NEW CINGULAR WIRELESS PCS, LLC.

NODE NAME
CRAN_RNTX_FTWT3_230

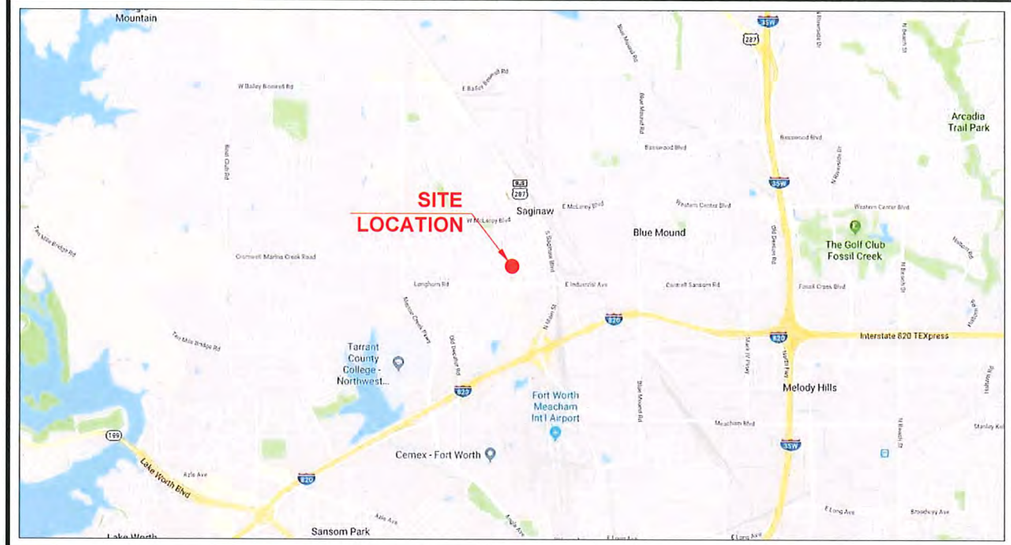
PACE NUMBER
MRNTX048497

PTN NUMBER
3012A0LJP3

STRUCTURE TYPE
UTILITY POLE

SITE ADDRESS
637 PINTO LANE, SAGINAW TX. 76179

REGIONAL MAP



INDEX OF SHEET

01 OF 22 - COVER
02 OF 22 - OVERALL SITE PLAN
03 OF 22 - PLAN VIEW
04 OF 22 TO 05 OF 22 - TCP
06 OF 22 - NEW EQUIPMENT ELEVATION
07 OF 22 TO 10 OF 22 - PHOTOSIM
11 OF 22 - PEDESTAL DETAIL
12 OF 22 - RF SCHEMATIC's
13 OF 22 - ANTENNA DETAIL
14 OF 22 - RRU WOOD POLE BRACKET
15 OF 22 - RRU'S DETAIL
16 OF 22 - TRANSTECTOR DETAIL
17 OF 22 - POWER METER DETAIL
18 OF 22 - GENERAL NOTES
19 OF 22 - ROW CONSTRUCTION NOTES
20 OF 22 TO 22 OF 22 - STRUCTURAL ANALYSIS

PERMITTING

JURISDICTION : CITY OF SAGINAW

PROJECT INFORMATION

AT&T ADDRESS : 575 MOROSGO DR NE
ATLANTA, GA 30324

UTILITIES : ONCOR POWER CO
KAREN FLEWHARTY
JOINT USE MANAGER
115 W 7th Street, Suite 211
Fort Worth, Tx 76102
PHONE: 817-215-5037

PROPERTY OWNER : PUBLIC RIGHT OF WAY

APPLICANT : NEW CINGULAR WIRELESS PCS LLC

AT&T CONTACT 1: GRANT HUBER (972) 206-7767

AT&T CONTACT 2: MELISSA MARTINEZ (817) 727-9131

SITE ID : PENDING

PACE NUMBER : MRNTX048497

PTN NUMBER : 3012A0LJP3

USID NUMBER : 246260

FA CODE : 14851022

VICINITY MAP



PROJECT SUMMARY

PLACING:

(1) ROSENBERGER CA-OIOITJTJVEX360F-JS06 ANTENNA, (1) MOUNTING ARM ON NEW UTILITY POLE & (1) METER AND DISCONNECT PEDESTAL. ONCOR CONTRACTOR WILL REPLACE THE EXISTING 30/5 POLE WITH NEW 40/3 POLE. AT&T MOBILITY CONTRACTOR WILL PLACE THE ANTENNA AND GROUND MOUNTED CABINET. FREQUENCY 1920 MHZ AND AWS.

PROJECT CONTACTS

AT&T:

Professional – Tech Project Manager ATO, Construction & Engineering-SW
RYAN GUZMAN
1801 VALLEY VIEW LN
FARMERS BRANCH, TX 75234
PHONE: (847) 619-5060
EMAIL: rg9942@att.com

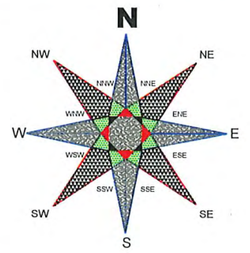
DRAFTPROS LLC:

ENGINEERING & SURVEYING CONTACT:
MARIA MONK
PHONE: (972) 741 - 7943
EMAIL: mmonk@draftprosinc.com

LOCATION COORDINATES

LATITUDE : 32.850525°

LONGITUDE: -97.368531°



NEW CINGULAR WIRELESS PCS, LLC

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Houston, TX 77040

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STATE OF TEXAS
JUSTO RODRIGUEZ
120389
LICENSED PROFESSIONAL ENGINEER

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REVISIONS

BY	DESCRIPTION	DATE

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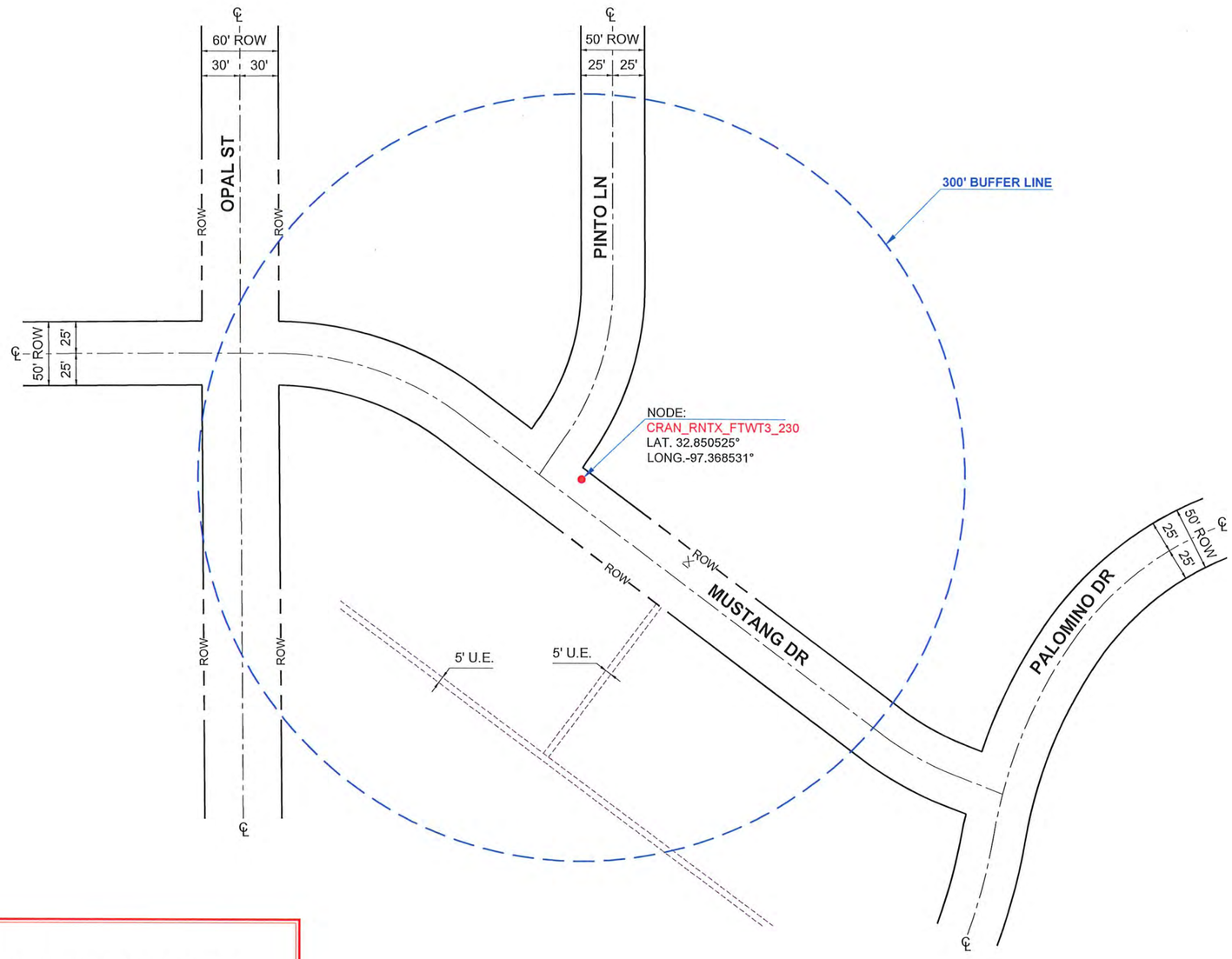
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PROJECT INFORMATION

DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **COVER**

SCALE:	PAGE:	OF:
NTS	01	22

NO NETWORK SUPPORT NODES AND NO USABLE UTILITY POLE WITHIN 300' OF PROPOSED POLE



NOTES:

* NO OTHER NETWORK SUPPORT POLES WITHIN VICINITY
* NO MUNICIPAL PARK IN AREA
* AREA IS RESIDENTIAL ZONE
* MUSTANG DR ROW IS 50' WIDE

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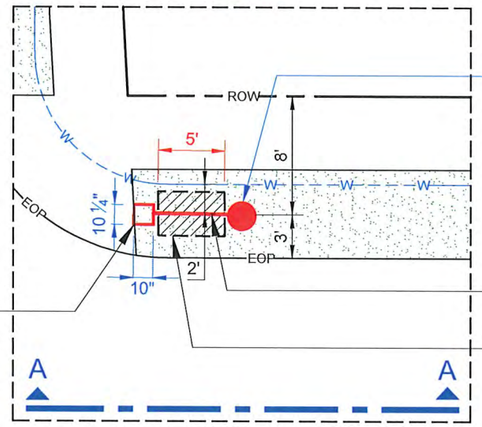
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DRAWING BY:	DRAFTPROS LLC
CHECK BY:	DRAFTPROS LLC
ORIGINAL SUBMITTAL:	MAY 03, 2019
NODE NAME #:	CRAN_RNTX_FTWT3_230
TITLE:	**OVERALL SITE PLAN**

SCALE:	PAGE:	OF:
1" = 100'	02	22

ENLARGED PLAN VIEW

SCALE 1:10

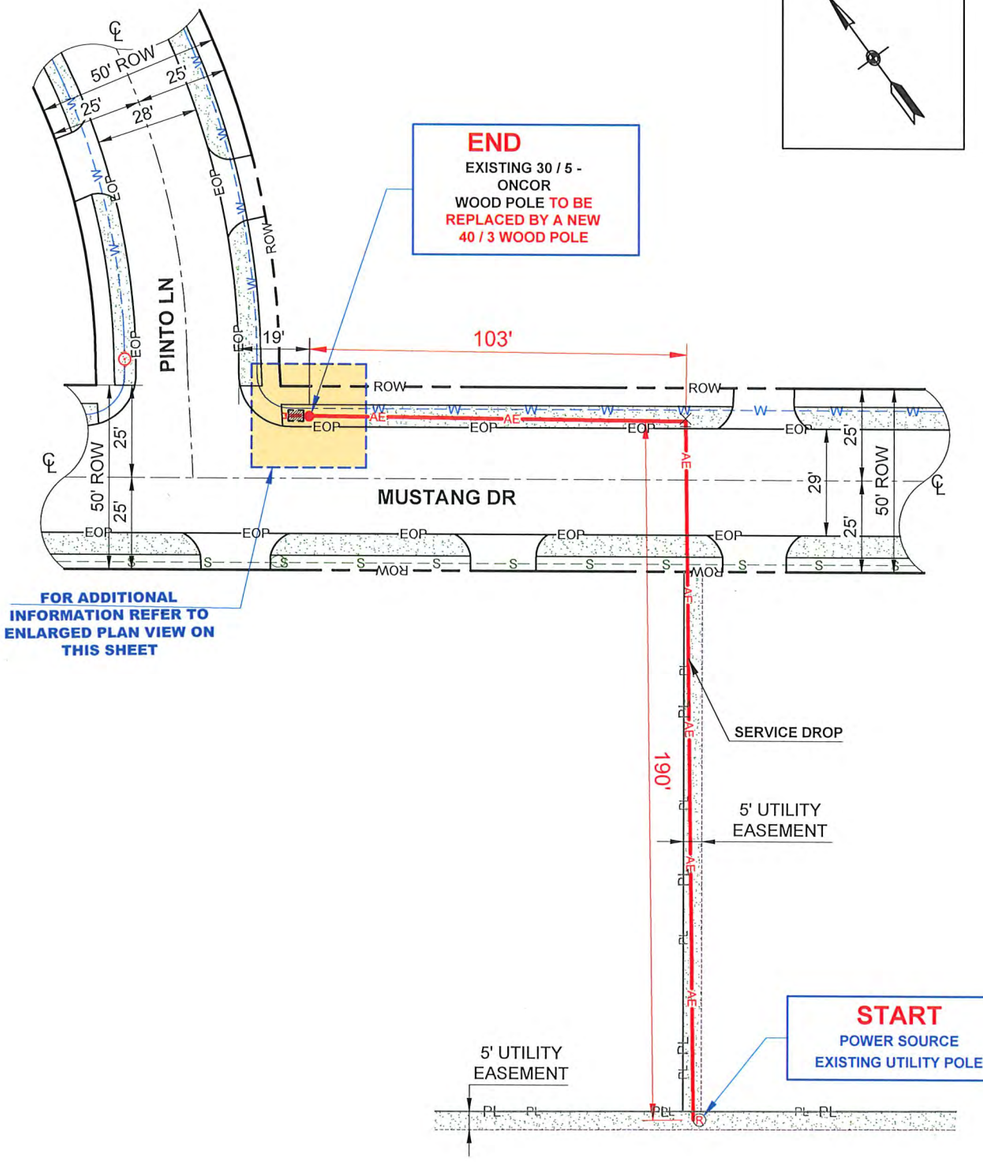


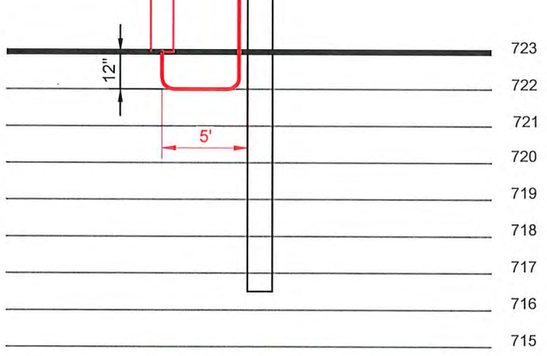
END
EXISTING 30 / 5 - ONCOR WOOD POLE TO BE REPLACED BY A NEW 40 / 3 WOOD POLE

NEW METER AND DISCONNECT PEDESTAL
INSTALL NEW PEDESTAL.

TRENCH
INSTALL (1) 2" CONDUIT AT 12" OF DEPTH FOR POWER CABLE

REMOVE & RESTORE 15 SF OF SOD TO EQUAL OR BETTER CONDITION.





SECTION A-A

HORIZONTAL SCALE: 1"= 16'
VERTICAL SCALE: N.T.S

REVIEW & LEGEND

LABOR SUMMARY THIS PAGE	QTY	
AERIAL SERVICE DROP	293	LF
TRENCH, INSTALL (1) 2" CONDUITS	5	LF
REMOVE & RESTORE SOD	15	SF
REMOVE & RESTORE CONCRETE SDWK	-	SF
INSTALL METER AND DISCONNECT PEDESTAL	1	EA

LINETYPES

AE	PROPOSE AERIAL	CENTER LINE	G	GAS	S SANITARY SEWER
UGE	PROPOSE UNDERGROUND	EASEMENT	FOC	OTHER FOC	SS STORM DRAIN
EOP	EDGE OF PAVEMENT	W WATER	E	POWER UNDERGROUND	
ROW	RIGHT OF WAY	SL STREET LIGHT	T	TELCO	
	SIDEWALK	TRF TRAFIC	X	FENCE	

SYMBOLOGY

	CONCRETE POLE	P	POWER MANHOLE		TRAFFIC SIGNAL HANDHOLE		STREET LIGHT
	WOOD POLE	E	POWER HANDHOLE		TELCO MANHOLE		TRAFFIC SIGNAL POLE
E	POWER SOURCE		SANITARY SEWER HANDHOLE		WATER VALVE/SPRINKLER		SOD
	NEW STREET LIGHT POLE		STORM SEWER HANDHOLE		FIRE HYDRANT		ASPHALT RESTORATION
G	GAS VALVE/HANDHOLE		STORM DRAIN/CATCH BASIN/ DRAIN INLET		TREE		CONCRETE RESTORATION

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5/8/19

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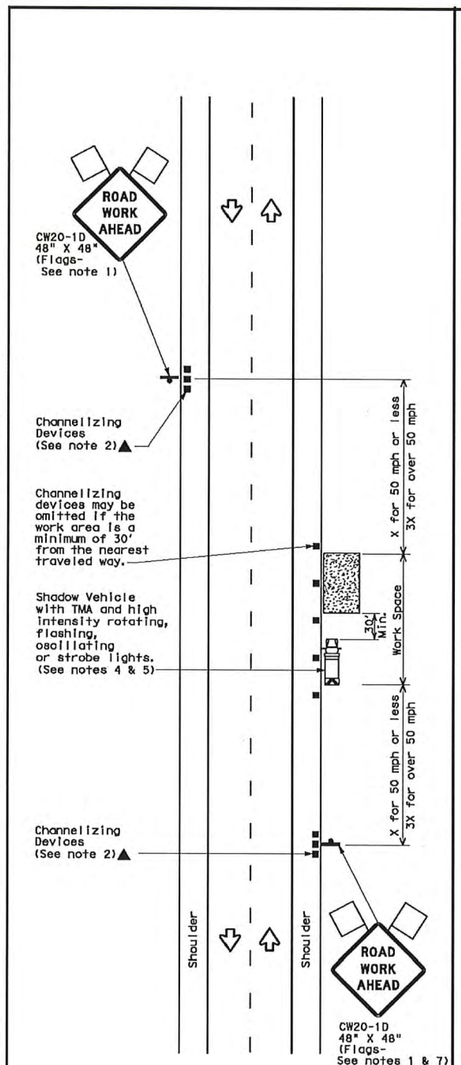
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TELEPHONE (832) 394-9098

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DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **PLAN VIEW**

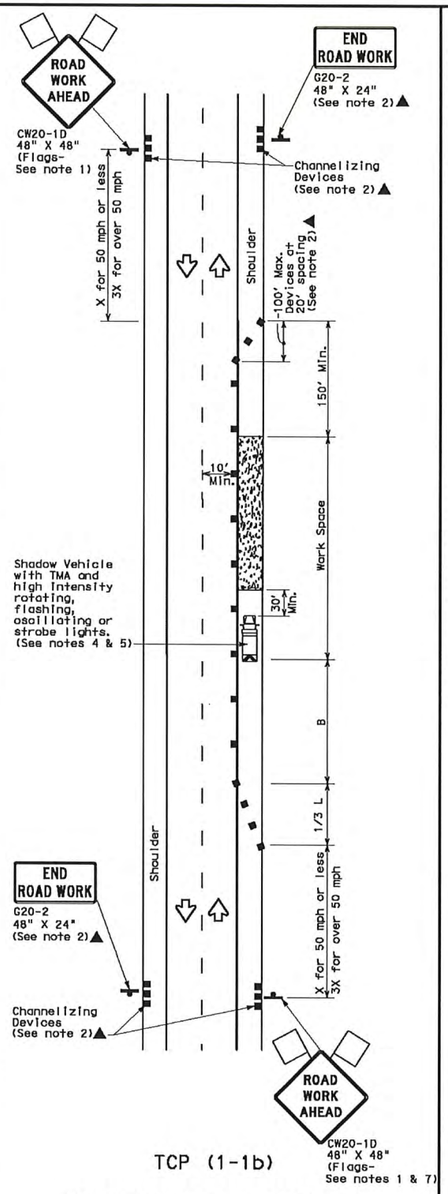
SCALE:	PAGE:	OF:
1" = 40'	03	22

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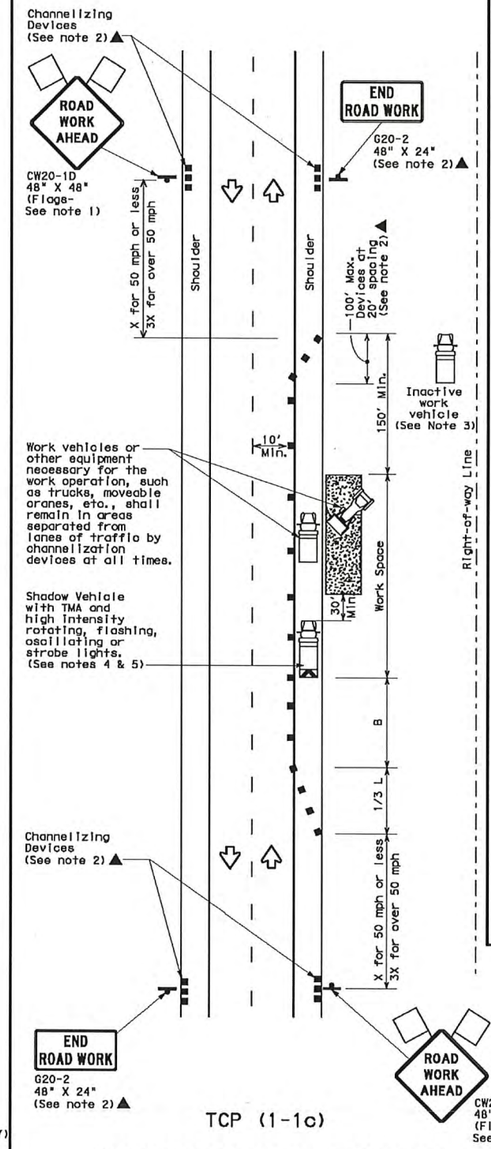
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(1-1)-12

©TxDOT December 1985

REVISIONS	DIV TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
2-94 2-12	CONT	SECT	JOB	HIGHWAY
8-95				
1-97	DIST	COUNTY		SHEET NO.
4-98				

151

DATE:
FILE:

NEW CINGULAR WIRELESS PCS, LLC

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120389
LICENSED
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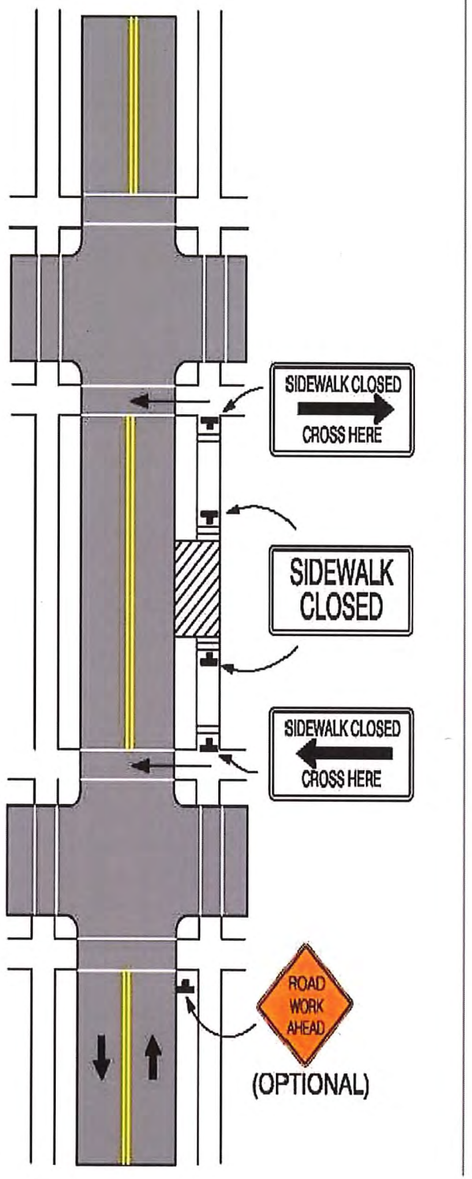
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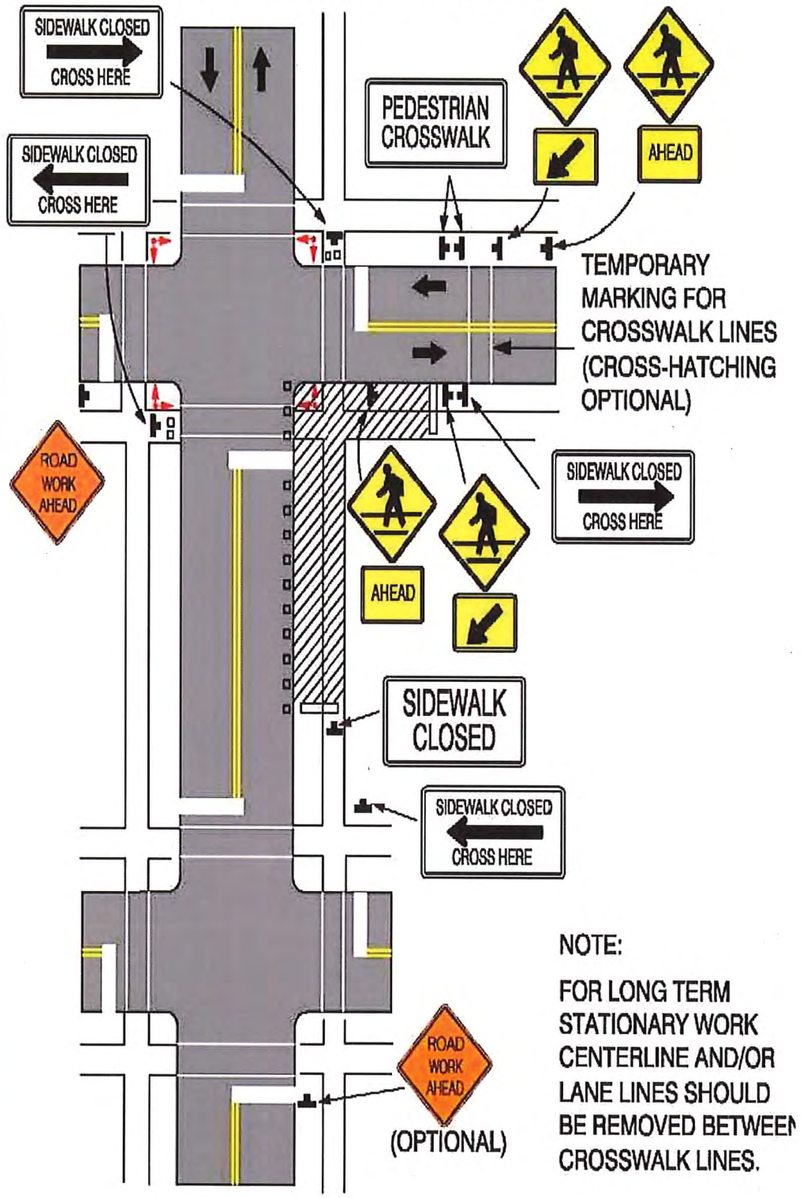
DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **TRAFFIC CONTROL PLAN**

SCALE:	PAGE:	OF:
NTS	04	22

SIDEWALK DETOUR



CROSSWALK CLOSURES AND PEDESTRIAN DETOURS



NOTE:

FOR LONG TERM STATIONARY WORK CENTERLINE AND/OR LANE LINES SHOULD BE REMOVED BETWEEN CROSSWALK LINES.

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TITLE: **TRAFFIC CONTROL PLAN**

SCALE:	PAGE:	OF:
NTS	05	22



From Southwest looking Northeast

STREET

SW

SE

NW

NE

TOP VIEW

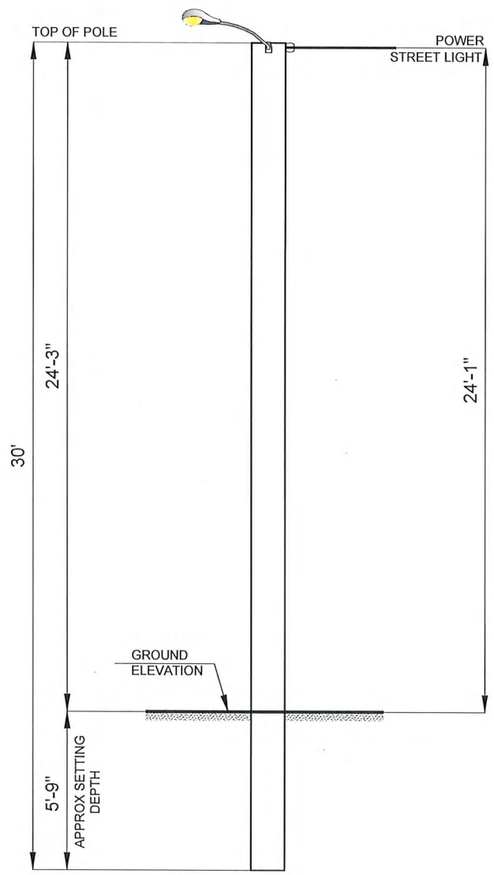
40 / 3 (HEIGHT / CLASS)



From Northwest looking Southeast

EXISTING 30 / 5 "ONCOR" WOOD POLE

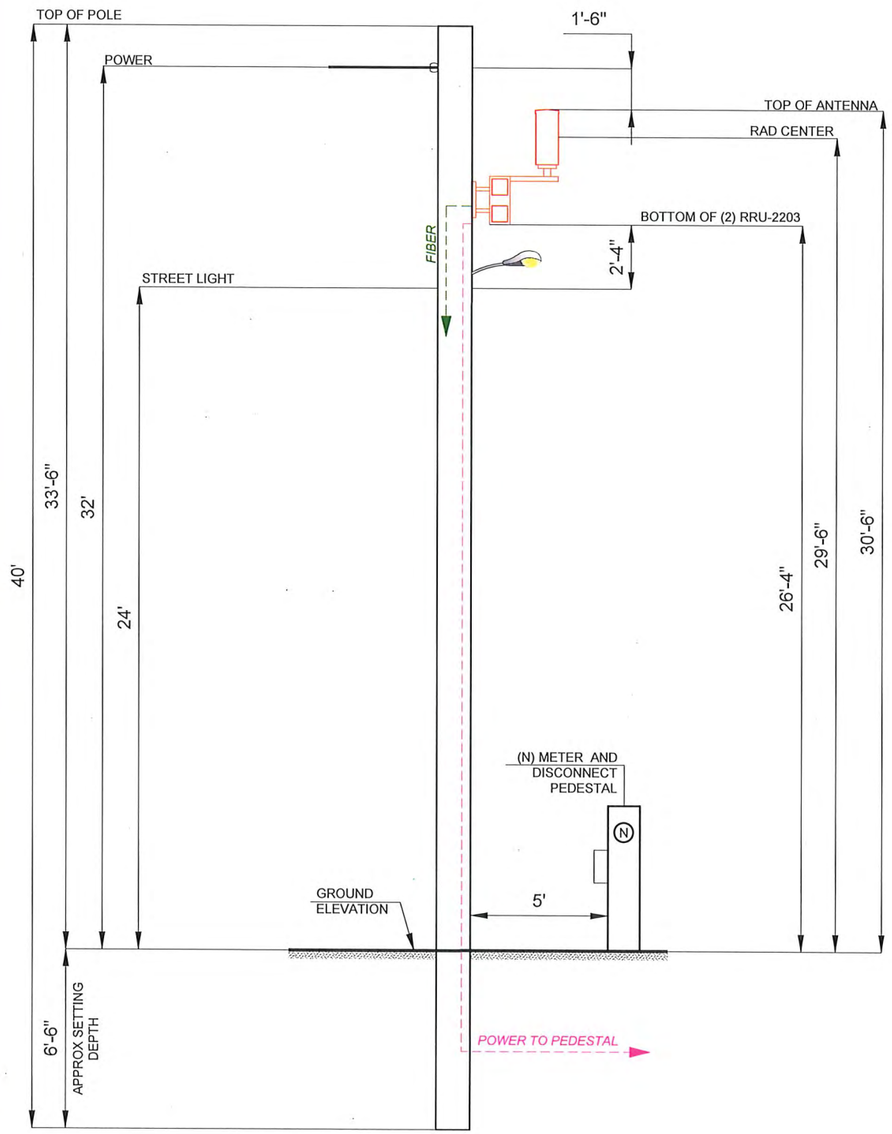
11"x17" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.



From Southwest looking Northeast

SCALE 3/16" = 1'-0"

PROPOSED NEW 40 / 3 "ONCOR" WOOD POLE



From Northeast looking Southwest

SCALE 3/16" = 1'-0"

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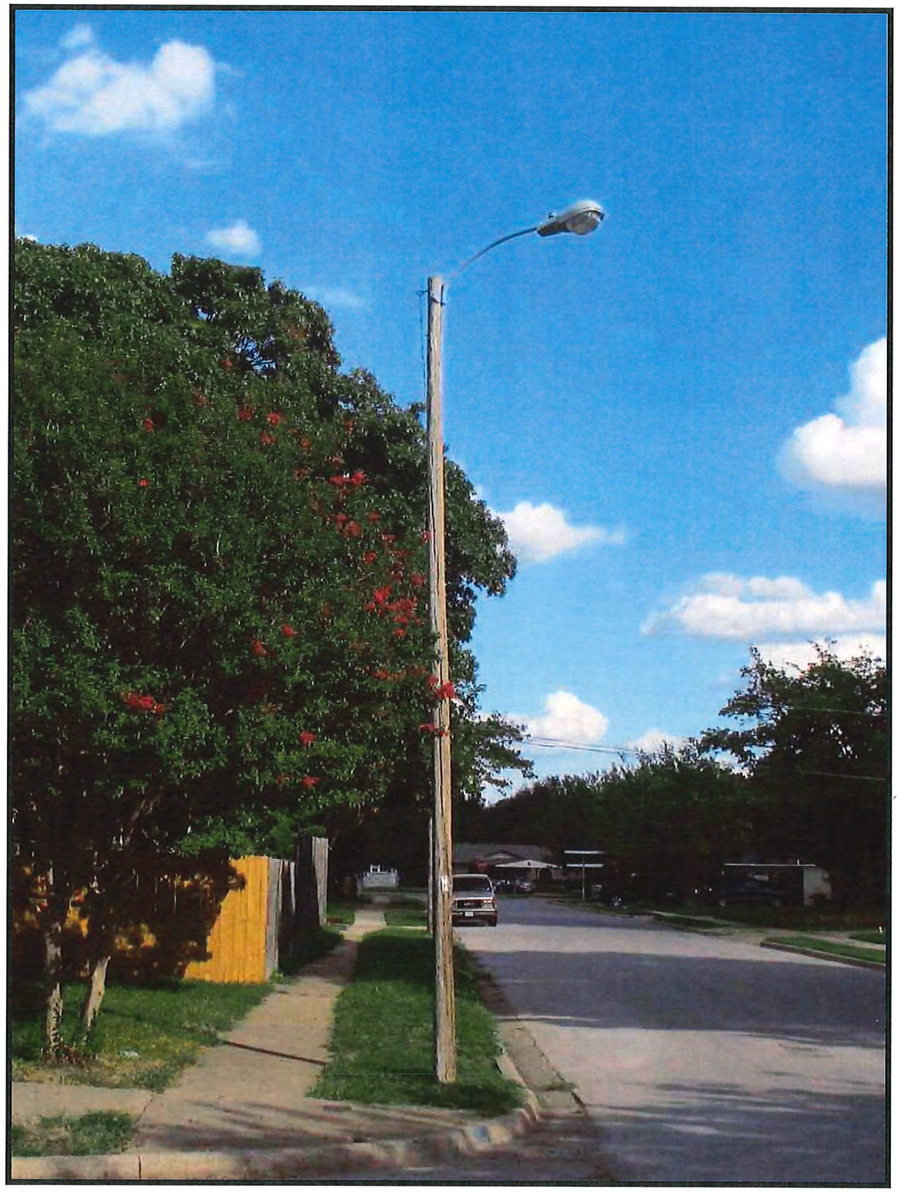
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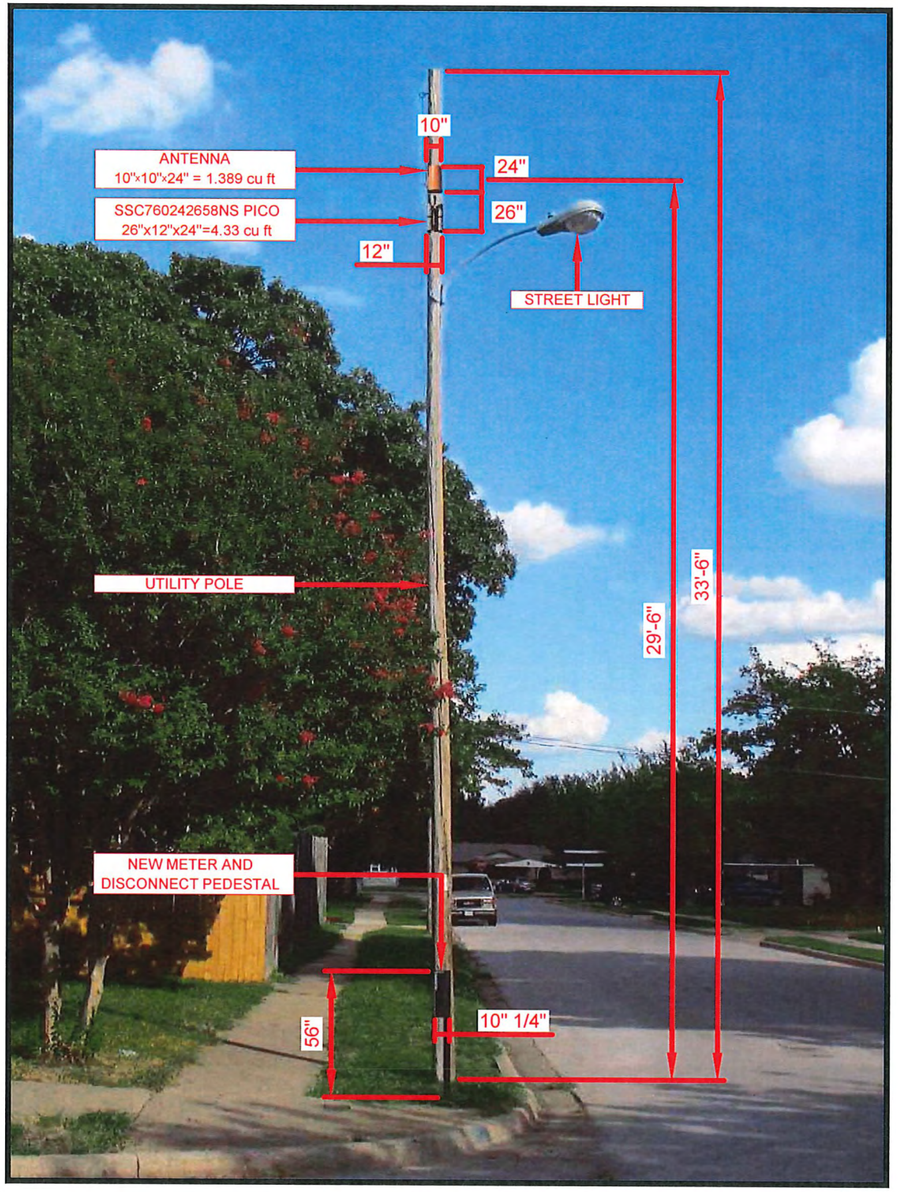
TITLE: **NEW EQUIPMENT ELEVATION**

SCALE:	PAGE:	OF:
3/16" = 1'-0"	06	22

POLE LOCATION MEETS OR EXCEEDS ADA COMPLIANCE STANDARDS AS REQUIRED BY CITY OF SAGINAW



CURRENT VIEW-From Northwest looking Southeast
SCALE = NTS



PROPOSED VIEW-From Northwest looking Southeast
SCALE = NTS

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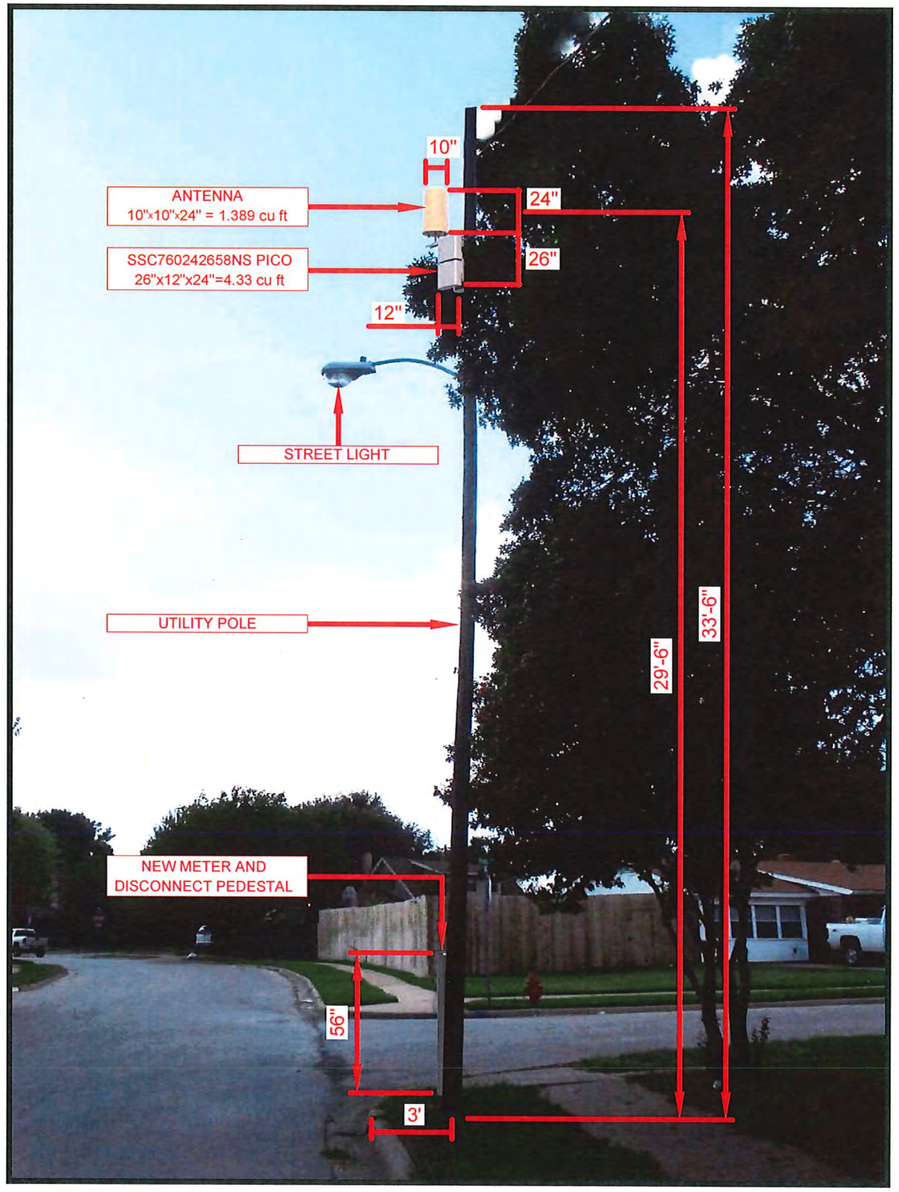
DRAWING BY:	DRAFTPROS LLC
CHECK BY:	DRAFTPROS LLC
ORIGINAL SUBMITTAL:	MAY 03, 2019
NODE NAME #:	CRAN_RNTX_FTWT3_230
TITLE:	**PHOTO SIM**

SCALE:	PAGE:	OF:
NTS	07	22

POLE LOCATION MEETS OR EXCEEDS ADA COMPLIANCE STANDARDS AS REQUIRED BY CITY OF SAGINAW



CURRENT VIEW-From Southeast looking Northwest
SCALE = NTS



PROPOSED VIEW-From Southeast looking Northwest
SCALE = NTS

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REVISIONS

BY	DESCRIPTION	DATE

CAUTION

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Texas 811
811 OR 713-223-4567 (IN HOUSTON) OR (1-800-545-6005) CALL BEFORE YOU DIG

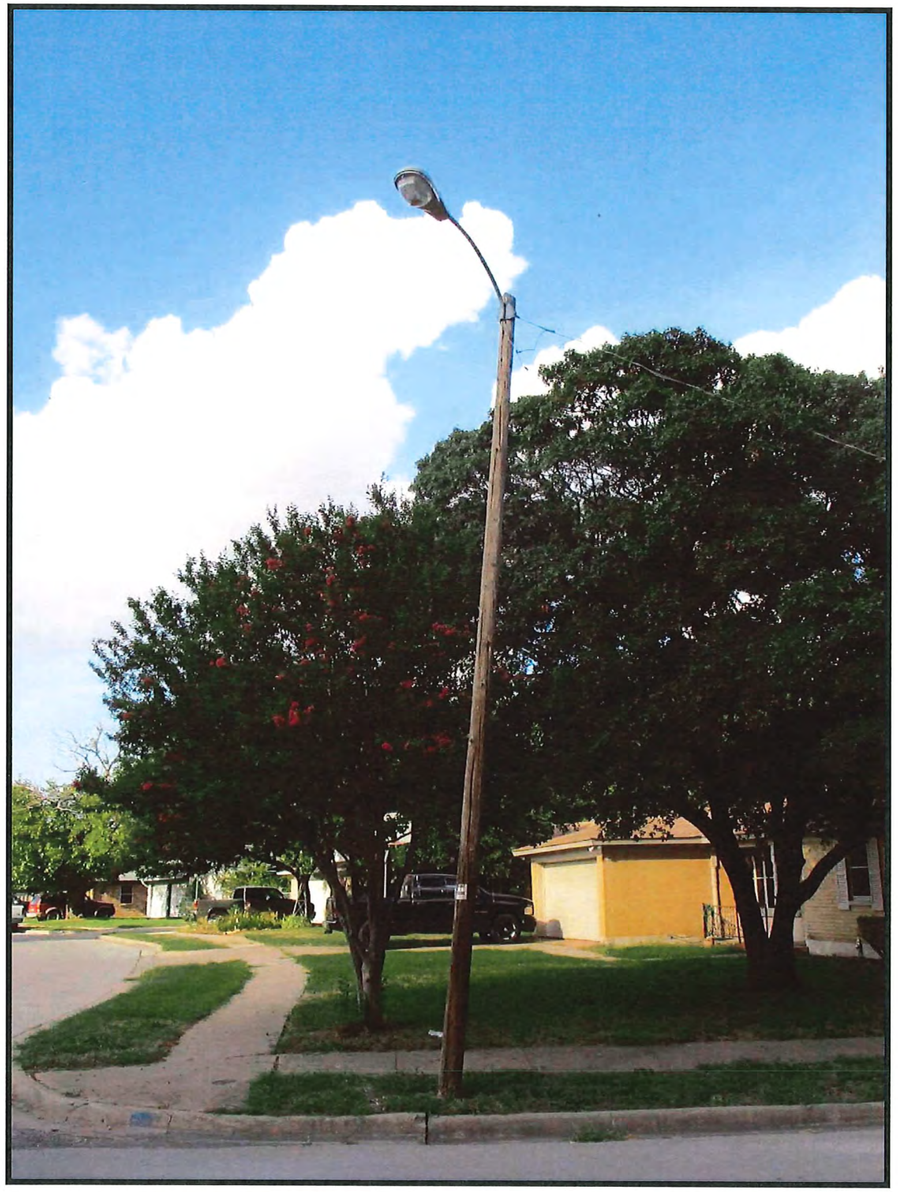
CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK IN THIS PROJECT. TELEPHONE (832) 394-9098

PROJECT INFORMATION

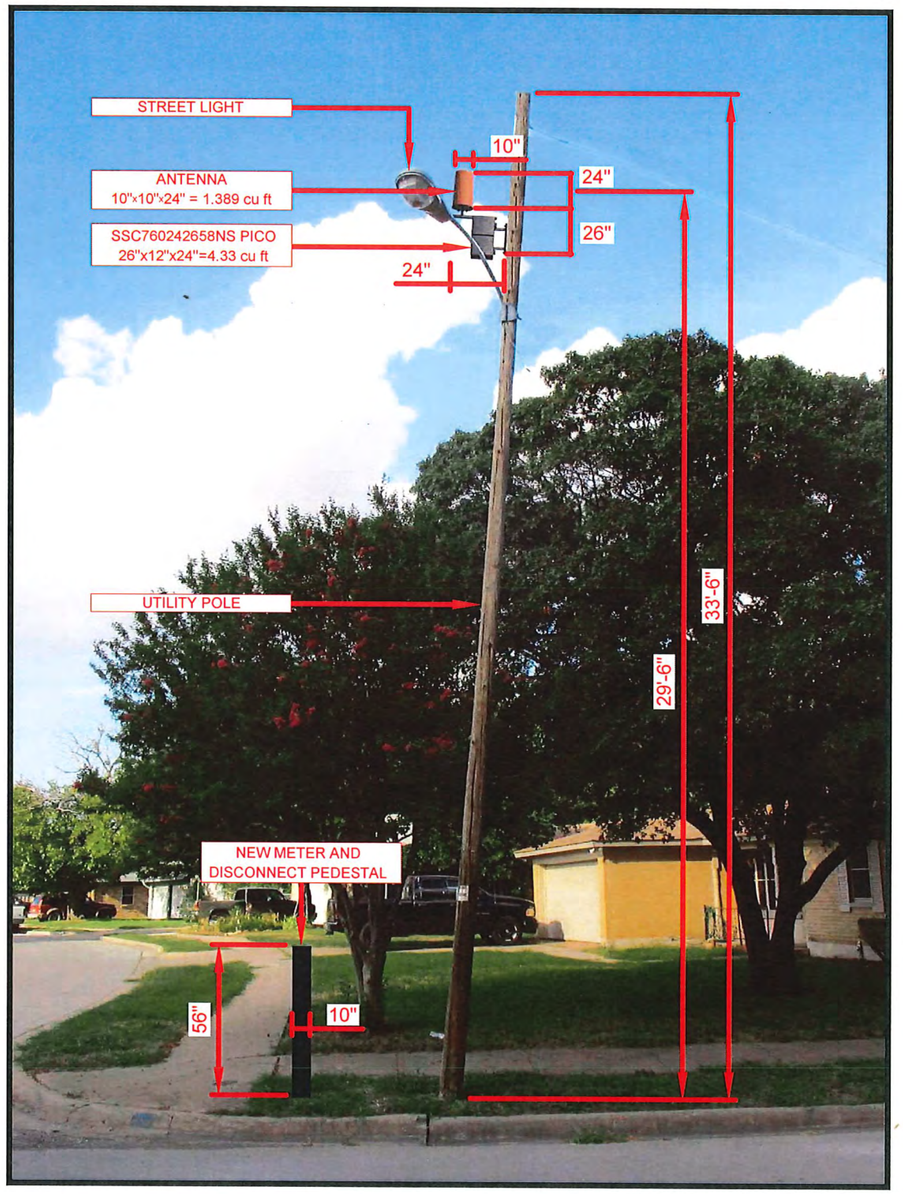
DRAWING BY:	DRAFTPROS LLC
CHECK BY:	DRAFTPROS LLC
ORIGINAL SUBMITTAL:	MAY 03, 2019
NODE NAME #:	CRAN_RNTX_FTWT3_230
TITLE:	**PHOTO SIM**

SCALE:	PAGE:	OF:
NTS	08	22

POLE LOCATION MEETS OR EXCEEDS ADA COMPLIANCE STANDARDS AS REQUIRED BY CITY OF SAGINAW



CURRENT VIEW-From Southwest looking Northeast
SCALE = NTS



PROPOSED VIEW-From Southwest looking Northeast
SCALE = NTS

NEW CINGULAR WIRELESS PCS, LLC

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Engineering Office
13831 Northwest Freeway Suite 410
Houston, TX 77040

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STATE OF TEXAS
JUSTO RODRIGUEZ
120389
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PROFESSIONAL ENGINEER
5/8/19

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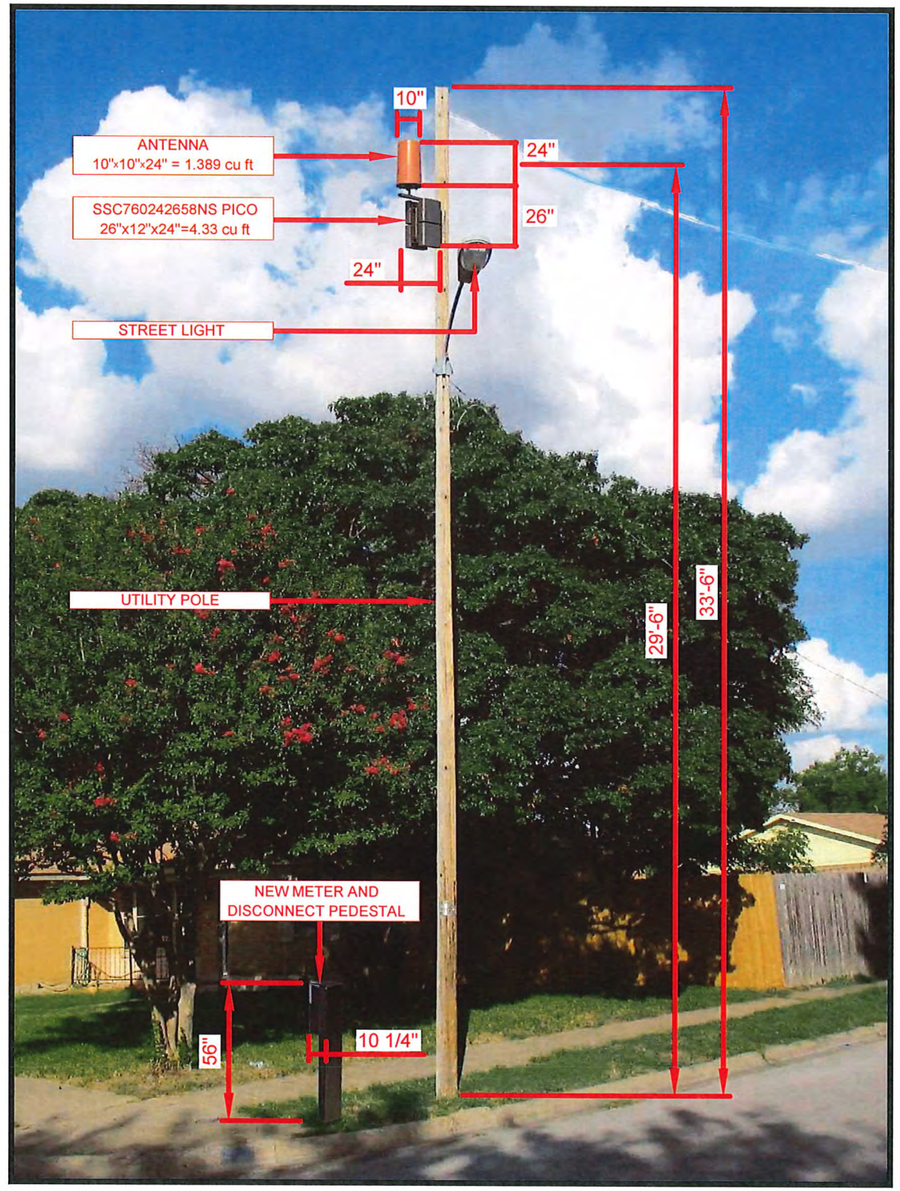
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ORIGINAL SUBMITTAL:	MAY 03, 2019
NODE NAME #:	CRAN_RNTX_FTWT3_230
TITLE:	**PHOTO SIM**

SCALE:	PAGE:	OF:
NTS	09	22

POLE LOCATION MEETS OR EXCEEDS ADA COMPLIANCE STANDARDS AS REQUIRED BY CITY OF SAGINAW



CURRENT VIEW-From West looking East
SCALE = NTS



PROPOSED VIEW-From West looking East
SCALE = NTS

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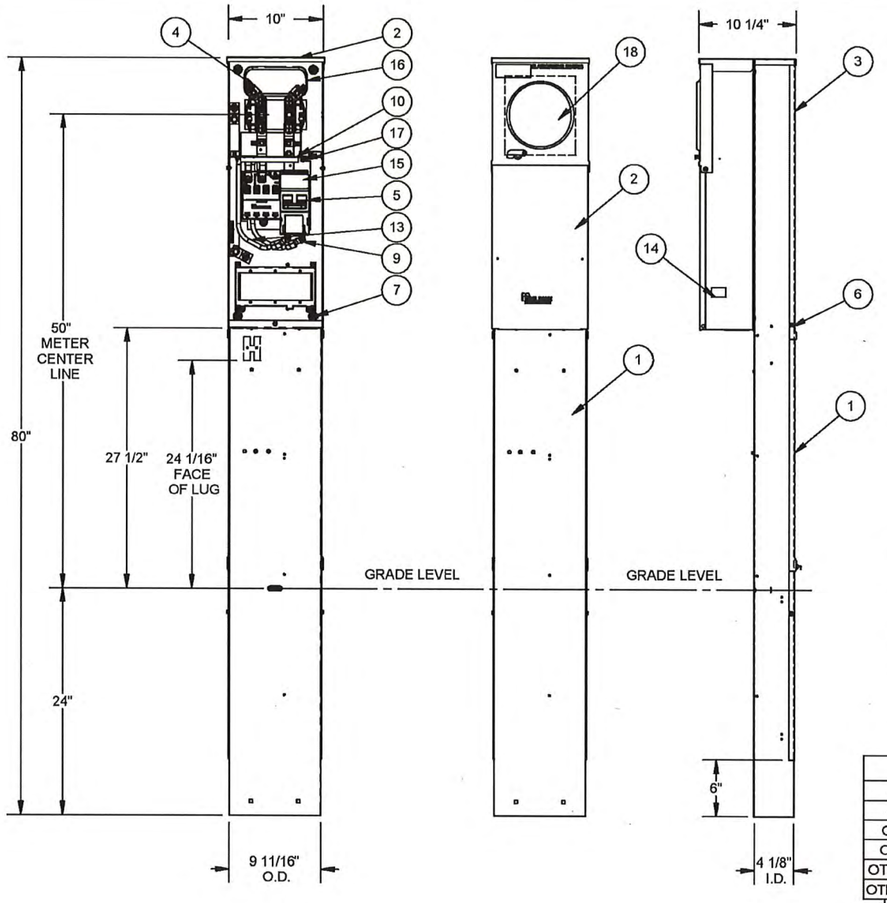
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CHECK BY:	DRAFTPROS LLC
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NODE NAME #:	CRAN_RNTX_FTWT3_230
TITLE:	**PHOTO SIM**

SCALE:	PAGE:	OF:
NTS	10	22

Thursday, October 11, 2012 10:32:46 AM dleach

5136-51



ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	(SEE CHART)	POST ASS'Y
2	1	(SEE CHART)	200A RINGLESS POWER HEAD
3	1	1048908	FRONT, BLANK
4	2	1000414	350 SLIDE NUT ASSY
5	1	(SEE CHART)	UQFPH CIRCUIT BREAKER
6	2	1047197	RIVET, 3/16 x 1/8-1/4 GRIP
7	4	1046977	SCREW 1/4-20 x 1/2
8	2	1002762	SCREW, 10-32 X .34
9	2	1025339	SCREW 1/4-20 x .500
10	1	1109881	INSULATOR
11	1	(SEE CHART)	WIRE 250kcmil CU WHT 35"
12	2	1131485	WIRE 250kcmil CU BLK 35"
13	2	1109048	WIRE ASSY #2 18.00"
14	1	1025144	U.L. LABEL
15	1	1025080	LABEL, MAIN
16	1	1047062	GASKET
17	2	1028184	PLASTIC PLUG
18	1	1000158	WIREMAN PAD
19	1	1047399	CARTON, LOWER (NOT SHOWN)
20	1	1047397	CARTON, UPPER (NOT SHOWN)

NOTES:
1.) AFFIX GASKET AROUND OPENING IN POST BEFORE JOINING UNITS.
2.) FOR FIELD INSTALLED STABILIZER FOOT ORDER KIT #K5415
3.) FOR FIELD INSTALLED 5TH JAW ORDER KIT #K5T AND ADD WIRE ASS'Y #1120238 FROM 5T TO LEFT SIDE BARRIER SCREW.
4.) FOR RECEPTACLE ASSEMBLIES SEE DRAWING #5136-21.
5.) FOR FIELD CONVERTING FROM SERIES WIRED TO PARALLEL WIRED ORDER KIT #K5193.
6.) LABEL #1025080 LOCATION ABOVE UQF C/B ON D/F.
7.) FOR FIELD INSTALLED PEDESTAL FRONTS PENTA BOLT LOCKING ORDER KIT K5039.
8.) WHEN SOLD AS THE FOLLOWING CATALOGS REPLACE CATALOG STAMP WITH NOTED LABEL:
U5136-O-200S-ALT: #1132062
U5136-O-100S-ALT: #1139050

SUFFIX	FINISH	POWER HEAD	POST ASSY
-CEC W/ RECEPTACLE	MILBANK LIGHT GRAY	1131673	1115083
-CEC NO RECEPTACLE	MILBANK LIGHT GRAY	1139191	1115083
OTHER W/ RECEPTACLE	MILBANK LIGHT GRAY	1003848	1115083
OTHER NO RECEPTACLE	MILBANK LIGHT GRAY	1139169	1115083
OTHER W/ RECEPTACLE -G1	MUNSELL GREEN	1143317	1143318
OTHER NO RECEPTACLE -G1	MUNSELL GREEN	1143319	1143318

CATALOG #	BREAKER #	(AMP)
U5136-O-100S	1007859	100
U5136-O-125S	1124944	125
U5136-O-150S	1124945	150
U5136-O-200S	1090070	200

SUFFIX	ITEM #11	ITEM #12
NONE	#1126682	#1050289
-CEC	#1131484	#1131485

REV.	DATE	DESCRIPTION	BY
L2	4/8/10	CHART GREEN VERSION (ECO #9329)	D.F.
L3	10/7/10	UPDATE DESCRIPTION FOR 1126682/1131484 (ECO #19948)	D.F.
L4	10-11-12	UPDATED DIMENSIONS (ECO #23064)	DL

Material:	16 GA. STEEL		
Shear/ Die#:			
Finish:	MILBANK LIGHT GRAY		
Part Wt.:			
Tolerances: Unless Specified Otherwise XX ±.1, XXX ±.03, XXXX ±.015, X° ±2°		Third Angle	
Scale:	NTS	Checked By:	
Drawn By:	CMW	Approved By:	

MILBANK
General Offices: Kansas City, MO

Title:	200 AMP 4T RGLS PEDESTAL SERIES WIRED
Catalog No.:	U5136-O-(AMP)S
Customer:	
Drawing No.:	5136-51
Date:	9-10-08 Sheet 1 of 1

5136-51.SLDDRW 3:57 PM 10/11/2012

200 AMP 4T RGLS PEDESTAL SERIES WIRED

SCALE = NTS

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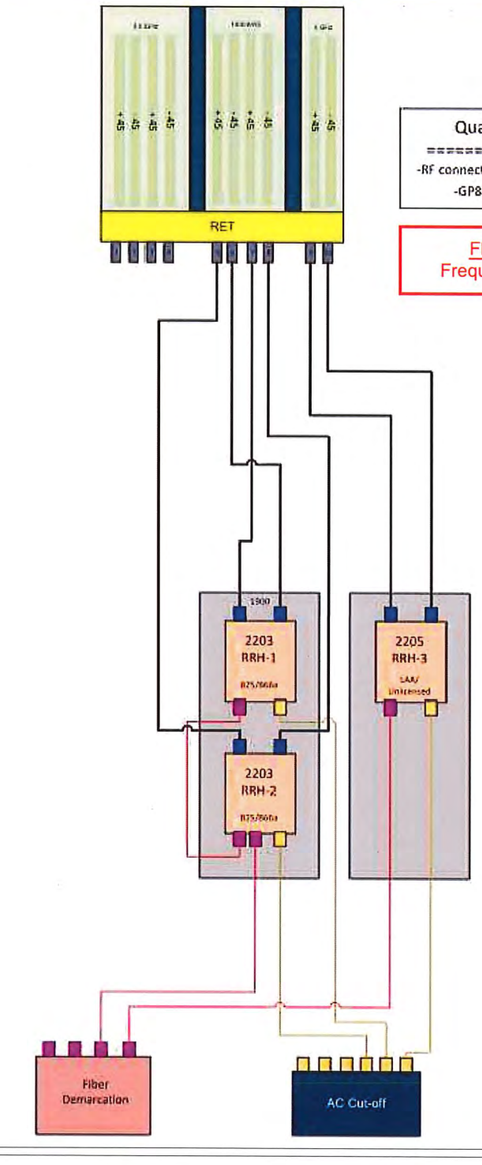
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PROJECT INFORMATION

DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **PEDESTAL DETAIL**

SCALE:	PAGE:	OF:
NTS	11	22

E// Pico – urban/suburban



Quasi-Omni Antenna

-RF connector may be 4.3-10 or 7/16 DIN
-GP8 port shall NOT be used

FREQUENCIES
Frequency is 1900 mhz

SMALL CELL ONE LINE SCHEMATIC

SCALE = NTS

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TITLE:	**RF SCHEMATIC's**

SCALE:	PAGE:	OF:
NTS	12	22

BRW-DS-S-5105

Data Sheet	Rosenberger
Small/Micro Cell Quasi-omni Antenna (3G/4G/5G)	CA-OIOITJTJVEX360F-JS06

Main Features

10-Port Small/Micro Cell Quasi-omni Antenna

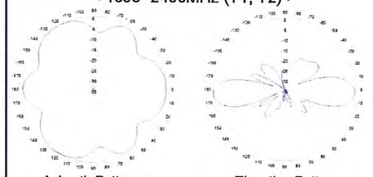
Excellent for site-sharing among 3G/4G/5G systems

Electrical Data (BASTA)

Frequencies (MHz)	2x1695-2400 / 2x3550-3700 / 5150-5925		
Sub-Bands (MHz)	1695-2400	3550-3700	5150-5925
Polarization	±45°	±45°	±45°
Max.Gain (dBi)	9	10.6	6.0
Avg.Gain (dBi)	8.2	9.8	5.0
Azimuth Beamwidth (°)	360	360	360
Elevation Beamwidth (°)	17	10	25
Electrical Downtilt (°)	3	3	3
VSWR	≤1.5:1	≤1.5:1	≤1.5:1
Intra-band Isolation (dB)	25	25	25
Inter-band Isolation (dB)	20	20	20
3rd Order PIM, 2×10W (dBc)	-153	N/A	N/A
Impedance (Ω)	50	50	50
Power Handling (W)	100	100	10

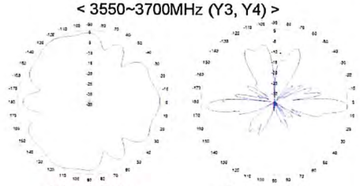
*To comply with EIRP restrictions for FCC Title 47 part 15 in U-NII-1 5.15 – 5.25 GHz band maximum radio transmit power of 1 watt assumed

< 1695~2400MHz (Y1, Y2) >



Azimuth Pattern Elevation Pattern

< 3550~3700MHz (Y3, Y4) >



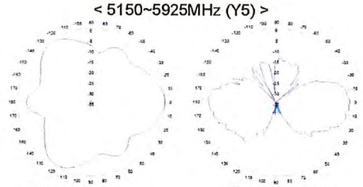
Azimuth Pattern Elevation Pattern

QP-TQ4TE-067/ 7.0

BRW-DS-S-5105

Data Sheet	Rosenberger
Small/Micro Cell Quasi-omni Antenna (3G/4G/5G)	CA-OIOITJTJVEX360F-JS06

< 5150~5925MHz (Y5) >



Azimuth Pattern Elevation Pattern

Environmental Data

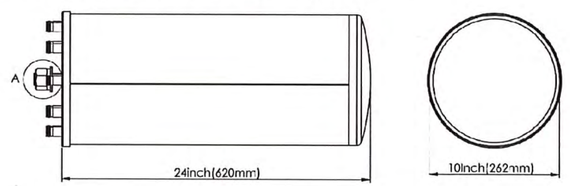
Operating Temperature Range	-40°C to +70°C| -40°F to +158°F
Relative Humidity	5% - 95%

Mechanical Data

Input Connectors	10 x 4.3-10Female
Connector Position	Bottom
Lightning Protection	DC Ground
Dimensions	φ 262mm ×620 mm | φ10 in×24 in
Weight	7.5kg | 16.5 lbs
Maximum Wind Velocity	241 km/h| 150 mph
Maximum Wind Loading @150 km/h	125N | 28 lbf
Reflector Material	Aluminum Alloy
Radome Material	ASA
Radome Color	Gray
Mounting Kit	Not included
Mechanical Tilt Range	0°

Antenna Profile & Bottom View

Fig. 1: Antenna Profile and Mounting Kit Linkage Detail



QP-TQ4TE-067/ 7.0

ANTENNA DETAIL

SCALE = NTS

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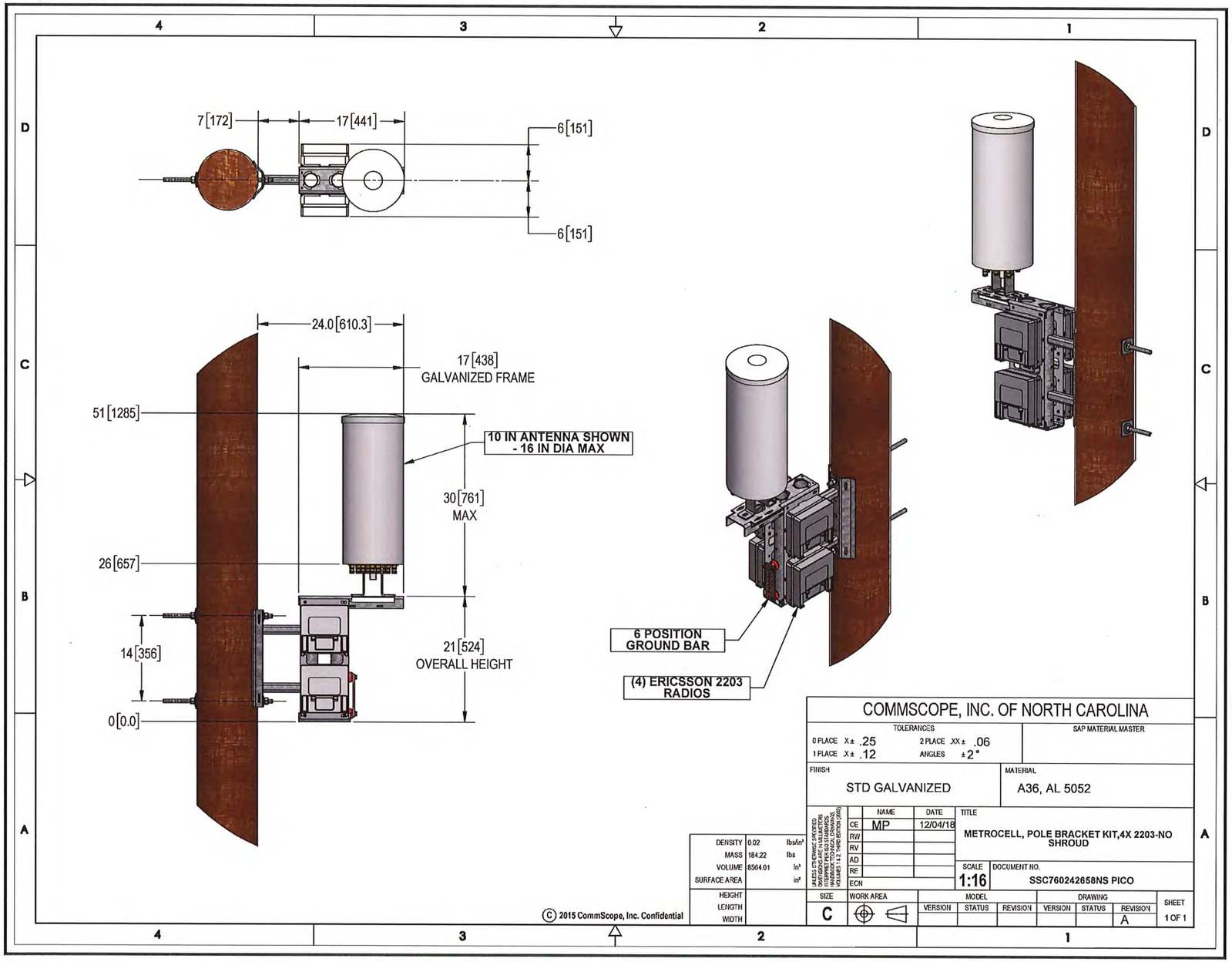
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TITLE:	ANTENNA DETAIL

SCALE:	PAGE:	OF:
NTS	13	22



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DENSITY	0.02	lbs/in³
MASS	184.22	lbs
VOLUME	8564.01	in³
SURFACE AREA		in²
HEIGHT		
LENGTH		
WIDTH		

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES
0 PLACE X± .25
1 PLACE X± .12
2 PLACE XX± .06
ANGLES ±2°

SAP MATERIAL MASTER

FINISH: STD GALVANIZED

MATERIAL: A36, AL 5052

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS PER ASME Y14.5M-1994 HANDBOOK TO FISCAL DRAWING, VOLUMES 1 & 2, THIRD EDITION (JAN'93)

	NAME	DATE
CE	MP	12/04/18
RW		
RV		
AD		
RE		
ECN		

TITLE: METROCELL, POLE BRACKET KIT,4X 2203-NO SHROUD

SCALE: 1:16

DOCUMENT NO.: SSC760242658NS PICO

SIZE	WORK AREA	MODEL VERSION	MODEL STATUS	MODEL REVISION	DRAWING VERSION	DRAWING STATUS	DRAWING REVISION	SHEET
C							A	1 OF 1

COMMSCOPE - SSC 760242658NS PICO
METROCELL, POLE BRACKET KIT, 4X 2203-NO SHROUD
SCALE = NTS

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DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **RRU WOOD POLE BRACKET**

SCALE:	PAGE:	OF:
NTS	14	22

TECHNICAL SPECIFICATIONS

FREQUENCY BANDS

Bands:	3GPP Bands B1 (W/L), B3 (L), B3C (W/L), B8 (W/L), B66A (W/L), B5 (W/L), B2/B25 (W/L), B12 (L), B13 (L) and B7 (L)

HW CAPACITY

Carrier capacity WCDMA:	Up to 4 carriers
Carrier capacity LTE:	Up to 40 MHz
IBW:	B1, B3 and B66A 45 MHz. B2/B25 and B7 40 MHz. B3C, B8, B5, B12 and B13 Full band
MIMO:	Yes, 2T/2R
Output power:	Up to 2 x 5 W

INTERFACE SPECIFICATIONS

Antenna Ports:	2 x 4.3-10 (f)
CPRI:	2 x 2.5/5/10 Gbps (exchangeable SFP modules)
Optical indicators	6
External alarms	2
Field ground	1

MECHANICAL SPECIFICATIONS

W x H x D:	200 mm x 200 mm x 100 mm, including mounting bracket and esthetic front cover
Weight:	< 4.5 kg
Volume:	4 l
Mounting:	Wall and pole mount

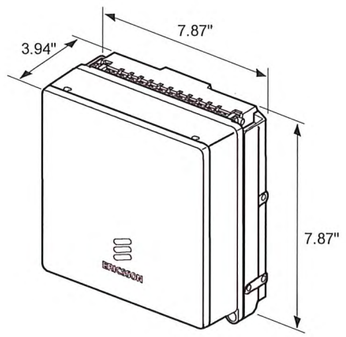
ELECTRICAL SPECIFCATIONS

Power Supply:	-48 VDC or 100 - 250 VAC

ENVIRONMENTAL SPECIFICATIONS

Normal operating temp.:	-40 °C to +55 °C (cold start at -40 °C)
Relative Humidity	5 - 100%
Environment:	Outdoor class with IP65





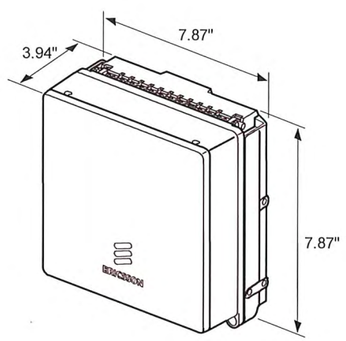
ERICSSON RRU-2203 DETAIL

SCALE = NTS

TECHNICAL SPECIFICATIONS

FREQUENCY BANDS:	3GPP bands B41
HW CAPACITY:	
Carrier capacity LTE:	Up to 40 MHz
IBW:	40 MHz TDD
MIMO:	Yes, 2T/2R
Output power:	Up to 2 x 5W
INTERFACE SPECIFICATIONS:	
Power supply:	-48 VDC or 100-250 VAC
Antenna Ports:	2 x 4.3-10(f)
CPRI:	2 x 10 Gbps (exchangeable SFP module
	6 x optical indicators
	2 x external alarms
	Field Ground
MECHANICAL SPECIFICATIONS:	
WxDxH:	200mm x 100mm x 200mm, including m
Weight:	< 5kg
Volume:	< 4l
Mounting:	Wall and , pole mount.
ENVIRONMENTAL SPECIFICATIONS:	
Environment:	Outdoor class with IP65
Normal operating temp.:	-40 - +55 °C (cold start at -40 °C)





ERICSSON RRU-2205 DETAIL (FUTURE)

SCALE = NTS

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Houston, TX 77040

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BY	DESCRIPTION	DATE

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Texas 811
811 OR 713-223-4567 (IN HOUSTON) OR (1-800-545-6005) CALL BEFORE YOU DIG

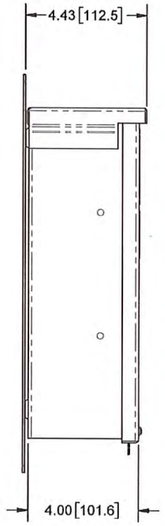
CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK IN THIS PROJECT. TELEPHONE (832) 394-9098

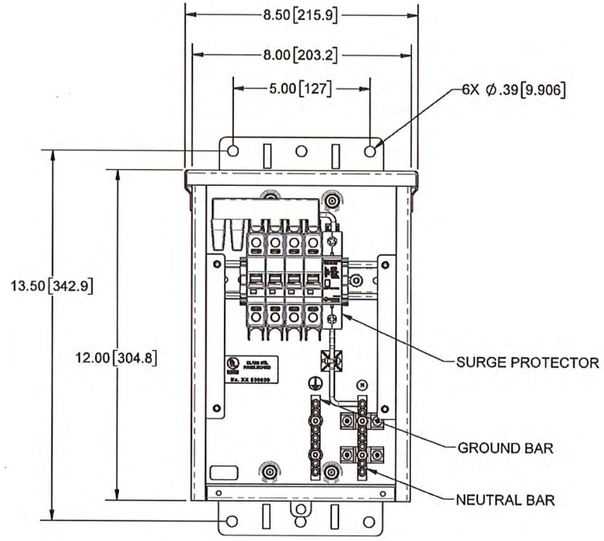
PROJECT INFORMATION

DRAWING BY:	DRAFTPROS LLC
CHECK BY:	DRAFTPROS LLC
ORIGINAL SUBMITTAL:	MAY 03, 2019
NODE NAME #:	CRAN_RNTX_FTWT3_230
TITLE:	**RRU'S DETAIL**

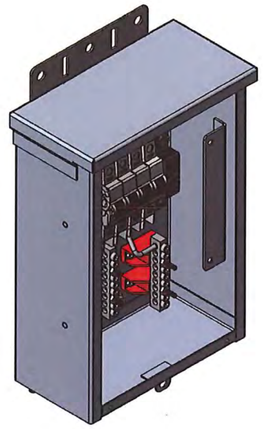
SCALE:	PAGE:	OF:
NTS	15	22

REVISIONS				
REV.	DESCRIPTION	ECN	DATE	APPROVED
01	PRE-PRODUCTION RELEASE			





FRONT VIEW
WITHOUT DEADFRONT





PRODUCT SPECIFICATIONS

ELECTRICAL:
UL 67 Listed (Pending)
Service: 120 Vac, 60 A
Short Circuit Current Rating: 10 kAIC
Branch Circuit Breakers:
Main: 60 A
Accessory: 3x 10 A, 1x 5A
Surge Protection: UL 1449, Type 2 Recognized, Transtector I2R SA 120-50M
Nominal Discharge Surge Current: 20 kA
Voltage Protection Rating (VPR): 600 V
Terminal Block Wire Range: 6-14 AWG

PHYSICAL:
Cabinet Type: UL 50, Type 3R
Material: 16-Gauge Steel, Powder Coat Finish
Dimensions: 8" x 12" x 4"
Mounting: Pole Mount or Wall Mount
Weight: Approx. 15 lbs.
Operating temperature: -20°C to 55°C
Humidity: 90% Non-Condensing

CUSTOMER APPROVAL: _____ DATE: _____

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [ ] ARE MILLIMETERS
TOLERANCES:
FRACTIONS=± 1/32 .XX=± .01
ANGLES=± 1 ° .XXX=± .005
MATERIAL
NOTED
THIRD-ANGLE PROJECTION

		DATE
DRAWN	DPM	8/15/16
ENG APPD		
PRODUCT MGR		
MARKETING APPD		
PROJECT NO.		

TRANSTECTOR

TITLE
MINI-MACRO COMPACT
60A/10A/10A/10A/5A, W/DEADFRONT
CUSTOMER SPECIFICATION

SIZE	CAGE	PART NUMBER	REV
B	30992	SC-MM08-001	01

SCALE	PROD CAT	DOCUMENT NAME	SHEET
1:4	CBT	SC-MM08-001-C	1 OF 2

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TRANSTECTOR DETAIL
SCALE = NTS

NEW CINGULAR WIRELESS PCS, LLC

draftPros
Engineering Office
13831 Northwest Freeway Suite 410
Houston, TX 77040

PROFESSIONAL LICENSURE

STATE OF TEXAS
JUSTO RODRIGUEZ
120389
LICENSED
PROFESSIONAL ENGINEER

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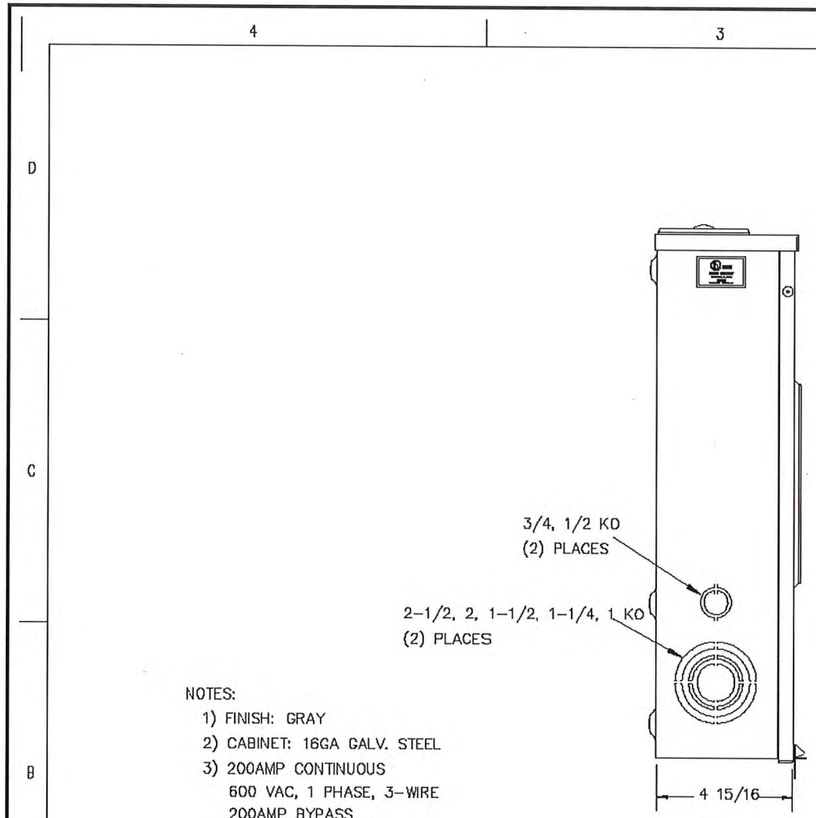
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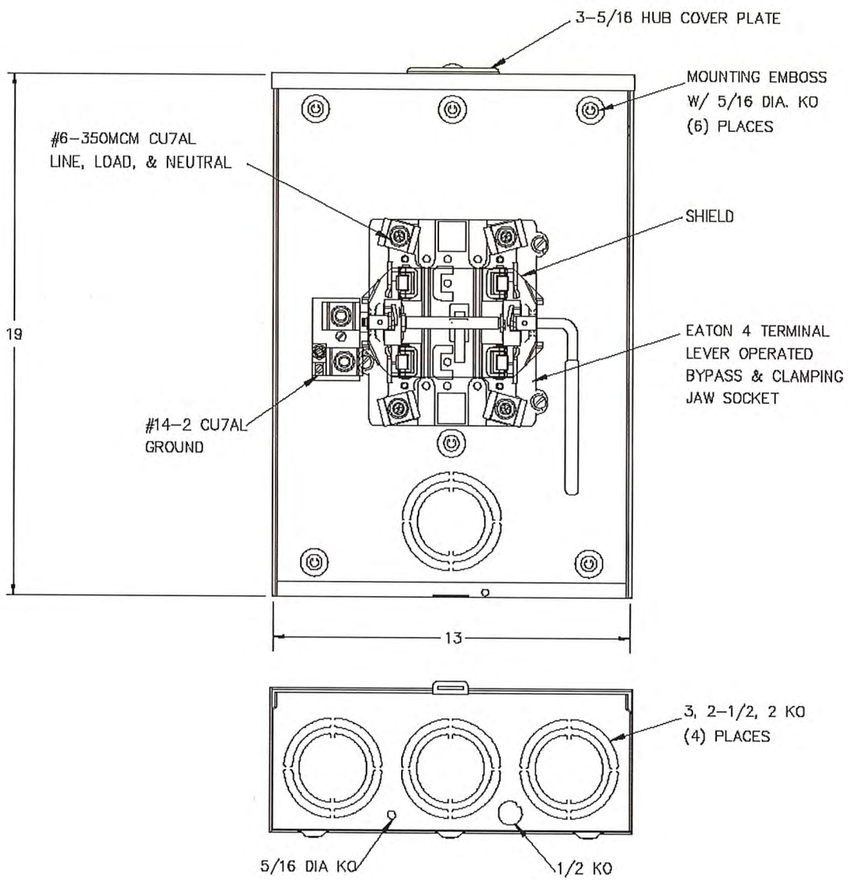
DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **TRANSTECTOR DETAIL**

SCALE:	PAGE:	OF:
NTS	16	22



NOTES:

1) FINISH: GRAY
2) CABINET: 16GA GALV. STEEL
3) 200AMP CONTINUOUS
   600 VAC, 1 PHASE, 3-WIRE
   200AMP BYPASS
4) EATON LABEL ATTACHED
   TO THE END OF CARTON.
5) TEMPORARY CARDBOARD METER OPENING
   COVER PROVIDED.
6) EATON LOGO STAMPED IN THE
   LOWER LEFT-HAND CORNER OF FRONT.



TITLE / DESCRIPTION	SKT 200A 1P HCP	DRAFTER/DESIGNER	DATE (YYYY/MM/DD)
		RLK	2013/12/27

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EATON Powering Business Worldwide

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SIZE	DRAWING NUMBER	REVISION
B	UT-E4213C-CH	000

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN	SCALE	SHEET
INCHES	N/A	1 of 1

DSD_BFM_ACAD_VER.DWG

POWER METER EATON 200A # UTE4213CCH DETAIL

SCALE = NTS

NEW CINGULAR WIRELESS PCS, LLC

draftPros
Engineering Office
13831 Northwest Freeway Suite 410
Houston, TX 77040

PROFESSIONAL LICENSURE

STATE OF TEXAS
JUSTO RODRIGUEZ
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LICENSED
PROFESSIONAL ENGINEER

5/3/19

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PROJECT INFORMATION

DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **POWER METER DETAIL**

SCALE:	PAGE:	OF:
NTS	17	22

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   GENERAL CONTRACTOR - GOODMAN NETWORKS
   CONTRACTOR: (CONSTRUCTION)
   OWNER - AT&T
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

GENERAL NOTES

17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.

GENERAL NOTES

36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
40. ALL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

ANTENNA MOUNTING

41. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
42. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
43. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
44. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
45. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
46. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
47. NOT USED.
48. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246

TORQUE REQUIREMENTS

49. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
50. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
    A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
    B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
55. ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
56. ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
57. ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
58. ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
59. ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).

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CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **GENERAL NOTES**

SCALE:	PAGE:	OF:
NTS	18	22

FIBER & POWER CABLE MOUNTING

60. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.

61. THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.

62. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES

63. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.

62. CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.

63. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 LATEST VERSION.

64. ALL JUMPERS TO THE ANTENNAS SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".

65. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.

66. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.

67. CONTRACTOR SHALL WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH AT&T STANDARDS.

GENERAL CABLE & EQUIPMENT NOTES

68. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.

69. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

70. CONTRACTOR SHALL REFERENCE THE STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

71. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.

72. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
    A. TEMPERATURE SHALL BE ABOVE 50° F.
    B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
    C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
    D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.

73. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.

74. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.

ROW UTILITY POLE CONSTRUCTION NOTES

75. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2" [.038M].

76. FILL ALL HOLES LEFT IN POLE FROM REARRANGEMENT OF CLIMBERS.

77. ALL CLIMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.

78. CABLE NOT TO IMPEDE 15" [.381M] CLEAR SPACE OFF POLE FACE (12:00).

80. 90 SHORT SWEEPS UNDER ANTENNA ARM. ALL CABLES MUST ONLY TRANSITION ON THE INSIDE OR BOTTOM OF ARMS (NO CABLE ON TOP OF ARMS).

81. USE 90 CONNECTOR AT CABLE CONNECTION TO ANTENNAS.

82. PLACE GPS ON ARM WITH SOUTHERN SKY EXPOSURE AT MINIMUM 6' [1.83] FROM TRANSMIT ANTENNA, WHICH IS 24" [.61M] AWAY FROM CENTER OF POLE.

83. USE 1/2" [.013M] CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.

84. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

NEW CINGULAR WIRELESS PCS, LLC

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PROFESSIONAL LICENSURE

STATE OF TEXAS
JUSTO RODRIGUEZ
120369
LICENSED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY PROFESSIONAL KNOWLEDG THEY COMPLY WITH THE REQUIREMENT OF ALL APPLICABLE CODES AND ORDINANCES

REVISIONS

BY	DESCRIPTION	DATE

CAUTION

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Texas 811
811 OR 713-223-4567 (IN HOUSTON) OR
(1-800-545-6005) CALL BEFORE YOU DIG

CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK IN THIS PROJECT.
TELEPHONE (832) 394-9098

PROJECT INFORMATION

DRAWING BY: DRAFTPROS LLC
CHECK BY: DRAFTPROS LLC
ORIGINAL SUBMITTAL: MAY 03, 2019
NODE NAME #: CRAN_RNTX_FTWT3_230
TITLE: **ROW CONSTRUCTION NOTES**

SCALE:	PAGE:	OF:
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O-Calc® Pro *Analysis Report*

Pole Num:	CRAN_RNTX_FTWT3_230	Pole Length / Class:	40 / 3	Code:	NESC	Structure Type:	Deadend
Aux Data 1	SAGINAW	Species:	SOUTHERN PINE	NESC Rule:	Rule 250B	Status	Unguyed
Aux Data 2	TX	Setting Depth (ft):	6.50	Construction Grade:	C	Pole Strength Factor:	0.85
Aux Data 3	637 PINTO LANE	G/L Circumference (in):	35.81	Loading District:	Medium	Transverse Wind LF:	1.75
Aux Data 4	AT&T	G/L Fiber Stress (psi):	8,000	Ice Thickness (in):	0.25	Wire Tension LF:	1.30
Aux Data 5	Unset	Allowable Stress (psi):	6,800	Wind Speed (mph):	39.53	Vertical LF:	1.90
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	4.00		
Latitude:	32.850525 Deg	Longitude:		-97.368531 Deg		Elevation:	723 Feet





Pole Capacity Utilization (%)		Height (ft)	Wind Angle (deg)
Maximum	20.9	0.0	5.6
Groundline	20.9	0.0	5.6
Vertical	5.1	17.9	5.6

Pole Moments (ft-lb)		Load Angle (deg)	Wind Angle (deg)
Max Cap Util	16,917	4.2	5.6
Groundline	16,917	4.2	5.6
GL Allowable	82,385		

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TITLE: **STRUCTURAL ANALYSIS**

SCALE:	PAGE:	OF:
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Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 4.2°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Powers	377	58.9	**12,210**	72.2	**14.8**	**998**	36	0	**998**	**14.7**
GenericEquipments	47	7.3	**782**	4.6	**1.0**	**64**	277	3	**67**	**1.0**
Pole	183	28.6	**3,152**	18.6	**3.8**	**258**	1,854	18	**276**	**4.1**
Crossarms	8	1.3	**116**	0.7	**0.1**	**10**	108	1	**11**	**0.2**
Streetlights	25	3.9	**648**	3.8	**0.8**	**53**	114	1	**54**	**0.8**
Insulators	0	0.0	**9**	0.1	**0.0**	**1**	2	0	**1**	**0.0**
Pole Load	640	100.0	**16,917**	100.0	**20.5**	**1,383**	2,391	23	**1,406**	**20.7**
Pole Reserve Capacity			**65,468**		**79.5**	**5,417**			**5,394**	**79.3**

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 4.2°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
POWER	403	62.9	**12,867**	76.1	**15.6**	**1,052**	152	1	**1,053**	**15.5**
AT&T	238	37.1	**4,050**	23.9	**4.9**	**331**	2,239	22	**353**	**5.2**
General Statement	0	0.0	**0**	0.0	**0.0**	**0**	0	0	**0**	**0.0**
Totals:	640	100.0	**16,917**	100.0	**20.5**	**1,383**	2,391	23	**1,406**	**20.7**

Detailed Load Components:

Power		Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Secondary	AAC 4 AWG 7 STRAND ROSE	POWER	32.00	6.00	0.2320	1.54	0.039	200.0	0.0	200.0	291	12,062	18	10	12,090
											Totals:	**12,062**	**18**	**10**	**12,090**

GenericEquipment		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Box	RRU-32	AT&T	26.94	21.84	180.0	0.0	53.00	27.20	12.10	--	7.00	-151	398	247
Box	RRU-32	AT&T	26.94	21.84	180.0	0.0	53.00	27.20	12.10	--	7.00	-165	398	233
Cylinder	Arm	AT&T	28.19	24.32	180.0	0.0	10.00	24.00	--	3.00	--	-38	94	55
Cylinder	ANTENNA	AT&T	29.35	33.82	180.0	0.0	19.00	24.70	--	10.00	--	-101	321	220
Box	PSU AC 2	AT&T	26.77	11.83	90.0	0.0	11.00	7.00	2.68	--	13.00	-20	40	20
											Totals:	**-476**	**1,251**	**775**

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TITLE: **STRUCTURAL ANALYSIS**

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Crossarm		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Normal	SSC-760235419NS	AT&T	26.75	11.82	180.0	180.0	57.00	4.50	3.50	23.76	-106	221	115
										Totals:	**-106**	**221**	**115**

Streetlight		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
General	Streetlight	POWER	24.00	4.24	90.0	90.0	60.00	24.00	20.00	3.00	72.00	40	602	642
											Totals:	**40**	**602**	**642**

Insulator		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Spool	Spool Insulator - 20 kV	POWER	32.00	0.00	0.0	0.0	1.00	2.50	2.12	1	8	9
Bolt	Single Bolt	AT&T	26.94	-11.00	137.1	0.0	0.00	0.00	0.00	0	0	0
Bolt	Single Bolt	AT&T	26.94	11.00	222.9	0.0	0.00	0.00	0.00	0	0	0
Bolt	Single Bolt	AT&T	26.94	0.00	180.0	0.0	0.00	0.00	0.00	0	0	0
Bolt	Single Bolt	AT&T	26.94	0.00	180.0	90.0	0.00	0.00	0.00	0	0	0
									Totals:	**1**	**8**	**9**

Pole Buckling

Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
2.00	17.86	32.86	10.68	11.01	7.32	11.40	1.60e+6	60.00	57.00	33.50	46,751	**468.84**	**19.61**

Notes

Date	Author	Description
4/17/2015	General Statement	General Statement

General Statement: Non-AT&T facilities may not be accurately identified pending attachment information from attaching party.

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