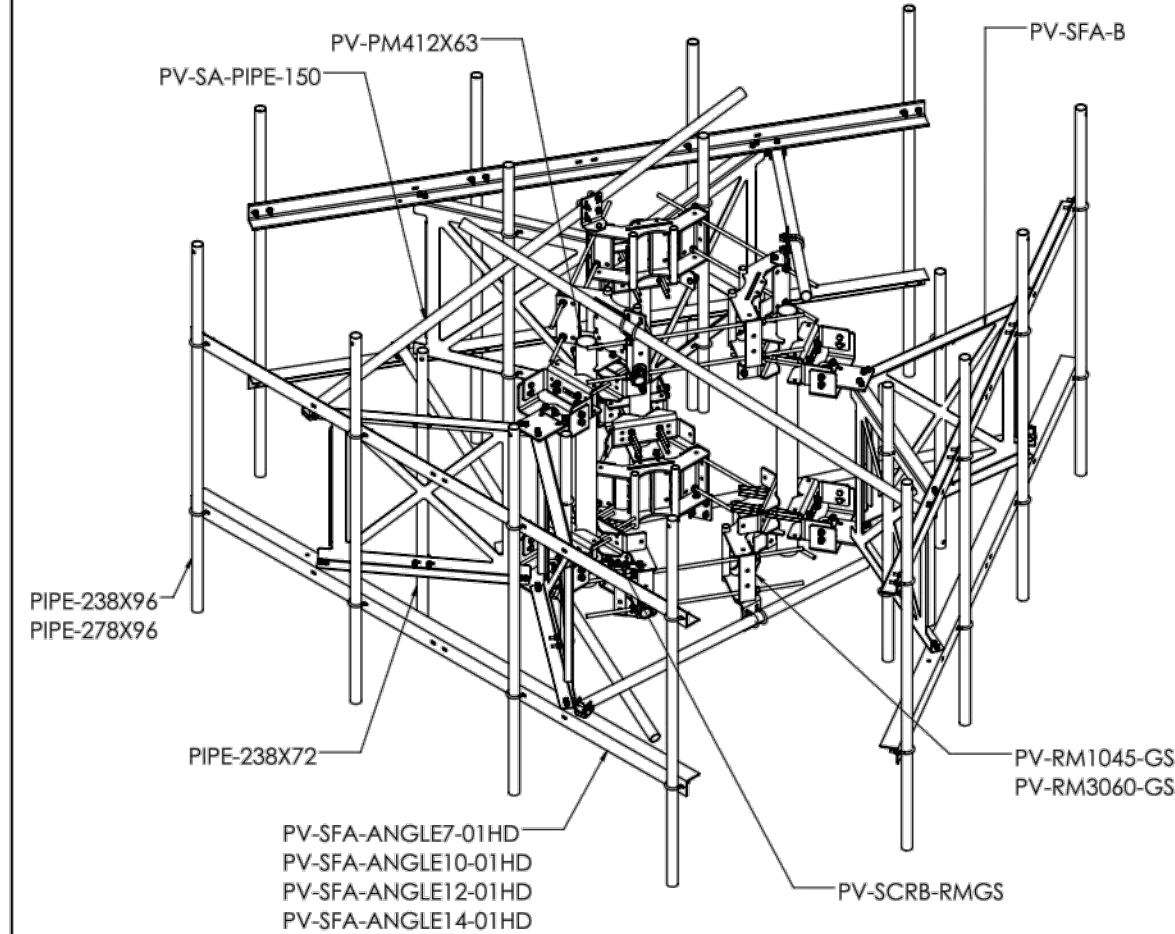
ONE-LINE DIAGRAM

E-3

N-4



L.I.F.E. MOUNT™ MONOPOLE SECTOR FRAME



Face Angle	Front (ft') (EPA) _{int} No Ice	Side (ft') (EPA) _{int} No Ice	Side (ft') (EPA) _{int} 0.5" Radial Ice	Side (ft') (EPA) _{int} 0.5" Radial Ice
7'6"	9.9	11.3	5.2	7.4
10'6"	11.7	13.5	5.2	7.4
12'6"	13.0	15.1	5.2	7.4
14'6"	14.3	16.7	5.2	7.4

- FRAME EPA IS PER SECTOR
- FRAME EPA DOES NOT INCLUDE ANTENNA OR EQUIPMENT PIPES

Face Angle	3 Pipe Spacing	4 Pipe Spacing	5 Pipe Spacing
PV-SFA7-B	3'6"	2'4"	N/A
PV-SFA10-B	5'	3'4"	N/A
PV-SFA12-B	6'	4'	N/A
PV-SFA14-B	7'	4'8"	3'6"

DATE		3RD ANGLE PROJECTION	CATEGORY		
1 OF 6		02_Monopole	4		
		05_Sector Frames	3		
1/7/2020	SCALE 1:1	PV-MPM-SFA_Monopole Sector Frame	2		
DIMENSIONS ARE IN INCHES TOLERANCES UNO.					
HOLES: $\pm 1/16$ - $1/32$					
ANGULAR: PROFILE $\pm 1/4$; BEND $\pm 2^\circ$					
ALL OTHERS: $\pm 1/16$					
REV	DESCRIPTION	DATE			
1	UPDATE TO NEW G5 COLLARS & PV-P441203	11/4/2019	LIFE & MOUNTING MONOPOLE SECTOR FRAME		
2	0 INITIAL RELEASE	12/27/2017	DOCKING/STORAGE		
MPM-SFA-ENG-01-R1			REV 1		



12725 MORRIS ROAD EXTENSION
SUITE 400
ALPHARETTA, GA 30004

BUMPASS OK

6706 NORTH PENNSYLVANIA AVE
NICHOLS HILLS, OK 73159

LOCATION CODE:

661363

[illegible]

DESIGNED: JY
DRAWN: JY
CHECKED: DA

JOB #:
22CCV7N-022

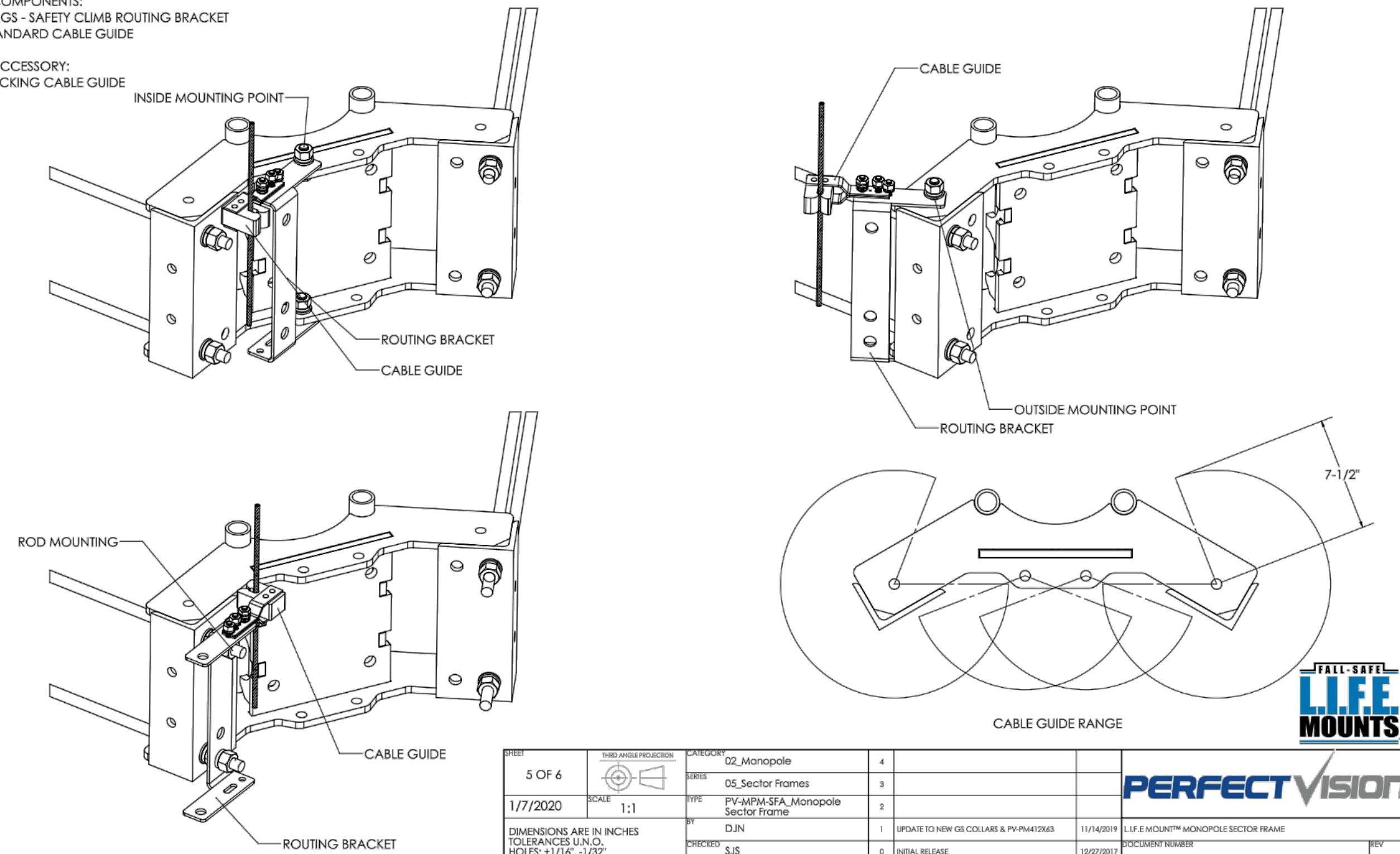
SPECIFICATIONS SHEET

N-6

SAFETY CLIMB ROUTING

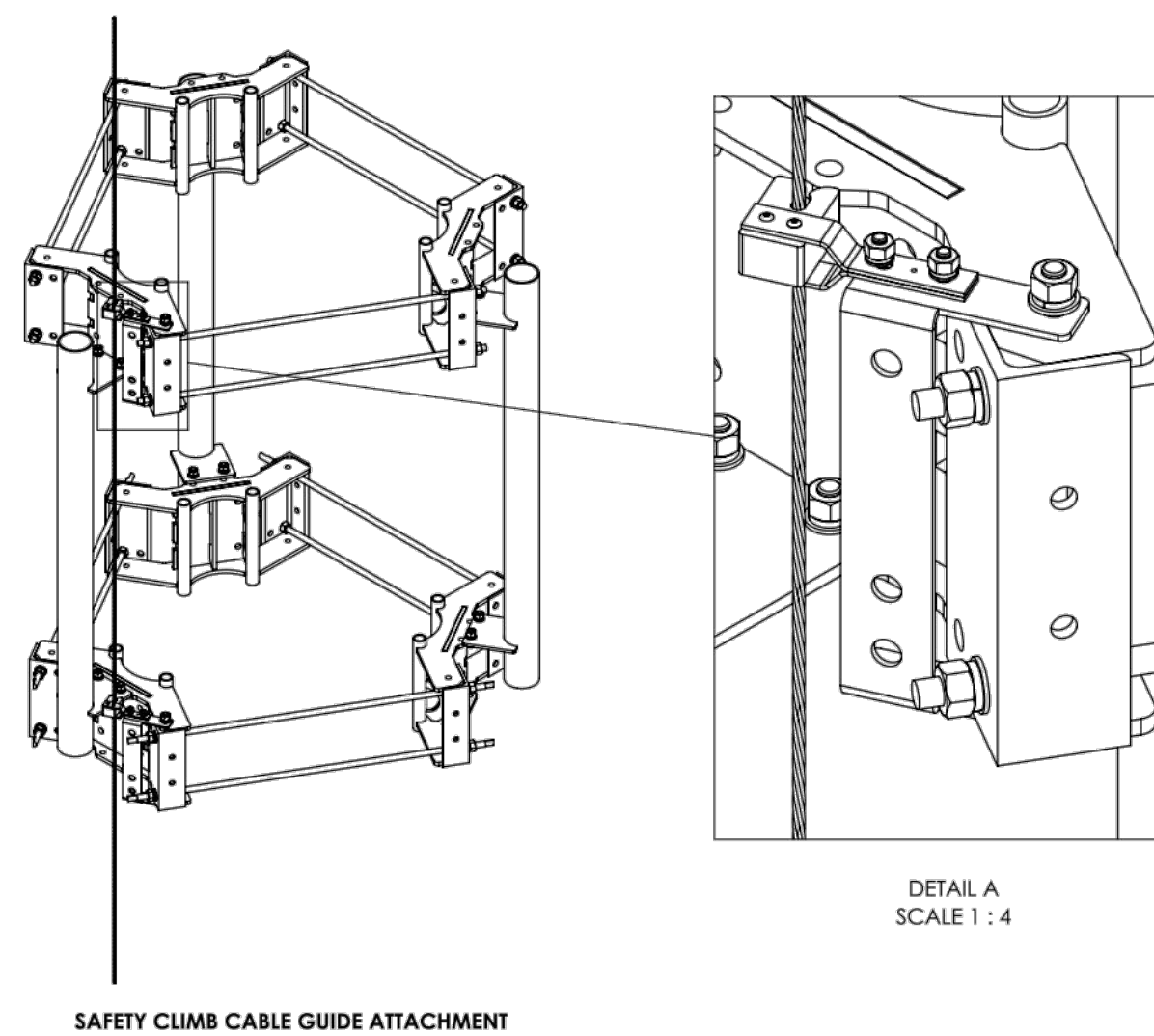
INCLUDED COMPONENTS:
PV-SCRB-RMGS - SAFETY CLIMB ROUTING BRACKET
115-242 - STANDARD CABLE GUIDE

OPTIONAL ACCESSORY:
115-203 - LOCKING CABLE GUIDE



C:\PVMSteel\Catalog\SW Working Files\Engineering Details\

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF PERFECTVISION MFG. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF PERFECTVISION MFG IS PROHIBITED.

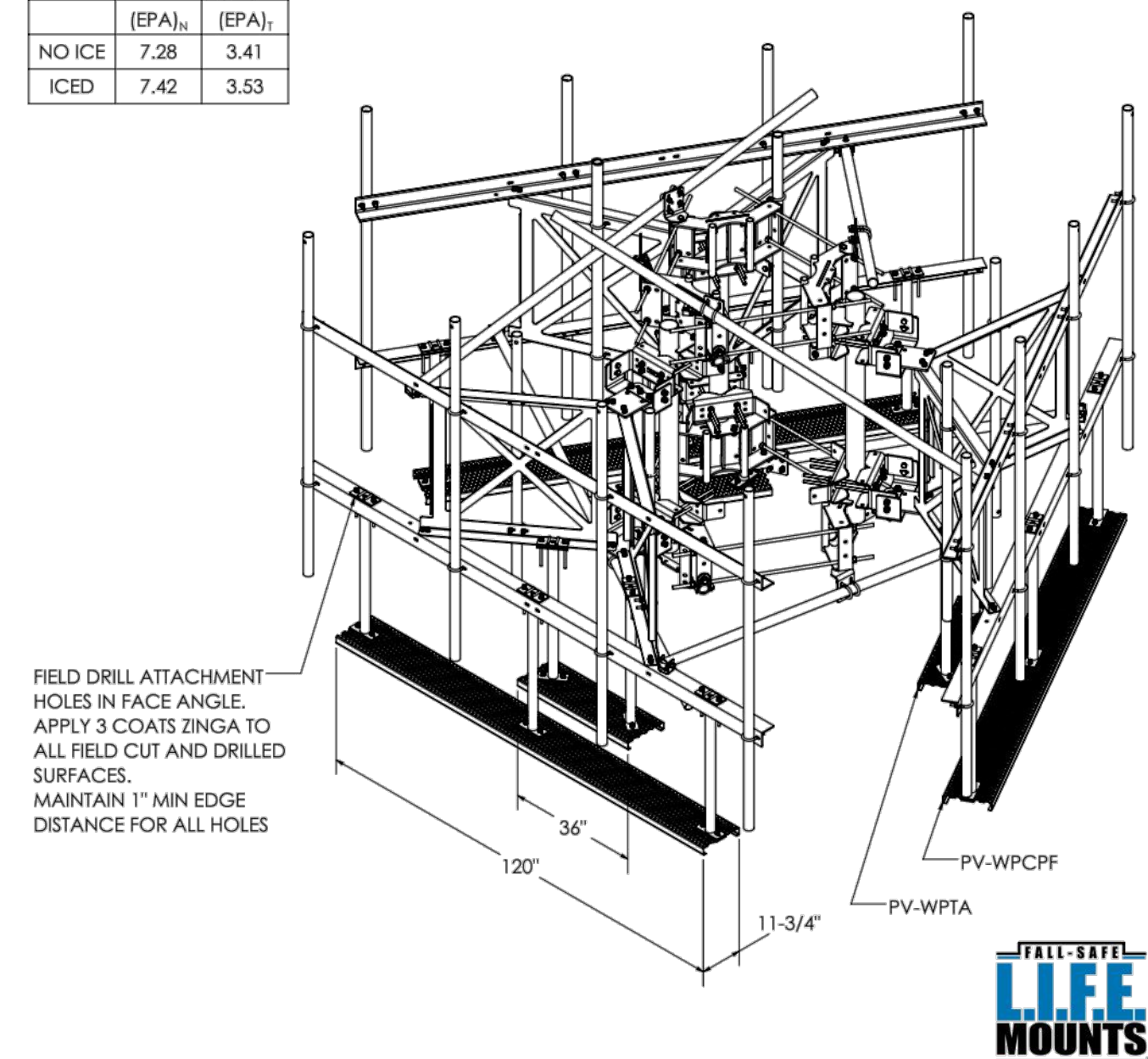
SAFETY CLIMB ROUTING:

C:\PVMSteel\Catalog\SW Working Files\Engineering Details\

WORK PLATFORM ATTACHMENT:

ADDITIONAL EPA (PER SECTOR):

ADDITIONAL EPA (FT ²)		
	(EPA) _N	(EPA) _T
NO ICE	7.28	3.41
ICED	7.42	3.53

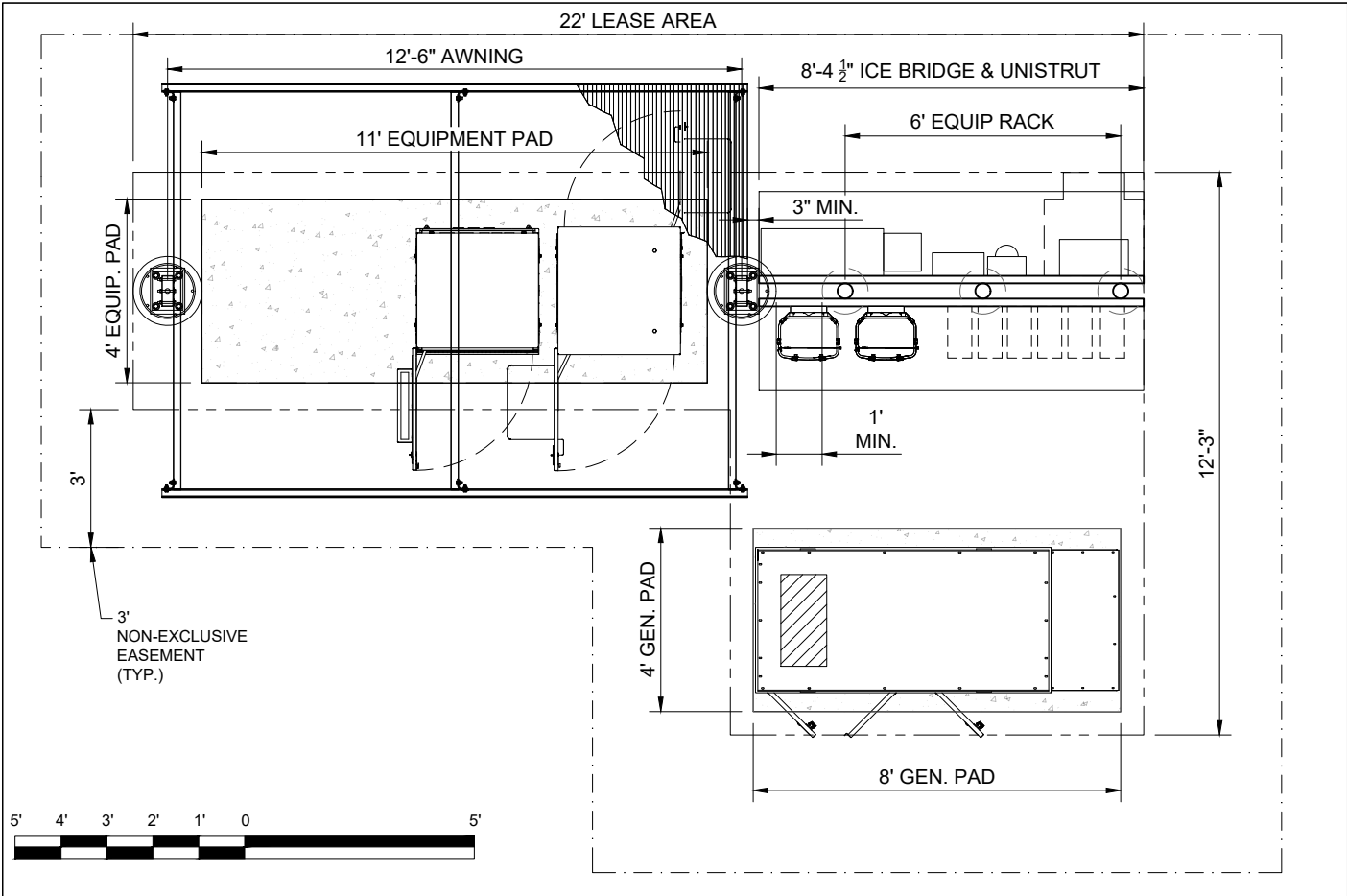


FIELD DRILL ATTACHMENT—
HOLES IN FACE ANGLE.
APPLY 3 COATS ZINGA TO
ALL FIELD CUT AND DRILLED
SURFACES.
MAINTAIN 1" MIN EDGE
DISTANCE FOR ALL HOLES



6 OF 6  DIMENSIONS ARE IN INCHES TOLERANCES UNLESS INDICATED: HOLES: +1/16", -1/32" ANGULAR PROFILES: 1/4", BEND 1/2" ALL OTHERS: +1/16"	THIRD ANGLE PROJECTION	CATEGORY 02_Monopole	4		
	SCALE 1:1	SERIES 05_Sector Frames	3		
	DATE 1/7/2020	TYPE PV-MPM-SFA_Monopole Sector Frame	3		
		BY D.J.N	1	UPDATE TO NEW GS COLLARS & PV-PH42963	11/14/2019
		CHECKED S.J.S	0	INITIAL RELEASE	12/27/2017
	STATUS APPROVED	REV DESCRIPTION DATE			MPM-SFA-ENG-01-R1

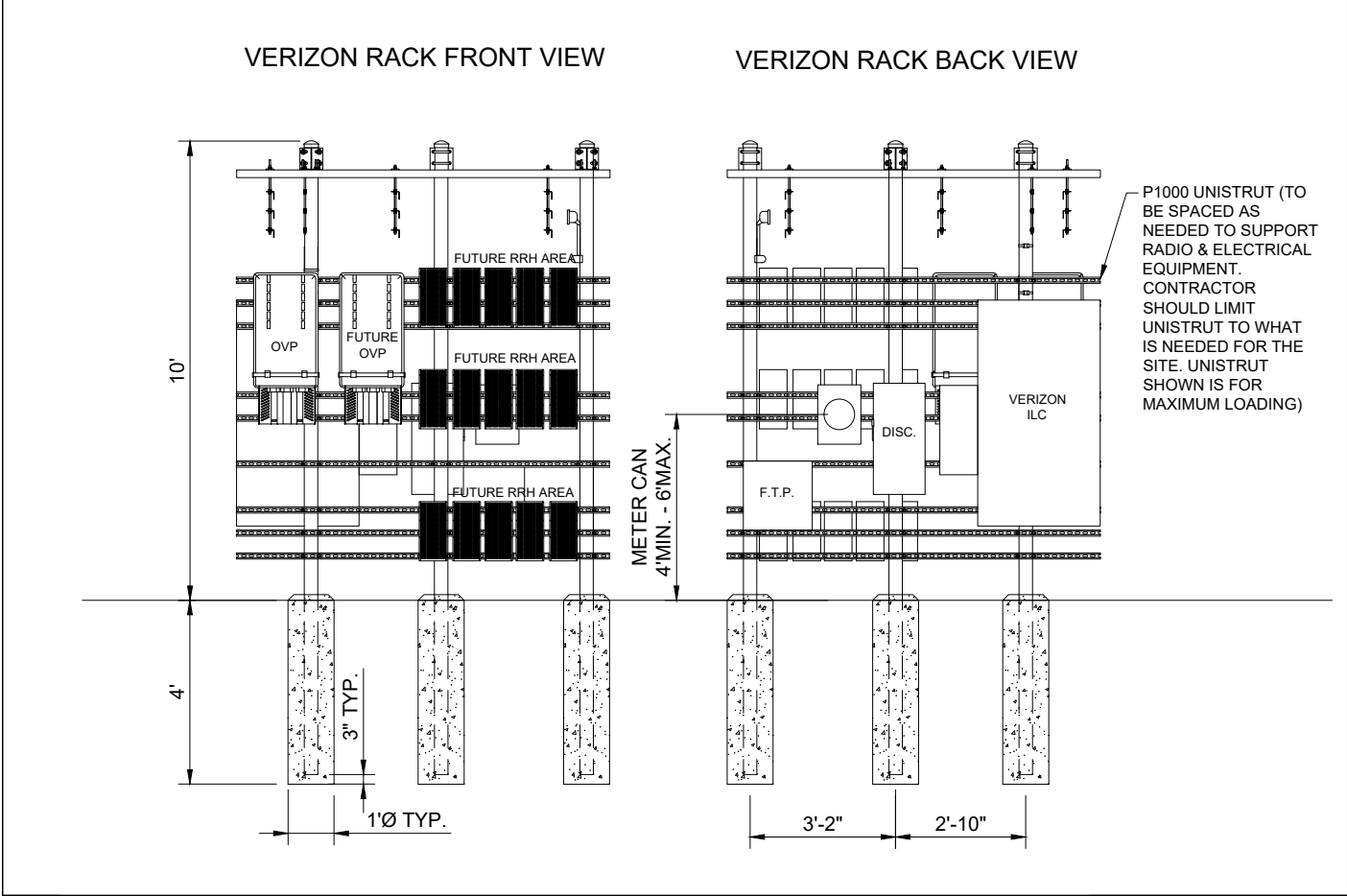
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF PERFECTVISION MFG. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF PERFECTVISION MFG IS PROHIBITED.



1

PROPOSED VERIZON EQUIPMENT LAYOUT

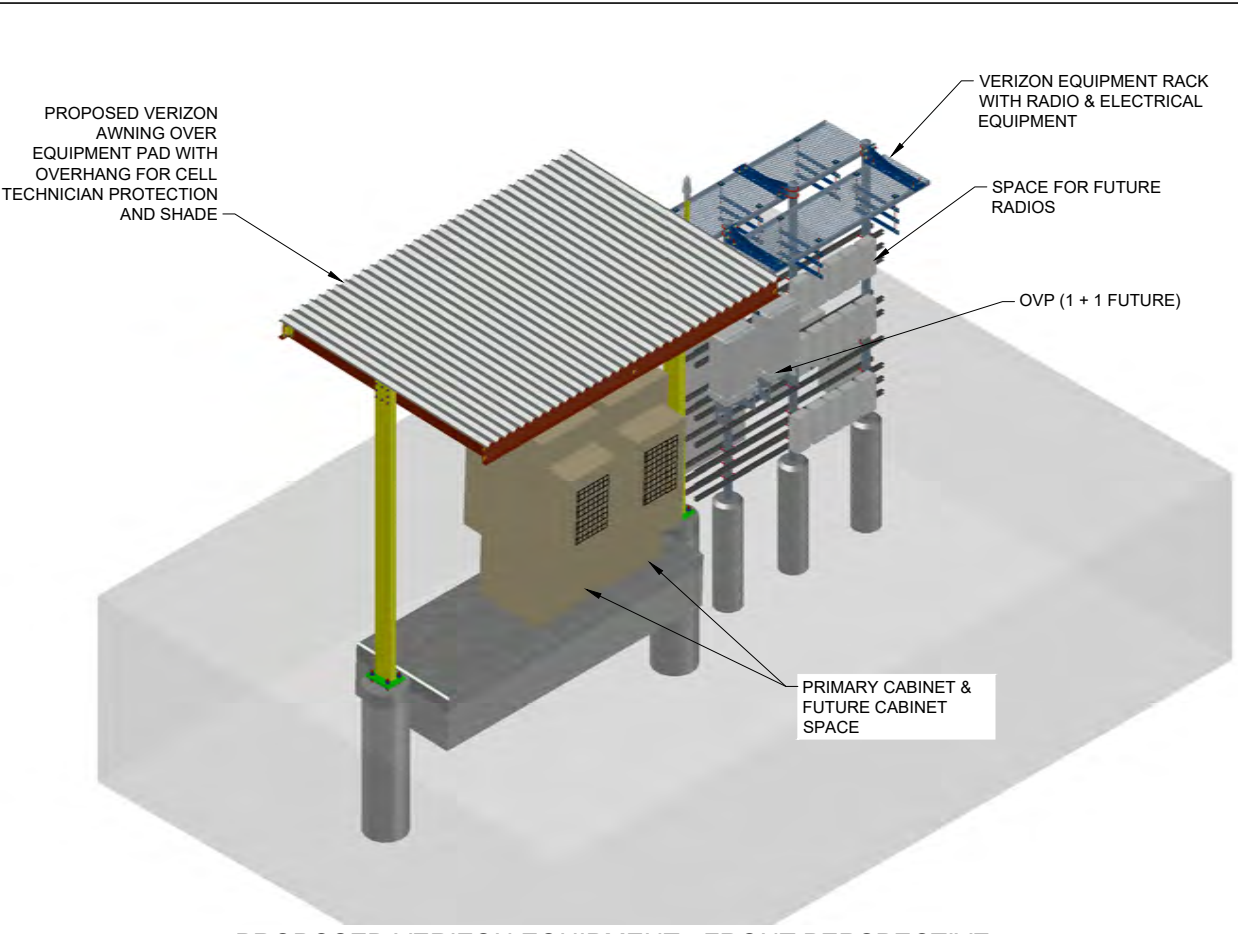
SCALE: 1/4" = 1'-0"



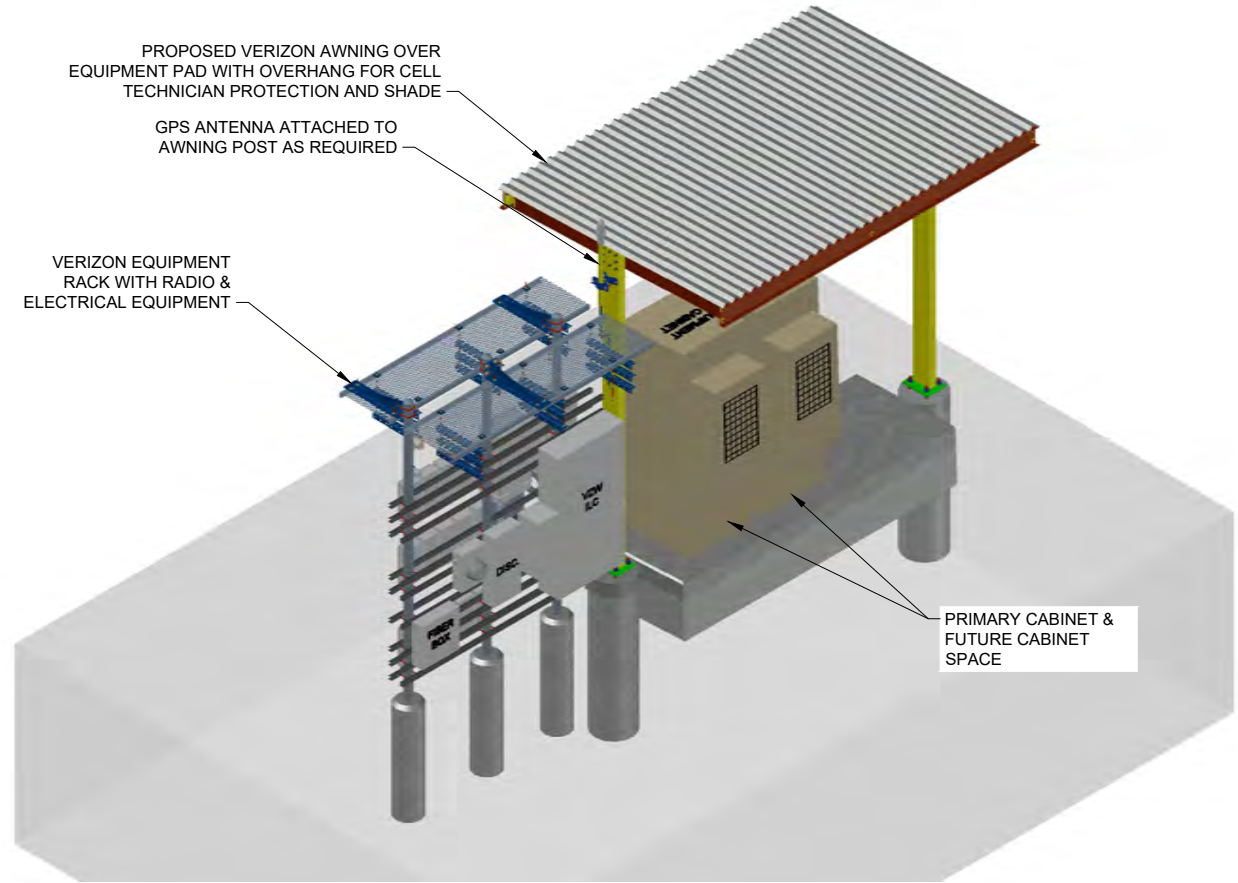
2

VERIZON EQUIPMENT RACK

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



PROPOSED VERIZON EQUIPMENT - FRONT PERSPECTIVE



PROPOSED VERIZON EQUIPMENT - BACK PERSPECTIVE

3

PROPOSED VERIZON EQUIPMENT LAYOUT PERSPECTIVES

SCALE: N.T.S.

5.a.a

verizon

14123 CICERO ROAD
HOUSTON, TX 77095
PHONE: (713) 507-1650
FAX: (713) 507-1618

REVISIONS	BY
△	
△	
△	
△	
△	
△	
△	

STANDARD VZW EQUIPMENT LAYOUTS

VERIZON WIRELESS - TEXAS AREA

EQUIPMENT AWNING
FOR STANDARD
CONCRETE PAD

DRAWN BY: PDM

CHECKED BY: NM

DATE: 10-26-2020

SHEET #: S.1

REV. #

PLATFORM DESIGN NOTE:

THIS STRUCTURE IS DESIGNED FOR VERIZON SUBJECT SITE; IT SHOULD NOT BE USED FOR ANY OTHER SITE WITHOUT THE APPROVAL OF 3D DESIGN & ENGINEERING.

FABRICATION NOTES:

THIS STRUCTURE IS DESIGNED FOR A BASIC WIND SPEED OF 170 MPH AND A LIVE LOAD OF 20 PSF ON TOP OF DECK.

THE CALCULATIONS WERE MADE ACCORDING TO THE IBC 2018, ASCE 7-16 & AISC REQUIREMENTS.

ALL PLATES CONFORM TO ASTM A-36, GRADE 36 KSI MINIMUM YIELD.

ALL ANGLES CONFORM TO ASTM A-36, GRADE 36 KSI MINIMUM YIELD.

ALL HSS CONFORM TO ASTM A-500, GRADE C, 50 KSI MINIMUM YIELD.

ALL BOLTS CONFORM TO ASTM A-325 & GALVANIZED.

ALL ANCHOR THREADED RODS CONFORM TO ASTM A307, GRADE A.

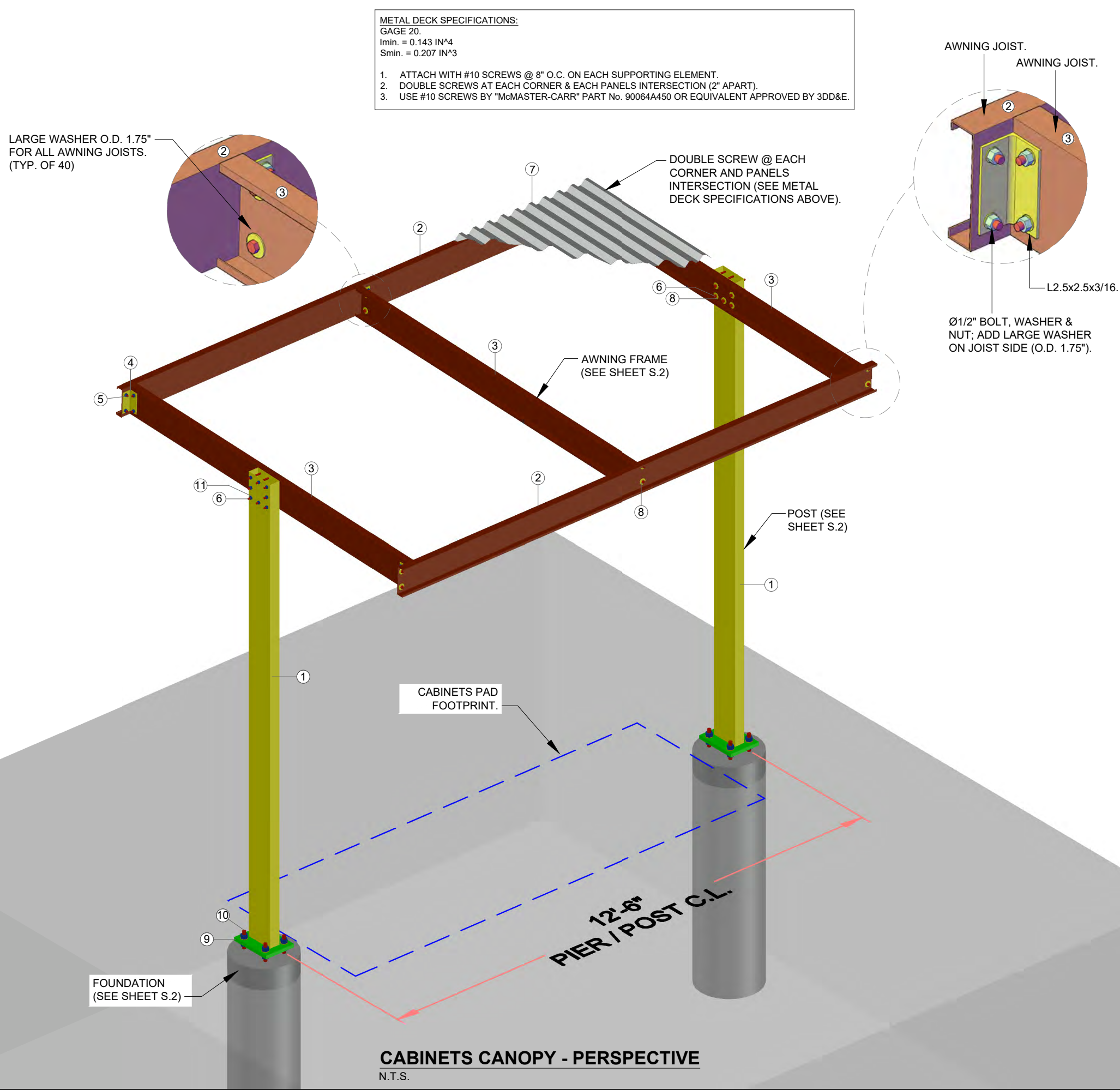
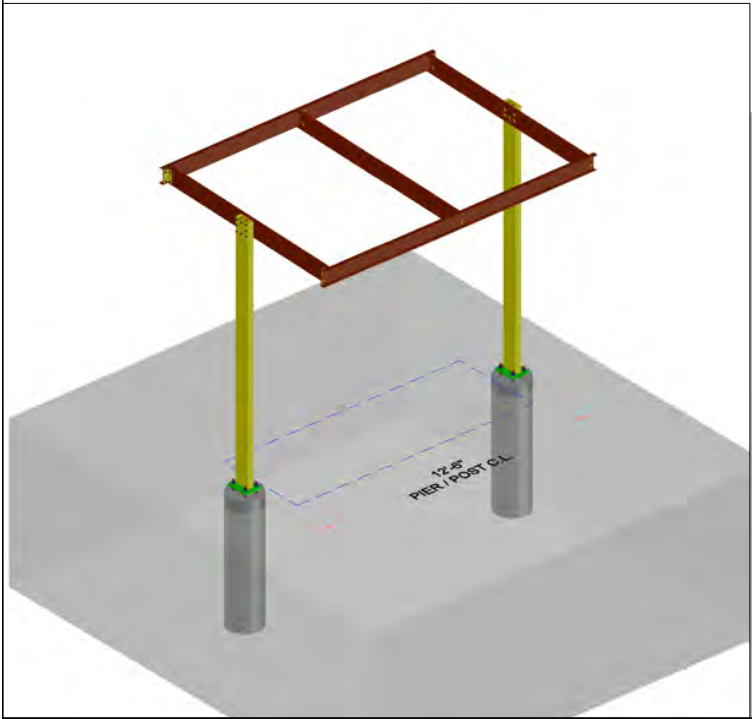
ALL WELDS TO BE E70XX.

ALL STEEL TO BE HOT DIPPED GALVANIZED.

PLATFORM MATERIAL LIST:

* EQUIVALENT PRODUCT MAY BE USED WITH 3D DESIGN & ENGINEERING APPROVAL.

NBR.	PART	QTY.	LENGTH
①	HSS 8x3x1/8	2	11'-1 1/8"
②	800S200-97 BY MARINOWARE 1-800-627-4661 *	2	12'-9"
③	800S200-97 BY MARINOWARE 1-800-627-4661 *	3	8'-8"
④	L2.5x2.5x3/16	6	0'-6"
⑤	A-325 GALV. BOLTS Ø1/2"	24	LENGTH UNDER HEAD 1 1/4"
⑥	A-325 GALV. BOLTS Ø1/2"	16	LENGTH UNDER HEAD 4 1/4"
⑦	METAL DECK	1	9'-0" x 12'-9"
⑧	LARGE WASHER (O.D. 1.75")	40	FOR Ø1/2" BOLTS
⑨	1" BASE PLATE	2	0'-9" x 1'-0"
⑩	Ø1" ANCHOR ROD	8	1'-6"
⑪	LOCK WASHER	40	FOR Ø1/2" BOLTS



5.a.a

verizon

14123 CICERO ROAD
HOUSTON, TX 77095
PHONE: (713) 507-1650
FAX: (713) 507-1618

REVISIONS	BY
△	
△	
△	
△	
△	
△	
△	
△	

EQUIPMENT CANOPY - PERSPECTIVE

VERIZON WIRELESS - TEXAS AREA

EQUIPMENT AWNING

FOR STANDARD

CONCRETE PAD

DRAWN BY: PDM

CHECKED BY: NM

DATE: 10-26-2020

SHEET #: S.2

REV. #

Attachment: PC-2023-02 (6711 : Crown Castle - Special Permit Application Ver)

14123 CICERO ROAD
HOUSTON, TX 77095
PHONE: (713) 507-1650
FAX: (713) 507-1618

REVISIONS	BY

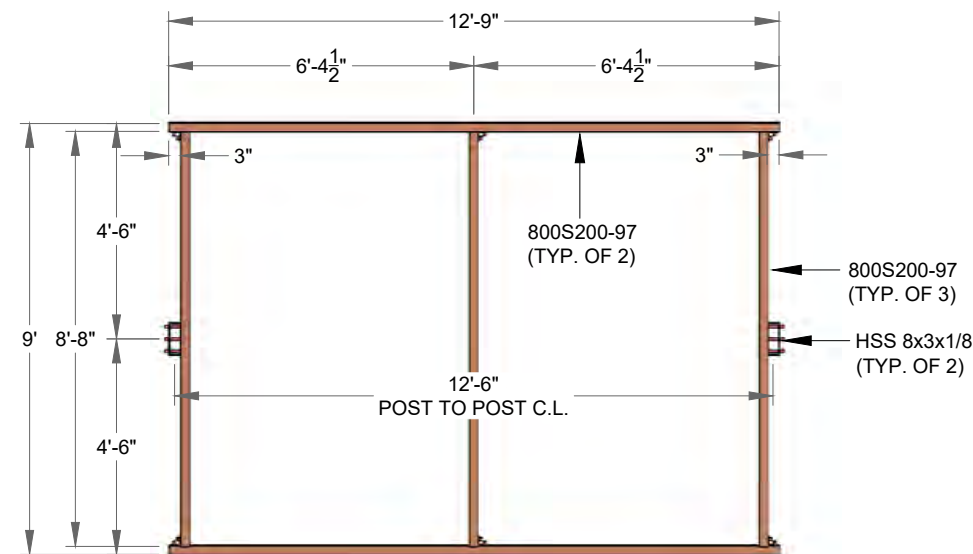
CANOPY & FOUNDATION DETAILS

VERIZON WIRELESS - TEXAS AREA EQUIPMENT AWNING FOR STANDARD CONCRETE PAD

Attachment: PC-2023-02 (6711 : Crown Castle - Special Permit Application Ver)

DRAWN BY:	PDM
CHECKED BY:	NM
DATE:	10-26-2020
SHEET #:	REV. #

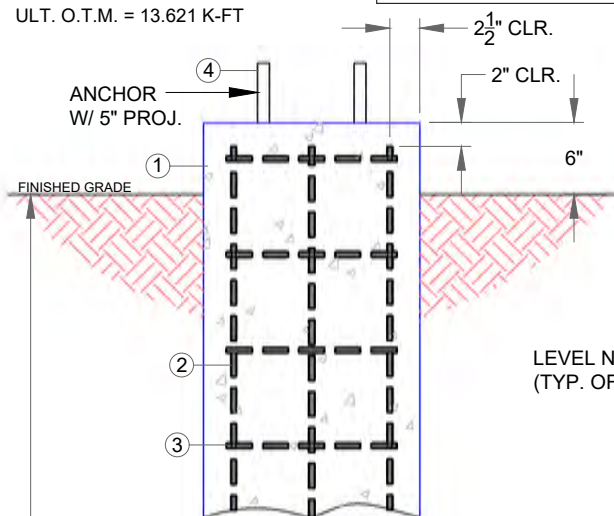
S.3



1 AWNING FRAME PLAN

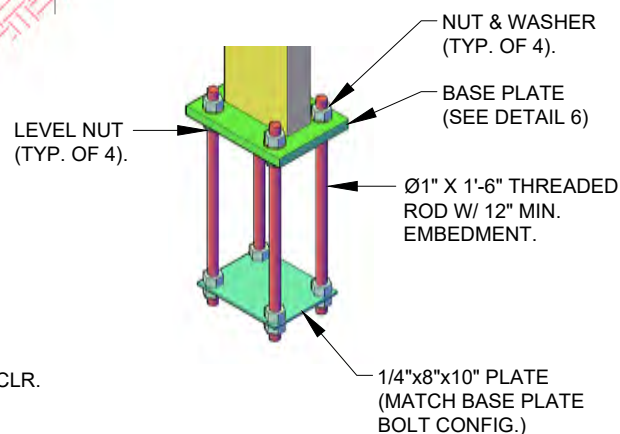
SCALE: 1/4" = 1'

MAX. REACTIONS AT POST BASE:
ULT. COMP. LOAD = 5.168 KIPS
ULT. UPLIFT = 3.470 KIPS
ULT. HORIZONTAL = 0.711 KIPS
ULT. O.T.M. = 13.621 K-FT



LEGEND:

- ① Ø1'-6" CONCRETE PIER.
- ② (5) #5 RE-BAR (4'-0" LONG).
- ③ #3 TIES @ 8" O.C.
- ④ (4) Ø1" x 1'-6" ANCHOR RODS EMBEDDED 12" MIN.



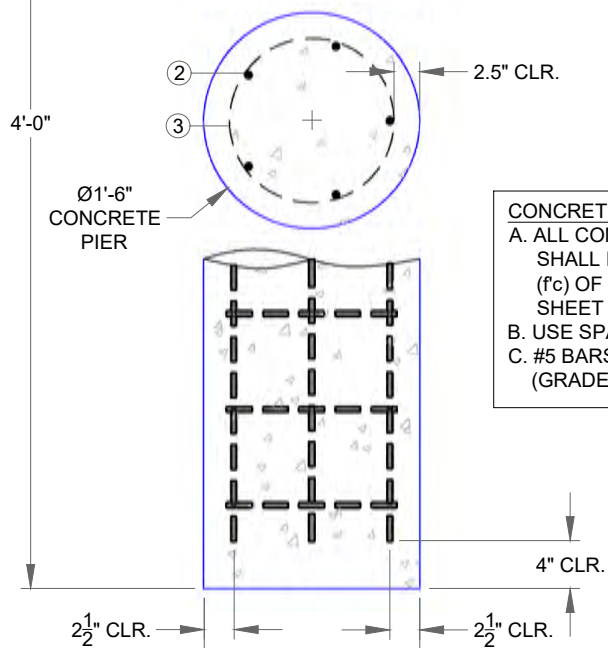
ANCHOR DETAIL

CONCRETE NOTES:

- A. ALL CONCRETE SHALL BE NORMAL WEIGHT (145 PCF) AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH (f_c) OF 3000 PSI. SEE FURTHER CONCRETE NOTES ON SHEET N.2.
- B. USE SPACERS & CHAIRS TO SUPPORT REINFORCING STEEL.
- C. #5 BARS CONFORM TO ASTM A615, GRADE 60 (GRADE 40 FOR #3 TIES).

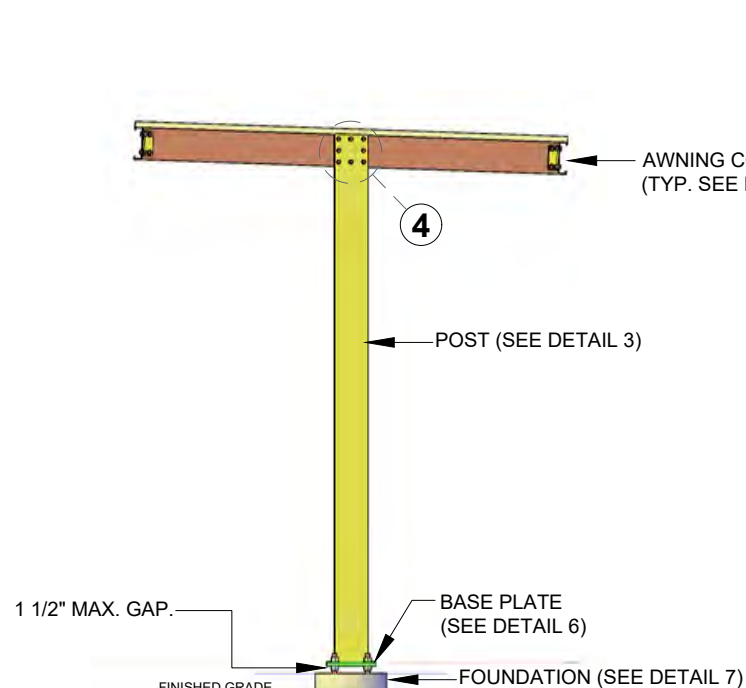
REMARK:

THIS FOUNDATION IS DESIGNED BASED ON PRESUMPTIVE SOIL PARAMETERS PER ANSI/TIA-222-H. A GEOTECHNICAL STUDY IS NECESSARY FOR THE DETERMINATION OF THE ACTUAL SOIL CONDITIONS. IF ACTUAL SOIL CONDITIONS ARE BELOW STANDARD SOIL CONDITIONS, THIS DESIGN MUST BE VOID & ADEQUATE DESIGN MUST BE USED INSTEAD.



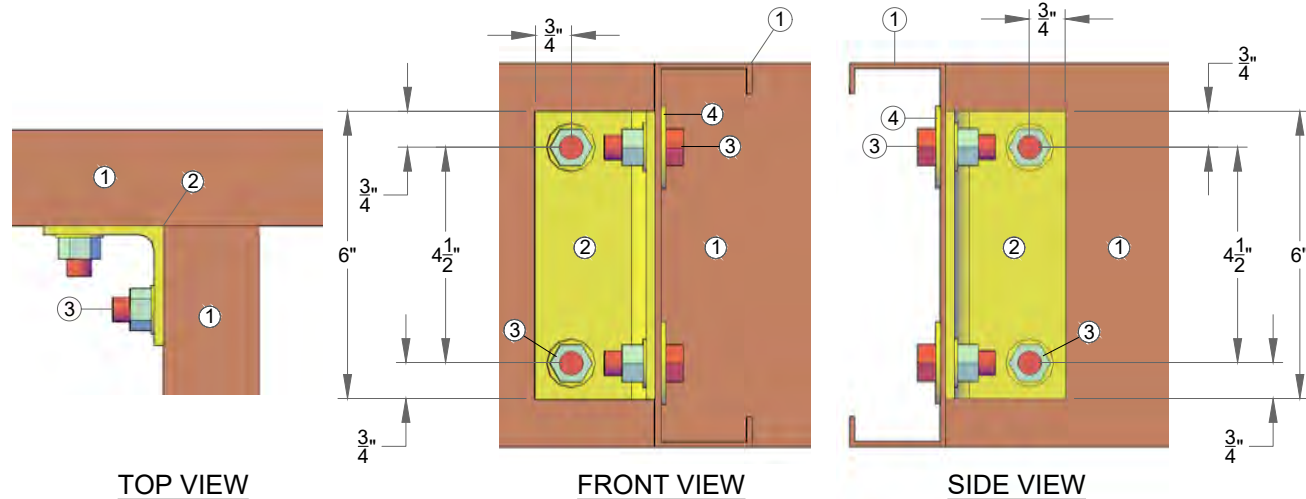
7 FOUNDATION DETAIL

N.T.S. - TYP. OF 2



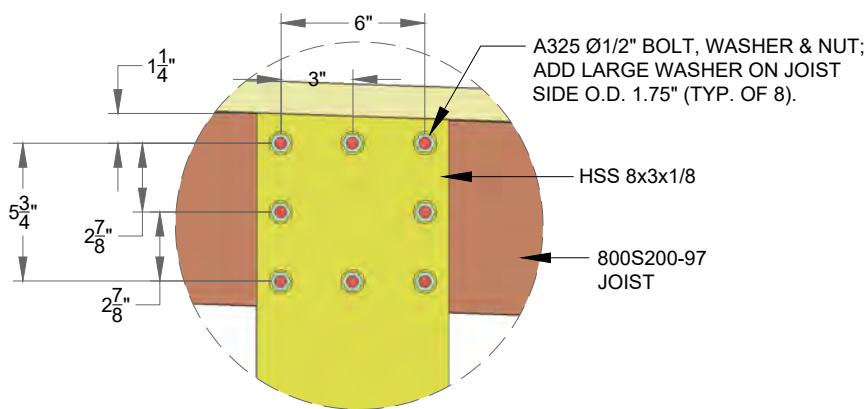
2 EQUIPMENT CANOPY SIDE VIEW

SCALE: 1/2" = 1'



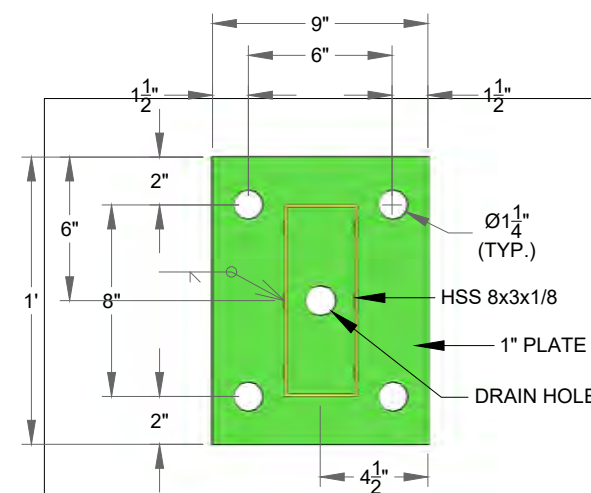
5 AWNING TYP. CONNECTION

SCALE: 3" = 1' - TYP. OF 8



4 POST TOP CONNECTION DETAIL

SCALE: 1 1/2" = 1' - TYP. OF 2



6 BASE PLATE DETAIL

SCALE: 1 1/2" = 1' - TYP. OF 2

SECOND AMENDMENT TO AGREEMENT

THIS SECOND AMENDMENT TO AGREEMENT (the “Second Amendment”) is made effective this 14th day of March, 2023 (“Effective Date”), by and between CITY OF NICHOLS HILLS, OKLAHOMA, a municipal corporation (hereinafter referred to as “Lessor”) and T-MOBILE USA TOWER LLC, a Delaware limited liability company, by and through its Attorney In Fact, CCTMO LLC, a Delaware limited liability company (hereinafter referred to as “Lessee”).

RECITALS

WHEREAS, Lessor and Western PCS I Corporation, a Delaware corporation (“Original Lessee”) entered into an Agreement dated January 14, 1997 (the “Original Agreement”), whereby Original Lessee leased certain real property, together with access and utility easements, located in Oklahoma County, Oklahoma from Lessor (the “Leased Premises”), all located within certain real property owned by Lessor (“Lessor’s Property”); and

WHEREAS, the Original Agreement was amended by that certain First Amendment to Agreement dated March 9, 2021, a memorandum of which was recorded in the official records of Oklahoma County, Oklahoma (“Official Records”) on May 21, 2021 at Instrument No. 2021052101088742, in Book 14748, Page 84 (“First Amendment”) (hereinafter the Original Agreement and First Amendment are collectively referred to as the “Agreement”); and

WHEREAS, T-Mobile USA Tower LLC is currently the Lessee under the Agreement as successor in interest to the Original Lessee; and

WHEREAS, the Leased Premises may be used for the purpose of constructing, maintaining and operating a communications facility, including tower structures, equipment shelters, cabinets, meter boards, utilities, antennas, equipment, any related improvements and structures and uses incidental thereto; and

WHEREAS, the Agreement had an initial term that commenced on January 15, 1997 and expired on January 14, 2002. The Agreement provides for four (4) extensions of five (5) years each, scheduled to expire on January 14, 2022. The First Amendment extended the term of the Agreement to January 14, 2024 (collectively the “Existing Term”). According to the Agreement, as amended, the final extension expires on January 14, 2024; and

WHEREAS, Lessor and Lessee desire to amend the Agreement on the terms and conditions contained herein.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are acknowledged, Lessor and Lessee agree as follows:

1. Recitals; Defined Terms. The parties acknowledge the accuracy of the foregoing recitals. Any capitalized terms not defined herein shall have the meanings ascribed to them in the Agreement.

2. Consent to Sublease. Lessor hereby acknowledges and agrees to the sublease of a portion of the Leased Premises to Verizon Wireless or an affiliate or subsidiary (the "Verizon Subtenant") and further consents to the installation, maintenance, and replacement of equipment, antennas, cables, fiber, and related accessories on the Leased Premises for the operation of a wireless communications facility thereon. As used herein, the term "Sublease" includes any arrangement by which a third party can collocate its equipment at the Leased Premises, whether it is by Sublease, license, easement or any other agreement or arrangement.

3. First Additional Lease Area. The existing Leased Premises is hereby expanded in size to include additional space, which consists of a two hundred sixty-four (264) square foot parcel of real property adjacent to the existing Leased Premises at a location more particularly described on Exhibit A-1 attached hereto and shown on the Site Plan attached hereto as Exhibit B (the "First Additional Lease Area"). The Leased Premises, as expanded, is described on Exhibit A-2 attached hereto. Notwithstanding anything to the contrary in this Second Amendment, Lessee is not relinquishing any rights to any lease area, access easements, and/or utility easements that it possesses prior to the date of this Second Amendment. In the event the location of any of Lessee's or its sublessees' existing improvements, utilities, and/or access routes are not depicted or described on the Site Plan and/or legal descriptions, Lessee's leasehold rights and access and utility easement rights over such areas shall remain in full force and effect and the Leased Premises shall be deemed to include such areas; provided, if such included location(s) are subsequently determined by either Lessor or Lessee to total more than (3%) of the Leased Premises, Lessee will provide to Lessor a draft amendment of the Agreement to describe the Leased Premises, including such areas. Any increase in rent resulting from such included location(s) will be mutually agreed upon between Lessor and Lessee and included in such amendment.

4. First Additional Rent. In consideration of the lease of the First Additional Lease Area, Lessee shall pay to Lessor the amount of One Thousand One Hundred Ten and 92/100 Dollars (\$1,110.92) per month ("First Additional Rent"), beginning upon the commencement of installation of improvements within the First Additional Lease Area and continuing thereafter until the earlier of (i) the expiration of the Existing Term; or (ii) the "Return of the First Additional Lease Area" as set forth below. The First Additional Rent shall be due and payable concurrently with and shall escalate upon the same terms and at the same time as the annual rental set forth in the Agreement, as amended, for so long as such First Additional Rent is payable to Lessor as set forth herein.

5. Right to Return the First Additional Lease Area. Lessee shall have the option, upon thirty (30) days prior written notice to Lessor, in its sole and absolute discretion, to return the First Additional Lease Area to the Lessor and to terminate the lease of the same by removing all improvements from the First Additional Lease Area and returning same to its condition as of the Effective Date, ordinary wear and tear excepted (the "Return of the First Additional Lease Area"). Effective upon removal of all improvements from the First Additional Lease Area, the First Additional Rent shall cease and will no longer be due or payable.

6. Representations, Warranties and Covenants of Lessor. Lessor represents, warrants and covenants to Lessee as follows:

a) Lessor is duly authorized to and has the full power and authority to enter into this Second Amendment and to perform all of Lessor's obligations under the Agreement as amended hereby.

b) Lessee is not currently in default under the Agreement, and to Lessor's knowledge, no event or condition has occurred or presently exists which, with notice or the passage of time or both, would constitute a default by Lessee under the Agreement.

c) Lessor acknowledges that the Leased Premises, as defined, shall include any portion of Lessor's Property on which communications facilities or other Lessee improvements exist on the date of this Second Amendment.

7. IRS Form W-9. Lessor agrees to provide Lessee with a completed IRS Form W-9, or its equivalent, upon execution of this Second Amendment and at such other times as may be reasonably requested by Lessee. In the event the Lessor's Property is transferred, the succeeding Lessor shall have a duty at the time of such transfer to provide Lessee with a completed IRS Form W-9, or its equivalent, and other related paper work to effect a transfer in the rent to the new Lessor. Lessor's failure to provide the IRS Form W-9 within thirty (30) days after Lessee's request shall be considered a default and Lessee may take any reasonable action necessary to comply with IRS regulations including, but not limited to, withholding applicable taxes from rent payments.

8. Limitation of Liability. No portion of the Agreement, the First Amendment, or this Second Amendment shall be construed to create an obligation for Lessor to expend funds in excess of proceeds received under this Agreement within Lessor's then-current fiscal year.

9. Counterparts. This Second Amendment may be executed in separate and multiple counterparts, each of which shall be deemed an original but all of which taken together shall be deemed to constitute one and the same instrument.

10. Remainder of Agreement Unaffected. In all other respects, the remainder of the Agreement shall remain in full force and effect. Any portion of the Agreement that is inconsistent with this Second Amendment is hereby amended to be consistent.

11. Recordation. Lessee, at its cost and expense, shall have the right to record a memorandum of this Second Amendment in the Official Records at any time following the execution of this Second Amendment by all parties hereto. In addition, Lessee shall have the right in its discretion, to record a notice of lease, affidavit or other form to be determined by Lessee without Lessor's signature in form and content substantially similar to the memorandum, to provide record notice of the terms of this Second Amendment.

[Signature pages follow]

Lessor and Lessee have caused this Second Amendment to be duly executed on the day and year first written above.

LESSOR:

CITY OF NICHOLS HILLS, OKLAHOMA, a municipal corporation

Approved by the Mayor of the City of Nichols Hills, Oklahoma, on the 14th day of March, 2023.

ATTEST:

Amanda Copeland
City Clerk

[Signature]
Mayor

Reviewed as to Form and Legality:

[Signature]
City Attorney



[Lessee Execution Page Follows]

This Second Amendment is executed by Lessee as of the date first written above.

LESSEE:

T-MOBILE USA TOWER LLC, a Delaware
limited liability company

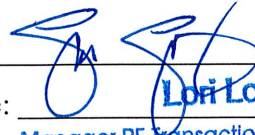
By: CCTMO LLC, a Delaware limited
liability company

Its: Attorney In Fact

By: _____

Print Name: _____

Title: _____


Lori Lopez
Manager RE transactions

Attachment: PC-2023-02 (6711 : Crown Castle - Special Permit Application Ver)

Exhibit A-1
(The First Additional Lease Area)

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46'23" WEST A DISTANCE OF 224.68 FEET TO THE POINT OF BEGINNING; THENCE NORTH 78°35'10" WEST A DISTANCE OF 13.50 FEET; THENCE NORTH 11°24'50" EAST A DISTANCE OF 19.50 FEET; THENCE SOUTH 78°35'10" EAST A DISTANCE OF 13.50 FEET; THENCE SOUTH 11°24'50" WEST A DISTANCE OF 19.50 FEET TO THE POINT OF BEGINNING.

Attachment: PC-2023-02 (6711 : Crown Castle - Special Permit Application Ver)

Exhibit A-2
(The Leased Premises, as expanded)

LEASED PREMISES, AS EXPANDED

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46'23" WEST A DISTANCE OF 224.68 FEET TO THE POINT OF BEGINNING; THENCE NORTH 78°35'10" WEST A DISTANCE OF 13.50 FEET; THENCE NORTH 11°24'50" EAST A DISTANCE OF 19.50 FEET; THENCE SOUTH 78°35'10" EAST A DISTANCE OF 33.50 FEET; THENCE SOUTH 11°24'50" WEST A DISTANCE OF 20.00 FEET; THENCE NORTH 78°35'10" WEST A DISTANCE OF 20.00 FEET, TO THE POINT OF BEGINNING.

20' ACCESS/UTILITY EASEMENT

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: A 20.00 FOOT EASEMENT FOR INGRESS AND EGRESS LYING 10.00 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 07°52'32" WEST A DISTANCE OF 353.05 FEET TO THE POINT OF BEGINNING; THENCE NORTH 90°00'00" WEST A DISTANCE OF 69.31 FEET; THENCE SOUTH 08°45'51" WEST A DISTANCE OF 144.44 FEET; THENCE SOUTH 81°14'09" EAST A DISTANCE OF 27.02 FEET TO THE POINT OF TERMINATION.

10' UTILITY EASEMENT

A TRACT OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION SIX (6), TOWNSHIP TWELVE (12) NORTH, RANGE THREE (3) WEST OF THE INDIAN MERIDIAN, AND BEING A PART OF BLOCK EIGHTY-EIGHT (88) IN NICHOLS HILLS SUBDIVISION, OKLAHOMA COUNTY, OKLAHOMA, AND BEING DESCRIBED AS FOLLOWS: A 10.00 FOOT EASEMENT FOR INGRESS AND EGRESS LYING 5.00 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTER LINE: COMMENCING AT THE SOUTHEAST CORNER OF LOT 2, BLOCK 88, NICHOLS HILLS SUBDIVISION AS RECORDED IN OKLAHOMA COUNTY, OKLAHOMA; THENCE NORTH 30°46'23" WEST A DISTANCE OF 224.68 FEET; THENCE NORTH 11°24'50" EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 78°35'10" EAST A DISTANCE OF 20.00 FEET; THENCE SOUTH 11°24'50" WEST A DISTANCE OF 20.00 FEET; THENCE NORTH 78°35'10" WEST A DISTANCE OF 16.24 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 46°05'13" WEST A DISTANCE OF 78.77 FEET, FOR A TERMINUS.

**Exhibit B
(Site Plan)**

[see attached]

CAMDEN
822901
6706 NORTH PENNSYLVANIA AVE.
NICHOLS HILLS, OK 73159

SURVEY PERFORMED FOR:



SURVEY COORDINATED BY:
 GEOLINE SURVEYING, INC., LB 7082
 13430 NW 104th Terrace, Suite A, Alachua, FL 32615
 Tele: (386) 418-0500 | Fax: (386) 462-9986

SURVEY PERFORMED BY: PATRICK BRYANT
P.O. BOX 1343
JOPLIN, MO 64802
479-479-7784

DRAWN BY: SC	CHK BY: SC	JOB NO.: 22111
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SURVEYOR'S CERTIFICATION:
 I HEREBY CERTIFY TO CCTMO, LLC, CROWN CASTLE
 INC., INCLUDING ITS PARENTS, SUBSIDIARIES AND
 AFFILIATED ENTITIES, AND WESTCOR LAND TITLE
 INSURANCE COMPANY,



3-8-23

LEASE AREA ZONING:

LEASE AREA FLOOD NOTE:
THE TOWER AREA AND EASEMENTS ARE LOCATED WITHIN A
AREA OF MINIMAL (ZONE X) FLOODING PER FEMA MAP
#440109C0170H, EFFECTIVE 12-18-2009.

BEARING BASIS:

OK SPCS - NORTH ZONE

NOTES:

1. SURVEY PERFORMED ON 12/20/2022.
2. COORDINATE SYSTEM NORTH ZONE [EPCS: 5931]
3. BURIED UTILITIES DETECTED HEREON WERE DETECTED BY GROUND PENETRATING RADAR (GPR) METHODS. NO SURFACE EXCAVATION WAS PERFORMED TO VERIFY THE TYPE AND LOCATION OF THE BURIED UTILITIES DETECTED HEREON. IT IS POSSIBLE THAT THERE MAY BE OTHER UTILITIES THAT MAY EXIST THAT WENT UNDETECTED AS A PART OF THIS SURVEY.
4. NOT ALL SYMBOLS ARE DEPICTED TO SCALE.
5. ALL DIMENSIONS AND OTHER COMMENTS ARE CONTAINED WITHIN THE DESCRIBED AREA, UNLESS OTHERWISE NOTED HEREON.
6. REPRODUCTIONS OF THIS SKETCH ARE NOT VALID UNLESS THEY INCLUDE THE SIGNATURE AND SEAL OF A LICENSED SURVEYOR.

REV	DATE	DESCRIPTION	DRWN
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

SITE INFORMATION:

Location:	CAMDEN
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AREA SUMMARY

AREA	SQ. FT.	ACRES
LEASE SPACE	400±	0.01±
ADDITIONAL LAND SPACE	263±	0.01±
COMBINED LAND SPACE	663±	0.02±
20' UTILITY/ASEMENT	4,816±	0.11±
10' UTILITY/ASEMENT	788±	0.02±

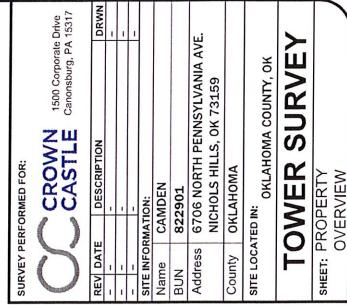
ABBREVIATIONS

POC	POINT OF COMMENCEMENT
POB	POINT OF BEGINNING
ROW	RIGHT OF WAY
(R)	RECORD DESCRIPTION INFORMATION
(M)	MEASURED DESCRIPTION

TOWER SURVEY

SHEET: COVER SHEET

[illegible]





REC#: 00179432 7/13/2023 8:34 AM
OPER: NB TERM: 010
REF#: 2859236
PAID BY:

TRAN: 700.0000 SPECIAL PERMITS
CROWN CASTLE
Special Permit 750.00CR

TENDERED: 750.00 CHECK
APPLIED: 750.00-

CHANGE: 0.00

City of Nichols Hills
6407 Avondale Dr
Nichols Hills, OK 73116
(405) 843-6637

Published in _____ on _____, 2023

ORDINANCE NO. _____

AN ORDINANCE AMENDING ARTICLE V OF CHAPTER 50 OF THE NICHOLS HILLS CITY CODE AND RELATED DEFINED TERMS REGARDING THE BUILDING COMMISSION REVIEW PROCESS; REPEALING ALL CONFLICTING ORDINANCES OR PARTS OF ORDINANCES; PROVIDING FOR SEVERABILITY; AND DECLARING AN EMERGENCY.

EMERGENCY ORDINANCE

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF NICHOLS HILLS, OKLAHOMA:

Section 1. Article V of Chapter 50 of the Nichols Hills City Code is hereby amended, with deleted language stricken through and new language underlined, to wit:

ARTICLE V. BUILDING COMMISSION

DIVISION 1. GENERALLY

Sec. 50-341. When Certificates of Approval are required; ~~advance consultation with the City encouraged.~~

(a) Certificates of Approval required before other permits. Certificates of Approval issued by the Building Commission are required before application may be made for a permit to move or demolish a Building or for a Building Permit to construct a Main Building, a Secondary Building or an Addition ~~to a Main Building or Secondary Building~~ (except Minor Additions as defined in subsection (b)). Further, the Code Official may refer applications for certain alterations to Main Buildings or Secondary Buildings to the Building Commission for a Certificate of Approval prior to granting a Building Permit.

(b) *Minor Additions.* Building Commission review is not required for Minor Additions to the first floors of a Main Building or Secondary Building when such Additions are less than or equal to 15% of the total square footage of the existing Building, provided that such Minor Additions shall be allowed only once every ten years. Second and successive Additions within such 10-year period require Building Commission review.

(c) *Façade alterations.* Notwithstanding subsection (b) regarding Minor Additions, a Certificate of Approval is required if the appearance of the façade of a Building on its street-facing side will be altered, and such façade alterations span over 50 lineal feet of the Building or 50% of the façade. A Certificate of Approval pursuant to this subsection is not required for: (1) the removal and replacement of like materials to the façade; nor (2) the application of paint to or removal of paint from the façade, including applying paint to a previously unpainted façade.

(d) Certificates of Approval not required for stand-alone fence, swimming pool, Accessory Building or Accessory Structure projects. Certificates of Approval are not required to apply for Building Permits for fences, swimming pools, ~~or~~ Accessory Buildings or Accessory Structures when such proposed construction is the only work for which the Building Permit is sought. However, the Building Commission shall review proposals for fences, swimming pools, ~~and~~ Accessory Buildings, and Accessory Structures that are part of a proposed project that requires a Certificate of Approval. Notwithstanding the foregoing, applicants should include all aspects of their proposed project in their applications for Certificates of Approval, including any fences, swimming pools, Accessory Buildings or Accessory Structures. After the Building Commission issues a Certificate of Approval, new applications for Permits for fences, swimming pools, Accessory Buildings or Accessory Structures will not be heard by the City for one year from the date of issuance of the Certificate of Approval.

(e) Violations. It is a violation of this Chapter for any person to move or demolish a Building or to construct a Main Building, Secondary Building, or an Addition ~~to a Main or Secondary Building~~ for which a Certificate of Approval is required until a Certificate of Approval has been obtained from the Building Commission as set out in this Article.

~~(f) While this Article does not require submittal of any documentation prior to formal application for a Certificate of Approval, property owners are encouraged to consult with the City prior to making formal application to become familiar with the policies and requirements set forth in this Article.~~

Sec. 50-342. Definition.

In addition to the terms defined in Section 50-3, the following defined term when used in this Article shall have the meaning ascribed to it in this Section, except where the context clearly indicates a different meaning:

Architectural Resources means Buildings that possess significant local interest or significant artistic or architectural merit, that are particularly representative of their class or period, or that are particularly important to the City's history.

Sec. 50-343. Exceptions.

(a) Repairs that do not require a Building Permit. A Certificate of Approval is not required for repairs to existing Buildings that do not require a Building permit.

(b) PUDs. A Certificate of Approval is not required for Building Permits for Buildings in Planned Unit Developments.

(c) Public improvements. A Certificate of Approval is not required for construction, enhancement, demolition, Maintenance or repair of public improvements authorized by the City or a public trust having the City as its beneficiary.

(d) *Minor Additions.* As set out in Section 50-341(b), a Certificate of Approval is not required for certain Minor Additions.

Sec. 50-344. Purpose and intent of the Building moving, demolition, design, and construction review process.

The City's Building moving, demolition, design, and construction review process, requirements, and guidelines are intended to:

(a) Promote development planning in furtherance of the general descriptions and development regulations established for dwellings, churches, and commercial and office Buildings in the respective Districts within the City, as described in Article II of this Chapter.

(b) Protect, preserve, and enhance the quality of the built environment by encouraging the highest standards in architectural and landscape design, building materials and workmanship, and aesthetic and proportional compatibility between new and existing Buildings.

(c) Protect, preserve, and enhance the City as a place of timeless beauty, with many parks, open spaces, and well-kept beautiful residential landscapes in residential zoning districts.

(d) Encourage preservation, protection, renovation, and restoration of Architectural Resources whenever reasonably possible.

(e) Ensure that architecture and landscaping respect the privacy of adjacent properties.

(f) Ensure that consideration is given to the proportionality of proposed Buildings in relation to Buildings on adjacent properties.

DIVISION 3. BUILDING COMMISSION REVIEW

Sec. 50-371. Demolition and Building review required.

The Building Commission shall review all applications for Certificates of Approval which, if issued, allows the applicant to proceed with the Building Permit process and where applicable, the Demolition Permit process.

Sec. 50-372. Application for Certificate of Approval.

Applications for Certificates of Approval shall be filed with the City on forms provided by the City Clerk. Two originals and a digital version of the application and all required documents must be submitted. Applications must be certified by the owner(s) of the property. The following attachments (the details for which are stated in the application form), and all other information required by the application form, must accompany the application.

(a) Application attachments required for all applications. In addition to the information required for the specific type of application stated in subsections (b) through (d), each application must include the following:

- (1) Drainage plans and information. Drainage plans and drainage information as described in subsection (e).
- (2) Ownership radius report. For all applications, a report certified by the Oklahoma County Assessor or certified by a bonded abstractor stating the names, addresses, and contact information for the owners of property within a 300-foot radius of the exterior boundary of the Building proposed to be moved, demolished or constructed, such radius to be extended by increments of 100 linear feet until the list of property owners includes not less than ten individual property owners of separate parcels.
- (3) Plat and/or covenant review. For all applications, an attestation, as set out in the application form, that the applicant has reviewed all applicable Plat restrictions and restrictive covenants filed of record with the Oklahoma County Clerk and that to the best of applicant's knowledge, the proposed project is or is not consistent with any such Plat restrictions or restrictive covenants, as the case may be.

(b) Application attachments for moving or demolishing Buildings. In addition to the attachments required by subsection (a), for moving or demolishing Buildings, the following are required:

- (1) Narrative. A narrative explaining the desire for the proposed moving or demolition of the Building.
- (2) Pictures. Pictures of the subject Building.
- (3) Additional information for Dwellings. If the Building is a Dwelling:
 - a. Evidence of the ownership and management of the owner(s) if the owners (or any of them) is not an individual(s).
 - b. Evidence of the intended owner(s) and occupant(s) of the replacement Dwelling.
 - c. Evidence of the ability of the intended owner(s) of the replacement Dwelling to be able to finance its construction.

- (4) Construction information. All documents and information required for construction of the proposed replacement Building, as described below. If a replacement Building is not required by this Code, a description of the intended use of the property after the Building is moved or demolished is required.

(c) Application attachments for construction of Main Buildings, Secondary Buildings, and Additions. In addition to the attachments required by subsection (a), for construction of a new Main Building or Secondary Building, or construction of an Addition to an existing Main Building or Secondary Building, the following are required:

- (1) Narrative. A narrative describing the project.
- (2) Survey. A survey, prepared by a licensed surveyor registered in this state, of the boundaries of the Lot on which the Building or Addition to an existing Main or Secondary Building is to be located.
- ~~(3) Except as set out in subsection (f), floor plans, renderings, elevation drawings, and other pertinent drawings, with the Centroid determined as set out in Section 50-3 and that determination signed and sealed by a licensed engineer or architect.~~
- ~~(4) A plot plan, drawn to scale, showing the location of the proposed Building or proposed Addition to an existing Main or Secondary Building on the lot, all easements, setbacks, curb cuts, and driveways.~~
- ~~(5) A site plan of the project depicting all adjacent development.~~
- (3) Site Plan. A Site Plan, drawn to scale, showing the location of the proposed Building or proposed Addition, all easements, setbacks, curb cuts, driveways, and other site improvements, including drainage information as detailed in subsection (e). The Site Plan must also state the existing and proposed Lot Coverage and the existing and proposed Floor Area Ratio (FAR), as such terms are defined in Section 50-3, with calculations for each shown based on square feet. All proposed retaining walls, if any, must be indicated with the top of wall elevation and the finish grade elevation on each side of each proposed retaining wall.
- (4) Renderings. For new Buildings, renderings of all side(s) of the proposed Building. Rendering are not required for Rear Yard Additions that are not visible from the Street or any public way. Renderings may be required for Front Yard Additions, for Side Yard Additions, and for Rear Yard Additions that are visible from a Street or any public way. In order to make a recommendation, the Code Official will coordinate a meeting with two Building Commissioners, at which meeting the Commissioners will offer a recommendation as to whether the City should require renderings for the project. The Code Official will consider such recommendation in making a determination and instruct the applicant accordingly.

- (5) Floor plans. Floor plans of each level, including Basements.
- (6) Elevations. Elevation drawings of all sides of the proposed Building or proposed Addition.
- (7) Roof Plan. A roof plan showing all existing and new roof surfaces and including roof pitches. Gutter and downspouts must be accurately shown.
- ~~(8) For new Main or Secondary Buildings, an exterior lighting plan. For Additions to Main or Secondary Buildings, an exterior lighting plan is required if changes to existing conditions are to be made.~~
- (8) Other drawings. Other drawings or materials not included in the City's requirements that the applicant believes are pertinent to the project and would be helpful to the Building Commission.
- (9) Property Calculation Form. A properly completed Property Calculation Form, the form of which is part of the application form. For irregular lots, the surveyor or architect for the project must provide a certified stamped letter stating the square footage of the Buildable Area, as defined in Section 50-3.
- (10) Centroid Calculation Form. A properly completed Centroid Calculation Form, the form of which is part of the application form. For all submissions to which the Centroid is applicable, the Centroid must be determined as set out in Section 50-3 and that determination signed and sealed by a licensed surveyor, engineer or architect.
- (6 11) Landscape Plan. A Landscape Plan as required by Division 6 of Article II of this Chapter.
- (12) Privacy implications. Drawings, images, and plans showing details of the project, ~~including information reflecting that reflect~~ the impact of the proposed Building or Addition on the privacy of all adjacent Buildings.
- (13) Proportionality implications. Street-level front elevation of the proposed Building or Addition for all street-facing sides, drawn to scale, or scaled photographic images. Such elevations or images must show the Buildings and yards on either side of the proposed project, drawn such that the elevation accurately depicts the proportionality and relative height of the proposed Building or Addition compared to the Buildings, if any, on all sides of the proposed Building or Addition. Where the proposed Building may negatively affect the Building(s) behind it, additional elevations may be requested to illustrate the proportionality of the proposed Building with such Building(s) behind it.

- (14) Pictures. For Additions to Buildings, pictures of the subject Building(s).
- (15) Samples. Color and material samples of exterior surfaces, if available and if applicable to the proposed work.
- (16) Contractor. The name and address of the proposed general contractor for the project.
- (17) Non-residential projects. For church, office, and commercial Buildings, additional information may be required by the Building Commission.
- (d) Application attachments for façade alterations. In addition to the attachments required by subsection (a), for façade alterations that require a Certificate of Approval pursuant to Section 50-341(c), the following are required:
- (1) Narrative. A narrative describing the project.
 - (2) Pictures. Pictures of the subject Building(s).
 - (3) Elevation. Street-level front elevation, drawn to scale.
 - (4) Samples. Color and material samples, if available and if applicable to the proposed work.
 - (5) Drawings. Drawings, images, and plans showing details of the project.
 - (6) Contractor. The name and address of the proposed general contractor for the project.
 - (7) Drainage plans. Drainage plans as set out in subsection (e) may be required if the façade alteration involves significant changes to the roof or gutter system. If such changes are proposed, the Code Official will coordinate a meeting with two Building Commissioners, at which meeting the Commissioners will offer a recommendation as to whether the City should require drainage plans for the project. The Code Official will consider such recommendation in making a determination and instruct the applicant accordingly.
 - (8) Landscape Plan. A Landscape Plan as set out in subsection (b)(12) may be required if the façade alteration will require the removal of all or substantially all of the Front Yard landscaping. If such removal would be required for the project, the Code Official will coordinate a meeting with two Building Commissioners, at which meeting the Commissioners will offer a recommendation as to whether the City should require a Landscape Plan for the project. The Code Official will consider such recommendation in making a determination and instruct the applicant accordingly.

(e e) Drainage plans and information. For all applications, a certification from the engineer who prepared the required drainage plan that, after construction and permanent and final stabilization has taken place, the proposed construction:

- (1) does not change the point or quantity of stormwater discharge to adjacent properties; and
- (2) does not change the stormwater drainage from sheet flow to point discharge; and
- (3) does not increase the flow of captured stormwater to exceed the capacity of existing underground drainage pipes to the street.

Additional stormwater discharge that will sheet flow across a front yard of a property to the street is encouraged and need not be included in the calculations for impervious surfaces.

~~If such engineer cannot certify that (1) through (3) are true, written consent to such circumstances from all affected adjacent property owners must be attached to the application.~~

~~Further,~~ If such engineer cannot certify that (1) through (3) are true, the applicant must show the following, as applicable:

- (1) *Zero increase in impervious surface area of the Rear Yard, Side Yard, and Roof Drainage Basin.* If the increase in impervious surface area (defined below) from the existing Lot configuration to the proposed Lot configuration is equal to or less than zero square feet, the applicant must provide a site plan showing the impervious area square footage of both the current site and the proposed site, with clear dimensions such that the square footage of impervious surface area is verifiable. The site plan must also show grading contours and flow arrows indicating the Lot's topography.
- (2) *Increase in impervious surface area greater than zero square feet in the Rear Yard, Side Yard, and Roof Drainage Basin.* If the increase in impervious surface area from the existing Lot configuration to the proposed Lot configuration is greater than zero square feet, the applicant must provide a site drainage plan, signed and sealed by a registered professional civil engineer, that delineates existing and proposed storm water runoff patterns. The site plan must also show grading contours and flow arrows indicating the Lot's topography. If the site plan indicates an increase in stormwater runoff onto adjacent property, the applicant must also provide:
 - (a) site drainage calculations, signed and sealed by a registered professional civil engineer, showing the 100-year stormwater runoff for the historical and proposed layouts in all directions that affect adjacent properties; and
 - (b) a site plan indicating the proposed efforts to be taken such that, after construction and permanent and final stabilization has taken place,

the calculated additional stormwater will be directed to the street and/or storm sewer system and away from adjacent properties., ~~such as~~ Solutions may include yard drains and pipes attached to gutters downspouts. Any increase in point flows will not be permitted.

Impervious surface means a surface that is hard and impenetrable that does not allow stormwater infiltration into the underlying soil. Impervious surfaces include streets, roofs, parking areas, driveways, swimming pools, and walkways, any one of which are made of asphalt, concrete, brick, stone, or plastics.

For reference, *pervious surface* means a surface that allows the percolation of water into the underlying soil. Pervious surfaces include grass, mulched groundcover, planted areas, vegetated roofs, permeable paving and artificial grass or turf (subject to the Code Official's agreement by submitted data sheet). ~~and p~~ Porches and decks that are erected on pier foundations that maintain the covered Lot surface's water permeability underneath are considered pervious.

If artificial grass or turf is proposed, documents must be submitted to assist the Building Commission in determining the absorptive characteristics of the proposed materials and such material must be installed pursuant to the manufacturer's instructions.

~~(f) — Renderings for Additions. Renderings are not required for Rear Yard Additions that are not visible from the Street or any public way. For construction of an Addition to an existing Main Building or Secondary Building, renderings may be required for Front Yard Additions, and for Side Yard Additions, and for Rear Yard Additions that are visible from a Street or any public way. In order to make a recommendation, the Code Official will coordinate a meeting with two Building Commissioners, at which meeting the Commissioners will offer a recommendation as to whether the City should require renderings for the project. The Code Official will consider such recommendation in making a determination and instruct the applicant accordingly.~~

Sec. 50-373. Application fee.

A nonrefundable fee in the amount established in the City Fee Schedule must be paid to the City by the owner(s) with submission of the application for a Certificate of Approval.

Sec. 50-374. Public hearing required; notice of public hearing.

The Building Commission shall hold a public hearing regarding each Certificate of Approval. The City shall arrange for notice of the hearing to be given by publication in a newspaper of general circulation in the City and by mailing written notice ~~by registered or certified mail~~ not less than ten calendar days before the date of the Building Commission's hearing to the applicant and to the owners of property within a 300-foot radius of the exterior boundary of the subject property as their names and addresses appear in the report provided by the applicant pursuant to Section 50-372. The notice of the public hearings must contain the street address of the property on which the Building to be moved, demolished or constructed is located or approximate location in the City; and the date, time,

and location of the hearing. In addition, a copy of the notice of hearing must be posted on the subject property not less than ten days prior to the hearing. In addition, a copy of the notice of hearing must be posted on the subject property not less than ten days prior to the hearing.

DIVISION 4. DEMOLITION AND BUILDING REQUIREMENTS AND GUIDELINES

Sec. 50-396. Other Code requirements apply.

The Building moving, demolition, and construction requirements and guidelines in this Division are in addition to other requirements of this Code. As set out in Section 50-188, after the Certificate of Approval is issued, the applicant may proceed with an application for a Building Permit and if applicable, for a Demolition Permit, as set out in Section 8-378.

Section 2. Section 50-3 of the Nichols Hills City Code is hereby amended, with deleted language stricken through and new language underlined, to wit:

Sec. 50-3. Definitions.

Buildable Area means that portion of a single parcel of land available to be occupied or intended to be occupied by a Building or Structure, determined as follows:

(a) *Buildable Area in the R-1-75 and R-1-60 Residential Districts.* For Buildings in the R-1-75 and R-1-60 Residential Districts, the Buildable Area for Main Buildings is that area between the Front Yard Setback line, the Side Yard Setback lines, and a measured line of 10'-0" parallel to the rear property line(s).

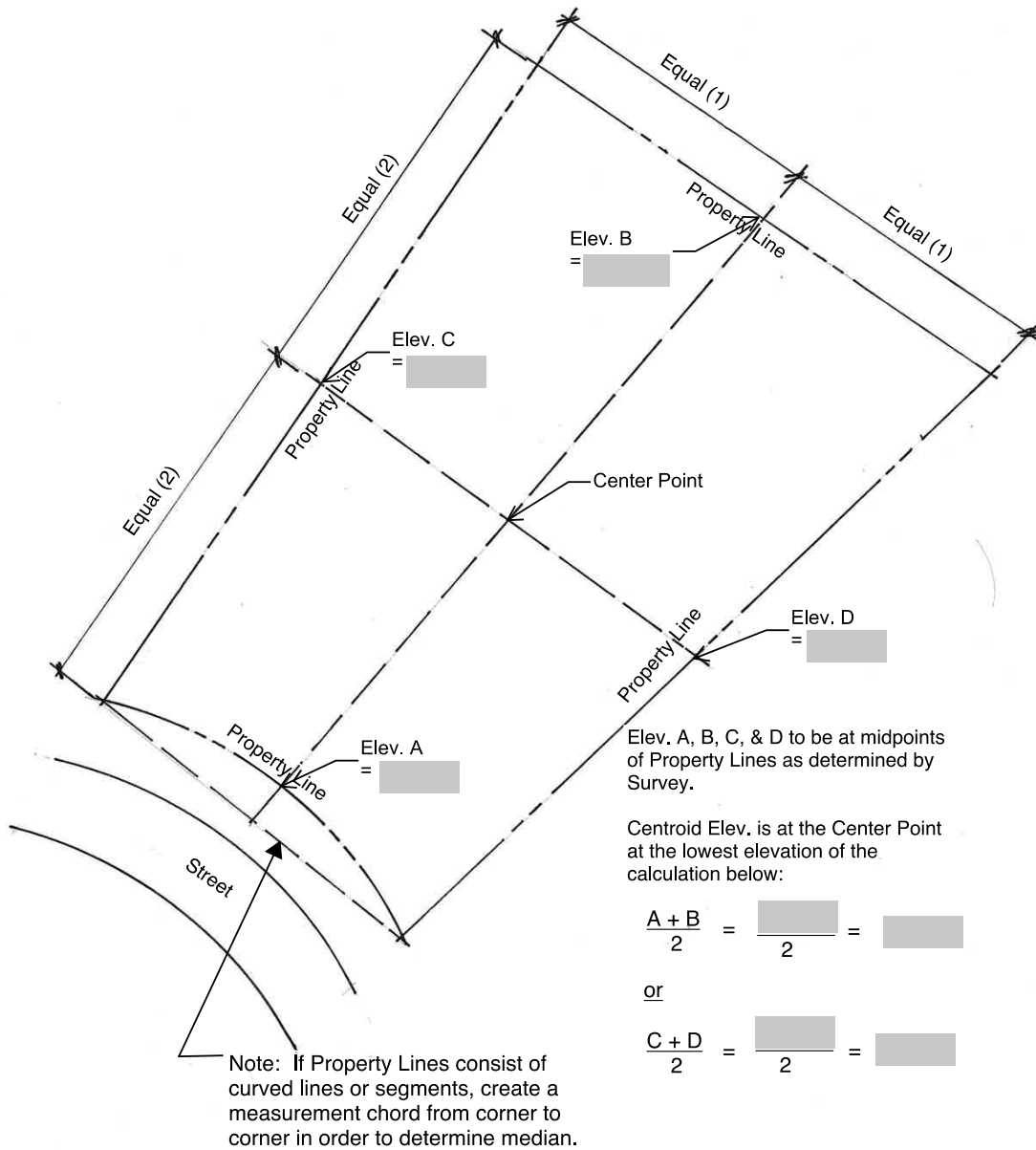
(b) *Buildable Area in all other Zoning Districts.* In all Zoning Districts other than the R-1-75 and R-1-60 Residential Districts, the Buildable Area for Main Buildings is that area between the Front Yard Setback line, the Side Yard Setback lines, and the Rear Yard Setback line.

Centroid means a point located in three dimensions at the center point of the Lot, with the center point of the Lot and the elevation of the Centroid determined as follows and as depicted below, using the Setbacks Property Lines for the Main Building.

(a) *Determining the center point of the Lot.* The center point of the Lot is determined by the intersection of Line A and Line B. Line A is drawn from the median of the Front Yard Setback to the median of the Rear Yard Setback Line. Line B is draft from the median of the distance between the Front Yard Setback and the Rear Yard Setback on each of the side Property Lines. Line A-B drawn from the median of the front Property Line to the median of the rear Property Line and of Line C-D drawn from the median of each of the side Property Lines.

(b) *Determining the elevation.* The elevation of the Centroid is determined by extending vertically from the center point of the Lot to the lower point on either Line A or Line B where: (1) the beginning and endpoints of Line A originate at the natural grade points at the median of the Front Yard Setback and the Rear Yard Setback; and (2) the beginning and endpoints of Line B originate at the natural grade points at the two side property lines. the lower elevation of Line A-B and Line C-D as they cross over the center point. The center point elevation of Line A-B is one half of the sum of the natural grades, as determined by survey, at the front Property Line and the rear Property Line. The center point elevation of Line C-D is one half of the sum of the natural grades, as determined by survey, at the two side Property Lines.

Section 3. Section 50-3 is further amended as to the definition of Centroid by removing the existing depiction of Centroid and replacing it with the following:



CENTROID CALCULATION

Section 4. All ordinances or parts of ordinances in conflict herewith are, to the extent of such conflict, hereby repealed.

Section 5. The provisions of this ordinance are severable and if any part or provision hereof shall be adjudged invalid by any court of competent jurisdiction, such adjudication shall not affect or impair any of the remaining parts or provisions hereof.

Section 6. EMERGENCY SECTION. WHEREAS, in the judgment of the Council it is necessary for the preservation of the peace, health, welfare and safety of the City of Nichols Hills, Oklahoma, and of the inhabitants thereof that the provisions of this ordinance be put into full force and effect immediately, and therefore an emergency is hereby declared to exist by reason whereof this ordinance shall take effect and be in full force from and after its passage as provided by law.

PASSED by the Council of the City of Nichols Hills, Oklahoma, on the _____ day of _____, 2023.

APPROVED by the Mayor of the City of Nichols Hills, Oklahoma, on the _____ day of _____, 2023.

ATTEST:

Mayor

City Clerk

Reviewed as to Form and Legality:

City Attorney