



JOINT PUBLIC HEARING
THE CITY COUNCIL CITY AND THE PLANNING AND ZONING COMMISSION OF
THE CITY OF PEARLAND, TEXAS,
MONDAY, JUNE 15, 2015 AT 6:30 P.M.
COUNCIL CHAMBERS - CITY HALL-3519 LIBERTY DRIVE

I. CALL TO ORDER

II. PURPOSE OF HEARING

Conditional Use Permit Application No. 2015-07

A request of Valle Kauniste, applicant and owner; for approval of a Conditional Use Permit (CUP) to allow for a Micro-Brewery use in the Light Industrial (M-1) zoning district on approximately 1.07 acres of land, to wit:

Legal Description: Being a 1.0699 acres tract of land out of Lot 1, Block 1 of Rice Drier Road Development subdivision as recorded in Plat 2015009262 of Brazoria County Plat Records, Brazoria County, Texas and being situated in the H.T. & B.R.R Co. Survey, Abstract 232, Brazoria County, Texas.

General Location: 4000 Block of Rice Drier Road, Pearland, TX

III. APPLICATION INFORMATION AND CASE SUMMARY

- A. STAFF REPORT
- B. APPLICANT PRESENTATION
- C. STAFF WRAP UP

IV. PERSONS WISHING TO SPEAK FOR OR AGAINST THE PROPOSED REQUEST

V. COUNCIL/PLANNING COMMISSION/STAFF DISCUSSION

VI. ADJOURNMENT

This site is accessible to disabled individuals. For special assistance, please call Young Lorfing, City Secretary, at 281-652-1655 prior to the meeting so that appropriate arrangements can be made.



Staff Report

To: City Council and Planning and Zoning Commission

From: Planning Department (KW)

Date: June 2, 2015

Re: Conditional Use Permit Application Number 2015-07

A request of Valle Kauniste, applicant and owner; for approval of a Conditional Use Permit (CUP) to allow for a Microbrewery Use located within the Light Industrial (M-1) zoning district on approximately 1.069 acres of land, located at the 4000 Block of Rice Drier Road, Pearland, TX.

Summary of Request

The applicant is requesting approval of a Conditional Use Permit (CUP) to allow for a Microbrewery located in the Light Industrial (M-1) district on approximately 1.069 acres located at approximately 4111 Rice Drier Road. The property is undeveloped, and it is located north of Rice Drier Road, west of Main Street. The applicant proposes to construct a 2,000 square foot building that will be used as a facility to brew and self-distribute beer and will include a tasting room with an area for retail sale of the product produced on site. Ancillary uses to the brewery include rental of the facility for special events such as birthdays and wedding receptions. A parking area will be constructed as part of the site improvements, which will include landscaping and tree plantings along Rice Drier Road.

The use is classified as Microbrewery in the land use matrix and is defined as a facility in which beer, wine, or other alcoholic beverages are brewed, fermented, or distilled for distribution and consumption, and which possess the appropriate licenses from the state of Texas. These are typically much smaller establishments and independently owned. To be classified as a microbrewery, the facility must include a restaurant, bar, lounge, or tasting room as a complementary use to the production facility.

This use was introduced in February of 2015 to the UDC, to address a newly popular use that the previous version of the UDC did not adequately address.

Recommendation

Staff recommends approval of the request to allow for a Microbrewery on the 1.069-acre site in the M-1 zoning district for the following reasons:

1. The proposed CUP for Microbrewery use is compatible with other existing and proposed land uses within the surrounding area, which includes land zoned for commercial and light industrial uses.
2. The proposed facility meets the specified conditions of a Microbrewery as described in the Unified Development Code (UDC). The proposed facility is less than 15,000 square feet, and it includes an associated tasting room and retail operation that will be open to the public.
3. The Microbrewery facility will not significantly impact surrounding properties.
4. The Microbrewery use, along with an approved CUP, will be in conformance with both the UDC and the Comprehensive Plan.

Staff Recommended Conditions

1. A detailed site plan is required that shows parking, outdoor areas, fencing, landscaping, and other site improvements, prior to the first reading of the ordinance. For this use, one parking space is required for every 200 square feet of gross floor area. A minimum of 10 parking spaces is required.
2. As a condition for approval, all proposed buildings shall have a masonry façade where visible from any public street (east, south, and west facing facades). Masonry is defined as brick, stone, brick veneer, custom treated tilt wall, decorative or textured concrete block, split face block, and stucco.

Public Notification

Staff sent public notices, comment forms and a vicinity map to the applicant, the owner of the property and to property owners within 200 feet of the subject property under consideration for the CUP. Additionally, a legal notice of the public hearing was published in the local newspaper, and a notification sign was placed on the property by the applicant.

Opposition to or Support of Proposed Request

Staff has not received any returned notices in opposition to or in support of the proposed Conditional Use Permit request.

Site History

The subject property is undeveloped. The property was annexed into the City of Pearland in 1959. The following table identifies surrounding uses and zoning districts.

	Zoning	Land Use
North	General Commercial (GC)	Hotel
South	Light Industrial (M-1)	Warehouse
East	Light Industrial (M-1)	Restaurant (With Drive-Thru)
West	Light Industrial (M-1)	Multi-tenant Office Warehouse

Conformance with the Thoroughfare Plan

The subject property has street frontage on Rice Drier Road, which is classified as a local street with a required right-of-way width of 70 feet. The right-of-way is of sufficient width.

Conformance with the Unified Development Code

At the time of development, all requirements of the Unified Development Code will have been met or exceeded per the requirements of this CUP application.

Light Industrial (M-1) Area Regulations		
Size of Lots	Required	Existing Lot Dimensions
Minimum Lot Size	40,000 sf.	46,606 sf.
Minimum Lot Width	150 ft.	180 ft.
Minimum Lot Depth	150 ft.	282.5 ft.

Platting Status

The subject property is platted as a portion of Rice Drier Road Development. The plat was recorded with Brazoria County on March 4, 2015.

Availability of Utilities

According to GIS, the subject property is served by an 8-inch water line located along the southern property line and an 8-inch gravity main located across Rice Drier Road.

Impact on Existing and Future Development

The proposed CUP will not significantly impact surrounding properties or developments, as the property is surrounded by mostly commercial and light industrial uses or undeveloped tracts proposed for light industrial uses on the City of Pearland Future Land Use Map and Zoning Map. The proposed tree plantings and masonry façade will enhance the visual impact of the facility compared to surrounding properties. The applicant also is proposing to preserve an old growth oak tree which currently exists near the center of the property.

Additional Comments

The City's Development Review Committee (DRC) has reviewed the request, and there were no additional comments from other departments at the time of this report.

Exhibits

1. Aerial Map
2. Zoning Map
3. Future Land Use Map
4. Notification Map
5. Notification List
6. Applicant Packet

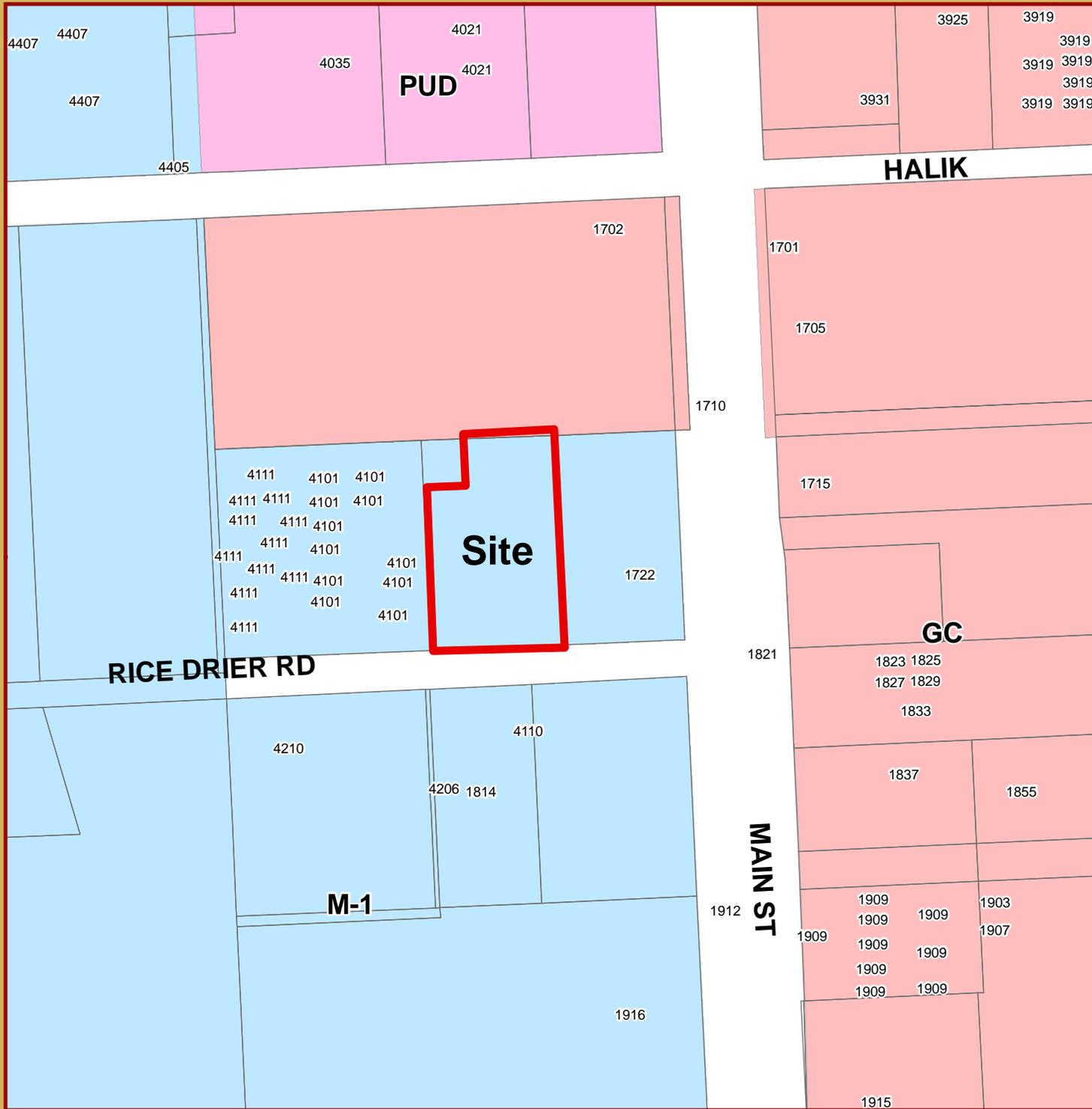


Exhibit 2

ZONING MAP

CUP 2015-07

4000 Block of Rice Drier Rd.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

1 inch = 193 feet

JUNE 2015
PLANNING DEPARTMENT



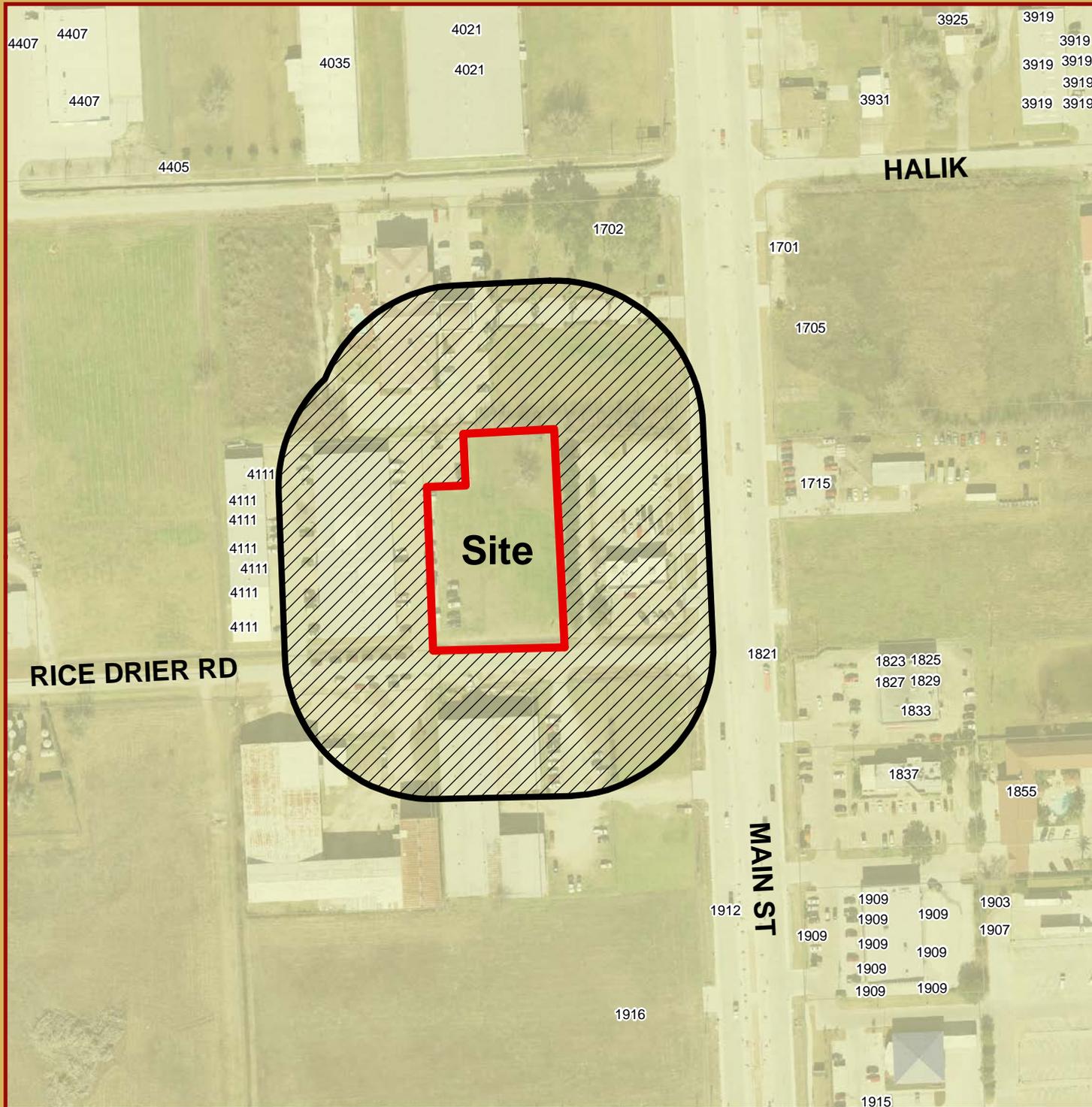


Exhibit 4

NOTIFICATION MAP

CUP 2015-07

4000 Block of
Rice Drier Rd.



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1 inch = 193 feet

JUNE 2015
PLANNING DEPARTMENT



Exhibit 5

CUP 2015-07 Microbrewery at 4000 Block of Rice Drier Rd.

Owner	Address	City	State	Zip
BAYOU PROPERTIES CO	6002 OSBORN ST	HOUSTON	TX	77033
PEARL HOSPITALITY INC	1702 N MAIN ST	PEARLAND	TX	77581
RICE DRYER ROAD PROPERTIES LLC	1021 N MAIN ST	PEARLAND	TX	77581
VALLE KAUNISTE	3004 SUMMIT SPRINGS	PEARLAND	TX	77581

EXHIBIT 6



APPLICATION FOR A CONDITIONAL USE PERMIT (CUP)

City of Pearland
Community Development
3523 Liberty Drive
(Community Center)
Pearland, Texas 77581
281-652-1765
281-652-1702 fax
www.cityofpearland.com

Conditional Use Permit Request for: Microbrewery in M1-Light Industrial
(list proposed use from the Table of Uses of the UDC)
Zone

Current Zoning District: M1-light Industrial

Property Information:

Address or General Location of Property: 0 Rice Drier Road Pearland TX
77581 → This is 1.069 Acres behind Wendys on Rice Drier R
Tax Account No. 32056333910
Subdivision: Rice Drier Road Development Lot: 1 Block: 1

A complete application must include all information shown on the Application Checklist attached to this application.

PROPERTY OWNER INFORMATION:

NAME Valle Kavniste
ADDRESS 3004 Summit Springs
CITY Pearland STATE TX ZIP 77581
PHONE (281) 705-4063
FAX ()
E-MAIL ADDRESS Brewed@vallensons.com

APPLICANT/AGENT INFORMATION:

NAME Valle Kavniste
ADDRESS 3004 Summit Springs
CITY Pearland STATE TX ZIP 77581
PHONE (281) 705-4063
FAX ()
E-MAIL ADDRESS Brewed@vallensons.com

*Property owner must be the current owner of the property at the time of submittal of the application, and not the party that has the property under contract.

As owner and applicant, I hereby request approval of the above described request as provided for by the Unified Development Code of the City of Pearland.

Owner's Signature: [Signature] Date: 5/10/15

Agent's/
Applicant's Signature: [Signature] Date: 5/10/15

OFFICE USE ONLY:

FEES PAID: <u>\$1025</u>	DATE PAID: <u>5/14/15</u>	RECEIVED BY: <u>U.K.</u>	RECEIPT NUMBER: <u>228842</u>
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Application No. 2015-07

CITY OF PEARLAND
 *** CUSTOMER RECEIPT ***
 Oper: JMATA Type: OC Drawer: 1
 Date: 5/15/15 01 Receipt no: 228842

Description	Quantity	Amount
BA BOARD OF ADJUSTMENTS	1.00	\$1025.00

Trans number: 4848975

VALLE JAMES KAUNISTE DBA
 0 RICE DRIER RD
 VALLE KAUNISTE

Tender detail
 CK CHECK 306 \$1025.00
 Total tendered \$1025.00
 Total payment \$1025.00

Trans date: 5/14/15 Time: 15:01:19

ZONE CHANGE/ VARIANCE/PLAT/RECORDATION

(circle one)
 \$ 1025 **BA** or **PF** or **FE**

Description: Input who the check is from

COMMENTS/DESCRIPTION (F10):

Location or Address 0 Rice Drier Road

Applicant Valle kauniste

Owner Valle kauniste



Letter of Intent

May, 5, 2015

Ian Clowes

Senior Planner, Planning and Zoning

3519 Liberty Drive

Pearland, Texas 77581

Dear Mr. Clowes,

This Letter of Intent is part of the Conditional Use Permit to request approval from the Planning and Zoning department for the City of Pearland, Texas to open Vallensons' Brewing Company a Microbrewery/Nanobrewery. This request will allow Vallensons' Brewing Company LLC to brew and self-distribute beer as well as provide a tasting room and retail operation open to the public. We also propose to rent the brewery to the public for special events, such as birthdays and wedding receptions.

The address for Vallensons' Brewing Company will be at 4111 Rice Drier Pearland Texas. This location is within the M-1 (Light Industrial) zone which was recently (2/26/15) expanded to allow microbrewery's in the M-1 Light Industrial Zone in Pearland Texas.

Vallensons' Brewing Company LLC, plans to build approximately a 2000 square foot warehouse which will house the brewery area, bathrooms, and taproom. We also plan to build a parking lot and will provide landscaping improvements which entail tree planning along rice drier road. We plan to keep as much of the open space untouched for outdoor activities. The hours open to the public are TBD.

Thanks in advance,

A handwritten signature in black ink that reads 'Valle Kauniste'. The signature is stylized and includes a long horizontal flourish extending to the right.

Valle Kauniste

Founder/CEO

Vallensons' Brewing Company

Brewed@Vallensons.com

281-705-4063



5/10/15

Vallensons' Brewing Company Site Plan

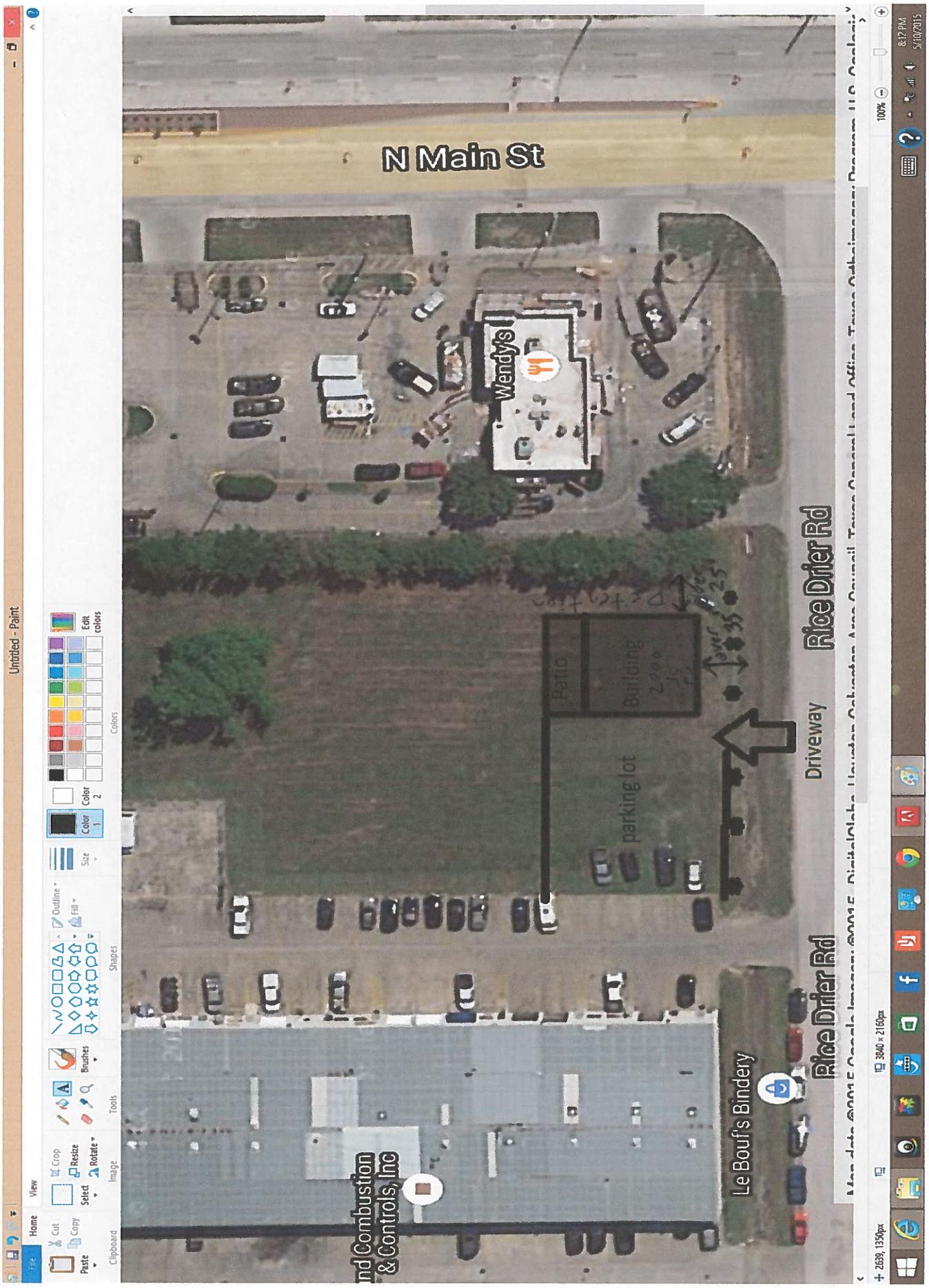
- Proposed layout of subject property-See attached maps
- Proposed building-Approximately a 2000 square foot metal warehouse
- Parking-Parking will run along the side of the warehouse-See attached picture
- Landscape plan- Trees along Rice Drier and open grass
 - Details of landscaping requirements are called out in pre development plan
- Detention/Retention pond/swales- This is being designed by engineering firm. Once completed it will be provided
- Fences- This is being designed by engineering firm. Once completed it will be provided.

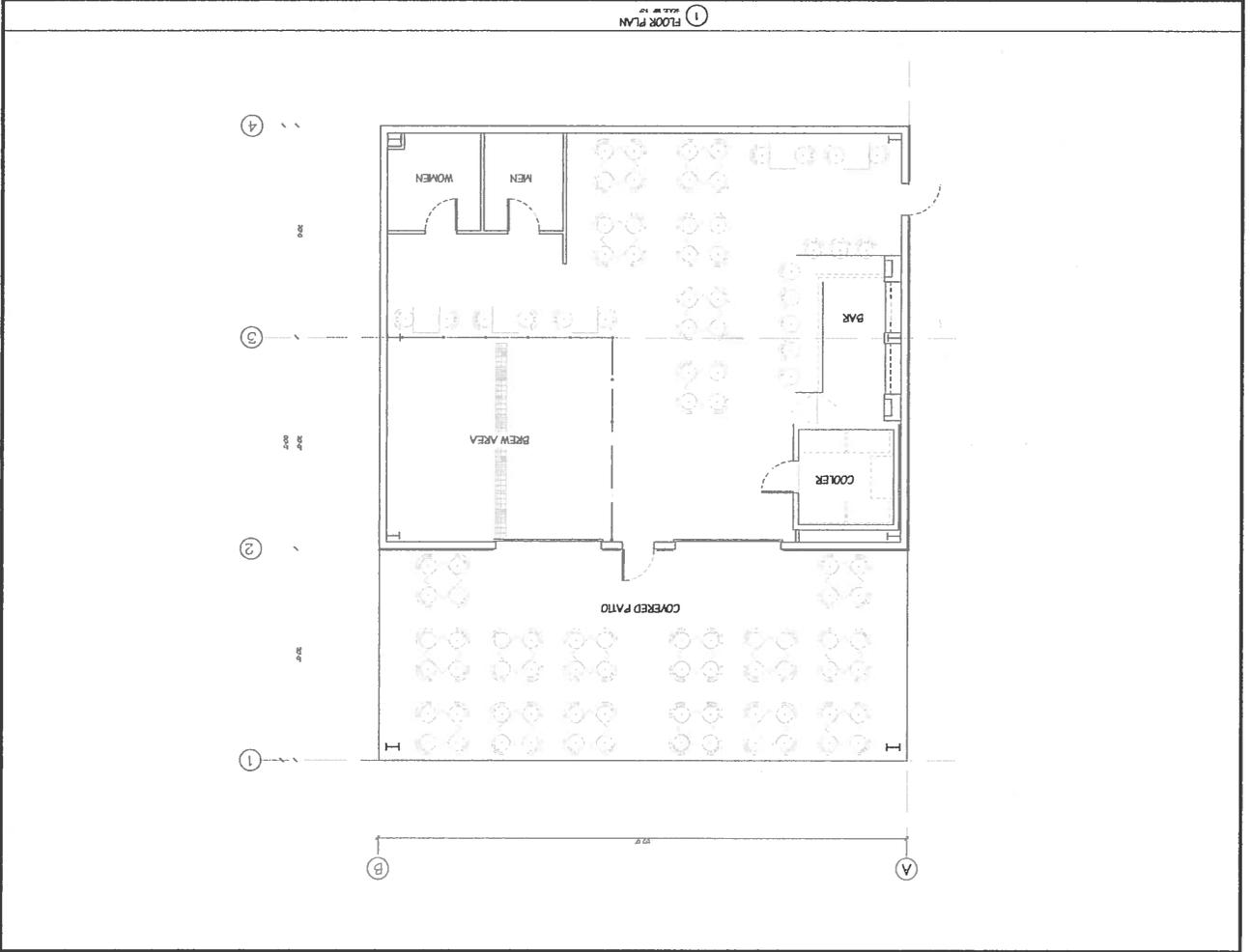
Buildings will be placed over 35' from front of property line and over 25' from side of property line.

Valle. Kaviste
281-705-4063

5/10/15

Vallensons, Brewing Site Plan





DATE: 09 2016	SCALE: 1/8" = 1'-0"	PROJECT: BREWERY	SHEET NO: A1.0
DESIGNED BY: TKW	DRAWN BY: TKW		
T K W DESIGNS 1025 14TH AVENUE S.W. VANCOUVER, BC V6Z 2R8			
BREWERY BUILDING			
REV: 1	DATE: 09/20/16	BY: TKW	DESCRIPTION: 1



[Home](#)

[Map Gallery](#)

[City Map Book](#)

[GIS Data](#)

[Capital Improvements](#)

4111 RICE DRIER RD



Location

4111 RICE DRIER RD
PEARLAND, TX 77581

Key Map® Location: 615 E
Neighborhood:
County: Brazoria



City Limit Information

Within city limits: Yes
Annexation Number: 0
Annexation Date: Fri May 12, 1905



Trash, Recycle, Green Day

Trash Pickup: WEDNESDAY & SATURDAY
Recycle Pickup: SATURDAY
Green Day: WEDNESDAY



Voting Information

Voting Precinct: 12



Boundary Area

Subdivision:
School District: Pearland ISD
Drainage District: Brazoria Drainage Dist. 4
(Pearland)
Municipal Utility District: n/a
Plat:

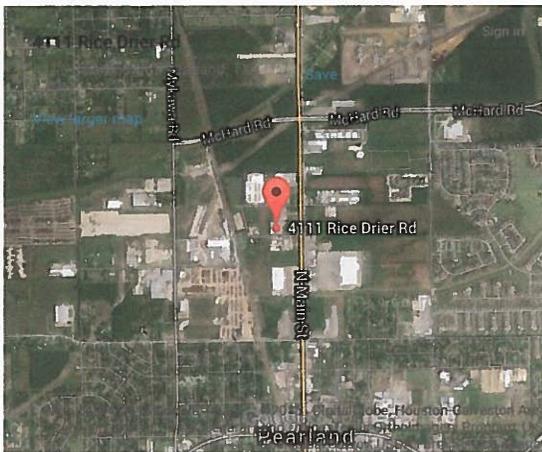


Landuse

Land use : Industrial
Zone: M-1

External Map Services

Appraisal Districts



- [Brazoria County Appraisal District](#)
- [Harris County Appraisal District](#)
- [Fort Bend Appraisal District](#)

[View Larger Map on Google Maps](#)

[View on Yahoo! Maps](#)

[View on MSN Maps](#)

[View on Mapquest](#)



○ ~~411~~ Rice Prier, Pearland TX
1.069 Acres

Use	Residential Zoning Districts											Mixed Use Districts					Old Town			Non-Residential Zoning Districts																		
	SD	R-E	SR-15	SR-12	R-1	R-2	R-3	R-4	TH	MF	MH	SPD					C-MU	G/O-MU	OT-R	OT-GB	OT-MU	RRN	OP	BP-288	NS	GB	GC	M-1	M-2									
Micro-Brewery/Micro-Distillery/Micro-Winery												S1	S2	S3	S4	S5																						
																	C	C																				
	<p>Description: A facility in which beer, wine, or other alcoholic beverages are brewed, fermented, or distilled for distribution and consumption, and which possess the appropriate licenses from the state of Texas. These are typically much smaller establishments and independently owned. Each facility must meet the following conditions:</p> <p>a.) Maximum Size of the facility and all associated uses shall be 15,000 square feet.</p> <p>b.) The establishment will include at least one of the following uses, associated with the facility, and located in the same building: a restaurant, tasting room, bar, or lounge, that shall meet the following conditions:</p> <ol style="list-style-type: none"> All prescribed conditions associated with the retail, restaurant, tasting room, bar, or lounge shall be met including separation distances and buffers, The minimum size of the associated retail, restaurant, tasting room, bar, or lounge shall be 10% of the total square footage of the facility and all associated uses, or 1,000 square feet, whichever is less All Texas Alcoholic Beverage Commission (TABC) regulations will apply. <p>Parking: One space per 200 square feet of gross floor area.</p>																																					

Use	Residential Zoning Districts											Mixed Use Districts					Old Town			Non-Residential Zoning Districts																		
	SD	R-E	SR-15	SR-12	R-1	R-2	R-3	R-4	TH	MF	MH	SPD					C-MU	G/O-MU	OT-R	OT-GB	OT-MU	RRN	OP	BP-288	NS	GB	GC	M-1	M-2									
Outside Display {See related regulations in applicable zoning districts}												S1	S2	S3	S4	S5																						
												C	C	C																								
	<p>Description: An outdoor display of merchandise for the sole purpose of advertising said merchandise for sale.</p> <p>Parking: No additional parking required</p>																																					

P = Permitted

C = Conditional Use Permit

T = Temporary Commercial Permit
Chapter 2: Zoning Regulations
Page 2-156

- (h) **Access.** Access shall be provided in accordance with the City's Engineering Design Criteria Manual (EDCM).
- (i) **Refuse Containers.** All refuse and refuse containers shall be screened from the view of adjacent public streets and from the view of any adjacent single-family, patio home, townhouse, and/or multiple-family development(s). Such containers shall not be located within the front yard area, and shall be to the side or rear of the lot.
- (j) **Adjacent to a Single-Family Use or Zoning District.** When a nonresidential development is established on a tract of land that is adjacent to a single-family development or to property zoned for single-family use, there shall be a twenty-five-foot (25') wide landscaped buffer along the property line that is adjacent to such use or district. The landscaped buffer shall remain open and unobstructed (i.e., no parking, driveways, or other use of the buffer area), and shall be planted with ground cover, such as grass or ivy. This landscaped buffer may be located with the required yard/setback area.

Ord. No. 2000T-2, Section 2.4.4.6, February 26, 2007.

Ord. No. 2000T-3, Section 2.4.4.6, July 9, 2007.

Ord. No. 2000T-13, Section 2.4.4.6, October 24, 2011.

Section 2.4.4.7 M-1, Light Industrial District

(a) **Purpose.** The Light Industrial District (M-1) is intended to permit a wide variety of light industrial, manufacturing, wholesale and service type uses.

(b) **Authorized Uses.** The following are authorized uses under the regulations established in this chapter:

- (1) Permitted and conditional uses as authorized in the Land Use Matrix in Article 5, Division 2 of this Chapter 2;
- (2) Accessory uses as authorized in Article 5, Division 3 of this Chapter 2.

(c) **Area Regulations.**

(1) Size of Lots:

- a. Minimum Lot Size - Forty thousand (40,000) square feet in area.
- b. Minimum Lot Width - One hundred and fifty feet (150').
- c. Minimum Lot Depth - One hundred and fifty feet (150').

(2) Size of Yards:

- a. Minimum Front Yard - Thirty-five feet (35')
- b. Minimum Side Yard - Twenty-five feet (25')
- c. Minimum Rear Yard - Twenty-five feet (25')

(d) **Height Restrictions.** No building shall exceed forty-five feet (45') in height. → less than 30'

(e) **Fences & Screening.** Fences and screening shall be provided and maintained as set forth in Chapter 4, Article 2, Division 4 of this UDC.

Proposed
Rice Drier Site
Actual
46,606 sq. ft
180'
282.5'

Brazoria CAD

Property Search Results > 177076 BAYOU PROPERTIES CO for Year 2015

Property

Account

Property ID: 177076 Legal Description: A0542 H T & B R R, TRACT 38A1, ACRES 1.166
 Geographic ID: 0542-0027-110 Agent Code: ID:216
 Type: Real
 Property Use Code:
 Property Use Description:

Location

Address: RICE DRYER RD Mapsco:
 PEARLAND,
 Neighborhood: ABSTRACT 1990 AND NEWER Map ID:
 Neighborhood CD: SPL.N

Owner

Name: BAYOU PROPERTIES CO Owner ID: 41125
 Mailing Address: 6002 OSBORN ST % Ownership: 100.0000000000%
 HOUSTON, TX 77033-1016
 Exemptions:

Values

(+) Improvement Homesite Value:	+	\$0	
(+) Improvement Non-Homesite Value:	+	\$0	
(+) Land Homesite Value:	+	\$0	
(+) Land Non-Homesite Value:	+	\$101,580	Ag / Timber Use Value
(+) Agricultural Market Valuation:	+	\$0	\$0
(+) Timber Market Valuation:	+	\$0	\$0

(=) Market Value:	=	\$101,580	
(-) Ag or Timber Use Value Reduction:	-	\$0	

(=) Appraised Value:	=	\$101,580	
(-) HS Cap:	-	\$0	

(=) Assessed Value:	=	\$101,580	

Taxing Jurisdiction

Owner: BAYOU PROPERTIES CO
 % Ownership: 100.0000000000%
 Total Value: \$101,580

Entity	Description	Tax Rate	Appraised Value	Taxable Value	Estimated Tax	
CAD	BRAZORIA COUNTY APPRAISAL DISTRICT	0.000000	\$101,580	\$101,580	\$0.00	
CPL	CITY OF PEARLAND	0.712100	\$101,580	\$101,580	\$723.35	
DR4	BRAZORIA COUNTY DRAINAGE DISTRICT #4 (PEARLAND)	0.156000	\$101,580	\$101,580	\$158.46	
GBC	BRAZORIA COUNTY	0.438500	\$101,580	\$101,580	\$445.43	
RDB	ROAD & BRIDGE FUND	0.060000	\$101,580	\$101,580	\$60.95	
SPL	PEARLAND INDEPENDENT SCHOOL DISTRICT	1.415700	\$101,580	\$101,580	\$1,438.07	
Total Tax Rate:		2.782300				
					Taxes w/Current Exemptions:	\$2,826.26
					Taxes w/o Exemptions:	\$2,826.26

Improvement / Building

No improvements exist for this property.

Land

#	Type	Description	Acres	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
1	S1	PRIMARY SITE	1.1660	50791.00	0.00	0.00	\$101,580	\$0

Roll Value History

Year	Improvements	Land Market	Ag Valuation	Appraised	HS Cap	Assessed
2015	\$0	\$101,580	0	101,580	\$0	\$101,580
2014	\$0	\$101,580	0	101,580	\$0	\$101,580
2013	\$0	\$101,580	0	101,580	\$0	\$101,580
2012	\$0	\$101,580	0	101,580	\$0	\$101,580
2011	\$0	\$101,580	0	101,580	\$0	\$101,580
2010	\$0	\$101,580	0	101,580	\$0	\$101,580
2009	\$0	\$101,580	0	101,580	\$0	\$101,580
2008	\$0	\$101,580	0	101,580	\$0	\$101,580
2007	\$0	\$101,580	0	101,580	\$0	\$101,580
2006	\$0	\$101,580	0	101,580	\$0	\$101,580
2005	\$0	\$101,580	0	101,580	\$0	\$101,580
2004	\$0	\$101,580	0	101,580	\$0	\$101,580
2003	\$0	\$76,190	0	76,190	\$0	\$76,190
2002	\$0	\$76,190	0	76,190	\$0	\$76,190
2001	\$0	\$76,190	0	76,190	\$0	\$76,190

Deed History - (Last 3 Deed Transactions)

#	Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Deed Number
1	11/13/2008	WD	WARRANTY DEED	SOURCE INVESTMENT CO	BAYOU PROPERTIES CO	08	054031	

Questions Please Call (979) 849-7792

A. Settlement Statement**U.S. Department of Housing
and Urban Development**

OMB Approval No. 2502-0265

B. Type of Loan

1. <input type="checkbox"/> FHA	2. <input type="checkbox"/> FmHA	3. <input type="checkbox"/> Conv. Unins.	6. File Number: 1503940102	7. Loan Number:	8. Mortgage Insurance Case Number:
4. <input type="checkbox"/> VA	5. <input type="checkbox"/> Conv. Ins.	<input type="checkbox"/> Other			

C. Note: This form is furnished to give you a statement of actual settlement costs. Amounts paid to and by the settlement agent are shown. Items marked "(POC)" were paid outside the closing; they are shown here for informational purposes and are not included in the totals.

D. Name & Address of Borrower: VALLENSONS BREWING COMPANY, LLC, 3004 Summit Springs, Pearland, TX 77581

E. Name & Address of Seller: BAYOU PROPERTIES COMPANY, 6002 Osborn Street, Houston, TX 77033

F. Name & Address of Lender: Cash

G. Property Location: Property Address
0 Rice Dryer Road Pearland, Texas 77584

Metes & Bounds
Being a 1.0699 acre tract of land out of Lot 1, Block 1 of Rice Drier Road Development more fully described by metes and bounds, Brazoria County, Texas

H. Settlement Agent: Stewart Title Company, 2625 Bay Area Blvd., Suite 100, Houston, TX 77058, (281)488-6683
Place of Settlement: 2625 Bay Area Blvd., Suite 100, Houston, TX 77058

I. Settlement Date: 5/8/2015 **Proration Date:** 5/8/2015 **Disbursement Date:** 5/8/2015

J. Summary of Borrower's Transaction		K. Summary of Seller's Transaction	
100. Gross Amount Due from Borrower		400. Gross Amount Due to Seller	
101. Contract sales price	\$140,000.00	401. Contract sales price	\$140,000.00
102. Personal property		402. Personal property	
103. Settlement charges to borrower (line 1400)	\$220.55	403.	
104.		404.	
105.		405.	
Adjustments for items paid by seller in advance		Adjustments for items paid by seller in advance	
106. City/town taxes		406. City/town taxes	
107. County taxes		407. County taxes	
108. Assessments		408. Assessments	
109.		409.	
110.		410.	
111.		411.	
112.		412.	
120. Gross Amount Due from Borrower	\$140,220.55	420. Gross Amount Due to Seller	\$140,000.00
200. Amounts Paid by or in Behalf of Borrower		500. Reductions In Amount Due to Seller	
201. Deposit or earnest money	\$1,400.00	501. Excess deposit (see instructions)	
202. Principal amount of new loan(s)		502. Settlement charges to seller (line 1400)	\$5,476.95
203. Existing loan(s) taken subject to		503. Existing loan(s) taken subject to	
204.		504. Payoff of first mortgage loan	
205.		505. Payoff of second mortgage loan	
206.		506.	
207.		507.	
208.		508.	
209.		509.	
Adjustments for items unpaid by seller		Adjustments for items unpaid by seller	
210. City/town taxes		510. City/town taxes	
211. County taxes		511. County taxes	
212. Assessments		512. Assessments	
213.		513.	
214.		514.	
215.		515.	
216.		516.	
217.		517.	
218.		518.	
219.		519.	
220. Total Paid by/for Borrower	\$1,400.00	520. Total Reduction Amount Due Seller	\$5,476.95
300. Cash at Settlement from/to Borrower		600. Cash at Settlement to/from Seller	
301. Gross amount due from borrower (line 120)	\$140,220.55	601. Gross amount due to seller (line 420)	\$140,000.00
302. Less amounts paid by/for borrower (line 220)	(\$1,400.00)	602. Less reductions in amount due seller (line 520)	(\$5,476.95)
303. Cash <input checked="" type="checkbox"/> From <input type="checkbox"/> To Borrower	\$138,820.55	603. Cash <input checked="" type="checkbox"/> To <input type="checkbox"/> From Seller	\$134,523.05

SUBSTITUTE FORM 1099 SELLER STATEMENT - The information contained in Blocks E, G, H and I and on line 401 (or, if line 401 is asterisked, lines 403 and 404), 406, 407 and 408-412 (applicable part of buyer's real estate tax reportable to the IRS) is important tax information and is being furnished to the Internal Revenue Service. If you are required to file a return, a negligence penalty or other sanction will be imposed on you if this item is required to be reported and the IRS determines that it has not been reported.

SELLER INSTRUCTION - If this real estate was your principal residence, file form 2119, Sale or Exchange of Principal Residence, for any gain, with your income tax return; for other transactions, complete the applicable parts of form 4797, Form 6252 and/or Schedule D (Form 1040).

You are required to provide the Settlement Agent with your correct taxpayer identification number.

If you do not provide the Settlement Agent with your correct taxpayer identification number, you may be subject to civil or criminal penalties.

BAYOU PROPERTIES COMPANY

By: _____
JOHN BRAUN
VICE PRESIDENT

L. Settlement Charges				
700.	Total Sales/Broker's Commission based on price \$140,000.00 @ 3.000000% = \$4,200.00		Paid From	Paid From
	Division of commission (line 700) as follows:		Borrower's	Seller's
701.			Funds at	Funds at
702.	\$4,200.00 to Simien Properties		Settlement	Settlement
703.	Commission paid at settlement \$4,200.00			\$4,200.00
704.				
800. Items Payable in Connection with Loan				
801.	Loan origination fee			
802.	Loan discount			
803.	Appraisal fee			
804.	Credit report			
805.	Lender's inspection fee			
806.	Mortgage insurance application fee			
807.	Assumption fee			
808.				
809.				
810.				
811.				
812.				
813.				
900. Items Required by Lender to Be Paid In Advance				
901.	Interest from			
902.	Mortgage insurance premium for			
903.	Hazard insurance premium for			
904.				
905.				
1000. Reserves Deposited with Lender				
1001.	Hazard insurance			
1002.	Mortgage insurance			
1003.	City property taxes			
1004.	County property taxes			
1005.	Annual assessments			
1006.				
1007.				
1008.				
1009.				
1100. Title Charges				
1101.	Settlement or closing fee			
1102.	Abstract or title search			
1103.	Title examination			
1104.	Title insurance binder			
1105.	Document preparation to Gregory G. Bess			\$100.00
1106.	Notary fees			
1107.	Attorney's fees to			
	Includes above item numbers:			
1108.	Title Insurance to Stewart Title Company		\$164.55	\$1,097.00
	Includes above item numbers:			
1109.	Lender's coverage			
1110.	Owner's coverage \$140,000.00 \$1,097.00 T1 Survey Amend Charge Only STG \$164.55			
1111.				
1112.	Tax Certificate to Stewart Title Company			\$64.95
1113.	Messenger Fee to Stewart Title Company		\$15.00	\$15.00
1114.				
1115.				
1116.				
1117.	E-Recording Fee to Stewart Title Company		\$3.00	
1200. Government Recording and Transfer Charges				
1201.	Recording fees: Deed \$38.00		\$38.00	
1202.	City/county tax/stamps:			
1203.	State tax/stamps:			
1204.				
1205.				
1206.				
1300. Additional Settlement Charges				
1301.	Survey			
1302.	Pest inspection			
1303.				
1304.				
1305.				
1306.				
1307.				
1400.	Total Settlement Charges (enter on lines 103, Section J and 502, Section K)		\$220.55	\$5,476.95

Items marked "POC" were paid outside the closing by: Borrower (POCB), Lender (POCL), Mortgage Broker (POCM), Other (POCO), Real Estate Agent (POCR), or Seller (POCS).



JOINT PUBLIC HEARING
THE CITY COUNCIL CITY AND THE PLANNING AND ZONING COMMISSION OF
THE CITY OF PEARLAND, TEXAS,
MONDAY, JUNE 15, 2015 AT 6:30 P.M.
COUNCIL CHAMBERS - CITY HALL-3519 LIBERTY DRIVE

I. CALL TO ORDER

II. PURPOSE OF HEARING

Conditional Use Permit Application No. 2015-08

A request of Christine Lewis, authorized agent for Verizon Wireless, applicant; on behalf of Susie M. Lorance, owner; for approval of a Conditional Use Permit (CUP) to allow for the construction of a Wireless Communications Tower in the Spectrum - 3 (S3) zoning district on approximately 11.67 acres of land, to wit:

Legal Description: Being Lot 9 in Block "P" of Allison Richey Gulf Coast Home Co. Survey and part of Suburban Gardens, a subdivision in Harris County, Texas according to the map or plat thereof recorded in Volume 3, Page 40 of the map records of Harris County, Texas, save and except the westerly ten feet (10') conveyed to the county of Harris for the widening of Hooper Road in instrument recorded in Volume 988, Page 715 of the deed records of Harris County, Texas.

General Location: 15115 Hooper Road, Pearland, TX

III. APPLICATION INFORMATION AND CASE SUMMARY

- A. STAFF REPORT
- B. APPLICANT PRESENTATION
- C. STAFF WRAP UP

IV. PERSONS WISHING TO SPEAK FOR OR AGAINST THE PROPOSED REQUEST

V. COUNCIL/PLANNING COMMISSION/STAFF DISCUSSION

VI. ADJOURNMENT

This site is accessible to disabled individuals. For special assistance, please call Young Lorfing, City Secretary, at 281-652-1655 prior to the meeting so that appropriate arrangements can be made.



Staff Report

To: City Council and Planning and Zoning Commission

From: Planning Department

Date: June 2, 2015

Re: Conditional Use Permit Application Number 2015-08

A request of Christine Lewis, authorized agent for Verizon Wireless, applicant; on behalf of Susie M. Lorance, owner; for approval of a Conditional Use Permit (CUP) to allow for the construction of a Wireless Communications Tower in the Spectrum - 3 (S3) zoning district on approximately 11.67 acres of land, located at 15115 Hooper Road, Pearland, TX.

Summary of Request

The applicant is requesting approval of a Conditional Use Permit (CUP) to allow for a new Cellular Telecommunications Tower located in the Spectrum District S3: The Mixed Use-High Density Residential District (SP3), on an approximately 11.67 acre tract. The proposed cell tower site will encompass close to 3,600 square feet located east of Hooper Road, south of Fruge Road. The property is currently undeveloped. Verizon Wireless proposes to construct a 117-foot tall monopole tower and a pre-manufactured equipment cabinet skid with generator, antennas, and cabling. The proposed tower would occupy 60-foot by 60-foot area at the southwest corner tract. The proposed site is located within the 100-year floodplain.

Recommendation

Staff recommends approval of the request to allow for a Cellular Telecommunications Tower on the 3,600 square foot site in the SP3 zoning district for the following reasons:

1. The proposed tower will address a coverage gap that currently exists within the area of the McHard Road and Kirby Drive intersection.
2. The applicant provided the specified additional information required to evaluate the appropriateness of the CUP request including an inventory of Verizon's

existing towers, a site plan, a report from a structural engineer that documents the design and capacity of the tower, and documentation of the applicant's effort to co-locate on an existing wireless telecommunications tower. Construction of a new tower appears to be the best alternative for addressing the service needs of Verizon customers in this area.

3. The applicant has provided a letter of intent to lease excess space on the tower if structurally and technically feasible.
4. The proposed facility meets the specified conditions of a Cellular Telecommunications Tower as described in the Unified Development Code (UDC) and is in conformance with the Comprehensive Plan with an approved CUP.

Staff Recommended Conditions

1. As a condition for approval, screening shall meet the requirements of the UDC.
2. The access drive to the facility shall be paved with either concrete or asphalt.

Public Notification

Staff sent public notices, comment forms and a vicinity map to the applicant, the owner of the property and to property owners within 200 feet of the subject property under consideration for the CUP. Additionally, a legal notice of the public hearing was published in the local newspaper, and a notification sign was placed on the property by the applicant.

Opposition to or Support of Proposed Request

Staff has not received any returned notices in opposition to or in support of the proposed Conditional Use Permit request.

Site History

The subject property is undeveloped. The property was annexed into the City of Pearland in 2005. The following table identifies surrounding uses and zoning districts.

	Zoning	Land Use
North	Mixed Use-High Density Residential (SP3)	Undeveloped, Rural Residential across Fruge Road
South	Planned Unit Development (PUD)	Undeveloped
East	Mixed Use-High Density Residential (SP3)	Undeveloped
West	Light Industrial and Science & Technology (SP4)	Pipe Processing or Storage Yard

Conformance with the Thoroughfare Plan

The subject property will have access via a 12-foot driveway within a 20-foot utility easement that connects to Hooper Road. The adjacent portion of Hooper Road is not included on the Thoroughfare Plan. However, Hooper Road north of Fruge Road is classified as a Major Collector Street – To Be Widened, and Fruge Road is also classified as a Major Collector Street – To Be Widened. Both streets require a total right-of-way of 80-feet.

Conformance with the Unified Development Code

At the time of development, all requirements of the Unified Development Code will have been met or exceeded per the requirements of this CUP application. The following table summarizes the lot requirements within the zoning district. However, the subject property does not include the entire tract.

Spectrum District S3 (SP3) Area Regulations		
Size of Lots	Required	Existing Lot Dimensions
Minimum Lot Size	43,560 sf.	508,345 sf.
Minimum Lot Width	100 ft.	630 ft.
Minimum Lot Depth	200 ft.	808 ft.

Platting Status

The subject property is not platted. A plat will need to be approved by the city and recorded with Harris County prior to the release of any building permits.

Availability of Utilities

According to GIS, the subject property does not have direct access to the City of Pearland sanitary sewer system or water distribution system. The proposed development is not anticipated to require these services at this time.

Impact on Existing and Future Development

The proposed CUP will not significantly impact surrounding properties or developments. The property is surrounded by undeveloped and under-developed properties that are proposed for a visually cohesive district that allows for diverse land uses on the Future Land Use Plan. By locating the telecommunication tower at the edge of the tract, the remainder of the tract is preserved for development of a more comprehensively planned, mixed-use project in the future. The end users of the mixed-use, high density residential, commercial, and light industrial science and technology related uses within a business park or corporate campus as proposed for this area may benefit from the improved service that the cellular tower will provide. Appropriate screening of the equipment and a paved access drive will enhance aesthetic standards and help mitigate incompatibility with future development projects.

Additional Comments

The City's Development Review Committee (DRC) has reviewed the request, and there were no additional comments from other departments at the time of this report.

Exhibits

1. Aerial Map
2. Zoning Map
3. Future Land Use Map
4. Notification Map

5. Notification List

6. Applicant Packet



Exhibit 1

AERIAL MAP

CUP 2015-08

15115 Hooper Rd.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

1 inch = 386 feet

JUNE 2015
PLANNING DEPARTMENT



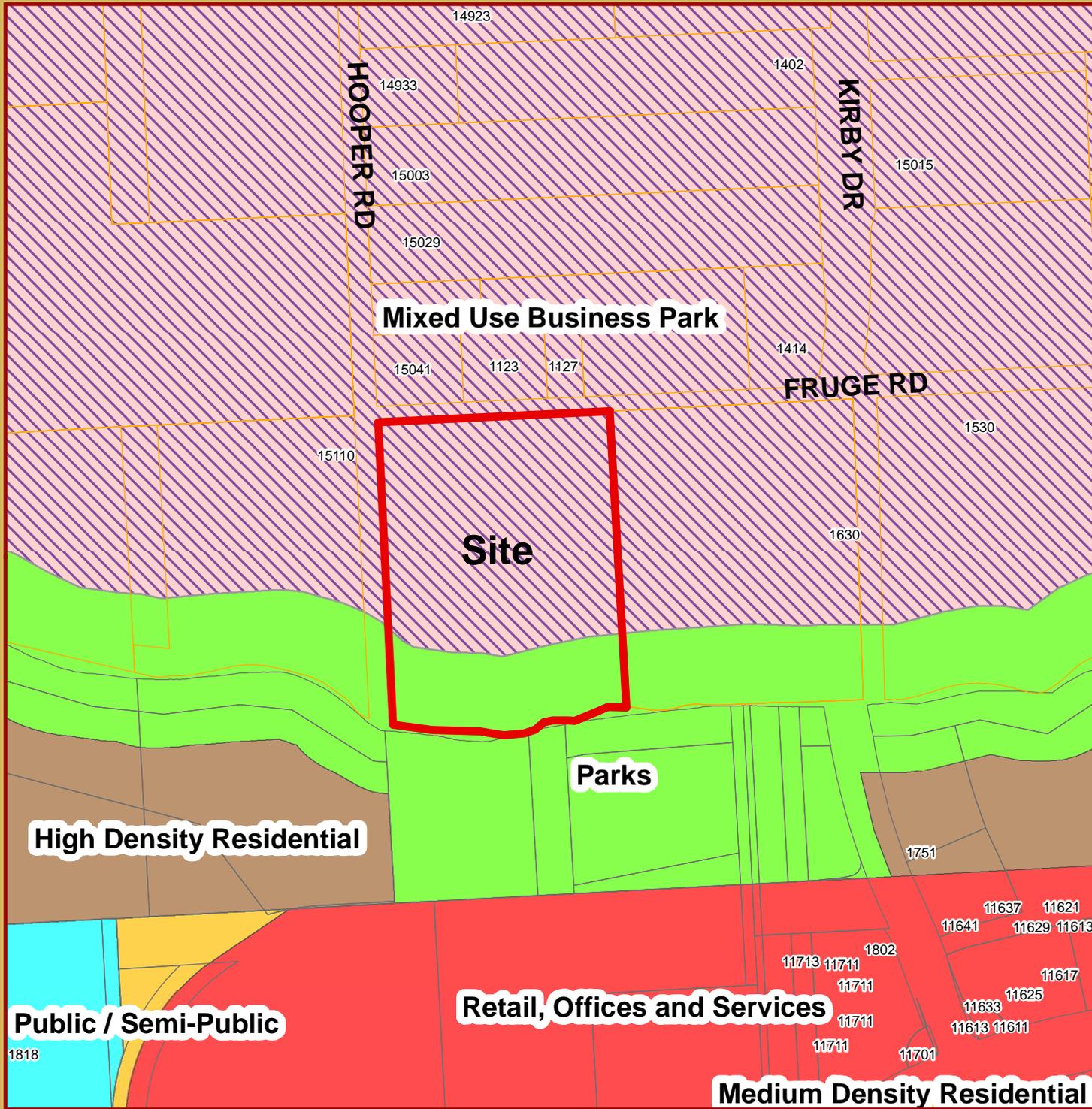


Exhibit 3

FLUP MAP

CUP 2015-08

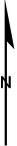
15115 Hooper Rd.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

1 inch = 386 feet

JUNE 2015
PLANNING DEPARTMENT



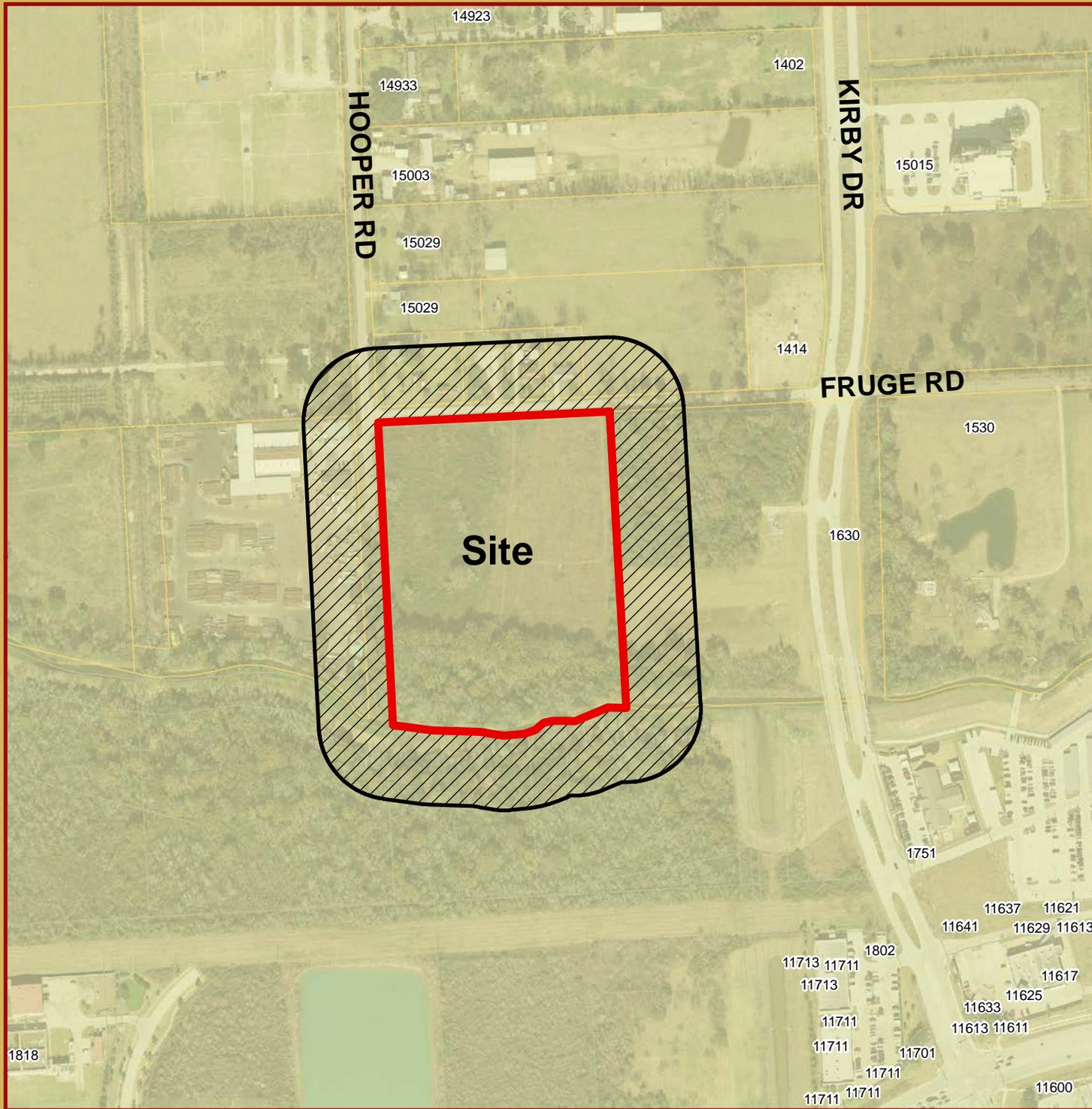


Exhibit 4

NOTIFICATION MAP

CUP 2015-08

15115 Hooper Rd.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

1 inch = 386 feet

JUNE 2015
PLANNING DEPARTMENT



Exhibit 5**CUP 2015-08** Cell tower at 15115 Hooper Rd.

Owner	Address	City	State
BETTY M MARTINI BY-PASS TRUST	1306 E ANDERSON RD	HOUSTON	TX
BOCKEL EARL	15041 HOOPER RD	HOUSTON	TX
BOCKEL EVELYNN	15029 HOOPER RD	HOUSTON	TX
BOCKEL JAMES R	1127 FRUGE RD	HOUSTON	TX
LORANCE SUSIE M	2618 S PEACH HOLLOW CIR	PEARLAND	TX
MARTINI R H	1303 E ANDERSON RD	HOUSTON	TX
MAYOR JAMES	2006 ELM CRST	SAN ANTONIO	TX
MAYOR RICHARD	2121 KIRBY DR UNIT 13NW	HOUSTON	TX
MAYOR THOMAS	5555 DEL MONTE DR UNIT 1306	HOUSTON	TX
RAY & RAYMOND HOLDINGS LLC	15110 HOOPER RD	HOUSTON	TX
TRUSTY BELINDA KAY BOCKEL	1123 FRUGE RD	HOUSTON	TX
CHRISTINE LEWIS	3511 PINEMONT A6	HOUSTON	TX

Zip

77047-5226

77047-7320

77047-7320

77047-7303

77584-2091

77047-5225

78230-2714

77019-6070

77056-4184

77047-7321

77047-7303

77018



City of Pearland Planning Department Universal Application

City of Pearland
Community Development
3523 Liberty Drive
(Community Center)
Pearland, Texas 77581
281.652.1768
281.652.1702 (fax)
pearlandtx.gov

Please complete each field - incomplete applications will **not** be accepted.
Include the applicable checklist for each project type with this application.
Refer to the schedule on the City's website and/or within the Planning Department
for deadlines and anticipated meeting dates for each project type.

TYPE OF APPLICATION:

- | | |
|---|--|
| <input type="checkbox"/> Zoning Change | <input type="checkbox"/> ZBA Variance |
| <input type="checkbox"/> Cluster Development Plan | <input type="checkbox"/> P&Z Variance |
| <input type="checkbox"/> Planned Development Workshop | <input type="checkbox"/> Special Exception |
| <input type="checkbox"/> Plat (list type): _____ | <input checked="" type="checkbox"/> Conditional Use Permit |

PROJECT INFORMATION:

Residential Commercial Property Platted Property Not Platted
 Project Name: 297774 MCHARD Tax ID: 0440520000020

Project Address/Location: 15115 1/2 HOOPER RD

Subdivision: Block P Allison Richey No. of Lots: 9 Total Acres: _____

Brief Description of Project: Installation of a new 117' monopole, Fibrebond pre-fab equip cabinet skid w/generator

When a completed application packet has been accepted and reviewed, additional information may be required by staff as a result of the review, therefore it may be necessary to postpone the proposed project and remove it from the scheduled agenda and place it on a future agenda according to Section 1.2.1.2 of the Unified Development Code.

PROPERTY OWNER INFORMATION:

Name: Susie M Lorange
 Address: 2618 S Peach Hollow
 City: Pearland State: TX Zip: 77584
 Phone: 713-436-8876
 Fax: _____
 Email Address: melba@lorance.com

APPLICANT/AGENT INFORMATION:

Verizon wire
 Name: Christine Lewis, Agent
 Address: 3511 Pinemont Dr. AL
 City: Houston State: TX Zip: 77018
 Phone: 713-254-6979
 Fax: _____
 Email Address: clewis@vinculumms.com
clewis@vinculumms.co

*Property owner must be the current owner of the property at the time of submittal of the application, and not the party that has the property under contract.
As owner and applicant, I hereby request approval of the above described request as provided for by the Unified Development Code of the City of Pearland.

Owner's Signature: Susie M. Lorange Date: 5-6-15

Agent's/
Applicant's Signature: Christine Lewis Date: 5/6/15

OFFICE USE ONLY:

FEES PAID: <u>\$250.⁰⁰</u>	DATE PAID: <u>5/12/15</u>	RECEIVED BY: <u>Vince</u>	RECEIPT NUMBER: <u>225226</u>
			APPLICATION NUMBER: <u>2015-08</u>

CITY OF PEARLAND
*** CUSTOMER RECEIPT ***
Oper: BDEROSA Type: OC Drawer: 1
Date: 5/12/15 02 Receipt no: 225226

Description	Quantity	Amount
BA BOARD OF ADJUSTMENTS	1.00	\$250.00

Trans number: 4845176

VERIZON -15115 1/5 HOOPER RD

Tender detail
CK CHECK 14785 \$250.00
Total tendered \$250.00
Total payment \$250.00

Trans date: 5/11/15 Time: 17:05:10

ZONE CHANGE/ VARIANCE/ PLAT/ RECORDATION

(circle one)
\$250. BA or PF or FE

Description: Input who the check is from

COMMENTS/DESCRIPTION (F10):

Location or
Address 15115 1/5 Hooper Rd.

Applicant Verizon

Owner Susie M. Lorange



Verizon Wireless
14123 Cicero Rd.
Houston, TX 77095
Phone 713 507-1908

May 8, 2015

Ian Clowes
Interim Director of Planning
City of Pearland
3519 Liberty Drive
Pearland, TX 77581

Dear Mr. Clowes:

This is to certify to you that Christine Lewis, Real Estate Specialist for Vinculum Services Inc., is an authorized agent and representative for Verizon Wireless, Houston/Gulf Coast Region, and is authorized to sign all documents submitted by Verizon Wireless to the Department of Community Development at the City of Pearland, in Pearland, TX.

Sincerely,

A handwritten signature in blue ink that reads "Angie Hatcher".

Angie Hatcher
Verizon Wireless
Engineer III Specialist – RE/Regulatory
Network Real Estate
14123 Cicero Rd.
Houston, TX. 77095
Direct: 713-507-1955



LETTER OF AUTHORIZATION

I, Susie M. Lorange, hereby authorize Vinculum Services, Inc. and their employees, agents and contractors, to act as *Authorized Agent* to arrange meetings, file all entitlement, land use and building permit applications necessary to establish the proposed Verizon Wireless installation to be located on the property. It is agreed that the proposed installation's entitlements, land use and/or building permit applications will be submitted to the City of Pearland.

It is agreed that this Letter of Authorization is not the binding agreement among Susie M. Lorange and Verizon Wireless, and a contract has been completed among the parties and their representatives.

Signature: Susie M. Lorange

Name: SUSIE M. LORANCE

Title: OWNER

Date: 5-6-2015

Tel #: 713-436-8876



VERIZON WIRELESS LETTER OF INTENT

PROJECT NAME: 297774 MCHARD

TAX ID: 0440520000020

Verizon Wireless is seeking the approval for a Conditional Use Permit to allow the construction of a new wireless telecommunication tower. Verizon has leased a 60' X 60' (3600 Sq. Ft.) area in the SW corner of lot 60 ½, Lot 9 Block P, Allison Richey Gulf Coast Home Company's part of Suburban Gardens (at the corner of Fruge and Hooper), for the purpose of installing a 117' monopole, a pre-manufactured equipment cabinet skid with generator, antennas and cabling.

This site is an undeveloped, partially wooded parcel that is zoned SP3; Mixed use Business Park, and located in the 100 Year Floodplain; see Elevation Certificate.

The proposed new tower will provide much needed coverage in the area of the intersection at McHard and Kirby; see coverage comparison maps.

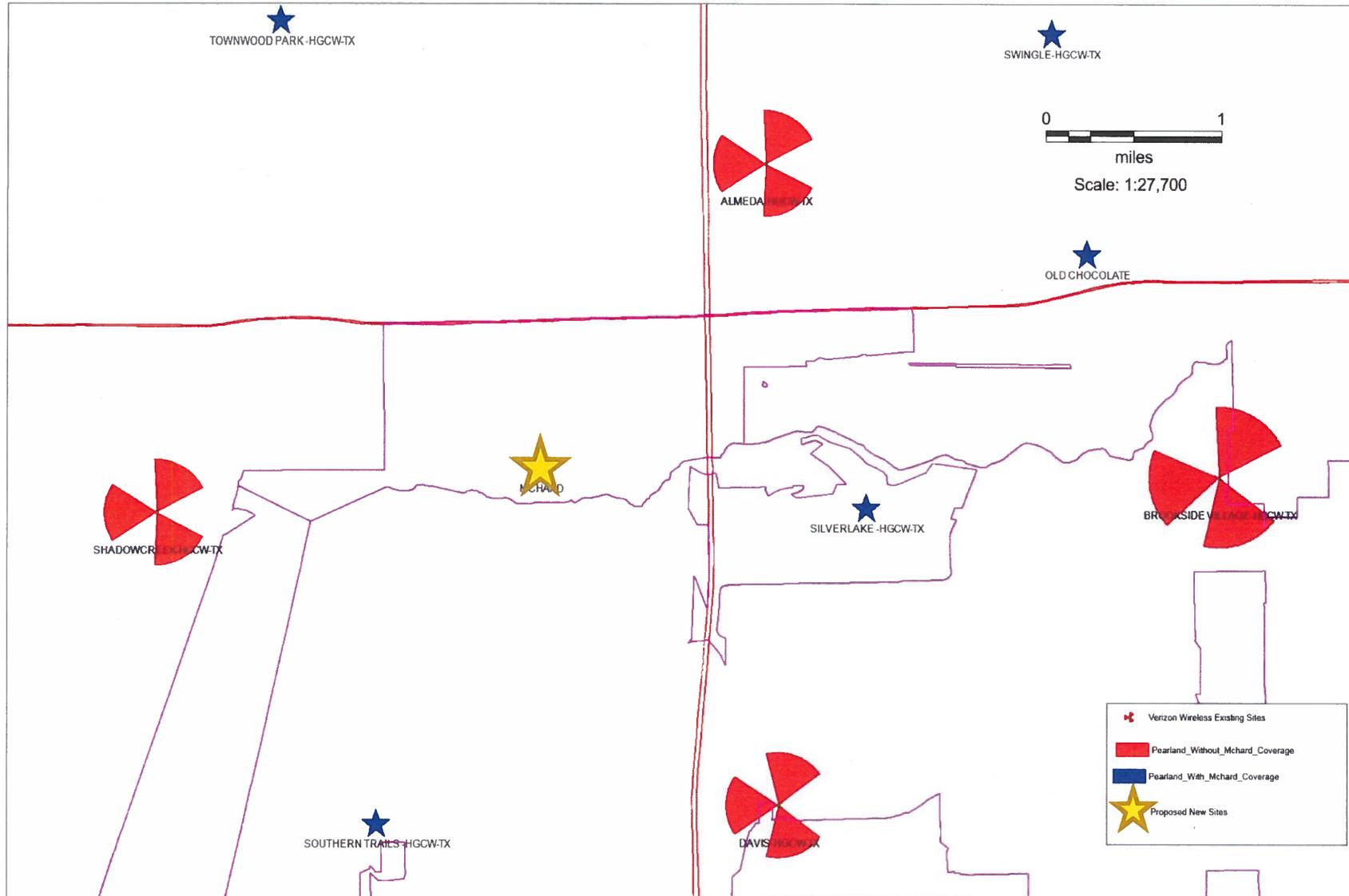
- From Pearland's existing coverage (without the new site McHard), it is easy to see that there are coverage holes in the area of intersection of McHard and Kirby. Most likely the customers in that area will experience less than desired services.
- From the Pre_Post comparison plots, we can see that McHard's coverage will fill the coverage hole in the area mentioned above; hence customers in the area can expect much better services.

This site is not irrigated and no water is available. A waiver from any vegetative landscape requirement is requested.

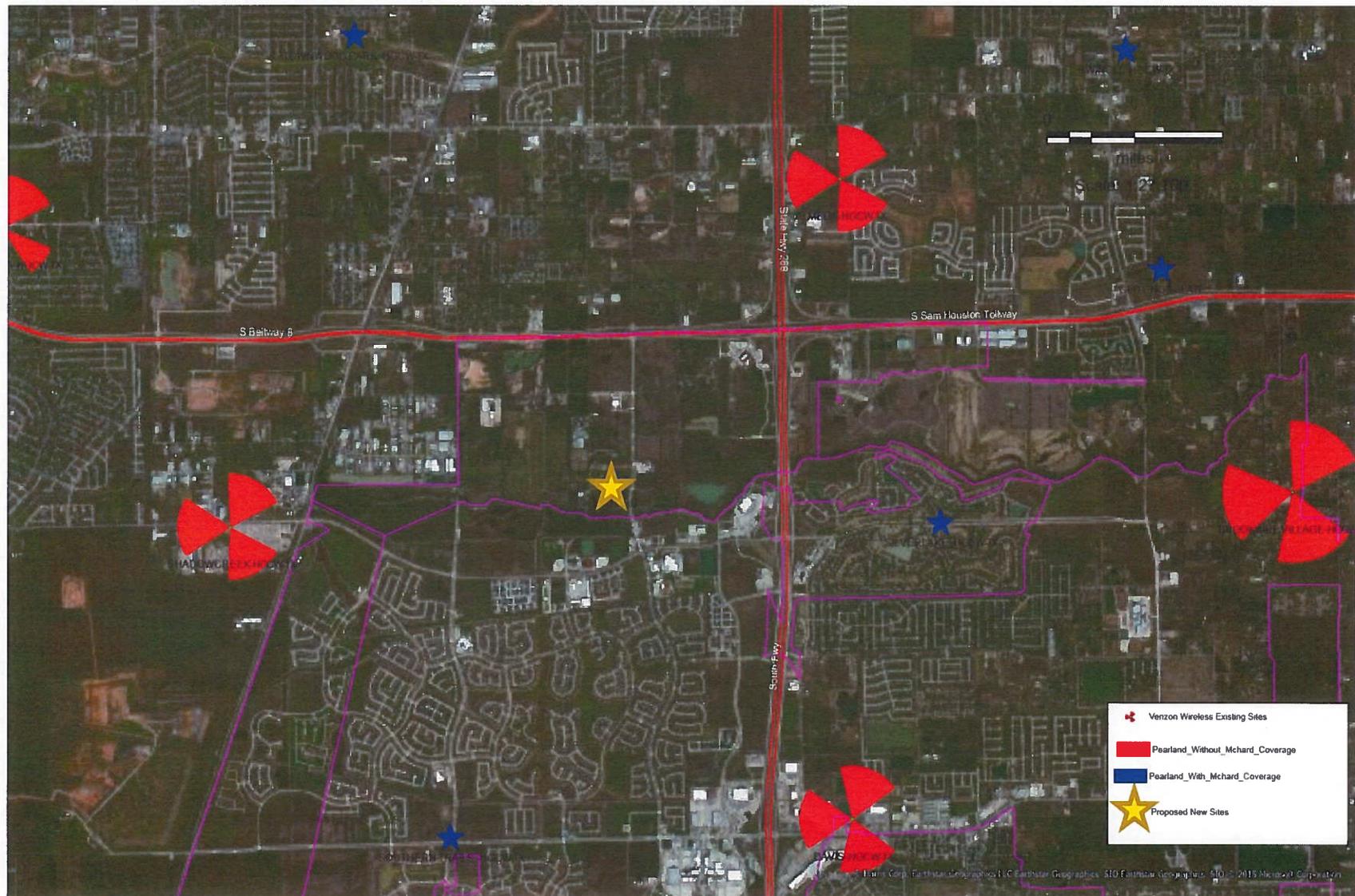
x *Christine Lewis*

Christine Lewis, Agent
Real Estate Specialist
Vinculums Services, Inc.
3511 Pinemont Dr., #A6
Houston, TX 77018
Cell (713) 254-6979
clewis@vinculums.com

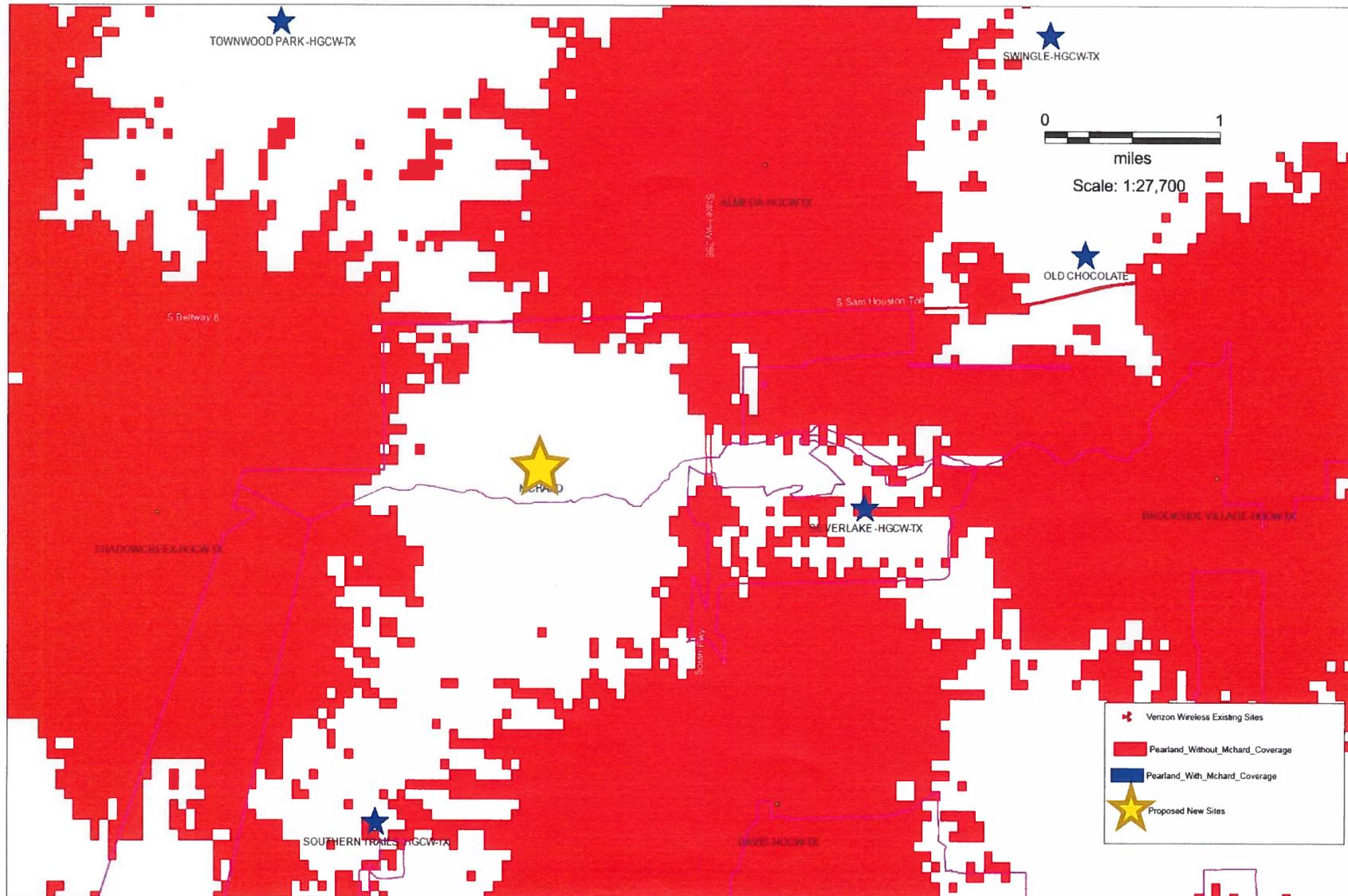
Mchard site surrounding area



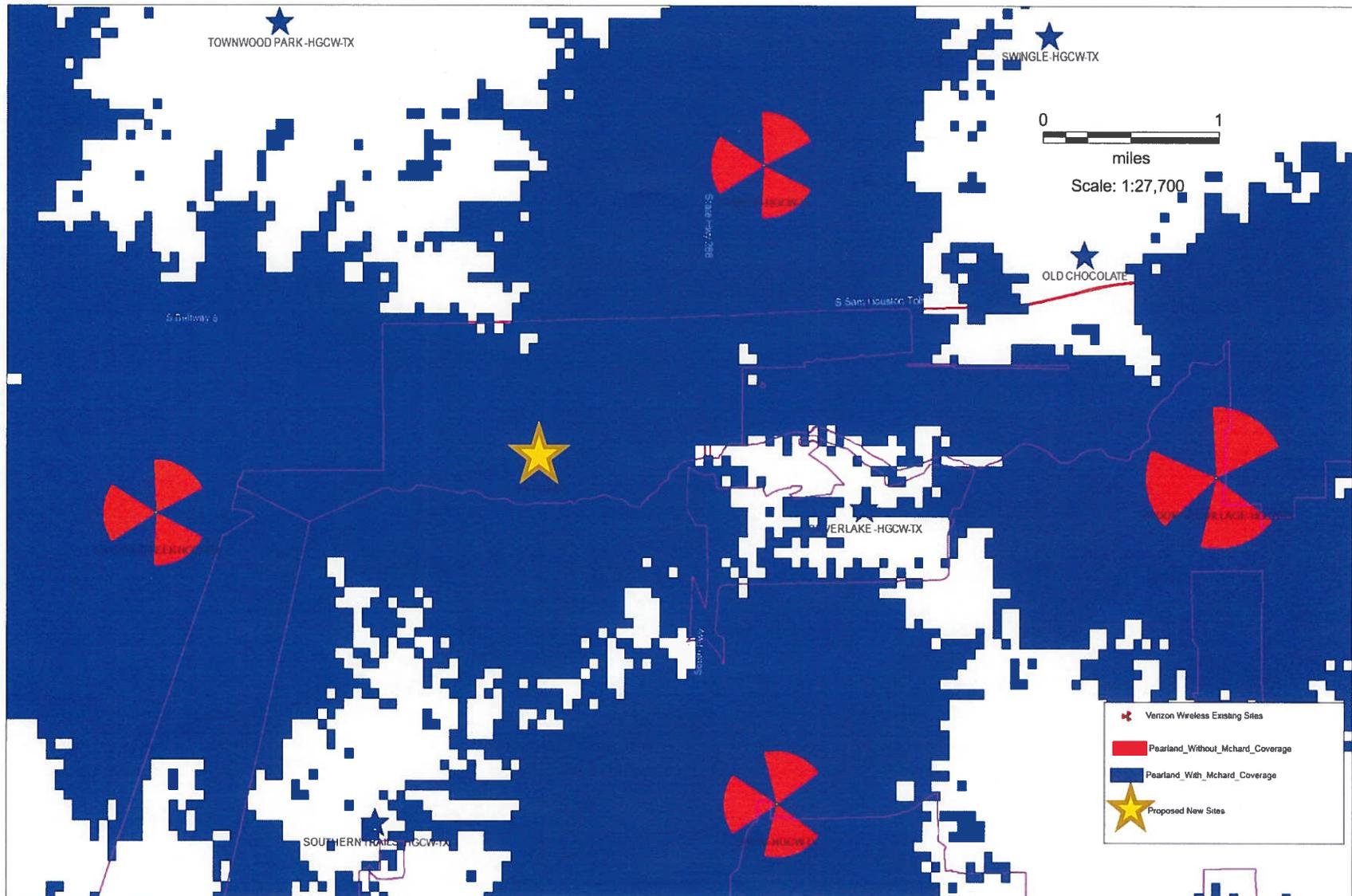
Mchard site surrounding area with street image



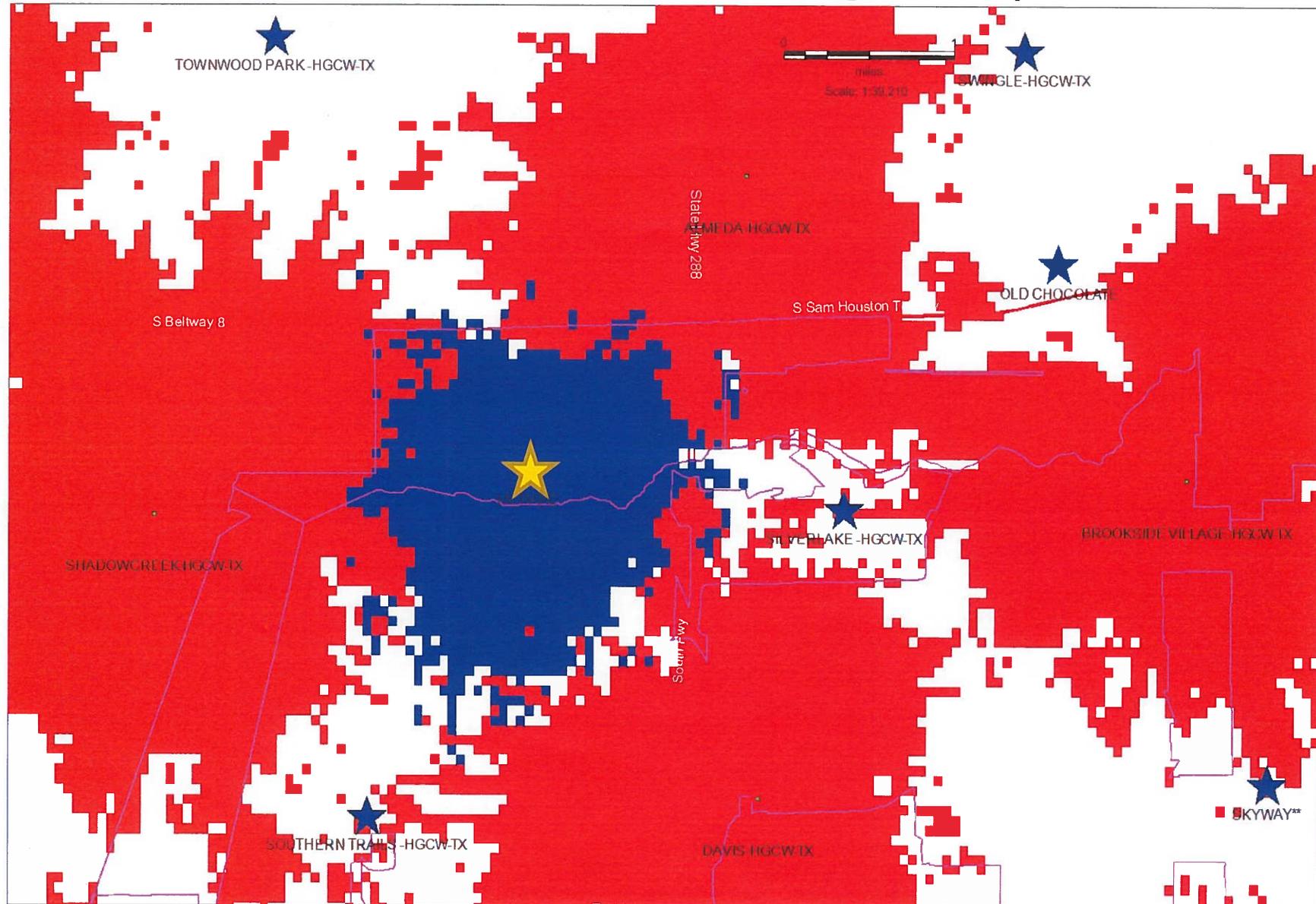
Mchard area coverage without site Mchard



Mchard area coverage with site Mchard



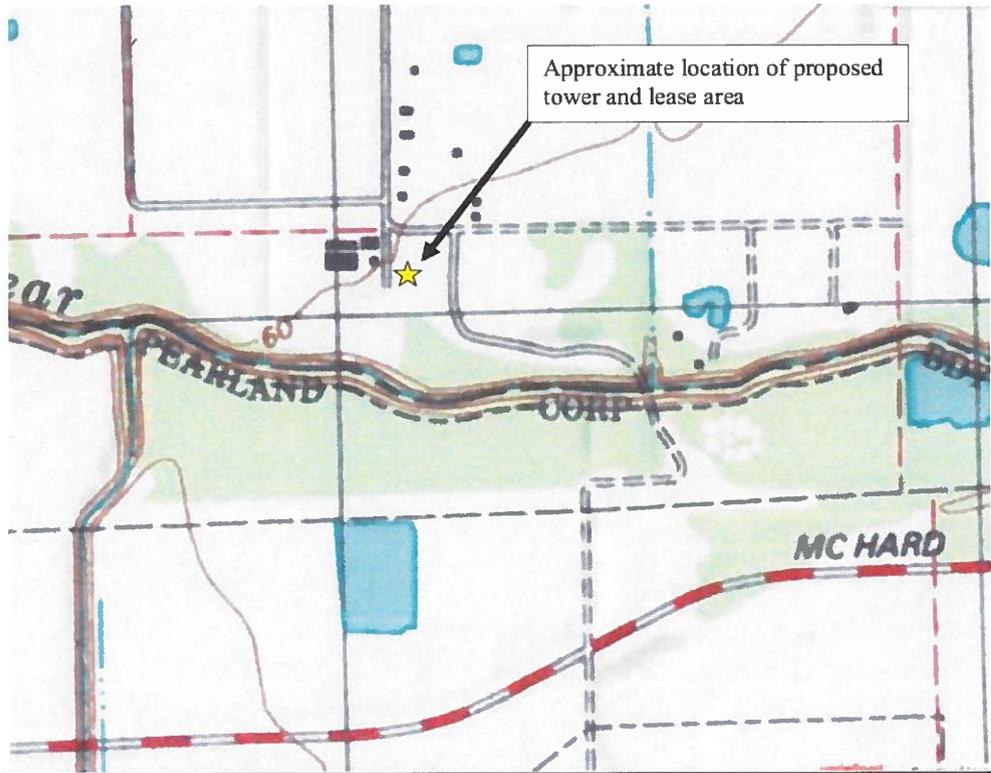
Pre_Post Site Mchard Coverage Comparison



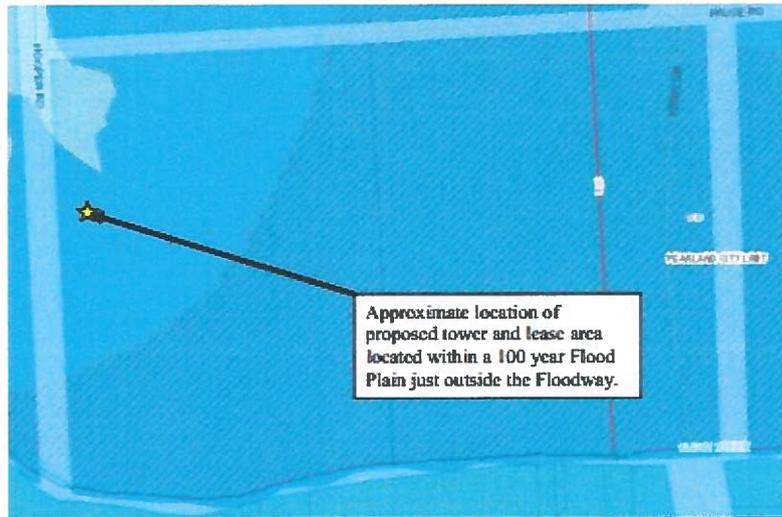
Street Map with Site Marked:



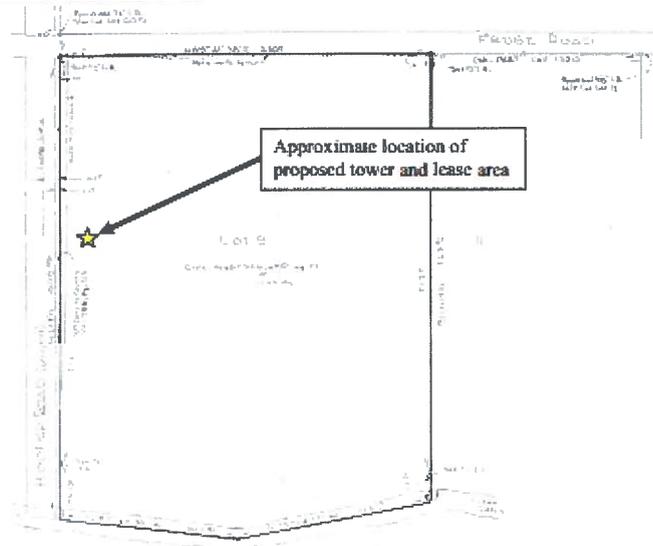
Topographical Map with Site Marked:



100 Year Flood Plain Map:



Existing Survey/Plat of Property:



VZW existing site list in Pearland

Cell Name	Cell Number	Longitude Degrees (NAD83)	Latitude Degrees (NAD83)	Structure Type	Support Structure Ht (feet)	Overall Structure Ht (feet)
PEARLAND-HGCW-TX	686	-95.299542	29.502767	Monopole	170	176
SHADOWCREEK-HGCW-TX	17	-95.438786	29.581153	Monopole	119.8	129.5
BEAMER-HGCW-TX	602	-95.237619	29.571236	Utility Pole/Tower	108	108
FRIENDSWOOD-HGCW-TX	616	-95.199717	29.529733	Self Support Tower	170	178
DAVIS-HGCW-TX	623	-95.37975	29.55725	Self-support Structure	190	195
GARRY-HGCW-TX	643	-95.247856	29.599781	Utility Pole/Tower	100	105
ALMEDA-HGCW-TX	663	-95.38105	29.609675	Self Support Tower	150	165
BROOKSIDE VILLAGE-HGCW-TX	664	-95.338014	29.584142	Monopole	151	161
HOBBY-HGCW-TX	665	-95.275767	29.611897	Self-support Structure	110	120
WEST FUQUA-HGCW-TX	676	-95.460483	29.605633	Monopole	121	126
ARCOLA-HGCW-TX	689	-95.474942	29.477181	Self Support Tower	150	158
FM518-HGCW-TX	690	-95.288364	29.558525	Self Support Tower	180	193
ARCOLA_II-HGCW-TX	691	-95.416883	29.529122	Self Support Tower	180	185
DIXIE-HGCW-TX	705	-95.236111	29.532444	Monopole	150	155
SOUTH FORK-HGCW-TX	713	-95.336819	29.531238	Monopole	160	165
FRESNO-HGCW-TX	734	-95.457194	29.513456	Monopole	140	150

MIKE SULLIVAN
 TAX ASSESSOR-COLLECTOR
 P.O. BOX 3547
 HOUSTON, TEXAS 77253-3547
 TEL: 713-274-8000



2014 Property Tax Statement
 Web Statement

Statement Date:	May 8, 2015
Account Number	044-052-000-0020



LORANCE SUSIE M
 2618 S PEACH HOLLOW CIR
 PEARLAND TX 77584-2091

Taxing Jurisdiction	Exemptions	Taxable Value	Rate per \$100	Taxes
Houston ISD	0	1,097	1.196700	\$13.13
Harris County	0	1,097	0.417310	\$4.58
Harris County Flood Control Dist	0	1,097	0.027360	\$0.30
Port of Houston Authority	0	1,097	0.015310	\$0.17
Harris County Hospital District	0	1,097	0.170000	\$1.86
Harris County Dept. of Education	0	1,097	0.005999	\$0.07
Houston Community College System	0	1,097	0.106890	\$1.17

Property Description	
FRUGE ST 77047 TR 9 ALLISON RICHEY GULF COAST HOMES SEC P ABST 626 O PITTS 11.6700 AC	
Appraised Values	
Land - Market Value	76,251
Impr - Market Value	0
Total Market Value	76,251
Less Capped Mkt Value	0
Appraised Value	76,251
Exemptions/Deferrals	
Farm Productivity	

Page: 1 of 1

Total 2014 Taxes Due By January 31, 2015:	\$21.28
Payments Applied To 2014 Taxes	\$21.28
Total Current Taxes Due (Including Penalties)	\$0.00
Prior Year(s) Delinquent Taxes Due (If Any)	\$0.00
Total Amount Due For May 2015	\$0.00

Penalties for Paying Late	Rate	Current Taxes	Delinquent Taxes	Total
By February 28, 2015	7%	\$0.00	\$0.00	\$0.00
By March 31, 2015	9%	\$0.00	\$0.00	\$0.00
By April 30, 2015	11%	\$0.00	\$0.00	\$0.00
By May 31, 2015	13%	\$0.00	\$0.00	\$0.00
By June 30, 2015	15%	\$0.00	\$0.00	\$0.00

Tax Bill Increase (Decrease) from 2009 to 2014: Appraised Value -44%, Taxable Value -4%, Tax Rate 3%, Tax Bill -1%.

PLEASE CUT AT THE DOTTED LINE AND RETURN THIS PORTION WITH YOUR PAYMENT.



PAYMENT COUPON

LORANCE SUSIE M
 2618 S PEACH HOLLOW CIR
 PEARLAND TX 77584-2091

Make check payable to:

MIKE SULLIVAN
 TAX ASSESSOR-COLLECTOR
 P.O. BOX 4622
 HOUSTON, TEXAS 77210-4622

Account Number	044-052-000-0020
Amount Enclosed	\$ _____ . _____

Web Statement - Date Printed: 05-08-2015

IF YOU ARE 65 YEARS OF AGE OR OLDER OR ARE DISABLED AND THE PROPERTY DESCRIBED IN THIS DOCUMENT IS YOUR RESIDENCE HOMESTEAD, YOU SHOULD CONTACT THE APPRAISAL DISTRICT REGARDING ANY ENTITLEMENT YOU MAY HAVE TO A POSTPONEMENT IN THE PAYMENT OF THESE TAXES.

Scan the QR code to pay online or visit www.hctax.net



04405200000203 2014 000000000 000000000 000000000 000000000

ELEVATION CERTIFICATE

OMB NO. 1500-0000
Expires July 31, 2015

Important: Follow the instructions on pages 1-9.

SECTION A - PROPERTY INFORMATION

A1. Building Owner's Name <u>VERIZON</u>	For Insurance Company Use: Policy Number
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. <u>15115 HOOPER RD 1/5</u> City <u>PEARLAND</u> State <u>TX</u> ZIP Code <u>77584</u>	Company NAIC Number
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) <u>PROPOSED VERIZON EQUIPMENT AT PROPOSED TOWER ON HARRIS COUNTY PARCEL: 0440520000020</u>	
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>NON-RESIDENTIAL</u>	
A5. Latitude/Longitude: Lat. <u>N29° 35' 01.10"</u> Long. <u>W95° 24' 15.83"</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983	
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.	
A7. Building Diagram Number <u>5</u>	
A8. For a building with a crawl space or enclosure(s), provide: a) Square footage of crawl space or enclosure(s) <u>N/A</u> sq ft b) No. of permanent flood openings in the crawl space or enclosure(s) walls within 1.0 foot above adjacent grade <u>N/A</u> c) Total net area of flood openings in A8.b <u>N/A</u> sq in d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	A9. For a building with an attached garage, provide: a) Square footage of attached garage <u>N/A</u> sq ft b) No. of permanent flood openings in the attached garage walls within 1.0 foot above adjacent grade <u>N/A</u> c) Total net area of flood openings in A9.b <u>N/A</u> sq in d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number <u>HARRIS COUNTY UNINCORPORATED AREAS 480287</u>	B2. County Name <u>HARRIS</u>	B3. State <u>TX</u>			
B4. Map/Panel Number <u>48201C1010</u>	B5. Suffix <u>L</u>	B6. FIRM Index Date <u>06/18/2007</u>	B7. FIRM Panel Effective/Revised Date <u>06/18/2007</u>	B8. Flood Zone(s) <u>AE,X(SHADED)</u>	B9. Base Flood Elevation(s) (Zone AO, use base flood depth) <u>57.3'</u>
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9. <input type="checkbox"/> FIS Profile <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other (Describe) _____					
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other (Describe) _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.
Benchmark Utilized NGS PID DF8773 Vertical Datum NAVD 1988
Indicate elevation datum used for the elevations in items a) through h) below. NGVD 1929 NAVD 1988 Other/Source: _____
Datum used for building elevations must be the same as that used for BFE.

Check the measurement used.

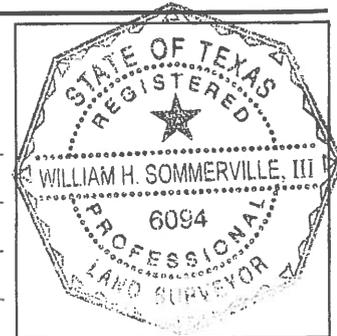
a) Top of bottom floor (including basement, crawl space, or enclosure floor) <u>58.6</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
b) Top of the next higher floor <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
c) Bottom of the lowest horizontal structural member (V Zones only) <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
d) Attached garage (top of slab) <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment in Comments) <u>N/A</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
f) Lowest adjacent (finished) grade (LAG) <u>56.6</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
g) Highest adjacent (finished) grade (HAG) <u>56.6</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Check here if comments are provided on back of form. Were latitude and longitude in Section A provided by a licensed land surveyor? Yes No

Certifier's Name <u>WILLIAM H. SOMMERVILLE</u>	License Number <u>6094</u>
Title <u>PROFESSIONAL LAND SURVEYOR</u>	Company Name <u>SMW ENGINEERING GROUP INC.</u>
Address <u>158 BUSINESS CENTER DRIVE</u>	City <u>BIRMINGHAM</u> State <u>AL</u> ZIP Code <u>35244</u>
Signature <u>[Signature]</u> Date <u>12/11/2014</u>	Telephone <u>205-252-6985</u>



IMPORTANT: In these spaces, copy the corresponding information from Section A.

For Insurance Company Use:

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.
15115 HOOPER RD 1/5

Policy Number

City PEARLAND State TX ZIP Code 77584

Company NAIC Number

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments SECTION "A" LATITUDE AND LONGITUDE WERE DERIVED BY A STATIC GPS OBSERVATION USING SURVEY GRADE GPS RECEIVERS. THE ENTIRE FOOTPRINT OF THE PROPOSED VERIZON EQUIPMENT IS OUTSIDE OF THE AE ZONE BY GRAPHIC PLOTTING. A PORTION OF THE PROPOSED TOWER COMPOUND IS INSIDE THE AE ZONE. ZONE AE WAS PLACED IN BOX "B8" DUE TO ITS CLOSE PROXIMITY OF THE VERIZON EQUIPMENT AND ALSO BEING INSIDE THE TOWER COMPOUND.

Signature

Date 12/11/2014

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
 - a) Top of bottom floor (including basement, crawl space, or enclosure) is _____ feet meters above or below the HAG.
 - b) Top of bottom floor (including basement, crawl space, or enclosure) is _____ feet meters above or below the LAG.
- E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see page 8-9 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet meters above or below the HAG.
- E3. Attached garage (top of slab) is _____ feet meters above or below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ feet meters above or below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge.*

Property Owner's or Owner's Authorized Representative's Name

Address _____ City _____ State _____ ZIP Code _____

Signature _____ Date _____ Telephone _____

Comments

Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8. and G9.

- G1. The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2. A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3. The following information (Items G4.-G9.) is provided for community floodplain management purposes.

G4. Permit Number

G5. Date Permit Issued

G6. Date Certificate Of Compliance/Occupancy Issued

G7. This permit has been issued for: New Construction Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: _____ feet meters (PR) Datum _____

G9. BFE or (in Zone AO) depth of flooding at the building site: _____ feet meters (PR) Datum _____

Local Official's Name

Title

Community Name

Telephone

Signature

Date

Comments

Check here if attachments

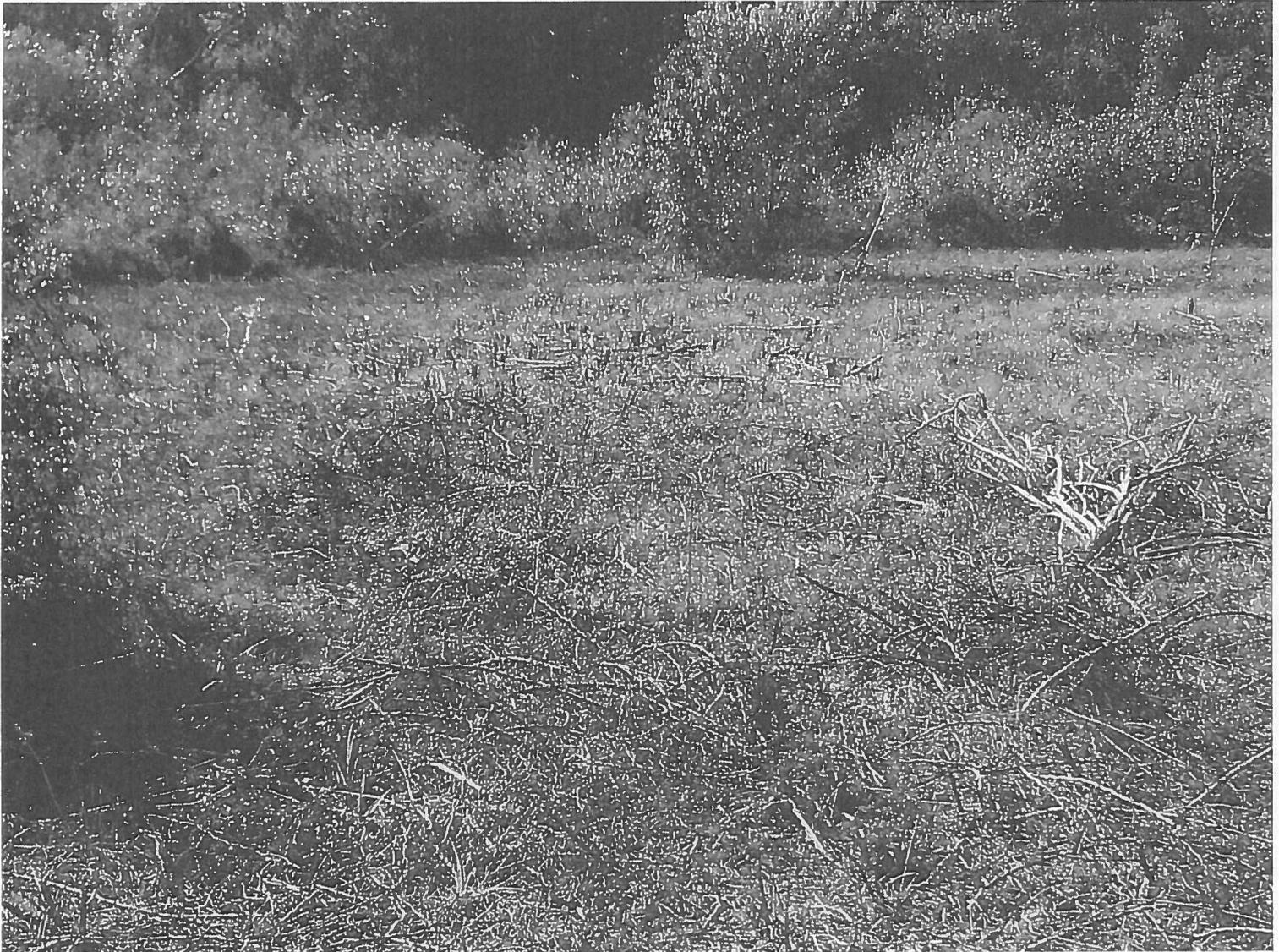
Building Photographs

See Instructions for Item A6.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 15115 HOOPER RD 1/5	For Insurance Company Use: Policy Number
City PEARLAND State TX ZIP Code 77584	Company NAIC Number

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least two building photographs below according to the instructions for Item A6. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.

FRONT VIEW
09/04/2014



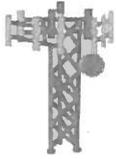
Building Photographs

Continuation Page

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 15115 HOOPER RD 1/5	For Insurance Company Use:
	Policy Number
City PEARLAND State TX ZIP Code 77584	Company NAIC Number
If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.	

GOOGLE IMAGE
04/08/2014

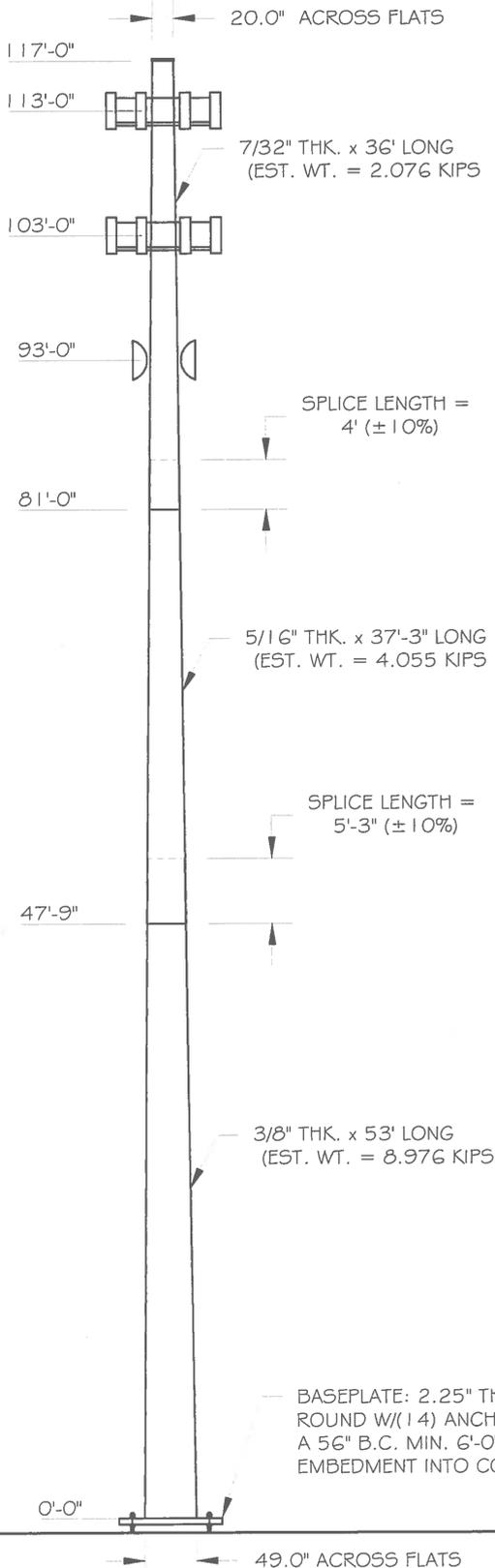




DALEY TOWER SERVICE, INC.

1223 W. Gloria Switch Rd.
Carencro, LA 70502
337.896.6719 - www.daleytower.com

Page 1 of 2	Job Number: 23515-0175
Eng: MFP	Customer Ref: TP-13343
	Date: 4/2/2015
Structure: 117-FT MONOPOLE	
Site: 297774 MCHARD	
Location: HARRIS CO., TX / 29°35'1.1", -95°24'15.6"	
Owner: DALEY TOWER	
Revision No.: Revision Date:	



DESIGN

Building Code: 2006-2015 INTERNATIONAL BUILDING CODE			
Design Standard: ANSI/TIA-222-G-2			
Wind Speed Load Cases: 3-SEC. GUSTED WIND SPEED			
Load Case #1: 110 MPH Design Wind Speed			
Load Case #2: 30 MPH Wind with 0.5" Ice Accumulation			
Load Case #3: 60 MPH Service Wind Speed			
Structure Class	Exposure Cat.	Topography Cat.	Crest Height
II	C	I	

EQUIPMENT LIST

Elev.	Description
113	(12) X7C-FRO-840 + (24) DIPLEXER + (12) RRH + (4) RAYCAP
113	12-FT PLATFORM WITH HANDRAIL
103	(12) X7C-FRO-840 + (24) DIPLEXER + (12) RRH + (4) RAYCAP
103	12-FT PLATFORM WITH HANDRAIL
93	(2) 6-FT MICROWAVE DISH
93	DUAL MICROWAVE MOUNT

ANTENNA FEED LINES ROUTED ON THE INSIDE OF THE POLE

STRUCTURE PROPERTIES

Cross-Section: 18-SIDED		Taper: 0.25694 in/ft			
Shaft Steel: ASTM A572 GR 65		Baseplate Steel: ASTM A572 GR 55			
Anchor Rods: 2.25 in. A615 GR. 75 X 7'-0" LONG					
Sect.	Length (ft)	Thickness (in)	Splice (ft)	Top Dia. (in)	Bot Dia. (in)
1	36.00	0.2188	4.00	20.00	29.25
2	37.25	0.3125	5.25	27.78	37.36
3	53.00	0.3750	0.00	35.38	49.00



MICHAEL F. PLAHOVINSAK, PE
No. 98856
P.E. 4/2/2015
P.A. 2015-625C

BASE REACTIONS FOR FOUNDATION DESIGN

Moment: 4000 ft-kip
Shear: 43 kip
Axial: 33 kip



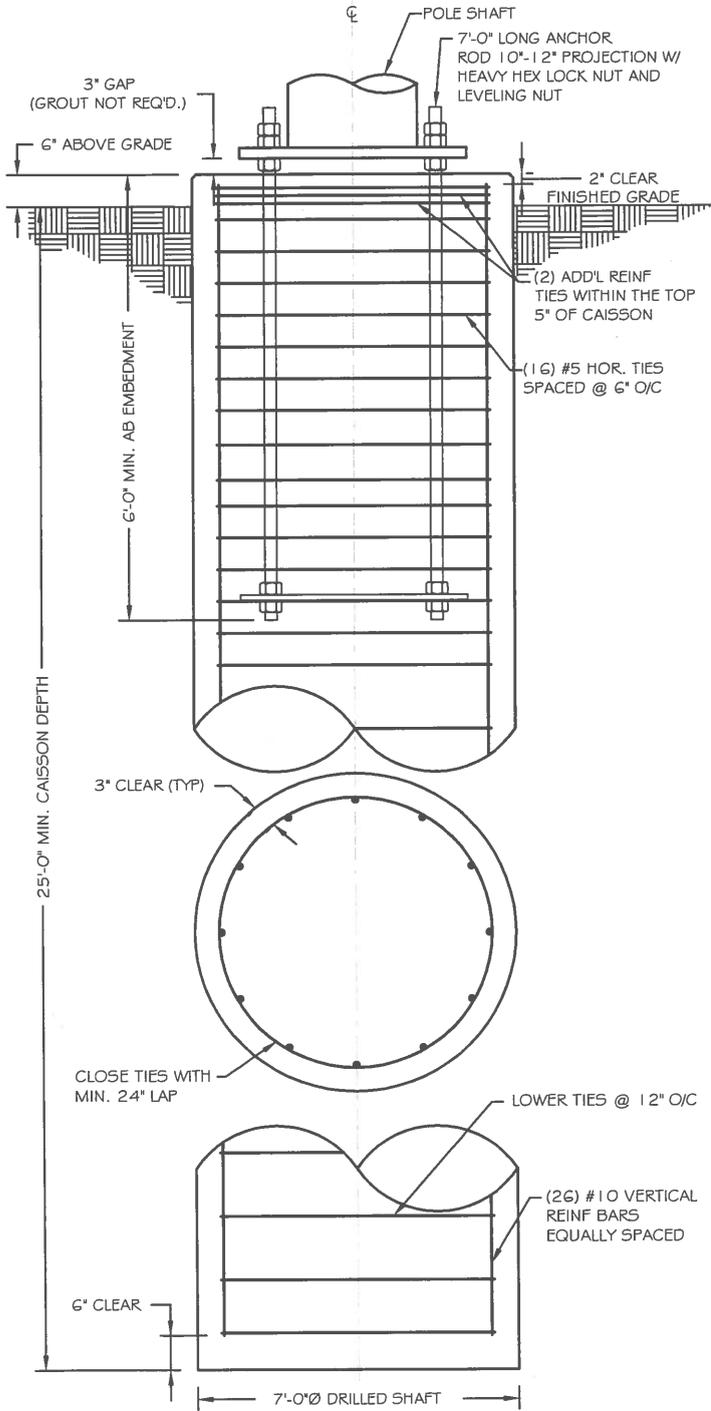
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1223 W. Gloria Switch Rd.
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Page 2 of 2	Job Number: 23515-0175
Eng: MFP	Customer Ref: TP-13343
	Date: 4/2/2015
Structure: 117-FT MONOPOLE	
Site: 297774 MCHARD	
Location: HARRIS CO., TX / 29°35'1.1", -95°24'15.8"	
Owner: DALEY TOWER	
Revision No.:	Revision Date:

FOUNDATION NOTES:

1. ALL FOUNDATION CONCRETE SHALL USE TYPE II CEMENT AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.46 AND SHALL BE AIR ENTRAINED 6% (± 1.5%). ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 VERTICAL BARS SHALL BE GRADE 60, AND TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. THE PLACEMENT OF ALL REINFORCEMENT SHALL CONFORM TO ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.
3. CAISSON FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS", LATEST EDITION.
4. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.
5. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
ENGINEER: GORRONDONA & ASSOCIATES
REPORT NO.: 14-0578 (DATED 12/30/2014)
6. ESTIMATED CONCRETE VOLUME = 36 CUBIC YARDS.
7. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:
MOMENT: 4000 FT*KIPS
SHEAR: 43 KIPS
AXIAL: 33 KIPS
8. GEOTECHNICAL REPORT INDICATES GROUNDWATER MAY BE ENCOUNTERED AT 10'-0" BELOW GRADE.



CAISSON FOUNDATION



4.2.2015

tnxTower Michael F. Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job 117-ft Monopole - MFP #23515-175	Page 1 of 6
	Project 297774 McHard	Date 08:16:26 04/02/15
	Client TAPP (TP-13343)	Designed by Mike

Tower Input Data

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

The following design criteria apply:

Tower is located in Harris County, Texas.

Basic wind speed of 110 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.5000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 30 mph is used in combination with ice.

Temperature drop of 50 °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.

Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

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	117.00-81.00	36.00	4.00	18	20.0000	29.2500	0.2188	0.8750	A572-65 (65 ksi)
L2	81.00-47.75	37.25	5.25	18	27.7847	37.3600	0.3125	1.2500	A572-65 (65 ksi)
L3	47.75-0.00	53.00		18	35.3855	49.0000	0.3750	1.5000	A572-65 (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	I/Q in ²	w in	w/t
L1	20.3085	13.7344	678.9748	7.0223	10.1600	66.8282	1358.8429	6.8685	3.1350	14.331
	29.7012	20.1568	2146.2961	10.3061	14.8590	144.4442	4295.4164	10.0803	4.7630	21.774
L2	29.2574	27.2490	2598.2190	9.7526	14.1146	184.0797	5199.8568	13.6271	4.3401	13.888
	37.9363	36.7465	6371.9317	13.1519	18.9789	335.7380	12752.2478	18.3767	6.0254	19.281
L3	37.3008	41.6712	6453.1126	12.4287	17.9758	358.9886	12914.7163	20.8396	5.5678	14.848
	49.7559	57.8759	17288.3873	17.2619	24.8920	694.5359	34599.5231	28.9435	7.9640	21.237

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Shield Leg	Allow	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf
1 5/8"	C	No	Inside Pole	113.00 - 0.00	18	No Ice	0.92
						1/2" Ice	0.92
1 5/8"	C	No	Inside Pole	103.00 - 0.00	18	No Ice	0.92
						1/2" Ice	0.92
1 5/8"	C	No	Inside Pole	93.00 - 0.00	2	No Ice	0.92
						1/2" Ice	0.92

tnxTower Michael F. Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job 117-ft Monopole - MFP #23515-175	Page 2 of 6
	Project 297774 McHard	Date 08:16:26 04/02/15
	Client TAPP (TP-13343)	Designed by Mike

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Vert			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
(4) CSS X7C-FRO-840 w/ mount pipe	A	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	17.27 18.01	10.96 12.38	0.09 0.20
(8) Commscope CBC7821-DF Diplexer	A	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	0.42 0.51	0.39 0.48	0.02 0.02
(4) Lucent 2x40 RRH	A	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	1.20 1.35	2.25 2.45	0.01 0.03
(4) CSS X7C-FRO-840 w/ mount pipe	B	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	17.27 18.01	10.96 12.38	0.09 0.20
(8) Commscope CBC7821-DF Diplexer	B	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	0.42 0.51	0.39 0.48	0.02 0.02
(4) Lucent 2x40 RRH	B	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	1.20 1.35	2.25 2.45	0.01 0.03
(4) CSS X7C-FRO-840 w/ mount pipe	C	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	17.27 18.01	10.96 12.38	0.09 0.20
(8) Commscope CBC7821-DF Diplexer	C	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	0.42 0.51	0.39 0.48	0.02 0.02
(4) Lucent 2x40 RRH	C	From Face	3.00 0.00 0.00		0.0000	113.00	No Ice 1/2" Ice	1.20 1.35	2.25 2.45	0.01 0.03
(4) Raycap RCMDC-3315-PF-48	C	None			0.0000	113.00	No Ice 1/2" Ice	4.33 4.61	2.56 2.79	0.03 0.06
12' Platform w/ Handrail	C	None			0.0000	113.00	No Ice 1/2" Ice	26.00 26.00	24.00 26.00	1.80 2.60

(4) CSS X7C-FRO-840 w/ mount pipe	A	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	17.27 18.01	10.96 12.38	0.09 0.20
(8) Commscope CBC7821-DF Diplexer	A	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	0.42 0.51	0.39 0.48	0.02 0.02
(4) Lucent 2x40 RRH	A	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	1.20 1.35	2.25 2.45	0.01 0.03
(4) CSS X7C-FRO-840 w/ mount pipe	B	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	17.27 18.01	10.96 12.38	0.09 0.20
(8) Commscope CBC7821-DF Diplexer	B	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	0.42 0.51	0.39 0.48	0.02 0.02
(4) Lucent 2x40 RRH	B	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	1.20 1.35	2.25 2.45	0.01 0.03
(4) CSS X7C-FRO-840 w/ mount pipe	C	From Face	3.00 0.00 0.00		0.0000	103.00	No Ice 1/2" Ice	17.27 18.01	10.96 12.38	0.09 0.20
(8) Commscope	C	From Face	3.00		0.0000	103.00	No Ice	0.42	0.39	0.02

tnxTower Michael F. Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job 117-ft Monopole - MFP #23515-175	Page 3 of 6
	Project 297774 McHard	Date 08:16:26 04/02/15
	Client TAPP (TP-13343)	Designed by Mike

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			ft ft ft	°	ft	ft ²	ft ²	K
CBC7821-DF Diplexer			0.00 0.00		1/2" Ice	0.51	0.48	0.02
(4) Lucent 2x40 RRH	C	From Face	3.00 0.00 0.00	0.0000	103.00 No Ice 1/2" Ice	1.20 1.35	2.25 2.45	0.01 0.03
(4) Raycap RCMD-3315-PF-48	C	None	0.00	0.0000	103.00 No Ice 1/2" Ice	4.33 4.61	2.56 2.79	0.03 0.06
12' Platform w/ Handrail	C	None		0.0000	103.00 No Ice 1/2" Ice	26.00 26.00	24.00 26.00	1.80 2.60

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				ft ft ft	°	°	ft	ft	ft ²	K	
6' std w/radome	A	Paraboloid w/Radome	From Face	1.00 0.00 0.00	0.0000		93.00	6.00	No Ice 1/2" Ice	28.27 29.07	0.16 0.32
6' std w/radome	B	Paraboloid w/Radome	From Face	1.00 0.00 0.00	0.0000		93.00	6.00	No Ice 1/2" Ice	28.27 29.07	0.16 0.32

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 90 deg - No Ice
5	0.9 Dead+1.6 Wind 90 deg - No Ice
6	1.2 Dead+1.6 Wind 180 deg - No Ice
7	0.9 Dead+1.6 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

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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	117 - 81	Pole	Max Tension	7	0.00	0.00	0.00
			Max. Compression	8	-26.33	0.00	1.14
			Max. Mx	4	-8.40	-713.33	0.25
			Max. My	6	-8.46	0.00	-710.38
			Max. Vy	4	33.65	-713.33	0.25
			Max. Vx	6	33.34	0.00	-710.38
			Max. Torque	5			1.97
L2	81 - 47.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-33.62	0.00	1.14
			Max. Mx	4	-15.47	-1843.67	0.18
			Max. My	6	-15.51	0.00	-1830.74
			Max. Vy	4	36.97	-1843.67	0.18
			Max. Vx	6	36.66	0.00	-1830.74
			Max. Torque	5			1.96
L3	47.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-50.40	0.00	1.14
			Max. Mx	4	-31.58	-3942.05	-0.07
			Max. My	6	-31.58	0.00	-3912.67
			Max. Vy	4	41.94	-3942.05	-0.07
			Max. Vx	6	41.63	0.00	-3912.67
			Max. Torque	5			1.95

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	117 - 81	17.601	13	1.3350	0.0000
L2	85 - 47.75	9.190	13	1.0675	0.0000
L3	53 - 0	3.446	13	0.6158	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
113.00	(4) CSS X7C-FRO-840 w/ mount pipe	13	16.486	1.3080	0.0020	25296
103.00	(4) CSS X7C-FRO-840 w/ mount pipe	13	13.738	1.2364	0.0019	9034
93.00	6' std w/radome	13	11.123	1.1515	0.0017	5269

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	117 - 81	105.743	4	8.0313	0.0000
L2	85 - 47.75	55.280	4	6.4250	0.0000
L3	53 - 0	20.745	4	3.7085	0.0000

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Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
113.00	(4) CSS X7C-FRO-840 w/ mount pipe	4	99.055	7.8693	0.0119	4362
103.00	(4) CSS X7C-FRO-840 w/ mount pipe	4	82.572	7.4399	0.0110	1555
93.00	6' std w/radome	4	66.881	6.9299	0.0100	904

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _n ft	KI/r	A in ²	P _n K	φP _n K	Ratio P _n / φP _n
L1	117 - 81 (1)	TP29.25x20x0.2188	36.00	0.00	0.0	19.4432	-8.40	1343.27	0.006
L2	81 - 47.75 (2)	TP37.36x27.7847x0.3125	37.25	0.00	0.0	35.4079	-15.47	2537.15	0.006
L3	47.75 - 0 (3)	TP49x35.3855x0.375	53.00	0.00	0.0	57.8759	-31.58	3980.68	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} / φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} / φM _{uy}
L1	117 - 81 (1)	TP29.25x20x0.2188	713.33	773.55	0.922	0.00	773.55	0.000
L2	81 - 47.75 (2)	TP37.36x27.7847x0.3125	1843.67	1860.78	0.991	0.00	1860.78	0.000
L3	47.75 - 0 (3)	TP49x35.3855x0.375	3942.05	3980.82	0.990	0.00	3980.82	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _n K	φV _n K	Ratio V _n / φV _n	Actual T _n kip-ft	φT _n kip-ft	Ratio T _n / φT _n
L1	117 - 81 (1)	TP29.25x20x0.2188	33.65	671.64	0.050	1.96	1548.99	0.001
L2	81 - 47.75 (2)	TP37.36x27.7847x0.3125	36.97	1268.57	0.029	1.95	3726.13	0.001
L3	47.75 - 0 (3)	TP49x35.3855x0.375	41.94	1990.34	0.021	1.94	7971.38	0.000

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Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	117 - 81 (1)	0.006	0.922	0.000	0.050	0.001	0.931	1.000	4.8.2 ✓
L2	81 - 47.75 (2)	0.006	0.991	0.000	0.029	0.001	0.998	1.000	4.8.2 ✓
L3	47.75 - 0 (3)	0.008	0.990	0.000	0.021	0.000	0.999	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	117 - 81	Pole	TP29.25x20x0.2188	1	-8.40	1343.27	93.1	Pass
L2	81 - 47.75	Pole	TP37.36x27.7847x0.3125	2	-15.47	2537.15	99.8	Pass
L3	47.75 - 0	Pole	TP49x35.3855x0.375	3	-31.58	3980.68	99.9	Pass
Summary								
Pole (L3)							99.9	Pass
RATING =							99.9	Pass

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Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G-2

Factored Base Reactions:	Pole Shape:	Anchor Rods:	Base Plate:
Moment: 3942 ft-kips	18-Sided	(14) 2.25 in. A615 GR. 75	2.25 in. x 62 in. Round
Shear: 42 kips	Pole Dia. (D_f):	Anchor Rods Evenly Spaced	$f_y = 55$ ksi
Axial: 32 kips	49.00 in	On a 56 in Bolt Circle	

Anchor Rod Calculation According to TIA-222-G section 4.9.9

- $\phi = 0.80$ TIA 4.9.9
- $I_{bolts} = 5488.00 \text{ in}^2$ Momet of Inertia
- $P_u = 241$ kips Tension Force
- $V_u = 3$ kips Shear Force
- $R_{nt} = 325.00$ kips Nominal Tensile Strength
- $\eta = 0.50$ for detail type (d)

The following Iteration Equation Shall Be Satisfied:

$$\left(\frac{P_u + \frac{V_u}{\eta}}{\phi R_{nt}} \right) \leq 1.0$$

$$0.951 \leq 1$$

Base Plate Calculation According to TIA-222-G

- $\phi = 0.90$ TIA 4.7
- $M_{PL} = 578.6$ in-kip Plate Moment
- $L = 11.0$ in Section Length
- $Z = 13.9$ Plastic Section Modulus
- $M_p = 765.4$ in-kip Plastic Moment
- $\phi M_n = 688.9$ in-kip Factored Resistance

Calculated Moment vs Factored Resistance

$$578.63 \text{ in-kip} \leq 689 \text{ in-kip}$$

Anchor Rods Are Adequate	95.1% <input checked="" type="checkbox"/>
Base Plate is Adequate	84.0% <input checked="" type="checkbox"/>

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Caisson Calculation

According to ANSI/TIA-222-G-2

1. Foundation overturning resistance calculated with PLS Caisson. for Brom's method for rigid piles. Soil layers modeled after recommendations from the geotechnical report.
2. Cohesion strength for the upper 21 ft has been reduced by 50%
3. In lieu of a soil resistance factor $f_s = 0.75$ (TIA-9.4.1) an additional safety factor against soil failure of 1.33 has been applied.
4. Foundation is designed with a minimum safety factor resisting overturning of 2.0
5. Foundation has been designed with factored loads per TIA-222-G.
6. Design water table = 10 ft below grade

*** PIER PROPERTIES CONCRETE STRENGTH (ksi) = 4.00 STEEL STRENGTH (ksi) = 60.00

DIAMETER (ft) = 7.000 DISTANCE FROM TOP OF PIER TO GROUND LEVEL (ft) = 0.50

*** SOIL PROPERTIES

LAYER	TYPE	THICKNESS (ft)	DEPTH AT TOP OF LAYER (ft)	DENSITY (pcf)	CU (psf)	KP	PHI (degrees)
1	S	4.00	0.00	0.00		1.000	-0.00
2	S	1.00	4.00	125.0		1.000	-0.00
3	C	5.00	5.00	125.0	750.0		
4	C	5.00	10.00	65.0	750.0		
5	C	6.00	15.00	65.0	1250.0		
6	C	20.00	21.00	65.0	2500.0		

*** DESIGN (FACTORED) LOADS AT TOP OF PIER MOMENT (ft-k) = 4000.0 VERTICAL (k) = 33.0 SHEAR (k) = 43.0
 ADDITIONAL SAFETY FACTOR AGAINST SOIL FAILURE = 1.33

*** CALCULATED PIER LENGTH (ft) = 25.500

*** CHECK OF SOILS PROPERTIES AND ULTIMATE RESISTING FORCES ALONG PIER

TYPE	TOP OF LAYER (ft)	BELOW TOP OF PIER (ft)	THICKNESS (ft)	DENSITY (pcf)	CU (psf)	KP	FORCE (k)	ARM (ft)
S	0.50	4.00	4.00	0.00		1.000	0.00	3.17
S	4.50	1.00	1.00	125.0		1.000	1.31	5.17
C	5.50	5.00	5.00	125.0	750.0		210.00	8.00
C	10.50	5.00	5.00	65.0	750.0		210.00	13.00
C	15.50	4.40	4.40	65.0	1250.0		308.14	17.70
C	19.90	1.60	1.60	65.0	1250.0		-111.86	20.70
C	21.50	4.00	4.00	65.0	2500.0		-560.00	23.50

*** SHEAR AND MOMENTS ALONG PIER

DISTANCE BELOW TOP OF PIER (ft)	WITH THE ADDITIONAL SAFETY FACTOR			WITHOUT ADDITIONAL SAFETY FACTOR		
	SHEAR (k)	MOMENT (ft-k)		SHEAR (k)	MOMENT (ft-k)	
0.00	57.6	5604.6		43.2	4203.5	
2.55	57.6	5751.4		43.2	4313.7	
5.10	57.1	5898.2		42.8	4423.7	
7.65	-34.0	5944.8		-25.5	4458.7	
10.20	-141.1	5721.4		-105.8	4291.2	
12.75	-248.2	5225.0		-186.2	3918.9	
15.30	-355.3	4455.5		-266.5	3341.7	
17.85	-528.2	3335.5		-396.2	2501.7	
20.40	-637.0	1778.3		-477.8	1333.8	
22.95	-357.0	455.2		-267.8	341.4	
25.50	0.0	-0.0		0.0	-0.0	

*** TOTAL REINFORCEMENT PCT = 0.54 REINFORCEMENT AREA (in²) = 29.93
 *** USABLE AXIAL CAP. (k) = 33.0 USABLE MOMENT CAP. (ft-k) = 4606.8

For Design:

7-ft Diameter caisson x 25.5-ft long (25-ft Embedded with 0.5-ft above grade)

Concrete strength = 4000 PSI @ 28 days. Estimated Concrete Volume = 36 CY3.

(26) #10 Vertical Rebar. Steel Cross-Section = 33.02 in²



VERIZON INTENT TO LEASE EXCESS TOWER AND GROUND SPACE

PROJECT NAME: 297774 MCHARD

TAX ID: 0440520000020

It is Verizon Wireless' standard practice that all new telecommunication towers be designed to accommodate multiple carriers. Per the existing agreement between Verizon Wireless (LESSEE) and the land owner (LESSOR), "LESSEE may sublet the premises..." both on tower and ground space, to accommodate shared use potential of the tower, if structurally and technically possible. It is Verizon's intention to lease excess tower and ground space to others who are seeking possible collocation opportunities.

x *Christine Lewis*

Christine Lewis, Agent
Real Estate Specialist
Vinculum Services, Inc.
3511 Pinemont Dr., #A6
Houston, TX 77018
Cell (713) 254-6979
clewis@vinculum.com

LAND LEASE AGREEMENT

This Land Lease Agreement ("Agreement"), made this 13th day of February, 2015 between **SUSIE M. LORANCE**, with an address of 2618 S Peach Hollow Circle, Pearland, Texas 77584, hereinafter collectively designated LESSOR and **GTE MOBILNET OF SOUTH TEXAS LIMITED PARTNERSHIP d/b/a Verizon Wireless**, with its principal offices at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

1. PREMISES. LESSOR hereby leases to LESSEE a portion of that certain parcel of property (the entirety of LESSOR's property is referred to hereinafter as the Property), located at 15115 Hooper Road 1/5, Pearland, Harris County, Texas 77584, and being described as a 60' by 60' parcel containing 3,600 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twenty foot (20') wide right-of-way extending from the nearest public right-of-way, Hooper Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof. The Property is also shown on the Tax Map of Harris County, Texas as Parcel No. 0440520000020 and is further described in Document No. 251346, as recorded in the Official Records of Harris County, Texas.

In the event any public utility is unable to use the Rights of Way, the LESSOR hereby agrees to grant an additional right-of-way either to the LESSEE or to the public utility at no cost to the LESSEE.

2. SURVEY. LESSOR also hereby grants to LESSEE the right to survey the Property and the Premises, and said survey shall then become Exhibit "B" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "A". Cost for such work shall be borne by the LESSEE.

3. TERM; RENTAL.

a. This Agreement shall be effective as of the date of execution by both Parties, provided, however, the initial term shall be for five (5) years and shall commence on the Commencement Date (as hereinafter defined) at which time rental payments shall commence and be due at a total annual rental of [REDACTED] to be paid in equal monthly installments on the first day of the month, in advance, to LESSOR or to such other person, firm or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 23 below. The Agreement shall commence based upon the date LESSEE commences installation of the equipment on the Premises, or on July 1, 2015, whichever occurs first.

In the event the date of commencing installation of the equipment is determinative and such date falls between the 1st and 15th of the month, the Agreement shall commence on the 1st of that month and if such date falls between the 16th and 31st of the month, then the Agreement shall commence on the 1st day of the following month (either of the foregoing or July 1, 2015, if applicable, being the "Commencement Date"). LESSOR and LESSEE agree that they shall acknowledge in writing the Commencement Date in the event the Commencement Date is based upon the date LESSEE commences installation of the equipment on the Premises. In the event the Commencement Date is the fixed date set forth above, there shall be no written acknowledgement required. LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the Commencement Date or after a written acknowledgement confirming the Commencement Date, if such an acknowledgement is required. By way of illustration of the preceding sentence, if the Commencement Date is January 1 and no written acknowledgement confirming the Commencement Date is required, LESSEE shall send to the LESSOR the rental payments for January 1 and February 1 by February 1, and if the Commencement Date is January 1 and a required written acknowledgement confirming the Commencement Date is dated January 14, LESSEE shall send to the LESSOR the rental payments for January 1 and February 1 by February 13.

Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE.

b. LESSOR hereby agrees to provide to LESSEE certain documentation (the "Rental Documentation") evidencing LESSOR's interest in, and right to receive payments under, this Agreement, including without limitation: (i) documentation, acceptable to LESSEE in LESSEE's reasonable discretion, evidencing LESSOR's good and sufficient title to and/or interest in the Property and right to receive rental payments and other benefits hereunder; (ii) a complete and fully executed Internal Revenue Service Form W-9, or equivalent, in a form acceptable to LESSEE, for any party to whom rental payments are to be made pursuant to this Agreement; and (iii) other documentation requested by LESSEE in LESSEE's reasonable discretion. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. The Rental Documentation shall be provided to LESSEE in accordance with the provisions of and at the address given in Paragraph 23. Delivery of Rental Documentation to LESSEE shall be a prerequisite for the payment of any rent by LESSEE and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments until Rental Documentation has been supplied to LESSEE as provided herein.

Within fifteen (15) days of obtaining an interest in the Property or this Agreement, any assignee(s), transferee(s) or other successor(s) in interest of LESSOR shall provide to LESSEE Rental Documentation in the manner set forth in the preceding paragraph. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, any assignee(s) or transferee(s) of LESSOR agrees to provide

updated Rental Documentation in a form reasonably acceptable to LESSEE. Delivery of Rental Documentation to LESSEE by any assignee(s), transferee(s) or other successor(s) in interest of LESSOR shall be a prerequisite for the payment of any rent by LESSEE to such party and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments to any assignee(s), transferee(s) or other successor(s) in interest of LESSOR until Rental Documentation has been supplied to LESSEE as provided herein.

4. EXTENSIONS. This Agreement shall automatically be extended for four (4) additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

5. EXTENSION RENTALS. Commencing on the first annual anniversary of the Commencement Date and on each annual anniversary thereafter during the term of this Agreement (including all extension terms), annual rent shall increase by an amount equal to three percent (3%) of the annual rent due for the immediately preceding lease year.

6. ADDITIONAL EXTENSIONS. If at the end of the fourth (4th) five (5) year extension term this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of five (5) years and for five (5) year terms thereafter until terminated by either Party by giving to the other written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional five (5) year term shall be equal to the annual rental payable with respect to the immediately preceding five (5) year term. The initial term and all extensions shall be collectively referred to herein as the "Term".

7. TAXES. LESSEE shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which LESSOR demonstrates is the result of LESSEE's use of the Premises and/or the installation, maintenance, and operation of the LESSEE's improvements, and any sales tax imposed on the rent (except to the extent that LESSEE is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which LESSOR demonstrates arises from the LESSEE's improvements and/or LESSEE's use of the Premises. LESSOR and LESSEE shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by LESSOR or LESSEE at the Property. Notwithstanding the foregoing, LESSEE shall not have the obligation to pay any tax, assessment, or charge that LESSEE is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making LESSEE liable for any portion of LESSOR's income taxes in connection with any Property or otherwise. Except as set forth in this Paragraph, LESSOR shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do

so prior to the imposition of any lien on the Property. Subject to the terms of this Paragraph, any taxes which LESSOR and LESSEE reasonably agree are owed by LESSEE in accordance with this Paragraph and for which LESSOR provides LESSEE with a written invoice or request for reimbursement will be paid by LESSEE within sixty (60) days following receipt of such written request.

LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment. In the event that LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.

8. USE; GOVERNMENTAL APPROVALS. LESSEE shall use the Premises for the purpose of constructing, maintaining, repairing and operating a communications facility and uses incidental thereto. A security fence consisting of chain link construction or similar but comparable construction may be placed around the perimeter of the Premises at the discretion of LESSEE (not including the access easement). All improvements, equipment, antennas and conduits shall be at LESSEE's expense and their installation shall be at the discretion and option of LESSEE. LESSEE shall have the right to replace, repair, add or otherwise modify its utilities, equipment, antennas and/or conduits or any portion thereof and the frequencies over which the equipment operates, whether the equipment, antennas, conduits or frequencies are specified or not on any exhibit attached hereto, during the Term. It is understood and agreed that LESSEE's ability to use the Premises is contingent upon its obtaining after the execution date of this Agreement all of the certificates, permits and other approvals (collectively the "Governmental Approvals") that may be required by any Federal, State or Local authorities as well as satisfactory soil boring tests which will permit LESSEE use of the Premises as set forth above. LESSOR shall cooperate with LESSEE in its effort to obtain such approvals and shall take no action which would adversely affect the status of the Property with respect to the proposed use thereof by LESSEE. In the event that (i) any of such applications for such Governmental Approvals should be finally rejected; (ii) any Governmental Approval issued to LESSEE is canceled, expires, lapses, or is otherwise withdrawn or terminated by governmental authority; (iii) LESSEE determines that such Governmental Approvals may not be obtained in a timely manner; (iv) LESSEE determines that any soil boring tests are unsatisfactory; (v) LESSEE determines that the Premises is no longer technically compatible for its use, or (vi) LESSEE, in its sole discretion, determines that the use of the Premises is obsolete or unnecessary, LESSEE shall have the right to terminate this Agreement. Notice of LESSEE's exercise of its right to terminate shall be given to LESSOR in writing by certified mail, return receipt requested, and shall be effective upon the mailing of such notice by

LESSEE, or upon such later date as designated by LESSEE. All rentals paid to said termination date shall be retained by LESSOR. Upon such termination, this Agreement shall be of no further force or effect except to the extent of the representations, warranties and indemnities made by each Party to the other hereunder. Otherwise, the LESSEE shall have no further obligations for the payment of rent to LESSOR. In addition, LESSEE shall have the right to terminate this Agreement without penalty at any time and for any reason prior to the date LESSEE commences installation of the equipment on the Premises, effective upon the mailing of such notice by LESSEE, or upon such later date as designated by LESSEE in such notice.

9. INDEMNIFICATION. Subject to Paragraph 10 below, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents.

10. INSURANCE.

a. Notwithstanding the indemnity in Paragraph 9, the Parties hereby waive and release any and all rights of action for negligence against the other which may hereafter arise on account of damage to the Premises or to the Property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the Parties, or either of them. These waivers and releases shall apply between the Parties and they shall also apply to any claims under or through either Party as a result of any asserted right of subrogation. All such policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurer's right of subrogation against the other Party.

b. LESSEE will maintain at its own cost;

- i. Commercial General Liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$500,000 for damage or destruction to property in any one occurrence
- ii. Commercial Auto Liability insurance on all owned, non-owned and hired automobiles with a minimum combined limit of not less than one million (\$1,000,000) per occurrence
- iii. Workers Compensation insurance providing the statutory benefits and not less than one million (\$1,000,000) of Employers Liability coverage.

LESSEE will include the LESSOR as an additional insured on the Commercial General Liability and Auto Liability policies.

c. LESSOR will maintain at its own cost commercial general liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$500,000 for damage or destruction to property in any one occurrence. LESSOR will include the LESSEE as an additional insured.

11. LIMITATION OF LIABILITY. Except for indemnification pursuant to Paragraphs 9 and 29, neither Party shall be liable to the other, or any of their respective agents, representatives, employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.

12. ANNUAL TERMINATION. Notwithstanding anything to the contrary contained herein, provided LESSEE is not in default hereunder beyond applicable notice and cure periods, LESSEE shall have the right to terminate this Agreement upon the annual anniversary of the Commencement Date provided that three (3) months prior notice is given to LESSOR.

13. INTERFERENCE. LESSEE agrees to install equipment of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of LESSOR or other licensed wireless communications providers of the Property which existed on the Property prior to the date this Agreement is executed by the Parties. In the event any after-installed LESSEE's equipment causes such interference, and after LESSOR has notified LESSEE in writing of such interference, LESSEE will take all commercially reasonable steps necessary to correct and eliminate the interference, including but not limited to, at LESSEE's option, powering down such equipment and later powering up such equipment for intermittent testing. In no event will LESSOR be entitled to terminate this Agreement or relocate the equipment as long as LESSEE is making a good faith effort to remedy the interference issue. LESSOR agrees that LESSOR and/or any other tenants, occupants, or users of the Property who currently have or in the future take possession of, all or a part of, the Property will be permitted to install only such equipment that is of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to the then existing equipment of LESSEE. The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. LESSEE shall, upon expiration of the Term, or within ninety (90) days after any earlier termination of the Agreement, remove its building(s), antenna structure(s), footings to a depth of three (3) feet below grade, equipment, conduits, fixtures and all personal property and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of LESSEE shall remain the personal property of LESSEE and LESSEE shall have the right to remove the same at any time during the Term, whether or not said items

are considered fixtures and attachments to real property under applicable Laws (as defined in Paragraph 33 below). If such time for removal causes LESSEE to remain on the Premises after termination of this Agreement, LESSEE shall pay rent at the rate defined in Paragraph 15 below, until such time as the removal of the building, antenna structure, fixtures and all personal property are completed.

15. HOLDOVER. LESSEE has no right to retain possession of the Premises or any part thereof beyond the expiration of that removal period set forth in Paragraph 14 herein, unless the Parties are negotiating a new lease or lease extension in good faith. In the event that the Parties are not in the process of negotiating a new lease or lease extension in good faith, LESSEE holds over in violation of Paragraph 14 and this Paragraph 15, then the rent then in effect payable from and after the time of the expiration or earlier removal period set forth in Paragraph 14 shall be increased to one hundred and thirty percent (130%) of the rent applicable during the month immediately preceding such expiration or earlier termination.

16. RIGHT OF FIRST REFUSAL. If LESSOR elects, during the Term (i) to sell or otherwise transfer all or any portion of the Property, whether separately or as part of a larger parcel of which the Property is a part, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, with or without an assignment of this Agreement to such third party, LESSEE shall have the right of first refusal to meet any bona fide offer of sale or transfer on the same terms and conditions of such offer. If LESSEE fails to meet such bona fide offer within thirty (30) days after written notice thereof from LESSOR, LESSOR may sell or grant the easement or interest in the Property or portion thereof to such third person in accordance with the terms and conditions of such third party offer. For purposes of this Paragraph, any transfer, bequest or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance or by conveyance to a trust for the benefit of family members shall not be considered a sale of the Property for which LESSEE has any right of first refusal.

17. RIGHTS UPON SALE. Should LESSOR, at any time during the Term decide (i) to sell or transfer all or any part of the Property to a purchaser other than LESSEE, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, such sale or grant of an easement or interest therein shall be under and subject to this Agreement and any such purchaser or transferee shall recognize LESSEE's rights hereunder under the terms of this Agreement. To the extent that LESSOR grants to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE for the purpose of operating and maintaining communications facilities or the management thereof and in conjunction therewith, assigns this Agreement to said third party, LESSOR shall not be released from its

obligations to LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of this Agreement.

18. QUIET ENJOYMENT. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises.

19. TITLE. LESSOR represents and warrants to LESSEE as of the execution date of this Agreement, and covenants during the Term that LESSOR is seized of good and sufficient title and interest to the Property and has full authority to enter into and execute this Agreement. LESSOR further covenants during the Term that there are no liens, judgments or impediments of title on the Property, or affecting LESSOR's title to the same and that there are no covenants, easements or restrictions which prevent or adversely affect the use or occupancy of the Premises by LESSEE as set forth above.

20. INTEGRATION. It is agreed and understood that this Agreement contains all agreements, promises and understandings between LESSOR and LESSEE and that no verbal or oral agreements, promises or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Agreement shall be void and ineffective unless made in writing signed by the Parties or in a written acknowledgment in the case provided in Paragraph 3. In the event any provision of the Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights and such Party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, in law or in equity.

21. GOVERNING LAW. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the Laws of the State in which the Property is located.

22. ASSIGNMENT. This Agreement may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal or to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder. LESSEE may sublet the Premises within its sole discretion, upon notice to LESSOR. Any sublease that is entered into by LESSEE shall be subject to the provisions of this Agreement and shall be

binding upon the successors, assigns, heirs and legal representatives of the respective Parties hereto.

23. NOTICES. All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Susie M. Lorange
2618 S Peach Hollow Circle
Pearland, Texas 77584-2091

LESSEE: GTE Mobilnet of South Texas Limited Partnership
d/b/a Verizon Wireless
180 Washington Valley Road
Bedminster, New Jersey 07921
Attention: Network Real Estate

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

24. SUCCESSORS. This Agreement shall extend to and bind the heirs, personal representative, successors and assigns of the Parties hereto.

25. SUBORDINATION AND NON-DISTURBANCE. LESSOR shall obtain a Non Disturbance Agreement, as defined below, from its existing mortgagee(s), ground lessors and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property or right-of-way; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's right to remain in occupancy of and have access to the Premises as long as LESSEE is not in default of this Agreement beyond applicable notice and cure periods. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will (1) honor all of the terms of the Agreement, (2) fulfill LESSOR's obligations under the Agreement, and (3) promptly cure all of the then-existing LESSOR defaults under the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement,

LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

26. RECORDING. LESSOR agrees to execute a Memorandum of this Agreement which LESSEE may record with the appropriate recording officer. The date set forth in the Memorandum of Lease is for recording purposes only and bears no reference to commencement of either the Term or rent payments. At the termination of this Agreement, upon written request by LESSOR, LESSEE shall record a release of the Memorandum of Agreement with Harris County, Texas, and provide a copy of the release to LESSOR within Ninety (90) days following receipt of written notice by LESSOR.

27. DEFAULT.

a. In the event there is a breach by LESSEE with respect to any of the provisions of this Agreement or its obligations under it, including the payment of rent, LESSOR shall give LESSEE written notice of such breach. After receipt of such written notice, LESSEE shall have fifteen (15) days in which to cure any monetary breach and thirty (30) days in which to cure any non-monetary breach, provided LESSEE shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSEE commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSOR may not maintain any action or effect any remedies for default against LESSEE unless and until LESSEE has failed to cure the breach within the time periods provided in this Paragraph.

b. In the event there is a breach by LESSOR with respect to any of the provisions of this Agreement or its obligations under it, LESSEE shall give LESSOR written notice of such breach. After receipt of such written notice, LESSOR shall have thirty (30) days in which to cure any such breach, provided LESSOR shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSOR commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSEE may not maintain any action or effect any remedies for default against LESSOR unless and until LESSOR has failed to cure the breach within the time periods provided in this Paragraph. Notwithstanding the foregoing to the

contrary, it shall be a default under this Agreement if LESSOR fails, within five (5) days after receipt of written notice of such breach, to perform an obligation required to be performed by LESSOR if the failure to perform such an obligation interferes with LESSEE's ability to conduct its business on the Property; provided, however, that if the nature of LESSOR's obligation is such that more than five (5) days after such notice is reasonably required for its performance, then it shall not be a default under this Agreement if performance is commenced within such five (5) day period and thereafter diligently pursued to completion.

28. REMEDIES. Upon a default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation on the defaulting Party's behalf, including but not limited to the obtaining of reasonably required insurance policies. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. In the event of a default by either Party with respect to a material provision of this Agreement, without limiting the non-defaulting Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate the Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Premises are located; provided, however, LESSOR shall use reasonable efforts to mitigate its damages in connection with a default by LESSEE. If LESSEE so performs any of LESSOR's obligations hereunder, the full amount of the reasonable and actual cost and expense incurred by LESSEE shall immediately be owing by LESSOR to LESSEE, and LESSOR shall pay to LESSEE upon demand the full undisputed amount thereof with interest thereon from the date of payment at the greater of (i) ten percent (10%) per annum, or (ii) the highest rate permitted by applicable Laws. Notwithstanding the foregoing, if LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due from LESSOR, LESSEE may offset the full undisputed amount, including all accrued interest, due against all fees due and owing to LESSOR until the full undisputed amount, including all accrued interest, is fully reimbursed to LESSEE.

29. ENVIRONMENTAL.

a. LESSOR shall be responsible for all obligations of compliance with any and all environmental and industrial hygiene laws, including any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene conditions or concerns as may now or at any time hereafter be in effect, that are or were in any way related to activity that has been or is currently being now conducted in, on, or in any way related to the Property, except to the extent such conditions or concerns are caused by the specific activities of LESSEE in the Premises. LESSOR agrees to sign any necessary waste manifest associated with the removal, transportation and/or disposal of soils excavated at the Property during construction of LESSEE's facility.

b. LESSOR shall hold LESSEE harmless and indemnify LESSEE from and assume all duties, responsibility and liability at LESSOR's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time in the past or hereafter be in effect, except to the extent such non-compliance results from conditions caused by LESSEE; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon, except to the extent such environmental conditions are caused by LESSEE.

30. CASUALTY. In the event of damage by fire or other casualty to the Premises that cannot reasonably be expected to be repaired within forty-five (45) days following same or, if the Property is damaged by fire or other casualty so that such damage may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, then LESSEE may, at any time following such fire or other casualty, provided LESSOR has not completed the restoration required to permit LESSEE to resume its operation at the Premises, terminate this Agreement upon fifteen (15) days prior written notice to LESSOR. Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment, as of such termination date, with respect to payments due to the other under this Agreement. Notwithstanding the foregoing, the rent shall abate during the period of repair following such fire or other casualty in proportion to the degree to which LESSEE's use of the Premises is impaired.

31. CONDEMNATION. In the event of any condemnation of all or any portion of the Property, this Agreement shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever occurs first. If as a result of a partial condemnation of the Premises or Property, LESSEE, in LESSEE's sole discretion, is unable to use the Premises for the purposes intended hereunder, or if such condemnation may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, LESSEE may, at LESSEE's option, to be exercised in writing within fifteen (15) days after LESSOR shall have given LESSEE written notice of such taking (or in the absence of such notice, within fifteen (15) days after the condemning authority shall have taken possession) terminate this Agreement as of the date the condemning authority takes such possession. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to the equipment, conduits, fixtures, its relocation costs and its damages and losses (but not for the loss of its leasehold interest). Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement

and the Parties shall make an appropriate adjustment as of such termination date with respect to payments due to the other under this Agreement. If LESSEE does not terminate this Agreement in accordance with the foregoing, this Agreement shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the same proportion as the rentable area of the Premises taken bears to the total rentable area of the Premises. In the event that this Agreement is not terminated by reason of such condemnation, LESSOR shall promptly repair any damage to the Premises caused by such condemning authority.

32. SUBMISSION OF AGREEMENT/PARTIAL INVALIDITY/AUTHORITY. The submission of this Agreement for examination does not constitute an offer to lease the Premises and this Agreement becomes effective only upon the full execution of this Agreement by the Parties. If any provision herein is invalid, it shall be considered deleted from this Agreement and shall not invalidate the remaining provisions of this Agreement. Each of the Parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such Party has the full right, power and authority to enter into and execute this Agreement on such Party's behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

33. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, rules, regulations, ordinances, directives, covenants, easements, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (a) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises (other than general office use); and (b) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises.

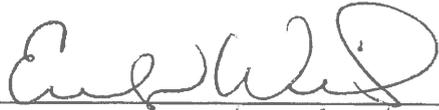
34. SURVIVAL. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement. Additionally, any provisions of this Agreement which require performance subsequent to the termination or expiration of this Agreement shall also survive such termination or expiration.

35. CAPTIONS. The captions contained in this Agreement are inserted for convenience only and are not intended to be part of the Agreement. They shall not affect or be utilized in the construction or interpretation of the Agreement.

[SIGNATURE PAGE IMMEDIATELY FOLLOWING]

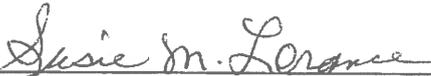
IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

WITNESSES:

By: 
Print Name: Evelyn Wiley

LESSOR:

SUSIE M. LORANCE

By: 
Name: Susie M. Lorange
Date: 12-4-2014

LESSEE:

**GTE MOBILNET OF SOUTH TEXAS
LIMITED PARTNERSHIP d/b/a Verizon
Wireless**

**By San Antonio MTA, L.P., Its
General Partner**

**By Verizon Wireless Texas, LLC, Its
General Partner**

By: 
Print Name: LORI WATERS

By: 
Name: Aparna Khurjekar
Title: Area Vice President Network
Date: 2-13-15

Exhibit "A"
(Page 1 of 3)

Legal Description of Property

SITUATED IN THE COUNTY OF HARRIS, STATE OF TEXAS:

LOT 9 IN BLOCK "P" OF ALLISON RICHEY GULF COAST HOME CO'S PART OF SUBURBANK GARDENS, A SUBDIVISION IN HARRIS COUNTY, TEXAS ACCORDING TO THE MAP OR PLAT THEREOF RECORDED IN VOLUME 3, PAGE 40 OF THE MAP RECORDS OF HARRIS COUNTY, TEXAS, SAVE AND EXCEPT THE WESTERLY TEN FEET (10') CONVEYED TO THE COUNTY OF HARRIS FOR THE WIDENING OF HOOPER ROAD IN INSTRUMENT RECORDED IN VOLUME 988, PAGE 715 OF THE DEED RECORDS OF HARRIS COUNTY, TEXAS.

Exhibit "A"
(Page 2 of 3)

Lessee's Land Space
"Mchard"

A land space being a portion of Lot 9, Block P, Allison Richey Gulf Coast Home Company's part of Suburban Gardens as recorded in Volume 3, Page 40 in the Office of Public Records of Harris County, Texas, lying in the O. Pitts Survey, Abstract 626 of said Harris County and being more particularly described as follows:

Commence at a ½ inch pipe found marking the southwest corner of Lot 60 ½ of said subdivision lying on the northerly right-of-way line of Fruge Road and easterly right-of-way line of Hooper Road, said pipe also lying S 01°54'41" E along said right-of-way line of Hooper Road for a distance of 191.91 feet from a ½ inch rebar found; thence run S 01°54'41" E along said right-of-way for a distance of 229.64 feet to a point; thence N 87°50'30" E for a distance of 23.09 feet to a point; thence N 02°09'30" W for a distance of 30.00 feet to a 5/8" rebar set and the Point of Beginning; thence N 87°50'30" E for a distance of 60.00 feet to a 5/8" rebar set; thence S 02°09'30" E for a distance of 60.00 feet to a 5/8" rebar set; thence S 87°50'30" W for a distance of 60.00 feet to a 5/8" rebar set; thence N 02°09'30" W for a distance of 60.00 feet to the Point of Beginning. Said above described parcel contains 0.08 acres, more or less.

Exhibit "A"
(Page 3 of 3)

Lessee's 20' Ingress/Egress & Utility Right-of-Way
"Mchard"

A right-of-way being a portion of Lot 9, Block P, Allison Richey Gulf Coast Home Company's part of Suburban Gardens as recorded in Volume 3, Page 40 in the Office of Public Records of Harris County, Texas, lying in the O. Pitts Survey, Abstract 626 of said Harris County and being more particularly described as follows:

Commence at a ½ inch pipe found marking the southwest corner of Lot 60 ½ of said subdivision lying on the northerly right-of-way line of Fruge Road and easterly right-of-way line of Hooper Road, said pipe also lying S 01°54'41" E along said right-of-way line of Hooper Road for a distance of 191.91 feet from a ½ inch rebar found; thence run S 01°54'41" E along said right-of-way line for a distance of 229.64 feet to the Point of Beginning of an Ingress/Egress and Utility Right-of-Way being 20 feet in width and lying 10 feet on each side of the following described centerline; thence N 87°40'30" E for a distance of 23.09 feet to the Point of Ending. The bounds of said described right-of-way to adjoin land space and right-of-way of Hooper Road contiguously, and contains 0.01 acres, more or less.

Exhibit "B"
(Survey of Premises within Property)

Attached

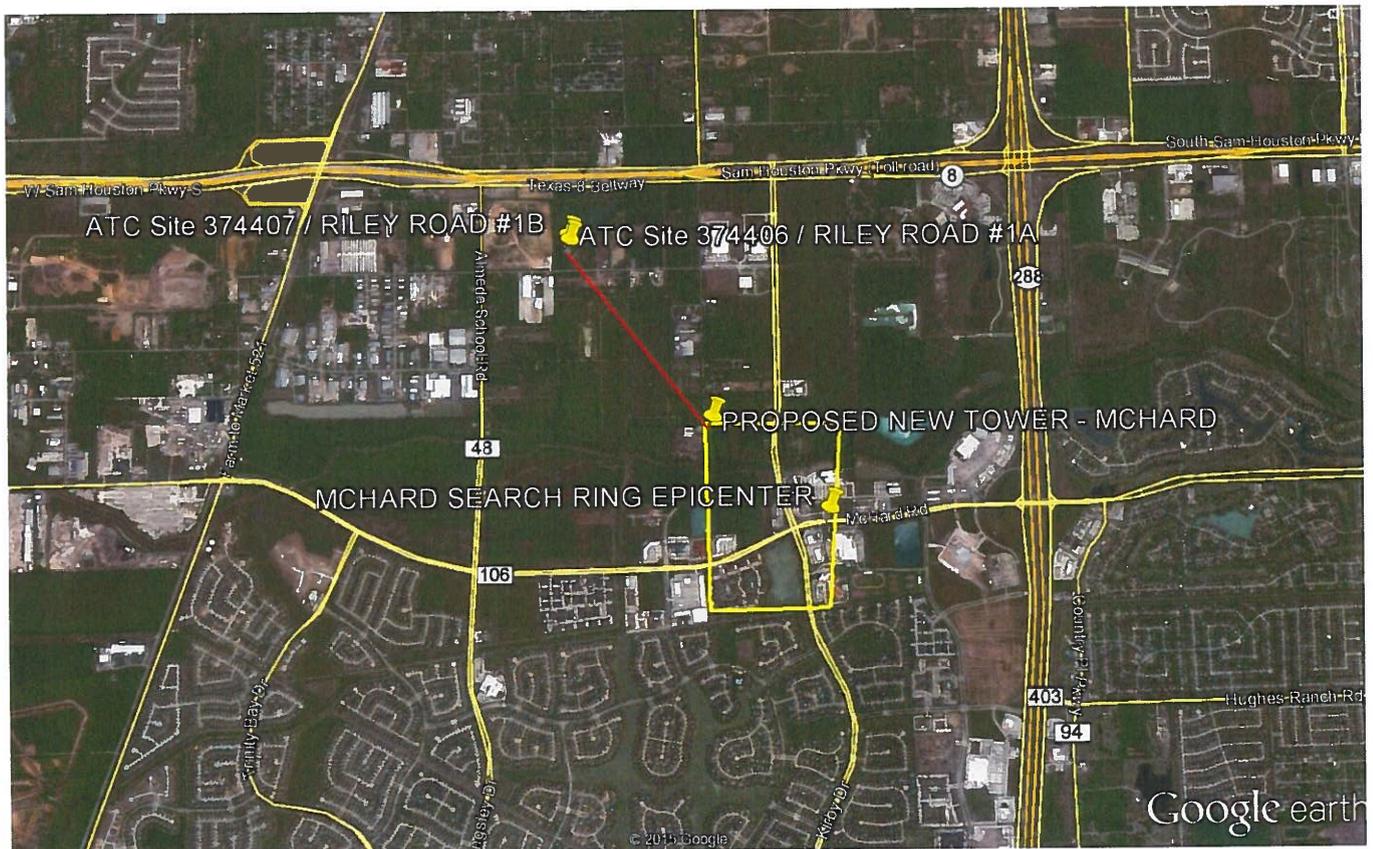


NO EXISTING TOWER SUITABLE TO ACCOMMODATE VERIZON'S APPLICATION

PROJECT NAME: 297774 MCHARD

TAX ID: 044052000020

Verizon Wireless has identified the two nearest, existing, non-Verizon Wireless towers to be located approximately .78 miles to the northwest of the Proposed New Tower – MCHARD; see Verizon's Search Ring Map for MCHARD below.



The Proposed New Tower is located approximately .49 miles northwest of the epicenter of the MCHARD Search Ring. Given the additional .78 miles distance from the existing tower to the Proposed New Tower, collocating onto one of the existing towers would not provide coverage for the desired operating area. Hence, due to the proximity of the two existing towers, a co-location will not provide the coverage objective for this search ring.

On April 24, 2015, contact was made to the owner of both towers referenced in the map above, American Tower Corporation (ATC), by email. The following content was relayed by email:

1. Site 374406 Asset Name: RILEY ROAD #1A: This tower has a PE letter, there appears to be space available to accommodate Verizon's equipment; see attached elevation.
2. Site 374407 Asset Name: RILEY ROAD #1B TX: This tower is not structurally able to accommodate Verizon's requested centerline of 117'. Currently, the tower is over 100% capacity and co-locating without requiring a modification would be doubtful; see attached elevation.

Per Section 2.5.5.3 General Requirements & Regulations, Part (e)

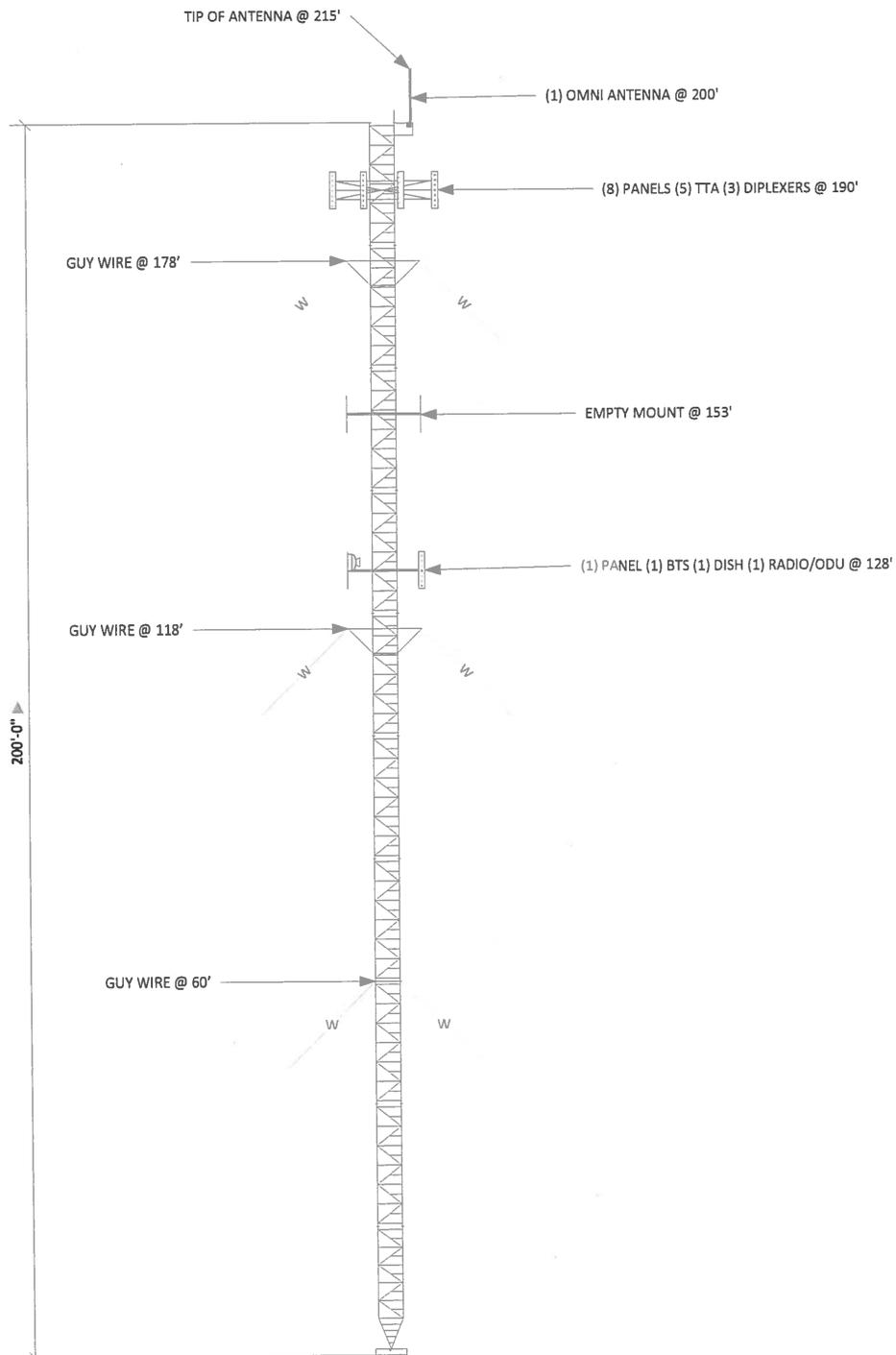
Tower separation for the 117' new proposed tower exceeds the 2,500' maximum required distance from the existing towers of 445' and 215'.

Table 2-1
Tower Separation Requirements

Tower Height	Less Than 50'	50' to 100'	101' to 150'	Greater Than 150'
Less Than 50'	300'	500'	750'	1,000'
50' to 100'	500'	750'	1,000'	1,500'
101' to 150'	750'	1,000'	1,500'	2,000'
Greater Than 150'	1,000'	1,500'	2,000'	2,500'

X 

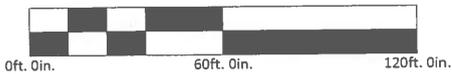
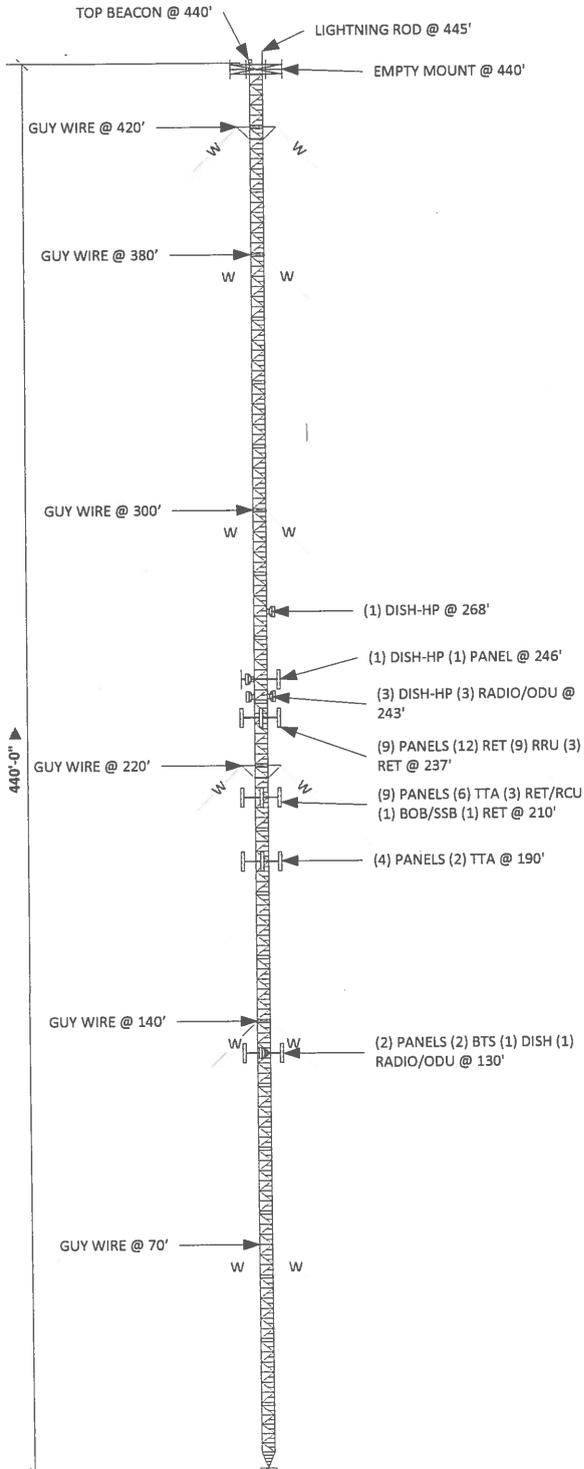
Christine Lewis, Agent
Real Estate Specialist
Vinculums Services, Inc.
3511 Pinemont Dr., #A6
Houston, TX 77018
Cell (713) 254-6979
clewis@vinculums.com



AMERICAN TOWER
CORPORATION

* AS BUILT*

RILEY ROAD 1B			
TOWER ELEVATION			
SIZE	DATE	DWG NO	REV
	4/18/2014	374407	
SCALE	1" = 30'	SHEET	1 OF 1



 AMERICAN TOWER <small>CORPORATION</small>	RILEY ROAD 1A			TOWER ELEVATION
	SIZE	DATE	DWG NO	
* AS BUILT*	SCALE	1" = 60'	12/4/2014	374406
			SHEET	1 OF 1

APPLICATION CHECKLIST FOR THE FOLLOWING: Conditional Use Permit (CUP)

- Application and checklist, filled out completely and signed by the owner of the property.
- If the applicant is the designated agent, the application shall include a written statement from the property owner authorizing the agent to file the application on his behalf. **Section 1.2.1.1 (a) of the Unified Development Code (UDC).**
- Metes and Bounds Description (survey or plat of the property that provides or contains the metes and bounds description).
- Parcel map, printer from the City of Pearland website, indicating the location and boundaries of the subject property.
- Letter of Intent, explaining the conditional use permit request in detail, specifying:
- Proposed Uses: Telecommunications Tower.
 - Specific Operations of the use: unmanned telecommunications site.
 - Square footage of buildings/lot sizes: 3600 SQ. FT.
 - Unique characteristics of the property: undeveloped parcel
 - Other necessary information (list here): within 100 year floodplain
- Site plan that shows the following:
- Proposed layout of the subject property
 - Proposed buildings
 - Parking
 - Landscape plan
 - Detention ponds
 - Fences
 - Other relevant information (list here): Floodplain - Elevation Certificat
- Acknowledgement of the sign to be posted on the property ten (10) days prior to the public hearing.
- Provide evidence or proof that all taxes and obligations have been paid regarding the subject property.
- Application fee by cash, check made payable to the City of Pearland, or credit card (Visa and MasterCard only)
- \$250.00

Additional Application Requirements for Telecommunications Towers, Antennas, and Shared Use on Existing Towers and Alternate Structures to be provided per Section 2.5.5.2 of the Unified Development Code

- An inventory of the applicant's existing towers that are either within the City or within one mile of the corporate limits specifying:
 - Location
 - Height
 - Design
 - ❖ This information may be shared by the Planning Department with other applicants

- Site plans to scale specifying:
 - Location of tower(s)
 - Transmission building and other accessory uses,
 - Street access
 - Parking
 - Fences
 - Landscaped areas
 - Adjacent land uses

- A report from a professional structural engineer licensed in the state of Texas documenting:
 - Tower and design, with a cross-section of the structure
 - Total anticipated capacity of the structure, including the number and types of antennas which can be accommodated

- Letter of Intent to lease excess space on the tower and to lease additional excess land on the tower site when the shared use potential of the tower is absorbed, if structurally and technically possible.

Each applicant must make good faith effort to substantially demonstrate that no existing towers could accommodate the applicant's proposed antenna by doing the following:

- Contact the owners of all existing towers of a height roughly equal to or greater than the height of the tower proposed by the applicant.
 - A list must be provided of all owners contacted, the date of the contact, and the form and content of the contact.
 - Where an existing tower is known to have capacity for additional antennas of the sort proposed, that application for a new tower is not complete until the owner of the existing tower responds, unless the applicant submits sufficient information for the Planning Department to determine that all reasonable efforts to obtain a response have been made and further efforts would be futile.

- Request the following information from each tower owner contacted:
- Identification of the site by location, existing uses, and tower height.
 - Whether each tower could structurally accommodate the antenna proposed by the applicant without requiring structural changes be made to the tower. To enable the owner to respond, the applicant must provide each owner with the height, length, weight, and other relevant data about the proposed antenna.
 - Whether each tower could structurally accommodate the proposed antenna if structural changes were made, not including totally rebuilding the tower. If so, the owner must specify in general terms what structural changes would be required.
 - If structurally able, would shared use by the existing tower be precluded for reasons related to RF interference? If so, the owner must describe in general terms what changes in either the existing or proposed antenna would be required to accommodate the proposed tower, if at all.
 - Any other information which may be requested by the Planning Department to fully evaluate and review the application and the potential impact of a proposed tower or antenna.

Posting of Notification Signs on Property under Consideration for a Conditional Use Permit

Any person, firm or corporation requesting a zoning change, a conditional use permit (CUP), or a variance shall be required to erect and maintain a sign(s), to be inspected by the City, upon the property for which a variance or zoning change has been requested.

Such sign(s) shall be located as follows:

- (1) One (1) sign per street frontage shall be located within thirty feet (30') of the abutting street, or as determined by the City.
- (2) So as to be clearly visible and readable from the public right-of-way and not obstructed in any manner.
- (3) So as not to create a hazard to traffic on the public rights-of-way abutting the property.
- (4) On the subject property at least ten (10) days prior to the hearing of such zoning change request by the Planning and Zoning Commission, and to remain continuously on said property until final action by the City Council or withdrawal of the case by the applicant. Removal of the sign by the applicant prior to a recommendation by the Planning and Zoning Commission and/or a final decision by the City Council shall constitute a withdrawal of the request.
- (5) The signs shall be as follows:
 - A minimum sign size of 2 feet by 3 feet, but no larger than 4 feet by 4 feet
 - At least 2 feet above the ground
 - Blue or black lettering that is a minimum of 3 inches by 1/2 inch, on a white background
 - Message content as follows:

PROPOSED (SPECIFY REQUEST)
Contact City of Pearland
281-652-1765

- ❖ Signs must be professionally made; handwritten signs are not allowed.
- ❖ Signs must be freestanding and cannot be attached to a tree, fence, or building.


Signature

5-8-15
Date

Additional Information:

- Upon making an application for a conditional use permit, the applicant shall place sign(s) as required. The City shall inspect such sign(s) to ensure compliance as required by the UDC.
- After the conditional use permit request is approved by the City Council, denied by the City Council, or withdrawn by the applicant, the applicant shall remove the sign from the area of the request within ten (10) days of such event.
- It shall be unlawful for anyone to remove, destroy, deface or obstruct the view of a sign which gives notice that a zoning change or conditional use permit has been requested.
- In the event the applicant shall fail to erect and/or maintain signs in accordance with this section, then the public hearing before the Planning and Zoning Commission/City Council shall be postponed to a date in the future, which would allow time for compliance.
- The erection of any sign required by this section shall not require a permit under Section 4.1.2.6 of this UDC.
- The owner or applicant shall promptly notify the Planning Department of any sign required by this section, which becomes lost, stolen or vandalized. The Planning and Zoning Commission shall have the power to decide whether or not there has been substantial compliance with the posting requirements in the case of lost, stolen or vandalized signs.



297774 MCHARD RAW LAND

SITE INFORMATION

VZW SITE NAME: MCHARD
VZW PROJECT NUMBER: 20141068301
VZW SITE ADDRESS: 15115 HOOPER RD 1/5 PEARLAND, TX 77584
COUNTY: HARRIS
JURISDICTION: CITY OF PEARLAND
SITE COORDINATES: N 29° 35' 01.101" (LAT) W 95° 24' 15.825" (LON)
SITE TYPE: RAWLAND
STRUCTURE TYPE: MONOPOLE
TOWER HEIGHT: 117' A.G.L.
VZW ANTENNA C.L. HEIGHT: 113' A.G.L.
PROPERTY OWNER NAME: SUSIE M. LORANCE
PROPERTY OWNER ADDRESS: 2618 S PEACH HOLLOW CIRCLE PEARLAND, TX 77584-2091
POWER COMPANY: CENTERPOINT ENERGY (713) 945-4412
TELEPHONE COMPANY: AT&T (800) 499-7928
KIMLEY-HORN PROJECT MGR.: TONY DAWSON

PROJECT SCOPE OF WORK:

THIS PROJECT CONSISTS OF THE INSTALLATION OF NEW 116' MONOPOLE (DESIGNED BY OTHERS), FIBREBOND PRE-MANUFACTURED EQUIPMENT CABINET SKID W/GENERATOR, NEW H-FRAME UTILITY CENTER, NEW ANTENNAS AND HYBRID CABLES AND ALL ASSOCIATED WORK.

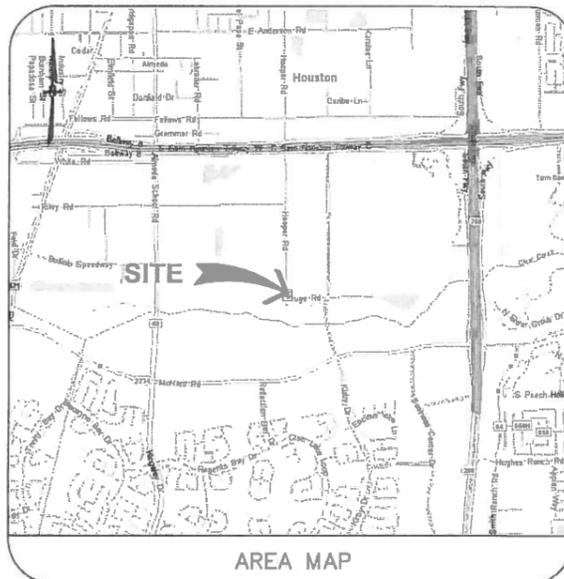
DRIVING DIRECTIONS:

DEPART THE VERIZON WIRELESS OFFICE ON CICERO RD AND HEAD WEST TOWARD POINT SIX CIRCLE (0.1 MI). TURN RIGHT ONTO POINT SIX CIRCLE (0.1 MI). TURN RIGHT ONTO TX-6 (0.7 MI). TURN RIGHT ONTO UC-690 E (0.2 MI). TAKE RAMP AND FOLLOW SIGNS FOR UC-690 EAST (4.1 MI). TAKE RAMP RIGHT AND FOLLOW SIGNS FOR SAM HOUSTON TOLLWAY (8.5 MI). KEEP RIGHT TO STAY ON W SAM HOUSTON TLWY S (10.1 MI). ROAD NAME CHANGES TO S SAM HOUSTON TLWY E (7.3 MI). TAKE RAMP RIGHT FOR TX-8 E BELTWAY / S SAM HOUSTON PKWY W TOWARD KIRBY DR (0.3 MI). TURN RIGHT ONTO KIRBY DR (0.8 MI). TURN RIGHT ONTO FRUGE RD (0.2 MI). TURN LEFT ONTO HOOPER RD AND CONTINUE TO SITE ON LEFT SIDE OF ROAD.

THE CONTRACTOR MUST VERIFY ALL FIELD MEASUREMENTS AND CONDITIONS PRIOR TO BID AND TO COMMENCEMENT OF CONSTRUCTION.



KEY MAP



AREA MAP

SHEET INDEX

SHEET NO.	SHEET DESCRIPTION
T-1	TITLE SHEET
-	SURVEY (BY OTHERS)
-	SURVEY (BY OTHERS)
C-1	OVERALL SITE PLAN
C-2	ENLARGED SITE PLAN
C-3	GRADING PLAN
C-4	FENCE AND COMPOUND DETAILS
C-5	TOWER ELEVATION AND DETAILS
C-6	MISCELLANEOUS DETAILS
C-7	--INTENTIONALLY OMITTED--
C-8	FOUNDATION DETAILS AND NOTES
E-1	ELECTRICAL PLAN
E-2	ONE-LINE DIAGRAM AND DETAILS
E-3	GROUNDING PLAN
E-4	GROUNDING DETAILS
N-1	GENERAL NOTES, AND ABBREVIATIONS
N-2	GENERAL NOTES
N-3	NOTES AND SPECIFICATIONS
N-4	NOTES AND SPECIFICATIONS
N-5	NOTES AND SPECIFICATIONS

BUILDING CODES AND STANDARDS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

BUILDING CODE: 2006 IBC
 STRUCTURAL CODE: 2006 IBC
 PLUMBING CODE: 2006 UPC
 MECHANICAL CODE: 2006 UMC
 ELECTRIC CODE: 2008 NEC
 ENERGY CODE: 2006 IECC

DESIGN WIND SPEED: 139 MPH



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PH: (713) 507-1955

PLANS PREPARED BY:



655 NORTH FRANKLIN STREET, SUITE
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

REV. DATE DESCRIPTION

4	02/13/15	REVISED RF PER UPDATED NCR
3	02/09/15	REVISED RF PER NCR
2	01/06/15	REVISED FOUNDATION DESIGN
1	12/04/14	REVISED SKID LAYOUT
0	11/07/14	ISSUED FOR REVIEW

DRAWN BY: CHECKED BY:

JCM AWD

RHA PROJECT NUMBER:

148999054

ENGINEER SEAL



KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000922

PROJECT INFORMATION:

MCHARD
#297774

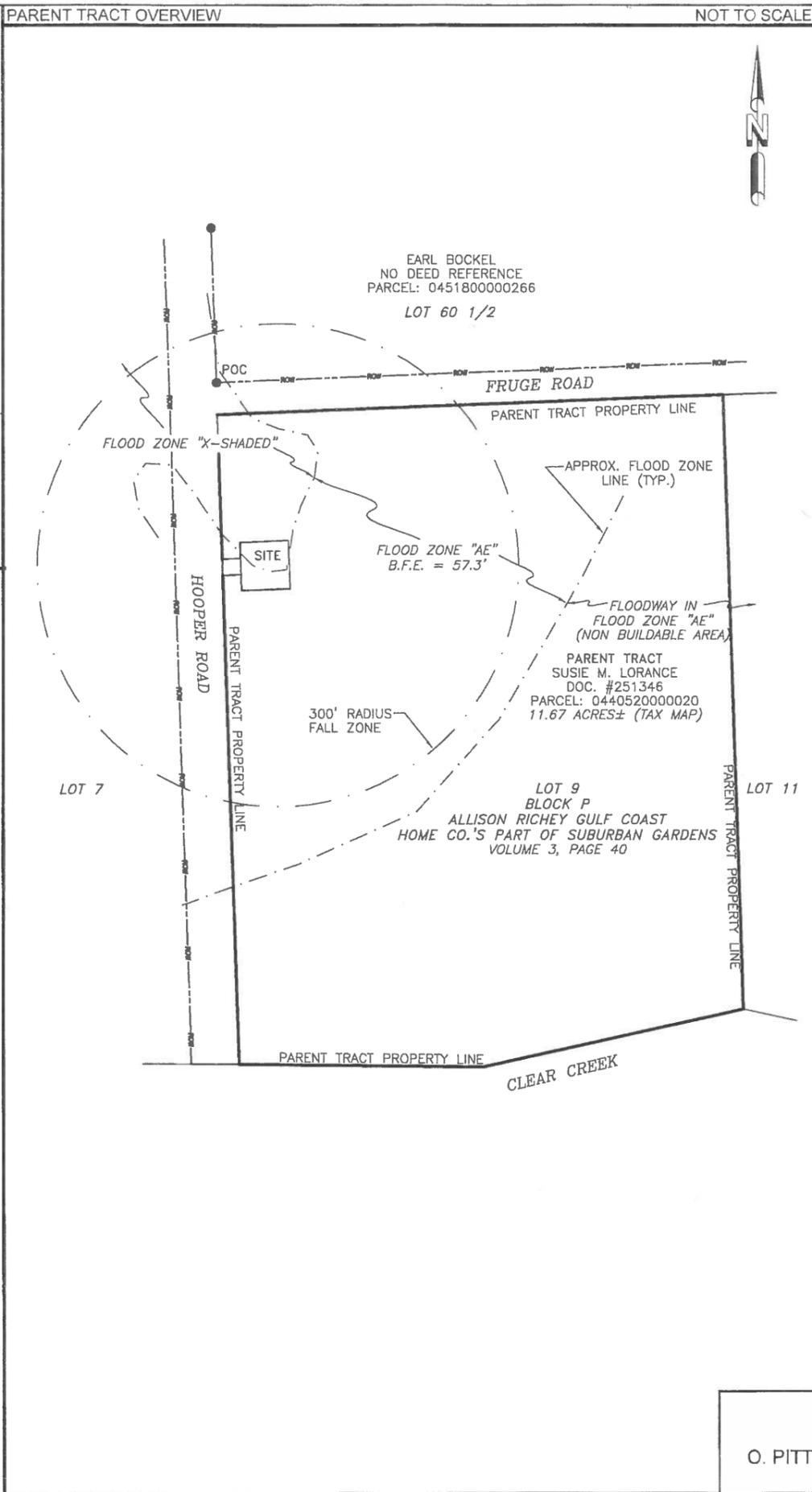
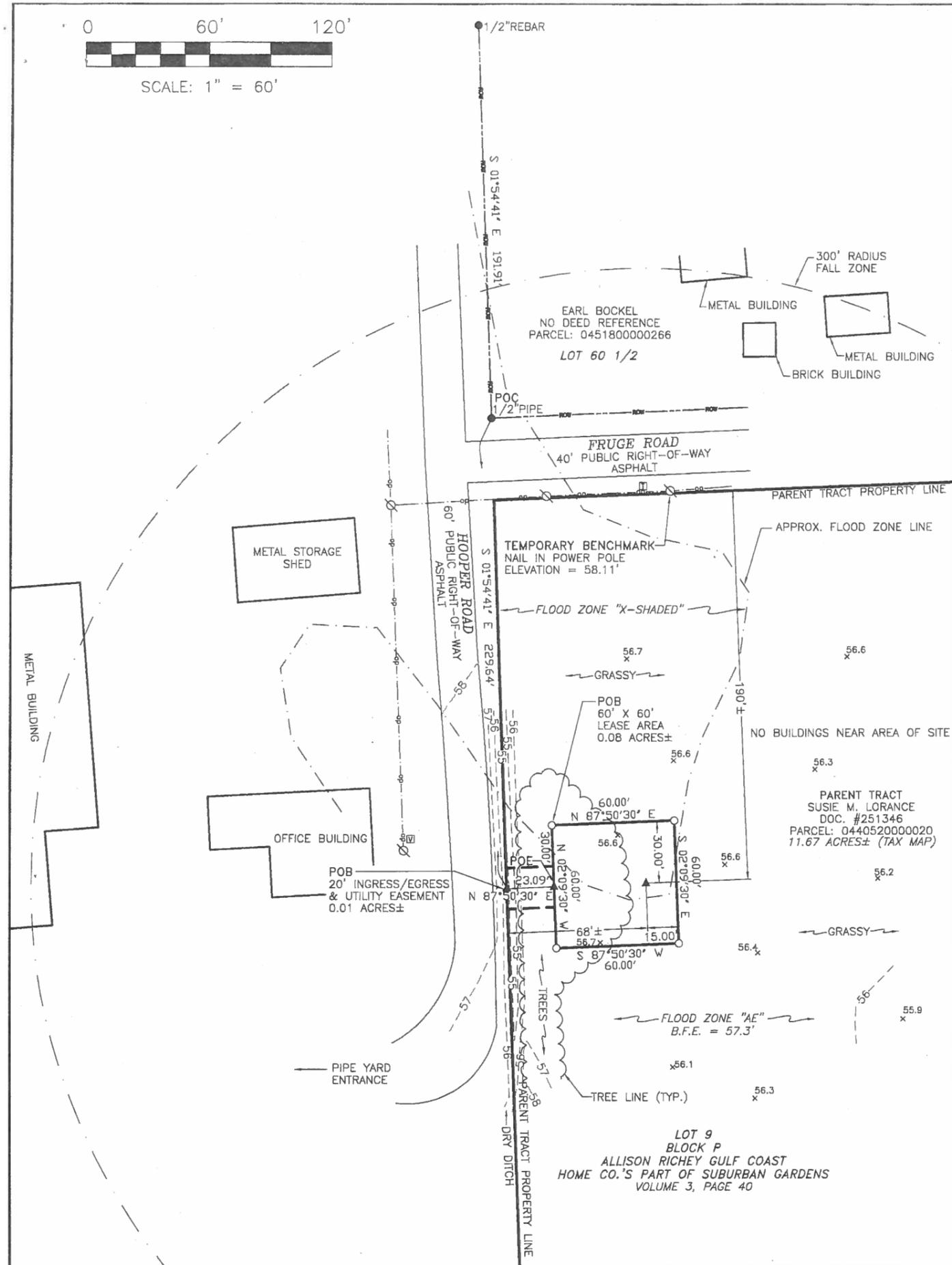
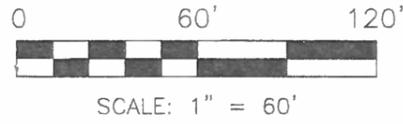
15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

TITLE
SHEET

SHEET NUMBER:

T-1

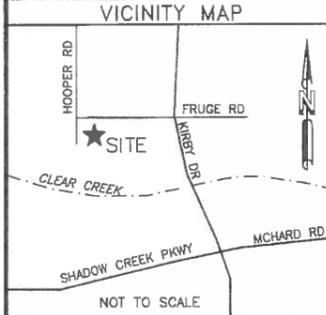


TOWER INFO

LATITUDE: 29°35'01.101" NORTH
 LONGITUDE: 95°24'15.825" WEST
 (NAD 83)

GROUND ELEVATION: 56.6'
 ABOVE MEAN SEA LEVEL (NAVD88)

911 SITE ADDRESS:
 15115 HOOPER RD 1/5
 PEARLAND, TX 77584



TEXAS SOUTH CENTRAL
 GRID NORTH

GRID TO TRUE NORTH
 CONVERGENCE
 1'46"

TRUE NORTH TO MAGNETIC
 DECLINATION
 2'50" E

COMBINED SCALE FACTOR
 0.999872628

- LEGEND**
- = 5/8" REBAR SET
 - = FOUND PROPERTY MARKER
 - POB = POINT OF BEGINNING
 - POC = POINT OF COMMENCEMENT
 - POE = POINT OF ENDING
 - ▲ = CALCULATED POINT
 - <R> = REFERENCED INFORMATION
 - <M> = MEASURED
 - ⊙ = POWER POLE
 - ⊕ = GUY ANCHOR
 - ☐ = POWER BOX
 - ⊕ = TELEPHONE PEDESTAL
 - ⊕ = VAULT
- ROW --- RIGHT-OF-WAY
 --- OP --- OVERHEAD POWER

Kimley»Horn

655 NORTH FRANKLIN STREET
 SUITE 150
 TAMPA, FL 33602
 PHONE (813) 620-1460
 WWW.KIMLEY-HORN.COM

MCHARD
 PEARLAND
 O. PITTS SURVEY; ABSTRACT 626
 HARRIS COUNTY, TEXAS

BY	DATE	REVISION
BC	09/09/14	ISSUED FOR REVIEW
BC	10/29/14	ADDRESSED EXCEPTIONS
BC	10/31/14	CHANGED LEASE SIZE
BC	12/09/14	REVISED B.F.E.

PROJECT NO.
14-1612

DRAWN BY: BC
 CHECKED BY: AAK
 FIELD CREW: JD
 APPROVED BY: WHS
 DATE: 09/09/14
 SCALE: AS SHOWN

SHEET 1 OF 2

RAWLAND TOWER SURVEY

SMW Engineering Group, Inc.
 158 Business Center Drive
 Birmingham, Alabama 35244
 Ph: 205-252-6985
 www.smweng.com

14123 CICERO RD.
 HOUSTON, TX 77095
 PH: (713) 507-1955

verizonwireless

ENGINEERING GROUP, INC.

PARENT TRACT (NO DEED REFERENCE)

All of Lot 9, Block P, Allison Richey Gulf Coast Home Company's part of Suburban Gardens as recorded in Volume 3, Page 40 in the Office of Public Records of Harris County, Texas, lying in the O. Pitts Survey, Abstract 626 of said Harris County.

60' X 60' LEASE AREA (AS SURVEYED)

A lease area being a portion of Lot 9, Block P, Allison Richey Gulf Coast Home Company's part of Suburban Gardens as recorded in Volume 3, Page 40 in the Office of Public Records of Harris County, Texas, lying in the O. Pitts Survey, Abstract 626 of said Harris County and being more particularly described as follows:

Commence at a 1/2 inch pipe found marking the southwest corner of Lot 60 1/2 of said subdivision lying on the northerly right-of-way line of Fruge Road and easterly right-of-way line of Hooper Road, said pipe also lying S 01°54'41" E along said right-of-way line of Hooper Road for a distance of 191.91 feet from a 1/2 inch rebar found; thence run S 01°54'41" E along said right-of-way line for a distance of 229.64 feet to a point; thence N 87°50'30" E for a distance of 23.09 feet to a point; thence N 02°09'30" W for a distance of 30.00 feet to a 5/8" rebar set and the Point of Beginning; thence N 87°50'30" E for a distance of 60.00 feet to a 5/8" rebar set; thence S 02°09'30" E for a distance of 60.00 feet to a 5/8" rebar set; thence S 87°50'30" W for a distance of 60.00 feet to a 5/8" rebar set; thence N 02°09'30" W for a distance of 60.00 feet to the Point of Beginning. Said above described parcel contains 0.08 acres, more or less.

20' INGRESS/EGRESS & UTILITY EASEMENT (AS SURVEYED)

An easement being a portion of Lot 9, Block P, Allison Richey Gulf Coast Home Company's part of Suburban Gardens as recorded in Volume 3, Page 40 in the Office of Public Records of Harris County, Texas, lying in the O. Pitts Survey, Abstract 626 of said Harris County and being more particularly described as follows:

Commence at a 1/2 inch pipe found marking the southwest corner of Lot 60 1/2 of said subdivision lying on the northerly right-of-way line of Fruge Road and easterly right-of-way line of Hooper Road, said pipe also lying S 01°54'41" E along said right-of-way line of Hooper Road for a distance of 191.91 feet from a 1/2 inch rebar found; thence run S 01°54'41" E along said right-of-way line for a distance of 229.64 feet to the Point of Beginning of an Ingress/Egress and Utility Easement being 20 feet in width and lying 10 feet on each side of the following described centerline; thence N 87°50'30" E for a distance of 23.09 feet to the Point of Ending. The bounds of said described easement to adjoin lease area and right-of-way of Hooper Road contiguously, and contains 0.01 acres, more or less.

SURVEYOR'S NOTES

- This is a Rawland Tower Survey, made on the ground under the supervision of a Texas Registered Land Surveyor. Date of field survey is August 21, 2014.
- The following surveying instruments were used at time of field visit: Nikon NPL-352, Total Station, Reflectorless and Hiper + Legacy E RTK, GD 1HZ.
- Bearings are based on Texas South Central State Plane Coordinates NAD 83 by GPS observation.
- No underground utilities, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. Trees and shrubs not located, unless otherwise shown.
- Benchmark used is a GPS Continuously Operating Reference Station, PID DF8781. Onsite benchmark is as shown hereon. Elevations shown are in feet and refer to NAVD 88.
- This survey was conducted for the purpose of a Rawland Tower Survey only, and is not intended to delineate the regulatory jurisdiction of any federal, state, regional or local agency, board, commission or other similar entity.
- Attention is directed to the fact that this survey may have been reduced or enlarged in size due to reproduction. This should be taken into consideration when obtaining scaled data.
- This Survey was conducted with the benefit of an Ownership and Encumbrance Report issued by Old Republic Title Residential Information Services dated October 23, 2014.
- Surveyor hereby states the Geodetic Coordinates and the elevation shown for the proposed centerline of the tower are accurate to within +/- 20 feet horizontally and to within +/- 3 feet vertically (FAA Accuracy Code 1A).
- Survey shown hereon conforms to the Minimum Requirements as set forth by the State Board for a Class "A" Survey.
- Field data upon which this map or plat is based has a closure precision of not less than one-foot in 15,000 feet (1":15,000') and an angular error that does not exceed 10 seconds times the square root of the number of angles turned. Field traverse was not adjusted.
- This survey is not valid without the original signature and the original seal of a state licensed surveyor and mapper.
- This survey does not constitute a boundary survey of the Parent Tract. Any parent tract property lines shown hereon are from supplied information and may not be field verified.
- Zoning for subject property is SP3 with a tower setback of the greater of 20% of tower height or 25' per client.

PLOTTABLE EXCEPTIONS

Ownership and Encumbrance Report issued by Old Republic Title Residential Information Services

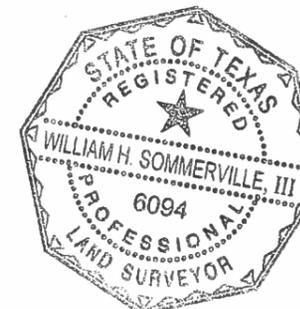
Exception No.	Instrument	Comment
①	Plat Book 3, Pg. 40	Affects; contains no surveying matters.

SURVEYOR'S CERTIFICATION

I certify that all parts of this survey and drawing have been completed in accordance with the current requirements of the Standards of Practice for Surveying in the State of Texas to the best of my knowledge, information, and belief.

William H. Sommerville, III

William H. Sommerville, III
Texas License No. 6094



FLOOD NOTE
By graphic plotting only, the subject property appears to lie in Zone "X-Shaded" and Zone "AE" of the Flood Insurance Rate Map Community Panel No. 48201C1010L, which bears an effective date of 06/18/2007 and is in a special flood hazard area.
Zone 'X-Shaded': Areas of 0.2% annual chance flood.
Zone 'AE': Base Flood Elevations determined. (57.3')

Kimley»Horn

655 NORTH FRANKLIN STREET
SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

McHARD
PEARLAND
O. PITTS SURVEY; ABSTRACT 626
HARRIS COUNTY, TEXAS

RAWLAND TOWER SURVEY

14123 CICERO RD
HOUSTON, TX 77085
PH: (713) 507-1955

SMW ENGINEERING GROUP, INC.

158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6886
www.smweng.com

verizon wireless

FOR: SMW ENGINEERING GROUP, INC.

DRAWN BY: BC
CHECKED BY: AAK
APPROVED BY: JDS
DATE: 09/08/14
SCALE: NO SCALE
SHEET 2 OF 2

NO. A. B. C. D.
ISSUED FOR REVIEW 09/08/14 BC
ADDRESSED EXCEPTIONS 10/29/14 BC
CHANGED LEASE SIZE 10/31/14 BC
REVISED B.F.E. 12/09/14 BC

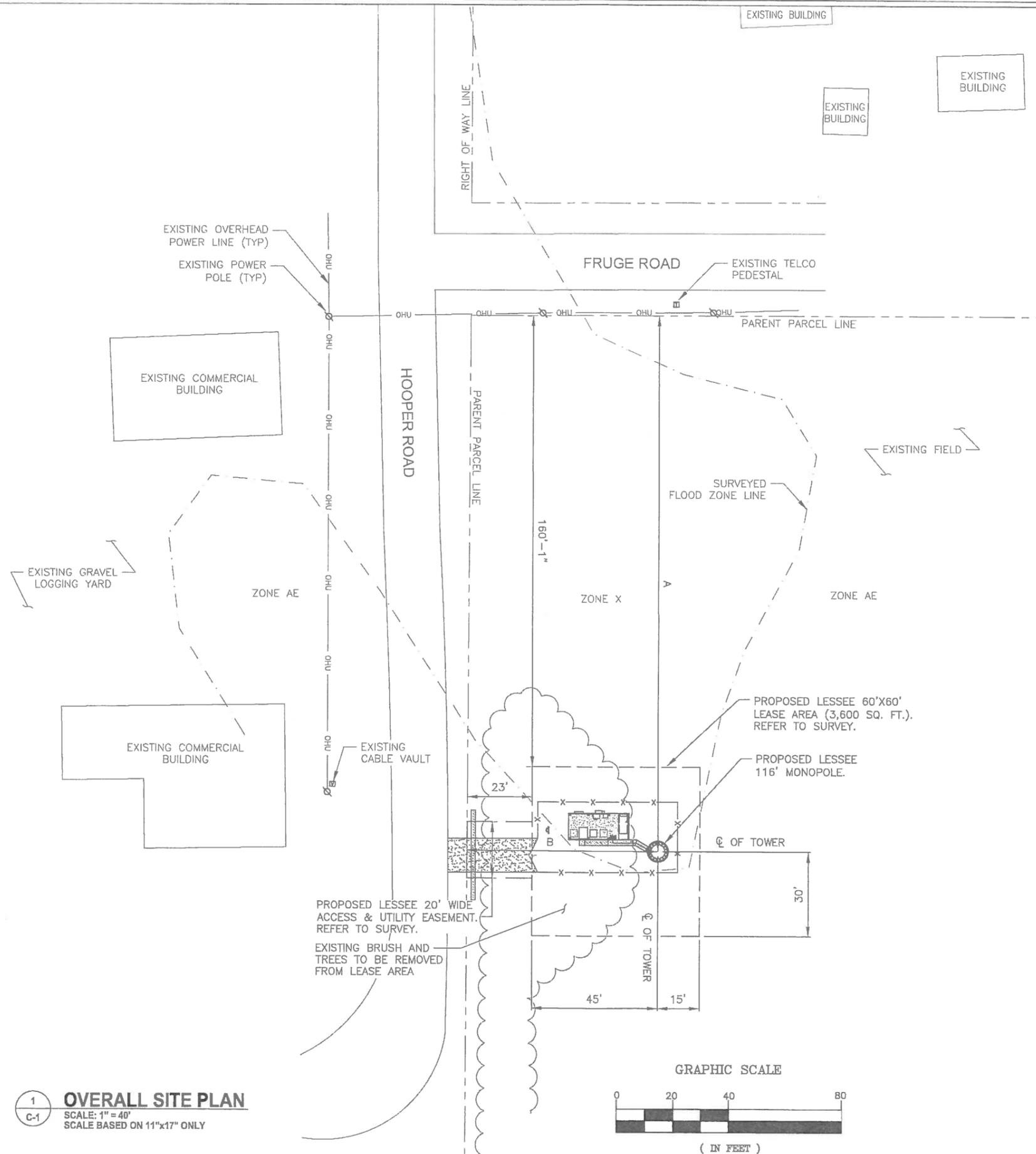
PROJECT NO. 14-1612

GENERAL SITE NOTES:

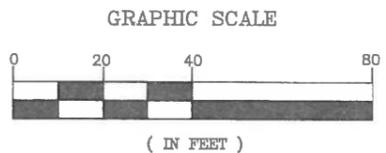
1. VEHICULAR USE: APPROXIMATE ONE TO THREE SITE VISITS PER MONTH.
2. WATER AND SEWER: COMMUNICATION FACILITY SHALL NOT BE SERVICED BY WATER OR SEWER.
3. USE: UNMANNED TELECOMMUNICATIONS RELAY EQUIPMENT.
4. STORM WATER MANAGEMENT: EQUIPMENT OWNER TO ENSURE THAT THE SITE SHALL COMPLY WITH ALL STATE AND COUNTY STORM WATER REGULATIONS.

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

TOWER CENTER LINE TABLE	
A	190'±
B	68'±



1 OVERALL SITE PLAN
 SCALE: 1" = 40'
 SCALE BASED ON 11"x17" ONLY



14123 CICERO RD.
 HOUSTON, TX. 77095
 PH: (713) 507-1955

PLANS PREPARED BY:



655 NORTH FRANKLIN STREET, SUITE
 TAMPA, FL 33602
 PHONE (813) 620-1460
 WWW.KIMLEY-HORN.COM

REV.	DATE	DESCRIPTION
4	02/13/15	REVISED RF PER UPDATED NCR
3	02/09/15	REVISED RF PER NCR
2	01/06/15	REVISED FOUNDATION DESIGN
1	12/04/14	REVISED SKID LAYOUT
0	11/07/14	ISSUED FOR REVIEW

DRAWN BY: JCM
 CHECKED BY: AWD

KHA PROJECT NUMBER: 148999054



PROJECT INFORMATION:

MCHARD
 #297774

15115 HOOPER RD 1/5
 PEARLAND, TX 77584
 HARRIS COUNTY

SHEET TITLE: **OVERALL SITE PLAN**

SHEET NUMBER: C-1

NOTES:

1. CONTRACTOR TO FILL ANY EXISTING GRAVEL AREAS THAT ARE DISTURBED DURING THE COURSE OF CONSTRUCTION, GRAVEL TO MATCH EXISTING.
2. THE CONTRACTOR TO ENSURE THAT NO DAMAGE OR DEBRIS OCCURS ON THE ADJACENT PROPERTIES.
3. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITH LOW MAINTENANCE NATIVE GRASS AND COVER WITH APPROVED STRAW.
4. CONTRACTOR SHALL PROVIDE ALL REQUIRED EROSION CONTROL TECHNIQUES AND BEST MANAGEMENT PRACTICES PER LOCAL AND AND STATE REQUIREMENTS AS APPLICABLE.
5. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND INFORM ARCHITECT/ENGINEER OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.
6. AT THE TIME THIS DRAWING WAS COMPLETED, KIMLEY-HORN AND ASSOCIATES DID NOT HAVE A COPY OF THE TOWER/FOUNDATION DESIGN DRAWINGS. THE SIZES SHOWN ARE APPROXIMATE PENDING RECEIPT OF FINAL DESIGN DRAWINGS.

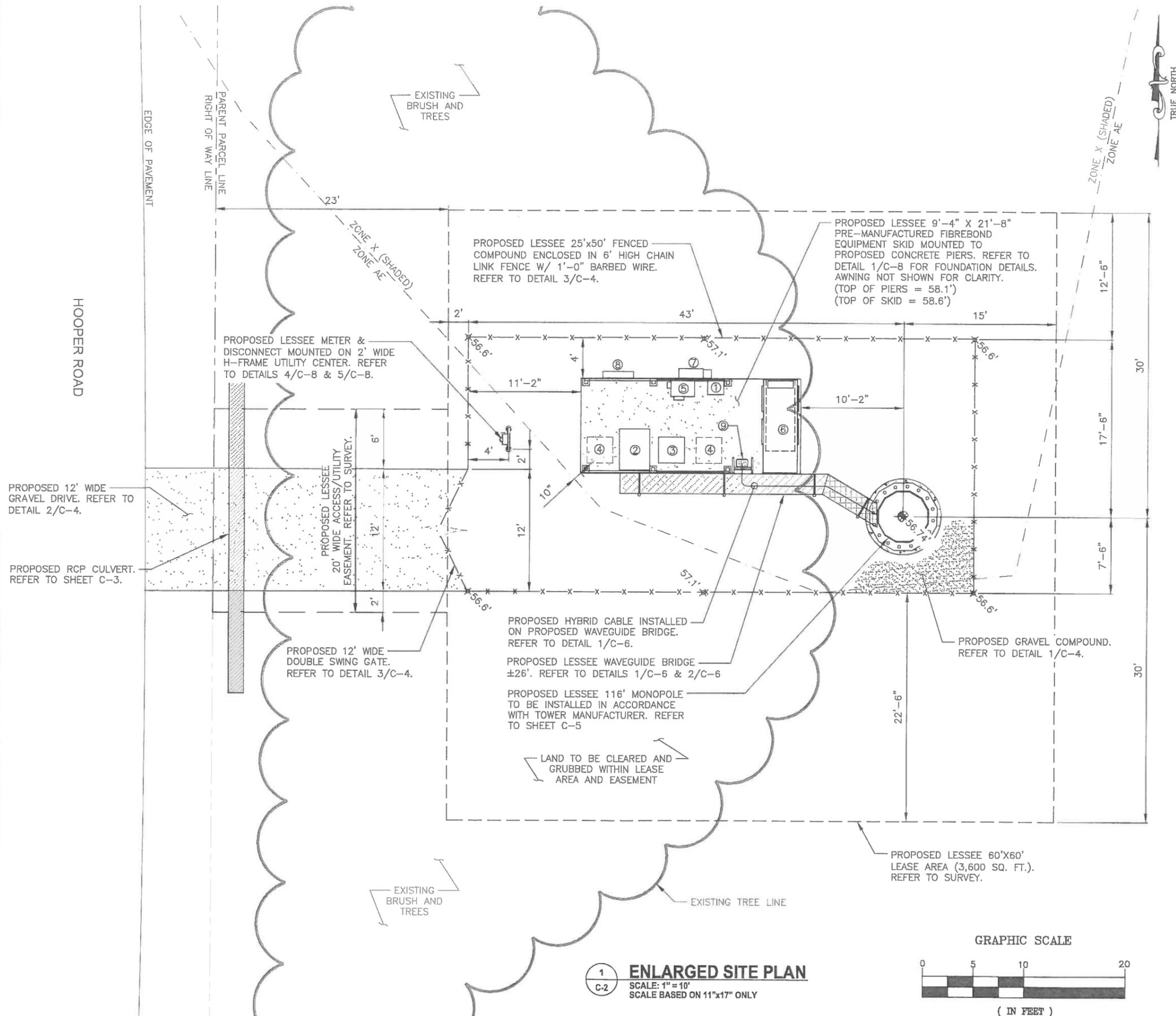
THE PROPERTY SHOWN HEREON FALLS WITHIN FLOOD ZONE 'X' & 'AE' AS SHOWN ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 48201C1010L, DATED 06/18/07. VERIZON MONOPOLE AND EQUIPMENT ARE LOCATED IN FLOOD ZONE 'X' PER SURVEY PERFORMED BY SMW ENGINEERING.

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

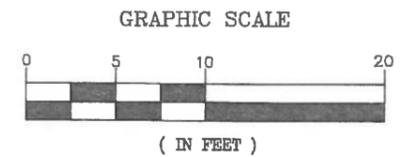
KEY NOTES:

- 1 PROPOSED LESSEE LAPTOP TRAY INCLUDED ON FIBREBOND SKID.
- 2 PROPOSED LESSEE BATTERY CABINET INCLUDED ON FIBREBOND SKID.
- 3 PROPOSED LESSEE ENODE-B CABINET INCLUDED ON FIBREBOND SKID.
- 4 FUTURE LESSEE EQUIPMENT CABINET
- 5 PROPOSED LESSEE MESA SOLE/MINI CUBE CABINET INCLUDED ON FIBREBOND SKID.
- 6 PROPOSED LESSEE 30KW DIESEL GENERATOR INCLUDED ON FIBREBOND SKID.
- 7 PROPOSED LESSEE INTEGRATED LOAD CENTER W/GEN PLUG INCLUDED ON FIBREBOND SKID.
- 8 PROPOSED FIBER DEMARCATION BOX INCLUDED ON FIBREBOND SKID.
- 9 PROPOSED LESSEE FIBREBOND OVP H-FRAME RACK INCLUDED ON FIBREBOND SKID.

CONCRETE FOUNDATION TO BE RAISED 0.65' A.G.L. DUE TO CLOSE PROXIMITY OF FLOOD ZONE.



1 ENLARGED SITE PLAN
SCALE: 1" = 10'
SCALE BASED ON 11"x17" ONLY



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CHECKED BY: AWD

KHA PROJECT NUMBER: 148999054



KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-00092E

PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE: ENLARGED SITE PLAN

SHEET NUMBER: C-2

C-2

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

LEGEND

-  74 EXISTING CONTOUR LINE
-  74 PROPOSED CONTOUR LINE
-  PROPOSED SILT FENCE
-  x 74.5 PROPOSED SPOT GRADE



verizonwireless

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PLANS PREPARED BY

Kimley»Horn

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DRAWN BY: CHECKED BY:

JCM AWD

KHA PROJECT NUMBER

148999054

ENGINEER SEAL



KEVIN S. GASK, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-00092E

PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

GRADING
PLAN

SHEET NUMBER:

C-3

EDGE OF PAVEMENT

HOOPER ROAD

EDGE OF PAVEMENT

EXISTING SWALE

EXISTING FLAT FIELD

ZONE X
ZONE AE

MATCH EXISTING GRADE
AT LEASE AREA PERIMETER

PROPOSED FIBREBOND SKID
MOUNTED ON PIERS.
TOP OF PIERS = 58.1'
TOP OF SKID = 58.6'

2% SLOPE

2% SLOPE

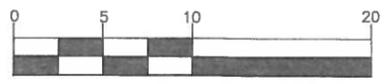
PROPOSED LESSEE 116' MONOPOLE. TOP
OF FOUNDATION PIER TO BE INSTALLED 12"
A.G.L. UNLESS OTHERWISE SPECIFIED IN
TOWER FOUNDATION PLANS (BY OTHERS).

PROPOSED GRAVEL
DRIVEWAY. REFER TO
DETAIL 2/C-3

COMPACTED BACKFILL PER
BRAZORIA COUNTY SPECIFICATIONS
PROPOSED REINFORCED
CONCRETE CULVERT
EXISTING SOIL

NOTES:
1. CULVERT SPECIFICATIONS MUST COMPLY WITH LOCAL, COUNTY
AND D.O.T. CODES AND REQUIREMENTS IF THEY DIFFER FROM
THE DETAIL SHOWN.

GRAPHIC SCALE

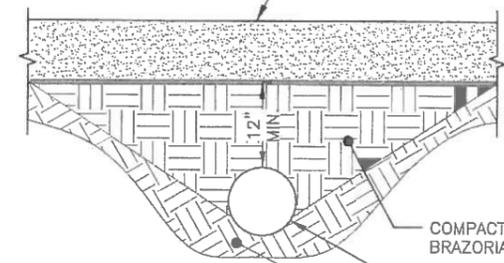
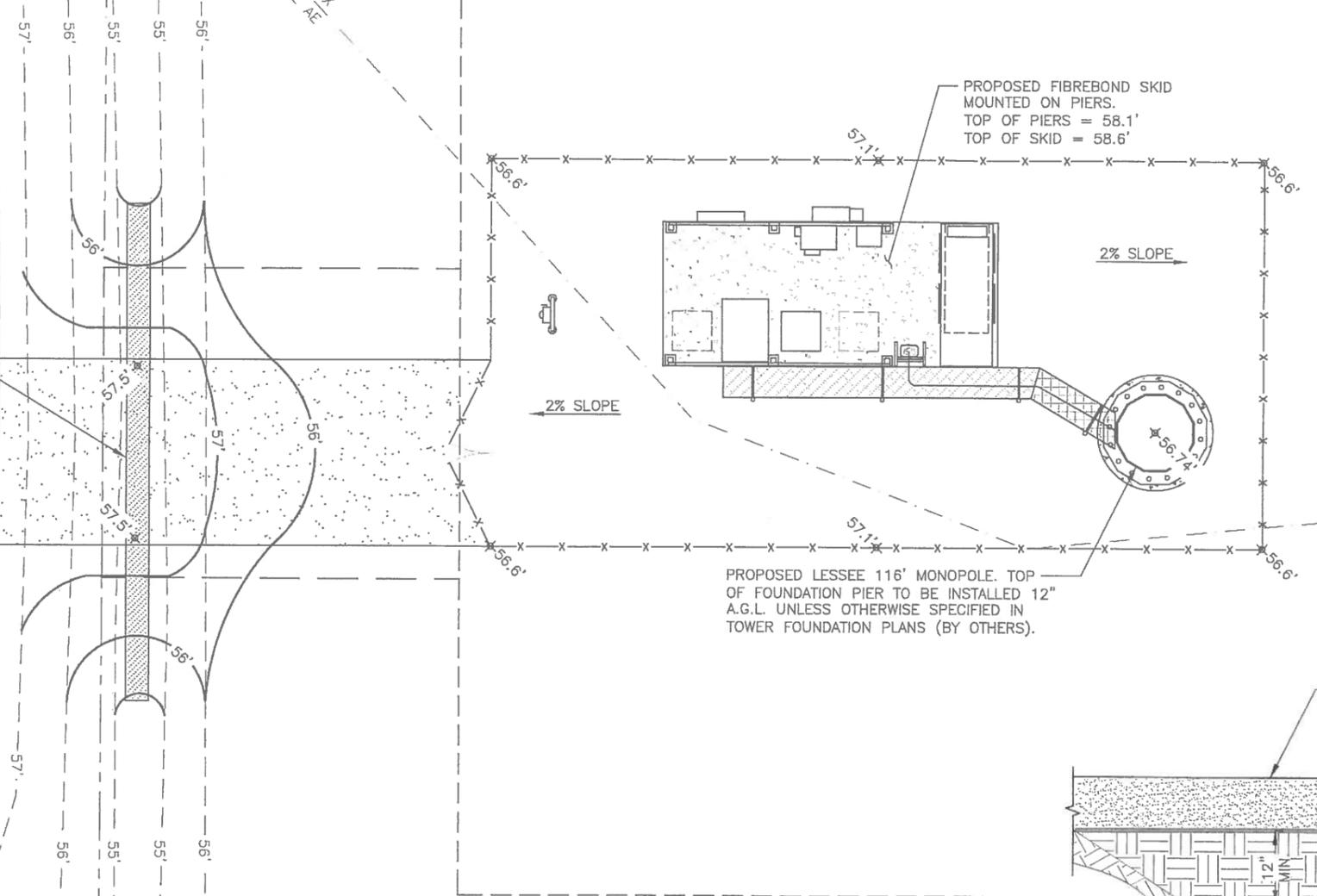


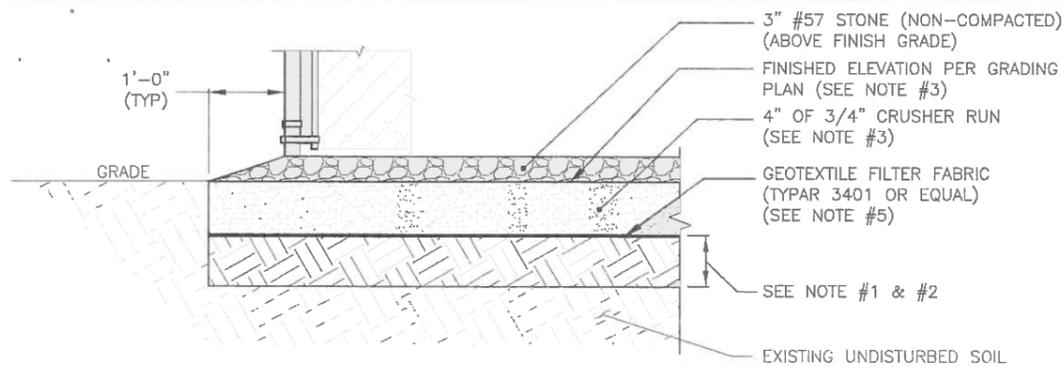
(IN FEET)

1 GRADING PLAN
C-3 SCALE: 1" = 10'
SCALE BASED ON 11"x17" ONLY

1 ROAD CULVERT SECTION
C-3 SCALE: N.T.S.

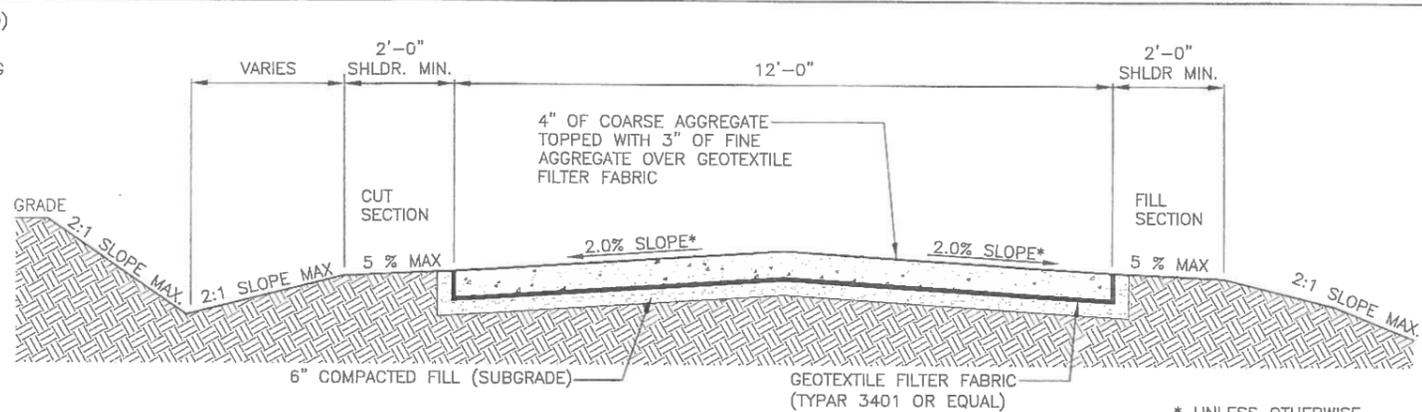
RCP SPECIFIED AND INSTALLED BY
BRAZORIA COUNTY BUT PROVIDED BY
CONTRACTOR. CONTRACTOR TO
CONTACT COUNTY TO APPLY FOR
DRIVEWAY PERMIT AND SCHEDULE
CULVERT SIZING & INSTALLATION.





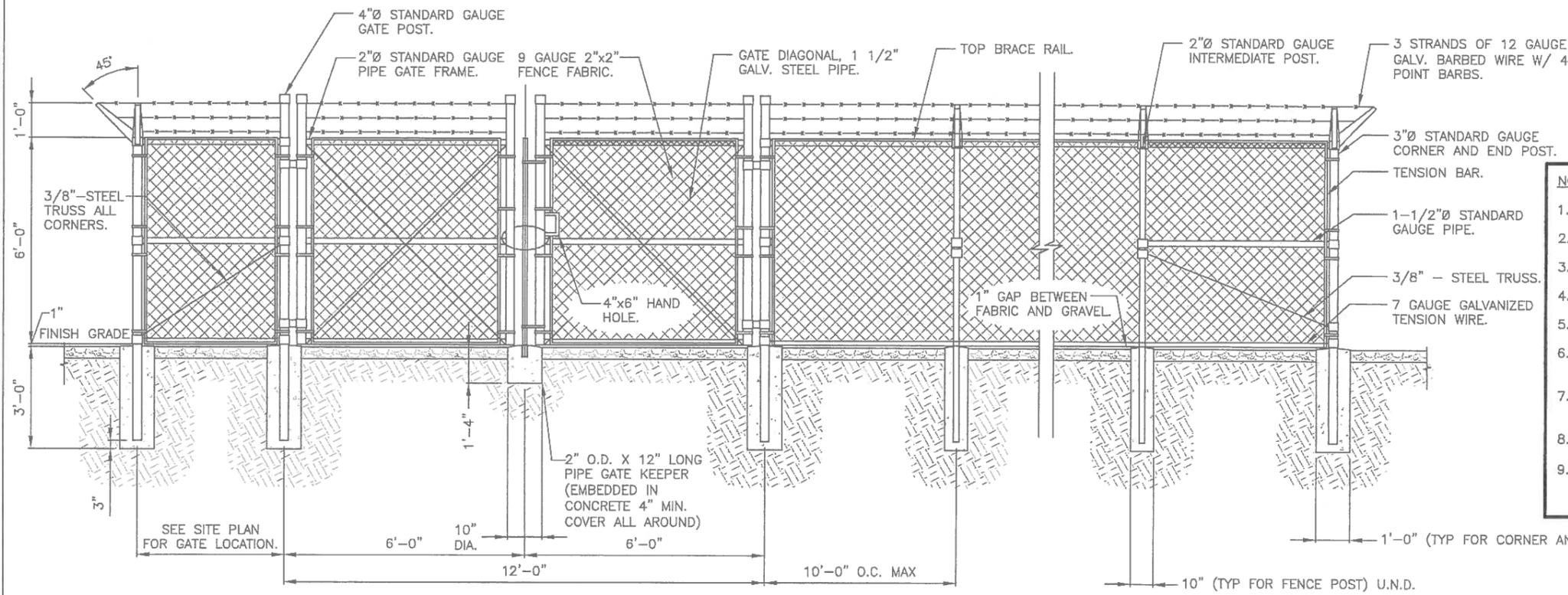
- NOTES:**
- EXCAVATE TOP 4" OF SOIL. CLEAR & GRUB 6" BELOW EXCAVATED 4". PROOF ROLL TO DETERMINE SUITABILITY & REPLACE AS REQUIRED W/ STRUCTURAL FILL. COMPACT TO 95% OF MAXIMUM DENSITY, AS DETERMINED PER ASTM D1557, TO A MINIMUM DEPTH OF 6".
 - DEPTH OF FILL TO BE ADJUSTED AS REQUIRED TO MEET FINAL ELEVATION SHOWN ON GRADING PLAN. STRUCTURAL FILL SHALL BE GRANULAR FREE-DRAINING MATERIAL FREE OF DEBRIS, ORGANICS, REFUSE AND OTHERWISE DELETERIOUS MATERIALS. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 12" IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557.
 - INSTALL 4" OF 3/4" CRUSHER RUN. COMPACT TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557. TOP OF CRUSHER RUN CONSIDERED FINISH GRADE AND IS TO BE SLOPED PER GRADING PLAN
 - PRIOR TO LAYING THE FABRIC & STONE, THE COMPOUND SHOULD BE STERILIZED WITH ENVIRONMENTALLY SAFE WEED KILLER, AND TREATED WITH ENVIRONMENTALLY SAFE HERBICIDE.
 - LAY GEOTEXTILE FABRIC OVER COMPACTED SOIL AND LAP ALL JOINTS A MINIMUM OF 12 INCHES.
 - SITE WILL BE GRADED TO ALLOW DRAINAGE AWAY FROM TOWER AND SHELTER.
 - AFTER PROJECT COMPLETION ALL DISTURBED AREAS OUTSIDE OF COMPOUND MUST BE SEEDED WITH LOW MAINTENANCE GRASS.

1 TYPICAL COMPOUND DETAIL
SCALE: N.T.S.



- NOTES:**
- STONE SHALL BE COMPACTED 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
 - PRIOR TO LAYING THE STONE THE ACCESS ROADWAY SHOULD BE CLEARED OF ALL ORGANIC MATTER, STERILIZED WITH ENVIRONMENTALLY SAFE WEED KILLER, AND TREATED WITH ENVIRONMENTALLY SAFE HERBICIDE.
 - A MINIMUM TURNING RADIUS OF THE ACCESS ROAD SHALL BE 55 DEGREES FOR THE SHELTER DELIVERY.
 - THE MAXIMUM LONGITUDINAL SLOPE OF THE ACCESS ROAD SHALL NOT EXCEED 10%.
 - CONTRACTOR, AT MINIMUM, MUST REMOVE OR TRIM ALL TREES THAT ARE WITHIN 3' OF THE ACCESS ROAD ON BOTH SIDES.

2 TYPICAL ACCESS ROAD SECTION
SCALE: N.T.S.



- NOTES:**
- ALL FENCING MATERIAL MUST BE GALVANIZED.
 - ALL POSTS MUST HAVE STEEL CAPS.
 - ALL POSTS AND BRACING MUST BE SCH. 40
 - INSTALL FENCING PER ASTM F-567
 - INSTALL GATES PER ASTM F-900
 - ALL CONCRETE FOUNDATIONS TO HAVE A MINIMUM OF 4000 PSI.
 - REFER TO FENCE SPECIFICATIONS FOR FURTHER INFORMATION.
 - LOCATE FENCE AS SHOWN ON SITE PLAN.
 - CONTRACTOR TO PROVIDE AND INSTALL "STYMI LOCK" ON COMPOUND GATE, WORK WITH CLIENT ON GATE COMBO.

3 CHAIN LINK FENCE DETAIL
SCALE: N.T.S.

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DRAWN BY: JCM CHECKED BY: AWD
KHA PROJECT NUMBER: 14899054
ENGINEER SEAL: KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000922

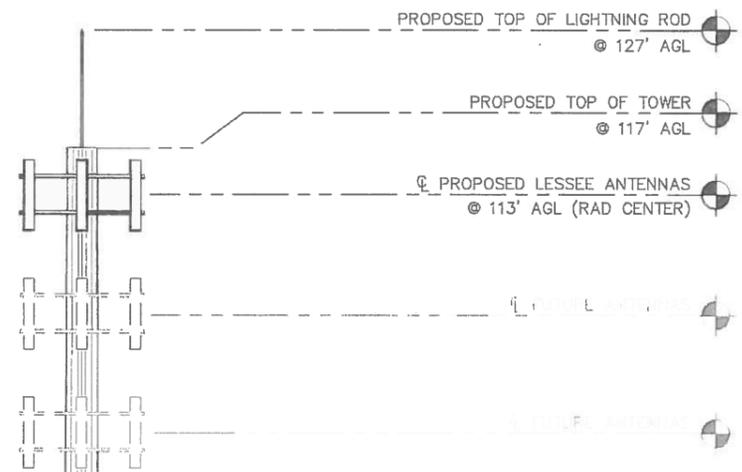
PROJECT INFORMATION:
MCHARD #297774
15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE: **FENCE AND COMPOUND DETAIL**
SHEET NUMBER: C-4

NOTES:

1. THESE DRAWINGS SHALL NOT BE RELIED UPON AS AN INDICATION THAT THE TOWER STRUCTURE, ITS COMPONENTS, AND ITS FOUNDATION HAVE ADEQUATE STRUCTURAL CAPACITY TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, MOUNTS, EQUIPMENT, AND HYBRID CABLES. KIMLEY-HORN HAS NOT PERFORMED A STRUCTURAL ANALYSIS ON THE TOWER, FOUNDATION, ANTENNA MOUNT, AND ALL ITS COMPONENTS. IT IS THE RESPONSIBILITY OF THE OWNER TO HAVE A STRUCTURAL ANALYSIS PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS PRIOR TO THE INSTALLATION OF ANY PROPOSED EQUIPMENT, HYBRID CABLES, ANTENNAS, OR APPURTENANCES ON THE TOWER. THIS STRUCTURAL ANALYSIS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
2. IF ANY WORK IS PERFORMED AT THIS SITE THAT REQUIRES THE SITE TO BE OFF AIR OR TURNED DOWN, THE SWITCH IS TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION VIA NCR/CTS.
3. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.
4. ANTENNA AND MOUNT DESIGN MUST COMPLY WITH TIA-EIA-222-G AND ALL LOCAL CODES.
5. CONTRACTOR TO PROVIDE THE PROPER HYBRID JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



- ANTENNA NOTES:**
1. ADJUST ANTENNA MOUNTS AS REQUIRED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT RF SHADOWING.
 2. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING MOUNT.
 3. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL OF THE MATERIAL NECESSARY.

PROPOSED LESSEE 116' MONOPOLE. INSTALLED PER MANUFACTURERS SPECIFICATIONS (BY OTHERS)

PROPOSED LESSEE WAVEGUIDE BRIDGE. REFER TO DETAILS 1/C-6 & 2/C-6

PROPOSED LESSEE 9'-4" X 21'-8" PREMANUFACTURED FIBREBOND SKID W/AWNING MOUNTED TO PROPOSED CONCRETE PIERS. (F.F.E. = 58.6' N.A.V.D.)

PROPOSED VERIZON WIRELESS 30kW DIESEL GENERATOR

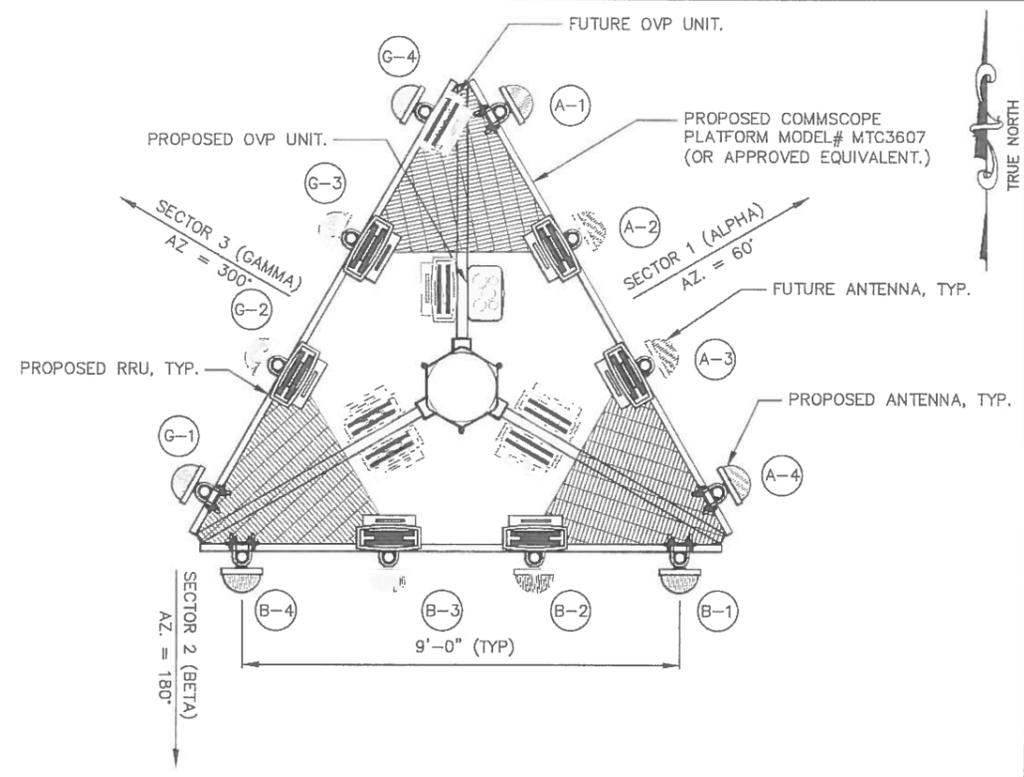
PROPOSED 6' HIGH CHAIN LINK FENCE. REFER TO DETAIL 3/C-4

ROUTE HYBRID CABLE UP TOWER PER THE TOWER DESIGN (BY OTHERS).

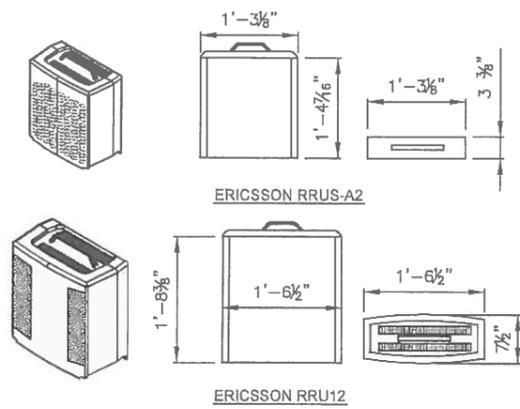
TOP OF FOUNDATION PIER TO BE INSTALLED 12" A.G.L. UNLESS OTHERWISE SPECIFIED IN TOWER FOUNDATION PLANS (BY OTHERS).



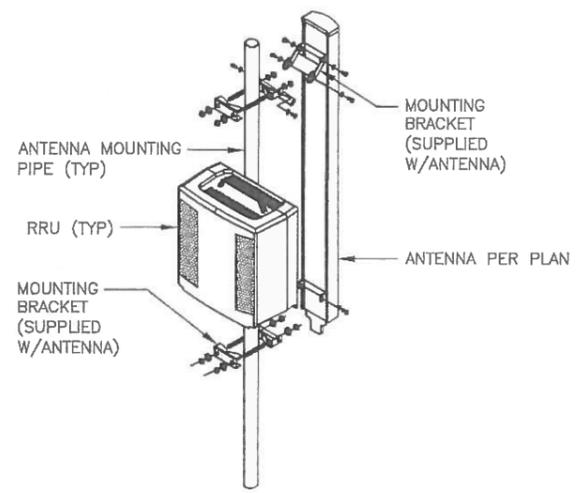
1 TOWER ELEVATION
SCALE: N.T.S.



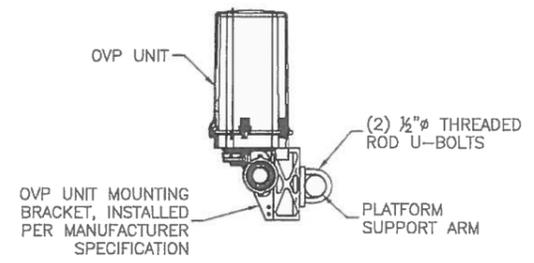
2 ANTENNA CONFIGURATION DETAIL
SCALE: N.T.S.



3 RRU DETAILS
SCALE: N.T.S.



3 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



4 OVP UNIT CONNECTION DETAIL
SCALE: N.T.S.



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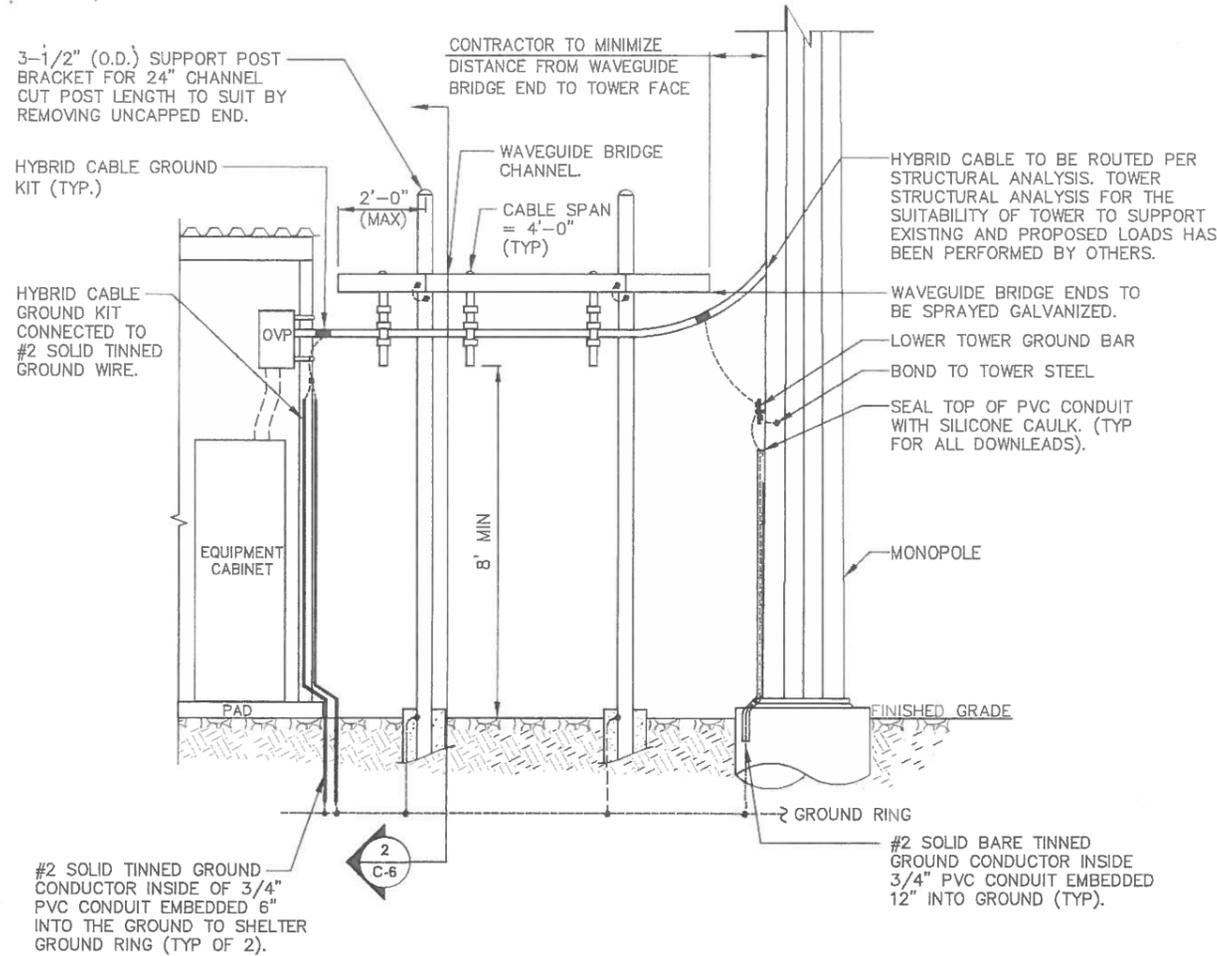
DRAWN BY: JCM CHECKED BY: AWD
KHA PROJECT NUMBER: 148999054



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HARRIS COUNTY

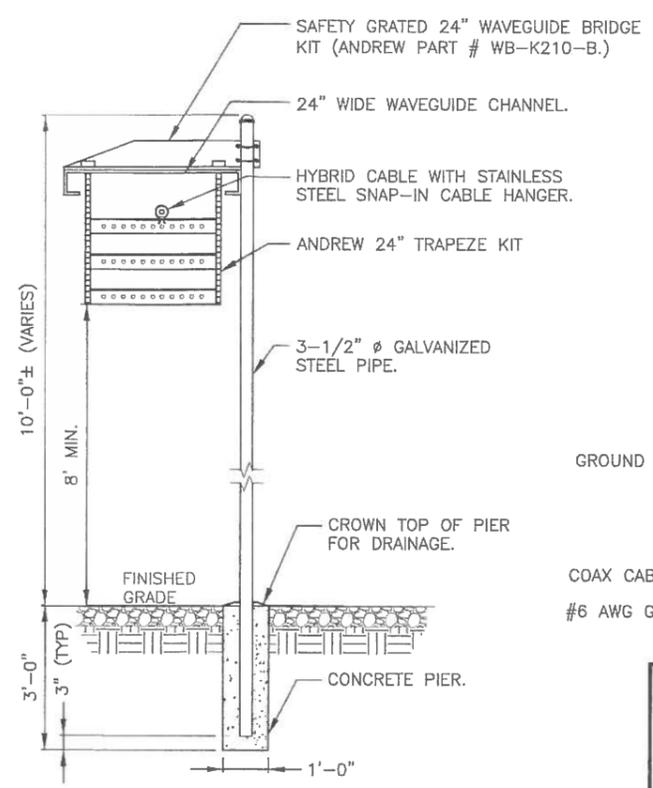
TOWER ELEVATION AND DETAILS

SHEET NUMBER: C-5



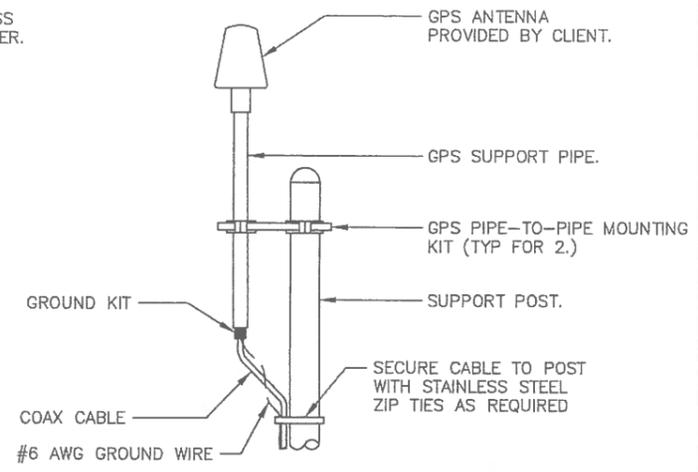
- NOTES:**
1. MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 8'
 2. WHEN SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2 FEET FROM THE SUPPORT.
 3. SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF WAVEGUIDE BRIDGES, WITH A MAXIMUM CANTILEVER DISTANCE OF 2 FEET FROM THE SUPPORT TO THE FREE END OF THE WAVEGUIDE BRIDGE.
 4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES PAINTED WITH 3 COATS OF ZINC RICH PAINT.
 5. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL.
 6. DEVIATIONS FROM WAVEGUIDE BRIDGE FOUNDATIONS SHOWN ON SITE SPECIFIC DRAWINGS OR STANDARD DETAILS REQUIRE ENGINEERING APPROVAL.
 7. ALL ANTENNA CABLE CONNECTIONS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

1 WAVEGUIDE BRIDGE ELEVATION
SCALE: N.T.S.



- NOTES:**
1. ALL SUPPORT POSTS MUST BE GROUNDED.
 2. GROUNING NOT SHOWN FOR CLARITY.
 3. HYBRID CABLE QTY. AND LOCATION MAY VARY.
 4. CONTRACTOR TO SUPPLY ALL MATERIAL UNLESS OTHERWISE NOTED.

2 WAVEGUIDE BRIDGE SECTIONS
SCALE: N.T.S.



- NOTES:**
1. CONTRACTOR TO SUPPLY ALL MATERIAL UNLESS OTHERWISE NOTED.
 2. GPS ANTENNA MUST BE IN A LOCATION TO BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF 4 SATELLITES.
 3. LOCATION OF ANTENNA MUST BE IN CLEAR VIEW OF THE SKY, WITHOUT ANY OBSTRUCTION OR BLOCKAGE EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.

3 GPS ANTENNA DETAIL
SCALE: N.T.S.

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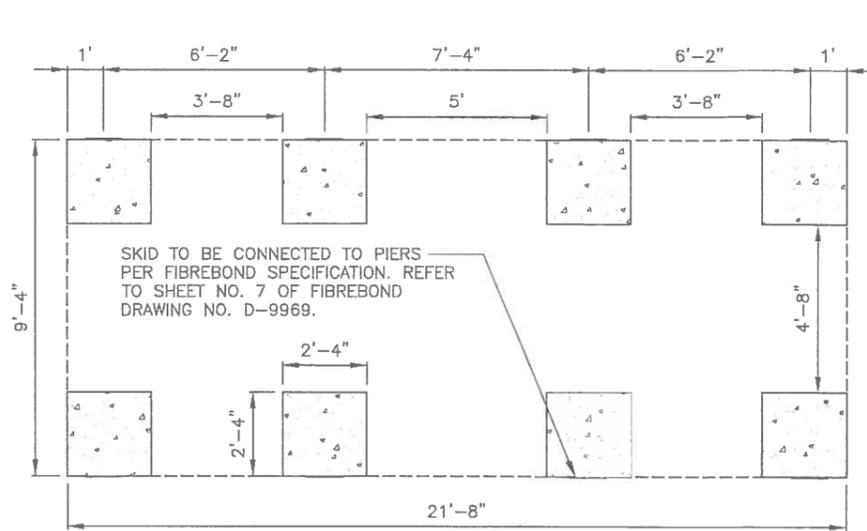
SHEET TITLE:
**MISCELLANEOUS
DETAILS**

SHEET NUMBER:
C-6

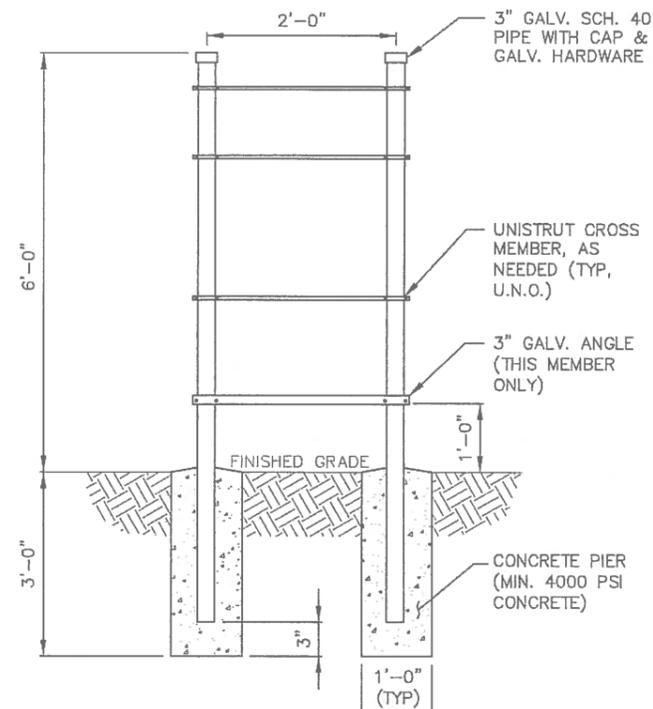
STRUCTURAL NOTES:

1. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED BY FIELD MEASUREMENT. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.
2. THE GENERAL CONTRACTOR AND HIS SUB CONSULTANTS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK.
3. STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, AISC 360-05 INCLUDING THE COMMENTARY AND THE AISC CODE OF STANDARD PRACTICE.
4. STRUCTURAL STEEL PLATES, ANGLES, AND CHANNELS SHALL CONFORM TO ASTM A36. STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. STRUCTURAL STEEL BEAMS SHALL CONFORM TO ASTM A992, GRADE 50. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED-ASTM A123 AFTER FABRICATION. FIELD TOUCH UP WITH 3 COATS OF ZINC RICH PAINT ALL RAW EDGES AND/OR AREAS WHERE THE GALVANIZED FINISH HAS BEEN DISTURBED (ALL EXISTING AND NEW AREAS).
5. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS 01.1). STRUCTURAL WELDING CODE-STEEL WELD ELECTRODES SHALL BE E70XX. FIELD TOUCH UP WITH ZINC RICH PAINT (ALL EXISTING AND NEW AREAS) AFTER WELDING IS COMPLETE.
6. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8 INCH MIN. UNLESS NOTED OTHERWISE, DIAMETER BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.
7. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 60, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.
8. CONCRETE FOR THE FOUNDATION PAD SHALL BE 4000 PSI NORMAL WEIGHT CONCRETE. CONCRETE STRENGTH SHALL BE VERIFIED BY CONCRETE CYLINDER TESTS (A MINIMUM SET OF FOUR CYLINDERS). PROVIDE 4 TO 6% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE - THAW CYCLE.
9. MINIMUM CONCRETE COVER REINFORCEMENT SHALL BE 2" UNLESS NOTED OTHERWISE. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH SHALL HAVE A MINIMUM CONCRETE COVER OF 3".
10. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS, CONDUIT, CHAMFERS, AND EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT AND/OR STEEL ERECTION. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS.
11. DO NOT IMPOSE SERVICE LOAD (i.e. FLOOR DEAD AND LIVE LOADS, BACKFILL, ETC.) UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED MINIMUM COMPRESSIVE STRENGTH.
12. BACKFILL SHALL BE CLEAN SAND FILL APPROVED FOR USE BY THE ENGINEER. NO UNAPPROVED MATERIAL WILL BE ALLOWED. CLEAN SAND FILL SHALL BE FREE OF ALL ROOTS, BOULDERS, OR OTHER DELETERIOUS MATERIAL.
13. SOIL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY TO A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE FOOTINGS, AND SHALL OBTAIN A 2000 PSF MINIMUM ALLOWABLE BEARING CAPACITY.

IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE STRUCTURAL CAPACITY OF THE PROPOSED TOWER AND ITS FOUNDATION TO RESIST THE WIND/GRAVITY LOADS FROM THE PROPOSED STRUCTURES.

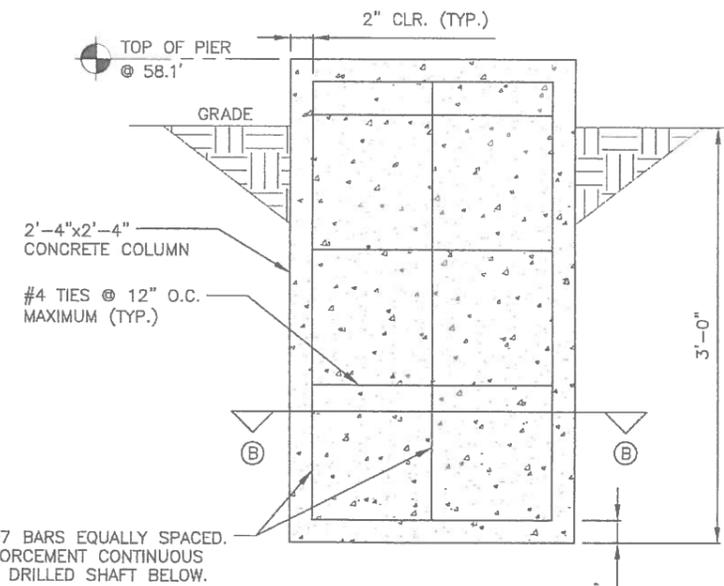


1 PIER FOUNDATION PLAN
SCALE: N.T.S.

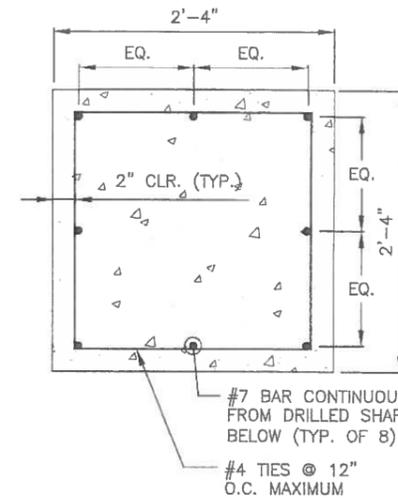


4 UTILITY RACK DETAIL
SCALE: N.T.S.

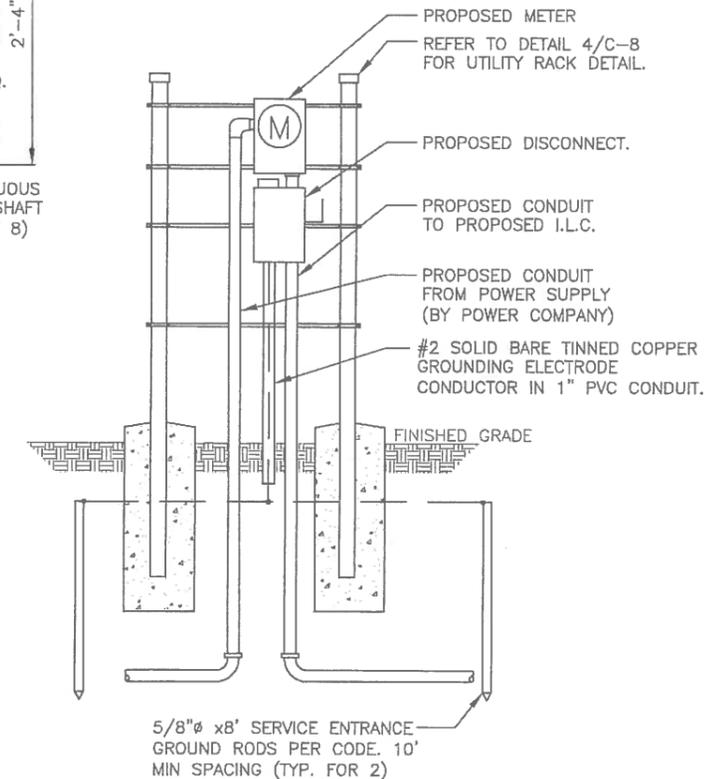
- NOTES:**
1. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.
 2. GROUNDING NOT SHOWN FOR CLARITY.



2 PIER ELEVATION PLAN
SCALE: N.T.S.



3 SECTION B-B
SCALE: N.T.S.



5 UTILITY RACK - FRONT PROFILE
SCALE: N.T.S.



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REV: DATE: DESCRIPTION

4	02/13/15	REVISED RF PER UPDATED NCR
3	02/09/15	REVISED RF PER NCR
2	01/06/15	REVISED FOUNDATION DESIGN
1	12/04/14	REVISED SKID LAYOUT
0	11/07/14	ISSUED FOR REVIEW

DRAWN BY: CHECKED BY:

JCM AWD

KHA PROJECT NUMBER:

14899054

ENGINEER SEAL:



TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000926

PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

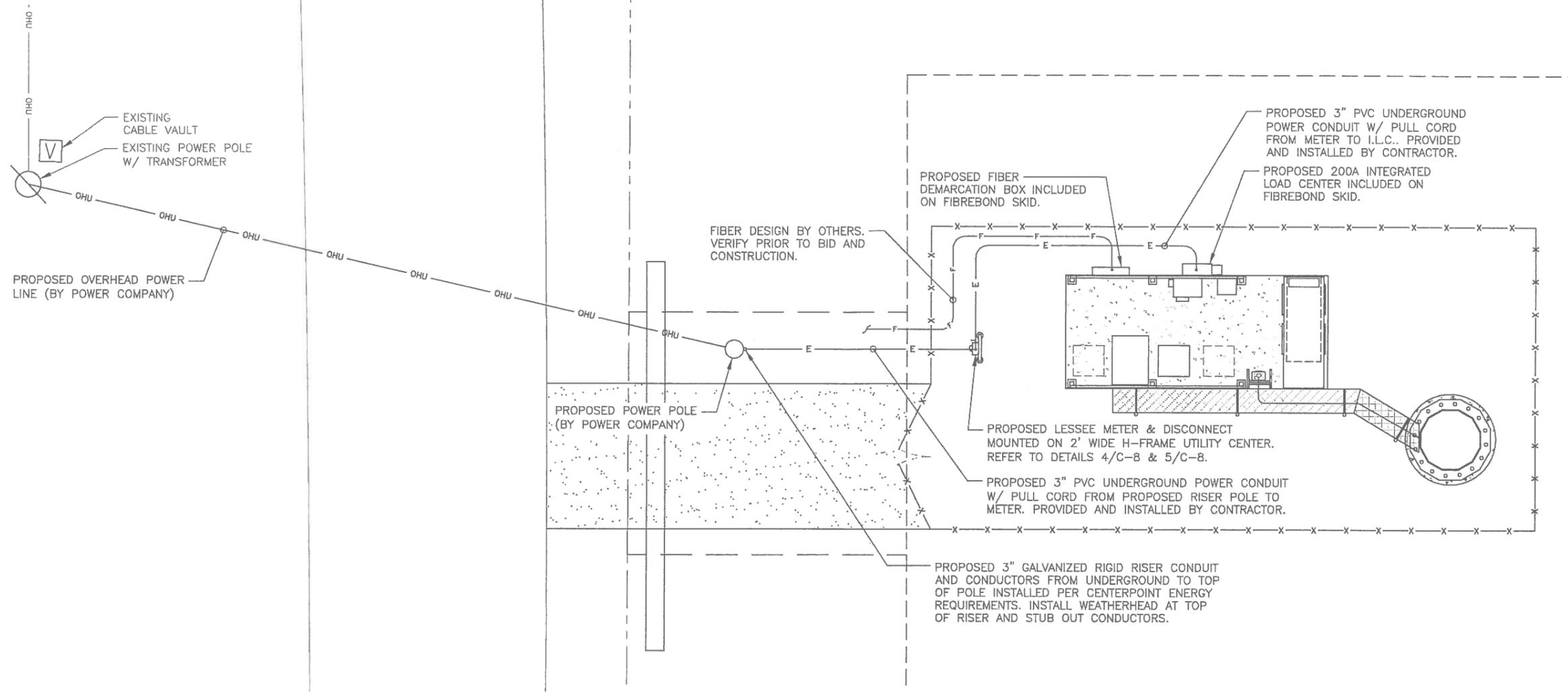
SHEET TITLE:

**FOUNDATION DETAIL
AND NOTES**

SHEET NUMBER:

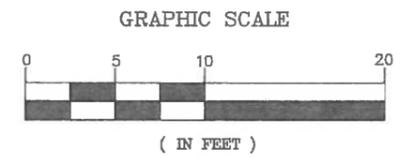
C-8

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



- NOTES:**
1. CONTRACTOR MUST CALL LOCAL UNDERGROUND UTILITY LOCATING SERVICE BEFORE ANY EXCAVATION OR TRENCHING IS PERFORMED TO FLAG ALL UNDERGROUND UTILITIES. CONTRACTOR MUST HAND DIG ALL TRENCHES & EXCAVATIONS AROUND EXISTING UNDERGROUND UTILITIES IN WORK AREA.
 2. IF CONDUIT RUNS HAVE MORE THEN (3)--90° TURNS THEN THE CONTRACTOR MUST INSTALL PULL BOXES AS NEEDED.
 3. ALL TELCO CONDUIT BEND RADIUS MUST BE 10 TIMES THE CONDUIT DIAMETER.
 4. ALL EQUIPMENT INSTALLED ON THE H-FRAMES SHALL MAINTAIN A MINIMUM OF 3' CLEARANCE TO ALL FENCES.
 5. CONTRACTOR MUST HAND DIG ALL TRENCHES INSIDE OF COMPOUND.

1
E-1
ELECTRICAL PLAN
SCALE: 1" = 10'
SCALE BASED ON 11"x17" ONLY



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JCM AWD
KHA PROJECT NUMBER:



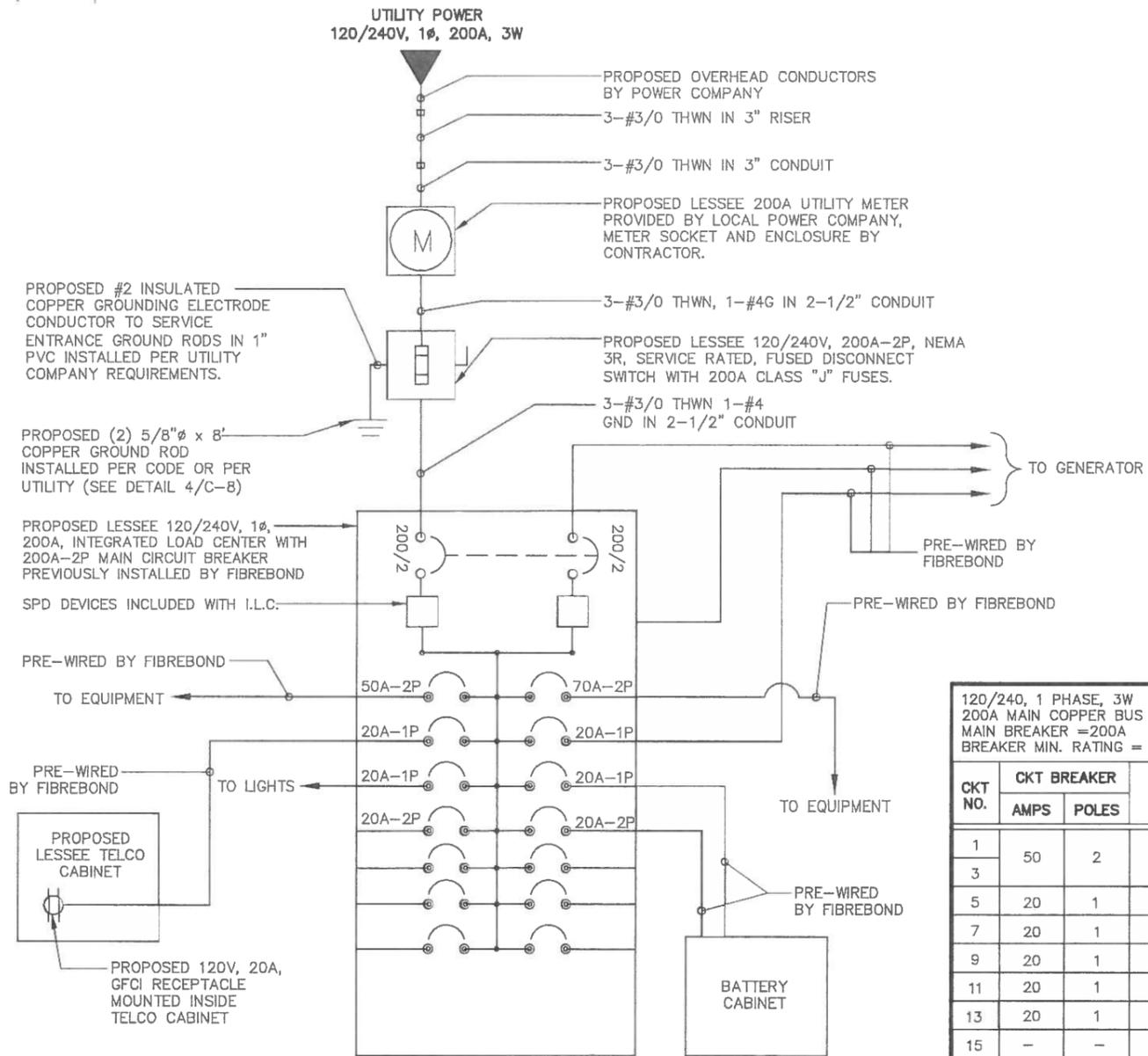
KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000926

PROJECT INFORMATION:

MCHARD
#297774
15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:
ELECTRICAL PLAN

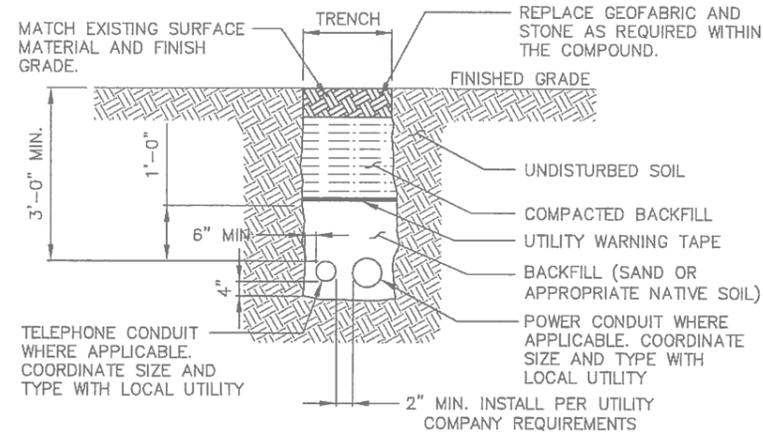
SHEET NUMBER:
E-1



NOTES:

- LABEL VERIZON WIRELESS METER SOCKET PER POWER COMPANY REQUIREMENTS.
- VERIFY GENERATOR REQUIREMENTS WITH MANUFACTURER.
- CONTRACTOR SHALL COORDINATE THE REQUIREMENT OF SEPARATE NEUTRAL AND GROUND WITH THE UTILITY COMPANY FROM THE DISCONNECT TO THE METER. WHERE THE UTILITY COMPANY DOES NOT PROVIDE A NEUTRAL LANDING LUG AS PART OF THE METER CAN, THE NEUTRAL WIRE SHALL NOT BE INSTALLED.

1 ELECTRICAL ONE-LINE DIAGRAM
SCALE: N.T.S.



NOTES:

- CONTRACTOR TO HAND DIG ALL NEW TRENCHES INSIDE COMPOUND.
- SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.

2 UTILITY TRENCH DETAIL
SCALE: N.T.S.

120/240, 1 PHASE, 3W
200A MAIN COPPER BUS
MAIN BREAKER = 200A
BREAKER MIN. RATING = 65 KAIC

PANEL "A"

CKT NO.	CKT BREAKER		QTY.	VA UNIT	DESCRIPTION	LOAD (WATTS)				DESCRIPTION	QTY.	VA UNIT	CKT BREAKER		CKT NO.
	AMPS	POLES				L1	L2	L2	L1				POLES	AMPS	
1	50	2	1	4800	ENODE-B	2400	-	3360	-	MESA SOLE	1	6720	2	70	2
3	-	-	-	-	TELCO BOX GFCI RECEPTACLE	180	-	1500	-	BLOCK HEATER	1	1500	1	20	6
5	20	1	1	180	LIGHTS	-	2000	-	240	BATTERY CHARGER	1	240	1	20	8
7	20	1	4	500	GFCI RECEPTACLES	180	-	960	-	BATTERY CABINET	1	1920	2	20	10
9	20	1	2	360	SPARE	-	-	-	960	SPARE	-	-	1	20	12
11	20	1	-	-	SPARE	-	-	-	-	SPARE	-	-	1	20	14
13	20	1	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	16
15	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	18
17	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	20
19	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	22
21	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	24
23	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	26
25	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	28
27	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	28
29	-	-	-	-	EMPTY SPACE	-	-	-	-	EMPTY SPACE	-	-	-	-	30
PHASE TOTAL (WATTS)						2760	4400	5820	4560						
BREAKER TOTAL (WATTS)						7,160		10,380							
TOTAL CONNECTED WATTS						17,540				TOTAL DEMAND LOAD = 22KVA					
25% SAFETY FACTOR PER N.E.C.						4,385									
TOTAL LOAD (AMPS)						91.35									

NOTES:

- ALL BREAKERS ARE PROVIDED AND PRE-WIRED BY THE FIBREBOND. INFORMATION SHOWN FOR REFERENCE ONLY.

3 PANEL SCHEDULE
SCALE: N.T.S.

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0	11/07/14	ISSUED FOR REVIEW

DRAWN BY: JCM CHECKED BY: AWD

KHA PROJECT NUMBER: 148999054

ENGINEER SEAL: KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #59165
TX CERTIFICATE OF AUTHORIZATION# F-00092E

MCHARD
#297774
15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:
ONE-LINE DIAGRAM AND DETAILS

SHEET NUMBER:
E-2



- KEY NOTES:**
- ① #2 SOLID, BARE, TINNED, COPPER SITE GROUND RING. BURIED AT 30" MIN. INSTALL GROUND RODS AT EACH CORNER AND SPACED 10' MIN. APART.
 - ② #2 SOLID, BARE, TINNED, COPPER EQUIPMENT PAD GROUND RING. BOND TO EXTERNAL GROUND RING WITH #2, SOLID, BARE, TINNED, COPPER WIRE (TYP). MAINTAIN 2' CLEARANCE FROM CONCRETE PAD.
 - ③ #2 SOLID, BARE, TINNED, COPPER TOWER GROUND RING INSTALLED MIN. 4 GROUND RODS SPACED EQUALLY APART. MAINTAIN 2' CLEARANCE FROM TOWER FOUNDATION.
 - ④ 5/8"φ x 8' LONG COPPER GROUND ROD (TYP). REFER TO DETAIL 4/E-4.
 - ⑤ 5/8"φ x 8' LONG COPPER GROUND ROD WITH TEST WELL (TYP). REFER TO DETAIL 1/E-4.
 - ⑥ TOWER BOTTOM GROUND BAR. TOWER GROUND BARS SHALL BE COPPER CLAD. REFER TO LESSEE GROUNDING SPECIFICATIONS.
 - ⑦ #2 SOLID, BARE, TINNED, COPPER WIRE FROM TOWER GROUND BAR TO TOWER GROUND RING. BOND BY MEANS OF EXOTHERMIC WELD OR UL APPROVED CLAMP.
 - ⑧ (2) - #2 SOLID, BARE, TINNED, COPPER WIRES FROM TOWER BASE PLATE TO TOWER GROUND RING. (TYP. FOR 3)
 - ⑨ #4/0 BRAIDED JUMPER TO GATE PIPE CONNECTOR. GROUNDING CABLE SHALL BE ATTACHED SO THAT IT WILL NOT BE SUBJECTED TO STRAIN WHICH MAY CAUSE DAMAGE WHEN GATE IS FULLY OPENED.
 - ⑩ CONTRACTOR TO GROUND PAD REINFORCEMENT STEEL TO GROUND RING PRIOR TO INSTALLING CONCRETE FOUNDATION (TYP FOR 2).
 - ⑪ #2 SOLID, BARE, TINNED, COPPER WIRE FROM SITE GROUND RING TO FENCE & GATE POST. (MAX 10' SEPARATION)
 - ⑫ #2 SOLID, BARE, TINNED, COPPER WIRE FROM EQUIPMENT PAD GROUND RING TO TOWER GROUND RING. (MIN. 2 PLACES)
 - ⑬ #2 SOLID, BARE, TINNED, COPPER WIRE FROM WAVEGUIDE SUPPORT POST TO GROUND RING (TYP. FOR ALL POSTS).
 - ⑭ #2 SOLID, BARE, TINNED, COPPER WIRE GROUNDING JUMPER FROM WAVEGUIDE BRIDGE STEEL TO SUPPORT POST. (TYP. FOR ALL POSTS)
 - ⑮ CONTRACTOR TO GROUND TOWER REINFORCEMENT STEEL TO TOWER GROUND RING PRIOR TO INSTALLING CONCRETE FOUNDATION (TYP FOR 2).
 - ⑯ #2 SOLID, BARE, TINNED, COPPER WIRE BONDED FROM TOWER GROUND RING TO SITE GROUND RING (MIN 4 PLACES).
 - ⑰ 5/8"φ x 8' COPPER GROUND RODS USED FOR UTILITY SERVICE INSTALLED PER UTILITY COMPANY REQUIREMENTS. INSTALL MIN 6" ABOVE GRADE WITH MIN 8' BELOW GRADE. DO NOT BOND TO ANY GROUND RING.
 - ⑱ #2 SOLID, BARE, TINNED, COPPER WIRE FROM GENERATOR TO EQUIPMENT PAD GROUND RING (TYP FOR 2).
 - ⑲ #2 SOLID, BARE, TINNED, COPPER WIRE FROM EACH AWNING SUPPORT TO EQUIPMENT PAD GROUND RING.
 - ⑳ PROPOSED #2 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO SERVICE ENTRANCE GROUND RODS IN 1" PVC INSTALLED PER UTILITY COMPANY REQUIREMENTS. PVC CONDUIT TO EXTEND 18" BELOW GRADE.
 - ㉑ #2 SOLID, BARE, TINNED, COPPER WIRE BONDS TO EQUIPMENT FRAMES. BOND INTERNAL EQUIPMENT GROUND BARS TO GROUND RING, WHERE APPLICABLE, PER MANUFACTURER SPECIFICATION.

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DRAWN BY: _____ CHECKED BY: _____

JCM AWD

KHA PROJECT NUMBER: _____

148999054

ENGINEER SEAL



PROJECT INFORMATION:

MCHARD
#297774

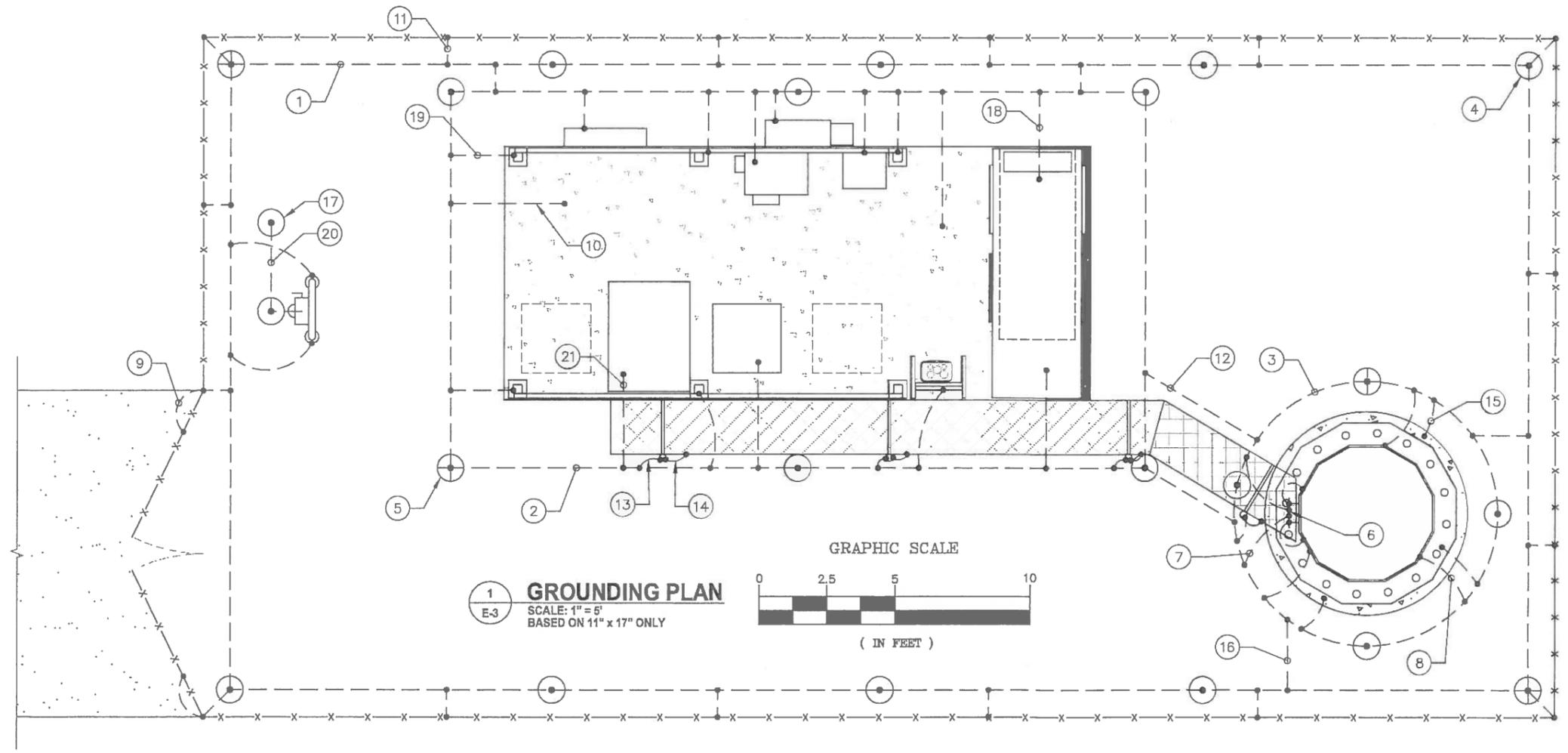
15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

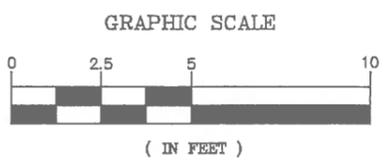
GROUNDING PLAN

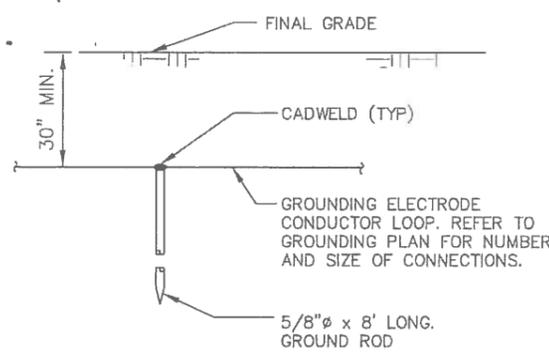
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E-3

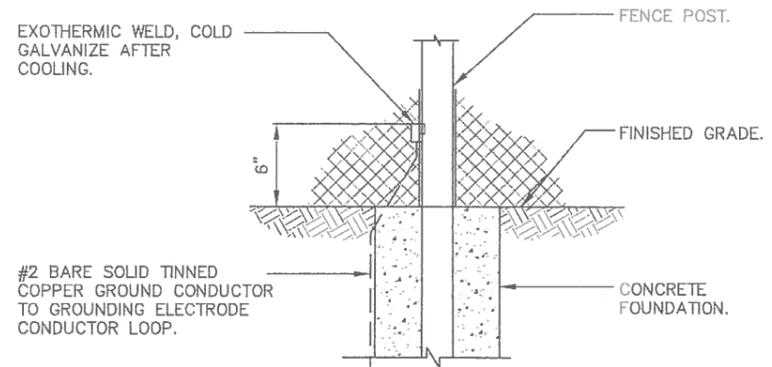


1 GROUNDING PLAN
E-3
SCALE: 1" = 5'
BASED ON 11" x 17" ONLY

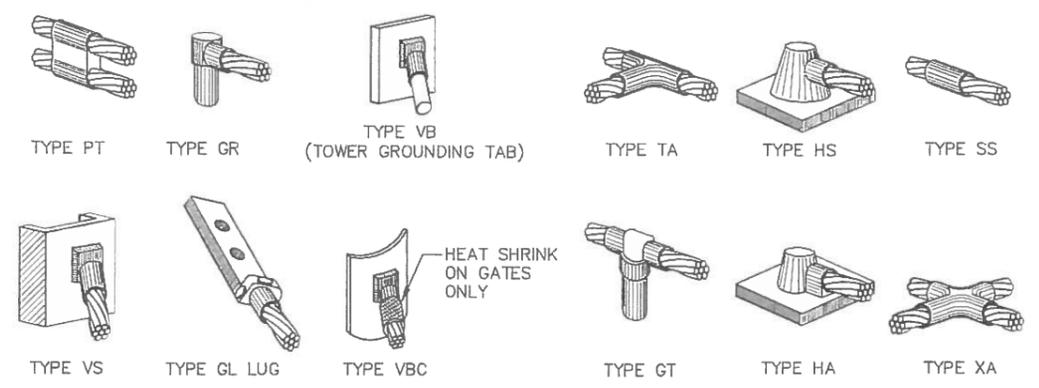




1 GROUND ROD DETAIL
SCALE: N.T.S.

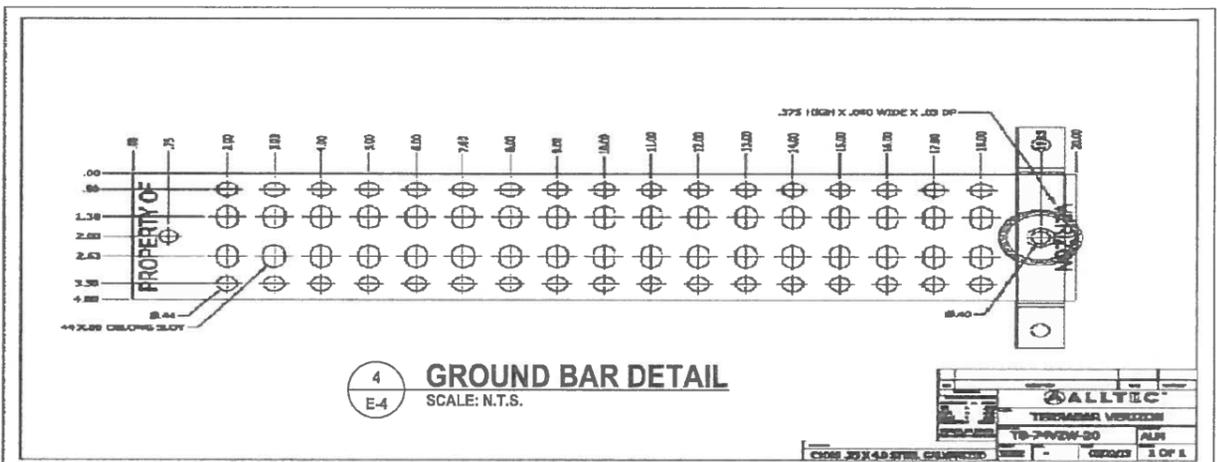


2 TYPICAL FENCE BONDING DETAIL
SCALE: N.T.S.



NOTES:
1. CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES. PROVIDE APPROPRIATE TYPES AS REQUIRED.

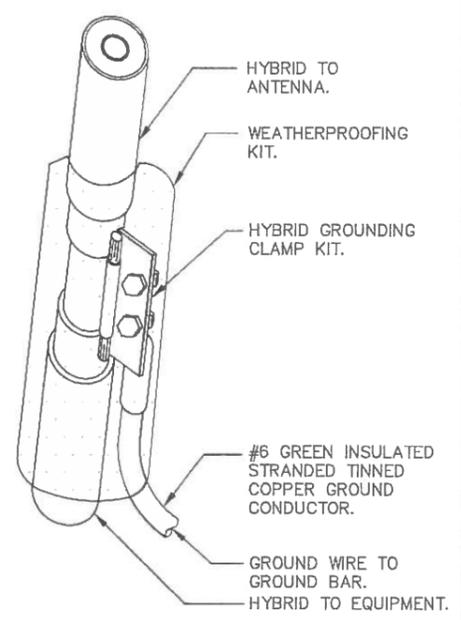
3 TYPICAL CAD WELDS
SCALE: N.T.S.



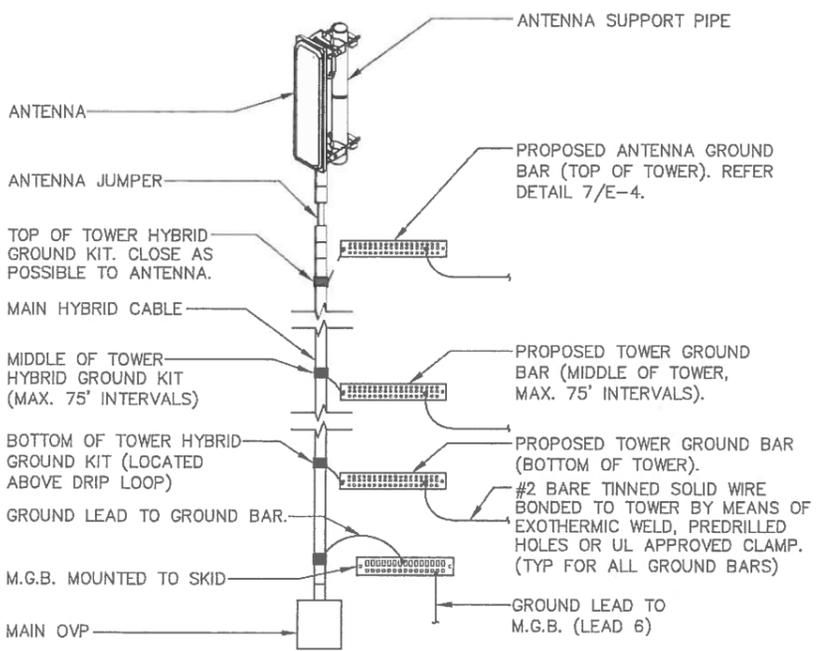
4 GROUND BAR DETAIL
SCALE: N.T.S.

New style galvanized steel ground bar approved by EOS. Part Numbers: TB-74 VZW-20 and TB-74VZW-24 It is available from Alltec Corporation Canton NC +1-828-646-9290 Tel

NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND IN CABLE.
2. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
3. 2-1/2" MAX FOR TX/RX ANTENNA CABLES.
4. 1-1/4" MAX FOR GPS ANTENNA CABLES.
5. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

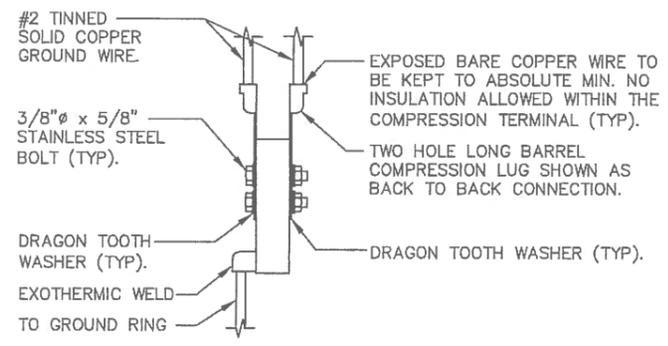


5 HYBRID CABLE GROUNDING DETAIL
SCALE: N.T.S.



NOTES:
1. EACH TRANSMISSION LINE SHALL BE LABELED WITH BRASS "TOE TAGS", GRANGER PART #1F035-8, STAMPED WITH 1/4" LETTER/NUMBER STAMPS, GRANGER PART #3W639. THE LABELS SHALL BE ATTACHED WITH A SEMI-PERMANENT METHOD. THE TAGS SHALL BE PLACED SO THEY DON'T CONTACT THE CONNECTOR ON THE LINE AND THE METAL OF THE TOWER. LINES SHALL BE LABELED AT THE TOP AND BOTTOM OF TOWER AND IN THE INTERIOR OF THE EQUIPMENT SHELTER.
2. EACH LINE SHALL BE LABELED AT THE LIGHTNING/SURGE PROTECTOR MOUNTING PLATE WITH A PRINTABLE LABEL MAKER TO INDICATE LINE NUMBER AND FUNCTION, SIMILAR TO TOE TAG.
3. THE TAG LABELING EQUIPMENT SHALL BE AS DESIGNATED IN THE ANTENNA KEY. FOR LUCENT USE A-ALPHA, B-BETA, G-GAMMA.
4. CONTRACTOR TO VERIFY HYBRID LENGTHS BEFORE ORDERING.
5. CONTRACTOR SHALL INSTALL DOWN TILT BRACKETS AND ALL HARDWARE FOR ALL ANTENNAS AND SHALL BE ACCORDANCE WITH THE TOWER MANUFACTURER'S STANDARD DETAILS.
6. CONTRACTOR SHALL FIELD VERIFY ALL RF INFORMATION AND THE EXACT EQUIPMENT TO BE INSTALLED PER THE RF ENGINEER.

6 ANTENNA GROUNDING DETAIL
SCALE: N.T.S.



7 TYPICAL GROUND BAR CONNECTION
SCALE: N.T.S.

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DRAWN BY: JCM CHECKED BY: AWD

KHA PROJECT NUMBER: 14899054



KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000922

PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

GROUNDING DETAILS

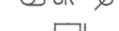
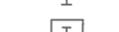
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E-4

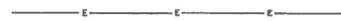
GENERAL NOTES

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THE PROJECT REQUIREMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWING/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATION UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE. CONTRACTOR SHALL PROVIDE SERVICES FOR OFF LOADING AND PLACEMENT OF SHELTER IN ACCORDANCE WITH MANUFACTURER'S LIFTING PROCEDURES.
- THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS AVAILABLE FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. REDLINED AS-BUILTS ARE TO BE DELIVERED TO THE CLIENT AT CLOSEOUT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (HANDICAPPED ACCESS NOT REQUIRED).
- FACILITY HAS NO PLUMBING.
- PRIOR TO OR UPON ENTERING INTO THE SITE COMPOUND, THE PERSONNEL ENTERING THE SITE AND THE SHELTER ARE TO CONTACT THE SWITCH AND THE CLIENT NOC INFORMING THEM OF THE FOLLOWING INFORMATION: WHO IS ENTERING THE SHELTER AND WHAT COMPANY THEY ARE WITH, WHY THEY ARE ENTERING THE SHELTER AND HOW LONG THEY PLAN TO BE AT THE SHELTER.
- UPON LEAVING THE SHELTER, THE "SITE" PERSONNEL ARE TO CONTACT THE SWITCH AND CLIENT NOC INFORMING THEM OF DEPARTURE.
- SHOULD THE SHELTER ACCESS OCCUR WHILE THE SWITCH IS UNMANNED, THEN AT MINIMUM THE CLIENT NOC WILL BE NOTIFIED OF THE ABOVE INFORMATION.
- ALL INSTALLATION DEBRIS AND TRASH SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS. ANY EXPENSE THAT IS INCURRED BY CLIENT FOR TRASH REMOVAL WILL BE BACK-CHARGED TO THE SUBCONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY ENGINEER, WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CONSTRUCTION MANAGER.
- ALL ANTENNA OUTAGES MUST BE PLANNED AT A MINIMUM OF 24 HOURS IN ADVANCE. CONTRACTOR MUST CONTACT THE SWITCH AND THE NOC TO COORDINATE. IF THIS POLICY IS NOT ADHERED TO, THE CONTRACTOR WILL BE REMOVED FROM THE BIDDER'S LIST AND ANY OPPORTUNITY FOR FUTURE WORK.

A/C	AIR CONDITIONING
ADJ.	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
APPROX.	APPROXIMATELY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GAUGE
A	AMPERE
BTS	BASE TRANSMISSION STATION
BLDG.	BUILDING
BLK.	BLOCK
B/S	BUILDING STANDARD
CIGBE	GROUND BAR
CLG	CEILING
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
C.F.C.I.	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
DBL.	DOUBLE
DIA., Ø	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DN	DOWN
DTL.	DETAIL
DWG.	DRAWING
E	EAST
EA.	EACH
EL., ELEV.	ELEVATION
ELECT.	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXIST.	EXISTING
EXT.	EXTERIOR
FIN.	FINISH
FLR	FLOOR
FT.	FOOT
GRC.	GALVANIZED RIGID CONDUIT
G. OR GRD.	GROUND
GA.	GAUGE
GALV.	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
HORIZ.	HORIZONTAL
HR	HOUR
HT.	HEIGHT
HYAC	HEATING, VENTILATING AND AIR CONDITIONING
I.D.	INSIDE DIA.
IN.	INCH
INFO	INFORMATION
INSUL.	INSULATION
INT.	INTERIOR
KVA	KILOVOLTS-AMPERE
KW	KILOWATT
LB(S)	POUND(S)
MGB	MASTER GROUND BAR
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
MGR.	MANAGER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTD.	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NEUT.	NEUTRAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOC	NETWORK OPERATIONS CENTER
NPS	NOMINAL PIPE SIZE
N.T.S.	NOT TO SCALE
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
OC, o/c	ON CENTER
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
OHU	OVERHEAD UTILITY LINES
PLYWD.	PLYWOOD
PR	PAIR
PH	PHASE
PVC	POLYVINYL CHLORIDE
PROJ	PROJECT
PROP	PROPERTY
PT	PRESSURE TREATED
RECPT.	RECEPTACLE

REQ'D	REQUIRED		NORTH ARROW
RGS	RIGID GALVANIZED STEEL		ELEVATION
R.O.	ROUGH OPENING		SECTIONS & DETAILS
R.O.W.	RIGHT-OF-WAY		BRICK
S	SOUTH		CONCRETE
S.O.	SERVICE GRADE OIL RESISTANT SHEET		EARTH
SHT	SHEET		GRAVEL
SIM.	SIMILAR		STEEL
SPEC.	SPECIFICATION		METER
XXX.XX'	SPOT ELEVATION		GROUND
SQ.	SQUARE		REVISION
SF	SQUARE FOOT		KEYNOTE
SS	STAINLESS STEEL		
STL.	STEEL		
STRUCT.	STRUCTURAL		
THRU	THROUGH		
T.O.C.	TOP OF CONCRETE		
T.O.M.	TOP OF MASONRY		
TYP	TYPICAL		
UBC	UNIFORM BUILDING CODE		
VERT.	VERTICAL		
VIF	VERIFY IN FIELD		
V	VOLT		
W	WEST		
W/	WITH		
W/O	WITHOUT		
W.P.	WEATHERPROOF		
XFMR	TRANSFORMER		
	MATCH LINE		
	WORK POINT		
	MECHANICAL BONDING CONNECTION		
	EXOTHERMICALLY WELDED BONDING CONNECTION		
	POWER POLE		
	DISCONNECT SWITCH		
	DOUBLE-THROW MANUAL TRANSFER SWITCH		
	CIRCUIT BREAKER		
	EMERGENCY GENERATOR RECEPTACLE		
	TELCO PEDESTAL		
	GROUND ROD		
	GROUND ROD INSPECTION WELL		
	REPRESENTS DETAIL NUMBER		
	REF. DRAWING NUMBER		

LEGEND

	EXISTING CONTOUR LINE
	EXISTING CHAIN LINK FENCE
	EXISTING PROPERTY LINE
	EXISTING OVERHEAD UTILITIES
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN LINE
	PROPOSED CONTOUR LINE
	PROPOSED CHAIN LINK FENCE
	PROPOSED LEASE AREA
	PROPOSED OVERHEAD UTILITIES
	PROPOSED UNDERGROUND TELCO
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED EASEMENT
	PROPOSED SILT FENCE
	PROPOSED GROUNDING
	FUTURE FEATURES

verizonwireless

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REV	DATE	DESCRIPTION
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DRAWN BY: JCM CHECKED BY: AWD

KHA PROJECT NUMBER:

ENGINEER SEAL:



KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000821

PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

**GENERAL NOTES,
AND ABBREVIATION**

SHEET NUMBER:

GENERAL NOTES:

1. FENCED SITE AREA SHALL BE CLEARED AND GRUBBED. REMOVE UNSUITABLE SOFT OR LOOSE SOILS, ORGANIC MATERIAL AND OR RUBBLE TO FIRM SUBGRADE. FILL UNDERCUT UP TO 6 INCHES BELOW FINISH GRADE.
2. IF ANY ARCHAEOLOGICAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY EITHER KIMLEY-HORN OR CLIENT.
3. IN ADDITION TO PROVIDING THEM IN THE CLOSE-OUT PACKAGE, THE CONTRACTOR SHALL LEAVE A COPY OF THE AS-BUILT DRAWINGS, MEG TEST, AND SWEEP TEST IN THE SHELTER AFTER CONSTRUCTION.
4. THE CONTRACTOR MUST CONTACT THE SURVEYOR TO STAKE OUT THE EASEMENTS AND LEASE AREA PRIOR TO CONSTRUCTION. ALL FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR IS TO ENSURE THAT NO DAMAGE OR DEBRIS OCCURS ON THE ADJACENT PROPERTIES.
6. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITH LOW MAINTENANCE NATIVE GRASS TO PREVENT EROSION.
7. UNTIL THE COMPOUND IS SURROUNDED BY A PERMANENT FENCE, THE CONTRACTOR MUST ERECT A TEMPORARY FENCE AROUND THE TOWER AND POST A "NO TRESPASSING" SIGN. ALL CLIMBING PEGS MUST BE REMOVED UP TO 20' UNTIL A PERMANENT FENCE IS INSTALLED.
8. THE CONTRACTOR MUST ENSURE THAT ALL DELIVERY TRUCKS WILL BE ABLE TO DELIVER THE MATERIAL TO THE COMPOUND. IF THE DELIVERY TRUCKS CAN NOT ACCESS THE COMPOUND THEN THE CONTRACTOR MUST MAKE OTHER ARRANGEMENTS TO GET THE MATERIAL TO THE COMPOUND. IF THIS IS REQUIRED THE CONTRACTOR MUST CONTACT KIMLEY-HORN IMMEDIATELY. NO ADDITIONAL FEES WILL BE PASSED ON TO KIMLEY-HORN OR THE CLIENT.
9. PROPOSED TOWER AND FOUNDATION TO BE INSTALLED IN ACCORDANCE WITH THE TOWER MANUFACTURER PLANS PROVIDED BY CLIENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE UNLOADING OF TOWER MATERIALS DELIVERED TO SITE BY THE TOWER MANUFACTURER.
10. CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR ALL COMPACTED FILL RECOMMENDATIONS. IF THE GEOTECH REPORT CONFLICTS WITH THE CONSTRUCTION DRAWINGS THEN STOP WORK AND CONTACT THE CLIENT AS SOON AS POSSIBLE.
11. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DOT AND/OR COUNTY SPECIFICATIONS PRIOR TO BID AND CONSTRUCTION. IF THE SPECIFICATIONS DIFFER FROM THE CONSTRUCTION DRAWINGS, THEN THE SPECIFICATIONS WILL GOVERN. NO ADDITIONAL COSTS FOR ADHERING TO THE SPECIFICATIONS WILL BE ALLOWED AFTER THE BID HAS BEEN ISSUED AND ACCEPTED NOR WILL PROJECT DELAYS BE TOLERATED.
12. THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
13. PROPOSED LIGHTNING ROD IS TO BE INSTALLED A MINIMUM OF 3' ABOVE HIGHEST APPURTENANCE.
14. IF THE OVERALL HEIGHT OF THE STRUCTURE INCLUDING APPURTENANCES EXCEEDS THE HEIGHT SHOWN ON THE DRAWINGS THEN CONTACT CLIENT IMMEDIATELY.
15. ANTENNA LOADING AND LOCATION BASED ON TOWER MANUFACTURER DRAWINGS.
16. THE TOWER ANCHOR BOLTS WILL BE PRE-SHIPED AND THE CONTRACTOR MUST COORDINATE DELIVERY WITH CLIENT.
17. CONTRACTOR MUST PROVIDE TEMPORARY TOWER LIGHTING ONCE THE TOWER HAS REACHED 200' UNTIL THE PERMANENT LIGHTING IS INSTALLED.
18. CONTRACTOR SHALL INSTALL BEACON EXTENSION MOUNT PER MANUFACTURERS SPECIFICATIONS.
19. WHEN TOWER LIGHTING IS REQUIRED, THE CONTRACTOR MUST VISUALLY MONITOR THE TOWER LIGHTING AT LEAST ONCE A DAY UNTIL THE LIGHTING IS ELECTRONICALLY MONITORED. IF ANY PROBLEMS OCCUR, THE CONTRACTOR MUST CONTACT CLIENT IMMEDIATELY.
20. PRIOR TO PERFORMING THE WORK, IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE STRUCTURAL CAPACITY OF THE TOWER TO RESIST THE WIND/GRAVITY LOADS FROM THE PROPOSED ANTENNAS.
21. IF ANY WORK IS PERFORMED AT THIS SITE THAT REQUIRES THE SITE TO BE OFF AIR OR TURNED DOWN, THE SWITCH IS TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION.
22. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.
23. CONTRACTOR TO PROVIDE THE PROPER COAX JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.
24. CONTRACTOR MUST CALL LOCAL UNDERGROUND UTILITY LOCATING SERVICE BEFORE ANY EXCAVATION OR TRENCHING IS PERFORMED TO FLAG ALL UNDERGROUND UTILITIES. CONTRACTOR MUST HAND DIG ALL TRENCHES & EXCAVATIONS AROUND EXISTING UNDERGROUND UTILITIES IN WORK AREA.
25. CONTRACTOR MUST VERIFY AND COORDINATE ALL POWER AND TELCO DESIGN INFORMATION PRIOR TO CONSTRUCTION WITH LOCAL UTILITY COMPANIES.
26. ENTRY LOCATIONS ON SHELTERS MAY VARY. VERIFY EXACT LOCATION ONCE SHELTER HAS ARRIVED.
27. CONTRACTOR TO COORDINATE THE EXACT LOCATION OF THE NEW TELCO PEDESTAL AND POWER POLE WITH LOCAL UTILITY COMPANIES.
28. IF CONDUIT RUNS HAVE MORE THEN (3)-90' TURNS THEN THE CONTRACTOR MUST INSTALL PULL BOXES AS NEEDED.
29. CONTRACTOR SHALL CORE DRILL THROUGH SHELTER WALL AND PROVIDE WEATHERPROOFING FOR ALL CONDUITS THAT DON'T HAVE A PENETRATION.
30. CONTRACTOR MUST CALL LOCAL UNDERGROUND UTILITY LOCATING SERVICE BEFORE ANY EXCAVATION OR TRENCHING IS PERFORMED TO FLAG ALL UNDERGROUND UTILITIES. CONTRACTOR MUST HAND DIG ALL TRENCHES & EXCAVATIONS AROUND EXISTING UNDERGROUND UTILITIES IN WORK AREA.
31. CONTRACTOR MUST VERIFY AND COORDINATE ALL POWER AND TELCO DESIGN INFORMATION PRIOR TO CONSTRUCTION WITH LOCAL UTILITY COMPANIES.
32. ALL EQUIPMENT INSTALLED ON THE H-FRAMES SHALL MAINTAIN A MINIMUM OF 3' CLEARANCE TO ALL FENCES.
33. ALL CONDUIT ABOVE GROUND SHALL BE RIGID.
34. ALL CONDUIT INSTALLED IN FRONT OF THE GATE SHALL BE ENCLOSED IN CONCRETE.
35. FOR EQUIPMENT SHELTER INTERNAL WIRING REFER TO FIBREBOND SHELTER SHOP DRAWINGS.
36. A RESISTANCE TO GROUND OF THREE (3) OHMS OR LESS IS THE OBJECTIVE FOR THE EARTH GROUND SYSTEMS AT CELL SITES.
37. ALL UNDERGROUND GROUND WIRE TO BE BURIED 30" DEEP OR 6" BELOW THE FROST LINE, WHICHEVER IS DEEPER.
38. ALL BURIED GROUND CONNECTIONS WILL BE MADE USING THE EXOTHERMIC WELD PROCESS.
39. ALL GROUND WIRES SHALL BE CONNECTED TO GROUND BARS USING TWO-HOLE CRIMP/COMPRESSION CONNECTORS.
40. AN APPROVED ANTIOXIDATION COMPOUND SHALL BE USED ON ALL EXTERNAL CONNECTIONS, EXCLUDING EXOTHERMIC WELDS, AND ON ALL EXTERNAL GROUND BARS. COAT ALL CONDUCTORS AND SURFACES PRIOR TO CONNECTION.
42. REFER TO SHELTER MANUFACTURER AND CLIENT SPECS FOR INTERNAL GROUNDING DETAILS.
43. GROUND CONDUCTOR RUNS SHALL BE STRAIGHT AS POSSIBLE, WITH A 6" MINIMUM RADIUS FOR CONDUCTORS UP TO #6, A 12" MINIMUM RADIUS FOR CONDUCTORS FROM #6 UP TO #4/0, A 24" MINIMUM RADIUS FOR #4/0 CONDUCTORS AND UP.
44. IF GROUNDED METALLIC OBJECTS ARE LESS THAN 6' FROM A FENCE POST, THEN THE POST SHOULD BE GROUNDED TO THE GROUND RING.
45. ALL GROUND WIRES THAT ARE ROUTED ABOVE GROUND SHOULD BE INSTALLED IN 3/4"Ø PVC, MINIMUM 12" BELOW GRADE TO 6" FROM ABOVE GROUND CONNECTION POINT.
46. AT THE TIME THE CONSTRUCTION DRAWINGS WERE CREATED, KIMLEY-HORN DID NOT HAVE A COPY OF THE PROPOSED TOWER MANUFACTURER DRAWINGS THUS WE DO NOT KNOW THE EXACT SIZE OF THE OVERALL TOWER FOOTPRINT. THE CONTRACTOR MUST COMPARE THE CONSTRUCTION DRAWINGS WITH THE TOWER DRAWINGS PRIOR TO BID AND/OR CONSTRUCTION AND IF THEY FIND ANY DISCREPANCIES OR POSSIBLE ISSUES THEY MUST NOTIFY THE CLIENT IMMEDIATELY.



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REV: DATE: DESCRIPTION:

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DRAWN BY: CHECKED BY:

JCM AWD

KHA PROJECT NUMBER

4889005

ENGINEER SEAL



KEVIN S. GASKEY, PE
TX PROFESSIONAL ENGINEER LIC. #69165
TX CERTIFICATE OF AUTHORIZATION# F-000922

PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

GENERAL
NOTES

SHEET NUMBER:

N-2

GENERAL NOTES:

1. ZONING REGULATIONS AND CONDITIONAL USE PERMITS:

A. CLIENT WILL SUBMIT FOR AND OBTAIN ALL ZONING AND CONDITIONAL USE PERMITS. SOME USE PERMITS MAY HAVE SPECIFIC REQUIREMENTS FOR THE SITE RELATED TO CONSTRUCTION, SUCH AS NOISE REGULATIONS, HOURS OF WORK, ACCESS LIMITATIONS, ETC. THE CONSTRUCTION MANAGER WILL INFORM THE CONTRACTOR OF THESE REQUIREMENTS AT THE PRE-BID MEETING OR AS SHOWN IN CONSTRUCTION DOCUMENTS.

2. FAA PERMIT AND TOWER LIGHTING:

A. REFER TO CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGER FOR FAA AND STATE LIGHTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE TEMPORARY FAA APPROVED LIGHTING UNTIL PERMANENT LIGHTING IS OPERATIONAL.

3. TOWER SECURITY:

A. TOWER SHALL BE FENCED BY CONTRACTOR, TEMPORARILY OR PERMANENTLY WITHIN 24 HOURS OF ERECTION. DO NOT ALLOW THE GATE ACCESSING THE TOWER AREA TO REMAIN OPEN AND UNATTENDED AT ANY TIME FOR ANY REASON. KEEP THE GATE CLOSED AND LOCKED WHEN NOT IN USE.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING, UNLOADING, AND INSTALLATION FOR PLACEMENT OF NEW CONCRETE SHELTER BUILDING OR CABINETS AND ERECTION OF TOWER.

5. CONFLICTS:

A. VERIFY ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIAL OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS OR DIMENSIONS SHOWN ON PLANS. SUBMIT NOTICE OF ANY DISCREPANCY IN DIMENSIONS OR OTHERWISE TO THE CONSTRUCTION MANAGER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

B. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OF CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS CONTRACT DOCUMENTS GOVERNING THE WORK.

6. PHOTOS:

A. PROVIDE PHOTOGRAPHIC EVIDENCE OF ALL FOUNDATION INSTALLATION, GROUNDING AND TRENCHING AFTER PLACEMENT OF UTILITIES PRIOR TO BACKFILL.

SITE PREPARATION:

1. CONTRACTOR'S SCOPE OF WORK:

A. PROTECTION OF EXISTING TREES, VEGETATION AND LANDSCAPING MATERIALS WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.

B. TRIMMING OF EXISTING TREES AND VEGETATION AS REQUIRED FOR PROTECTION DURING CONSTRUCTION ACTIVITIES.

C. CLEARING AND GRUBBING OF STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.

D. TOPSOIL STRIPPING AND STOCKPILING.

E. TEMPORARY EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL CONFORMING TO LOCAL AND STATE REQUIREMENTS AS APPLICABLE.

F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.

G. PROTECTION AND TEMPORARY RELOCATION, STORAGE AND REINSTALLATION OF EXISTING FENCING AND OTHER SITE IMPROVEMENTS SCHEDULED FOR REUSE.

H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.

2. CONTRACTOR'S QUALITY ASSURANCE:

A. CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION ON SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

B. CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR'S EXPENSE.

C. CONTRACTOR SHALL PROPERLY DISPOSE ALL WASTE MATERIAL OFF-SITE OR AS DIRECTED BY THE CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.

3. PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN THE CONSTRUCTION DOCUMENTS):

A. MATERIALS USED FOR TREE PROTECTION, EROSION CONTROL, SILTATION.

B. MATERIALS USED FOR DUST CONTROL AS SUITABLE FOR SPECIFIC SITE CONDITIONS.

CIVIL SPECIFICATION NOTES

EARTHWORK:

1. CONTRACTOR'S SCOPE OF WORK:

A. EXCAVATION, TRENCHING, FILLING, COMPACTION AND GRADING FOR STRUCTURES, SITE IMPROVEMENTS AND UTILITIES.

B. MATERIALS FOR SUB-BASE, DRAINAGE FILL, FILL, BACKFILL AND GRAVEL FOR SLABS, PAVEMENTS AND IMPROVEMENTS.

C. ROCK EXCAVATION WITHOUT BLASTING.

D. SUPPLY OF ADDITIONAL MATERIALS FROM OFF-SITE AS REQUIRED.

E. REMOVAL AND LEGAL DISPOSAL OF EXCAVATED MATERIALS AS REQUIRED.

F. SITE GRADING.

G. PLACEMENT AND COMPACTION OF FILL, SUBGRADE AND GRAVEL SURFACING.

H. WHEN REQUIRED, CONSTRUCTION OF COMPOUND, ACCESS ROADS, FENCING AND ALL FOUNDATIONS.

2. CONTRACTOR'S QUALITY ASSURANCE:

A. COMPACTION: UNDER STRUCTURES, FOUNDATIONS, BUILDING SLABS, PAVEMENTS AND WALKWAYS 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.

B. GRADING TOLERANCES OUTSIDE BUILDING LINES: LAWNS, UNPAVED AREAS AND WALKS, PLUS OR MINUS 1 INCH. UNDER PAVEMENTS, PLUS OR MINUS 1/2 INCH.

C. GRADING TOLERANCE FOR FILL UNDER ALL CONCRETE APPLICATIONS: PLUS OR MINUS 1/2 INCH MEASURED WITH 10 FOOT STRAIGHTEDGE.

D. CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR ALL COMPACTED FILL RECOMMENDATIONS. IF THE GEOTECH REPORT CONFLICTS WITH THE CONSTRUCTION DRAWINGS THEN STOP WORK AND CONTACT THE CLIENT AS SOON AS POSSIBLE.

3. PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS):

A. SUB BASE MATERIAL: GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE OR SLAG AND NATURAL OR CRUSHED SAND.

B. WASHED MATERIAL: UNIFORMLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND NOT MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.

C. GRADING MATERIAL: SATISFACTORY NATIVE OR IMPORTED MATERIALS CONTAINING ROCK OR GRAVEL NOT LARGER THAN 2 INCHES IN ANY DIMENSION. GRADING MATERIAL SHALL NOT INCLUDE DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS. IMPORTED MATERIAL SHALL HAVE A FINES CONTENT OF NO MORE THAN 5 PERCENT.

D. BACKFILL MATERIALS: SATISFACTORY NON-COHESIVE NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, DEBRIS, WASTE, AND OTHER UNSUITABLE MATERIALS. ROCK OR GRAVEL SHALL NOT EXCEED 4 INCHES IN ANY DIMENSION. IMPORTED MATERIAL SHALL HAVE A FINES CONTENT OF NO MORE THAN 5 PERCENT.

E. GRAVEL MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND NOT MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.

F. GEOTEXTILE FABRIC: TYPAR 3401 OR EQUIVALENT

4. CLEARING AND GRUBBING:

A. REMOVE ALL VEGETATION AND MATERIALS TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STUMPS COMPLETELY UNDER FOUNDATIONS AND ROADWAY. DISPOSE OF CLEARING AND GRUBBING OFF-SITE, OR IN AN ON-SITE LOCATION APPROVED BY CONSTRUCTION MANAGER.

5. STRIPPING:

A. STRIP NOT LESS THAN 3 INCHES OF VEGETATION AND TOPSOIL FROM AREAS THAT WILL UNDERLAY GRAVEL, PAVEMENT, NEW STRUCTURES, OR NEW EMBANKMENTS. STOCKPILE STRIPPED TOPSOIL ON-SITE FOR REUSE IN FINAL LANDSCAPING.

6. COMMON WEEDING:

A. STERILIZE COMPOUND AREA WITH WEED KILLER/DEFOLIANT. THEN TREAT AREA WITH AN HERBICIDE SUCH AS PARQUET OR EQUIVALENT.

7. COMMON EXCAVATION:

A. EXCAVATE TO DEPTH, LINES, AND GRADES SHOWN ON THE PLANS OR AS OTHERWISE SPECIFIED.

B. TEMPORARILY STOCKPILE ON-SITE EXCAVATION AT AN APPROVED LOCATION WITHIN THE WORK AREA UNTIL SITE GRADING IS COMPLETE. STOCKPILE SHALL NOT EXCEED 15 FEET IN HEIGHT.

C. DISPOSE OF EXCESS EXCAVATION OFF-SITE. MATERIALS REMOVED FROM SITE MUST BE DISPOSED OF IN A LEGAL MANNER.

B. EMBANKMENT:

A. CONSTRUCT EMBANKMENT TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.

B. CONSTRUCT EMBANKMENT FROM ON-SITE EXCAVATION MATERIALS. USE IMPORTED BACKFILL ONLY AFTER AVAILABLE ON-SITE EXCAVATION MATERIALS HAVE BEEN USED.

C. CONSTRUCT IN LIFTS OF NOT MORE THAN 9 INCHES IN LOOSE DEPTH. THE FULL WIDTH OF THE CROSS SECTION SHALL BE BROUGHT UP UNIFORMLY.

D. MATERIAL SHALL BE PLACED IN LAYERS AND SHALL BE NEAR OPTIMUM MOISTURE CONTENT BEFORE ROLLING TO OBTAIN THE PRESCRIBED COMPACTION. WETTING OR DRYING OF THE MATERIAL AND MANIPULATION TO SECURE A UNIFORM MOISTURE CONTENT THROUGHOUT THE LAYER MAY BE REQUIRED. SUCH OPERATIONS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM. SHOULD THE MATERIAL BE TOO WET TO PERMIT PROPER COMPACTION, REMOVE AND REPLACE FILL WITH MATERIAL IN CONFORMANCE WITH THESE SPECIFICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIAL WITH AN ACCEPTABLE MOISTURE CONTENT.

E. WHEN APPLICABLE, DO NOT PLACE FROZEN MATERIAL IN THE EMBANKMENT, AND DO NOT PLACE EMBANKMENT MATERIAL UPON FROZEN MATERIAL.

F. BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND REPLACE ANY PORTION WHICH HAS BECOME DISPLACED DUE TO THE CONTRACTOR'S OPERATIONS.

G. START LAYERS IN THE DEEPEST PORTION OF THE FILL, AND AS PLACEMENT PROGRESSES, CONSTRUCT LAYERS APPROXIMATELY PARALLEL TO THE FINISHED GRADE LINE.

H. ROUTE EQUIPMENT, BOTH LOADED AND EMPTY, OVER THE FULL WIDTH OF EMBANKMENT TO ENSURE UNIFORMITY OF MATERIAL PLACEMENT.

I. COMPACT EMBANKMENT UNDERLYING NEW GRAVEL PAVING, FLOOR SLABS, AND STRUCTURES TO 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT NON-STRUCTURAL AREA EMBANKMENTS TO A MINIMUM OF 90 PERCENT OF ASTM D-1557.

9. SITE GRADING:

A. USING ON-SITE EXCAVATION MATERIALS, SHAPE, TRIM, FINISH, AND COMPACT SURFACE AREAS TO CONFORM TO THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS OR AS DESIGNATED BY THE CONSTRUCTION MANAGER.

B. GRADE SURFACES TO DRAIN AND ELIMINATE ANY PONDING OR EROSION.

C. ELIMINATE WHEEL RUTS BY REGRADING.

D. CONSTRUCT FINISHED SURFACE OF SITE GRADING AREAS WITHIN ONE INCH FROM SPECIFIED GRADE.

10. SUBGRADE PREPARATION:

A. SHAPE TOP OF SUBGRADE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.

B. MAINTAIN TOP OF SUBGRADE IN A FREE-DRAINING CONDITION.

C. DO NOT STOCKPILE MATERIALS ON TOP OF SUBGRADE UNLESS AUTHORIZED BY CONSTRUCTION MANAGER.

D. COMPACT THE TOP 6 INCHES OF SUBGRADE TO A 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.

E. REMOVE AND REPLACE SOFT SOILS ON AREAS THAT "PUMP" OR DEFORM UNDER WEIGHT OF COMPACTION EQUIPMENT.

F. CONSTRUCT TOP OF SUBGRADE WITHIN ONE INCH OF ESTABLISHED GRADE AND CROSS-SECTION.

11. GEOTEXTILE FABRIC:

A. LAY GEOTEXTILE FABRIC OVER COMPACTED SUBGRADE AS PER CONSTRUCTION DOCUMENTS IN COMPOUND AND UNDER LENGTH OF ROAD (WHEN REQUIRED). LAP ALL JOINTS A MINIMUM OF 12 INCHES.

12. GRAVEL SURFACING:

A. CONSTRUCT GRAVEL SURFACING AREAS USING CRUSHED AGGREGATE BASE AND FINISH COURSES AS SPECIFIED BY CONSTRUCTION MANAGER OR CONSTRUCTION DOCUMENTS.

B. SPREAD GRAVEL AND RAKE TO A UNIFORM SURFACE.



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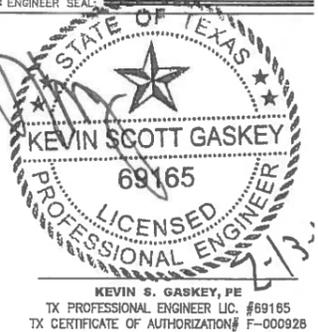
DRAWN BY: CHECKED BY:

JCM AWD

KHA PROJECT NUMBER:

148999054

ENGINEER SEAL:



PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

NOTES AND SPECIFICATIONS

SHEET NUMBER:

N-3

TRENCHING:

CONTRACTOR MUST NOTIFY "ONE-CALL" UTILITY LOCATING SERVICE THREE DAYS PRIOR TO CONSTRUCTION TO FLAG ALL UNDERGROUND UTILITIES.

1. MATERIALS:

A. FILL MATERIAL SHALL BE OBTAINED, TO THE MAXIMUM EXTENT POSSIBLE, FROM EXCAVATIONS ON-SITE. THE STRUCTURAL FILL SHOULD BE SAND AND SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTION AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL BE FREE FROM PERCEPTIBLE AMOUNTS OF WOOD, DEBRIS OR TOPSOIL AND SHALL NOT CONTAIN MARBLE OR OTHER ELEMENTS, WHICH TEND TO KEEP IT IN A PLASTIC STATE. MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) ARE TO BE AVOIDED. THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL.

2. PIPE DETECTION AND IDENTIFICATION:

A. UTILIZING WARNING TAPE: ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.

3. TRENCH EXCAVATION:

A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.

B. TRENCH WIDTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.

C. DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY, AS DIRECTED BY CONSTRUCTION MANAGER.

D. USE HAND METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.

4. TRENCH PROTECTION:

A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.

B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.

5. BACKFILLING:

A. A PRELIMINARY EARTH RESISTIVITY TEST SHALL BE PERFORMED PRIOR TO BACKFILLING.

B. BACKFILL AND/OR BEDDING SHALL NOT BE PLACED IN A TRENCH UNTIL THE TRENCH WORK AND BACKFILL HAS BEEN INSPECTED AND APPROVED BY THE CLIENT. CONTRACTOR TO NOTIFY CLIENT'S CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF EXPECTED BACKFILL.

C. IF BACKFILL MATERIAL IS NOT SUITABLE (CONTAINS DEBRIS OR ROCK), REPLACE WITH A LOW RESISTANCE GROUND ENHANCEMENT MATERIAL.

D. WHENEVER CLIENT REQUIRES THE REMOVAL OF WET OR OTHERWISE UNSTABLE SUBGRADE FROM THE FILL MATERIAL PREVIOUSLY PLACED BY THE CONTRACTOR, THE CONTRACTOR SHALL BEAR THE COST OF ALL REMOVAL OF UNSTABLE SOIL AND WITH BACKFILLING OF THE TRENCH.

E. BACKFILL SHALL BE PLACED AND PACKED DOWN TIGHTLY TO ACHIEVE 95 PERCENT MAXIMUM DRY DENSITY AS OBTAINED THROUGH THE STANDARD PROCTOR METHOD (ASTM D-698).

F. FOLLOWING AN APPROVED INSPECTION, BACKFILL MATERIAL SHALL BE DEPOSITED IN THE TRENCH WITH HAND SHOVELS (NOT BY MEANS OF WHEELBARROWS, CARTS, TRUCKS, BULLDOZERS, OR SIMILAR EQUIPMENT) IN 4" LAYERS AND COMPACTED BY MECHANICAL TAMPERS UNTIL THE CONDUCTOR OR PIPE HAS A COVER OF NOT LESS THAN 12" THE REMAINDER OF THE BACKFILL MATERIAL SHALL THEN BE DEPOSITED IN THE TRENCH IN 8" LAYERS AND MECHANICALLY COMPACTED.

G. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. ANY SUBSEQUENT SETTLEMENT SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.

H. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL, AND RECOMPACT AS SPECIFIED.

ELECTRICAL NOTES:

1. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO CLIENT REPRESENTATIVE.

2. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.

3. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM APPROVED BY CLIENT TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED 3 OHMS TO GROUND. THE COMPLETED SITE SHALL BE TESTED AND A REPORT SENT TO CLIENT REPRESENTATIVE.

4. REDLINED AS-BUILTS ARE TO BE DELIVERED TO CLIENT REPRESENTATIVE.

5. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.

6. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, CABLE TRAY, TELCO CONDUIT AND GROUNDING SYSTEMS.

7. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY CLIENT REPRESENTATIVE.

8. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.

9. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.

10. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE CLIENT'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY. USE OF THE PROPERTY'S DUMPSTER IS PROHIBITED.

11. UPON COMPLETION OF WORK, THE SHELTER SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.

12. ALL CONSTRUCTION SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES.

13. WIRING DEVICES AND EQUIPMENT SHALL BE UL LISTED AND SPECIFICATION GRADE.

14. FUSES IN SERVICE SWITCHES SHALL BE CLASS "J" CURRENT LIMITING TYPE, 200,000 A.I.C. DISCONNECT SWITCHES TO HAVE REJECTION CLIPS.

15. MATERIALS SHALL BE NEW AND CONFORM TO THE APPLICABLE STANDARDS ESTABLISHED FOR EACH ITEM BY THE ORGANIZATIONS LISTED BELOW:

- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- UNDERWRITER'S LABORATORY (UL)
- NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION (NEMA)
- AMERICAN STANDARDS ASSOCIATION (ASA)
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

16. INSTALLATION OF MATERIALS SHALL COMPLY WITH REGULATIONS OF:

- THE NATIONAL ELECTRICAL CODE (NFPA 70)
- THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
- THE LIFE SAFETY CODE (NFPA 101)
- LIQUEFIED PETROLEUM GAS (NFPA58)
- LOCAL CODES

17. ALL CONDUITS SHALL BE SUPPORTED AS PER 2008 N.E.C (NFPA70).

GROUNDING NOTES:

1. PROVIDE GROUNDING AND BONDING IN ACCORDANCE WITH LESSEE NETWORK STANDARD NSTD46 "CELL SITE AND MICROWAVE RADIO STATION PROTECTION", LATEST EDITION UNLESS DIRECTED OTHERWISE BY DRAWINGS, NATIONAL ELECTRICAL CODE, OR AUTHORITIES HAVING JURISDICTION. THE ABOVE REFERENCED SPECIFICATIONS ARE AN INTEGRAL PART OF THE DESIGN DOCUMENTS AN MUST BE STRICTLY ADHERED TO. WHERE CONFLICTS BETWEEN THIS SPECIFICATION, CODES, AND AUTHORITIES HAVING JURISDICTION ARISE, THE MOST STRINGENT SHALL GOVERN. BUSS CONNECTORS SHALL BE 2-HOLE LONG BARREL TYPE COMPRESSION LUGS.

2. LUGS SHALL BE ATTACHED TO BUSES USING BOLTS, NUTS AND STAR AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.

3. SURFACE CONNECTIONS SHALL BE MADE TO BARE METAL. PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. APPLY NON-OXIDIZING AGENT TO CONNECTIONS.

4. COPPER BUSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.

5. GROUND CONDUCTOR RUNS SHALL BE STRAIGHT AS POSSIBLE, WITH A 6" MINIMUM RADIUS FOR CONDUCTORS UP TO #6, A 12" MINIMUM RADIUS FOR CONDUCTORS FROM #6 UP TO #4/0, A 24" MINIMUM RADIUS FOR #4/0 CONDUCTORS AND UP.

6. HARDWARE (I.E., NUTS BOLTS, WASHERS, ETC.) IS TO BE STAINLESS STEEL.

7. GROUND HYBRID CABLES AT POINTS SHOWN ON GROUNDING RISER DIAGRAM WITH MANUFACTURER'S GROUNDING KITS.

8. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE (CADWELD) TO GROUND RING AND GROUND RODS. REMAINING GROUNDING CONNECTIONS SHALL BE MECHANICAL CONNECTIONS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.

9. GROUND RING COMPRISED OF #2 SOLID BARE TINNED COPPER CONDUCTOR SHALL HAVE A MINIMUM DISTANCE OF 24" FROM THE STRUCTURE AND BE BURIED A MINIMUM OF 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS DEEPER.

10. CADWELD GROUND RODS TO GROUND RING. RODS TO BE MINIMUM 5/8" x 8'-0" GALVANIZED STEEL. THE TOP OF GROUND ROD SHALL EXTEND NO MORE THAN 6 INCHES ABOVE THE BOTTOM OF THE TRENCH.

11. INTERCONNECT SHELTER GROUND RING AND TOWER GROUND RING WITH EXOTHERMIC WELD.

12. INSTALL GROUNDING KIT. BOND HYBRID CABLE OUTER CONDUCTOR TO GROUNDING CONDUCTOR.

13. INSTALL GROUND RODS ON EXTERNAL GROUND RING AT 10' MIN. INTERVALS, 15' MAX. BOND EXTERNAL GROUND RING TO FENCE POSTS AT 20' INTERVALS, MAXIMUM.

14. ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780, APPROVED BY LOCAL AUTHORITY.

15. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH AN ANTI-CORROSIVE AGENT SUCH AS "T&B KOPR SHIELD", "NO-OXY", "NOALOX" OR "PENETROX". VERIFY PRODUCT WITH CONSTRUCTION ENGINEER.

16. GROUND WIRES SHALL BE #2 SOLID BARE TINNED COPPER FROM CONDUCTOR FOR BONDING CONNECTIONS UNLESS OTHERWISE NOTED ON PLANS.

17. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO CLIENT REPRESENTATIVE.

18. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS. RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDED WITH A FULL-SIZED EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUIT'S CONDUIT.

19. GROUNDING SYSTEM SHALL BE INSPECTED DURING CONSTRUCTION AND BEFORE BACKFILLING. REFER TO LESSEE STANDARD NSTD46 FOR ADDITIONAL REQUIREMENTS.

20. MAKE BONDING CONNECTIONS TO ELEMENTS UNDER TENSION (SUCH AS DOWN GUYS) USING COMPRESSION FITTINGS.

21. PERMANENT CONNECTIONS SHALL BE EITHER EXOTHERMIC WELDS OR IRREVERSIBLE COMPRESSION CONNECTIONS. GROUND CONNECTIONS THAT WILL BE REMOVED DURING TESTING SHALL BE MECHANICAL TYPE FITTINGS.

22. WHEN THE METALLIC FENCING RAILS SPAN FROM POST TO POST CREATING A CONDUCTIVE PATH, CONNECTION POINTS ALONG FENCE SHALL NOT EXCEED 20'. IF RAILS ARE NOT PRESENT, EACH FENCE POST MUST BE BONDED TO GROUND RING.



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JCM AWD

KHA PROJECT NUMBER:

148999054

ENGINEER SEAL:



PROJECT INFORMATION:

MCHARD
#297774

15115 HOOPER RD 1/5
PEARLAND, TX 77584
HARRIS COUNTY

SHEET TITLE:

NOTES AND SPECIFICATIONS

SHEET NUMBER:

N-4

CHAIN LINK FENCES AND GATES

1. GENERAL:

A. PROVIDE CHAIN LINK FENCES AND GATES AS COMPLETE UNITS BY A SINGLE SUPPLY SOURCE INCLUDING NECESSARY ERECTION ACCESSORIES, FITTINGS, AND FASTENINGS.

2. PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS):

A. REFER TO DRAWINGS FOR FABRIC HEIGHT AND OVER WITH 2-INCH MESH SHALL BE KNUCKLED AT ONE SELVAGE AND TWISTED AT THE OTHER; ALL MESHES 60 INCHES HIGH AND UNDER SHALL BE KNUCKLED AT BOTH SELVAGES.

B. STEEL FABRIC:

COMPLY WITH CHAIN LINK FENCE MANUFACTURER'S INSTITUTE (CLFMI) PRODUCT MANUAL. FURNISH ONE PIECE OF FABRIC WIDTHS. WIRE SIZE INCLUDES ZINC OR ALUMINUM COATING.

1. SIZE: 2-INCH MESH, 9 GAUGE (0.148-INCH DIAMETER) WIRE.
2. GALVANIZED STEEL FINISH: ASTM A392, CLASS 2, WITH A MINIMUM 2.0 OZ. ZINC PER SQ. FT. OF UNCOATED WIRE SURFACE.

C. FRAMEWORK AND ACCESSORIES:

1. GENERAL REQUIREMENTS: EXCEPT AS INDICATED OTHERWISE, CONFORM TO THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL, INDUSTRIAL STEEL GUIDE FOR FENCE RAILS, POSTS, GATES AND ACCESSORIES.

2. STRENGTH REQUIREMENTS FOR POSTS AND RAILS CONFORMING TO ASTM F1043.

3. TYPE 1 PIPE: HOT-DIPPED GALVANIZED STEEL PIPE CONFORMING TO ASTM F1083, PLAN ENDS, STANDARD WEIGHT (SCHEDULE 40) WITH NOT LESS THAN 1.8 OZ. ZINC PER SQ. FT. OF SURFACE AREA COATED.

4. FITTINGS: COMPLY WITH ASTM F626. MILL FINISHED ALUMINUM OR GALVANIZED STEEL, TO SUIT MANUFACTURER'S STANDARDS.

5. TOP RAIL: MANUFACTURER'S LONGEST LENGTHS, WITH EXPANSION TYPE COUPLINGS, APPROXIMATELY 6 INCHES LONG, FOR EACH JOINT. PROVIDE MEANS FOR ATTACHING TOP RAIL SECURELY TO EACH GATE CORNER, PULL AND END POST.

A. GALVANIZED STEEL: 1-1/4 INCH NPS (1.66 INCH OD) TYPE I OR II STEEL PIPE OR 1.625 INCH X 1.25 INCH ROLL-FORMED C SECTIONS WEIGHTING 1.35 LBS. PER FT.

D. SWING GATES:

COMPLY WITH ASTM F900. PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE, GALVANIZED PER ASTM A153, AND IN ACCORDANCE WITH THE FOLLOWING:

1. HINGES: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEG. GATE OPENING.

2. LATCH: FORKED TYPE OR PLUNGER-BAR TYPE TO PERMIT OPERATION FROM EITHER SIDE OF GATE, WITH PADLOCK EYE AS INTEGRAL PART OF LATCH.

3. KEEPER: PROVIDE KEEPER FOR VEHICLE GATES, WHICH AUTOMATICALLY ENGAGES GATE LEAF AND HOLDS IT IN OPEN POSITION UNTIL MANUALLY RELEASED.

4. GATE STOPS: PROVIDE GATE STOPS FOR DOUBLE GATES, CONSISTING OF 2" O.D. x 12" LONG PIPE GATE KEEPER, EMBEDDED IN CONCRETE, AND DESIGNED TO ENGAGE CENTER DROP ROD OR PLUNGER BAR. INCLUDE LOCKING DEVICE AND PADLOCK EYES AS INTEGRAL PART OF LATCH, PERMITTING BOTH GATE LEAVES TO BE LOCKED WITH SINGLE PADLOCK.

E. CONCRETE:

PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT, ASTM C150, AGGREGATES ASTM C33, AND CLEAN WATER.



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NOTES AND
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SHEET NUMBER:

N-5



10 PASTEUR SUITE 100
IRVINE, CALIFORNIA 92618

REV. DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER, TO
ALTER THIS DOCUMENT

297774

MCHARD

15115 HOOPER RD 1/5

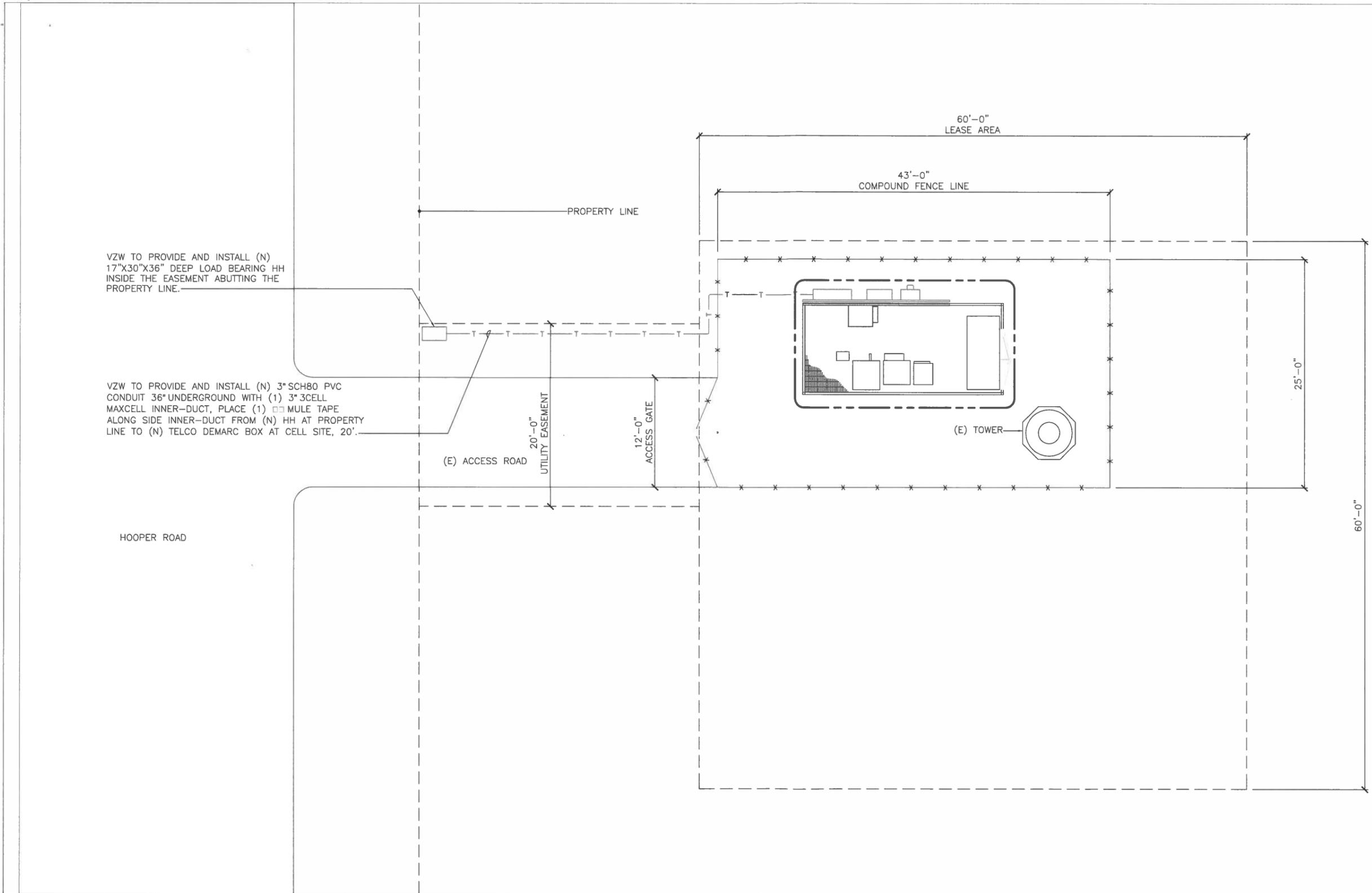
PEARLAND, TX.

SHEET TITLE

SITE PLAN

SHEET NUMBER

A-1



SITE OVERVIEW



1

NEW/PROPOSED:	
EXISTING:	
PATH-TELCO:	
PATH - POWER:	

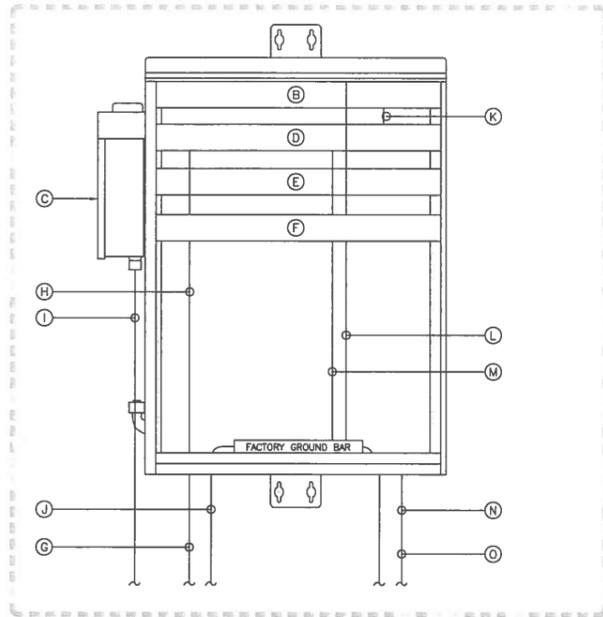
PATH-GROUND:	
FENCE:	
WALL PARTITION:	

FIF:	FACILITY INTERFACE FRAME
OBIF:	OPTICAL BASESTATION INTERFACE
TDMA:	TIME DIVISION MULTIPLE ACCESS
CDMA:	CODE DIVISION MULTIPLE ACCESS
LTE:	LONG TERM EVOLUTION
TI:	TENANT IMPROVEMENT

RRU/MRU:	REMOTE/MOBILE RADIO UNIT
RET:	REMOTE ELECTRICAL TILT
TMA:	TOWER MOUNTED AMPLIFIER
CMU:	CONCRETE MASONRY UNIT
GPS:	GLOBAL POSITIONING SYSTEM
HVAC:	HEATING VENTILATION AIR CONDITIONING

GRAPHICS LEGEND

ACRONYM LEGEND



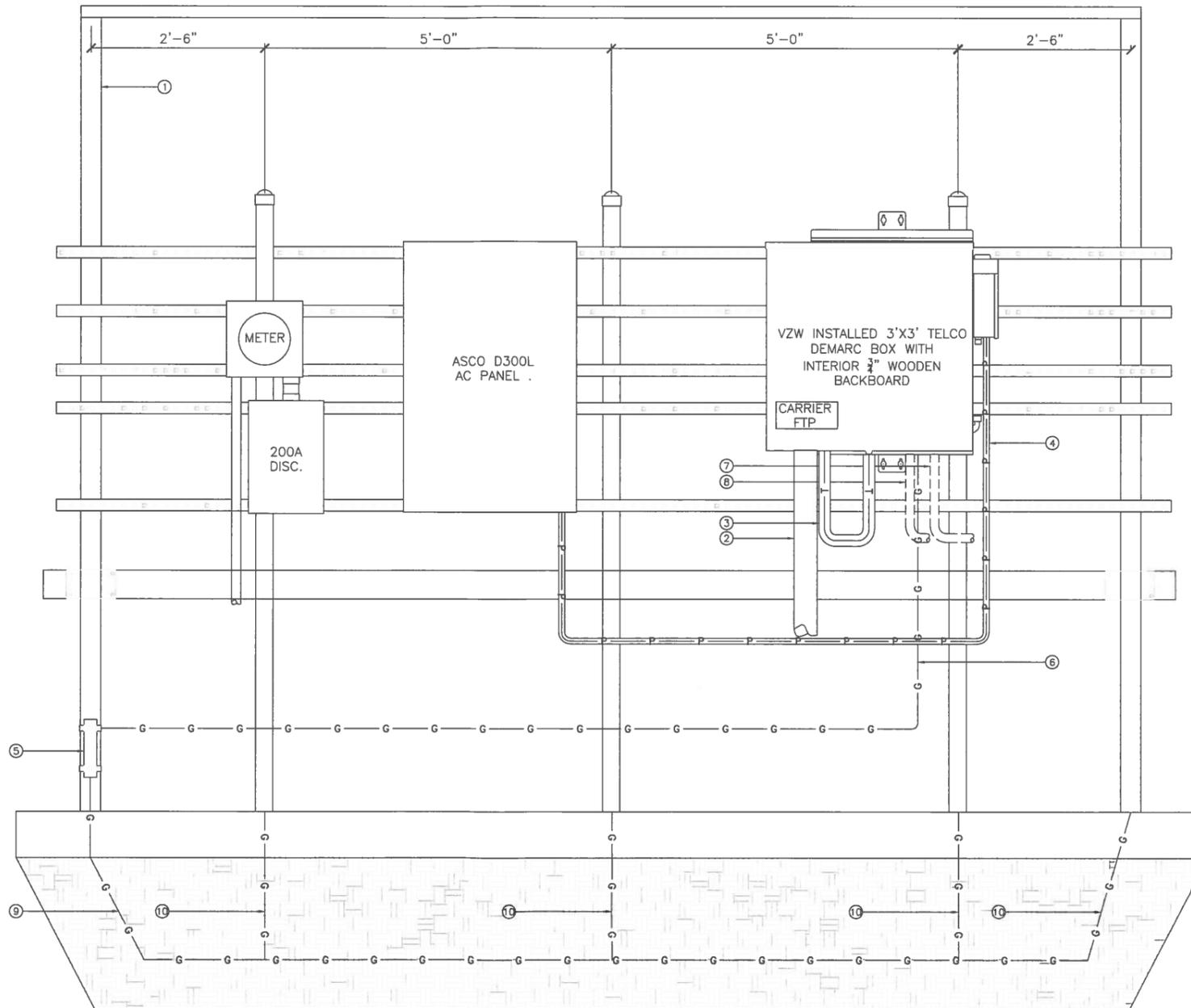
- A FACTORY GROUND BAR.
- B FACTORY INSTALLED AC/DC CONVERTER WITH INTERNAL GFI FUSE PANEL (2RU)
- C FACTORY INSTALLED AC POWER CENTER.
- D CARRIER TO PROVIDE AND INSTALL ETHERNET DEVICE (1RU)
- E VZW TO PROVIDE AND INSTALL (1) FIBER HANDOFF PANEL (1RU)
- F VZW TO PROVIDE AND INSTALL (1) 7705 ROUTER (2RU)
- G CARRIER TO PROVIDE AND INSTALL FIBER JUMPERS FROM THE CARRIER PROVIDED FTP IN THE ADJACENT VZW TELCO BOX THE ETHERNET DEVICE IN THE MINI-TRANSPORT CABINET.
- H VZW TO PROVIDE AND INSTALL (1) 2" FLEX CONDUIT CONTAINING (1) 1.25" CORRUGATED INNERDUCT WITH MULE TAPE INSIDE FROM THE (N) TELCO DEMARC BOX THE (N) MINI-TRANSPORT CABINET.
- I VZW TO PROVIDE AND INSTALL (1) 1.5" RIGID CONDUIT CONTAINING (1) 240 VAC 70A CIRCUIT USING #4 AWG WIRE FROM THE AC BREAKER PANEL TO THE AC POWER CENTER ON THE LEFT SIDE OF THE MINI-TRANSPORT CABINET. CIRCUIT TO BE TERMINATED AT THE FACTORY 70A BREAKER OF THE AC POWER CENTER AND LABELED AT BOTH ENDS.
- J VZW TO PROVIDE AND INSTALL (1) .5" FLEX CONDUIT CONTAINING (1) #6 AWG GROUND WIRE FROM THE VZW MGB TO THE INTERNAL GROUND BAR OF THE MINI-TRANSPORT CABINET.
- K VZW TO PROVIDE AND INSTALL (2) +24 VDC 3A CIRCUITS USING #14 AWG WIRE FROM THE GFI FUSE PANEL OF THE AC/DC CONVERTER COILED AND INSULATED AT THE LOCATION OF THE ETHERNET DEVICE.
- L VZW TO PROVIDE AND INSTALL #6 AWG WIRE FROM THE INTERNAL GROUND BAR OF THE MINI TRANSPORT CABINET TERMINATED AT THE VZW AC/DC CONVERTER.
- M VZW TO PROVIDE AND INSTALL #6 AWG WIRE TERMINATED AT THE INTERNAL GROUND BAR OF THE MINI-TRANSPORT CABINET, COILED AND INSULATED AT THE LOCATION OF THE ETHERNET DEVICE.
- N VZW TO PROVIDE AND INSTALL (1) 2" CONDUIT WITH MULE TAPE INSIDE FROM THE MINI-TRANSPORT CABINET TO NODE B.
- O VZW TO PROVIDE AND INSTALL (1) 1.5" CONDUIT FROM THE PERMANENT DC POWER SUPPLY TO THE MINI-TRANSPORT CABINET FOR BATTERY BACKUP TO THE AC/DC CONVERTER.

NOTES:
ALL INSTALLATION OF AC, DC, COPPER WIRING AND FIBER PLACEMENT TO BE COMPLETED PER VZW STANDARDS. LACING IS REQUIRED, NO ZIP TIES ALLOWED.



- 1 VZW TO PROVIDE AND INSTALL (1) (N) 8' H-FRAME NEXT TO THE RAISED PLATFORM TO THE RAISED PLATFORM. (CONSTRUCTION TO DETERMINE THE LENGTH OF H-FRAME REQUIRED TO FIT ALL EQUIPMENT)
- 2 VZW TO PROVIDE AND INSTALL (N) 3" SCH80 PVC CONDUIT 36" UNDERGROUND WITH (1) 3" CELL MAXCELL INNER-DUCT, PLACE (1) MULE TAPE ALONG SIDE INNER-DUCT FROM (N) HI AT PROPERTY LINE TO (N) TELCO DEMARC BOX AT CELL SITE, 20'.
- 3 VZW TO PROVIDE AND INSTALL (1) 2" FLEX CONDUIT CONTAINING (1) 1.25" CORRUGATED INNERDUCT WITH MULE TAPE INSIDE FROM THE TELCO DEMARC CABINET TO THE MINI-TRANSPORT CABINET.
- 4 VZW TO PROVIDE AND INSTALL (1) 1.5" RIGID WITH (1) 240 VAC 70A CIRCUIT USING #4 AWG WIRE FROM THE AC BREAKER PANEL TO THE POWER CENTER BOX ON THE LEFT SIDE OF THE MINI-TRANSPORT CABINET.
- 5 VZW TO PROVIDE AND INSTALL (1) MGB ON THE LEFT SIDE H-FRAME SUPPORT POST.
- 6 VZW TO PROVIDE AND INSTALL (1) .5" FLEX CONDUIT CONTAINING (1) #6 AWG GROUND WIRE FROM THE (N) VZW INSTALLED MGB TO THE MINI-TRANSPORT CABINET.
- 7 VZW TO PROVIDE AND INSTALL (1) 2" CONDUIT WITH MULE TAPE INSIDE FROM THE MINI-TRANSPORT CABINET TO NODE B.
- 8 VZW TO PROVIDE AND INSTALL 1.5" CONDUIT FROM THE PERMANENT DC POWER PLANT TO THE MINI-TRANSPORT CABINET.
- 9 VZW TO PROVIDE AND INSTALL (1) .5" FLEX CONDUIT CONTAINING (1) #2 AWG TINNED GROUND WIRE FROM EACH H-FRAME SUPPORT POST TO THE GROUND RING.
- 10 VZW TO PROVIDE AND INSTALL (1) .5" FLEX CONDUIT CONTAINING (1) #2 AWG TINNED GROUND WIRE FROM EACH H-FRAME SUPPORT POST TO THE GROUND RING. GROUND WIRE IS CAD WELDED AT THE SUPPORT POST.

NOTES:
VZW TO PROVIDE AND INSTALL H-FRAME, ALL CONDUIT, WIRE, INNERDUCT, MULE TAPE, TRENCHING, TELCO DEMARC BOX, MINI-TRANSPORT CABINET, AC AND DC POWER, AND GROUNDING.
CARRIER TO PROVIDE AND INSTALL THE (N) FIBER, FTP, ETHERNET DEVICE, AND FIBER JUMPERS FROM THE FTP TO THEIR ETHERNET DEVICE.



10 PASTEUR SUITE 100
IRVINE, CALIFORNIA 92618

REV	DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

297774
MCHARD
15115 HOOPER RD 1/5
PEARLAND, TX.

ELEVATION

NEW/PROPOSED:	■
EXISTING:	■
PATH-TELCO:	— T — T — T — T — T —
PATH — POWER	— P — P — P — P — P —

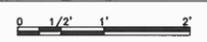
PATH-GROUND:	— G — G — G — G — G —
FENCE:	— X — X — X — X — X —
WALL PARTITION:	▨ ▨ ▨ ▨ ▨ ▨

FIF:	FACILITY INTERFACE FRAME
OBIF:	OPTICAL BASESTATION INTERFACE
TDMA:	TIME DIVISION MULTIPLE ACCESS
CDMA:	CODE DIVISION MULTIPLE ACCESS
LTE:	LONG TERM EVOLUTION
Ti:	TENANT IMPROVEMENT

RRU/MRU:	REMOTE/MOBILE RADIO UNIT
RET:	REMOTE ELECTRICAL TILT
TMA:	TOWER MOUNTED AMPLIFIER
CMU:	CONCRETE MASONRY UNIT
GPS:	GLOBAL POSITIONING SYSTEM
HVAC:	HEATING VENTILATION AIR CONDITIONING

GRAPHICS LEGEND

ACRONYM LEGEND



1

SHEET TITLE
ELEVATION

SHEET NUMBER
A-3

Project: VZW – TRANS – TX

General Itemized Scope Notes:

1) General Contractor to supply and install the following items, as indicated on the drawings:

- a. Pull boxes/hand holes, for underground designs, refer to drawings for size, location, qty.
- b. Weatherheads and poles, for aerial designs, refer to drawings for size, location, qty.
- c. All conduits (PVC, Flexible or Rigid), underground 3" minimum PVC conduit for fiber, for ground wires, power leads, and other conduit connections required in drawings.
- d. Smooth wall innerduct in underground conduit.
- e. Corrugated Innerduct permissible within shelters and above ground/short run conduit.
- f. All conduits to be supplied with a pole rope (muletape); rope or innerduct to have linear footage readings available.
- g. All supports for all equipment (unless otherwise specified on drawings as provided by EBH carrier); H-frame, etc. refer to drawings
- h. NEMA boxes: 36"x36" telco/demark box, Mini-transport cabinet; note: wiring may be required to power the transport cabinet heat exchanger.
- i. AC Meter and AC panel and conduit and power leads to the mini-transport cabinet.
- j. AC/DC converter or rectifier, AC leads to device and DC leads to fuse panel.
- k. GMT 24vdc fuse panel with fuses for leads supplied to all equipment, including EBH carrier provided equipment. Fuses for EBH carrier devices are to be left loose (within Mini-transport and available for install by EBH carrier once their equipment is wired; wire provided by GC, connection to EBH carrier equipment by carrier.
- l. Power and Ground; ground ring, ground bus bar, all power and ground leads/wires for all equipment, including carrier provided equipment, as well as grounding for all supports, boxes, cabinets, etc. Refer to drawings for lead count, wire gauge, etc.

2) Other specifications:

- a. Point of connection (POC) first hand hole or meet-me box, applicable to underground designs, is required on the Landlord property abutting the ROW line.
- i. Traffic rated boxes and lids required whenever exposed to vehicle or cattle traffic. Refer to drawings for handhole size.
- ii. Intermediate hand holes are required at a minimum every 500' of conduit.
- iii. Conduit is to enter and exit the handhole parallel to the ground, and shall not insert the hand hole in a vertical manner.
- b. Conduit from POC, or Weatherhead (for aerial designs) to the telco box/telco demarc to be 3" diameter.
- i. Underground conduit to be schedule 40, or schedule 80 running under a driveway and installed at 36" below surface.
- ii. (1) 3" (3) Chamber detectable Maxcell Innerduct from the POC to the demarc box.
- iii. All turns/bends in underground 3" conduit are to be a min 30" radius.
- c. Unless otherwise specified in the drawings, no equipment will be supplied by the carrier for the GC to install. Previous designs with specific carriers required installation of their equipment, but that is no longer the case.
- d. Room ready notifications are required the same day all preparation is complete.
- e. Close Out Package (COP) is required for each site. Minimum requirements for photos of all work, but not limited to: POC (with lid off), h-frame, all boxes with doors open, muletape readings (written and legible), and voltage meter indicating +24vdc power availability.



10 PASTEUR SUITE 100
IRVINE, CALIFORNIA 92618

REV.	DATE	DESCRIPTION

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297774
MCHARD
15115 HOOPER RD 1/5
PEARLAND, TX.

SHEET TITLE
SOW/ASSUMPTIONS

SHEET NUMBER
B-1



MaxCell: Part Number Overview

All MaxCell is white in color. The heavy thread "stripe" running along the length of the MaxCell "pack" is specified by its part numbers below. Each individual pull tape in each cell has its own unique thread "stripe" for easy identification. Pull tapes are either white, white with blue stripe, or white with orange stripe.

Product (Std. Color)	Footage (Feet)	Standard Product (MXC)	Detectable Product (MXD)	Plenum Product (MXP)	Riser Product (MXR)
4" 3-Cell Product Standard color is Green (GR)	250	MXC4003XX250	MXD4003XX250	Plenum 4" 3-Cell Not Available	MXR4003XX250
	500-999	MXC4003XX500	MXD4003XX500		MXR4003XX500
	1,000-2,649	MXC4003XX1000	MXD4003XX1000		MXR4003XX1000
	2,650-5,299	MXC4003XX2650	MXD4003XX2650		MXR4003XX2650
	5,300-9,999	MXC4003XX5300	MXD4003XX5300		MXR4003XX5300
10,000-13,000	MXC4003XX10000	MXD4003XX10000	MXR4003XX10000		
3" 3-Cell Product Standard colors are either Black (BK) or Blue (BL) or Red (RD)	250	MXC3456XX250	MXD3456XX250	MXP3456XX250	MXR3456XX250
	500-999	MXC3456XX500	MXD3456XX500	MXP3456XX500	MXR3456XX500
	1,000-2,649	MXC3456XX1000	MXD3456XX1000	MXP3456XX1000	MXR3456XX1000
	2,650-5,299	MXC3456XX2650	MXD3456XX2650	MXP3456XX2650	MXR3456XX2650
	5,300-9,999	MXC3456XX5300	MXD3456XX5300	MXP3456XX5300	MXR3456XX5300
10,000-13,000	MXC3456XX10000	MXD3456XX10000	MXP3456XX10000	MXR3456XX10000	
2" 3-Cell Product Standard color is Yellow (YL)	250	MXC2003XX250	MXD2003XX250	MXP2003XX250	MXR2003XX250
	500-999	MXC2003XX500	MXD2003XX500	MXP2003XX500	MXR2003XX500
	1,000-2,649	MXC2003XX1000	MXD2003XX1000	MXP2003XX1000	MXR2003XX1000
	2,650-5,299	MXC2003XX2650	MXD2003XX2650	MXP2003XX2650	MXR2003XX2650
	5,300-9,999	MXC2003XX5300	MXD2003XX5300	MXP2003XX5300	MXR2003XX5300
10,000-13,000	MXC2003XX10000	MXD2003XX10000	MXP2003XX10000	MXR2003XX10000	
2" 2-Cell Product Standard color is Purple (PR)	250	MXC2002XX250	MXD2002XX250	MXP2002XX250	MXR2002XX250
	500-999	MXC2002XX500	MXD2002XX500	MXP2002XX500	MXR2002XX500
	1,000-2,649	MXC2002XX1000	MXD2002XX1000	MXP2002XX1000	MXR2002XX1000
	2,650-5,299	MXC2002XX2650	MXD2002XX2650	MXP2002XX2650	MXR2002XX2650
	5,300-9,999	MXC2002XX5300	MXD2002XX5300	MXP2002XX5300	MXR2002XX5300
10,000-13,000	MXC2002XX10000	MXD2002XX10000	MXP2002XX10000	MXR2002XX10000	
2" 1-Cell Product Standard color is White (WH)	250	MXC2001XX250	MXD2001XX250	MXP2001XX250	MXR2001XX250
	500-999	MXC2001XX500	MXD2001XX500	MXP2001XX500	MXR2001XX500
	1,000-2,649	MXC2001XX1000	MXD2001XX1000	MXP2001XX1000	MXR2001XX1000
	2,650-5,299	MXC2001XX2650	MXD2001XX2650	MXP2001XX2650	MXR2001XX2650
	5,300-9,999	MXC2001XX5300	MXD2001XX5300	MXP2001XX5300	MXR2001XX5300
10,000-13,000	MXC2001XX10000	MXD2001XX10000	MXP2001XX10000	MXR2001XX10000	
Micro 3-Cell Product Standard color is Black (BK)	250	MXCM3303XX250	MXDM3303XX250	MXPM3303XX250	MXRM3303XX250
	500-999	MXCM3303XX500	MXDM3303XX500	MXPM3303XX500	MXRM3303XX500
	1,000-2,649	MXCM3303XX1000	MXDM3303XX1000	MXPM3303XX1000	MXRM3303XX1000
	2,650-5,299	MXCM3303XX2650	MXDM3303XX2650	MXPM3303XX2650	MXRM3303XX2650
	5,300-9,999	MXCM3303XX5300	MXDM3303XX5300	MXPM3303XX5300	MXRM3303XX5300
10,000-13,000	MXCM3303XX10000	MXDM3303XX10000	MXPM3303XX10000	MXRM3303XX10000	
Micro 2-Cell Product Standard color is Black (BK)	250	MXCM3302XX250	MXDM3302XX250	MXPM3302XX250	MXRM3302XX250
	500-999	MXCM3302XX500	MXDM3302XX500	MXPM3302XX500	MXRM3302XX500
	1,000-2,649	MXCM3302XX1000	MXDM3302XX1000	MXPM3302XX1000	MXRM3302XX1000
	2,650-5,299	MXCM3302XX2650	MXDM3302XX2650	MXPM3302XX2650	MXRM3302XX2650
	5,300-9,999	MXCM3302XX5300	MXDM3302XX5300	MXPM3302XX5300	MXRM3302XX5300
10,000-13,000	MXCM3302XX10000	MXDM3302XX10000	MXPM3302XX10000	MXRM3302XX10000	
Micro 1-Cell Product Standard color is Black (BK)	250	MXCM3301XX250	MXDM3301XX250	MXPM3301XX250	MXRM3301XX250
	500-999	MXCM3301XX500	MXDM3301XX500	MXPM3301XX500	MXRM3301XX500
	1,000-2,649	MXCM3301XX1000	MXDM3301XX1000	MXPM3301XX1000	MXRM3301XX1000
	2,650-5,299	MXCM3301XX2650	MXDM3301XX2650	MXPM3301XX2650	MXRM3301XX2650
	5,300-9,999	MXCM3301XX5300	MXDM3301XX5300	MXPM3301XX5300	MXRM3301XX5300
10,000-13,000	MXCM3301XX10000	MXDM3301XX10000	MXPM3301XX10000	MXRM3301XX10000	

Productivity Redefined

MaxCell® is offered in a variety of configurations and reel sizes. The part numbers used for ordering MaxCell are constructed using by as many as 14 characters:

MX C 3456 XX 10000

MX is the standard prefix to identify the product as a MaxCell product.

C is the Product Line Code (C-Standard, D-Detachable, P-Plenum, R-Riser)

3456 is the Product Configuration Code (3456-3" 3 Cell, 2002-2" 2 Cell, 2003-2" 3 Cell, 400

XX is the color code (BK-Black, RD-Red, BL-Blue, YL-Yellow, WH-White, PR-Purple, GR-Green)

10000 is a standard footage* (Standard Footages used in Part Number)

Standard Colors:

3" 3-Cell: Black, Blue, Red; 2" 2-Cell: Purple; 2" 3-Cell: Yellow; 2" 1-Cell: White; 4" 3-Cell: Green

*The standard footages used in our part numbers do represent standard part lengths, but they also represent pricing standards. Standard footage are also used for custom orders but such orders require textual definition to specific reel lengths.

MaxCell: Pricing Rules & Accessory Number Overview

Pricing Rules

Pricing By Reels – Pricing for all orders is based on individual reel lengths. The standard colors for each product are shown. When using XX for non-standard colors, textual definition is required on the order as to the requested color and codes.

Custom Reel Pricing – When ordering custom length reels, the standard length reel part number less than the required length is used for both part numbers and pricing and textual definition is required for specific lengths. For example, for standard black 3" 3-Cell, when ordering 4 reels with 3500' each, the pricing is based upon the MXC3456BK2650 and the Purchase Order shall read:

Part# MXC3456BK2650

Qty: 14,000' (4 reels, 3500' each)

Quantity Definitions – Purchase Orders received with evenly divided standard footages will be interpreted as standard reel length orders with no requested clarification. An order received with part number MXC3456BK2650 and a quantity of 10 will be shipped as 4 x 2500' reels.

Accessory Part Number Overview

Installation Kits

Part Number	Description
MXCIK11	Install kit for all products, single pack pulls
MXCIK21	Install kit for all products, double pack pulls
MXCIK31CH	Install kit for all products, triple pack pulls

Installation Parts

Part Number	Description
MXCSW	1800lb swivel, .875"
MXC2CH	2-Way chain harne
MXC3CH	3-Way chain harne

Termination Products-Inflatable Wrap Bags

Part Number	Description
MXCITB3	Inflatable termination bag for .70"
MXCITB4	Inflatable termination bag for .90"
MXCITB5	Inflatable termination bag for 1.10"
MXCITB6	Inflatable termination bag for 1.315"
MXCITT	Inflation termination
MXCIGC	CO2 Gas cartridge for M

Termination Products-100% Water Tight Split Plugs

Part Number	Description
MXCTP4	4" Duct water tight termination plug
MXCTP6	6" Duct water tight termination plug
MXCTBSET070	Bushing set, MaxCell for .70" holes
MXCTBSET090	Bushing set, MaxCell for .90" holes
MXCTBSET110	Bushing set, MaxCell for 1.10" holes

600 Plum Creek Drive, Wadsworth, OH 44281 • 888.387.3828 • www.maxcell.us



10 PASTEUR SUITE 100
IRVINE, CALIFORNIA 92618