

Report of Specific Purpose Survey of Cortez Rd. (S.R. 684) at 86th Street West (Palma Sola Rd.)



Shaping the Future

The intent of this Surveyor's Report is to accompany AutoCAD 2011 Civil 3D drawing file entitled "Cortez_SUE.dgn" and Test Hole Data Report entitled "StaOffQtlyLevA.pdf" as delivered via e-mail entitled "Cortez Road at 86th Street, Proposed Pole Locations", on September 11, 2012.

Type of Survey:

Specific Purpose Survey (Chapter 5J-17.050(10-j) Florida Administrative Code) to survey existing subsurface utility lines at proposed mast arm locations at the intersection of Cortez Rd. (S.R. 684) and 86th Street West (Palma Sola Rd.). All subsurface utility information was designated and located by Cardno TBE's professional Subsurface Utility staff consistent with the American Society of Civil Engineers (ASCE) Standard (CI/ASCE 38-02) entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data".

Field Survey Date:

Last date of field efforts September 7, 2012. Cardno TBE field book FL-CW-309, Page 27-30.

Date of Computations:

September 2012

Datum(s):

Horizontal coordinate values are shown in feet and are referenced to the Florida State Plane Coordinate System, West Zone and the North American Datum of 1983, Adjustment of 1990 (NAD 83/1990), more specifically:

- A found 5/8" iron rod and cap stamped "LB 4631", named '1021'
(Northing = 1,137,624.452 - Easting = 445,893.928)
- A found nail and disk stamped "MAN CTY BL", named '1023'
(Northing = 1,137,506.213- Easting = 445,879.188)

Basis of bearing being N 00°08'40" E (GRID) based on the East right of way line of Palma Sola Road, per survey notes found in AutoCAD drawing file "86Cortez-TS.dwg" supplied by Upik Suwarno of Cardno TBE via e-mail on August 31, 2012 and completed by James N. Gatch, Jr. of ZNS Engineering on May 21, 2012.

Elevations are shown in feet and are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29), more specifically:

- A found 8" diameter concrete monument with National Geodetic Survey disk stamped "D14 2 1949"
(Elevation = 8.57')
- A found triangle cut in concrete sidewalk on the North side of Cortez Rd., approx. 100 feet west of Palma Sola Blvd.
(Elevation = 8.89')

Horizontal and Vertical control taken from an AutoCAD drawing named "86Cortez-TS.dwg" as supplied by Upik Suwarno of Cardno TBE via e-mail on August 31, 2012 and completed by James N. Gatch, Jr. of ZNS Engineering on May 21, 2012.

Accuracy Statement:

All measurements, distances, elevations and features shown were performed in strict accordance with the Minimum Technical Standards set forth in Chapter 5J-17, Florida Administrative Code.

Survey Technicians:

Mike Survance, Field Surveyor & Ned Connolly, PSM

Survey Methods:

Horizontal control was recovered as described in the previously mentioned AutoCAD drawing named "86Cortez-TS.dwg".

Vertical control utilizing differential leveling techniques using a Topcon AT-G2 level. A vertical benchrun was performed with misclosure of -0.003 feet achieved in a 0.111 mile loop length, which exceeds the minimum accuracy requirement of a maximum misclosure of 0.017 feet.

Horizontal and vertical mapping for this survey was obtained with a Leica TC905L Total Station and an Allegro MX data collector with EFB (Electronic Field Book) data collection software.


Prepared For:

Cardno TBE
Manatee County

Notes:

1. The Survey Map and Report or copies thereof are not valid without the signature and the original raised Seal of a Florida Surveyor and Mapper.
2. Additions or deletions to the survey map or report by other than the signed party or parties is prohibited without written consent of the signing party or parties.
3. Neither the map nor the report is full and complete without the other.
4. This map is intended to be displayed at a scale of 1 / 20 or smaller.

Surveyor and Mapper in Responsible Charge:

 Date signed: 09/11/12
Michael W. Patterson
Professional Surveyor and Mapper
License Number LS 6560
State of Florida

Cardno TBE

Certificate of Authorization Number LB 6668
380 Park Place Blvd., Suite 300
Clearwater, FL 33759



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Clearwater, FL 33759

TEST HOLE DATA REPORT

LOCATION: S.R. 684 (Cortez Road) and
86th Street West (Palma Sola Road)
Manatee County, Florida

TBE PROJ. NO.: 00193008.15

JOB UNITS: US SURVEY FOOT

HORIZONTAL DATUM: NAD 83/1990

VERTICAL DATUM: NGVD 29

LEGEND

TYPE OF UTILITY	UTILITY MATERIAL
BE - BURIED ELECTRIC	STL - STEEL
GM - GAS MAIN	PVC - POLYVINYL CHLORIDE
BT - BURIED TELEPHONE	DIP - DUCTILE IRON PIPE
FOC - FIBER OPTIC CABLE	VCP - VITRIFIED CLAY PIPE
WM - WATER MAIN	PE - POLYETHYLENE PIPE
SAN - SANITARY SEWER	AC - TRANSITE
STM - STORM SEWER	CI - CAST IRON
CATV - CABLE TELEVISION	DBC - DIRECT BURIED CABLE
FM - FORCE MAIN	CONC - CONCRETE PIPE
RCW - RECLAIMED WATER	CMP - CORRUGATED METAL PIPE
SL - STREET LIGHT	HDPE - HIGH DENSITY POLYETHYLENE PIPE
TS - TRAFFIC SIGNAL	GALV - GALVANIZED PIPE
EXP - EXPLORATORY	CPP - CORRUGATED PLASTIC PIPE

TEST HOLE SUMMARY SHEET						
F.P. ID.:			JOB NAME: Cortez Road Quality Level A SUE Services			
Section No.:			JOB LOCATION: S.R. 684 (Cortez Road) and 86th Street West (Palma Sola Road) Manatee County, Florida			
S.R.: 684						
TBE No.: 00193008.15			DATE: September 11, 2012			
TEST HOLE NO.	STATION	OFFSET	UTILITY (INCHES)	GROUND ELEV. (FEET)	DEPTH (FEET)	UTILITY ELEV. (FEET)
Station and Offsets shown are referenced to the Cortez Road (SR #684) Survey Baseline (see note #7)						
Proposed Mast Arm Location #1-1 Sta. 176+99 59.1' LT						
TH1-1-1	176+95.78	-59.80	2" STL BE	9.09	2.42	6.67
TH1-1-2	176+95.93	-60.12	4" CPP BE	9.11	2.40	6.71
TH1-1-3	176+96.13	-60.56	1.25" PE FOC	9.11	2.50	6.61
			2" STL BE	9.11	2.70	6.41
TH1-1-4	176+96.66	-61.14	1.5" DBC BT	9.18	2.70	6.48
TH1-1-5	176+99.12	-60.53	15" RCP STM (ENDS)	9.16	1.06	8.10
Proposed Mast Arm Location #2-1 Sta. 176+98 64.0' RT						
TH2-1-1	176+98.06	63.98	6" PVC BE (WEST EDGE)	9.21	3.86	5.35
TH2-1-2	176+86.26	65.50	2-4" PVC FOC (EAST EDGE)	8.88	2.90	5.98
Proposed Mast Arm Location #3-1 Sta. 176+32 58.7' RT						
TH3-1-1	176+37.08	56.59	UNKNOWN SIZE AND MATERIAL SAN (SOUTH EDGE)	8.56	12.50	-3.94
TH3-1-2	176+32.62	56.50	UNKNOWN SIZE AND MATERIAL SAN (SOUTH EDGE)	8.21	12.30	-4.09
TH3-1-3	176+32.34	61.99	12" PVC RCW (NORTH EDGE)	8.18	6.26	1.92
Proposed Mast Arm Location #4-1 Sta. 176+12 53.3' LT						
TH4-1-1	176+11.91	-53.16	4' DIA. CONC. FOUNDATION AT 1.42' BELOW GROUND			
TH4-1-2	176+12.32	-48.12	3-4" PVC BT DUCT (SOUTH EDGE)	9.15	4.30	4.85
TH4-1-3	176+06.88	-53.30	EXPLORATORY/CLEAR			
TH4-1-4	176+11.13	-59.18	1.5" DBC BT	8.48	3.40	5.08
TH4-1-5	176+17.07	-53.24	3-2" PVC BE	8.88	2.20	6.68
TH4-1-6	176+12.24	-49.74	3-4" PVC BT DUCT (NORTH EDGE)	9.08	4.30	4.78

Notes:

- Negative offsets are left of the survey baseline.
- Positive offsets are right of the survey baseline.
- Elevations shown are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).
- Utility elevations shown are to the top of utility.
- A legend of abbreviations can be found on the first sheet of this report.
- A testhole with the description "EXPLORATORY/CLEAR" describes a testhole that has been cleared of utilities to a depth of 8.00 feet unless otherwise described.
- Survey Baseline of Cortez Road (SR #684) per the AutoCAD drawing named "86Cortez-TS.dwg" as supplied by Upik Suwarno of Cardno TBE via e-mail on August 31, 2012 and completed by James N. Gatch, Jr. of ZNS Engineering on May 21, 2012.



380 Park Place Blvd ~ Suite 300, Clearwater, FL 33759
Phone: 727-531-3505 / Fax: 727-431-1701

**Subsurface Utility Engineering
Test Hole Field Data**

Date:	9/11/2012
Vac Truck/Trailer No.:	55425 / 55383
SUE Crew:	D.W., A.R. / A.R., M.G.
Prepared By:	D.W. / A.R. Checked By: S.G.N.
Units:	English <input checked="" type="checkbox"/> Metric <input type="checkbox"/>
Sheet No.:	1 OF 2

TBE Project No.:	00193-008.15
Client Project No.:	N/A
Proj. Road Name:	SR 684 (Cortez Rd.)
Proj. Location:	86th St. W. / Palma Sola Rd.
City, State:	Bradenton, Florida

Utility Type:		Utility Material:		Offset Measured From:	
FL- Fuel Line	RAW - Raw Water	Duct	DIP (Ductile Iron Pipe)	30- Edge Of Pavement	31- "X" in Concrete
BE - Electrical	WM - Water Main	Lead	PE (Polyethylene Pipe)	32- Baseline	33- Centerline
GM - Gas Line	STM - Storm Sewer	Steel	HDPE (High Density PE)	34- Back of Curb	35-
IRR. - Irrigation	CW - Chilled Water	Copper	VCP (Vitrified Clay Pipe)	Surface Type:	
SL - Street Light	SAN - Sanitary Sewer	AC (Transite)	PVC (Polyvinyl Chloride)	A- Asphalt	B- Brick
UNK - Unknown	BT - Buried Telephone	Fg (Fiberglass)	DBC (Direct Buried Cable)	C- Concrete	G- Gravel
FM - Force Main	RCW- Reclaimed Water	C.I. (Cast Iron)	CMP (Corrugated Metal Pipe)	NG- Natural Ground	RR- Riprap
HW - Hot Water	CATV - Cable Television	UNK (Unknown)	CPP (Corrugated Plastic Pipe)	R- Rock	S- Shell
TS - Traffic Signal	FOC - Fiber Optic Cable	Conc. (Concrete)	RCP (Reinforced Concrete Pipe)	Identified By :	
EXP- Exploratory		Galv. (Galvanize Pipe)		20- Sleeve	21- Hub/Lathe
				22- Nail/Disk	23- "X" in Concrete
				24- Iron Rod & Cap	25-
				* Note: 22= Set Nail and Disk Stamped CardnoTBE Test Hole	
				* Note: 24= Set Iron Rod & Cap Stamped CardnoTBE Test Hole	

Client Reference Number	TBE Test Hole Date	TBE Test Hole Number	Utility Size (O.D.)		Utility Material	Utility Type	Manual Depth (Top)		Approx. Station		Offset Distance		Offset From	Cross Sectional View	Utility Direction	ID'd By	Surface Type	Pavement Thickness	
			In.	M.			Ft.	M.	L	R	In.	mm.							
			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						<input checked="" type="checkbox"/>	<input type="checkbox"/>

Pole Location #1

Pole #1	09/06/12	1-1-1	2"	STEEL	BE	2.42'	*	11.5'	*	30	○	↗↘	24	NG	N/A
Pole #1	09/06/12	1-1-2	4"	CPP	BE	2.40'	*	11.8'	*	30	○	↗↘	24	NG	N/A
Pole #1	09/06/12	1-1-3	1.25" 2"	PE STEEL	FOC BE	2.50' 2.70'	*	12.3'	*	30	○	↗↘	24	NG	N/A
Pole #1	09/06/12	1-1-4	1.50"	DBC	BT	2.70'	*	13.1'	*	30	○	↗↘	24	NG	N/A
Pole #1	09/06/12	1-1-5	15"	RCP	STM (Ends)	1.06'	*	14.2'	*	30	○	↗↘	24	NG	N/A

Pole Location #2

Pole #2	09/06/12	2-1-1	6"	PVC	BE West Edge	3.86'	*	*	1.6'	30	○	↕	24	NG	N/A
Pole #2	09/06/12	2-1-2	2-4"	PVC	FOC East Edge	2.90'	*	*	13.2'	30	○○	↕	23	C	6"

Notes: Pole Location #2, offsets taken from 86th St. W.



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Phone: 727-531-3505 / Fax: 727-431-1701

**Subsurface Utility Engineering
Test Hole Field Data**

Date: 9/11/2012
Vac Truck/Trailer No.: 55383
SUE Crew: A.R., M.G.
Prepared By: A.R. Checked By: S.G.N.
Units: English Metric
Sheet No.: 2 OF 2

TBE Project No.: 00193-008.15
Client Project No.: N/A
Proj. Road Name: SR 684 (Cortez Road)
Proj. Location: 86th Street W. / Palma Sola Rd.
City, State: Bradenton, Florida

Utility Type:		Utility Material:		Offset Measured From:			
FL- Fuel Line	RAW - Raw Water	Duct	DIP (Ductile Iron Pipe)	30- Edge Of Pavement	31- "X" in Concrete	32- Baseline	33- Centerline
BE - Electrical	WM - Water Main	Lead	PE (Polyethylene Pipe)	34- Back of Curb	35-		
GM - Gas Line	STM - Storm Sewer	Steel	HDPE (High Density PE)	Surface Type:			
IRR - Irrigation	CW - Chilled Water	Copper	VCP (Vitrified Clay Pipe)	A- Asphalt B- Brick C- Concrete G- Gravel NG- Natural Ground RR- Riprap			
SL - Street Light	SAN - Sanitary Sewer	AC (Transite)	PVC (Polyvinyl Chloride)	R- Rock S- Shell			
UNK - Unknown	BT - Buried Telephone	Fg (Fiberglass)	DBC (Direct Buried Cable)	Identified By :			
FM - Force Main	RCW- Reclaimed Water	C.I. (Cast Iron)	CMP (Corrugated Metal Pipe)	20- Sleeve 21- Hub/Lathe 22- Nail/Disk 23- "X" in Concrete 24- Iron Rod & Cap			
HW - Hot Water	CATV - Cable Television	UNK (Unknown)	CPP (Corrugated Plastic Pipe)	25-			
TS - Traffic Signal	FOC - Fiber Optic Cable	Conc. (Concrete)	RCP (Reinforced Concrete Pipe)	* Note: 22= Set Nail and Disk Stamped CardnoTBE Test Hole			
EXP - Exploratory		Galv. (Galvanize Pipe)		* Note: 24= Set Iron Rod & Cap Stamped CardnoTBE Test Hole			

Client Reference Number	TBE Test Hole Date	TBE Test Hole Number	Utility Size (O.D.)		Utility Material	Utility Type	Manual Depth (Top)	Approx. Station	Offset Distance		Offset From	Cross Sectional View	Utility Direction	ID'd By	Surface Type	Pavement Thickness	
			In.	M.					Ft.	M.						L	R
			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>						<input checked="" type="checkbox"/>	<input type="checkbox"/>

Pole Location #3

Pole #3	09/06/12	3-1-1	UNK	UNK	SAN South Edge	12.50'	*	8.0'	*	30			24	NG	N/A
Pole #3	09/06/12	3-1-2	UNK	UNK	SAN South Edge	12.30'	*	12.6'	*	30			24	NG	N/A
Pole #3	09/06/12	3-1-3	12"	PVC	RCW North Edge	6.26'	*	14.0'	*	30			24	NG	N/A

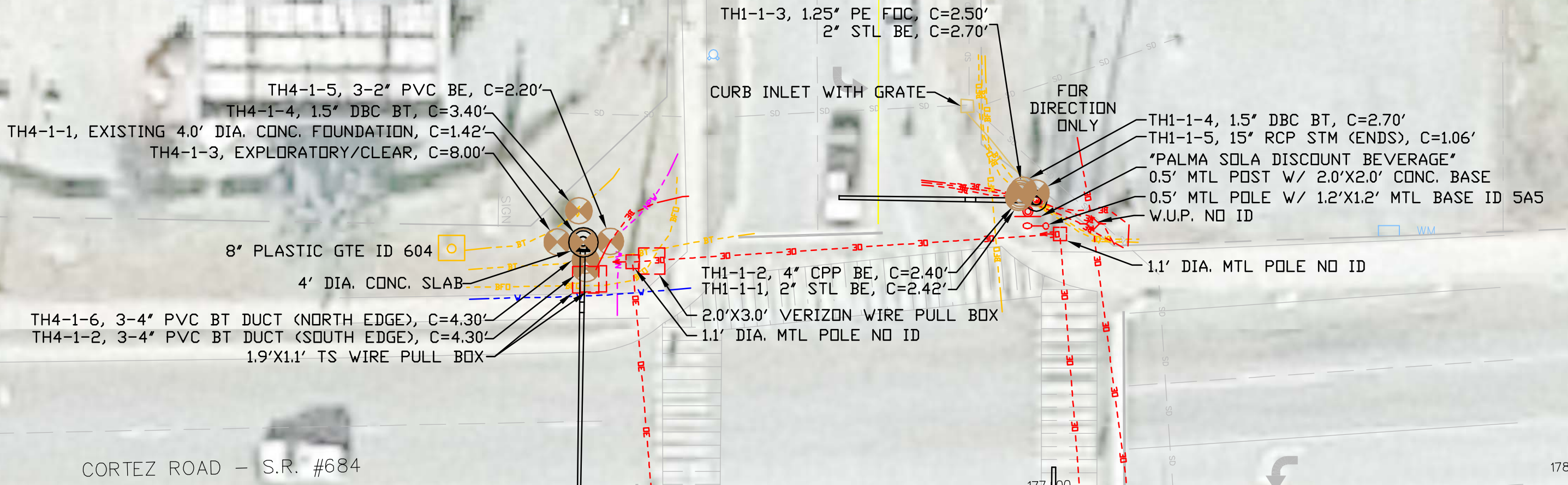
Pole Location #4

Pole #4	09/06/12	4-1-1	See Note			1.42'	*	20.6'	*	30			24	NG	N/A
Pole #4	09/06/12	4-1-2	3-4"	PVC	BT DUCT South Edge	4.30'	*	15.2'	*	30			24	NG	N/A
Pole #4	09/06/12	4-1-3	*	*	EXP	8.00'	*	20.9'	*	30	*	*	24	NG	N/A
Pole #4	09/06/12	4-1-4	1.50"	DBC	BT	3.40'	*	26.7'	*	30			24	NG	N/A
Pole #4	09/06/12	4-1-5	3-2"	PVC	BE	2.20'	*	18.7'	*	30			24	NG	N/A
Pole #4	09/06/12	4-1-6	3-4"	PVC	BT DUCT North Edge	4.30'	*	17.1'	*	30			24	NG	N/A

Notes: EXP., is an exploratory test hole with no utility found.

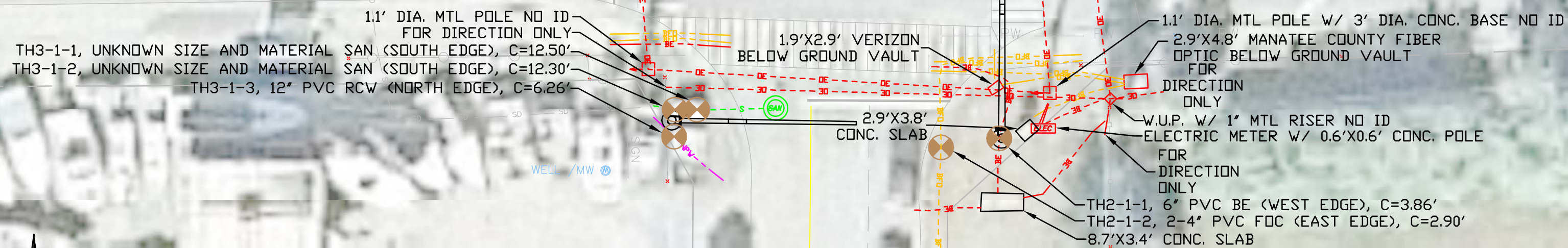
TH #3-1-1 & TH #3-1-2, unable to visually verify size and material due to depth and cave-in. Pole Location #3, offsets taken from 86th St. W.

TH #4-1-1, is an existing 4.0' diameter concrete foundation.



CORTEZ ROAD - S.R. #684

175+00 176+00 177+00 178+00



1"=20'
 SR 684 (CORTEZ ROAD) AND
 86TH STREET WEST (PALMA SOLA RD.)
 MANATEE COUNTY, FLORIDA
 SHEET 1