SHEET DESCRIPTION

NOTES TO REVIEWER

SUMMARY OF PAY ITEMS

SIGNATURE SHEET

KFY SHFFT

ITS PLANS

SHEET NO.

IT-1

IT-1A

IT-2

IT-3

IT-4 - IT-13

IT-14 - IT-15

IT-16 - IT-50

IT-51 - IT-69 IT-70 - IT-71

IT-72 - IT-73

IT-74

IT-75 - IT-76

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ITS PLANS

FINANCIAL PROJECT ID 435446-1-52-01

ORANGE COUNTY (75002, 75030, 75040, 75090, 75270) SEMINOLE COUNTY (77030)

STATE ROAD NOS. 15, 46, 426, 435, 482, 527, 600

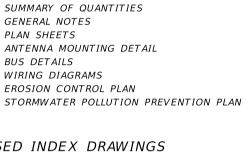
INTELLIGENT TRANSPORTATION SYSTEMS PLANS

LYNX ROUTE 45

LYNX ROUTE 42

DELAND

OSTEEN



LIST OF REVISED INDEX DRAWINGS

INDEX NO. SHEET NO 1, 4 - 12 OF 12 600 17841 ALL

T-19-S T-20-TO MOUNT DORA T-20-S TITUSVILLE T-21-S T-21-S LYNX ROUTES 1, 9, 14 & Miles T-21-S T-21-S T-22-T-22-5 TO MONTVERDE T-22-S TITUSVILLE T-22-T-23-T-23-S LYNX ROUTE 102 COCOA LYNX ROUTE 21 I-95 T-23-S T-24-S

GOVERNING STANDARDS AND SPECIFICATIONS.

Florida Department of Transportation, 2015 Design Standards and revised Index Drawings as appended herein, and 2015 Standard Specifications for Road and Bridge Construction, as amended by Contract Documents.

For Design Standards click on the "Design Standards" link at the following web site: http://www.dot.state.fl.us/rddesign/ Design Standards

For the Standard Specifications for Road and Bridge Construction click on the "Specifications" link at the following web site: http://www.dot.state.fl.us/specificationsoffice/

PROJECT LENGTH IS BASED ON G OF CONSTRUCTION

LENGTH	OF PROJEC	CT
	LINEAR FEET	MILES
ROADWAY	N/A	N/A
NET LENGTH OF PROJECT	N/A	N/A
EXCEPTIONS	N/A	N/A
GROSS LENGTH OF PROJECT	N/A	N/A

FDOT PROJECT MANAGER: MANNY RODRIGUEZ, P.E.

KISSIMMEE

LAKELAND

ITS SHOP DRAWINGS TO BE SUBMITTED TO:

ST PETERSBUR

LOCATION OF PROJECT

MICHAEL L. CORNEJO, P.E. METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FL 32746

CONSTRUCTION CONTRACT NO. T-5540

DAYTONA BEACH

LAUDERDALE

PLANS PREPARED BY:

METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 FLORIDA CERT. NO. EB-0002294 VENDOR NO. F-59-1685550 CONTRACT NO. C-9420

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

DATE: 3-17-15

INTELLIGENT TRANSPORTATION SYSTEMS PLANS ENGINEER OF RECORD: MICHAEL L. CORNEJO, P.E.

P.E. NO.: 47734

FISCAL YEAR	SHEET NO.
15	IT-1

- LYNX ROUTE 40

- LYNX ROUTES 18 & 418

KEY SHEET REVISIONS

NOTES TO REVIEWER

1. LYNX IS RESPONSIBLE FOR AVL SOFTWARE MODIFICATION.

REVISIONS									
DATE	DESCRIPTION	DATE	DESCRIPTION						
				-					
				- 1					

METRIC ENGINEERING, INC.
MICHAEL L. CORNEJO, P.E. # 47734
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID ORANGE

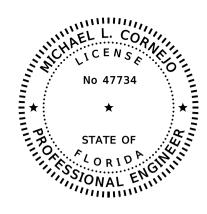
VARIES

NOTES TO REVIEWER

SHEET NO.

IT-1A

SEMINOLE



IT-75 - IT-76

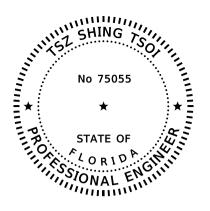
METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.003, F.A.C.

INTELLIGENT TRANSPORTATION SYSTEMS PLANS

SHEET NO.	SHEET DESCRIPTION
IT-1 IT-2 IT-3	KEY SHEET SIGNATURE SHEET SUMMARY OF PAY ITEMS
IT-3 IT-14 - IT-15 IT-51 - IT-69	GENERAL NOTES ANTENNA MOUNTING DETAILS
IT-70 - IT-71 IT-72 - IT-73 IT-74	BUS DETAILS WIRING DIAGRAMS EROSION CONTROL PLAN

STORMWATER POLLUTION PREVENTION PLAN



KITTELSON & ASSOCIATES, INC. 110 E BROWARD BLVD SUITE 2410 FORT LAUDERDALE, FLORIDA 33301 TEL. (954) 828-1730 FAX. (954) 828-1787 CERTIFICATE OF AUTHORIZATION 7524

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.003, F.A.C.

INTELLIGENT TRANSPORTATION SYSTEMS PLANS

SHEET NO. SHEET DESCRIPTION

SIGNATURE SHEET IT-2 IT-4 - IT-13 SUMMARY OF QUANTITIES

IT-16 - IT-50 PLAN SHEETS

METRIC ENGINEERING,	REVISIONS									
MICHAEL L. CORNEJO, P.E. 615 CRESCENT EXECUTIV	DESCRIPTION	DATE	DESCRIPTION	DATE						
SUITE 524										
LAKE MARY, FLORIDA 32										
TEL. (407) 644-1898										
FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZA										
CENTIFICATE OF AUTHORIZA										

G, INC. E. # 47734 IVE CT 32746 ATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION FINANCIAL PROJECT ID ROAD NO. COUNTY

435446-1-52-01

ORANGE

SEMINOLE

VARIES

SIGNATURE SHEET

SHEET NO.

			PRC	A DEPARTMENT OF TRANS DJECT SUMMARY OF PAY R PROJECT: 435446-1	ITEMS			2015 11:22:46 A
LEA	D PRO.	JECT : 435446-	1 - 52 - 01	DISTRICT : 05			COUNT	TY/SECTION :
PRO	JECT (S) : 435446152	01	COUNTY : C	RANGE			
			0550 SUMMARY (OF INTELLIGENT TRANSI	PORTATION SYSTE	М		
SPC	ALT	ITEM NUMBER	I	UNIT	43544615201	QUANTITY TOTA		
		0101- 1-	MOBILIZATION 4354461	5201		L5	1.000	1.00
		0102- 1-	MAINTENANCE OF TRAFFIC	43544615201		(LS)	1.000	1.00
		0102- 14-	TRAFFIC CONTROL OFFICER	?		МН	16.000	16.00
		0102- 60-	WORK ZONE SIGN			ED	553.000	553.00
		0102-74-1	CHANNELIZING DEVICE- TY	'PES I, II, DI, VP, D	RUM, OR LCD	ED	1580.000	1580.00
	0102- 76- ARROW BOARD / ADVANCE WARNING ARROW PANEL						79.000	79.00
		0102- 77-	HIGH INTENSITY FLASHING	G LIGHTS, TEMP, TYPE	В	ED	395.000	395.00
		0102- 99-	PORTABLE CHANGEABLE MES	SSAGE SIGN, TEMPORARY		ED	79.000	79.000
	 	0630- 2-11	CONDUIT . FURNISH & INST	ALL. OPEN TRENCH		LF	120.000	120.000

	0102- 60-	WORK ZONE SIGN	ED	553.000	553.000
	0102- 74- 1	CHANNELIZING DEVICE- TYPES I, II, DI, VP, DRUM, OR LCD	ED	1580.000	1580.000
	0102- 76-	ARROW BOARD / ADVANCE WARNING ARROW PANEL	ED	79.000	79.000
	0102- 77-	HIGH INTENSITY FLASHING LIGHTS, TEMP, TYPE B	ED	395.000	395.000
	0102- 99-	PORTABLE CHANGEABLE MESSAGE SIGN, TEMPORARY	ED	79.000	79.000
	0630- 2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	120.000	120.000
	0630- 2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF	70.000	70.000
	0633- 2- 31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EΑ	24.000	24.000
	0633- 3-46	FIBER OPTIC CONNECTION HARDWARE, RELOCATE PATCH PANEL- FIELD TERMINATED	EA	1.000	1.000
Т	0633- 8- 1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL	LF	9895.000	9895.000
	0660 - 1 - 110	LOOP DETECTOR INDUCTIVE, F&I, TYPE 10	EΑ	5.000	5.000
Т	0663 - 1 - 120	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, COMPLETE SYSTEM	EA	99.000	99.000
Т	0663- 1-121	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, REPLACE CABINET ELECTRONICS	EA	35.000	35.000
Т	0663- 1-129	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, EMITTER FOR BUS	EA	83.000	83.000
	0670- 5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	2.000	2.000
Р	0670 - 5 - 400	TRAFFIC CONTROLLER ASSEMBLY, MODIFY	AS	1.000	1.000
	0670- 5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS	2.000	2.000
	0671- 2-11	TRAFFIC CONTROLLER WITHOUT CABINET, F&I IN EXISTING CABINET, NEMA	EΑ	35.000	35.000
D	0671- 2- 40	TRAFFIC CONTROLLER, MODIFY	EΑ	97.000	97.000
	0671- 2- 60	TRAFFIC CONTROLLER, REMOVE- CABINET TO REMAIN	EΑ	35.000	35.000
	0684- 1- 1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EΑ	10.000	10.000
	0684- 1- 4	MANAGED FIELD ETHERNET SWITCH, RELOCATE	EΑ	1.000	1.000
Т	0685 - 128 -	SYSTEM AUXILIARIES, FURNISH & INSTALL, INTERFACE PANEL	EΑ	4.000	4.000
	0999 - 25 -	INITIAL CONTINGENCY AMOUNT, DO NOT BID 43544615201	LS	1.000	1.000

REVISIONS										
DATE	DESCRIPTION	DATE	DESCRIPTION	MICHAE 615 C						
				613 C.						
				LAK						
				CERTIFICA						

METRIC ENGINEERING, INC. HAEL L. CORNEJO, P.E. # 47734 15 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX, (407) 644-2376 FICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJECT ID ORANGE VARIES 435446-1-52-01 SEMINOLE

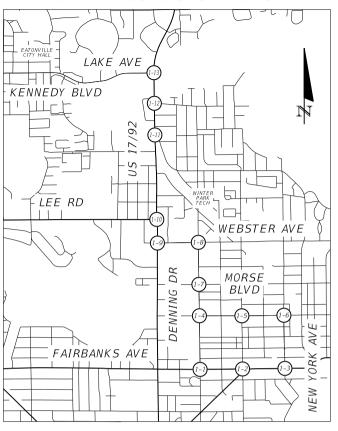
SUMMARY OF PAY ITEMS

SHEET NO.

IT-3

2:03:17 PM

LYNX ROUTES 1 AND 9



ROUTE	INTERSECTION NUMBER	PLAN SHEET NUMBER	DETAIL SHEET NUMBER	SIGNAL MAINTAINING AGENCY	CONTROLLER TYPE	CONDUIT, FURNISH & INSTALL, OPEN TRENCH - LF (630-2-11)	CONDUIT, FURNISH & INSTALL, ABOVEGROUND - LF (630-2-14)	FIBER OPTIC CONNECTION, INSTALL, SPLICE - EA (633-2-31) FIBER OPTIC CONNECTION HARDWARE, RELOCATE PATCH (633-3-46)	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL - LF (633-8-1)	TECTOR INDUCTIVE, F& - EA (660-1-110)	SIGNAL PRIORITY AND PREEMPTION SISTEM FUNISH AND INSTALL, GPS, COMPLETE SYSTEM - EA (1663-1-120) SYSTEM, PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, REPLACE CABINET ELECTRONICS - EA (663-1-121)	CONTROLLER ASSEME 1A, 1 PREEMPTION - 11)	TRAFFIC CONTROLLER ASSEMBLY, MODIFY - AS (670-5-400)	FIC CONTROLLER ASS WE CONTROLLER WIT NET - AS (670-5-600	rraffic Controller without Cabinet, F&I in EXISTING Cabinet, NEMA - EA (671–2-11)	TRAFFIC CONTROLLER , MODIFY - EA (671-2-40)	TRAFFIC CONTROLLER, REMOVE- CABINET TO REMAIN - EA (671-2-60)	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL – EA (684–1–1)	MANAGED FIELD ETHERNET SWITCH, RELOCATE - EA (684-1-4)	SYSTEM AUXILIARIES, FURNISH & INSTALL, INTERFACE PANEL - EA (685-128)
1/9	1-1 DENNING DRIVE @ FAIRBANKS AVENUE	IT-16	IT-57. IT-72	WINTER PARK	EAGLE	011	_ ` `		85	~!-	1	11.70	11-2	1	1100	1	1100			
1/9	1-2 FAIRBANKS AVE @ PENNSYLVANIA AVE/N ORANGE AVE	IT-16	IT-54. IT-72	WINTER PARK	SIEMENS				235		1					1				† 1
1/9	1-3 FAIRBANKS AVENUE @ NEW YORK AVENUE	IT-16	IT-59. IT-72	WINTER PARK	SIEMENS				85		1					1				
1/9	1-4 DENNING DRIVE @ MORSE BOULEVARD	IT-16	IT-52, IT-72	WINTER PARK	EAGLE				115		1					1				
1/9	1-5 MORSE BOULEVARD @ PENNSYLVANIA AVENUE	IT-17	IT-68, IT-71	WINTER PARK	EAGLE				225		1				1		1			
1/9	1-6 NEW YORK AVENUE @ MORSE BOULEVARD	IT-17	IT-61, IT-72	WINTER PARK	EAGLE				35		1					1				1
1/9	1-7 DENNING DRIVE @ CANTON AVENUE	IT-17	IT-51, IT-72	WINTER PARK	EAGLE				85		1					1				
1/9	1-8 WEBSTER AVENUE @ DENNING DRIVE	IT-17	IT-53, IT-72	WINTER PARK	EAGLE				85		1					1				
1/9	1-9 US 17/92 @ WEBSTER AVENUE	IT-18	IT-60, IT-72	WINTER PARK	SIEMENS				85		1					1				
1/9	1-10 US 17/92 @ LEE ROAD	IT-18	IT-60, IT-72	WINTER PARK	SIEMENS				85		1					1				
1/9	1-11 US 17/92 @ PARK AVENUE	IT-18	IT-60, IT-72	MAITLAND	EAGLE				85		1					1				
1/9	1-12 US 17/92 @ MAGNOLIA ROAD	IT-18	IT-60, IT-72	MAITLAND	EAGLE				85		1					1				
1/9	1-13 US 17/92 @ LAKE AVENUE/KENNEDY BOULEVARD	IT-19	IT-52, IT-72	MAITLAND	SIEMENS/EAGLE				85		1					1				
T07	AL PLAN TOTAL FOR ROUTE 1								1375		13				1	12	1			1
THIS S	SHEET FINAL TOTAL FOR ROUTE 1								Ť											

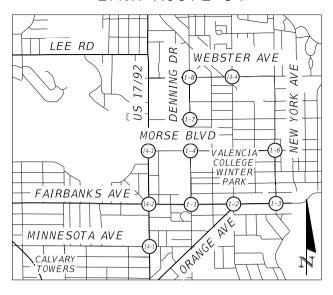
	REVI	KITTELSON & ASSOCIATES, INC.		
DATE	DESCRIPTION	DATE	DESCRIPTION	TSZ SHING TSOI, P.E. # 75055
				110 E BROWARD BLVD, SUITE 2410
				FORT LAUDERDALE, FLORIDA 33301
				TEL: (954) 828-1730
				FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION 75
		1		CERTIFICATION OF AUTHORIZATION 75

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJECT ID ORANGE **VARIES** 435446-1-52-01 SEMINOLE

SUMMARY OF QUANTITIES

SHEET NO.



ROUTE	INTERSECTION NUMBER BWWN NOITSSEALUI	DLAN SHEET NUMBER	DETAIL SHEET NUMBER	SIGNAL MAINTAINING AGENCY	CONTROLLER TYPE	CONDUIT, FURNISH & INSTALL, OPEN TRENCH - LF (630-2-11)	CONDUIT, FURNISH & INSTALL, ABOVEGROUND - LF (630-2-14)	FIBER OPTIC CONNECTION, INSTALL, SPLICE - EA (633-2-31)	FIBER OPTIC CONNECTION HARDWARE, RELOCATE PATCH PANEL- FIELD TERMINATED - EA (633-3-46) MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL - LF (633-8-1)	D	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, COMPLETE SYSTEM - EA IGAS-1-120)	SIGNAL PRIORITY AND PREEMPTION SIGNAL PROBLEM AND INSTALL, SPS, REPLECE CABINET FLECTRONICS - E4 (663-1-121)	-1C CON7 VEMA, 1 5-111)	CONTROL - AS (670	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET - AS (670-5-600)	00 -	TRAFFIC CONTROLLER, MODIFY - EA (671-2-40)	TRAFFIC CONTROLLER, REMOVE- CABINET TO REMAIN – EA (671-2-60)	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL – EA (684–1–1)	MANAGED FIELD ETHERNET SWITCH, RELOCATE - EA (684-1-4)	SYSTEM AUXILIARIES, FURNISH & INSTALL, INTERFACE PANEL - EA (685-128)
14	14-1 US 17/92 @ MINNESOTA AVE	IT-19	IT-66, IT-72	WINTER PARK	EAGLE				85		1						1				
14	14-2 US 17/92 @ FAIRBANKS AVE	IT-19	IT-66, IT-72	WINTER PARK	EAGLE				135		1					1		1			
14	1-1 DENNING DRIVE @ FAIRBANKS AVENUE	IT-16	SEE ROUTE 1																		i I
14	1-2 FAIRBANKS AVENUE @ PENNSYLVANIA AVENUE	IT-16	SEE ROUTE 1																		
14	1-3 FAIRBANKS AVENUE @ NEW YORK AVENUE	IT-16	SEE ROUTE 1																		
14	14-3 US 17/92 @ MORSE BOULEVARD	IT-19	IT-66, IT-72	WINTER PARK	EAGLE				85		1					1		1			
14	1-4 DENNING DRIVE @ MORSE BOULEVARD	IT-16	SEE ROUTE 1																		
14	1-6 NEW YORK AVENUE @ MORSE BOULEVARD		SEE ROUTE 1																		
14	1-7 DENNING DRIVE @ CANTON AVENUE		SEE ROUTE 1		•																
14	1-8 WEBSTER AVENUE @ DENNING DRIVE		SEE ROUTE 1																		
14		IT-20	IT-56, IT-72	WINTER PARK	SIEMENS				85		1						1				1
	TAL PLAN TOTAL FOR ROUTE 14								390		4					2	2	2			1
THIS	SHEET FINAL TOTAL FOR ROUTE 14																				

		KITTELSON & ASSOCIATES, INC		
DATE	DESCRIPTION	DATE	DESCRIPTION	TITIELSUN & ASSUCIATES, INC TSZ SHING TSOI, P.E. # 75055 110 E BROWARD BLVD, SUITE 24 FORT LAUDERDALE, FLORIDA 33: TEL: (954) 828-1730 FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION
1 1		1 1		I .

INC. 55 2410 33301 ON 7524

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID

435446-1-52-01

ORANGE

SEMINOLE

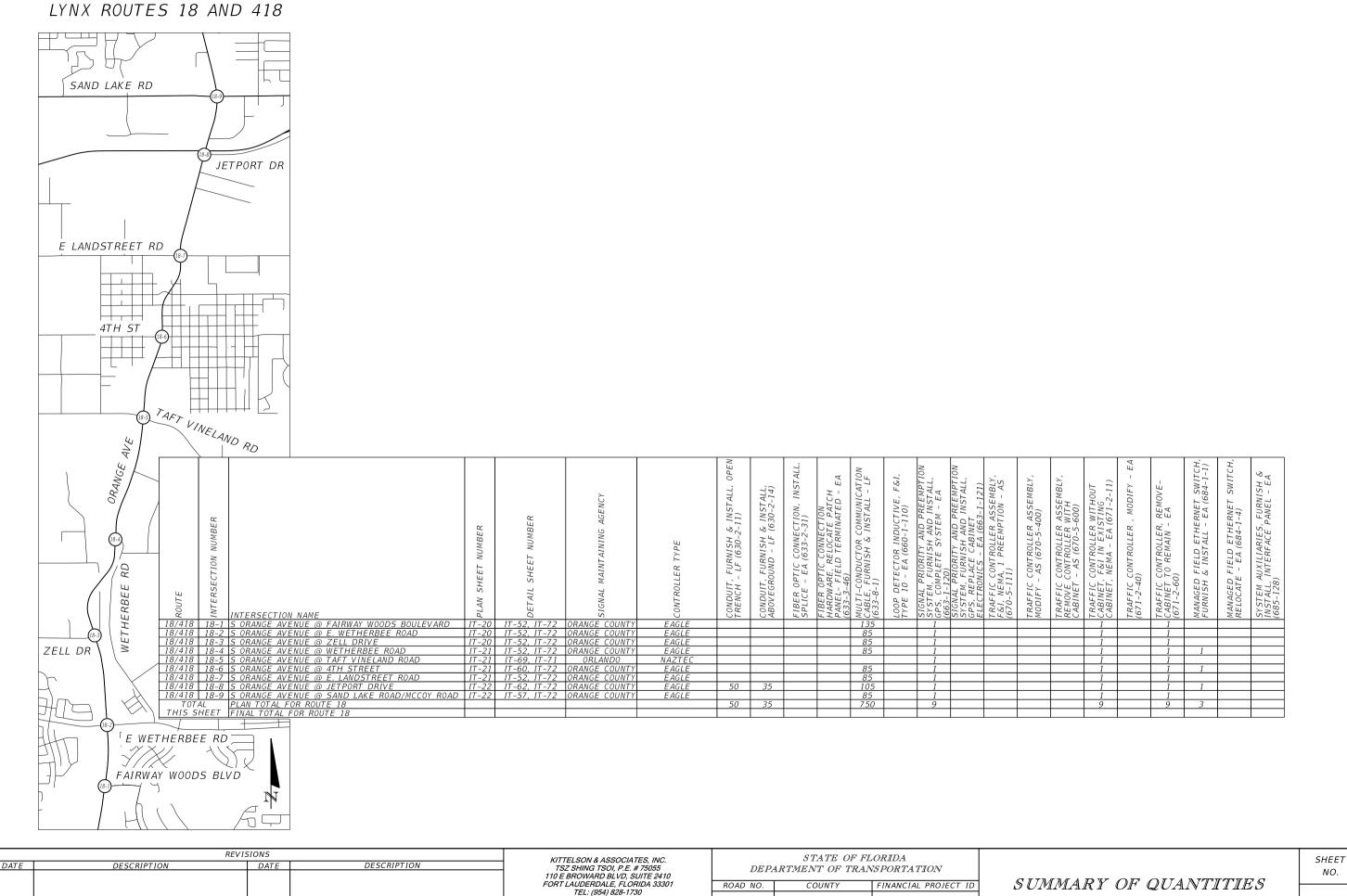
VARIES

SUMMARY OF QUANTITIES

SHEET NO.

IT-5

4:04:22 PM



FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION 7524

IT-6 R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\TA

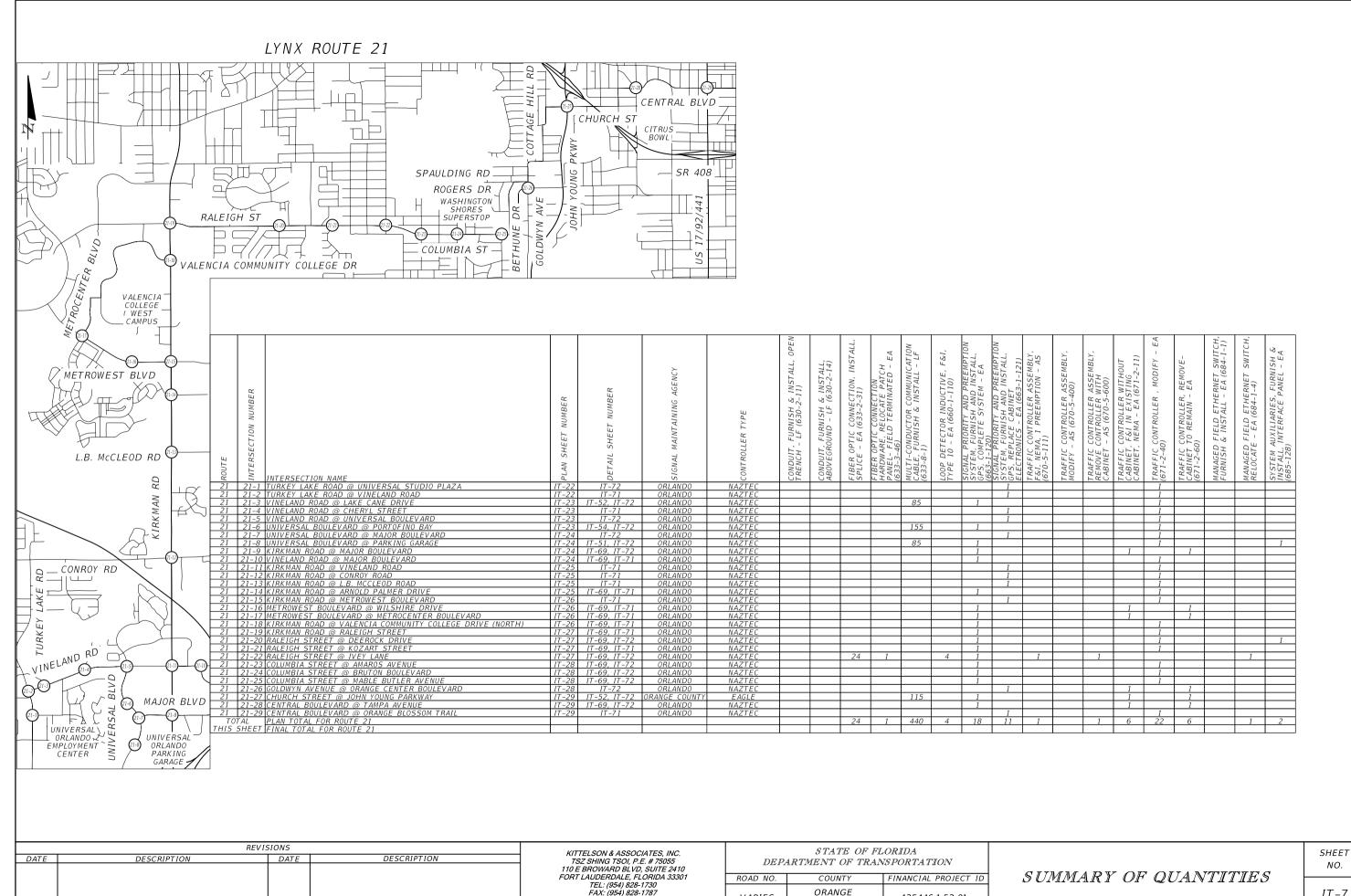
ORANGE

SEMINOLE

VARIES

435446-1-52-01

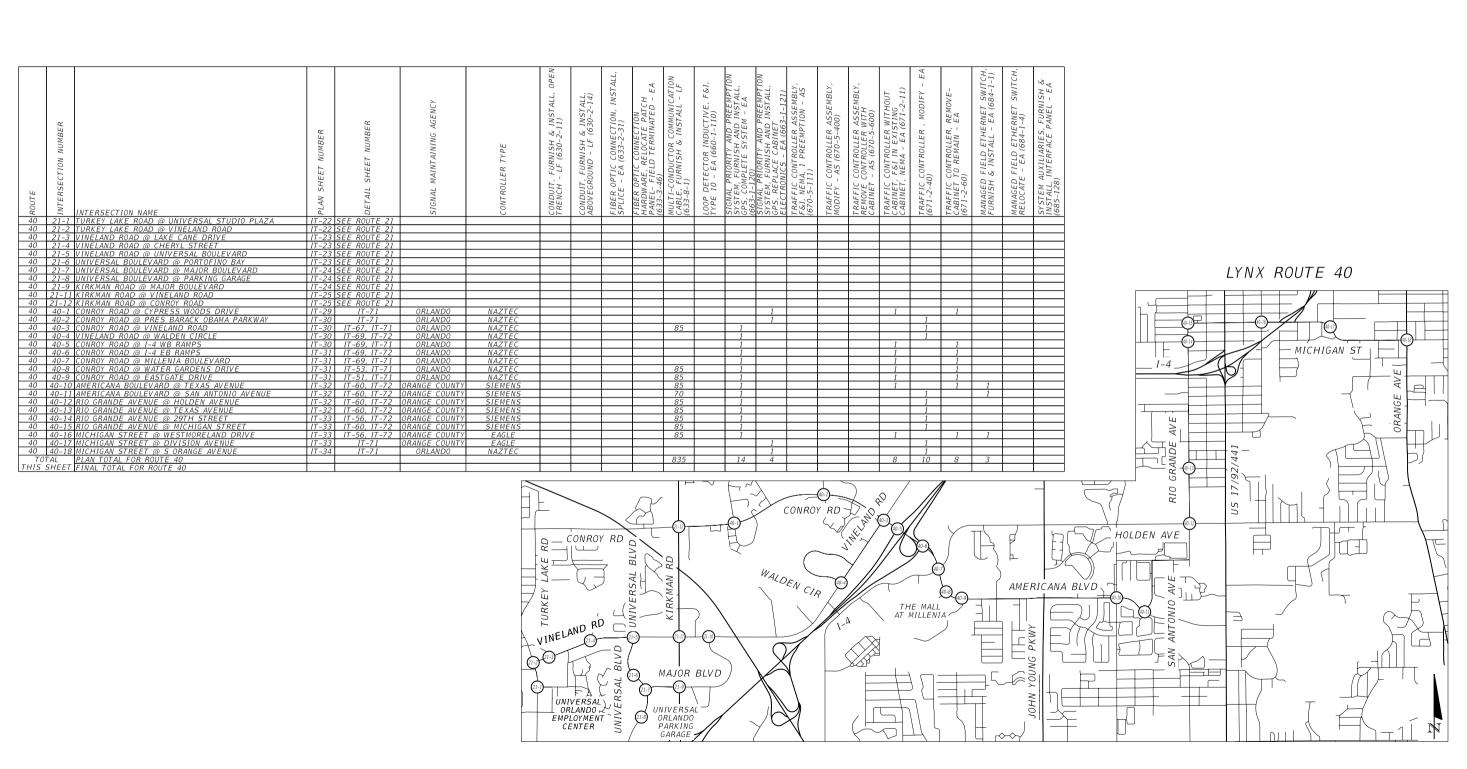
NO.



VARIES

SEMINOLE

CERTIFICATION OF AUTHORIZATION 7524



KITTELSON & ASSOCIATES, INC.

TSZ SHING TSOI, P.E. # 75055

110 E BROWARD BLVD, SUITE 2410

FORT LAUDERDALE, FLORIDA 33301

TEL: (954) 828-1730

FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION 7524

REVISIONS

DATE

DATE

OFFICIAL

4:04:51 PM

STATE OF FLORIDA

FINANCIAL PROJECT ID

435446-1-52-01

DEPARTMENT OF TRANSPORTATION

COUNTY

ORANGE

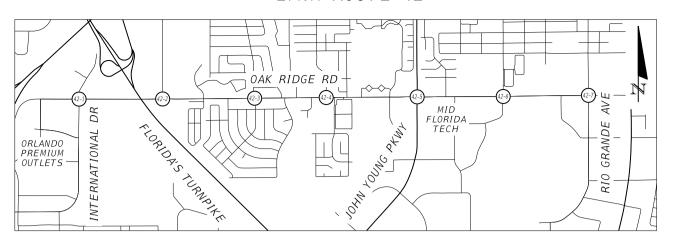
SEMINOLE

ROAD NO.

VARIES

SUMMARY OF QUANTITIES

SHEET



ROUTE	INTERSECTION NUMBER BMAN NOITSSECTION	LAN SHEET NUMBER	DETAIL SHEET NUMBER	SIGNAL MAINTAINING AGENCY	ONTROLLER TYPE	CONDUIT, FURNISH & INSTALL, OPEN TRENCH - LF (630-2-11)	CONDUIT, FURNISH & INSTALL, ABOVEGROUND - LF (630-2-14)	R OPTIC C CE - EA (6	R OPTIC CONNE WARE, RELOCA L- FIELD TERN 3-46)	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL - LF (633-8-1)	DETECTOR INDUCTIVE, For 10 - EA (660-1-110)	TY AND PREEMPT ISH AND INSTALL E SYSTEM - EA	AL PRIORITY AND EM, FURNISH AN REPLACE CABINE TRONICS - EA (60	FIC CONTROLL NEMA, 1 PREE 5-111)	TRAFFIC CONTROLLER ASSEMBLY, MODIFY - AS (670-5-400)	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET - AS (670-5-600)	TRAFFIC CONTROLLER WITHOUT CABINET, F&I IN EXISTING CABINET, NEMA - EA (671-2-11)	TRAFFIC CONTROLLER , MODIFY - EA (671-2-40)	TRAFFIC CONTROLLER, REMOVE- CABINET TO REMAIN - EA (671-2-60)	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL - EA (684-1-1)	MANAGED FIELD ETHERNET SWITCH, RELOCATE - EA (684-1-4)	SYSTEM AUXILIARIES, FURNISH & INSTALL, INTERFACE PANEL - EA (685-128)
42	42-1 OAK RIDGE ROAD @ INTERNATIONAL DRIVE	IT-34	IT-71	ORLANDO	NAZTEC	- 014	 		1	~~~	717	*,*,*	1	1110		17.7.0	1,00	1	1700			
42	42-2 OAK RIDGE ROAD @ MILLENIA BOULEVARD	IT-34	IT-69. IT-71	ORLANDO	NAZTEC							1						1				$\overline{}$
42	42-3 OAK RIDGE ROAD @ HARCOURT AVENUE	IT-34		ORANGE COUNTY	EAGLE					85		î					1		1	1		\Box
42	42-4 OAK RIDGE ROAD @ KINGSGATE DRIVE	IT-35		ORANGE COUNTY	EAGLE					85		1					1		1	1		
42	42-5 OAK RIDGE ROAD @ JOHN YOUNG PARKWAY	IT-35		ORANGE COUNTY	EAGLE			The state of the s		85		1			The second second			1		, and the second	The state of the s	
42	42-6 OAK RIDGE ROAD @ TEXAS AVENUE	IT-35		ORANGE COUNTY	EAGLE					85		1					1		1	1		$\overline{}$
42	42-7 OAK RIDGE ROAD @ S. RIO GRANDE AVENUE	IT-35	IT-59, IT-71	ORANGE COUNTY	EAGLE					85		1					1		1	1		
T0	DTAL PLAN TOTAL FOR ROUTE 42					<u> </u>				425		6	1				4	3	4	4		$\overline{}$
THIS	SHEET FINAL TOTAL FOR ROUTE 42																					

		REVISIONS		KITTELSON & ASSOCIATES, INC.
DATE	DESCRIPTION	DATE	DESCRIPTION	TIZ SHING TSOI, P.E. # 75055 TSZ SHING TSOI, P.E. # 75055 110 E BROWARD BLVD, SUITE 241. FORT LAUDERDALE, FLORIDA 3330 TEL: (954) 828-1730 FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION

33301 33301 ON 7524

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID

ORANGE

SEMINOLE

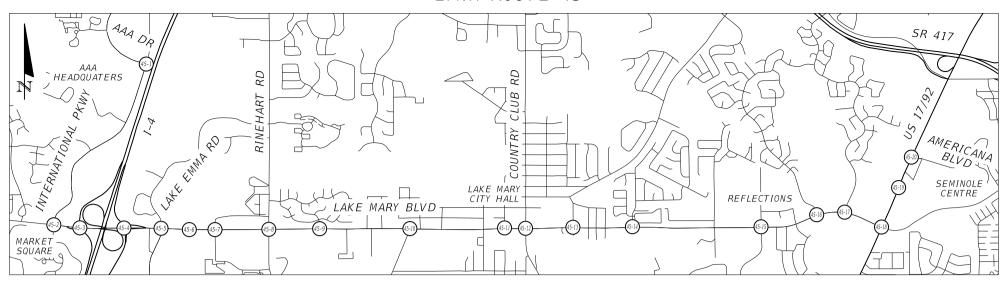
VARIES

SUMMARY OF QUANTITIES

SHEET NO.

IT-9

4:05:01 PM



CTION NUMBER	JEET NUMBER	SHEET NUMBER	MAINTAINING AGENCY	LER TYPE	., FURNISH & INSTALL, OPEN - LF (630-2-11)	UIT, FURNISH & INSTALL, GROUND - LF (630-2-14)	CONN (633-, CONN ELOC.		RIORITY AND F FURNISH AND F FUETE SYSTEM	PRÍORITY AND PREEMPTION . FURNISH AND INSTALL, PLACE CABINET NNICS - EA (663-1-121)	FIC CONTROLLER ASSEMBLY, NEMA, 1 PREEMPTION - AS :5-111)	CONTROLLER ASSEMBLY, - AS (670-5-400)	CONTROLLER A CONTROLLER W - AS (670-5-6	CONT F&I NEN	. CONTROLLER , MODIFY – EA	CONTROLLER, REMOVE- TO REMAIN - EA	D FIELD ETHERNET SWITCH, H & INSTALL - EA (684-1-1)	FIELD ETHERNET SWI - EA (684-1-4)	AUXILIARIES, FURNISH & , INTERFACE PANEL - EA 3)
WI INTERSECTION NAME	LAN SH	ETAIL	IGNAL N	CONTROL	CONDUIT	CONDUIT ABOVEGE	87 × ≥ 1 × ≥	MULTI-CC CABLE, F (633-8-1, 100P DE: TYPF 10	. MEDO-	SIGNAL F SYSTEM, GPS, REF ELECTRO	TRAFFIC F&I, NEN (670-5-1	TRAFFIC MODIFY -	TRAFFIC REMOVE CABINET	RAFFIC ABINET, ABINET,	TRAFFIC C((671-2-40)	TRAFFIC CABINET (671-2-60	MANAGEL FURNISH	MANAGED RELOCATE	SYSTEM A INSTALL, (685-128)
	۵	0	S		ŬÈ	ΩĄ	T. N. T. T. G.		0000	S S G H	F. 7.	ĻΣ	<u> ため</u> り	F00	17	50,6	Z.F.	200	55.0
45 45-1 INTERNATIONAL PARKWAY @ AAA DRIVE	IT-36		CONTROL SPECIALISTS	NAZTEC	-			115	1						1			 '	
45 45-2 LAKE MARY BOULEVARD @ INTERNATIONAL PARKWAY	IT-36		SEMINOLE COUNTY	NAZTEC				85	1						1			←—'	
45 45-3 LAKE MARY BOULEVARD @ I-4 WB RAMPS	IT-36		SEMINOLE COUNTY	NAZTEC				85	1						1			└ ──'	
45 45-4 LAKE MARY BOULEVARD @ I-4 EB RAMPS	IT-36		SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	
45 45-5 LAKE MARY BOULEVARD @ LAKE EMMA ROAD		IT-52, IT-71	SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	
45 45-6 LAKE MARY BOULEVARD @ LAKE MARY CENTRE		IT-52, IT-71	SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	
45 45-7 LAKE MARY BOULEVARD @ SUN DRIVE		IT-52, IT-71	SEMINOLE COUNTY	NAZTEC				85	1						1			└── '	
45 45-8 LAKE MARY BOULEVARD @ RINEHART ROAD	IT-37		SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	
45 45-9 LAKE MARY BOULEVARD @ FOREST BOULEVARD	IT-38		SEMINOLE COUNTY	NAZTEC				85	1						1			└ ──'	
45 45-10 LAKE MARY BOULEVARD @ LONGWOOD LAKE MARY ROAD	IT-38		SEMINOLE COUNTY	NAZTEC				85	1						1			←—'	4
45 45-11 LAKE MARY BOULEVARD @ 4TH STREET	IT-38		SEMINOLE COUNTY	NAZTEC				85	1						1			 '	
45 45-12 LAKE MARY BOULEVARD @ COUNTRY CLUB ROAD	IT-38		SEMINOLE COUNTY	NAZTEC				85	1	\vdash					1	1		←—'	\perp
45 45-13 LAKE MARY BOULEVARD @ PALMETTO STREET	IT-39		SEMINOLE COUNTY	NAZTEC				185	1						1	1		 -'	-
45 45-14 LAKE MARY BOULEVARD @ SIR LAWRENCE DRIVE	IT-39		SEMINOLE COUNTY	NAZTEC				85	1						1	1		└── '	
45 45-15 LAKE MARY BOULEVARD @ COLLEGE DRIVE	IT-39		SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	
45 45-16 LAKE MARY BOULEVARD @ HIDDEN LAKE	IT-39		SEMINOLE COUNTY	NAZTEC				85	1						1	1		 -'	-
45 45-17 LAKE MARY BOULEVARD @ LIVE OAK BOULEVARD	IT-40		SEMINOLE COUNTY	NAZTEC				85	1	\vdash					1	1		 -'	+
45	IT-40		SEMINOLE COUNTY	NAZTEC				85	1	\vdash					1	1		 -'	+
45 45-19 US 17/92 @ LOWE'S	IT-40		SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	igwdot
45 45-20 US 17/92 @ AMERICANA BOULEVARD	17-40	IT-52, IT-71	SEMINOLE COUNTY	NAZTEC				85	1						1			└─ ─'	
TOTAL PLAN TOTAL FOR ROUTE 45	1							1830	20						20			└── '	
THIS SHEET FINAL TOTAL FOR ROUTE 45																1		'	

	REVIS	SIONS		Π
DATE	DESCRIPTION	DATE	DESCRIPTION	
1				

KITTELSON & ASSOCIATES, INC. TSZ SHING TSOI, P.E. # 75055 110 E BROWARD BLVD, SUITE 2410 FORT LAUDERDALE, FLORIDA 33301 TEL: (954) 828-1730 FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION 7524

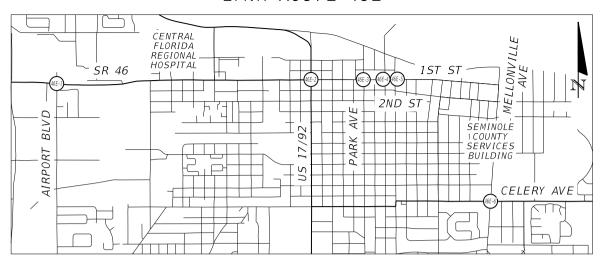
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

COUNTY FINANCIAL PROJECT ID ROAD NO. ORANGE **VARIES** 435446-1-52-01 SEMINOLE

SUMMARY OF QUANTITIES

SHEET NO.

LYNX ROUTE 46E



46E 46E-1 SR 46 @ AIRPORT BOULEVARD IT-41 IT-55, IT-71 SEMINOLE COUNTY NAZTEC 85 1 1 1 1 1 4 1 1 4 6 4 6 4 6 4 6 4 6 4 6	NEMA, I PREEMPTION - A 5-111) FIC CONTROLLER ASSEMB FY - AS (670-5-400) FIC CONTROLLER WITH VET - AS (670-5-600) FIC CONTROLLER WITH VET - AS (670-5-600) FIC CONTROLLER WITHOUT VET - AS (671-2-1 FIC CONTROLLER, MODIF) FIC CONTROLLER, REMOVE CATO	, PRIORITY AND P. W. FURNISH AND P. W. FURNISH AND 120) FROM THE SYSTEM AND P. W. FURNISH AND P. W. FURNISH AND P. P. FURNISH AND P. P. FURNISH AND P. CONTROLLER A. CONTR	E. FURNISH & INSTALL - B-1) DETECTOR INDUCTIVE, 10 - EA (660-1-110) AL PRIORITY AND PREEM FURNISH AND INSTA	FIBER OPTIC CONNECTION HARDWARE, RELOCATE PATCH PANEL-FIELD TERMINATED - EA (633-3-46) MULTI-CONDUCTOR COMMUNICATION GABLE, 10	R OPTIC CONNECT.	NDUIT, FURNISH & I OVEGROUND - LF (63	ONTROLLER TYPE ONDUIT, FURNISH & INSTALL, OPEN RENCH - LF (630-2-11)	'GNAL MAINTAINING AGENCY	ETAIL SHEET NUMBER	-AN SHEET NUMBER	TERSECTION NUMBER	DUTE TERSECTION NUMBE
46E 46E-2 SR 46 @ US 17/92 IT-41 IT-55, IT-71 SEMINOLE COUNTY NAZTEC 20 85 1 1 1 1 46E 46E-3 IST STREET @ PARK AVENUE IT-41 IT-68, IT-71 SEMINOLE COUNTY NAZTEC 85 1 1 1 46E 46E-4 IST STREET @ PALMETTO AVENUE IT-41 IT-68, IT-71 SEMINOLE COUNTY NAZTEC 85 1 1 1	(4) 18 180 100 19 109 81 88 859	00050000 F			T 0	- 04		SEMINOLE COUNTY	7	IT 11		
46E 46E-3 IST STREET @ PARK AVENUE IT-41 IT-68, IT-71 SEMINOLE COUNTY NAZTEC 85 1 1 46E 46E-4 IST STREET @ PALMETTO AVENUE IT-41 IT-68, IT-71 SEMINOLE COUNTY NAZTEC 85 1 1		1										
		1										
ACE LICE SLICE CENSES OF CHILDREN LET AS IT AS I		1	35 1	85				SEMINOLE COUNTY	IT-68, IT-71	IT-41	46E-4 1ST STREET @ PALMETTO AVENUE	46E 46E-4
	1	1		85			NAZTEC	SEMINOLE COUNTY	IT-68, IT-71	IT-42	46E-5 1ST STREET @ SANFORD AVENUE	
46E 46E-6 CELERY AVENUE @ MELLONVILLE AVENUE IT-42 IT-56, IT-72 SEMINOLE COUNTY NAZTEC 85 1 1		1						SEMINOLE COUNTY	IT-56, IT-72	IT-42		
TOTAL PLAN TOTAL FOR ROUTE 46E 20 510 6 1 6		6	10 6	510		-	20					

	REV.	ISIONS		KITTELSON & ASS
DATE	DESCRIPTION	DATE	DESCRIPTION	TSZ SHING TSOI, 110 E BROWARD BL FORT LAUDERDALE, TEL: (954) 8. FAX: (954) 8. CERTIFICATION OF AU:

SSOCIATES, INC. OI, P.E. # 75055 BLVD, SUITE 2410 LE, FLORIDA 33301) 828-1737 OUTHORIZATION 7524

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO.

COUNTY FINANCIAL PROJECT ID ORANGE **VARIES** 435446-1-52-01 SEMINOLE

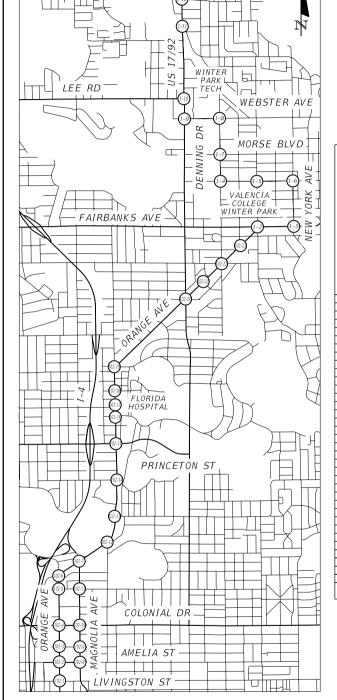
SUMMARY OF QUANTITIES

SHEET NO.

IT-11

4:05:16 PM

KENNEDY BLVD



					OPEN		۲,		,		>	>					ĒΑ		Ĭ,	СН,	
					0P.		ALL,	⋖	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL - LF (633-8-1)	Ι,	101	PREEMPTION) INSTALL, T		ι.	ι.		- 1		FIELD ETHERNET SWITCH & INSTALL - EA (684-1-1)	710	A A
						Ji S	INST	ΨÌ	47,	F&I,	MPT! ALL, A	771	FIC CONTROLLER ASSEMBLY, NEMA, I PREEMPTION - AS:	CONTROLLER ASSEMBLY - AS (670-5-400)	MBLY,	71	>	E-	₩.	SWIT	AUXILIARIES, FURNISH INTERFACE PANEL - E)
			>		ALL,	& INSTALL, (630-2-14)	N.	H3	5.	E, 1	M F A	ME C	W	W	W	-2-11	MODIFY	MOV	. 89		1 .
			AGENCY		INST,	57.	. CONNECTION, (633-2-31)	CONNECTION ELOCATE PATCH TERMINATED -	AZ.	> E	. PRIORITY AND PREEI M, FURNISH AND INST OMPLETE SYSTEM - E.	NS NS	. SE	SE	ASSE WITH -600)	ER WITH XISTING EA (671-2	701	M	1 ET	MANAGED FIELD ETHERNET RELOCATE - EA (684-1-4)	IRI IEI
\rangle \tau_{\text{\tinit}\\ \text{\tin}\tint{\text{\text{\tin}\tint{\text{\text{\texitil{\texit{\texit{\text{\texi}\tint{\text{\texi}\tint{\text{\texi}\tint{\texit{\texi}\tint{\texitil{\titil\titit{\texitil{\tiint{\tint{\tii}\tiint{\tii}		Qr.	GE		3,5	200	2.	10 P A	1 M	17	g Z ⊠	7 7	45	45	45 V17	17.15	2	REN	ξŵ	S 4,	J.A.
l ge	8	3E.	4		- x	9 x	515	CT IN	0 8	57	ON TE	Y AND F SH AND ABINET	3,6	A, 4	2 ~ Z	1.S.	α	α` ¹	‡-	1E	ν, σ
M M M	3E	MB	NG		18	74	-2-	NE. RAT	ر ر لا	5.7	AN SAN	A A E	E E	13.5	999	EX.	ΪE		+1	77	E E
NUMBE	NUMBEI	N N	AINING	PE	., FURNISH - LF (630-2	CONDUIT, FURNISH ABOVEGROUND - LF	33.8	00 E	0R 7	DETECTOR INDUCTIV 10 - EA (660-1-110)	> HS	Y H	32.5	702	CONTROLLER V CONTROLLER V - AS (670-5-6	CONTROLLER F&I IN EXIS NEMA - EA (FRAFFIC CONTROLLER (671-2-40)	TRAFFIC CONTROLLE. CABINET TO REMAIN (671-2-60)	- F	(6 E	AR.
	≥	+	. AI	77.7	≥ 9	\ \text{\cdots}	000	CC EL	55	189	100	55	8.9	6.8	88.5	Z = Z	ĕ	E E	NS P	77.	138
CTION	L	EE	MAINT,		24	NE	υA	FIC CC E, REI FELD 1	22	L'A	RE LE	SEE SI	\ \{\bar{\chi}\}	50	N AS	E & E	I.V.	1 × C	IF.	1E	Z.F.
	il Ei	SHI	IA'	E)	7 -	700	Ϋ́	7. Z. C.	38.	Ü,	RIFE	2577	2 4 Z	SA	1 855	2 ~ ≤	25	355	17.00	L	35€
RSE	SHE			17(E.T	F,85	9	0P7 ARE FI - 46)	S-1	0	2 × 0	F = 1	02.7	ري ا	245	0 F, F,	.C	21-9	요표	85	, L ×
R ₂		AIL	AL.	, R	20)C,	C.E.	3.7. E	- <u>'</u> -'π',∞	7	A JO	A Dai	T 50	<u>i. (.</u>	F 5 A	F S S	.7.	F. A.	135	92	P F
L U INTERSECTION NAME	PLAN	E	SIGNAL	CONTROLLER	N N	30	BE	IBER (ARDW, ANEL- 533-3-	17 18 33	OF PE	10,000	18/2/20	TRAFF! F&I, NI (670-5-	PA O	BI	BB	7.7.7	B I	8,8	×27	S7 55
ON INTERSECTION NAME	74	DET	SI	2)	CONDUIT, TRENCH	SB	FIBER OPTIC SPLICE - EA (FI H/ P/ (6.	₹26	LOOP TYPE	1252	SIGNAL PRIORITY SYSTEM, FURNISH GPS, REPLACE CAE	1 48.6	TRAFFIC MODIFY -	TRAFFIC REMOVE (CABINET	TRAFFIC CABINET, CABINET,	7.6	47.0	MANAGED FURNISH	M/ RE	SYSTEM A INSTALL, (685-128)
102 102-1 N ORANGE AVENUE @ LIVINGSTON AVENUE	IT-42	IT-72	ORLANDO	NAZTEC								1					1				
102 102-2 N ORANGE AVENUE @ AMELIA STREET	IT-42	IT-71	ORLANDO	NAZTEC								1					1				
102 102-3 N ORANGE AVENUE @ CONCORD STREET	IT-43	IT-72	ORLANDO	NAZTEC	ļ							1					1				
102 102-4 N ORANGE AVENUE @ COLONIAL DRIVE 102 102-5 N ORANGE AVENUE @ MARKS STREET	IT-43	IT-72 IT-72	ORLANDO	NAZTEC	ļ						-	1					1				
102 102-5 N ORANGE AVENUE @ MARKS STREET 102 102-6 N ORANGE AVENUE @ GARLAND AVENUE	IT-43 IT-43	11-/2 1T-71	ORLANDO ORLANDO	NAZTEC NAZTEC		-						1 1					1				-
102 102-6 N ORANGE AVENUE @ GARLAND AVENUE	IT-43	11 - 7 1 1T - 7 1	ORLANDO	NAZTEC	1							1 1	1				1				
102 102-8 MAGNOLIA AVENUE @ AMELIA STREET	IT-44	IT-71	ORLANDO ORLANDO	NAZTEC	<u> </u>						1	1	1			1	- 1	1			
102 102-9 MAGNOLIA AVENUE @ CONCORD STREET	IT-44	IT-72	ORLANDO	NAZTEC								ĵ.				1		i			
102 102-10 MAGNOLIA AVENUE @ COLONIAL DRIVE	IT-44	IT-71	ORLANDO	NAZTEC								î					1				
102 102-11 MAGNOLIA AVENUE @ MARKS STREET	IT-45	IT-71	0RLAND0	NAZTEC								1					1				
102 102-12 N ORANGE AVENUE @ HIGHLAND AVENUE	IT-45	IT-71	ORLANDO	NAZTEC								1					1				
102 102-13 N ORANGE AVENUE @ VIRGINA DRIVE	IT-45	IT-71	ORLANDO	NAZTEC								1					1				
102 102-14 N ORANGE AVENUE @ NEW HAMPSHIRE STREET	IT-45	IT-71	ORLANDO	NAZTEC								1					1				
102 102-15 N ORANGE AVENUE @ PRINCETON STREET 102 102-16 N ORANGE AVENUE @ ROLLINS STREET	IT-46	IT-71	ORLANDO	NAZTEC	-						1	1	-				1				
102 102-16 N ORANGE AVENUE @ ROLLINS STREET 102 102-17 N ORANGE AVENUE @ WINTER PARK STREET	IT-46 IT-46	IT-71 IT-71	ORLANDO ORLANDO	NAZTEC NAZTEC	-						+	1					1				
102 102-17 N ORANGE AVENUE @ WINTER PARK STREET	IT-46	IT-72	ORLANDO ORLANDO	NAZTEC							+	1 1					1				
102 102-10 N ORANGE AVENUE @ CLAY STREET	IT-47		ORLANDO	NAZTEC	<u> </u>						1	1	1				1				
102 102-20 N ORANGE AVENUE @ US 17/92	IT-47		WINTER PARK	SIEMENS					85		1						1				
102 102-21 N ORANGE AVENUE @ CYPRESS AVENUE	IT-47	IT-51, IT-72	WINTER PARK	EAGLE					85		1						1				
102 102-22 N ORANGE AVENUE @ DENNING DRIVE	IT-47		WINTER PARK	NAZTEC					175		1						1				
102 102-23 N ORANGE AVENUE @ CAPEN AVENUE	IT-48		WINTER PARK	SIEMENS					180		1						1				
102 1-2 FAIRBANKS AVE @ PENNSYLVANIA AVE/N ORANGE AVE		SEE ROUTE 1			1						1	1		l							
102 1-3 FAIRBANKS AVENUE @ NEW YORK AVENUE 102 1-6 NEW YORK AVENUE @ MORSE BOULEVARD		SEE ROUTE 1			1	-				-	 	-	-	-	-	-		 		-	
102 1-6 NEW YORK AVENUE @ MORSE BOULEVARD 102 1-5 MORSE BOULEVARD @ PENNSYLVANIA AVENUE		SEE ROUTE 1			 	-					1	1		-				 		-	-
102 1-4 DENNING DRIVE @ MORSE BOULEVARD		SEE ROUTE 1			 	 				-	+	+	1	-	 	-		 	-	 	
102 1-7 DENNING DRIVE @ MONSE BOOLEVAND		SEE ROUTE 1			1	1					1	t		l				†		l	1
102 1-8 WEBSTER AVENUE @ DENNING DRIVE		SEE ROUTE 1									1										
102 1-9 US 17/92 @ WEBSTER AVENUE	IT-18	SEE ROUTE 1																			
102	IT-18	SEE ROUTE 1																			
102 1-11 US 17/92 @ PARK AVENUE		SEE ROUTE 1																			
102		SEE ROUTE 1			1						ļ	1								ļ	
102	IT-19	SEE ROUTE 1			1				525		1	1.0	-			-	2.1	-		-	1
TOTAL PLAN TOTAL FOR ROUTE 102 THIS SHEET FINAL TOTAL FOR ROUTE 102	+	-			1				525		4	19	<u> </u>			2	21	2			
THIS SHEET FINAL TOTAL FOR ROUTE 102		L		1	1	1	l				1	1	1			<u> </u>		1	L	L	l

	REVI.	SIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

KITTELSON & ASSOCIATES, INC. TSZ SHING TSOI, P.E. # 75055 110 E BROWARD BLVD, SUITE 2410 FORT LAUDERDALE, FLORIDA 33301 TEL: (954) 828-1730 FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION 7524

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJECT ID

ORANGE

SEMINOLE

VARIES

NANCIAL PROJECT ID

435446-1-52-01

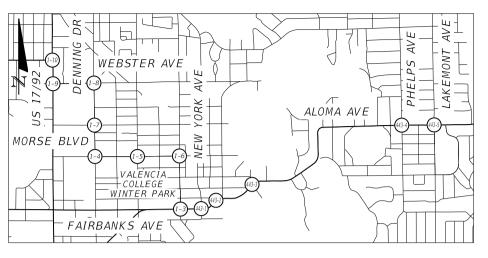
4:05:28 PM

SUMMARY OF QUANTITIES

SHEET NO.

IT-12

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\TA.



		SUMMA	RY OF	GENERA	L ITEM	S		
PAY ITEM NO.	PAY ITEM DESCRIPTION	UNIT	QUAN	TITY	TO	TAL E	DESIGN NOTES	CONSTRUCTION REMARKS
	MOBILIZATION	LS	1		1	-	NOTES	NEMANICS
102-1	MAINTENANCE OF TRAFFIC	L5	1		1			
102-14	TRAFFIC CONTROL OFFICER	MH	16		16			

	SUMMARY OF	ТЕМИ	PORARY T	RAFFIC (CONTROL	PLAN	ITEMS		
PAY ITEM	PAY ITEM DESCRIPTION	UNIT		PHASE I		тот	-AL	DESIGN	CONSTRUCTION
NO.	PAT TIEM DESCRIPTION	UNII	DURAT I ON	QUANT ITY	TOTAL			NOTES	REMARKS
			DAYS	P	Р	Ρ	F		
102-60	WORK ZONE SIGNS	ED	79	7	553	7			
102-74-1	CHANNELIZING DEVICE, (TYPE I, II, VP, DRUM, VEHICULAR LONG. CHANNEL. DEVICE)	ED	79	20	1580	20			
102-76	ARROWBOARD/ADVANCE WARNING ARROW PANEL	ED	79	1	79	1			
102-77	HIGH INTENSITY FLASHING LIGHT, TEMPORARY, TYPE B	ED	79	5	395	5			
102-99	PORTABLE CHANGEABLE MESSAGE SIGN - TEMPORARY	ED	79	1	79	1			

ROUTE INTERSECTION NUMBER SUBJECTION NUMBER AND SUBJECTION NUMBER	PLAN SHEET NUMBER	DETAIL SHEET NUMBER	SIGNAL MAINTAINING AGENCY	CONTROLLER TYPE	CONDUIT, FURNISH & INSTALL, OPEN TRENCH - LF (630-2-11)	CONDUIT, FURNISH & INSTALL, ABOVEGROUND - LF (630-2-14)	FIBER OPTIC CONNECTION, INSTALL, SPLICE - EA (633-2-31)	FIBER OPTIC CONNECTION HARDWARE, RELOCATE PATCH ANNEL-FIELD TERMINATED - EA (638-3-46)	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL - LF (633-8-1)	TECTOR INDUCTIVE, F&I. - EA (660-1-110)	PRIORITY AND PREEMPTI FURNISH AND INSTALL, 1PLETE SYSTEM – EA 20)	SIGNAL PRIORITY AND PREEMPTION SYSTEM, EURNISH AND INSTALL, GPS, REPLACE CABINET ELECTRONICS - EA (663-1-121)	CONT!	TRAFFIC CONTROLLER ASSEMBLY, MODIFY - AS (670-5-400)	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET - AS (670-5-600)	TRAFFIC CONTROLLER WITHOUT CABINET, F&I IN EXISTING CABINET, NEMA - EA (671-2-11)	TRAFFIC CONTROLLER , MODIFY - EA (671-2-40)	FRAFFIC CONTROLLER, REMOVE- CABINET TO REMAIN - EA (671-2-60)	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL - EA (684-1-1)	2]	SYSTEM AUXILIARIES, FURNISH & INSTALL, INTERFACE PANEL - EA (685-128)
443 1-4 DENNING DRIVE @ MORSE BOULEVARD		EE ROUTE 1	,	-		ì		1 1 1 0	100		, , , , ,	, , , ,									
443 1-5 MORSE BOULEVARD @ PENNSYLVANIA AVE		EE ROUTE 1																			ـــــــ
443 1-6 NEW YORK AVENUE @ MORSE BOULEVARD		EE ROUTE 1																			L
443 1-3 FAIRBANKS AVENUE @ NEW YORK AVENUE		EE ROUTE 1																			Ь
443 443-1 FAIRBANKS AVENUE @ PARK AVENUE			WINTER PARK	EAGLE					235		1					1		1			1
443 443-2 FAIRBANKS AVENUE @ ROLLINS PED SIGN			WINTER PARK	SIEMENS					250		1						1				
443 443-3 FAIRBANKS AVENUE @ CHASE AVENUE/OL			WINTER PARK	EAGLE					85		1					1		1			
443 443-4 ALOMA AVENUE @ PHELPS AVENUE			WINTER PARK	EAGLE	50	35			85	1	1		1		1						
443 443-5 ALOMA AVENUE @ LAKEMONT AVENUE			WINTER PARK	EAGLE					85		1					1		1			L
443 1-9 US 17/92 @ WEBSTER AVENUE		EE ROUTE 1																			
443 1-10 US 17/92 @ LEE ROAD	IT-18 SE	EE ROUTE 1																			L
443 1-7 DENNING DRIVE @ CANTON AVENUE		EE ROUTE 1																			
443 1-8 WEBSTER AVENUE @ DENNING DRIVE	IT-17 SE	EE ROUTE 1																			
TOTAL TOTAL FOR ROUTE 443					50	35			740	1	5		1		1	3	1	3			
THIS SHEET TOTAL FOR ROUTE 443																					
																					Ь
GRAND PLAN TOTAL FOR ALL ROUTES					120	70	24	1	7820	5	99	35	2	1	2	35	97	35	10	1	4
TOTAL FINAL TOTAL FOR ALL ROUTES															l						1

NOTE: SEE IT-70 AND IT-71 FOR ADDITIONAL QUANTITIES

	REVI:	SIONS		
DATE	DESCRIPTION	DATE	DESCRIPTION]
1				I

KITTELSON & ASSOCIATES, INC. TSZ SHING TSOI, P.E. # 75055 110 E BROWARD BLVD, SUITE 2410 FORT LAUDERDALE, FLORIDA 33301 TEL: (954) 828-1730 FAX: (954) 828-1787 CERTIFICATION OF AUTHORIZATION 7524

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJ

VARIES GENERALE 435446-1-52-

SEMINOLE

SUMMARY OF QUANTITIES

SHEET NO.

GENERAL:

- CONTRACTOR TO NOTIFY CITY OF MAITLAND (MR. NOEL COOPER (407) 539-6217), CITY OF ORLANDO (MR. CADE BRAUD, P.E., P.T.O.E. (321) 235-5350), CITY OF WINTER PARK (MR. WAYNE (BUTCH) MARGRAF (407) 599-3411),
 CONTROL SPECIALIST (MR. DOUG MILLS (407) 628-1965) ORANGE COUNTY (MR. HAZEM EL-ASSAR, P.E. (407) 836-7866), AND SEMINOLE COUNTY (MR. CHARLES R. WETZEL, P.E., P.T.O.E. 407-665-5686) TWO BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION
- 2. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
- 3. ALL STAKING OF PROPOSED CONSTRUCTION TO ALLOW FOR PROPER INSTALLATION/RELOCATION OF UTILITY FACILITIES, AS INDICATED ON THE UTILITY WORK SCHEDULE, SHALL BE PERFORMED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE IMPACTED UTILITIES AND STAKE THE ITEMS REQUESTED. THIS STAKING SHALL BE SEPARATE AND IN ADDITION TO THE NORMAL STAKING FOR THE PROJECT. THE COST OF THIS STAKING IS CONSIDERED INCIDENTAL TO AND INCLUDED IN THE COST OF THE PROJECT.
- 4. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE ENGINEER SHOULD NOTIFY THE DISTRICT LOCATION SURVEYOR, WITHOUT DELAY, BY TELEPHONE AS NOTED ON THE
- 5. RIGHT OF WAY LINES ARE APPROXIMATE THEREFORE ANY DEVIATIONS FROM THE PLANS OR ENCROACHMENT SHALL BE APPROVED BY THE ENGINEER.
- UNLESS OTHERWISE NOTED ALL REMOVED EQUIPMENT SHALL BE TURNED OVER TO THE APPROPRIATE MAINTAINING AGENCY AS NOTED ON THE UTILITY SHEET AS DIRECTED BY THE ENGINEER, EXCEPT CONCRETE POLES, WHICH SHALL BE DISPOSED OF BY THE CONTRACTOR. CONTRACTOR TO NOTIFY THE APPROPRIATE MAINTAINING AGENCY 2 BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION.
- 7. IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING, DIRECTIONAL BORING, OR TRENCHING. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO EXAMINE THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE **SPECIFICATIONS**
- 8. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR BOTH SIGNAL CABLE AND INTERCONNECT CABLE WITH THE APPROPRIATE MAINTAINING AGENCY BEFORE ORDERING.
- 9. THE CONTRACTOR IS REQUIRED TO INSPECT THE INSTALLATION OF THE TRAFFIC SIGNALS IN ACCORDANCE WITH FDOT SPECIFICATION 105-8.10. THE CONTRACTOR SHALL COORDINATE THE FINAL ACCEPTANCE INSPECTION IN ACCORDANCE WITH FDOT SPECIFICATION 611-2.2 WITH THE ENGINEER AT LEAST TEN DAYS IN ADVANCE. THE (MAINTAINING AGENCY) AND FDOT TRAFFIC OPERATIONS AT (386) 943-5318 SHOULD ALSO BE CONTACTED TEN DAY'S BEFORE THE INSPECTION IS TO BE PERFORMED SO THEY MAY BE PRESENT.
- 10. THE CONTRACTOR SHALL MAINTAIN THE EXISTING TRAFFIC SIGNALS DURING THIS PROJECT. WORK AT EACH TRAFFIC SIGNAL IS ANTICPATED TO LAST 4-8 HOURS.
- 11. THE LOCAL (PERMIT MANAGER/PROJECT ADMINISTRATOR) SHOULD BE INFORMED TWO BUSINESS DAYS BEFORE ANY DIRECTIONAL BORES.
- 12. IN THE EVENT PERMANENT VEHICLE DETECTION IS DISRUPTED. PROVIDE AN ALTERNATIVE MEANS OF DETECTION TO ALL LANES APPROACHING THE INTERSECTION, SEPARATING EACH MOVEMENT WHICH PREVIOUSLY HAD DETECTION. THE TYPE OF DETECTOR SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION, EQUIPMENT SHALL ONLY DETECT THE INTENDED MOVEMENT
- 13. THE CONTRACTOR SHALL CONTACT LYNX (BILL KIRKLAND @ 407-841-2279 EXT. 3512) TO COORDINATE ACCESS TO PERFORM WORK ON THE BUSES, WHICH MAY BE LIMITED TO NIGHTS AND WEEKENDS.
- 14. THERE ARE WETLANDS PRESENT WITHIN THE PROJECT CORRIDOR, AND THE CONTRACTOR SHALL NOT CLEAR/GRUB OR STAGE EQUIPMENT WITHIN WETLANDS.
- 15. THE CONTRACTOR SHALL COMPLETE EQUIPMENT AND SOFTWARE INSTALLATION AND TESTING FOR ONE BUS WITHIN 30 DAYS OF NTP. IT SHOULD BE NOTED THAT THE SOFTWARE WILL NOT BE AVAILABLE UNTIL OCTOBER 20, 2015 AND THIS TIME IS INCLUDED AS PART OF THE 200 CONSTRUCTION DAYS.

CONTROLLER:

- 1. THE CONTROLLER ASSEMBLY SHALL CONSIST OF A NEMA TS 2 CABINET WITH A TS 2 TYPE 1 OR TYPE 2 CONTROLLER (VERIFY CONTROLLER TYPE WITH THE APPROPRIATE MAINTAINING AGENCY PRIOR TO BID). THE CONTROLLER ASSEMBLY SHALL HAVE ALL NECESSARY HARDWARE TO COMMUNICATE WITH THE APPLICABLE MAINTAINING AGENCY'S SIGNAL SYSTEM AND BE ABLE TO OPERATE USING GPS TRANSIT SIGNAL PRIORITY. ANY ADDITIONAL EQUIPMENT AND/OR ACCESSORIES REQUIRED FOR THE TERMINATION AND OPERATION OF THE FIBER OPTIC INTERCONNECT CABLE SHALL BE FURNISHED AND INSTALLED AS PART OF THE CONTROLLER ASSEMBLY.
- 2. A MANUAL PUSH-BUTTON CORD SHALL BE FURNISHED IN THE CONTROLLER CABINET.
- 3. THE CONTROLLER CABINET SHALL BE ORIENTED SO THAT THE DOOR OPENS AWAY FROM THE INTERSECTION.

PED FEATURES.

1. THREE (3) SPARE CONDUCTORS ARE TO BE RUN TO THE FURTHEST PEDESTRIAN SIGNAL HEAD.

SIGNAL CABLE & LOOPS

1. TYPE 'F' LOOPS SHALL BE 40-FOOT X 6-FOOT AND EXTEND 5 FEET BEYOND THE STOP BAR.

MAINTENANCE OF TRAFFIC:

- 1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH FDOT DESIGN STANDARD INDEXES 600, 604, 605, 615, 616, 617, 618, AND 635.
- 2. NO LANE CLOSURES ALLOWED BETWEEN 6 AM AND 9 PM.
- 3. WORK ZONE SPEED SHALL BE THE SAME AS THE EXISTING POSTED SPEED.
- 4. WHEN WORK ACTIVITIES REQUIRE THE TEMPORY CLOSURE OF A SIDEWALK, PEDESTRIAN TRAFFIC SHALL BE MAINTAINED PER DESIGN STANDARD INDEX 600 SERIES. A SIDEWALK MAY ONLY BE CLOSED DURING ACTIVE WORK PERIODS AND MUST BE REOPENED TO PEDESTRIANS AT THE END OF THE WORK PERIOD.

PAY ITEM NOTES

- 1. PAY ITEM 632-7-1 INCLUDES THE COST FOR COMPLETELY REWIRING INTERSECTION AT SIGNAL LOCATIONS AS SHOWN IN THE PLANS.
- 2. PAY ITEM 633-8-1 INCLUDES ALL OPTICOM™ MODEL 1070 GPS INSTALLATION CABLING NEEDED TO CONNECT THE OPTICOM™ MODEL 3100 GPS RADIO UNIT TO THE OPTICOM™ MODEL 764 MULTIMODE PHASE SELECTOR LOCATED IN THE TRAFFIC SIGNAL CABINET AS SHOWN IN THE WIRING DIAGRAMS. AND THE OPTICOM" MODEL 2171 VEHICLE INTERFACE CABLE FROM OPTICOM™ MODEL 1050 GPS/RADIO ANTENNA TO THE OPTICOM™ MODEL 2101 LOW PRIORITY RADIO/GPS CONTROL UNIT LOCATED IN THE BUS AS SHOWN IN THE BUS DETAILS. CONTRACTOR TO VERIFY LINEAR FEET OF OPTICOM™ MODEL 1070 GPS INSTALLATION CABLE REQUIRED AT INTERSECTIONS AND OPTICOM™ MODEL 2171 VEHICLE INTERFACE CABLE IN THE BUSES.
- PAY ITEM 663-1-120 INCLUDES FURNISHING AND INSTALLATION OF THE OPTICON™ MODEL 3100 GPS RADIO UNIT AS SHOWN IN THE WIRING DIAGRAMS WITH THE MOUNTING BRACKET SHOWN IN THE ANTENNA MOUNTING DETAILS FOR OVERHEAD MOUNTING OR THE OPTICOM™ MODEL 1050 GPS/RADIO ANTENNA AS SHOWN IN THE WIRING DIAGRAMS WITH THE OPTICOM™ MODEL 3101 GPS RADIO UNIT AND CABLING FOR CABINET MOUNTING. ALSO INCLUDED WITH OVERHEAD OR CABINET MOUNTING IS THE OPTICON™ MODEL 760 CARD RACK (WITH REMOVAL OF CARD RACK WHERE EXISTING) AND 9 PIN HARNESS, THE OPTICOM™ MODEL 764 MULTIMODE PHASE SELECTOR (WITH REMOVAL OF GPS OR INFRARED PHASE SELECTOR WHERE EXISTING), THE OPTICOM™ MODEL 768 AUXILIARY INTERFACE PANEL AND CABLE, ANY ETHERNET CABLE (LENGTH TO BE DETERMINED BY THE CONTRACTOR) TO CONNECT THE OPTICOM™ MODEL 764 PHASE SELECTOR TO THE ETHERNET SWITCH, AND ANY ADDITIONAL WIRING TO CONNECT THE EXISTING INFRARED EQUIPMENT TO THE NEW OPTICOM™M ODEL 764 MULTIMODE PHASE SELECTOR. THE PAY ITEM SHALL ALSO INCLUDE THE COST OF ALL NECESSARY TREE TRIMMING AROUND SIGNAL POLE OR SIGNAL CABINET AND A FULLY FUNCTIONAL OPTICOM"
- PAY ITEM 663-1-121 INCLUDES FURNISHING AND INSTALLATION OF THE OPTICOM™ MODEL 760 CARD RACK (WITH REMOVAL OF CARD RACK WHERE EXISTING) AS SHOWN IN THE WIRING DIAGRAMS, THE OPTICOM™ MODEL 764 MULTIMODE PHASE SELECTOR (WITH REMOVAL OF GPS PHASE SELECTOR WHERE EXISTING), THE OPTICOM™ MODEL 768 AUXILIARY INTERFACE PANEL, ANY ETHERNET CABLE (LENGTH TO BE DETERMINED BY THE CONTRACTOR) TO CONNECT THE OPTICOM™ MODEL 764 PHASE SELECTOR TO ETHERNET SWITCH (WHERE EXISTING), AND ANY ADDITIONAL WIRING FOR TO CONNECT THE EXISTING INFRARED EQUIPMENT TO THE NEW OPTICOM™ MODEL 764 MULTIMODE PHASE SELECTOR.
- PAY ITEM 670-5-111 INCLUDES A CONTROLLER READILY EQUIPPED TO HANDLE GPS TRANSIT SIGNAL PRIORITY CAPABILITY AS WELL AS THE TRANSFER OF ALL EXISTING SIGNAL TIMING AND ALL OTHER CONTROLLER INFORMATION INTO THE NEW
- 6. PAY ITEM 670-5-400 INCLUDES THE CORE DRILLING FOR EXISTING CABINETS WHERE SHOWN IN THE PLANS. THE THE CONTRACTOR IS TO COMPLETELY REMOVE THE EXISTING CABINET DURING DRILLING TO INSURE THAT NO DUST ACCUMULATES IN THE CABINET.
- 7. PAY ITEM 671-2-11 INCLUDES A CONTROLLER READILY EQUIPPED TO HANDLE GPS TRANSIT SIGNAL PRIORITY CAPABILITY AS WELL AS THE TRANSFER OF ALL EXISTING SIGNAL TIMING AND ALL OTHER CONTROLLER INFORMATION INTO THE NEW
- 8. PAY ITEM 671-2-40 INCLUDES THE COST OF CONTROLLER FIRMWARE UPGRADE TO HANDLE TRANSIT SIGNAL PRIORITY.
- PAY ITEM 685-128 INCLUDES THE COST A PRE-EMPTION PANEL THAT IS COMPATIBLE WITH THE RESPECTIVE

REVISIONS METRIC ENGINEERING, INC. MICHAEL L. CORNEJO, P.E. # 47734 DESCRIPTION DATE DESCRIPTION DATE 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TFI (407) 644-1898 CERTIFICATE OF AUTHORIZATION 2294

VARIES

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

FINANCIAL PROJECT ID ROAD NO. COUNTY ORANGE 435446-1-52-01

SEMINOLE

GENERAL NOTES

SHEET NO.

IT-14

61615-

RULE

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\GN

TECO PEOPLES GAS - ORLANDO

TOWER CLOUD INC.

VERIZON BUSINESS

WATER CONSERV II

UTILITY COMPANY TELEPHONE NUMBERS AT&T DISTRIBUTION (813) 342-0512 (813) 342-0512 (813) 342-0512 (407) 532-8509 AT&T TRANSMISSION BRIGHTHOUSE NETWORKS CITY OF ORLANDO - BUREAU OF WASTEWATER (407) 246-3525 CITY OF ORLANDO TRAFFIC ENG SIGNAL FIBER (407) 246-2636 CROWN CASTLE NG (724) 416-2028 DUKE ENERGY FLORIDA, INC. (407) 942-9640 FLORIDA GAS TRANSMISSION (407) 838-7171 FPL FIBERNET (305) 552-2931 LEVEL 3 COMMUNICATIONS (407) 754-0106 AND (407) 462-0609 ORANGE COUNTY UTILITIES (407) 254-9718 ORLANDO TELEPHONE COMPANY (727) 235-4362 AND (407) 236-9651 ORLANDO UTILITIES COMMISION (407) 434-2159 T W TELECOM (407) 215-6895

(407) 420-2678

(727) 471-5640

(813) 740-1231

(407) 656-2332

MAINTAINING AGENCY: CITY OF ORLANDO TRANSPORATION ENGINEERING DIVISION P.O. BOX 4990 ORLANDO, FL 32802-4990 (407) 246-2281

UTILITY COMPANY TELEPHONE NUMBERS AT&T DISTRIBUTION (813) 342-0512 AT&T TRANSMISSION (813) 342-0512 BRIGHTHOUSE NETWORKS (407) 532-8509 CENTURY LINK (407) 814-5344 CITY OF ORLANDO - BUREAU OF WASTEWATER (407) 246-3525 CITY OF ORLANDO TRAFFIC ENG SIGNAL FIBER (407) 246-2636 CITY OF WINTER PARK (407) 691-7803 CROWN CASTLE NG (724) 416-2028 DUKE ENERGY FLORIDA, INC. (407) 942-9640 EARTHLINK BUSINESS (256) 241-6438 FLORIDA GAS TRANSMISSION . (407) 838-7171 FPL FIBERNET (305) 552-2931 LEVEL 3 COMMUNICATIONS (407) 754-0106 AND (407) 462-0609 CENTRAL FLORIDA EXPRESSWAY AUTHORITY (407) 316-3800 (727) 235-4362 AND (407) 236-9651 ORLANDO TELEPHONE COMPANY ORLANDO UTILITIES COMMISION (407) 236-9651 SPRINT NEXTEL (321) 287-9942 (407) 215-6895 T W TELECOM TECO PEOPLES GAS - ORLANDO (407) 420-2678 TOWER CLOUD INC. (727) 471-5640 **VERIZON BUSINESS** (813) 740-1231 WATER CONSERV II (407) 656-2332 WINDSTREAM FLORIDA INC. (386) 462-6530

MAINTAINING AGENCY: SEMINOLE COUNTY PUBLIC WORKS TRAFFIC ENGINEERING 140 BUSH LOOP SANFORD, FL 32773 (407) 665-5677

UTILITY COMPANY

AT&T DISTRIBUTION AT&T TRANSMISSION BRIGHTHOUSE NETWORKS CENTURY LINK CITY OF LAKE MARY CITY OF SANFORD PUBLIC WORKS CITY OF SANFORD UTILITIES DEPARTMENT DUKE ENERGY FLORIDA, INC. FLORIDA GAS TRANSMISSION FLORIDA POWER & LIGHT FLORIDA PUBLIC UTILITIES CO. LEVEL 3 COMMUNICATIONS SEMINOLE COUNTY T W TELECOM TOWER CLOUD INC UTILITIES INC OF FLORIDA PARK RIDGE **VERIZON BUSINESS**

MAINTAINING AGENCY: CITY OF WINTER PARK PUBLIC WORKS ENGINEERING 401 SOUTH PARK AVENUE WINTER PARK, FL 32789 (407) 599-3399

UTILITY COMPANY

WATER CONSERV II

AT&T DISTRIBUTION AT&T TRANSMISSION BRIGHTHOUSE NETWORKS CENTURY LINK CITY OF MAITLAND CITY OF ORLANDO - BUREAU OF WASTEWATER CITY OF ORLANDO TRAFFIC ENG SIGNAL FIBER CITY OF WINTER PARK COMCAST CABLEVISION CROWN CASTLE NG DUKE ENERGY FLORIDA, INC. FLORIDA GAS TRANSMISSION FPL FIBERNET KINDER MORGAN/CENTRAL FLORIDA PIPELINE LEVEL 3 COMMUNICATIONS ORANGE COUNTY UTILITIES ORLANDO TELEPHONE COMPANY ORLANDO UTILITIES COMMISION T W TELECOM TAFT WATER ASSOCIATION INC. TECO PEOPLES GAS - ORLANDO TOWER CLOUD INC. VERIZON BUSINESS

MAINTAINING AGENCY: CONTROL SPECIALISTS 707 NICOLET AVENUE SUITE 100 WINTER PARK, FL 32789 (407) 628-1965

TELEPHONE NUMBERS

(813) 342-0512 (813) 342-0512 (407) 532-8509 (407) 814-5344 (407) 585-1452 (407) 688-5000 ext: 5423 (407) 688-5101 (407) 942-9640 (407) 838-7171 (386) 586-6432 (386) 668-9842 (407) 754-0106 AND (407) 462-0609 (407) 665-5686 (407) 215-6895 (727) 471-5640 (407) 869-1919 (813) 740-1231

MAINTAINING AGENCY: CITY OF MAITLAND PUBLIC WORKS 1776 INDEPENDENCE LANE MAITLAND, FL 32751 (407) 539-6217

TELEPHONE NUMBERS

(813) 342-0512 (813) 342-0512 (407) 532-8509 (407) 814-5344 (407) 539-6216 (407) 246-3525 (407) 246-2636 (407) 691-7803 (407) 849-3611 (724) 416-2028 (407) 942-9640 (407) 838-7171 (305) 552-2931 (813) 241-1106 (407) 754-0106 AND (407) 462-0609 (407) 254-9718 (727) 235-4362 (727) 235-4362 AND (407) 236-9651 (407) 215-6895 (407) 855-8712 (407) 420-2678 (727) 471-5640 (813) 740-1231 (407) 656-2332

* SEE SUMMARY OF QUANTITY SHEETS FOR APPROPRIATE MAINTAINING AGENCY.

REVISIONS

DATE DESCRIPTION DATE DESCRIPTION

METRIC ENGINEERING, INC.
MICHAEL L. CORNEUJO, P.E. # 47734
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1838
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

34

VARIES

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO. | COUNTY | FINANCIAL PROJECT ID

ORANGE

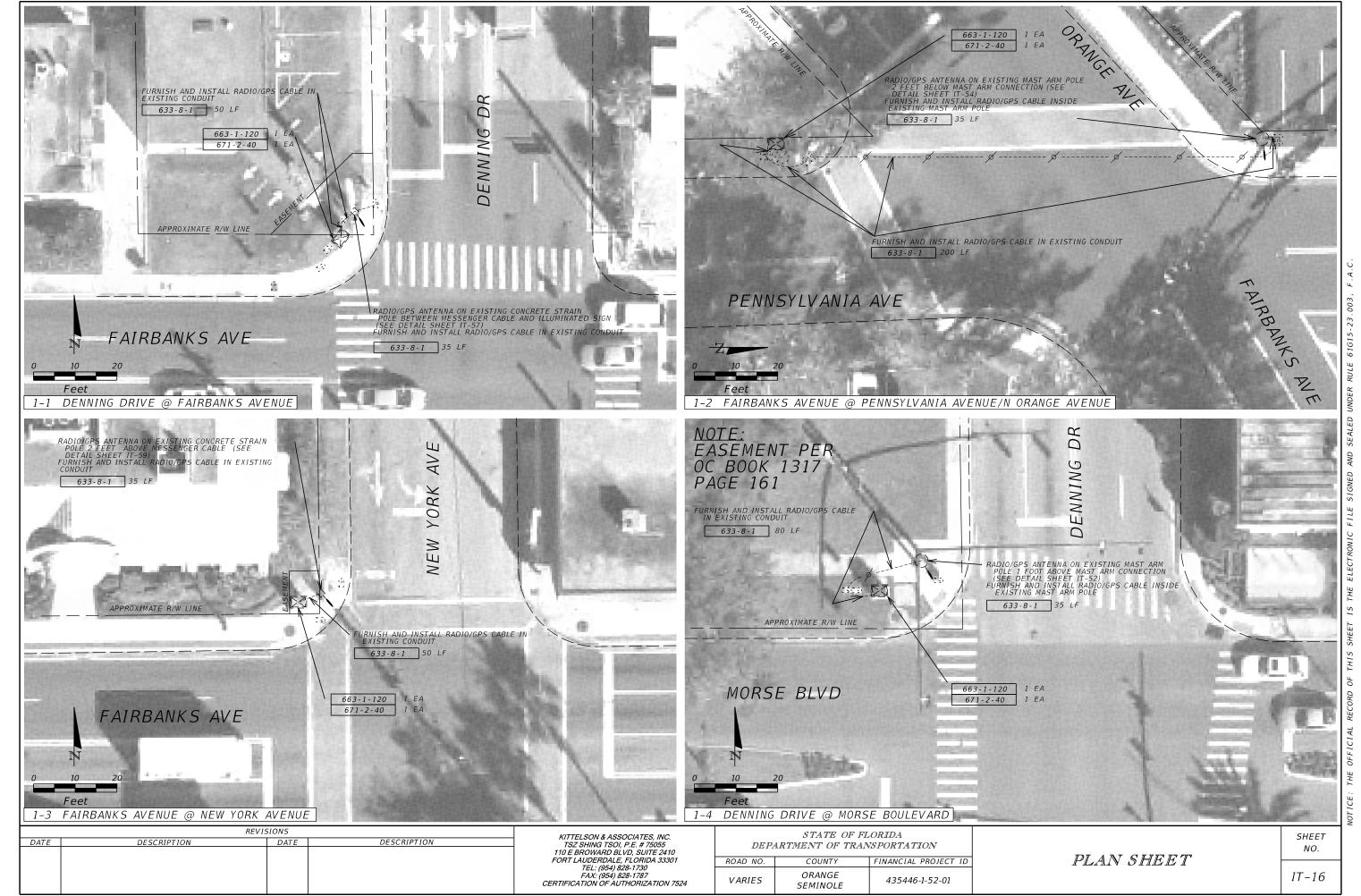
SEMINOLE

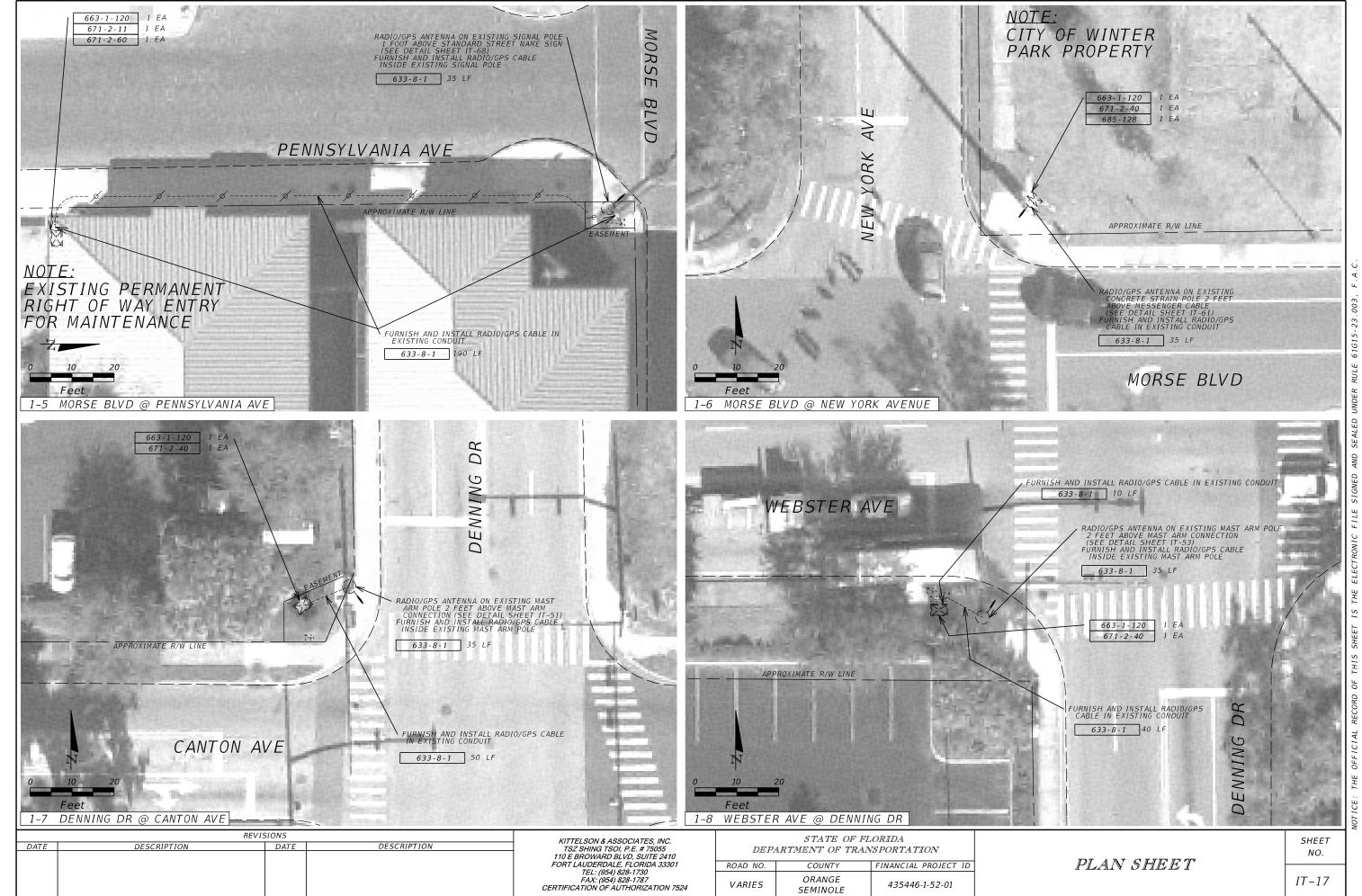
GENERAL NOTES

SHEET NO.

IT-15

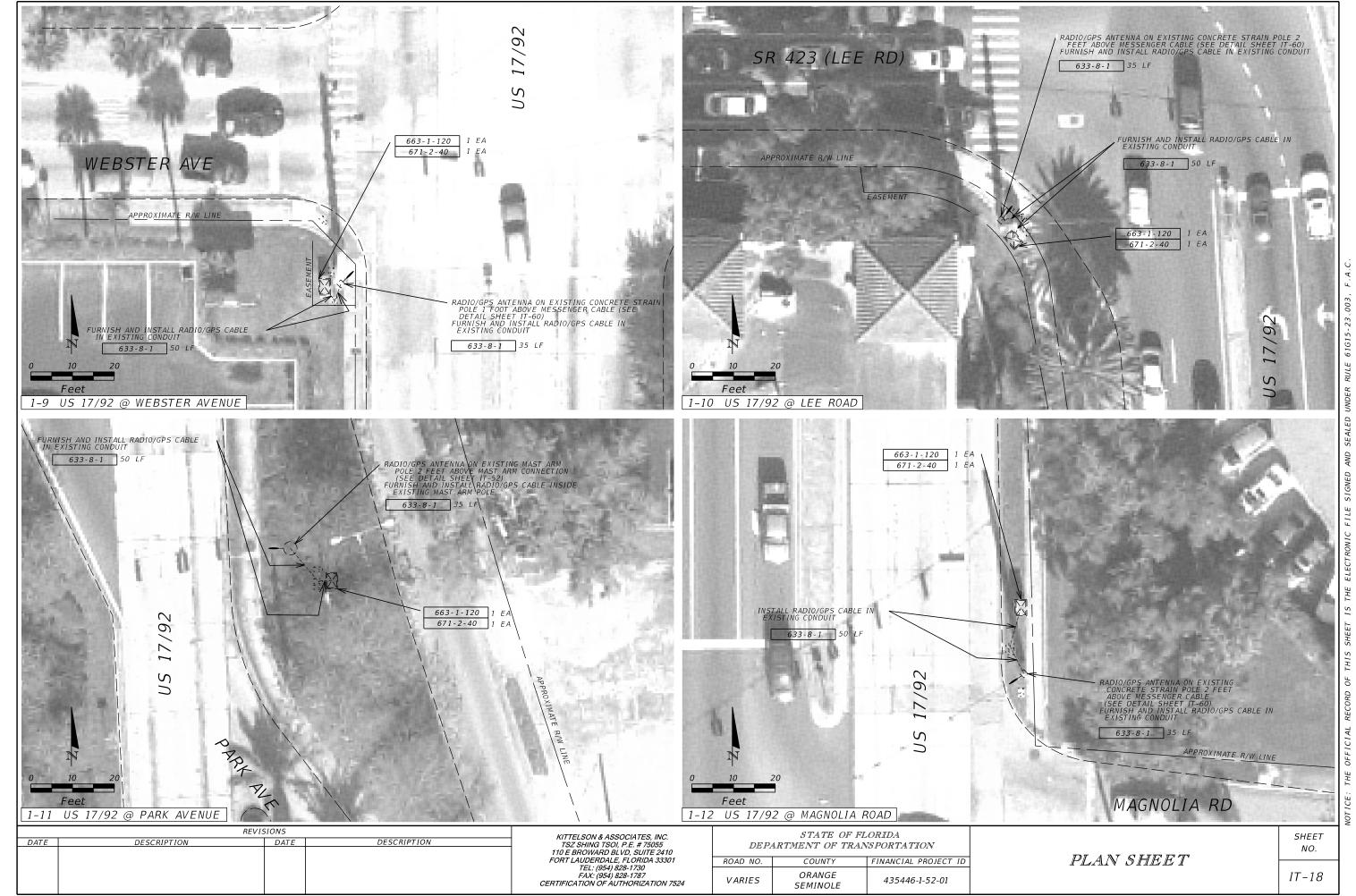
3/17/2015 4:03:47 PM R:\PR0JECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\GN

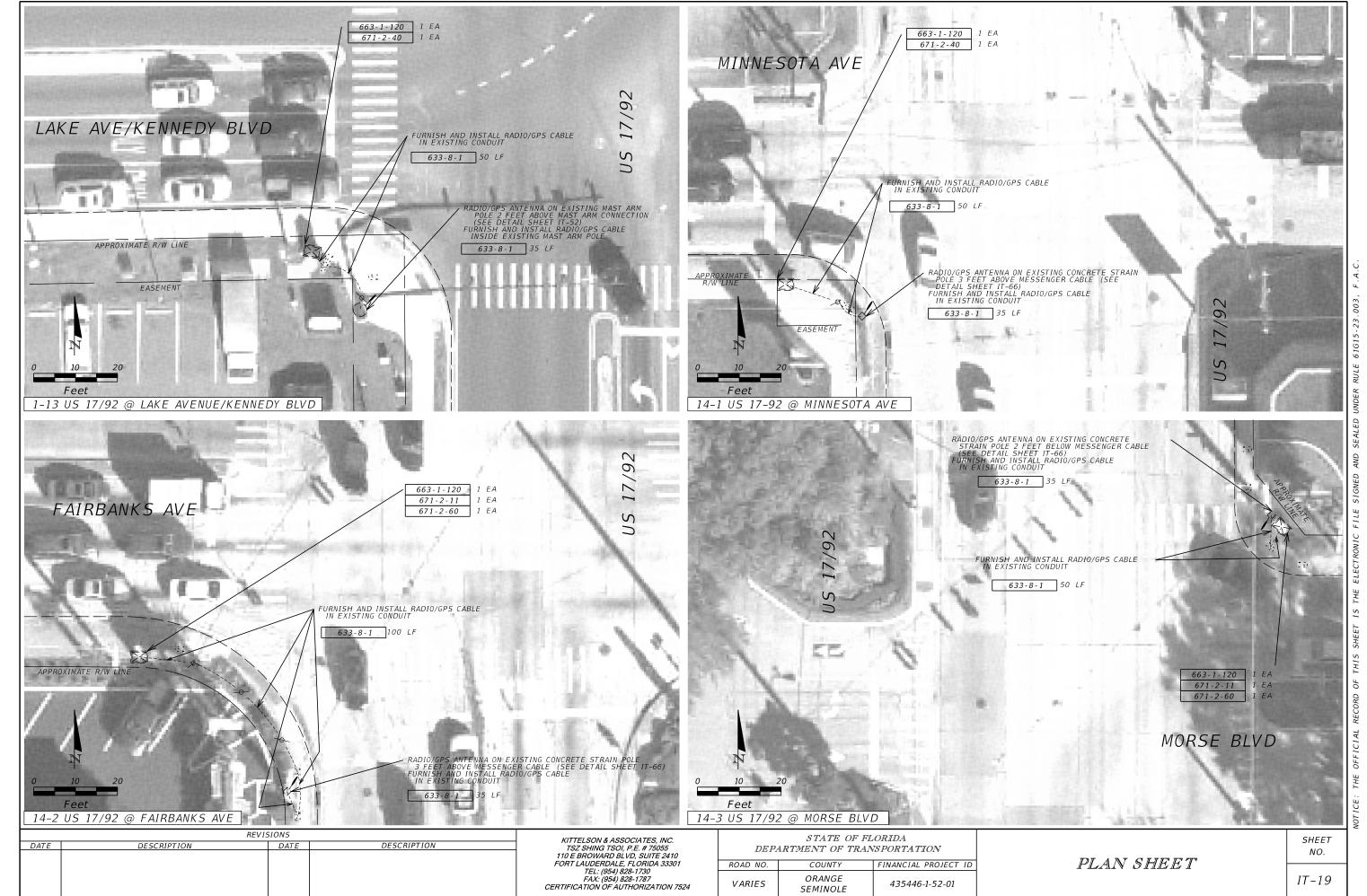


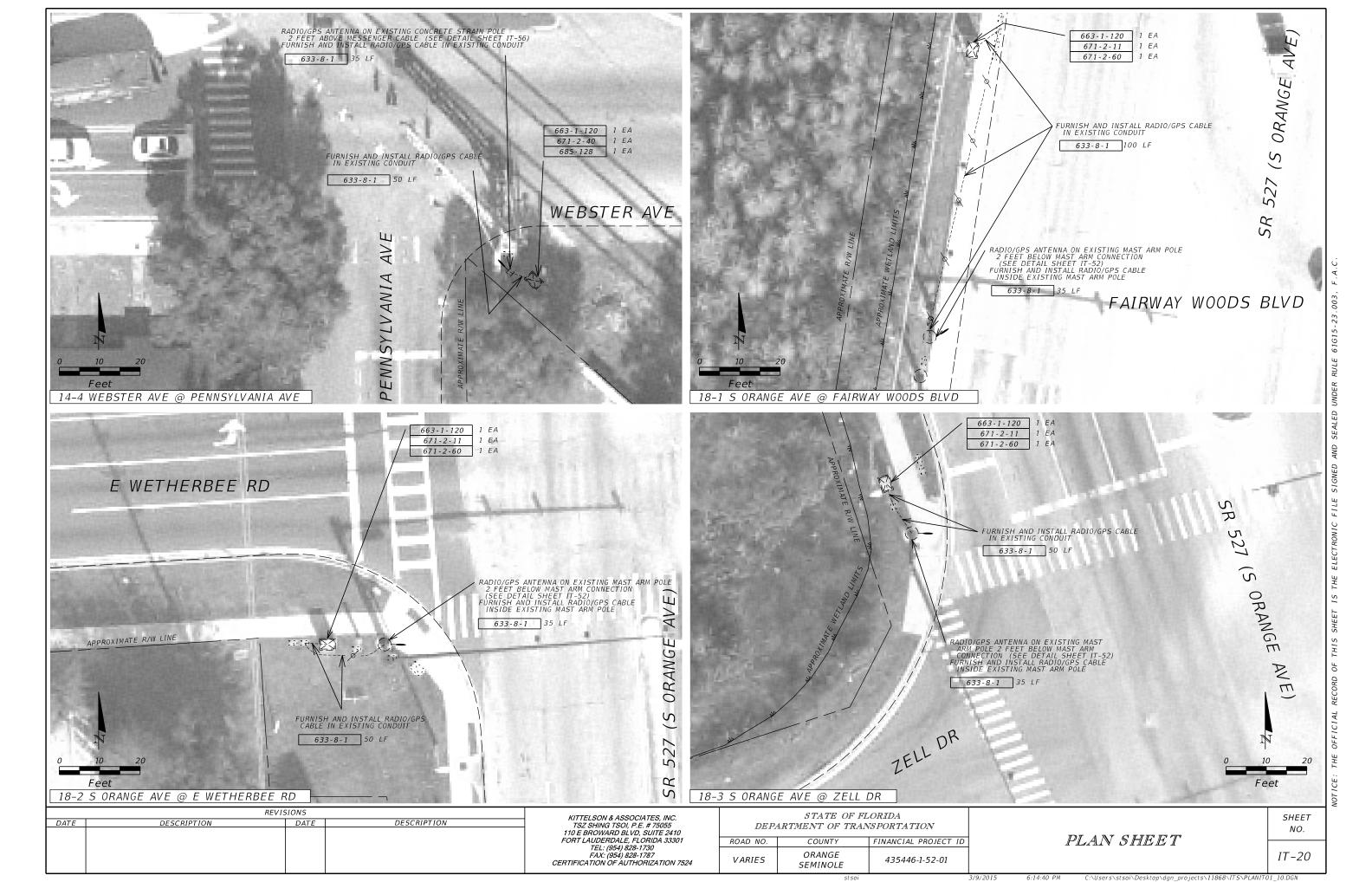


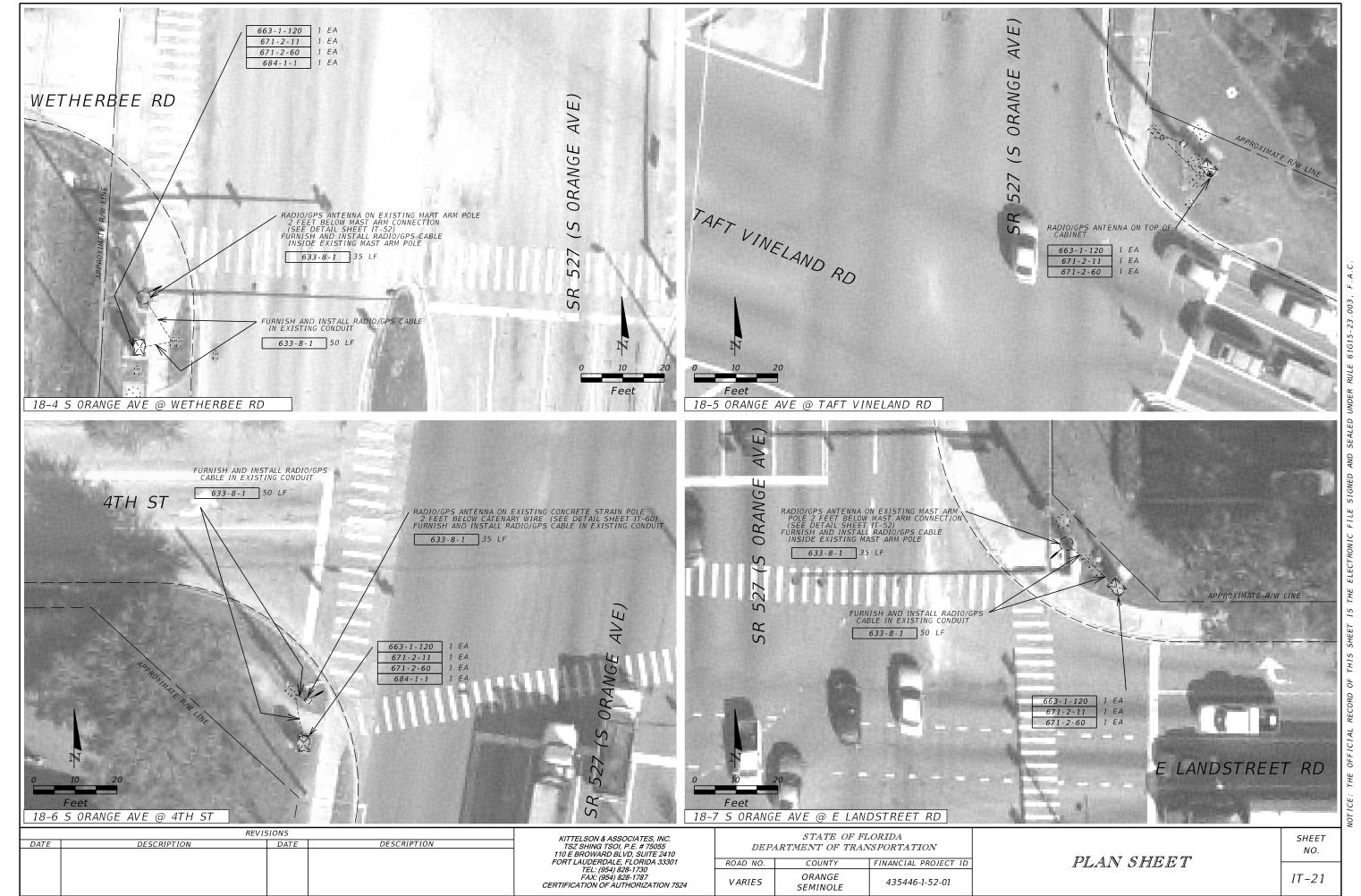
6:14:09 PM C

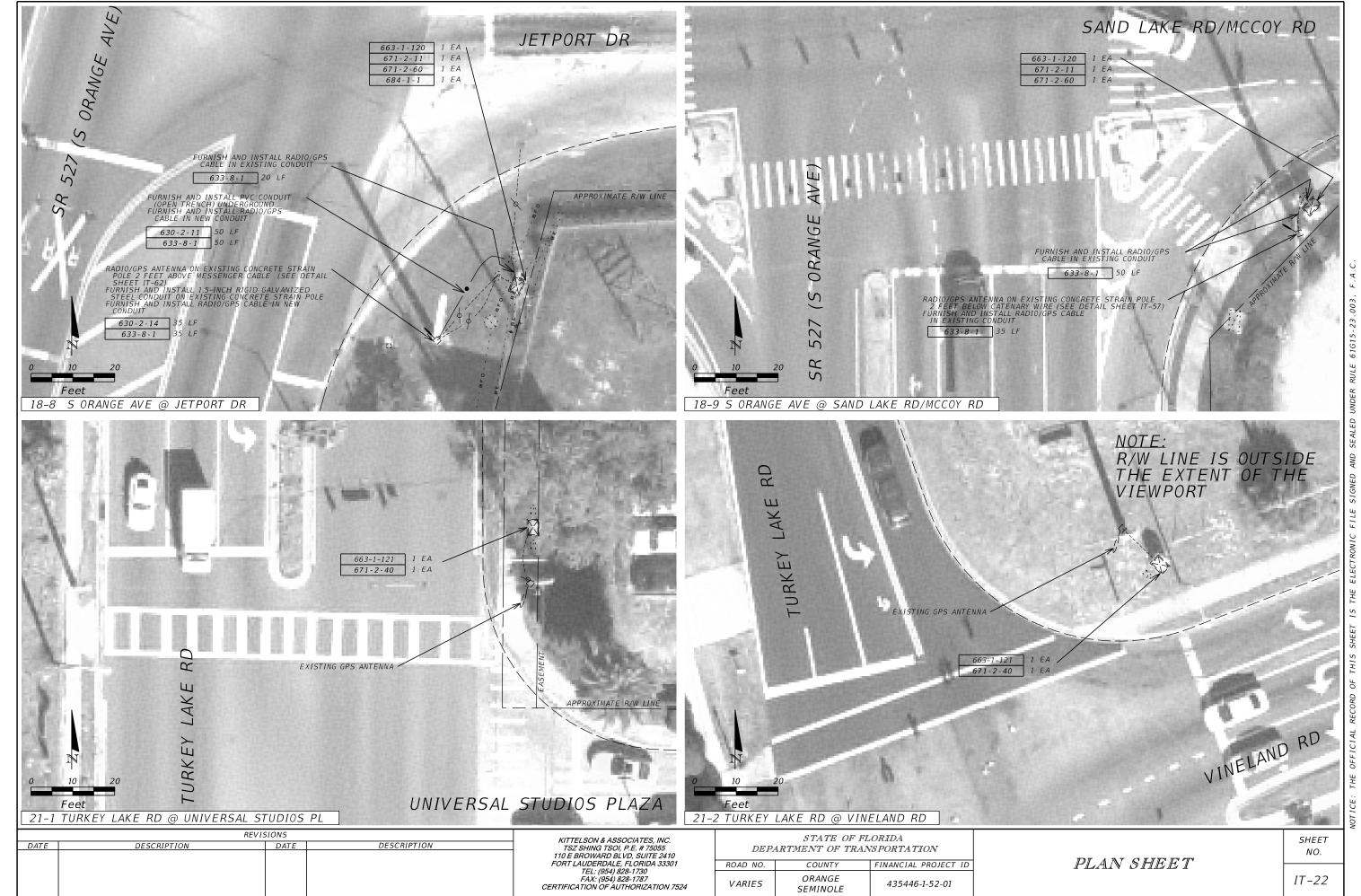
C:\Users\stsoi\Desktop\dan projects\11868\ITS\PLANIT01 10.D0

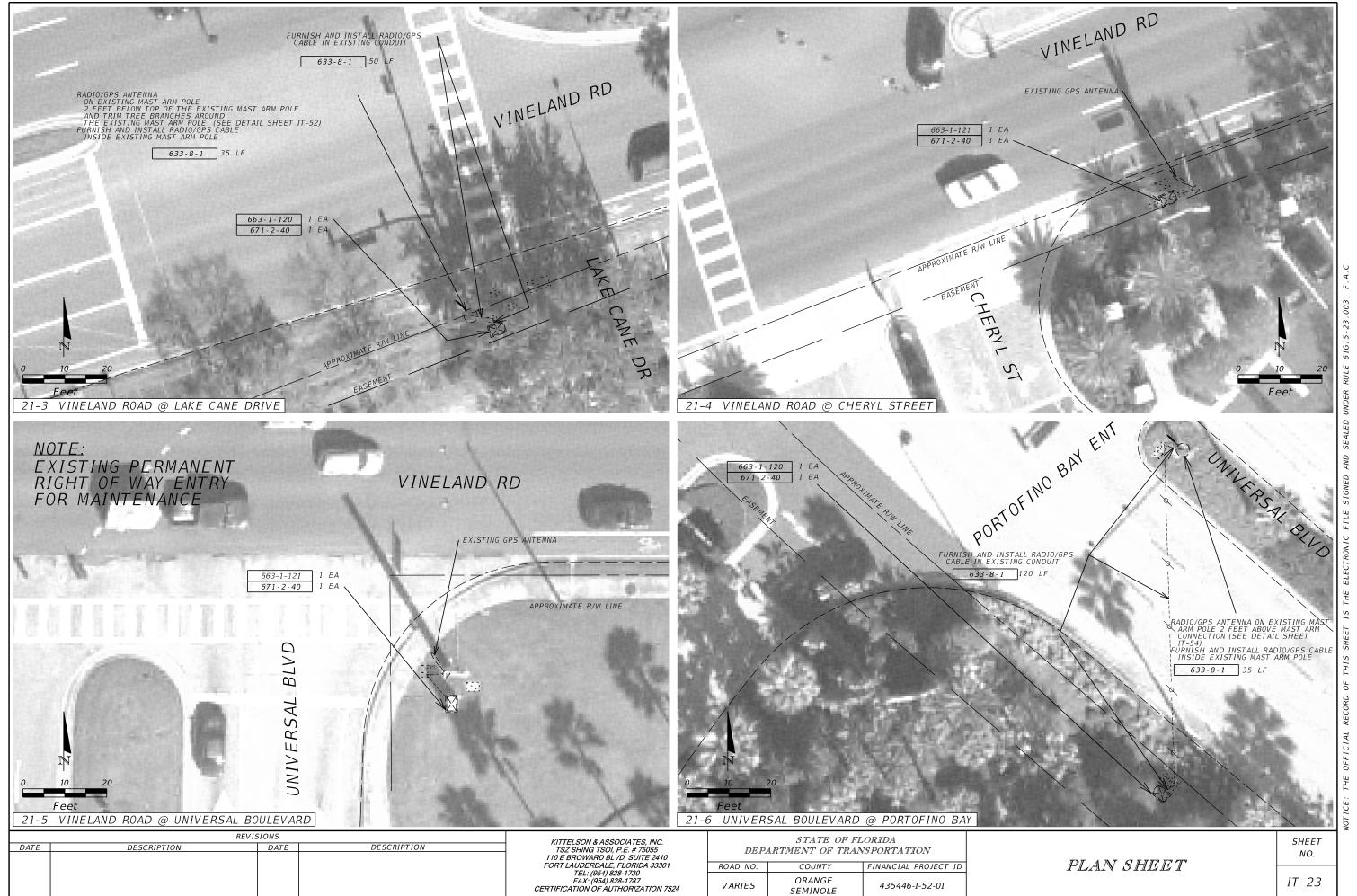


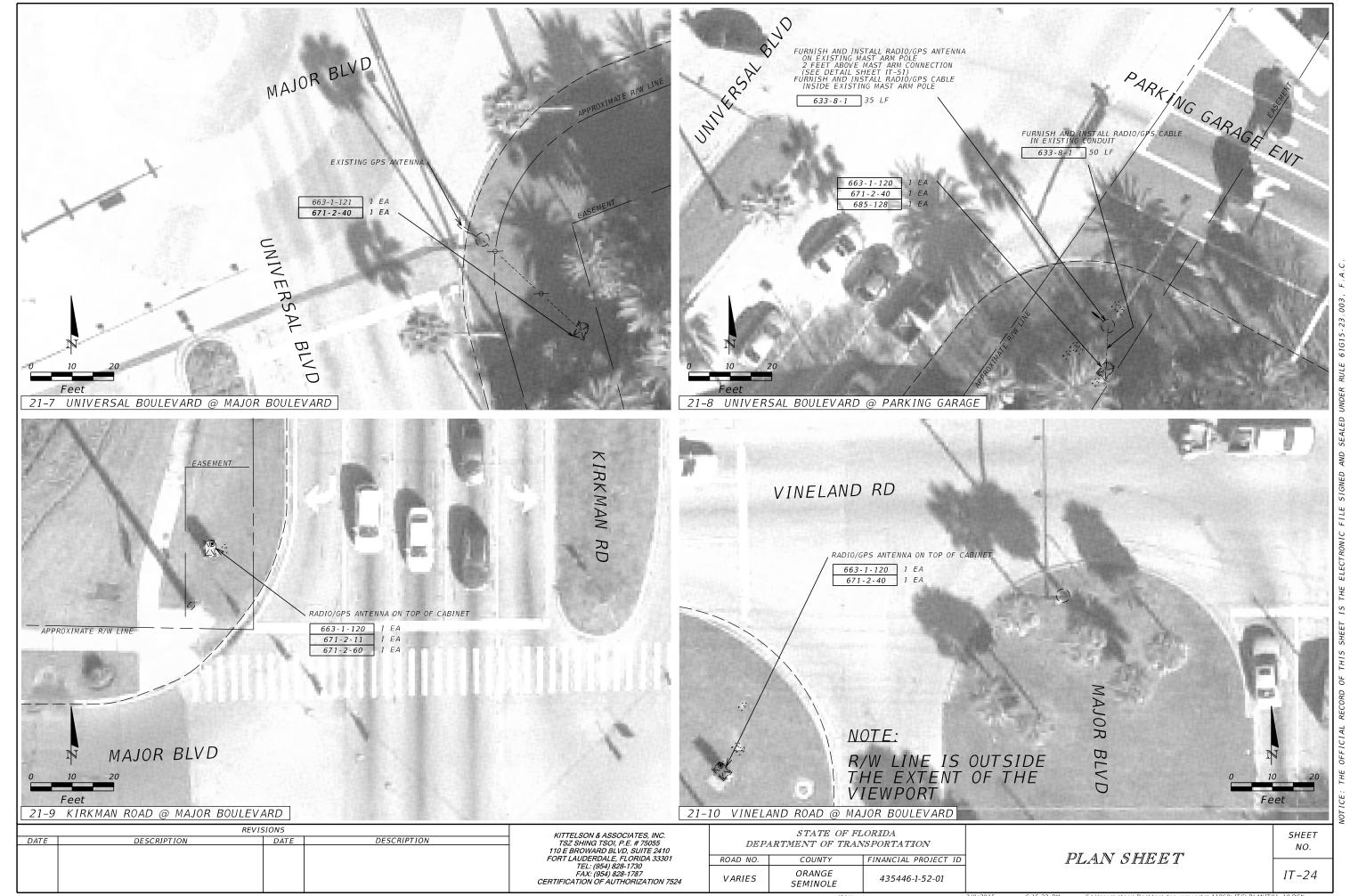


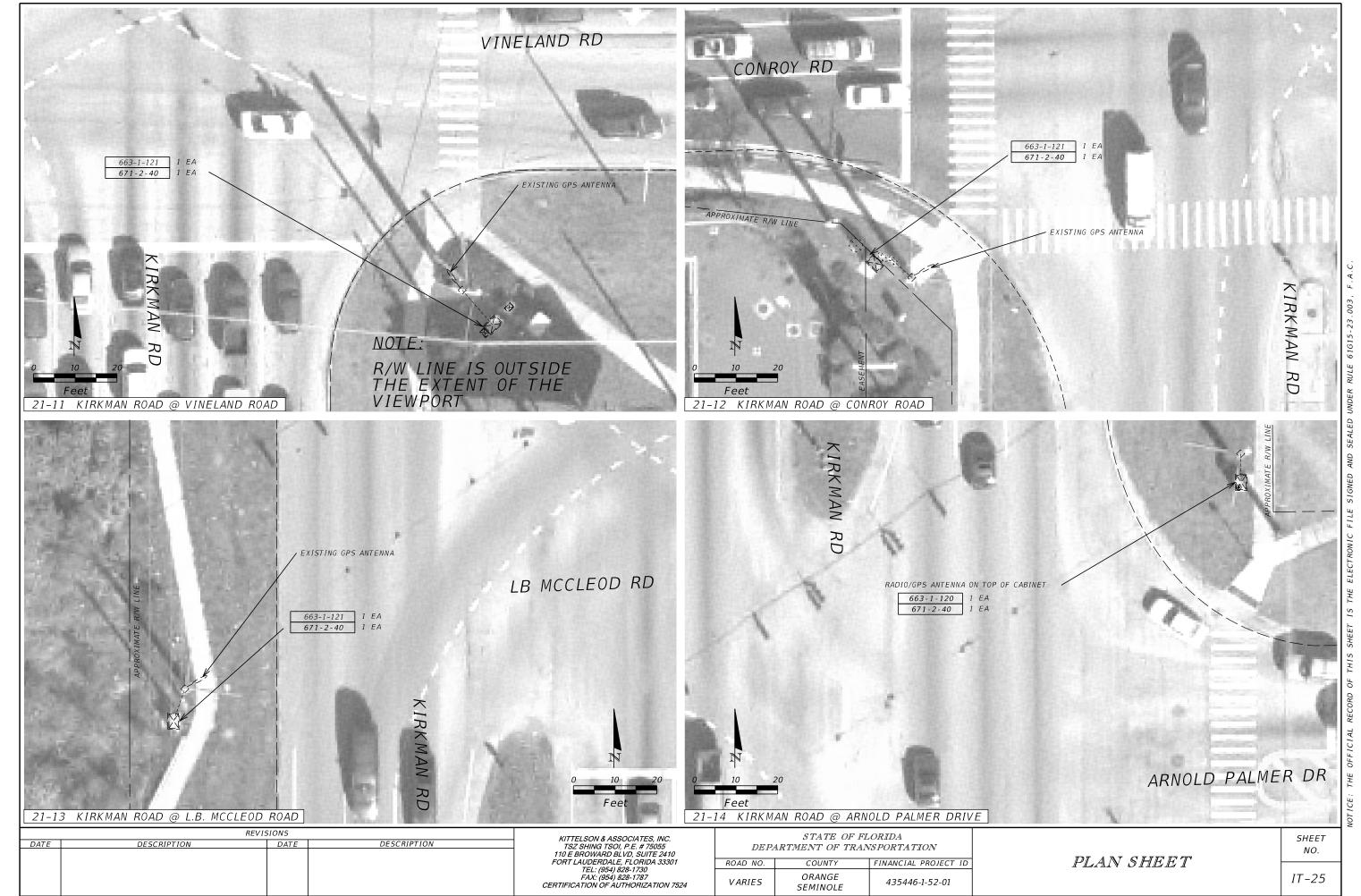


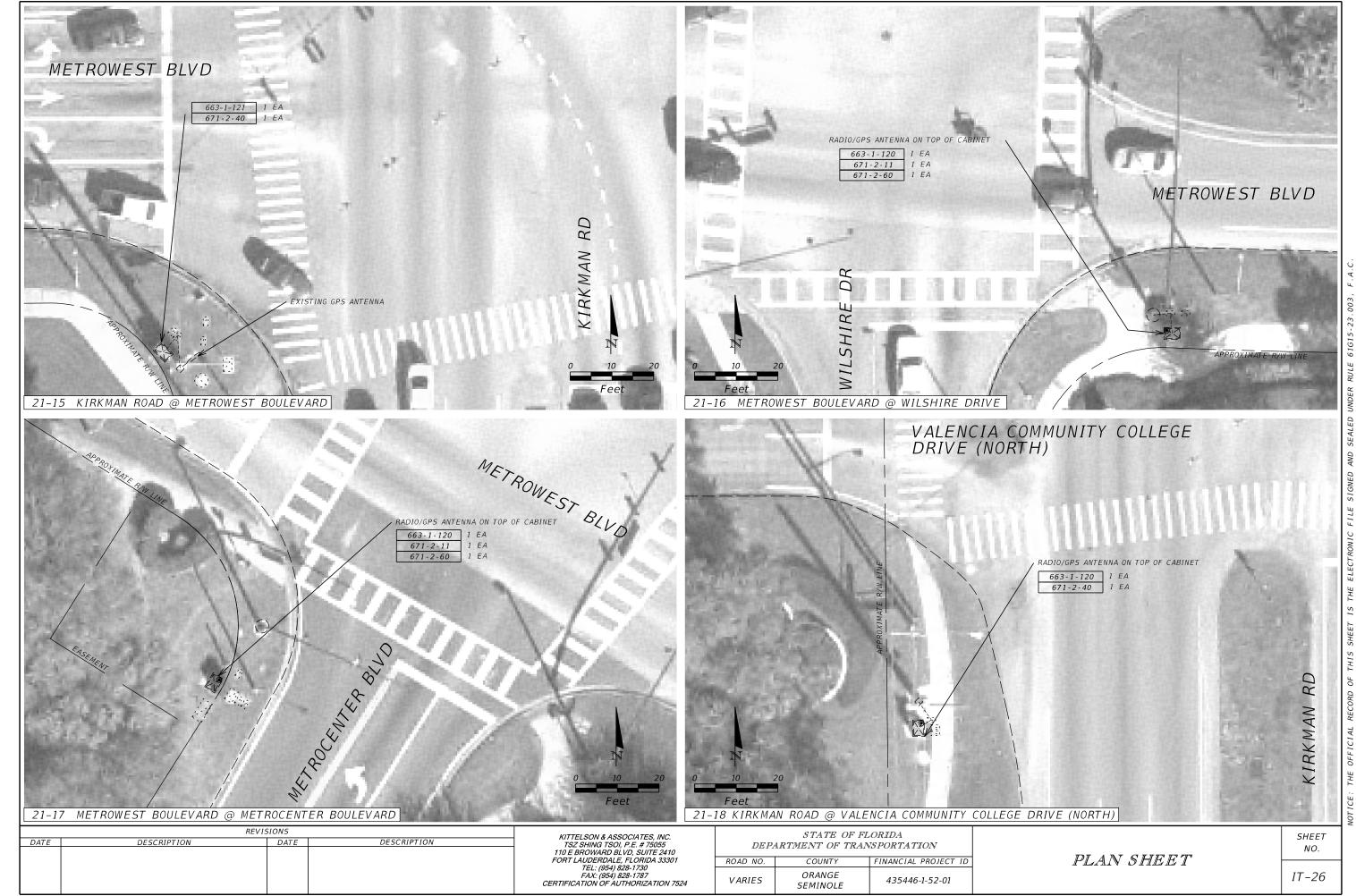


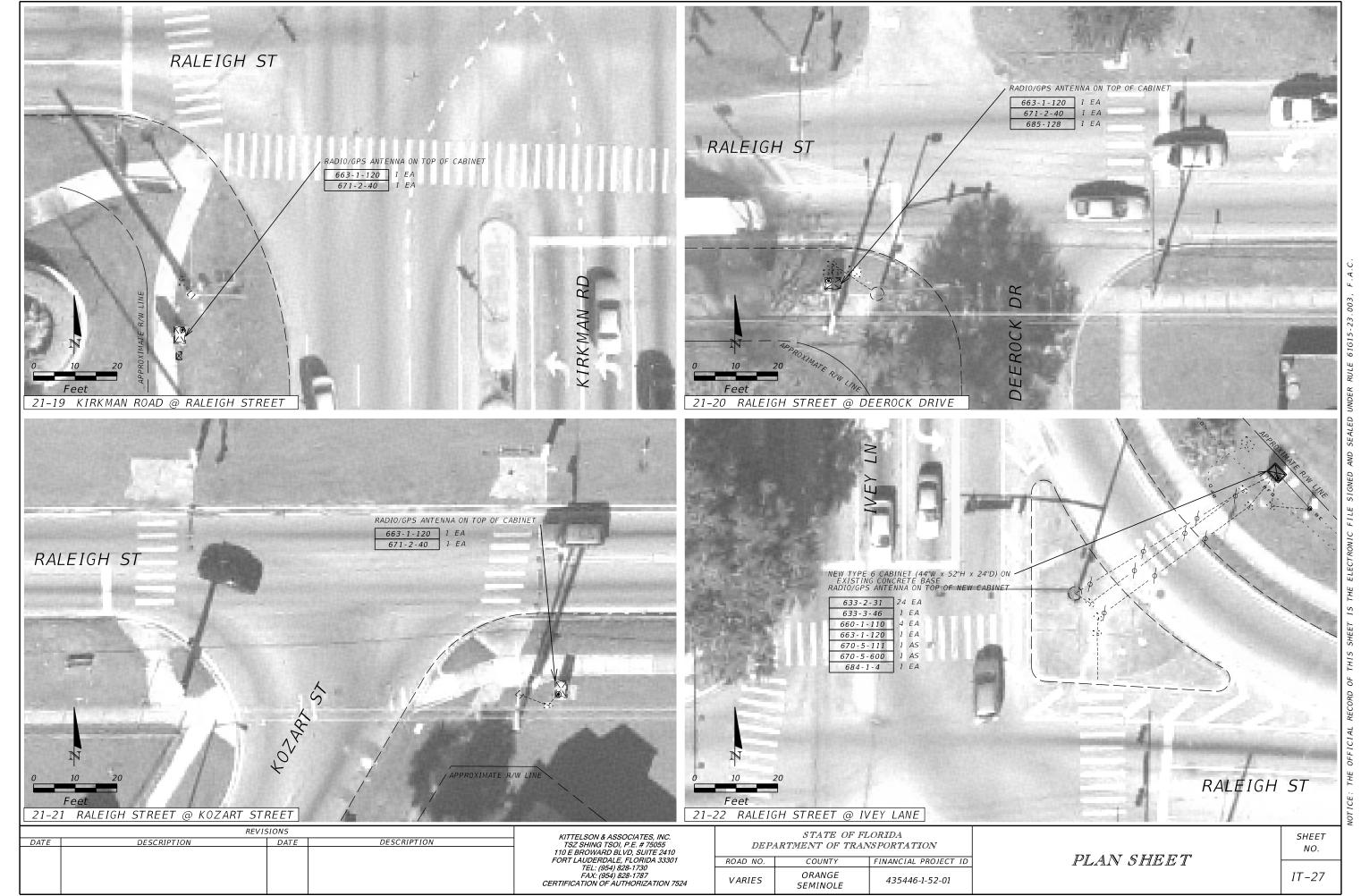


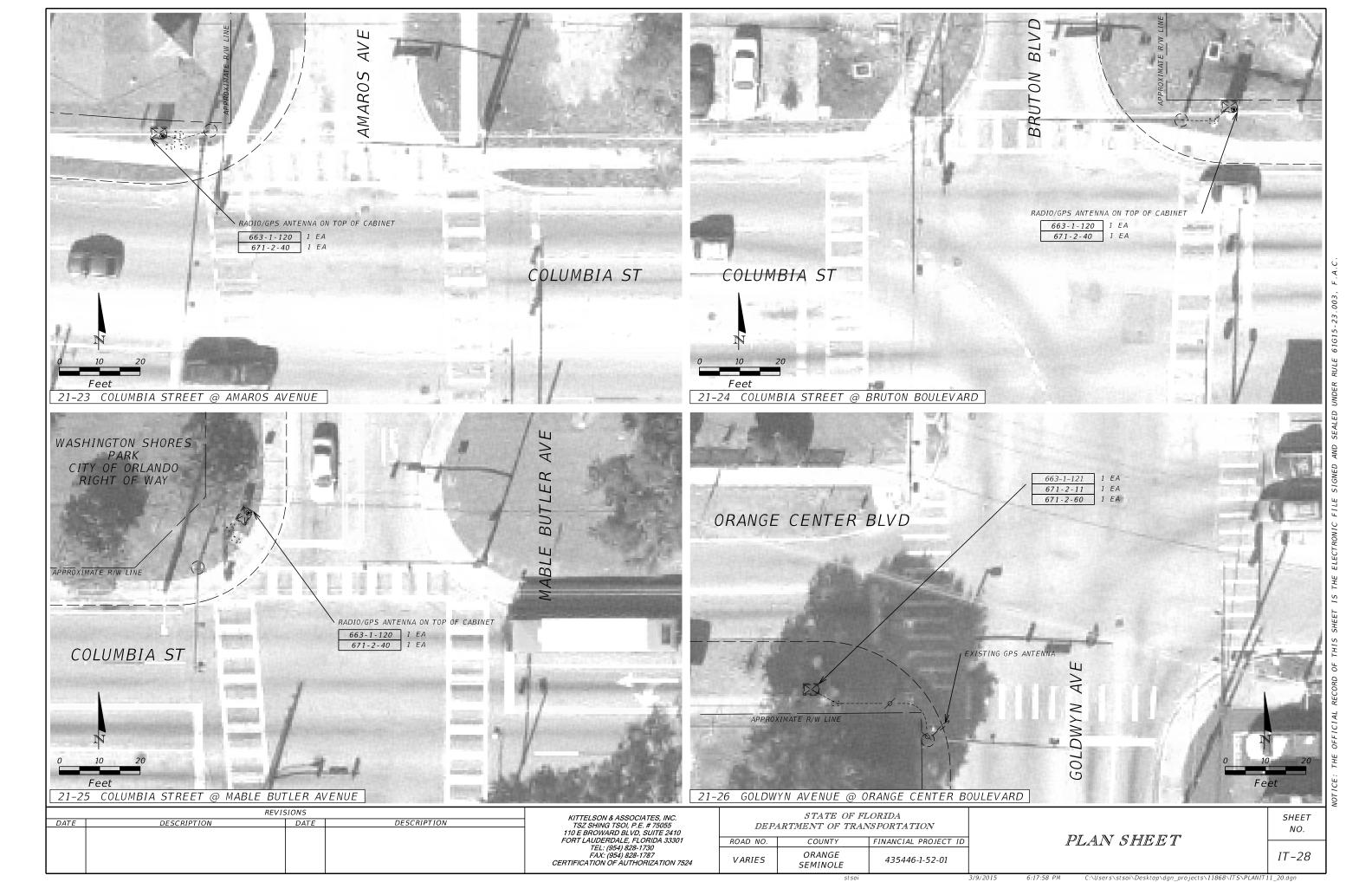


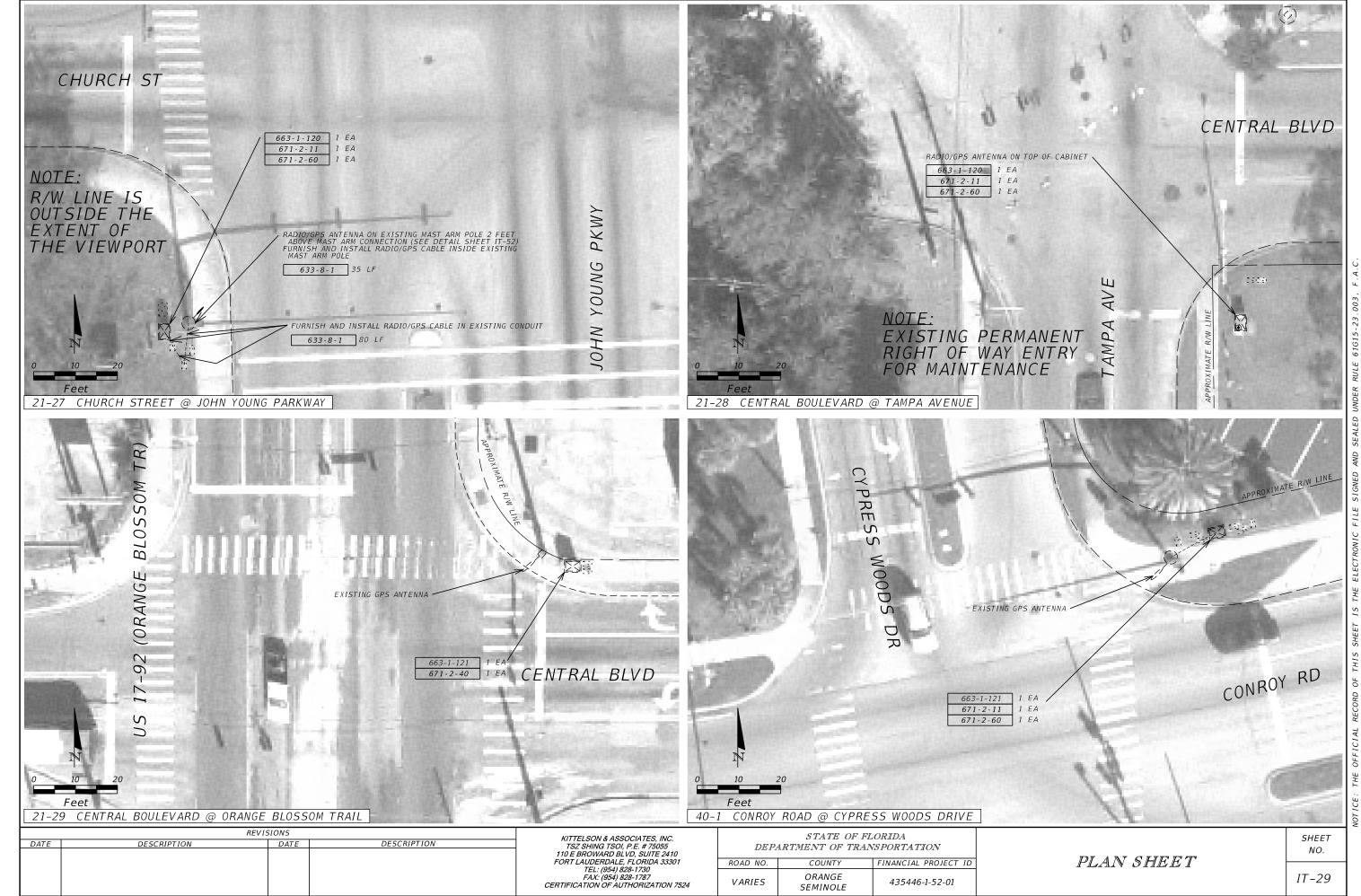






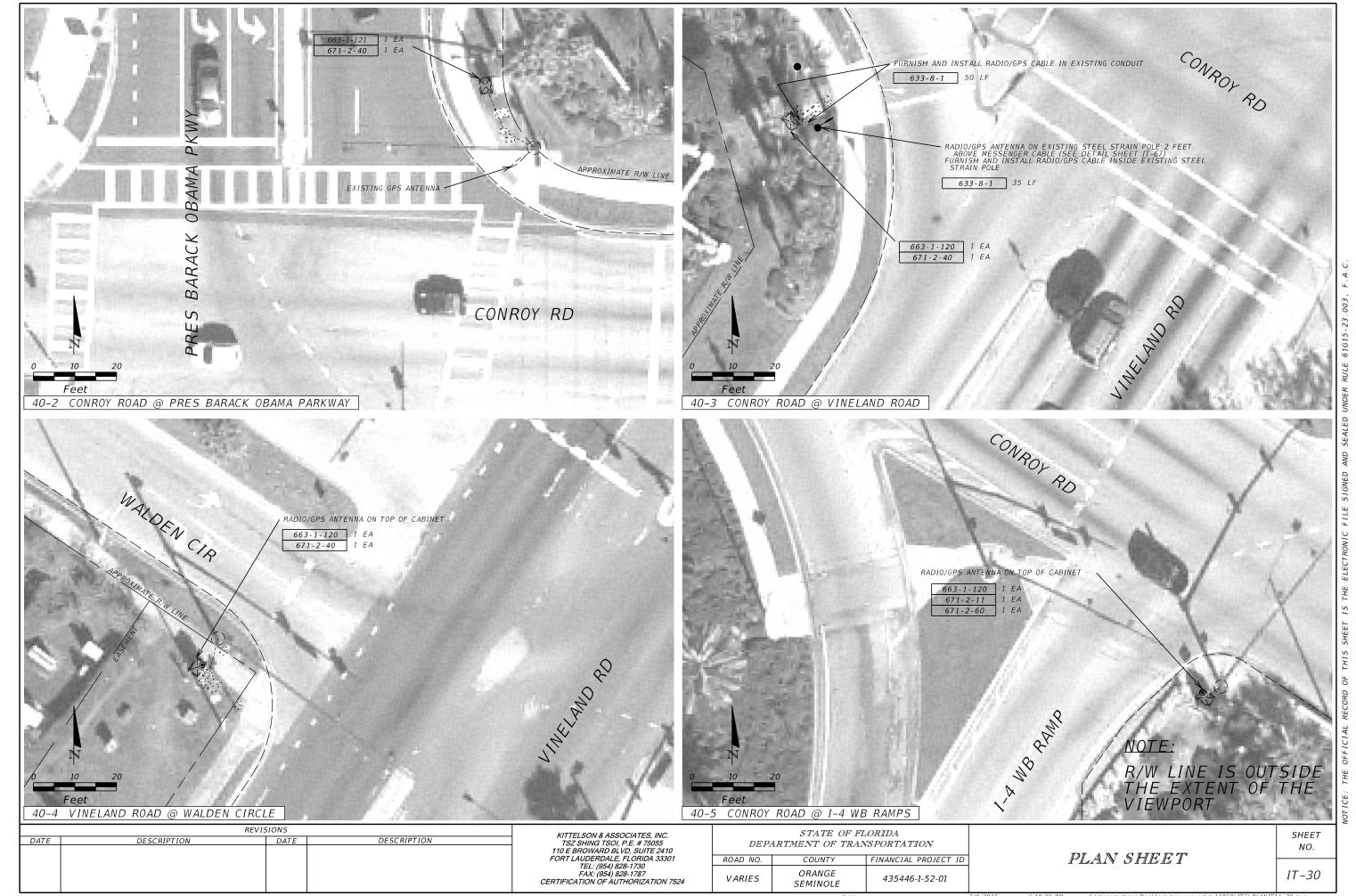


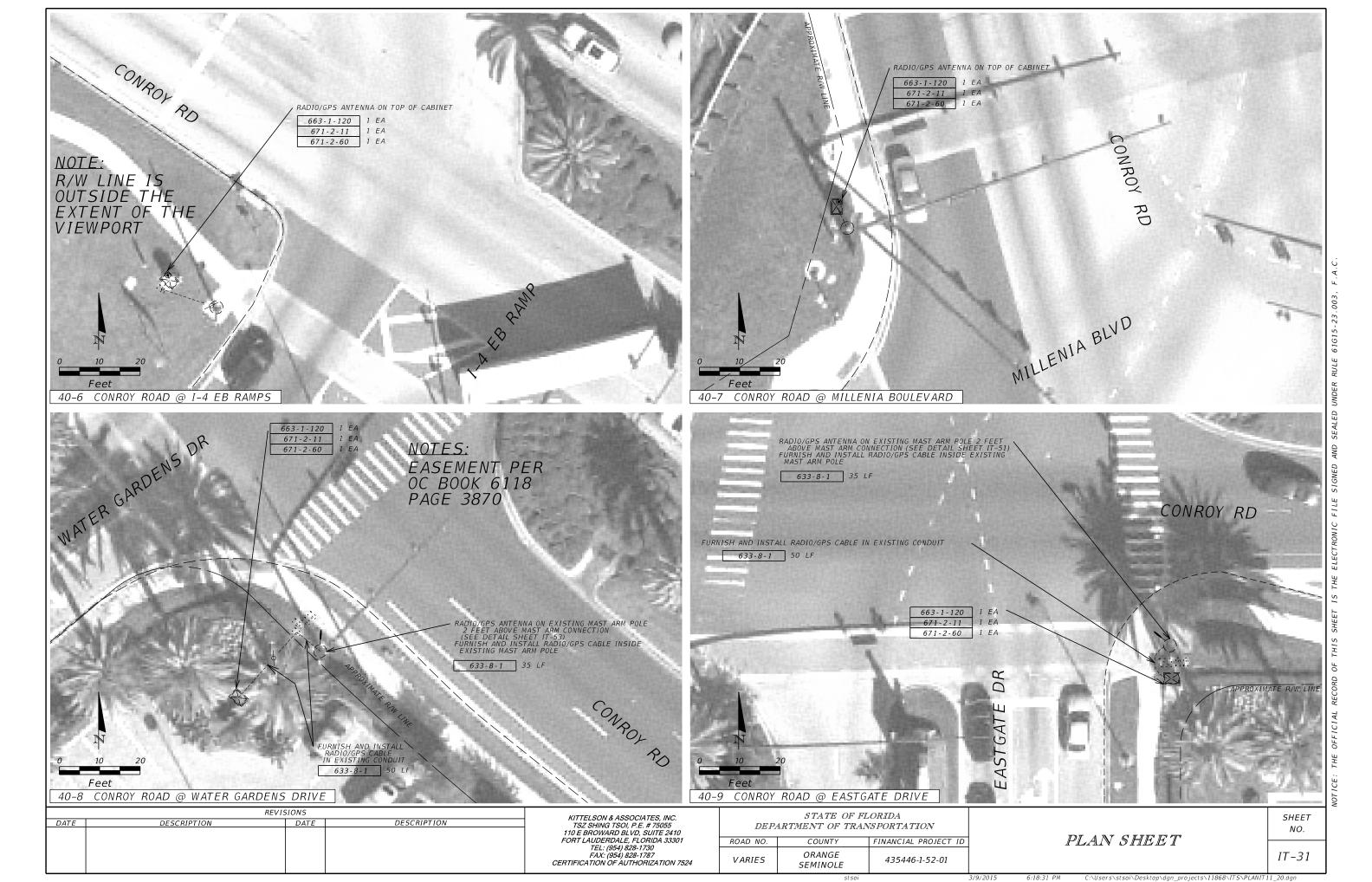


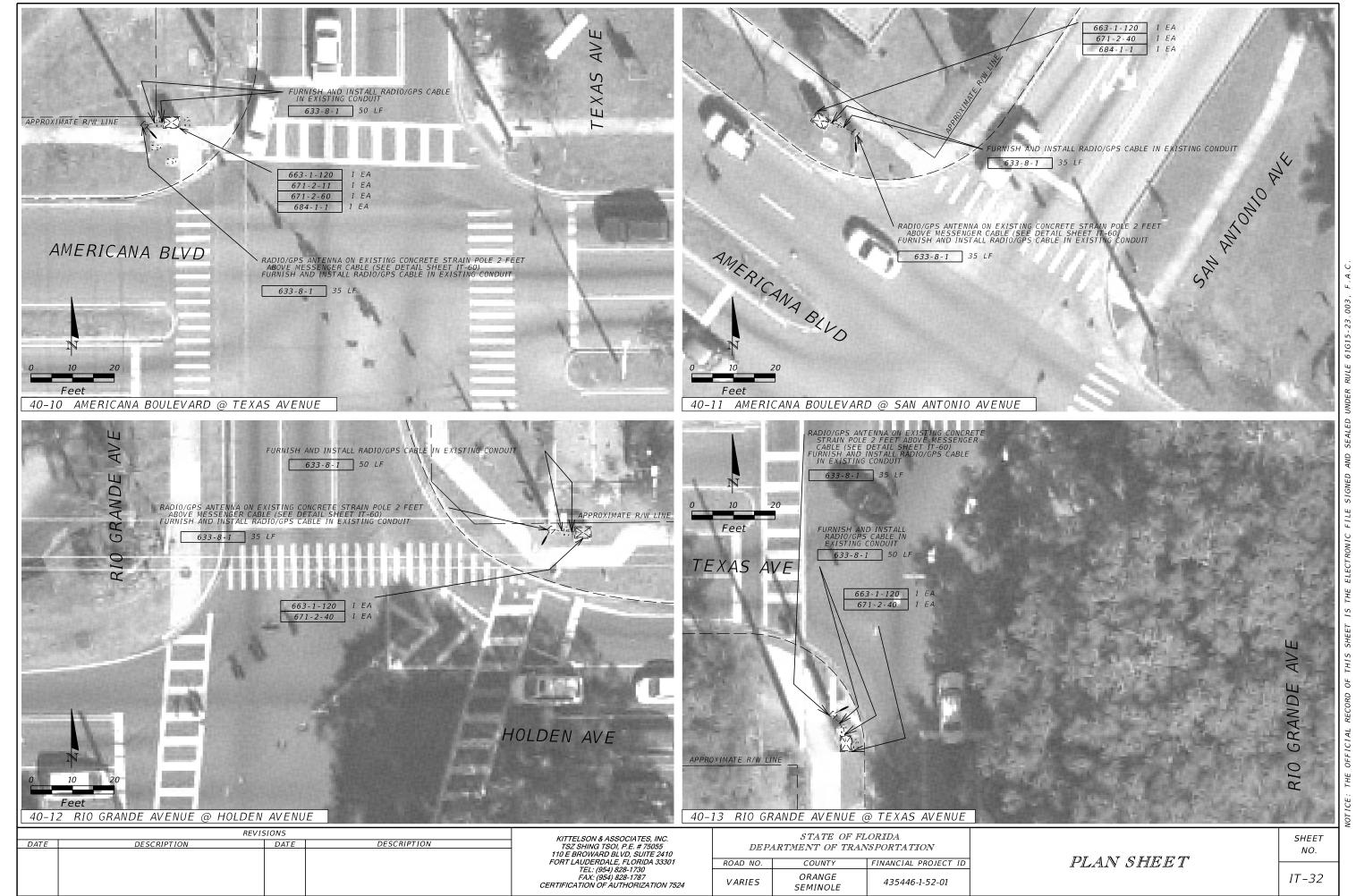


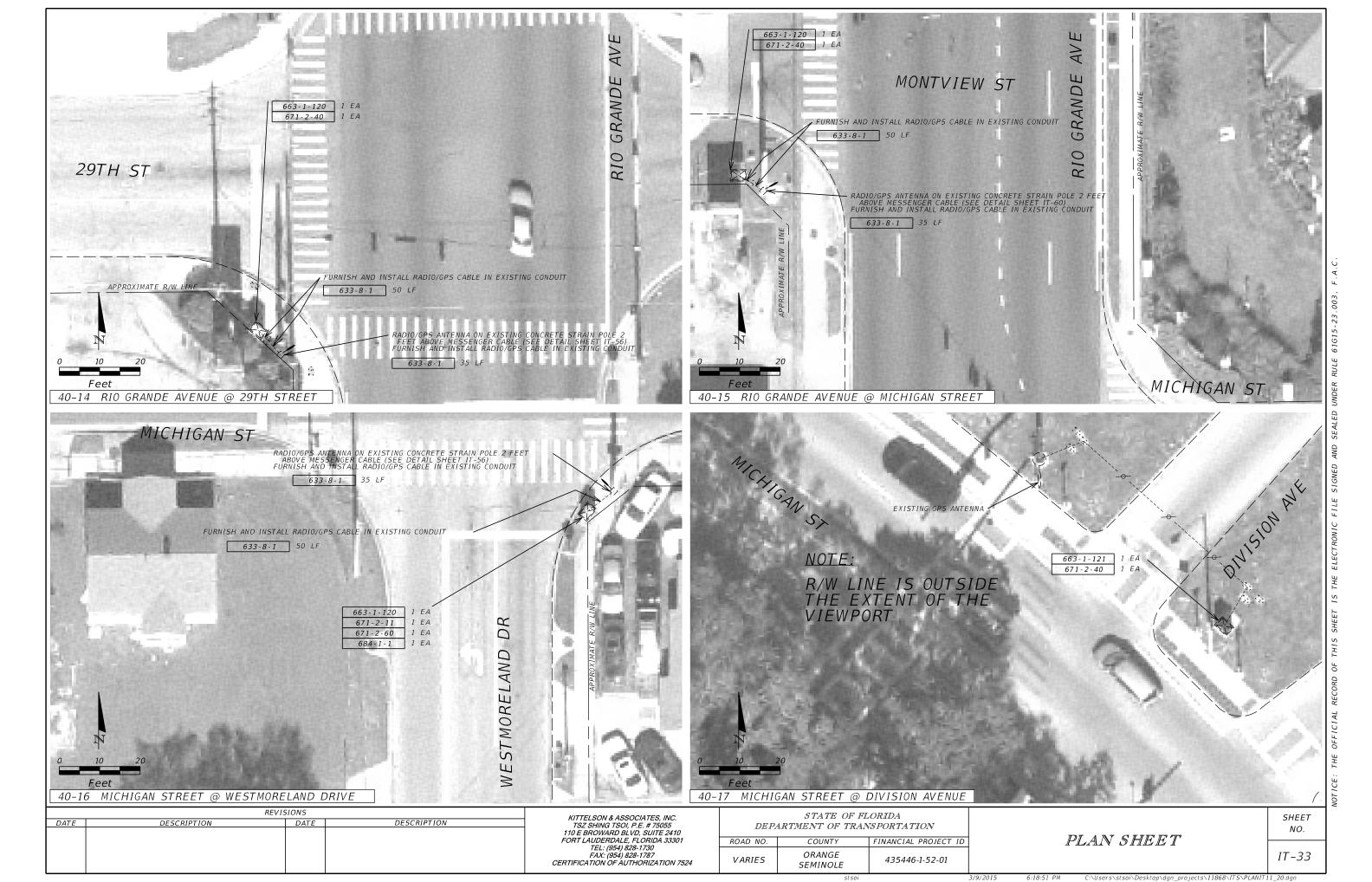
/2015 6:42:1

1 C:\Users\stsoi\Desktop\dan proie

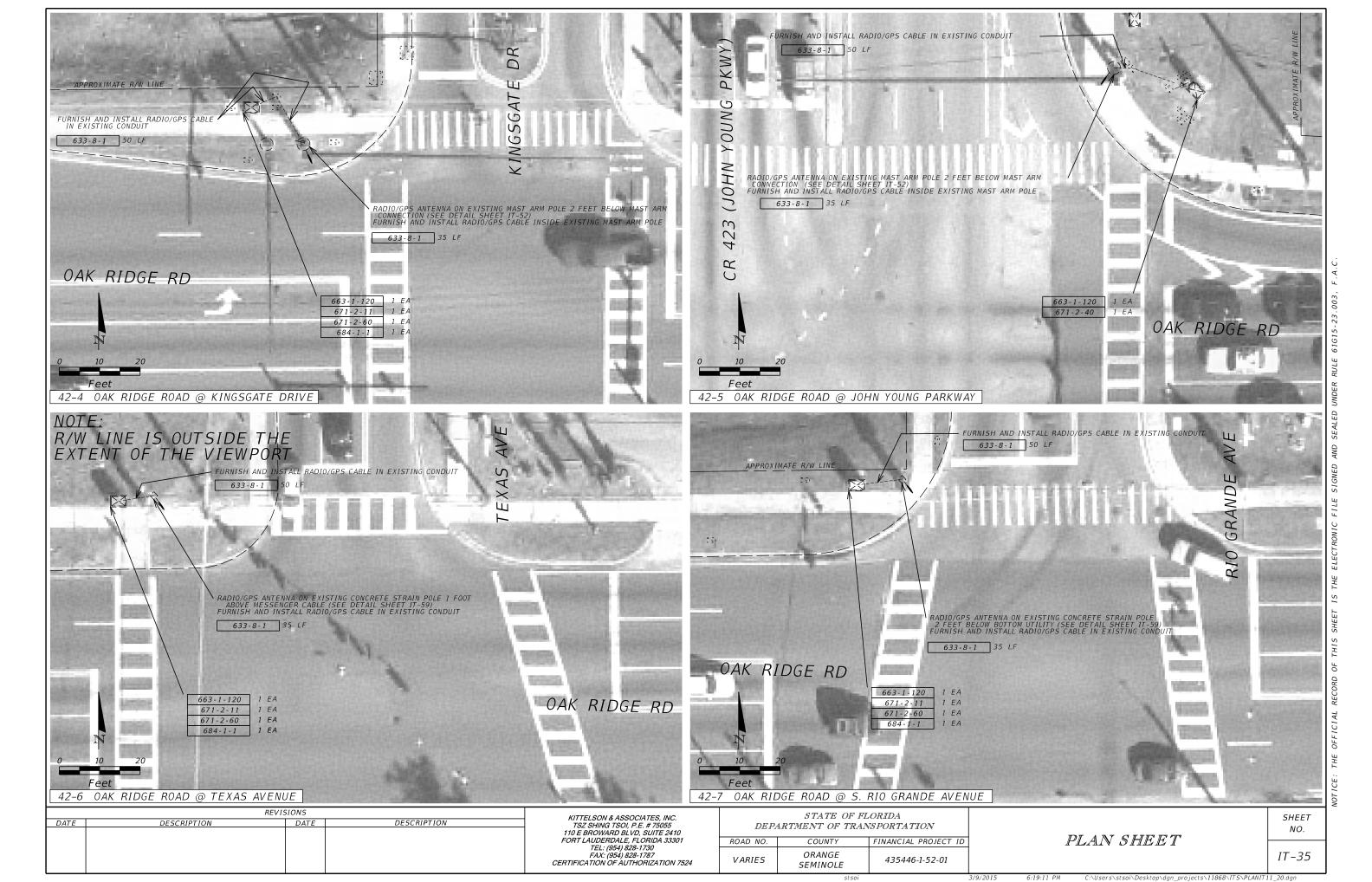


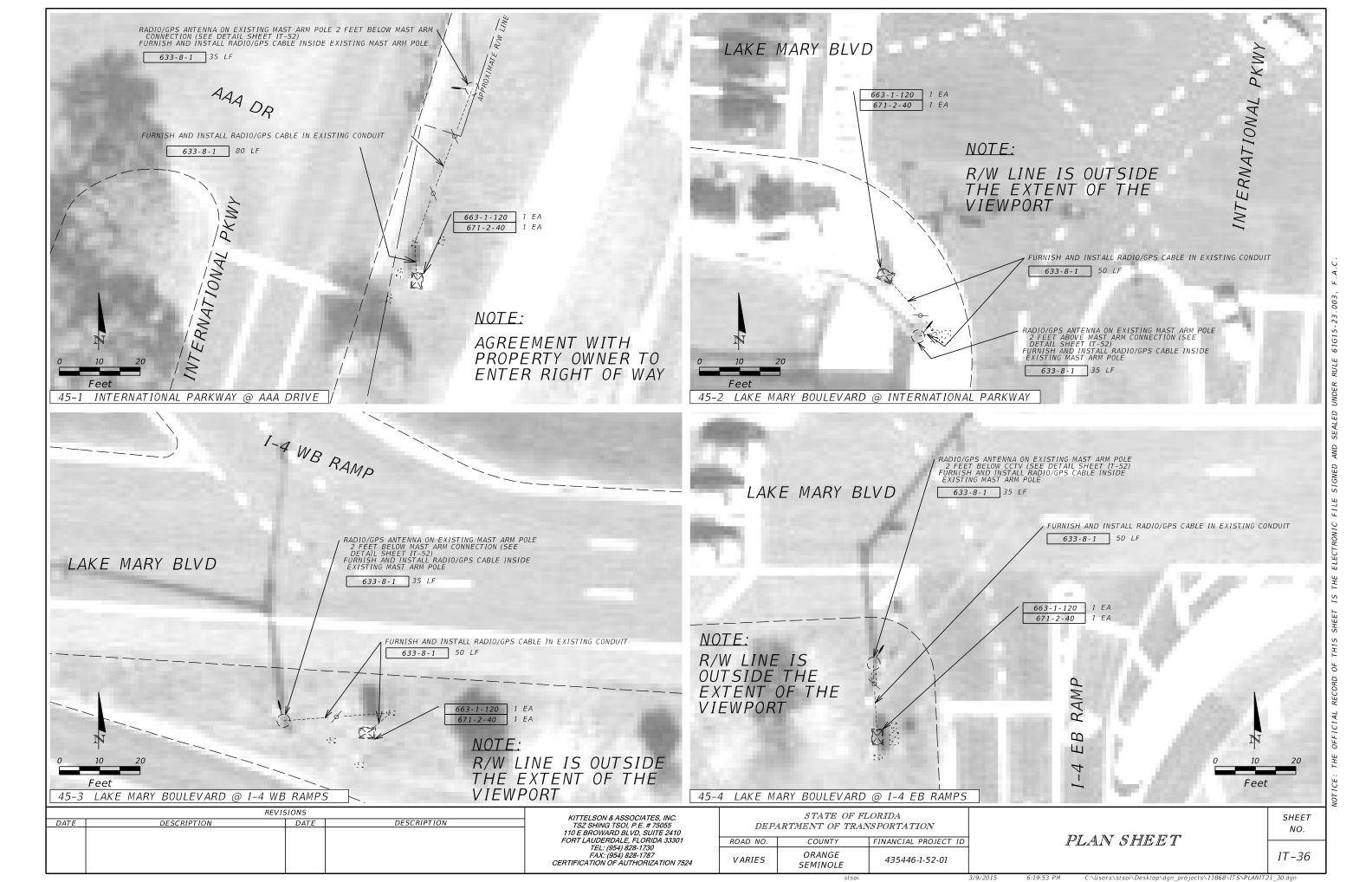


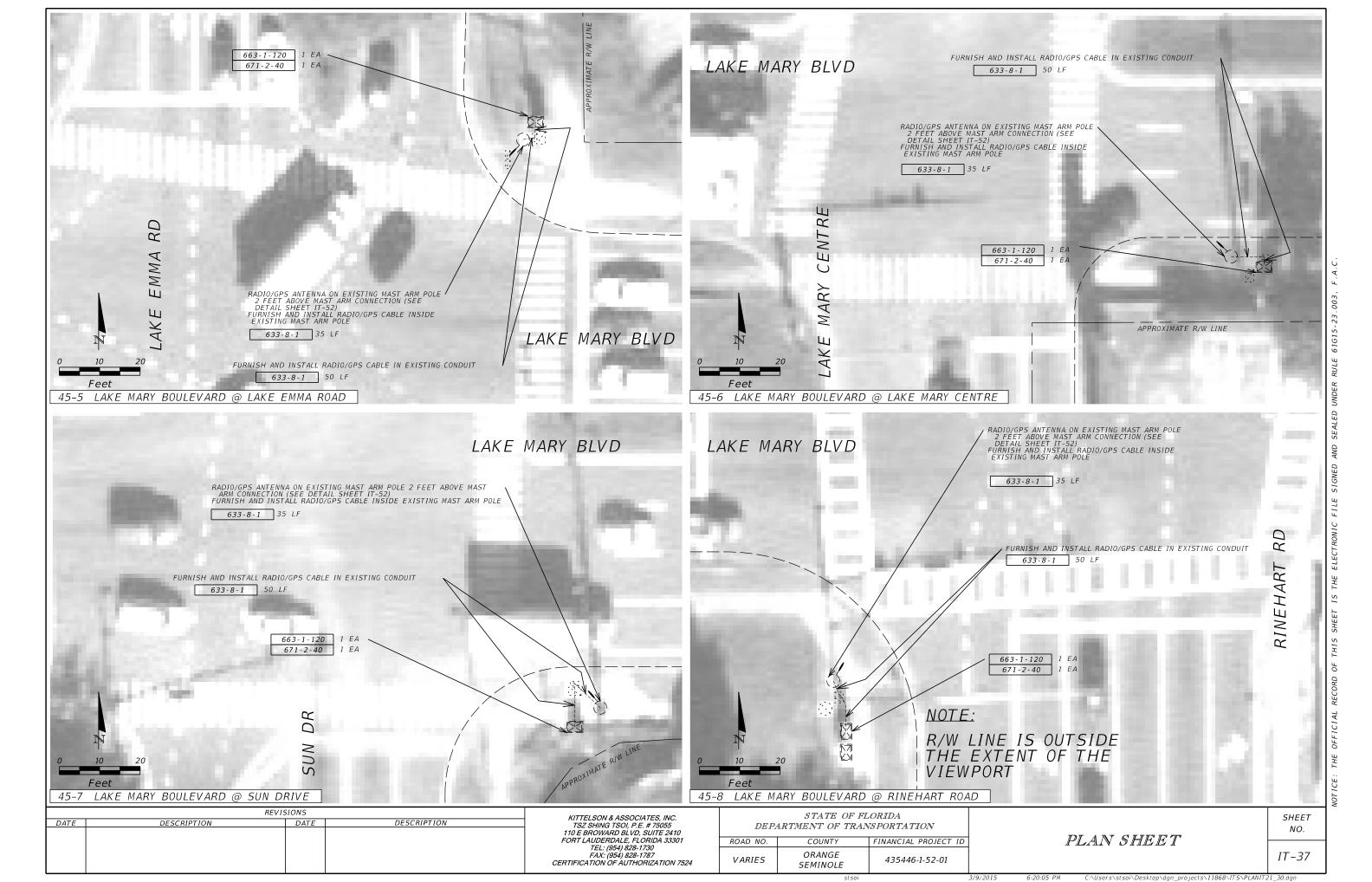


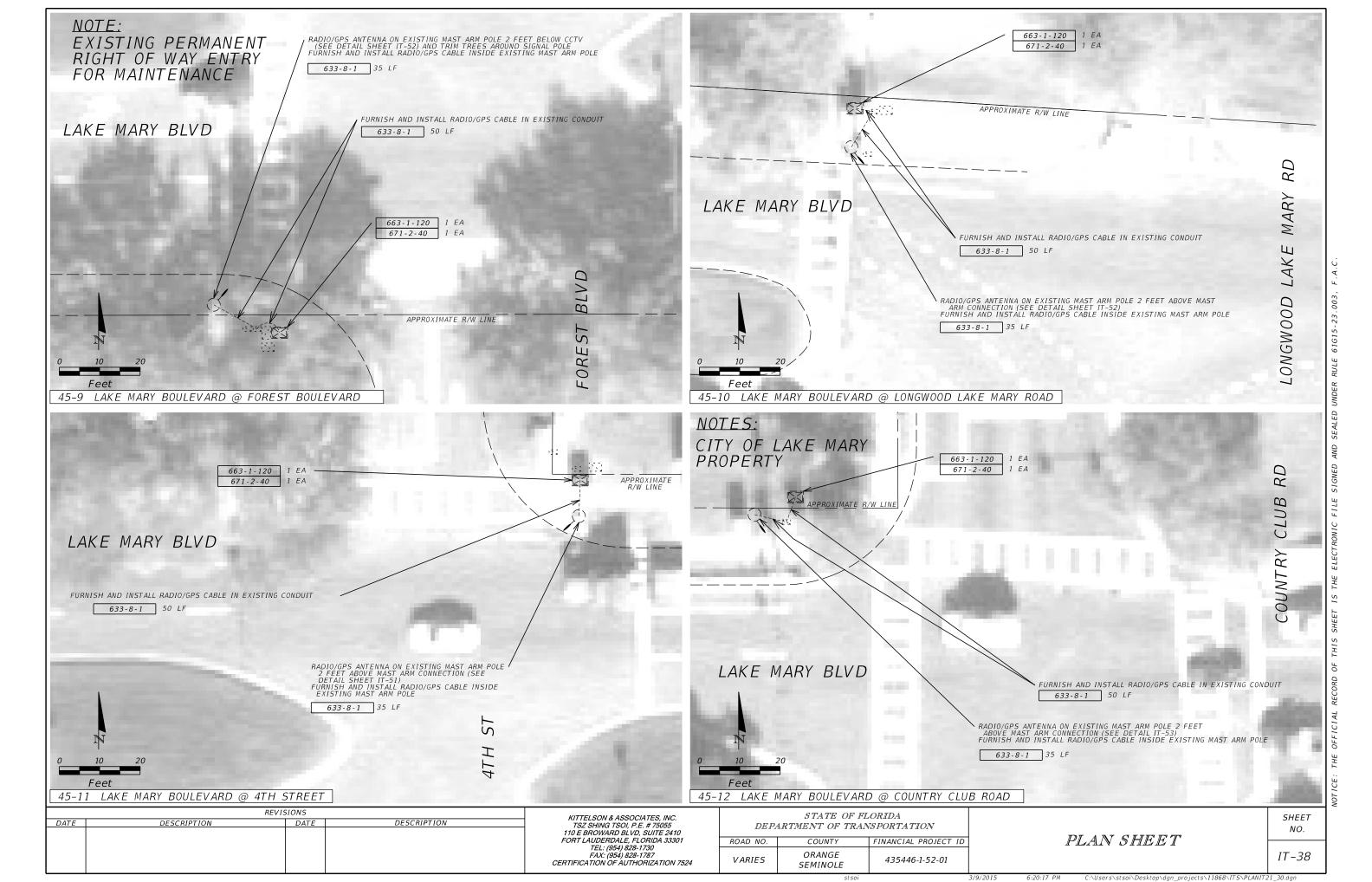


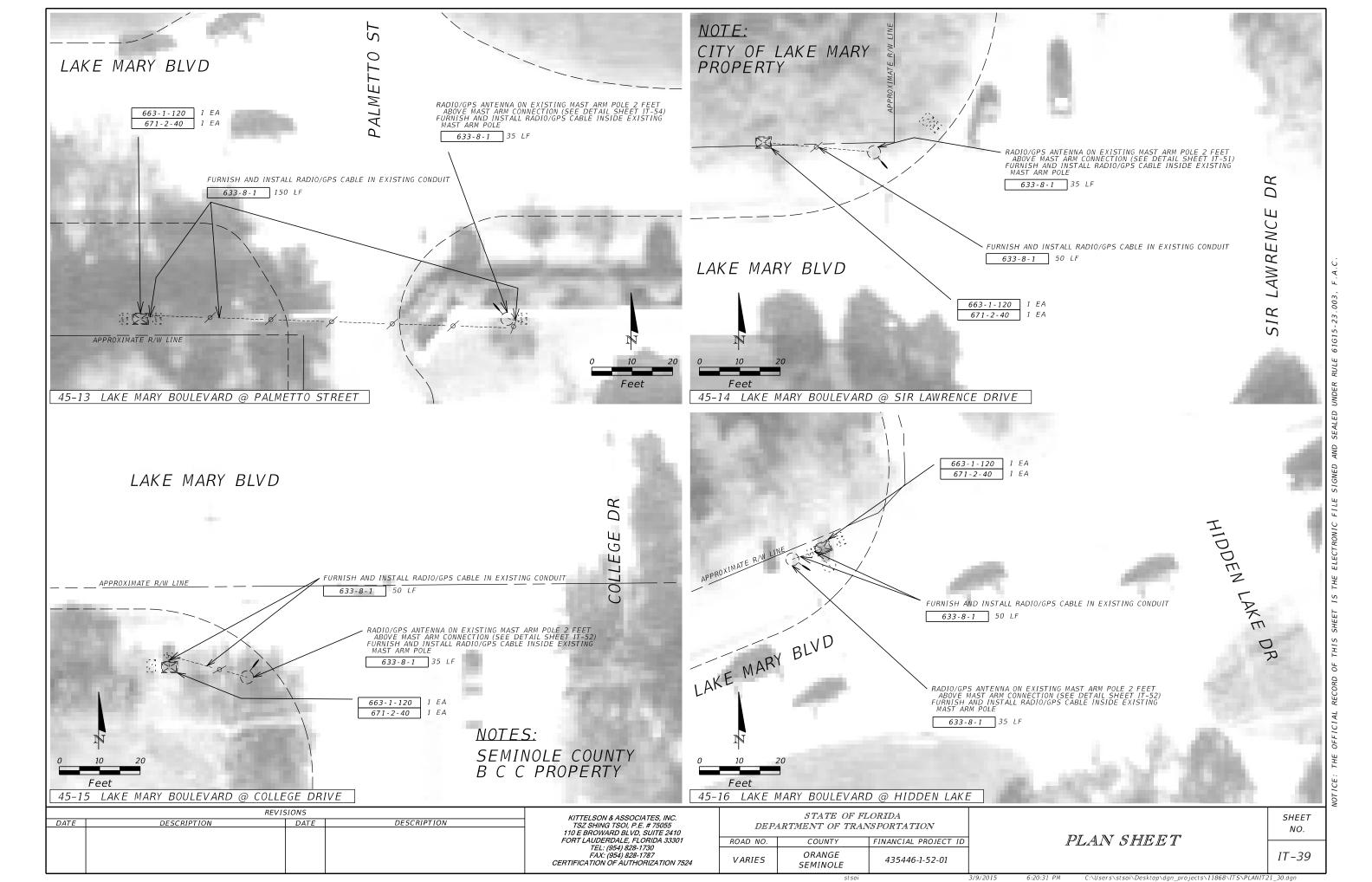


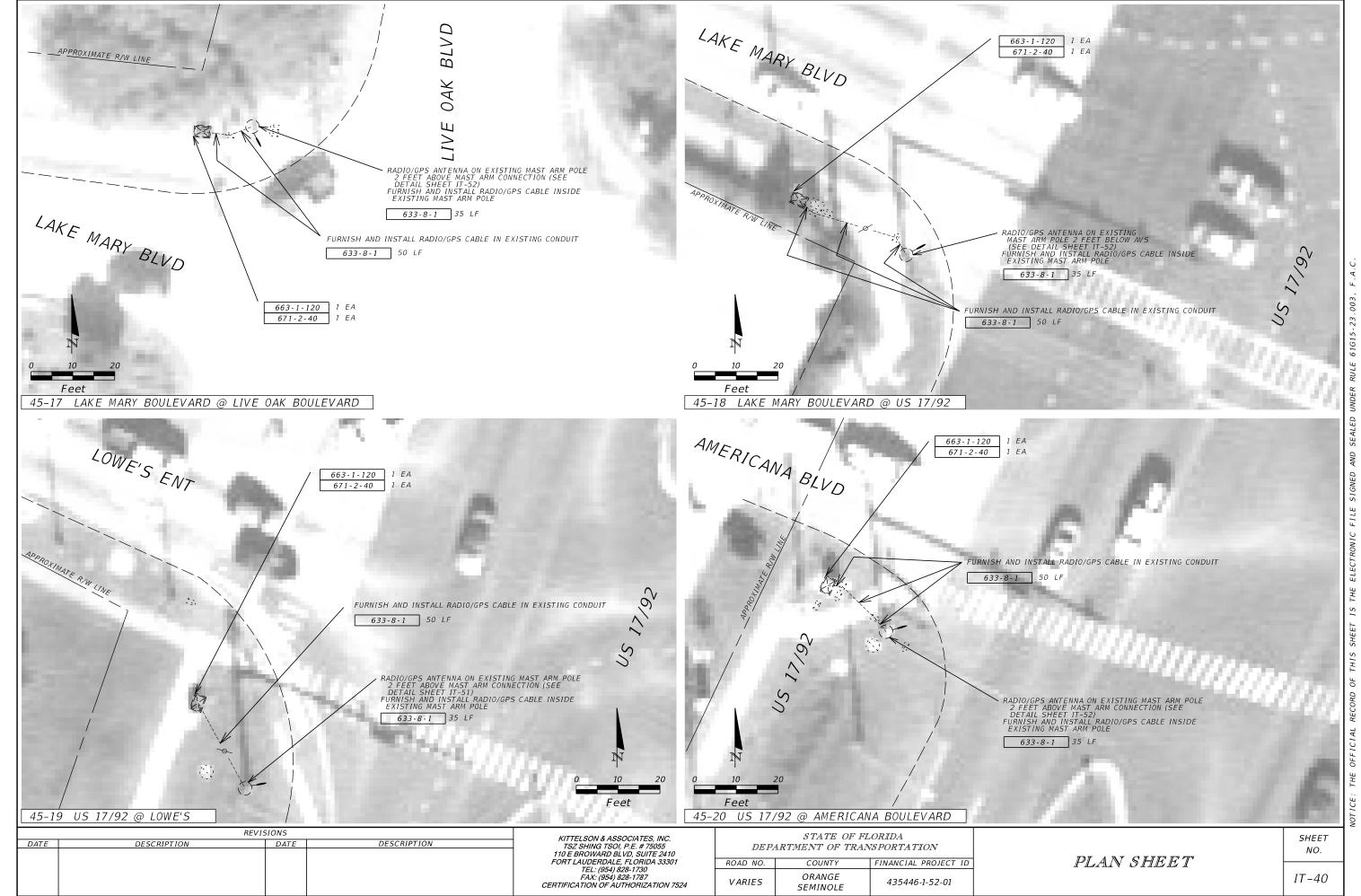


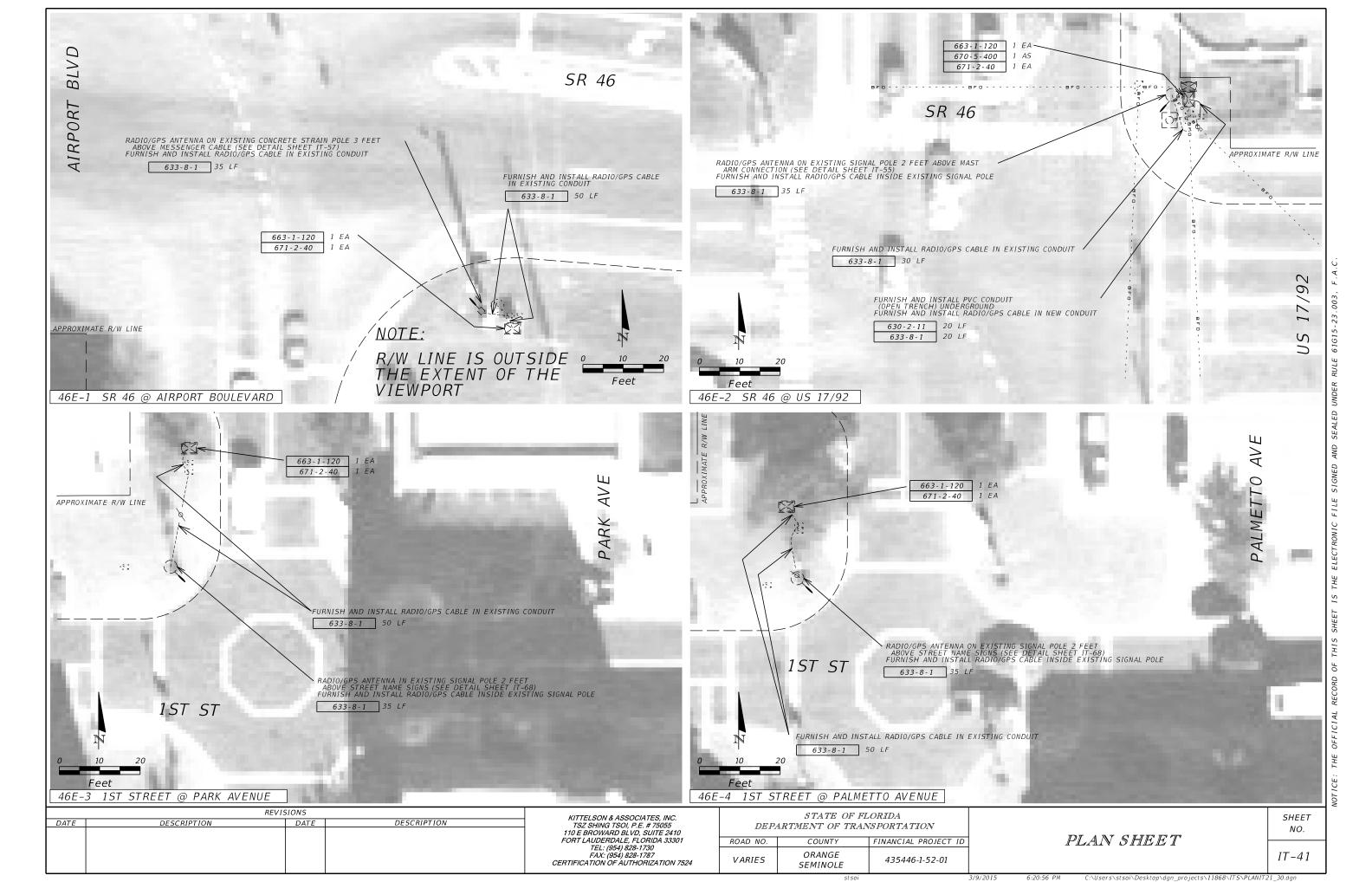


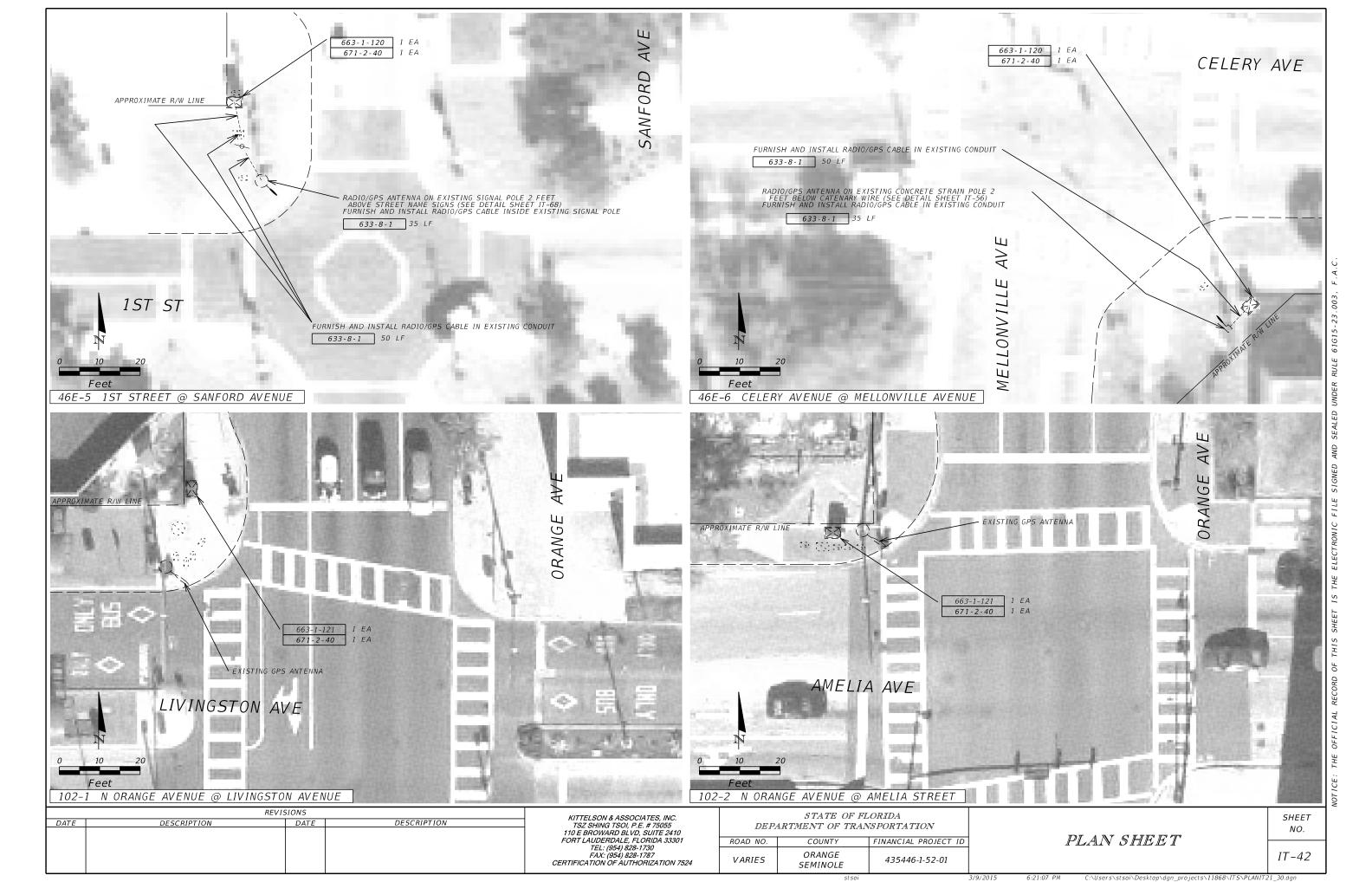


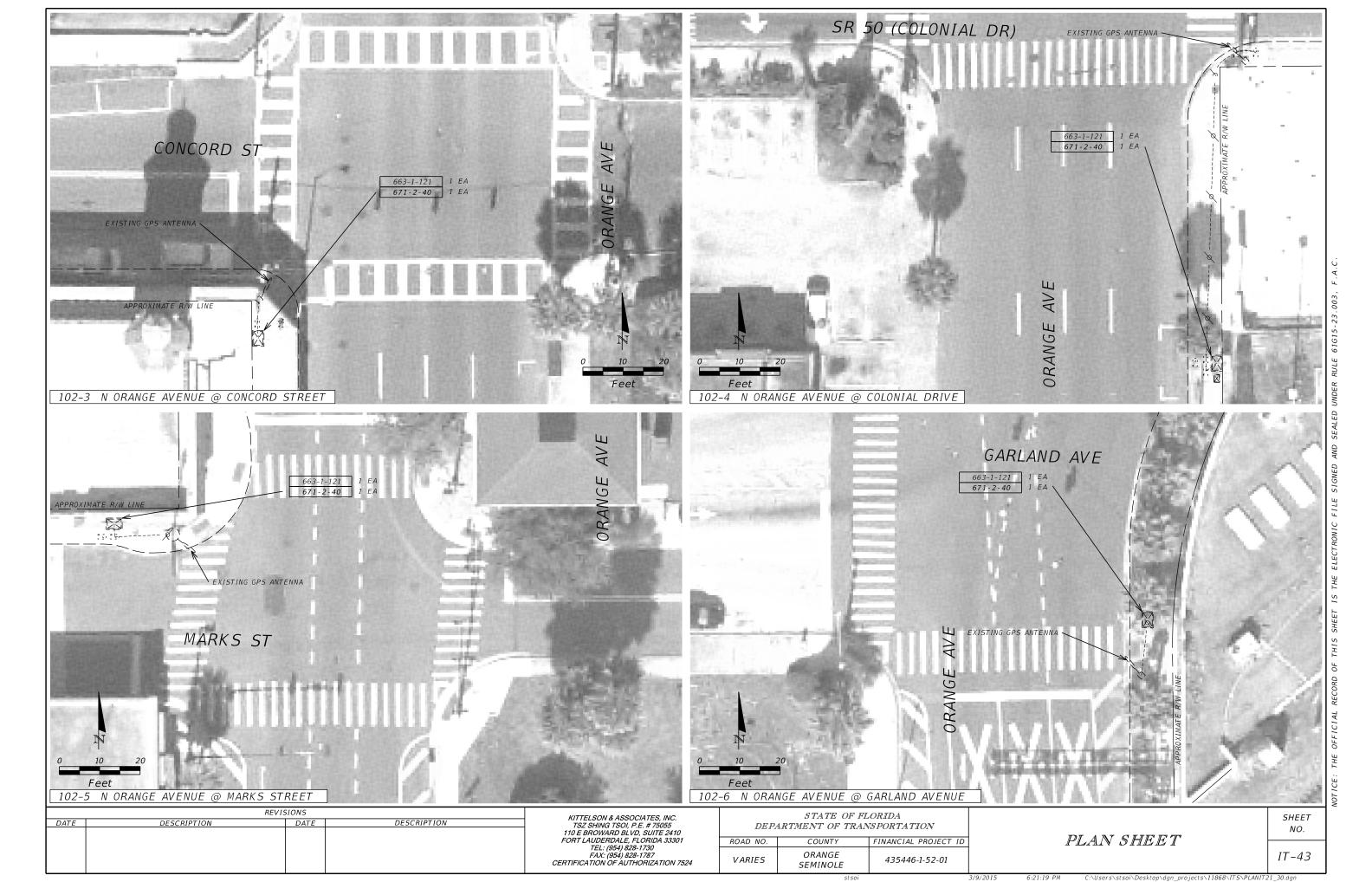






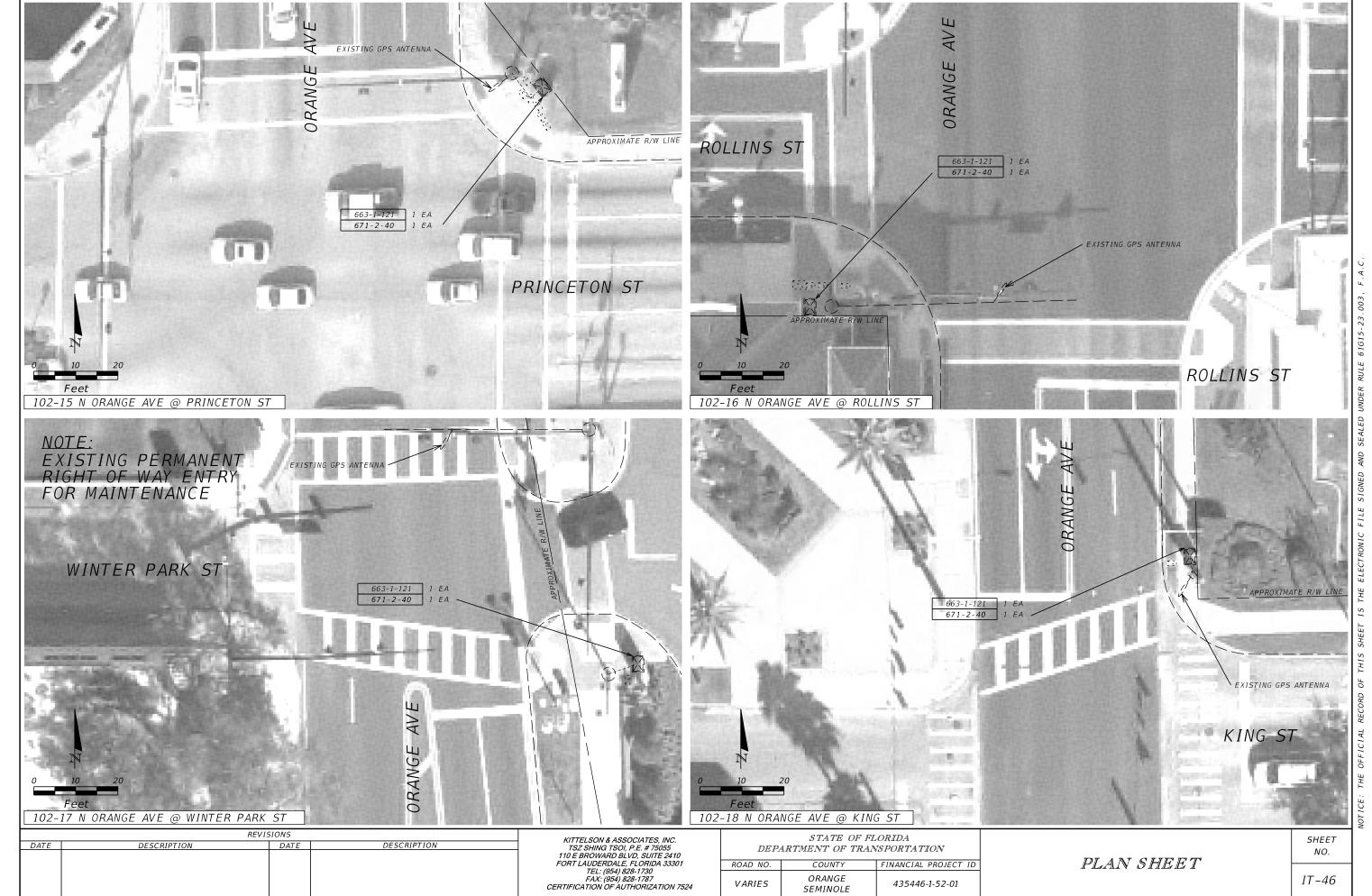






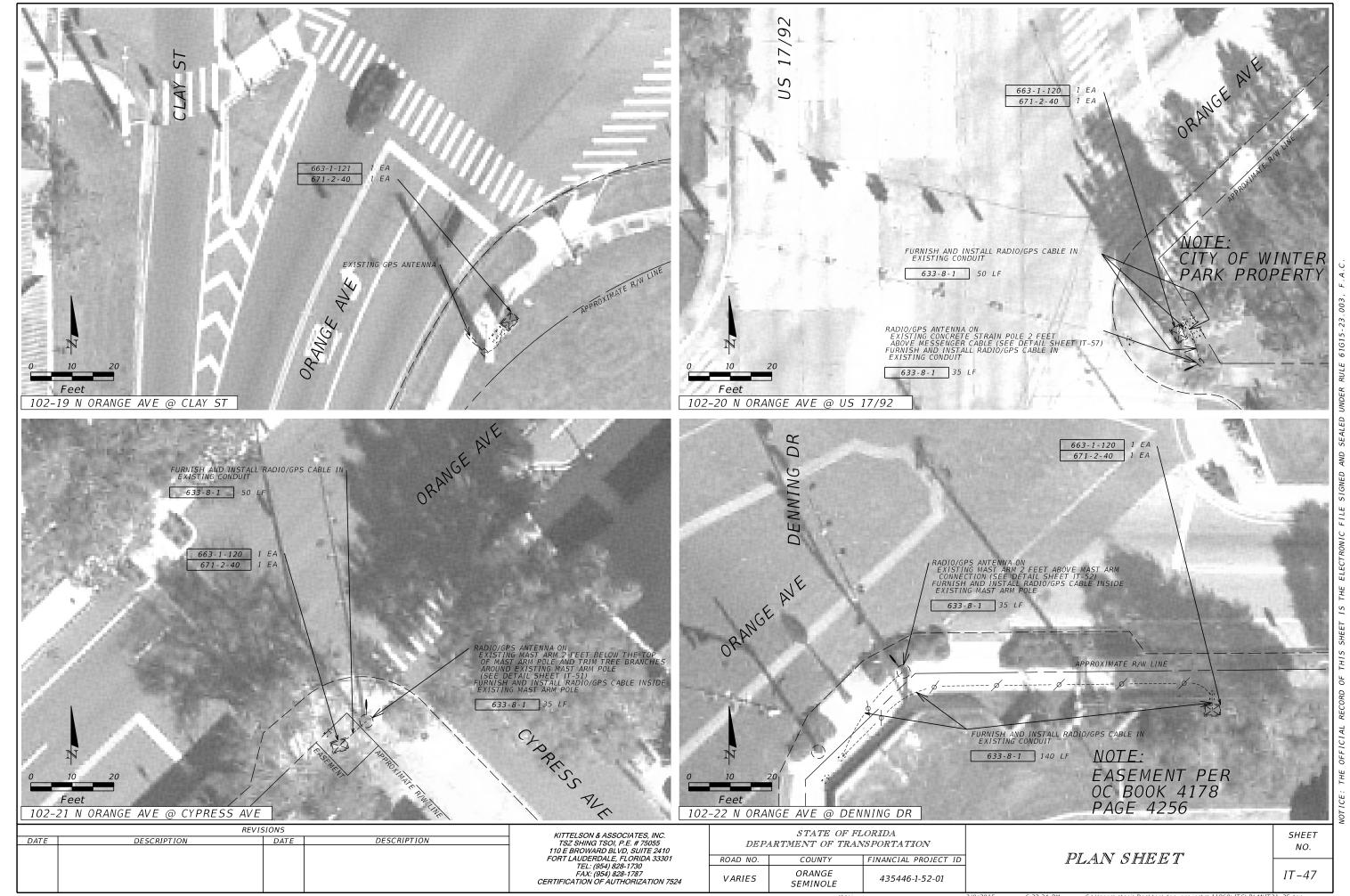






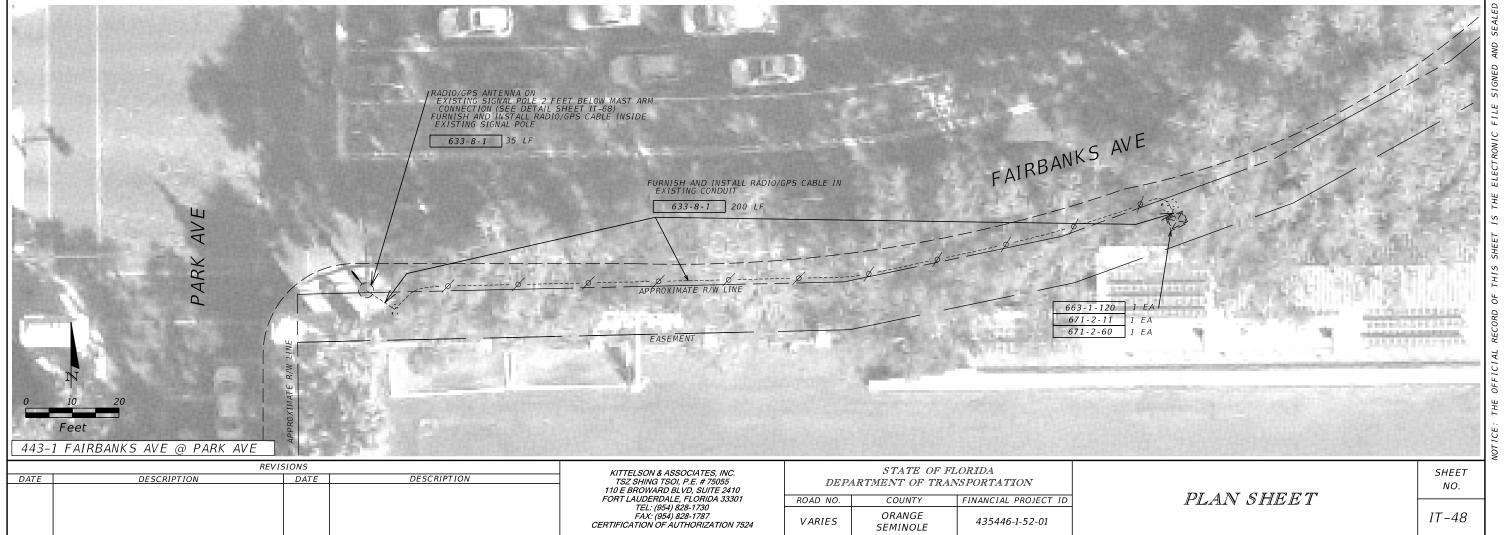
6:22:22 PM

PM C:\Users\stsoi\Desktop\dan projects\11868\ITS\PLANIT31





THIS DETAIL INTENTIONALLY LEFT BLANK



IT-48

FINANCIAL PROJECT ID

435446-1-52-01

NO.

DEPARTMENT OF TRANSPORTATION

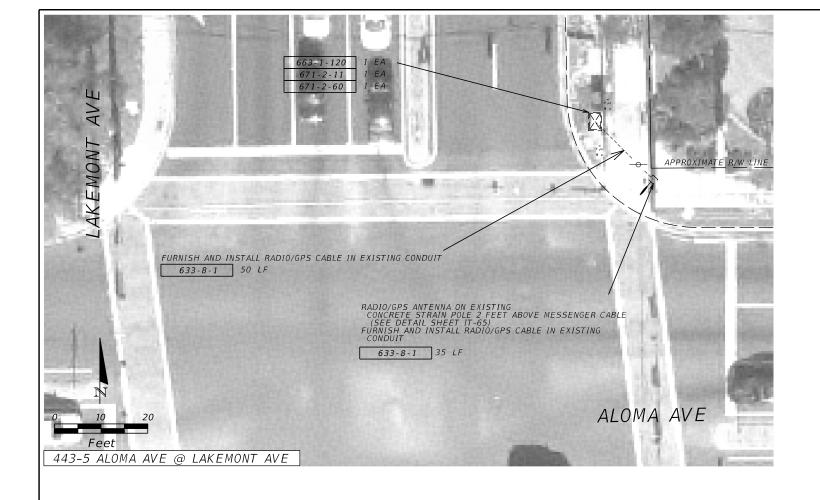
COUNTY ORANGE

SEMINOLE

ROAD NO.

VARIES





THIS DETAIL INTENTIONALLY LEFT BLANK

THIS DETAIL INTENTIONALLY LEFT BLANK

THIS DETAIL INTENTIONALLY LEFT BLANK

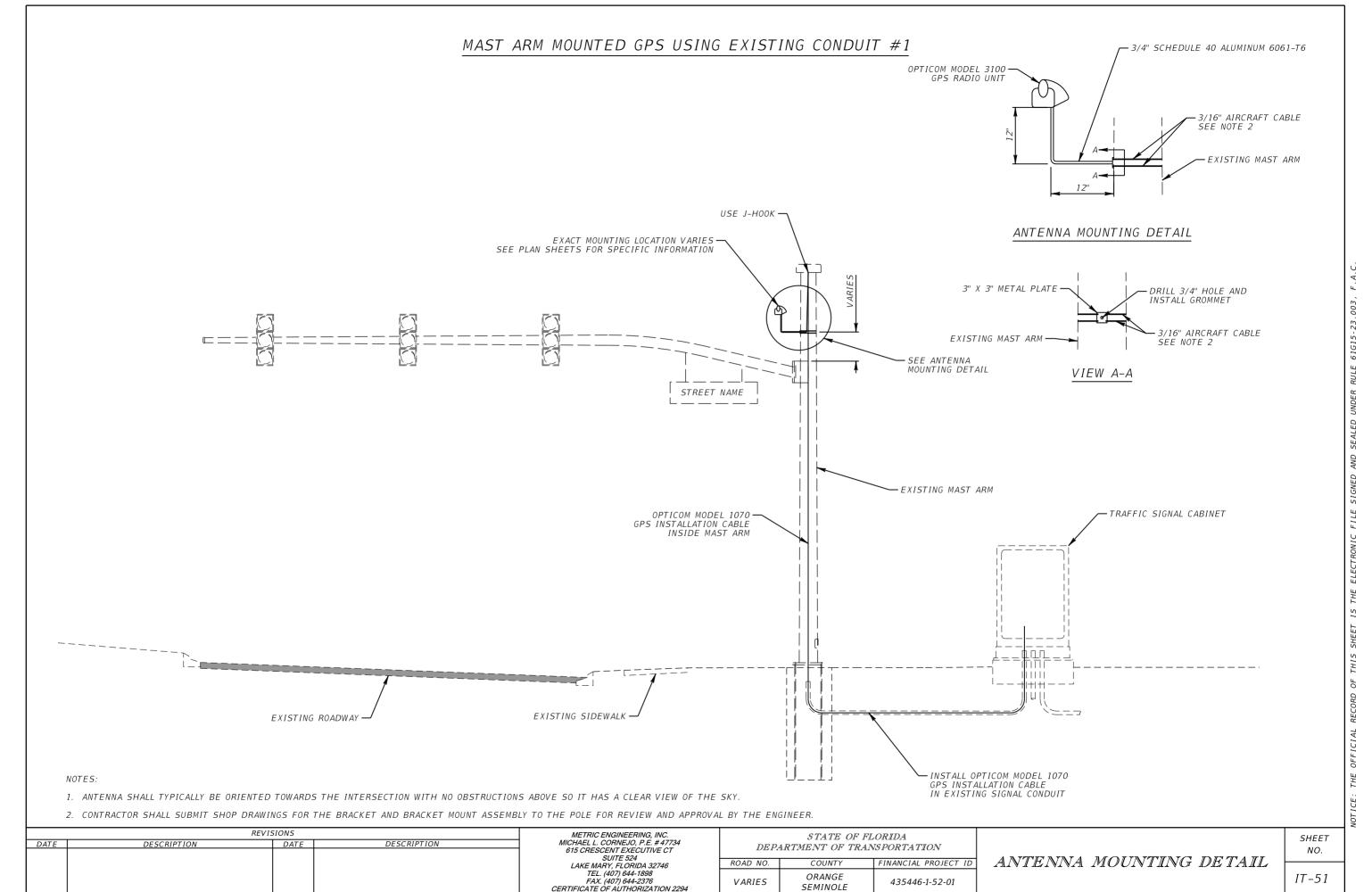
DATE DESCRIPTION DATE DESCRIPTION TSZ SHING TSOI, P.E.
110 E BROWARD BLVD, 3 FORT LAUDERDALE, FLO
TEL: (954) \$28-17
FAX: (954) 828-17 CERTIFICATION OF AUTHOR

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID ORANGE 435446-1-52-01

SEMINOLE

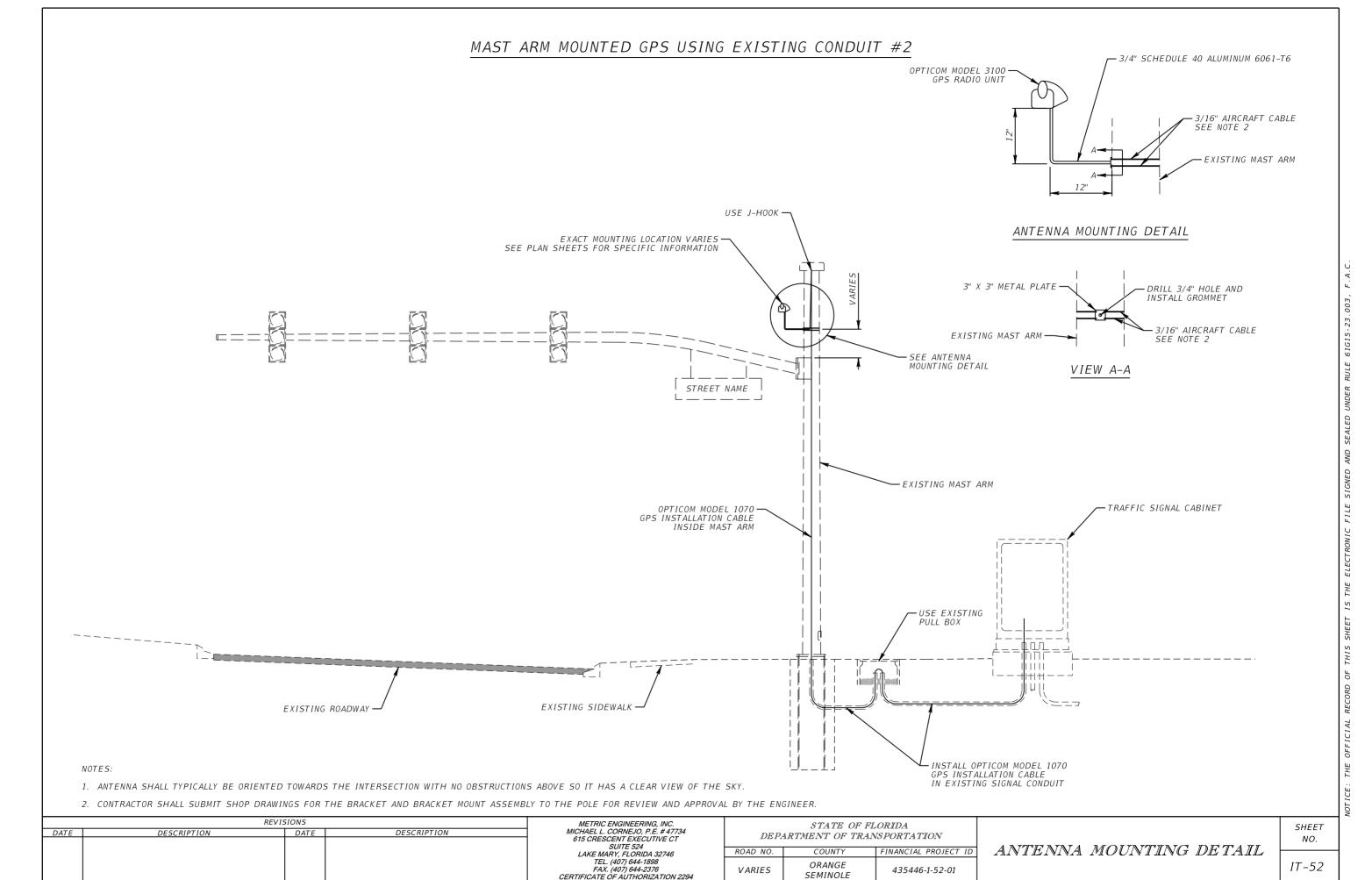
PLAN SHEET

IT-50

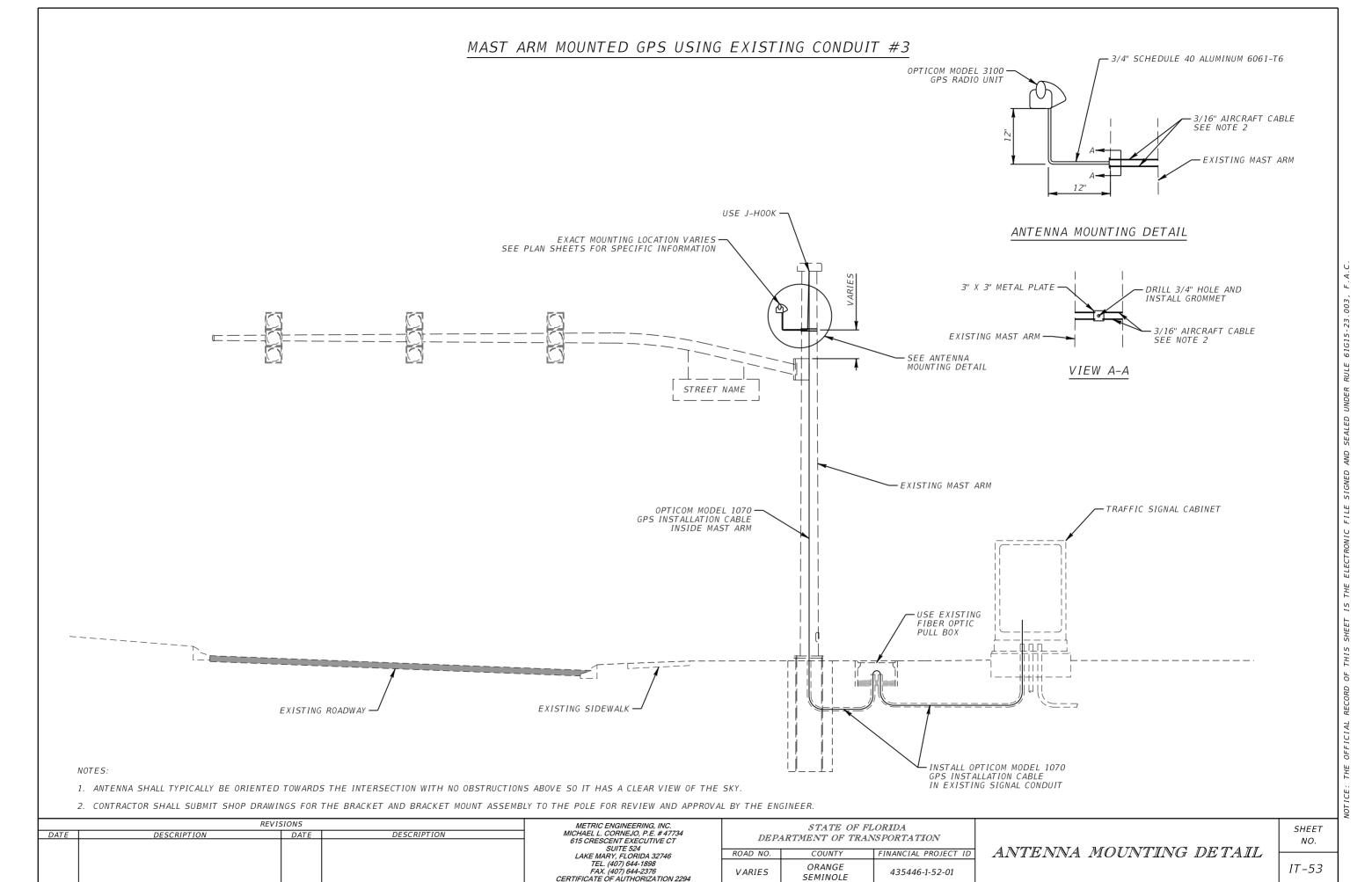


SEMINOLE

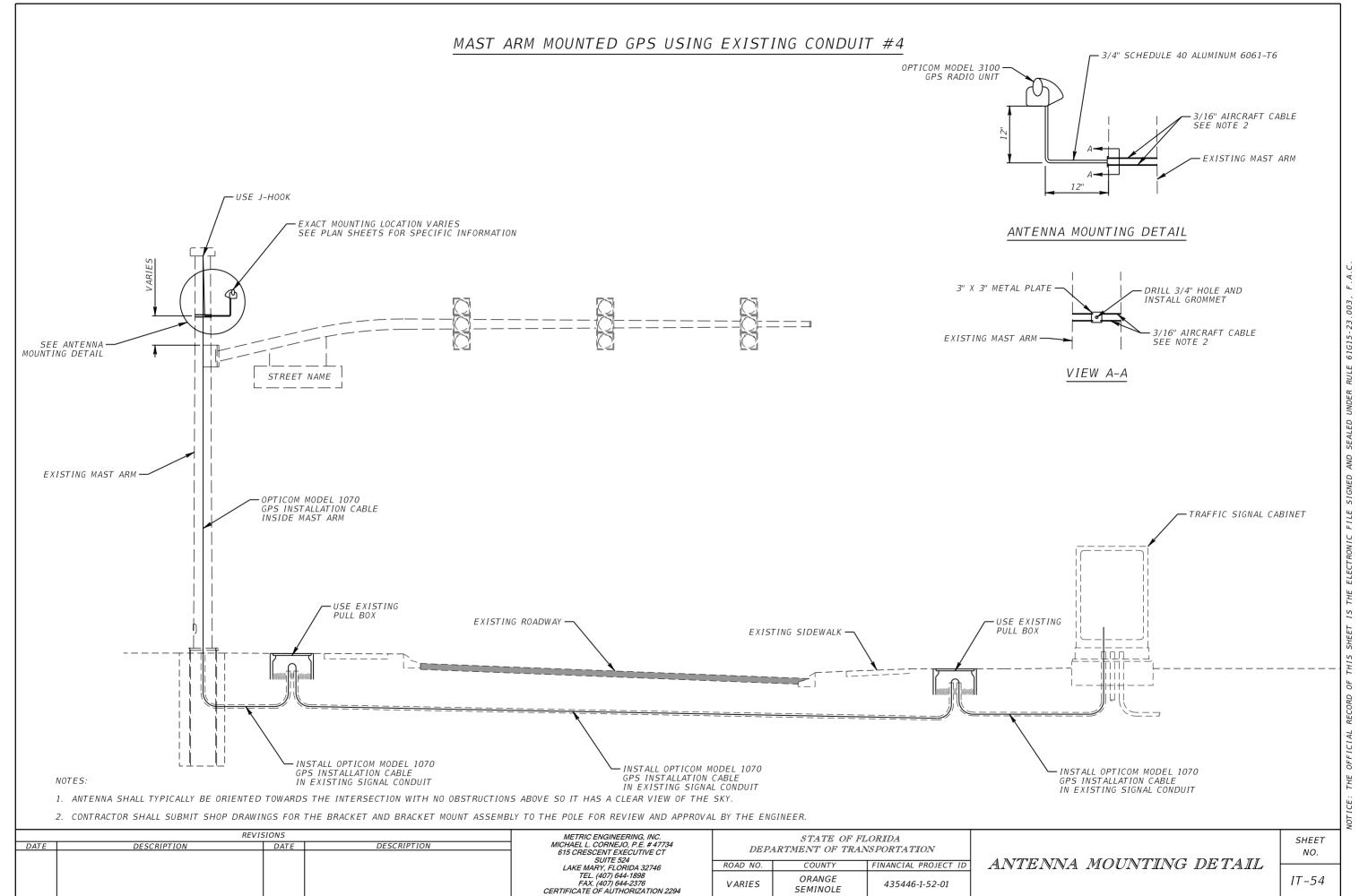
IT-51 R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s



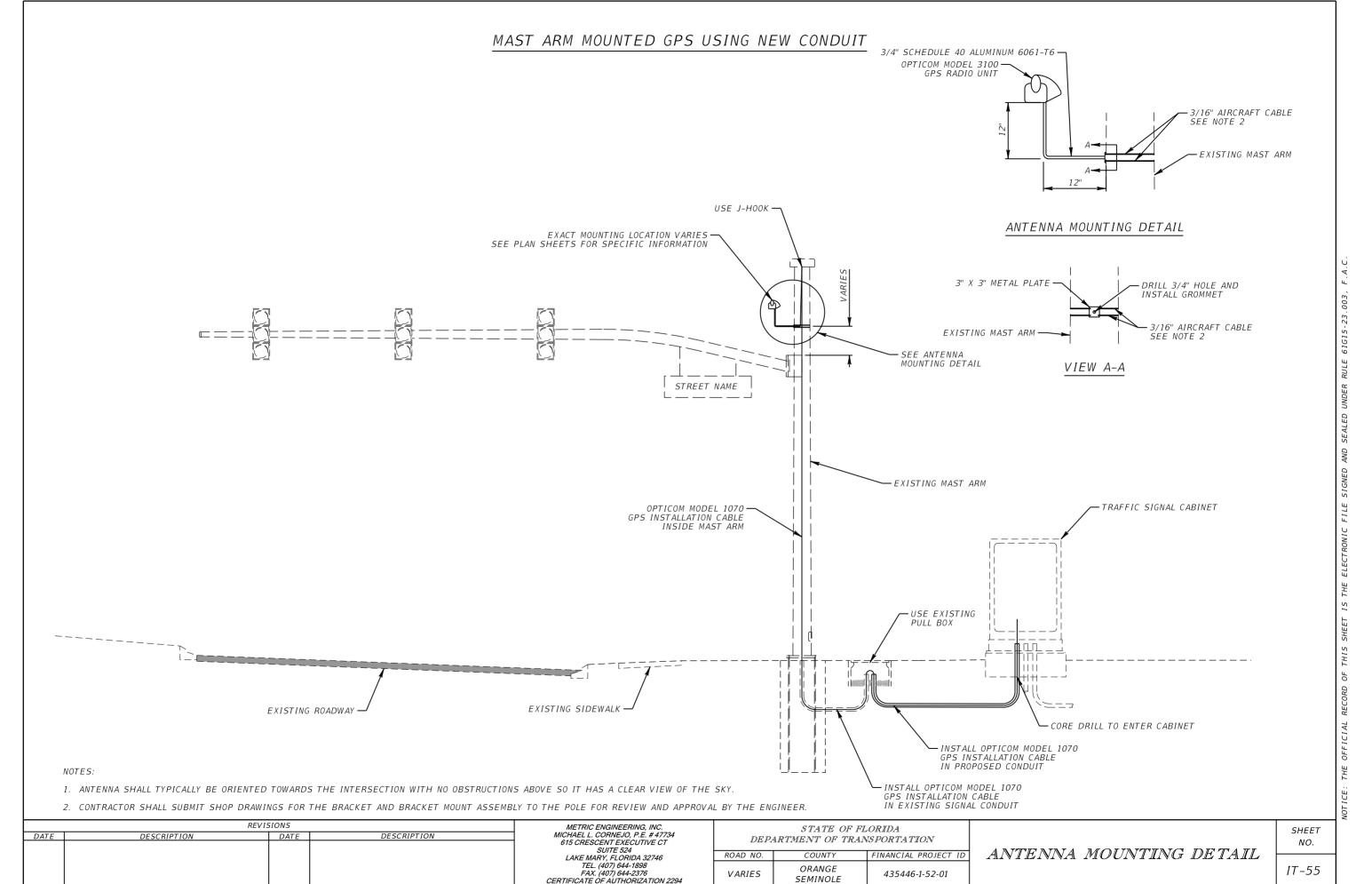
R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its



R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its`

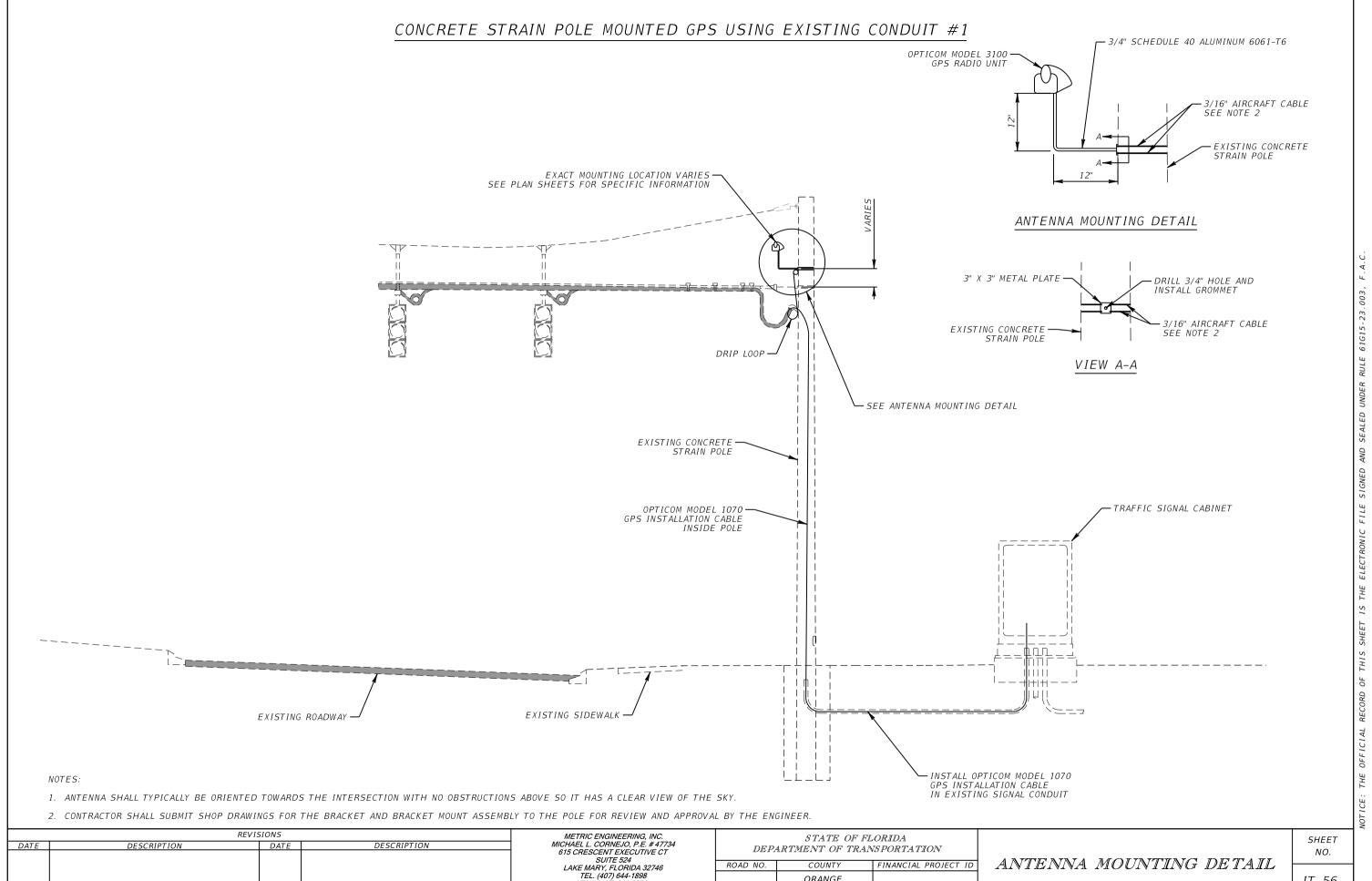


R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s



R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\it

9:58:13 AM



FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

ORANGE

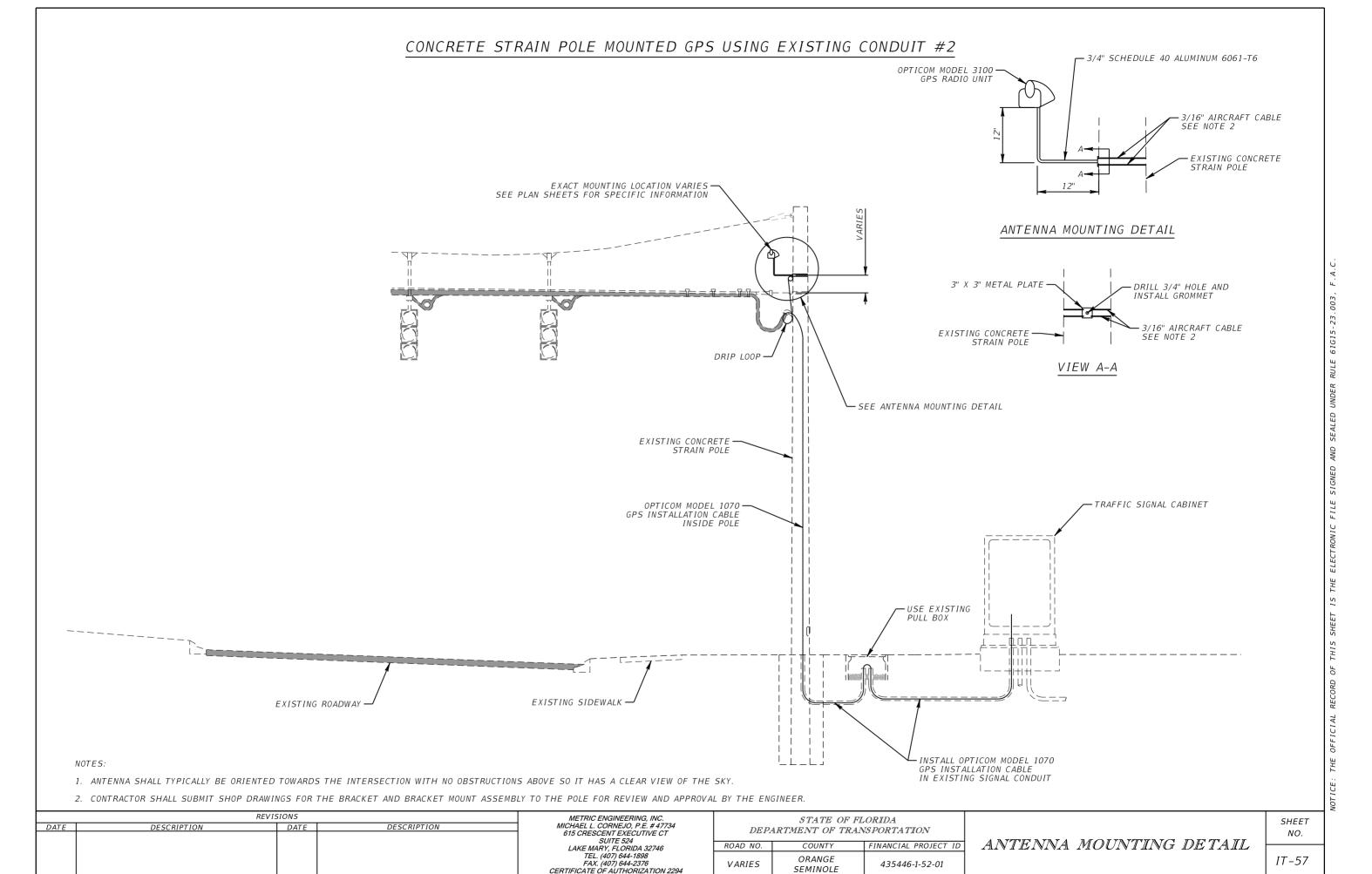
SEMINOLE

435446-1-52-01

VARIES

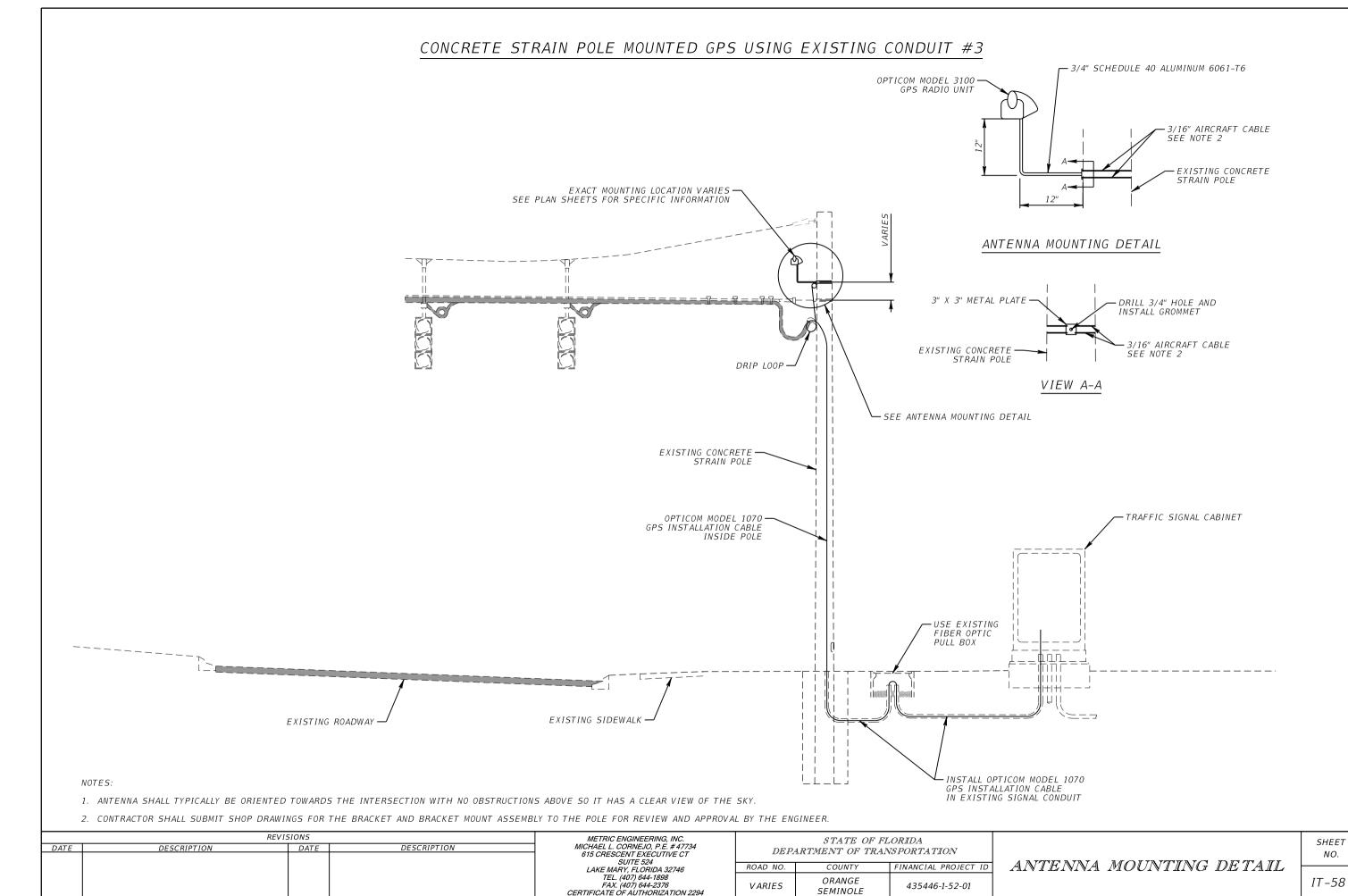
R:\PR0JECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s

IT-56



R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its

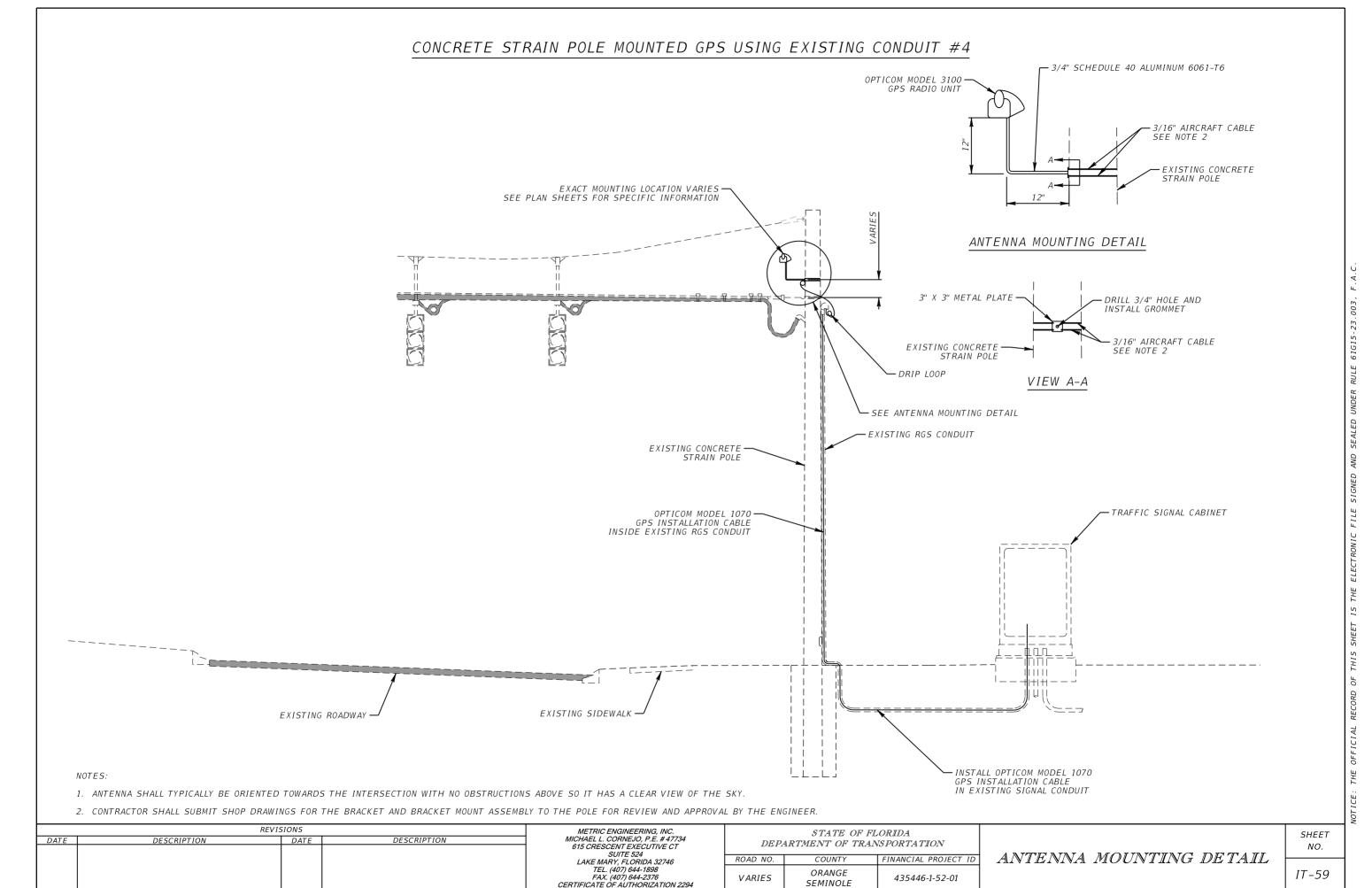
9:58:14 AM



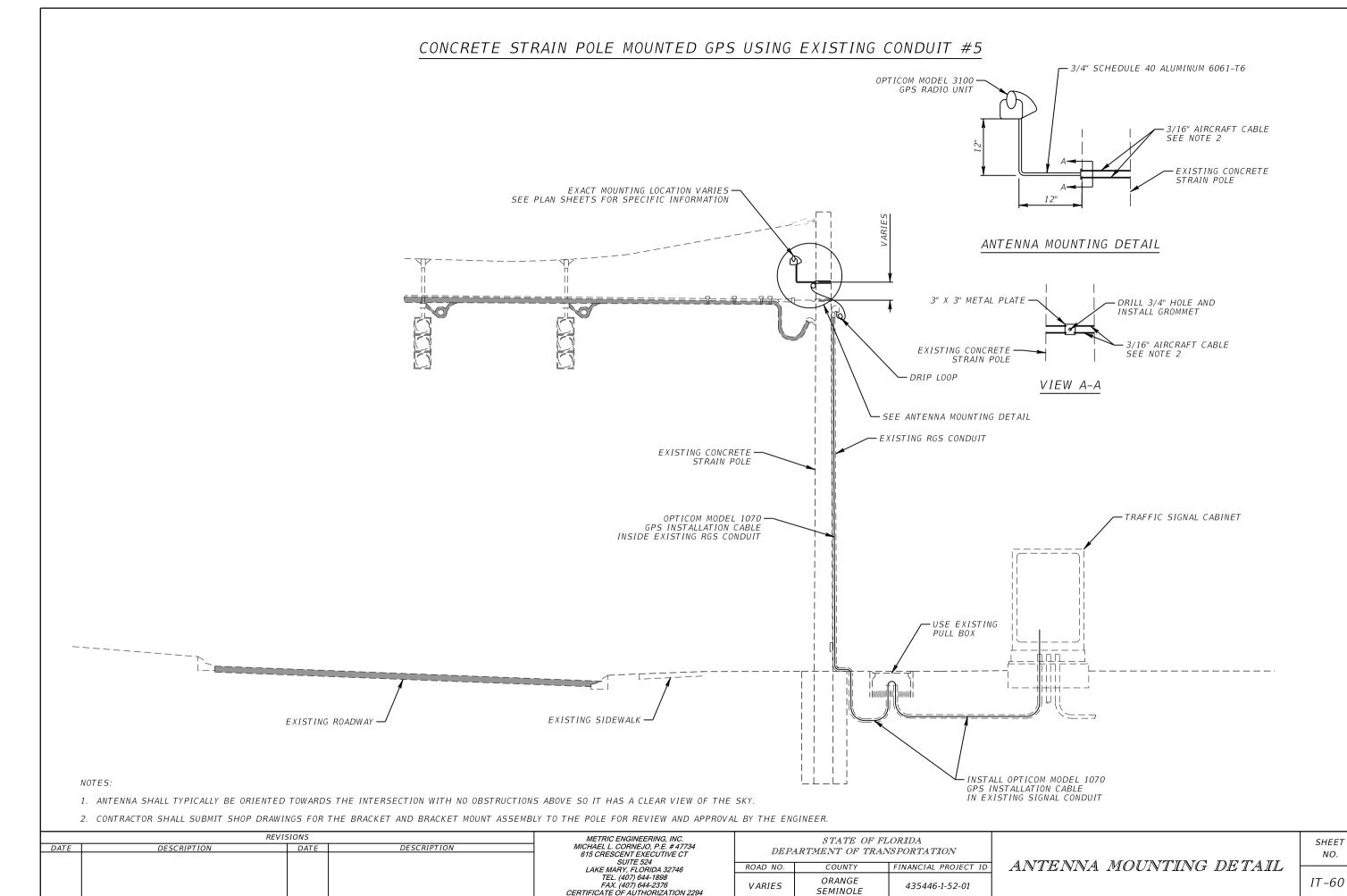
SEMINOLE

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s

9:58:15 AM



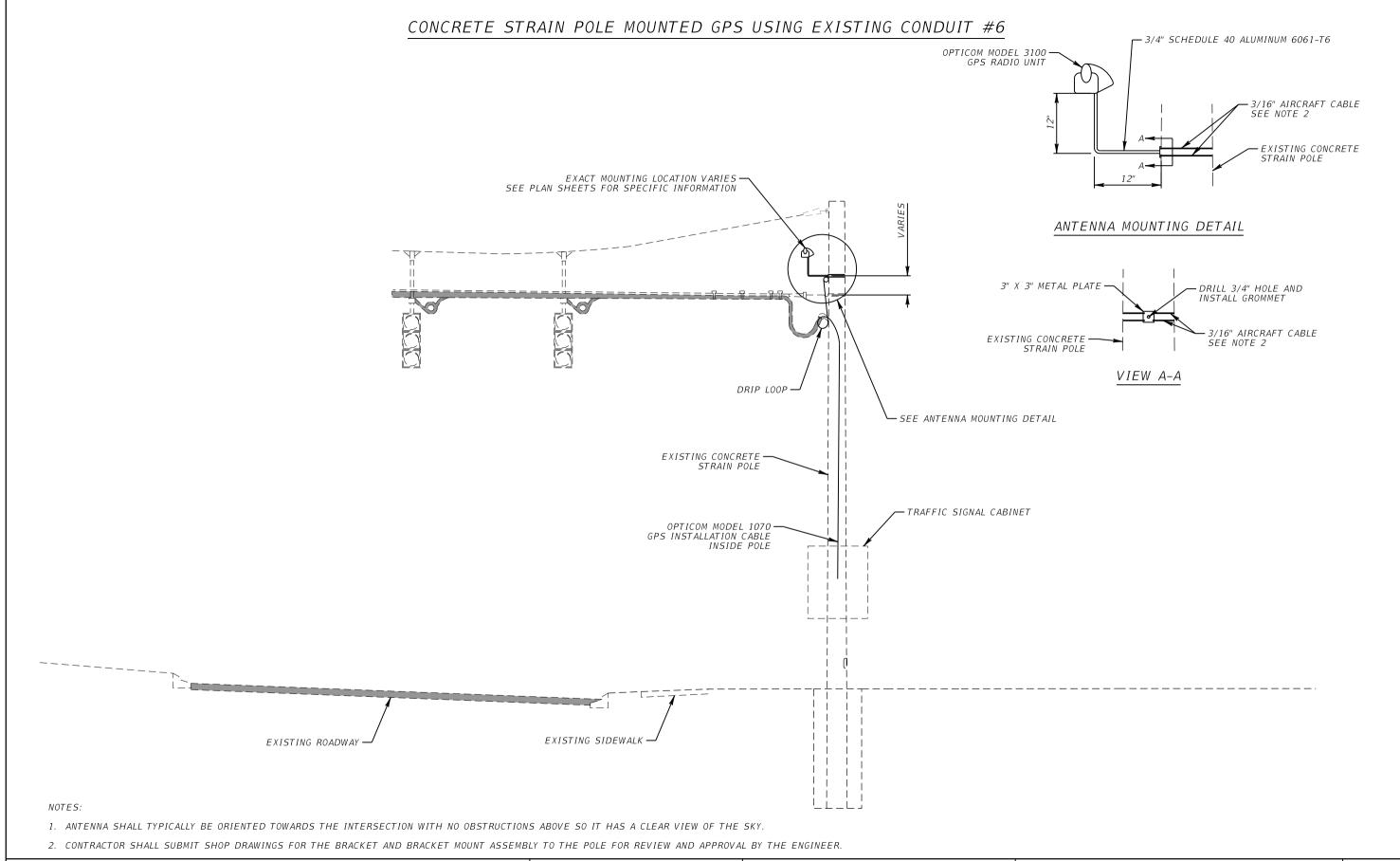
9:58:15 AM R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\io



SEMINOLE

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s

9:58:15 AM



	RE	/1510NS		
DATE	DESCRIPTION	DATE	DESCRIPTION	

METRIC ENGINEERING, INC. MICHAEL L. CORNEJO, P.E. # 47734 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION FINANCIAL PROJECT ID ROAD NO. COUNTY ORANGE

SEMINOLE

435446-1-52-01

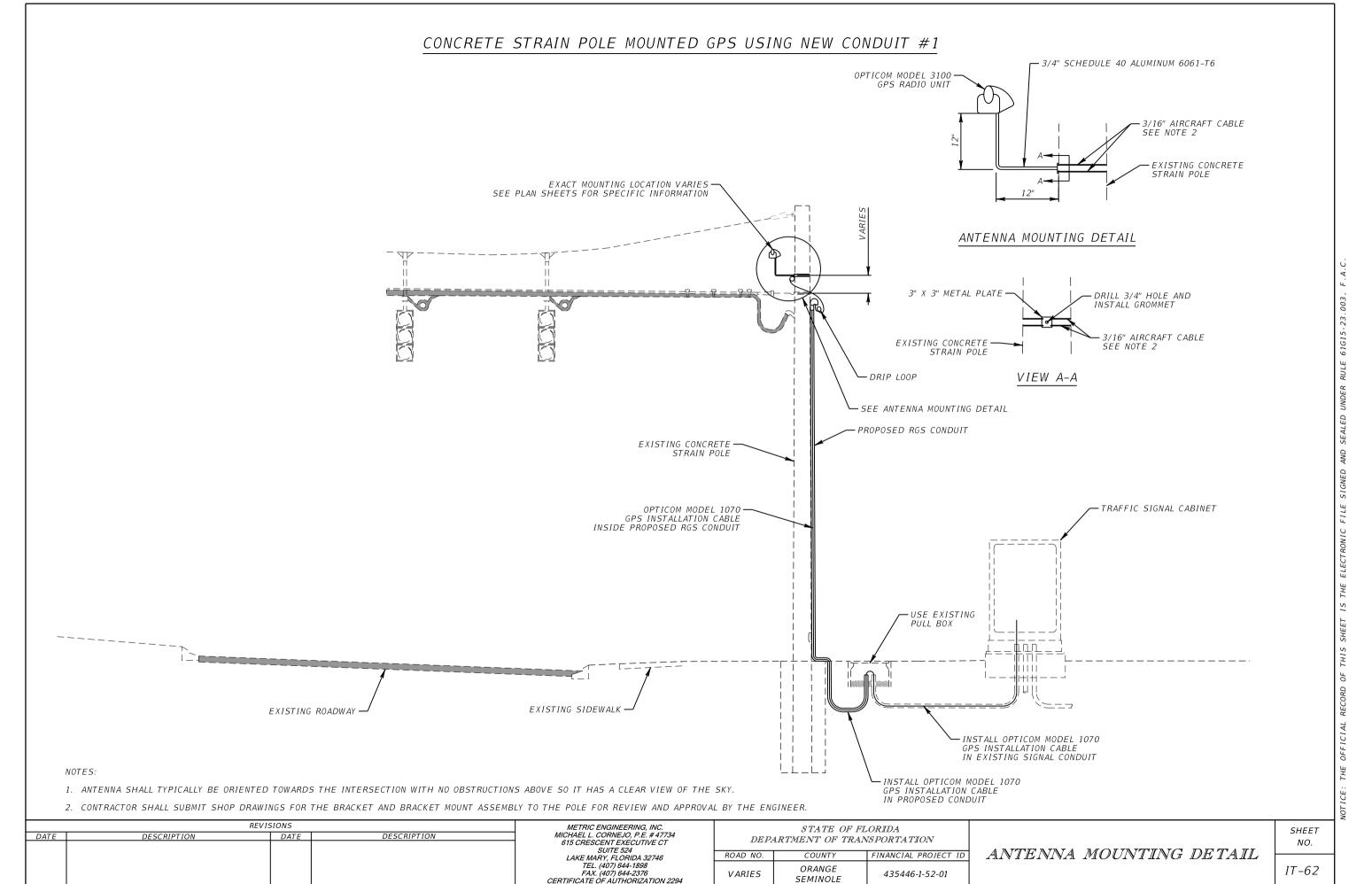
VARIES

ANTENNA MOUNTING DETAIL

SHEET NO.

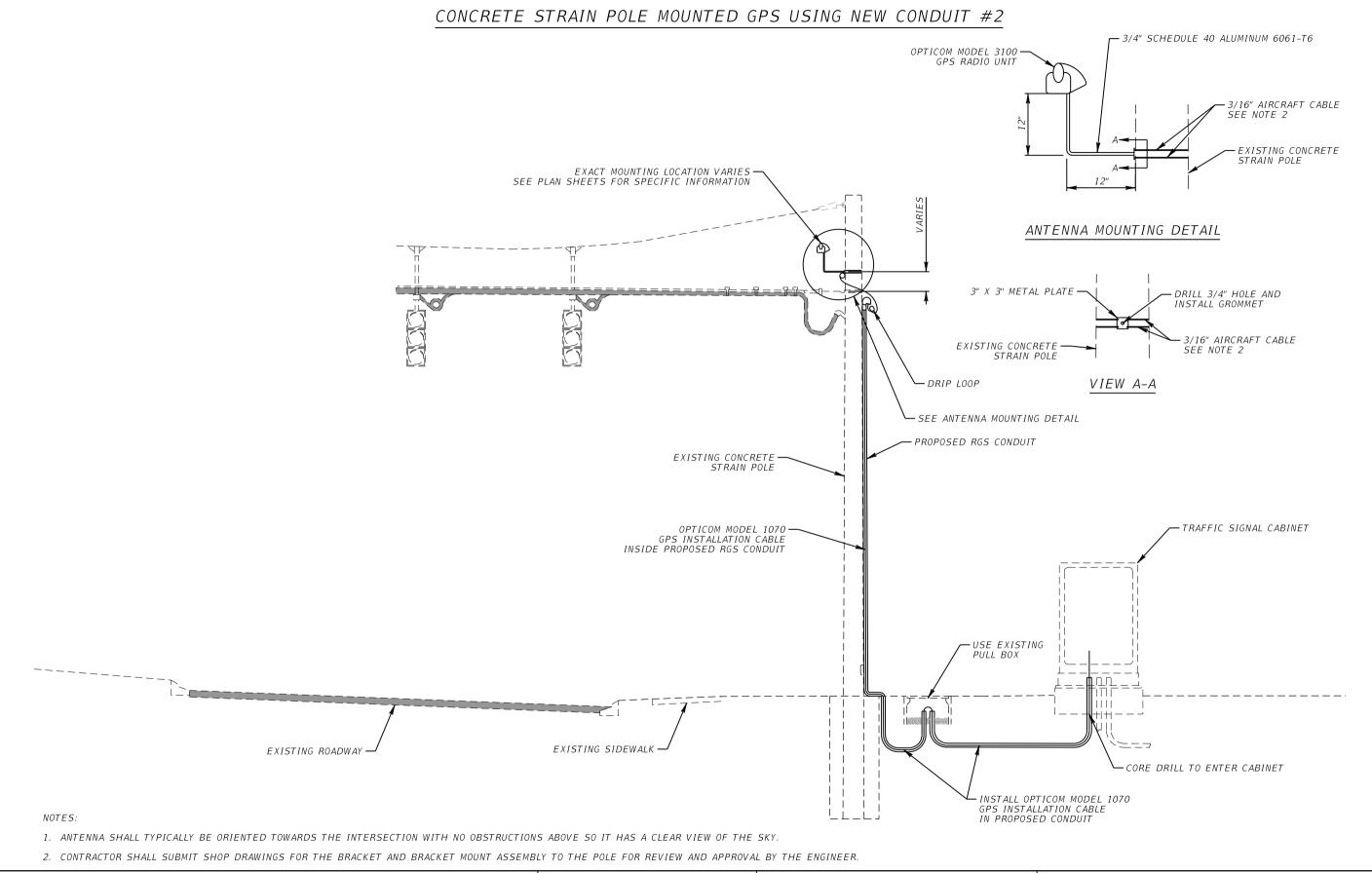
IT-61

9:58:16 AM



R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s:

9:58:16 AM



	REVIS	SIONS		
DATE	DESCRIPTION	DATE	DESCRIPTION] ,
				CE
	DATE		DATE DESCRIPTION DATE	

METRIC ENGINEERING, INC.
MICHAEL L. CORNEJO, P.E. # 47734
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

DEP	STATE OF FL ARTMENT OF TRAN	ORTHALIA
ROAD NO.	COUNTY	FINANCIAL PROJECT
VARIES	ORANGE	435446-1-52-01

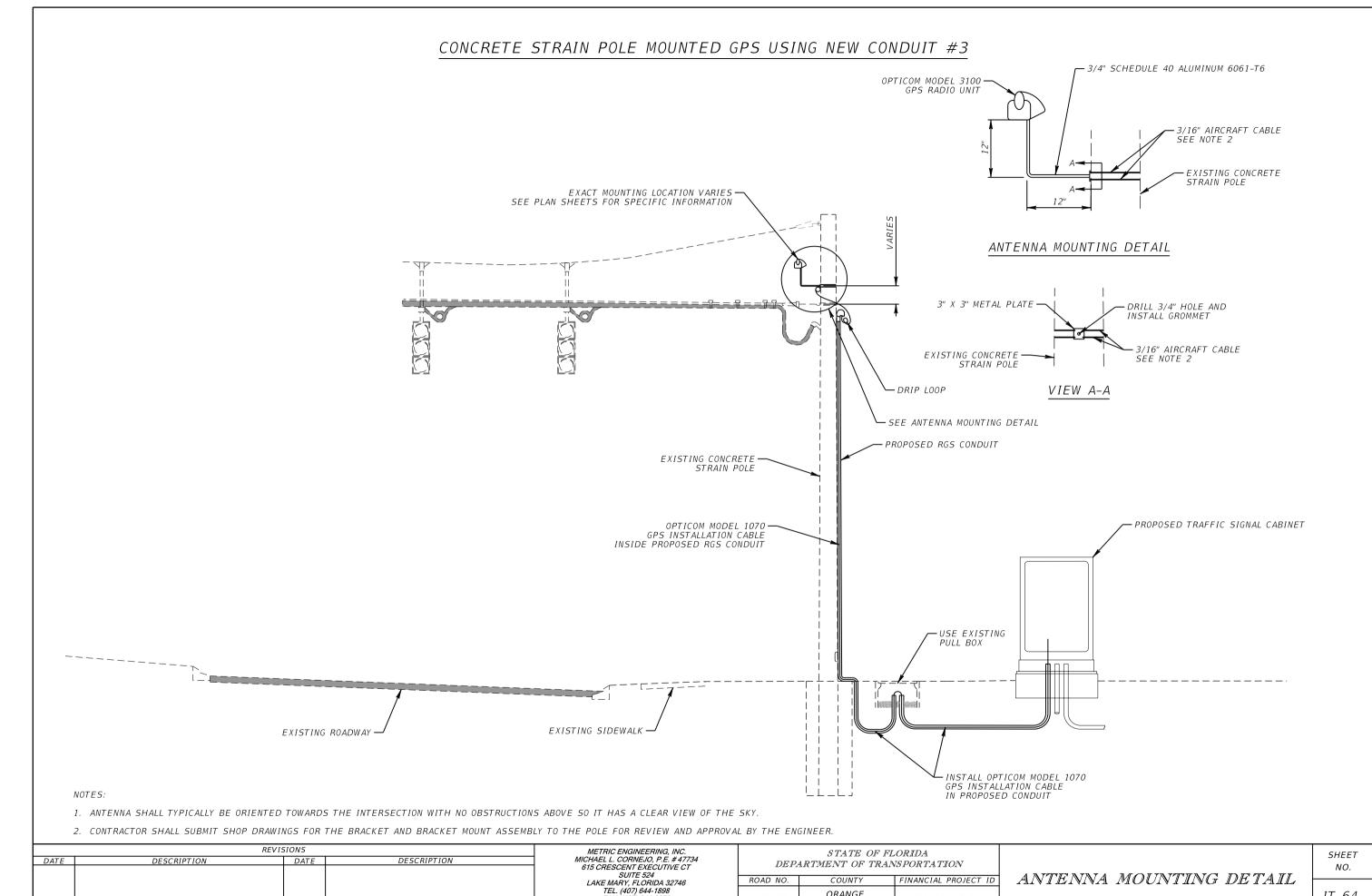
SEMINOLE

ANTENNA MOUNTING DETAIL

SHEET NO.

IT-63

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s:



FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

ORANGE

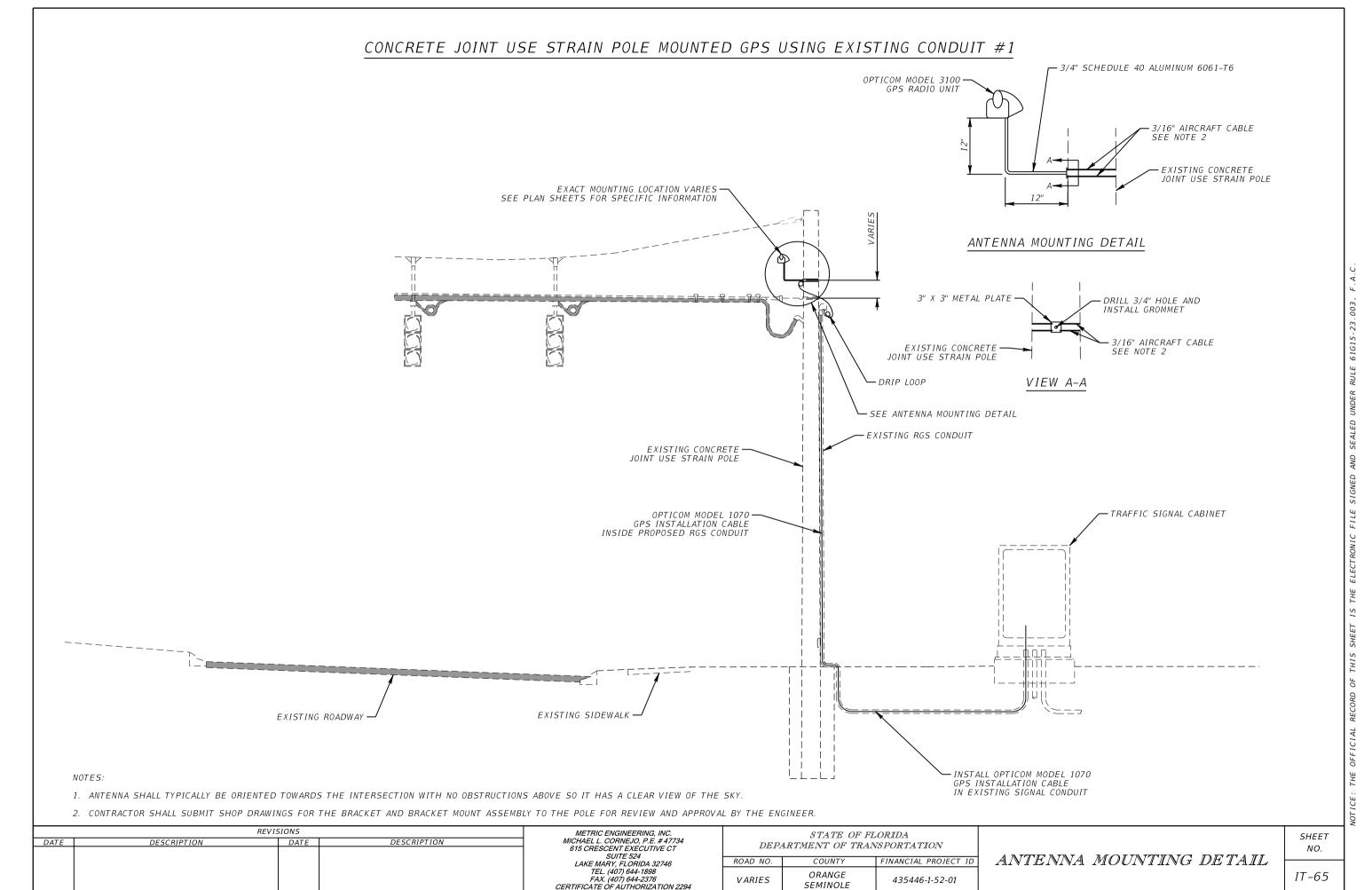
SEMINOLE

435446-1-52-01

VARIES

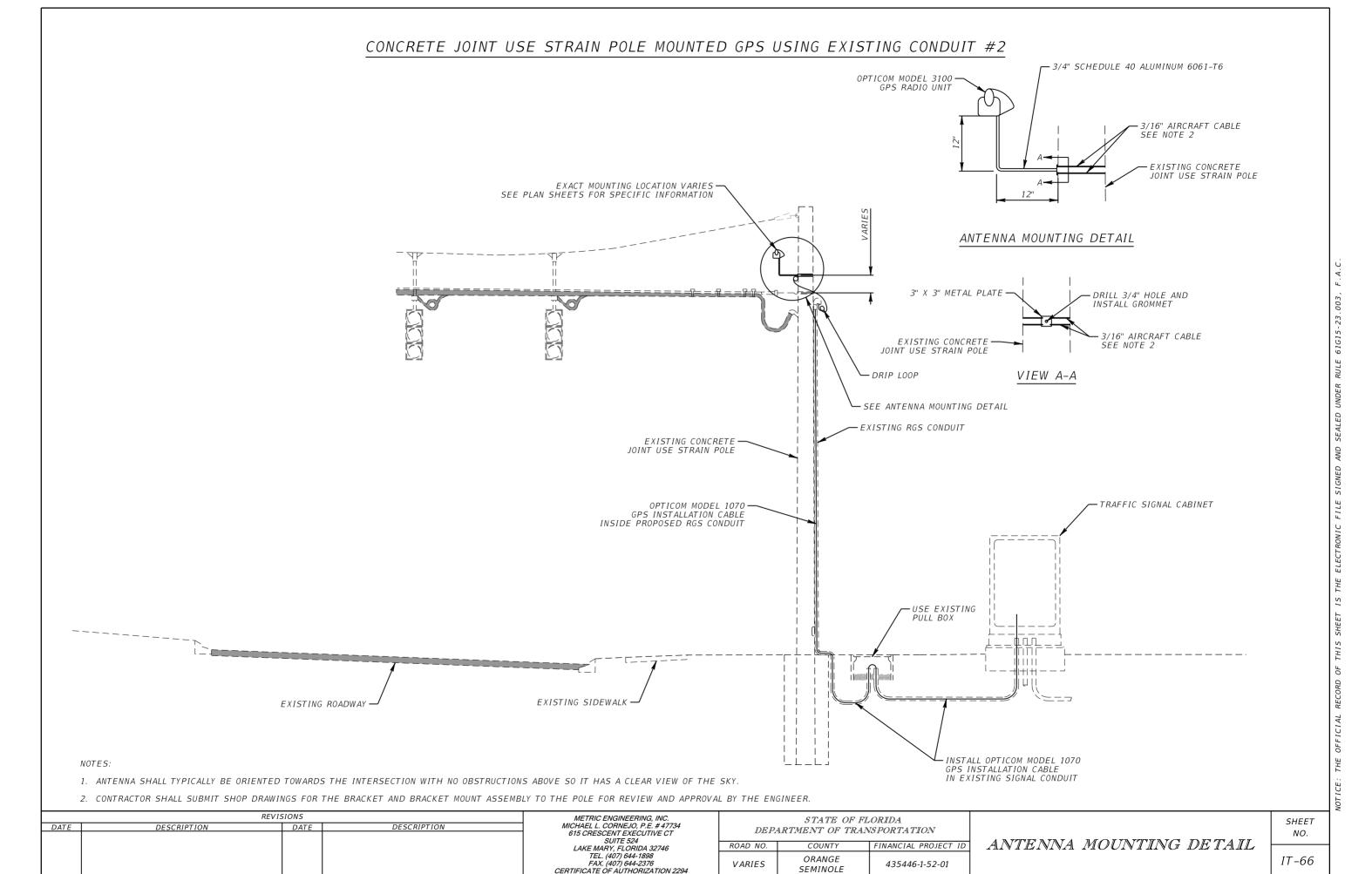
9:58:17 AM

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\ss



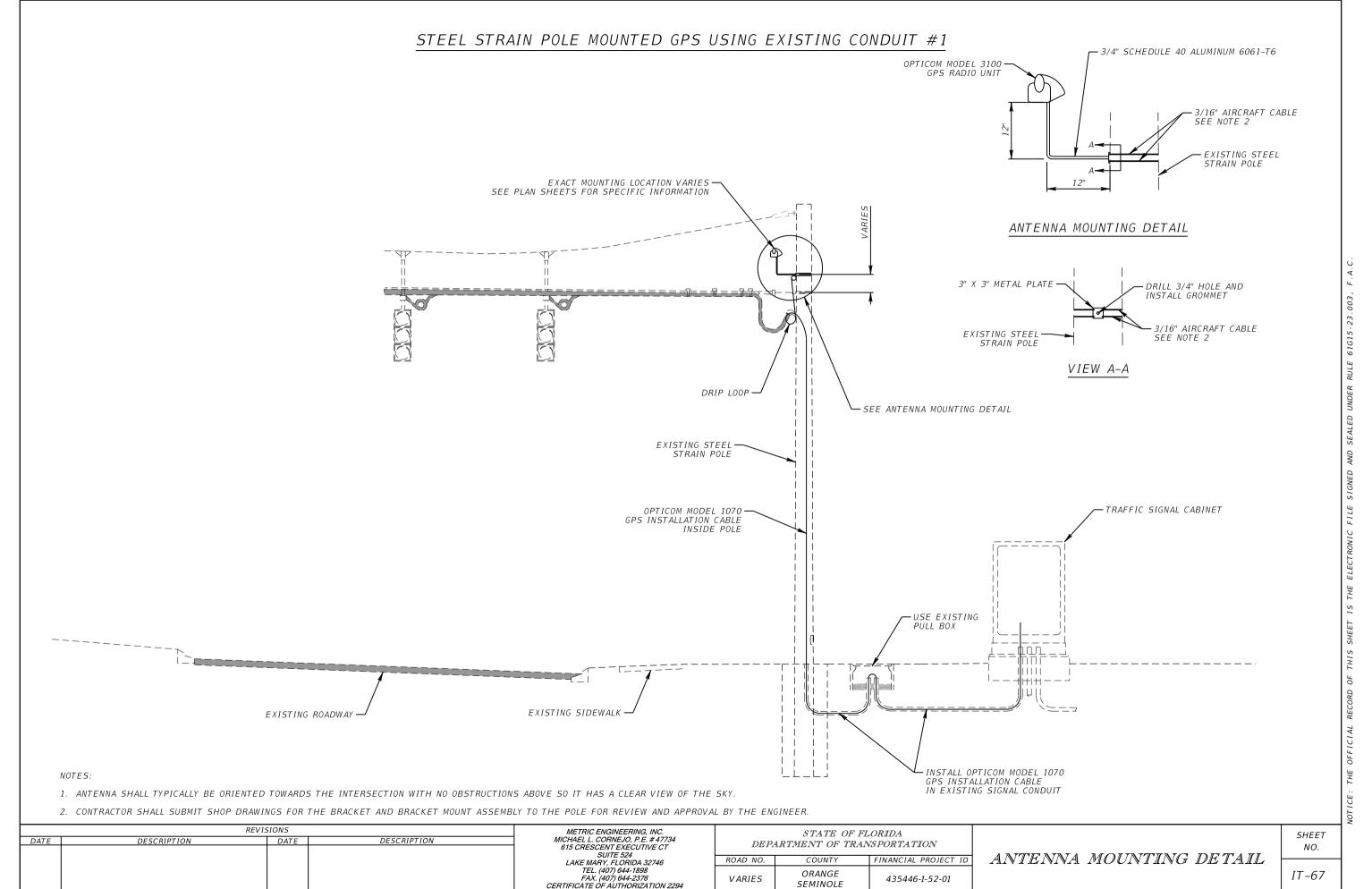
R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s

9:58:17 AM



R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its

9:58:18 AM

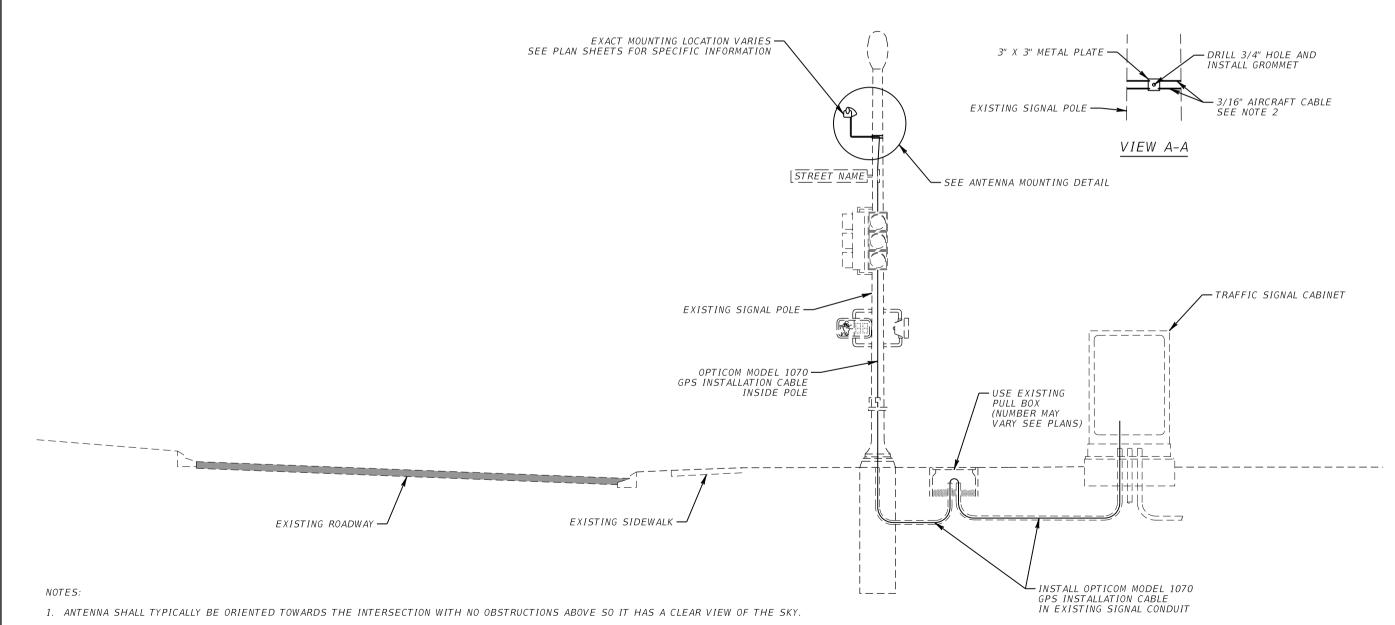


R:\PR0JECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\s

SEMINOLE

IT-67

ANTENNA MOUNTING DETAIL



2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE BRACKET AND BRACKET MOUNT ASSEMBLY TO THE POLE FOR REVIEW AND APPROVAL BY THE ENGINEER.

		ISIONS	REVI	
Mi	DESCRIPTION	DATE	DESCRIPTION	DATE
· '				
CED				1

METRIC ENGINEERING, INC. MICHAEL L. CORNEJO, P.E. #47734 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION FINANCIAL PROJECT ID ROAD NO. COUNTY

ORANGE

SEMINOLE

VARIES

ANTENNA MOUNTING DETAIL

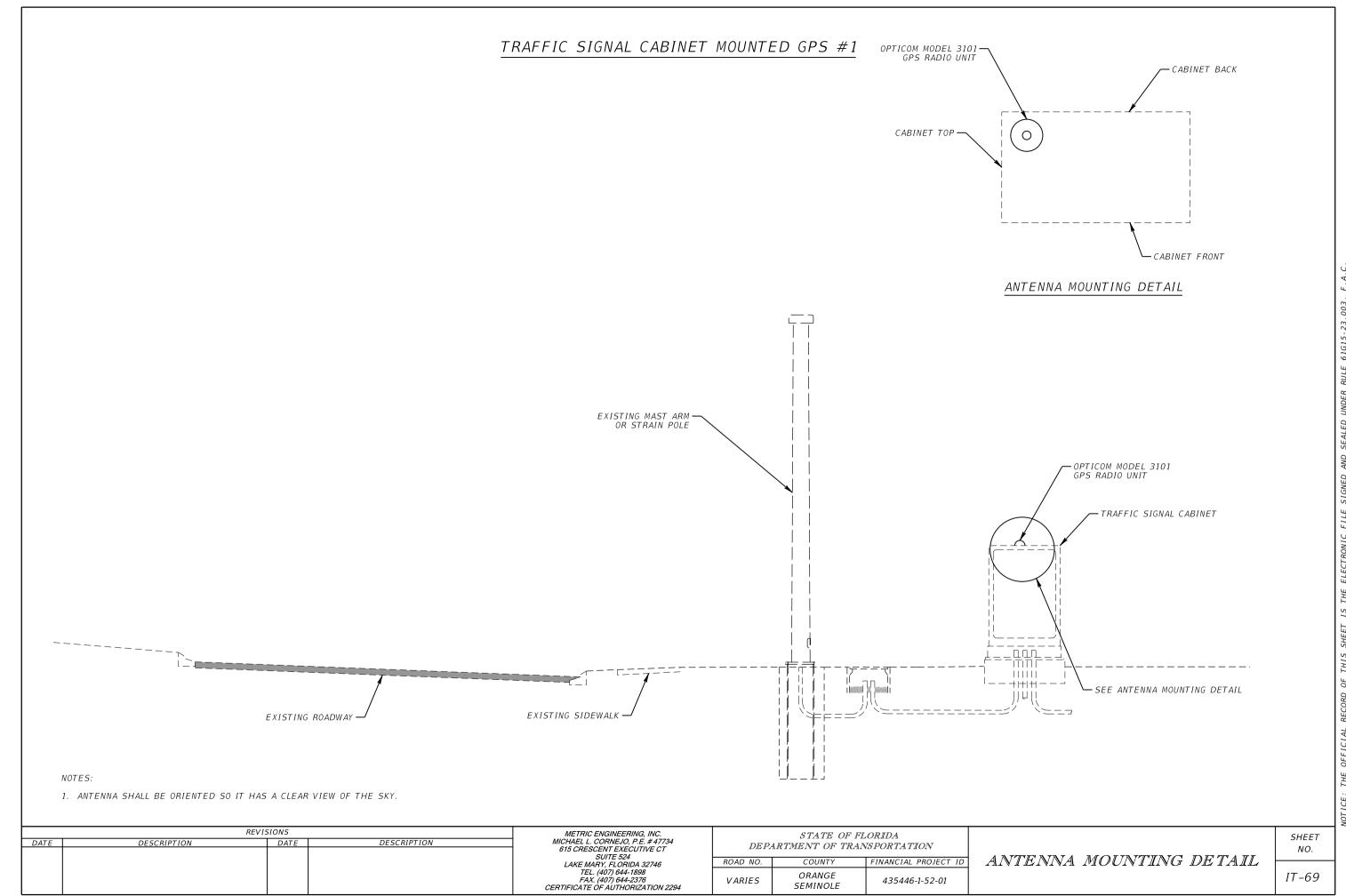
SHEET NO.

IT-68

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\ss

9:58:18 AM

435446-1-52-01



R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\ss

9:58:19 AM

LYNX BUS INFORMATION BUS INSTALLATION DETAIL #1 BUS # YFAR MODEL

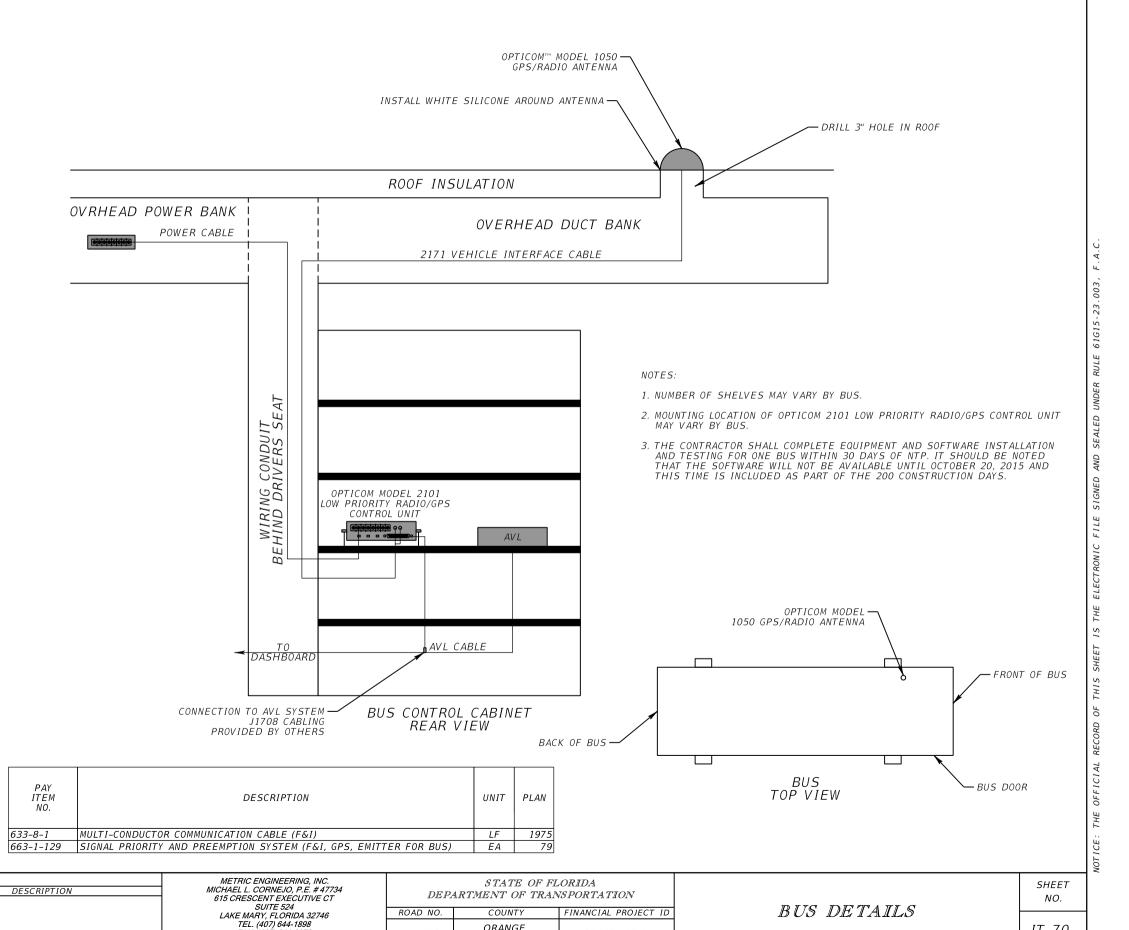
	YEAR	MAKE	MODEL
590	2006	Gillig	40' BRT - G29D102N4
591	2006	Gillig	40' BRT - G29D102N4
592	2006	Gillig	40' BRT - G29D102N4
593	2006	Gillig	40' BRT - G29D102N4
594	2006	Gillig	40' BRT - G29D102N4
596 597	2006	Gillig	40' BRT - G29D102N4 40' BRT - G29D102N4
597 598	2006	Gillig	40' BRT - G29D102N4 40' BRT - G29D102N4
598 599	2006 2006	Gillig	
610	2007	Gillig Gillig	40' BRT - G29D102N4 40' LF BRT - G27D102N4
			40 LF BRT - G27D102N4 40' LF BRT - G27D102N4
612 613	2007 2007	Gillig Gillig	40' LF BRT - G27D102N4 40' LF BRT - G27D102N4
614	2007	Gillig	40' LF BRT - G27D102N4 40' LF BRT - G27D102N4
616	2007	Gillig	40' LF BRT - G27D102N4
618	2007	Gillig	40' LF BRT - G27D102N4
620	2007	Gillig	40' LF BRT - G27D102N4
621	2007	Gillig	40' LF BRT - G27D102N4
622	2007	Gillig	40' LF BRT - G27D102N4
643	2007	Gillig	40' LF BRT - G27D102N4
646	2008	Gillig	40'x102-SSTL-LF- G27D102N4
649	2008	Gillig	40'x102-SSTL-LF- G27D102N4
650	2008	Gillig	40'x102-SSTL-LF- G27D102N4
651	2008	Gillig	40'x102-SSTL-LF- G27D102N4
652	2008	Gillig	40'x102-SSTL-LF- G27D102N4
656	2008	Gillig	40'x102-SSTL-LF- G27D102N4
664	2008	Gillig	40'x102-SSTL-LF- G27D102N4
708	2006	Gillig	35' LF BRT- G29B102N4
709	2006	Gillig	35' LF BRT- G29B102N4
710	2006	Gillig	35' LF BRT- G29B102N4
714	2007	Gillig	35' LF BRT- G29B102N4
716	2007	Gillig	35' LF BRT- G29B102N4
717	2007	Gillig	35' LF BRT- G29B102N4
719	2007	Gillig	35' LF BRT- G29B102N4
720	2007	Gillig	35' LF BRT- G29B102N4
731	2008	Gillig	35' LF BRT-G27B102N2
732	2008	Gillig	35' LF BRT-G27B102N2
733	2008	Gillig	35' LF BRT-G27B102N2
734	2008	Gillig	35' LF BRT-G27B102N2
736	2008	Gillig	35' LF BRT-G27B102N2
737	2008	Gillig	35' LF BRT-G27B102N2
738 739	2008	Gillig	35' LF BRT-G27B102N2 35' LF BRT-G27B102N2
813	2008	Gillig	
4-409	2007 2009	Gillig Gillig	40' LF BRT Suburban G27D102N4 40' LF BRT G27D102N4
10-309	2009	Gillig	35' LF BRT- G27B102N4
11-309	2009	Gillig	35' LF BRT- G27B102N4
12-309	2009	Gillig	35' LF BRT- G27B102N4
13-309	2009	Gillig	35' LF BRT- G27B102N4
14-309	2009	Gillig	35' LF BRT- G27B102N4
15-309	2009	Gillig	35' LF BRT- G27B102N4
16-309	2009	Gillig	35' LF BRT- G27B102N4
17-309	2009	Gillig	35' LF BRT- G27B102N4
18-309	2009	Gillig	35' LF BRT- G27B102N4
19-309	2009	Gillig	35' LF BRT- G27B102N4
21-309	2009	Gillig	35' LF BRT- G27B102N4
28-310	2010	Gillig	35' LF BRT-Hybrid- G30B102N4
29-310	2010	Gillig	35' LF BRT-Hybrid- G30B102N4
30-310	2010	Gillig	35' LF BRT-Hybrid- G30B102N4
31-310	2010	Gillig	35' LF BRT-Hybrid- G30B102N4
32-310	2010	Gillig	35' LF BRT-Hybrid- G30B102N4
33-310	2010	Gillig	35' LF BRT-Hybrid- G30B102N4
34-310	2010	Gillig	35' LF BRT-Hybrid
35-310	2010	Gillig	35' LF BRT-Hybrid G30B102N4
36-310 40-410	2010 2010	Gillig	35' LF BRT-Hybrid- G30B102N4 40' LF BRT G27D102N4
44-410	2010	Gillig Gillig	40' LF BRT G27D102N4 40' LF BRT G27D102N4
45-410	2010	Gillig	40' LF BRT G27D102N4 40' LF BRT G27D102N4
51-410	2010	Gillig	40' LF BRT G27D102N4 40' LF BRT G27D102N4
115-412	2012	Gillig	40' LF BRT G27D102N4
117-412	2012	Gillig	40' LF BRT G27D102N4
118-413	2013	Gillig	40' LF BRT G27D102N4
119-413	2013	Gillig	40' LF BRT G27D102N4
120-413	2013	Gillig	40' LF BRT G27D102N4
121-413	2013	Gillig	40' LF BRT G27D102N4
125-413	2012	Gillig	40' LF BRT G27D102N4
. L J T1J	2013	Gillig	40' LF BRT G27D102N4
126-413		Gillig	40' LF BRT-Hybrid- G30B102N4
126-413 145-414	2014	GIIIII	
126-413 145-414 152-414	2014 2014	Gillig	40' LF BRT G27D102N4

REVISIONS

DATE

DESCRIPTION

DATE



ORANGE

SEMINOLE

VARIES

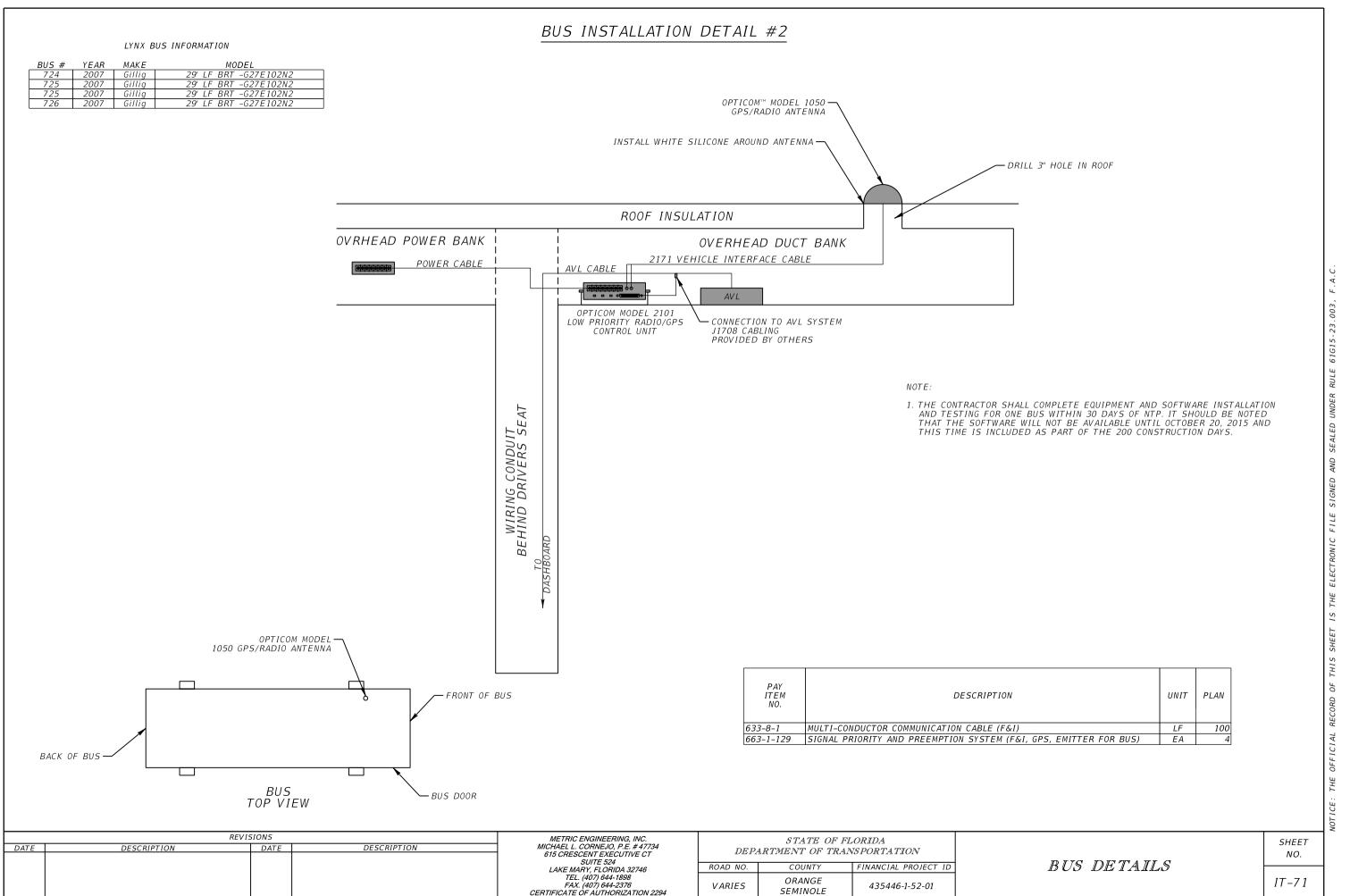
FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\

2:03:33 PM

IT-70

435446-1-52-01

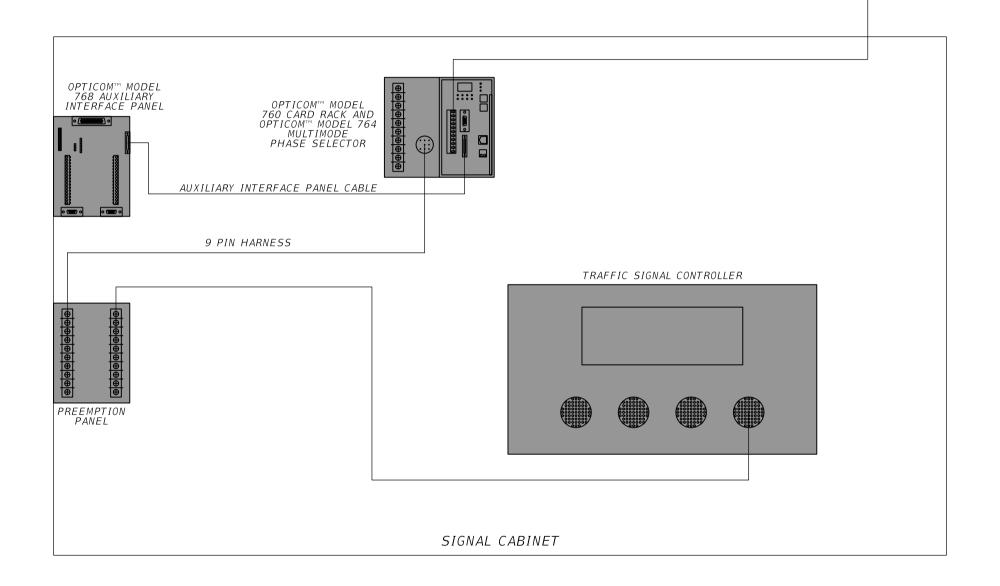


2:03:34 PM R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\i

OPTICOM™ MODEL 1070 GPS INSTALLATION CABLE



OPTICOM MODEL 3100 POLE MOUNT GPS RADIO UNIT



	REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION	

METRIC ENGINEERING, INC.
MICHAEL L. CORNEJO, P.E. # 47734
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

ROAD NO.

VARIES

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION COUNTY FINANCIAL PROJECT ID ORANGE 435446-1-52-01

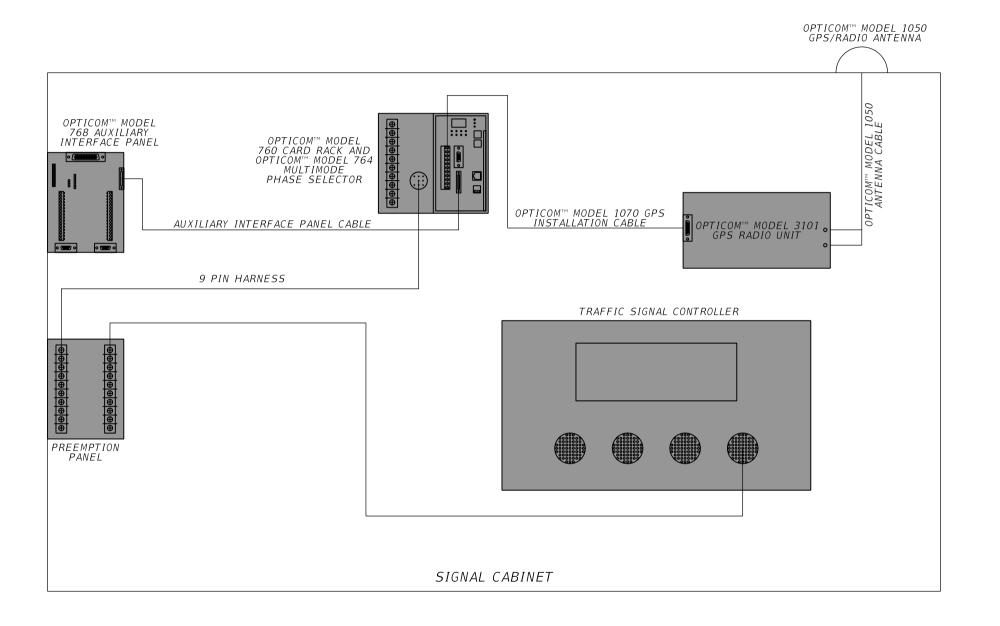
SEMINOLE

WIRING DIAGRAMS

SHEET NO.

IT-72

TYPICAL OPTICOM™ MODEL 3101 CABINET MOUNT WIRING DIAGRAM



REVISIONS

DATE DESCRIPTION DATE DESCRIPTION

METRIC ENGINEERING, INC.
MICHAEL L. CORNEJO, P.E. # 47734
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJECT ID

VARIES COMMON 435446-1-52-01

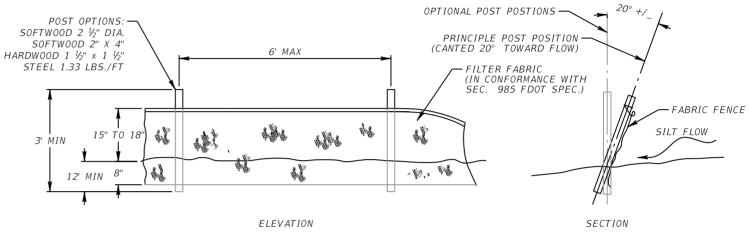
SEMINOLE

WIRING DIAGRAMS

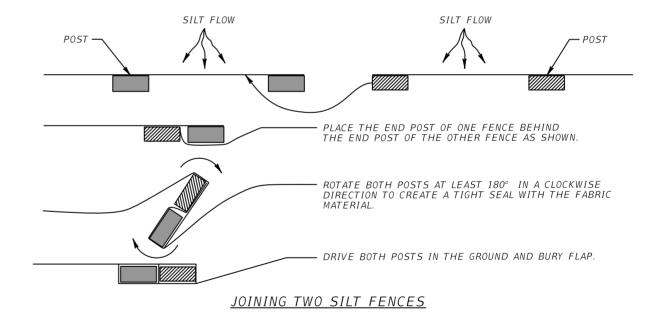
SHEET NO.

IT-73

- 1. THE CONTRACTOR SHALL EXECUTE ALL MEASURES NECESSARY TO LIMIT TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT TO THE VOLUME AND AMOUNT THAT ARE EXISTING PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THIS CONDITION WILL BE SATISFIED FOR THE TOTAL ANTICIPATED CONSTRUCTION PERIOD. PROVISION MUST BE MADE TO PRESERVE THE INTEGRITY AND CAPACITY OF CHECK WEIRS, SEDIMENT BASINS, SLOPE DRAINS, GRADING PATTERNS, ETC. REQUIRED TO MEET THIS PROVISION THROUGHOUT THE LIFE OF THE CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE SYNTHETIC BALES, SILT BARRIERS, TEMPORARY GRASSING, ETC. AS REQUIRED TO FULLY COMPLY WITH THE INTENT OF THIS SPECIFICATION. COSTS TO BE INCIDENTAL TO PAY ITEMS.
- NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION
- 3. THE SURFACE AREA OF OPEN, RAW, ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE CONTROLLED, SO THAT THIS OPERATION WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
- INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT LADEN STORMWATER RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE
- ALL FEATURES OF THE PROJECT SHALL BE CONSTRUCTED TO PREVENT EROSION AND SEDIMENT AND SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS CONTROLLING POLLUTION OF THE ENVIRONMENT. MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO CONTROL EROSION AND SEDIMENT RUNOFF FROM THE SITE DURING CONSTRUCTION. SUCH METHODS SHALL BE IN ACCORDANCE WITH THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS
- TEMPORARY SILT FENCE IS TO BE IN PLACE PRIOR TO BEGINNING OPERATIONS WHERE SEDIMENTS MIGHT OTHERWISE BE TRANSPORTED INTO BODIES OF WATER OR DESIGNATED WETLAND LIMITS.
- TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS.
- TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEED 25 FEET. AVOID USE WHERE THE DETAINED WATER MAY BACK INTO TRAVEL LANES OR OFF THE RIGHT OF WAY.
- 10. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
- WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.



TYPE III SILT FENCE



	<i>REVISIONS</i>			l
DATE	DESCRIPTION	DATE	DESCRIPTION]
				1
				l
				l
				l

METRIC ENGINEERING, INC. MICHAEL L. CORNEJO, P.E. # 47734 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TFI (407) 644-1898 CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION FINANCIAL PROJECT ID ROAD NO. COUNTY

435446-1-52-01

ORANGE

SEMINOLE

VARIES

EROSION CONTROL PLAN

SHEET NO.

IT-74

9:59:05 AM

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\ssc

THE FOLLOWING NARRATIVE OF THE STORMWATER POLLUTION PREVENTION PLAN CONTAINS REFERENCES TO THE FDOT SPECIFICATIONS, THE DESIGN STANDARDS AND OTHER SHEETS OF THE CONSTRUCTION PLANS, THE FIRST SHEET OF THE CONSTRUCTION PLANS (KEY SHEET) CONTAINS AN INDEX TO THE OTHER SHEETS. THE COMPLETE STORMWATER POLLUTION PREVENTION PLAN INCLUDES SEVERAL ITEMS: THIS NARRATIVE DESCRIPTION, THE DOCUMENTS REFERENCED IN THIS NARRATIVE, THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN REQUIRED BY SPECIFICATION SECTION 104, AND REPORTS OF INSPECTION MADE DURING CONSTRUCTION

- SITE DESCRIPTION:
- 1.A. NATURE OF CONSTRUCTION ACTIVITY:

INSTALL, CONSTRUCT AND INTEGRATE TRANSIT SIGNAL PRIORITY (TSP) ALONG TWELVE LYNX BUS CORRIDORS WITHIN THE SUNRAIL STATIONS IN CENTRAL FLORIDA. THESE ROUTES INCLUDE A TOTAL OF 134 TRAFFIC SIGNALS AND 83 BUSES. THE PROJECT INCLUDES INSTALLATION OF OPTICOM GPS SIGNAL PRE-EMPTION AND OF UNDERGROUND CONDUITS.

1.B. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

FDOT SPECIFICATIONS SECTION 104 FOR EROSION CONTROL PLAN AND ALL INSTALLATIONS AS PER PROJECT APPROVED CONSTRUCTION SCHEDULES WILL BE FOLLOWED. THE SEQUENCE OF ALL MAJOR ACTIVITIES WILL BE FOLLOWED AS DESCRIBED ON THE PROJECT SCHEDULE, UNLESS THE CONTRACTOR PROPOSES A DIFFERENT SEQUENCE THAT IS EQUAL OR BETTER AT CONTROLLING EROSION AND TRAPPING SEDIMENT AND IS APPROVED BY THE ENGINEER.

- * ALL EROSION CONTROL DEVICES FOR EACH PHASE OF WORK ARE TO BE INSTALLED PRIOR TO BEGINNING OF CONSTRUCTION, UNLESS CONSTRUCTION ACTIVITY IS TO BE COMPLETED IN THE SAME DAY AND THERE ARE NO ERODIBLE SURFACES REMAINING IN THE AREA WHERE WORK WAS PERFORMED
- * INSTALL SEDIMENT BARRIER PER PLANS
- * TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.
- 1.C. AREA ESTIMATES:

TOTAL SITE AREA: 0.007 ACRES TOTAL SITE AREA TOTAL AREA TO BE DISTURBED: 0.007 ACRES EQUALS LESS THAN 1 ACRE.

CONSTRUCTION ACTIVITIES ARE NOT EXPECTED TO INCREASE RUNOFF COEFFICIENTS, FURTHERMORE, MINIMAL IMPERVIOUS AREAS ARE BEING ADDED TO THE ROADWAY SYSTEM.

SINCE CONSTRUCTION ACTIVITIES ARE LIMITED TO INSTALLATIONS OF TRAFFIC SIGNAL CABINETS AND UNDERGROUND CONDUIT VIA TRENCHING BETWEEN THE BACK OF CURB AND THE RIGHT-OF-WAY LINE, DRAINAGE MAPS WERE NOT PREPARED.

APPROXIMATE SLOPES: THE CONSTRUCTION ACTIVITIES DO NOT INCLUDE THE CONSTRUCTION OF ANY EMBANKMENTS. THE EXISTING SIDE SLOPES ARE TO REMAIN. EXISTING SLOPES CAN BE SEEN IN THE CROSS SECTIONS SHOWN IN THE PLANS.

AREAS OF SOIL DISTURBANCE: SEE PLANS.

AREAS UNDISTURBED: SEE PLANS.

LOCATION OF CONTROLS: AREAS OF CONSTRUCTION THAT ARE WITHIN SIX (6) FEET OF STANDING WATER SHALL HAVE TEMPORARY EROSION CONTROL AS SHOWN IN THE PLANS.

AREAS TO BE STABILIZED: STABILIZATION PRACTICES WILL OCCUR THROUGHOUT THE LIMITS OF THE PROJECT. STABILIZATION SHALL OCCUR WHERE THERE IS DISTURBED EARTH.

SURFACE WATERS (INCLUDING WETLANDS): SEE PLANS FOR WETLAND LIMITS.

STORMWATER DISCHARGE LOCATION: SEE PLANS FOR LOCATIONS WITHIN THE PROJECT LIMITS.

STORMWATER POLLUTION PREVENTION PLAN CONTINUED.

2. CONTROLS:

ALL ITEMS DISCUSSED IN THE FOLLOWING SECTIONS ARE DESCRIBED IN DETAIL IN FDOT SPECIFICATION 104 AND THE EROSION & SEDIMENT CONTROL MANUAL.

2.A. EROSION AND SEDIMENT CONTROL:

THE SOIL EROSION AND SEDIMENT CONTROL SHALL BE MAINTAINED BY THE CONTRACTOR TO MINIMIZE THE AMOUNT OF DISTURBED SOIL, PREVENT OFF-SITE RUNOFF FROM FLOWING AGAINST THE DISTURBED AREAS, SLOW THE RUNOFF ACROSS THE SITE AND REMOVE SEDIMENT FROM ON SITE RUNOFF BEFORE IT LEAVES THE SITE.

THE ENGINEER WILL DETERMINE IF ADDITIONAL CONTROLS AND DEPLOYMENT SCHEDULES ARE NECESSARY FOR THE IMPLEMENTATION OF ALL EROSION CONTROL DEVICES. APPLICABLE CONTROL DEVICES AND IMPLEMENTATION PROCEDURES ARE PROVIDED IN THE PLANS.

CONSTRUCTION ACTIVITIES: THE MAJOR CONTROLS OUTLINED IN THIS SWPPP ARE SEDIMENT AND EROSION CONTROL THROUGH THE PHASING OF CONSTRUCTION OPERATIONS; THEREBY, LIMITING THE AMOUNT OF ERODIBLE EARTH EXPOSED AT ANY GIVEN TIME, REMOVAL OF EXCESS DIRT ON THE PAVED AREAS AND AROUND THE CONSTRUCTION AREAS, AND THE PROTECTION OF THE EXISTING OUTFALLS. MAJOR EROSION PROBLEMS ARE NOT ANTICIPATED DUE TO THE NATURE OF THIS PROPOSED WORK

CONSTRUCTION ACTIVITIES OF THIS PROJECT CONSIST OF INSTALLATION OF OPTICOM GPS SIGNAL PRE-EMPTION, TRAFFIC SIGNAL CABINETS AND UNDERGROUND CONDUITS. CONSTRUCTION AREAS ARE LIMITED BETWEEN THE BACK OF CURB AND THE

PRIOR TO COMMENCEMENT, THE CONTRACTOR SHALL PROVIDE TO THE DEPARTMENT A DETAILED CONSTRUCTION SCHEDULE TO INDICATE THE DATES OF MAJOR PHASES AND TO DETERMINE THE SEQUENCING OF TEMPORARY AND PERMANENT SOIL STABILIZATION ACTIVITIES ON ALL PORTIONS OF THE SITE.

PRIOR TO BEGINNING ANY PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL ITEMS IN ACCORDANCE WITH THE PLANS.

STOCKPILED AREAS, APPROVED BY THE ENGINEER, (WHICH WILL REQUIRE AN ENDANGERED SPECIES CLEARANCE) WILL HAVE STAKED SEDIMENT BARRIER AROUND THE PERIMETER TO PREVENT OFF-SITE FLOW OF POLLUTED STORM WATER RUNOFF.

STOCKPILED MATERIALS WILL NOT BE STORED ON-SITE FOR MORE THAN 24-HOURS PRIOR TO INSTALLATION, NOR WILL THEY BE LOCATED ADJACENT TO WATER BODIES, INLETS OR WETLANDS. SHOULD A SITUATION ARISE THAT REQUIRES THE MATERIAL TO BE STOCKPILED FOR MORE THAN 24-HOURS, PLASTIC SHEETING, FILTER FABRIC OR SEDIMENT BARRIER WILL BE PROVIDED TO REDUCE THE POTENTIAL FOR SEDIMENT TRANSPORT.

EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND MAY BE REMOVED WHEN PERMANENT STABILIZATION IS ESTABLISHED

REVISIONS METRIC ENGINEERING, INC. MICHAEL L. CORNEJO, P.E. # 47734 DESCRIPTION DATE DESCRIPTION DATE 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

FINANCIAL PROJECT ID ROAD NO. COUNTY ORANGE **VARIES** 435446-1-52-01 SEMINOLE

STORMWATER POLLUTION PREVENTION PLAN

SHEET NO.

IT-75

9:59:05 AM

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\ssc

2.B. STABILIZATION PRACTICES:

STABILIZATION PRACTICES TO BE IMPLEMENTED INCLUDING BUT NOT LIMITED TO PERMANENT SODDING. SEEDING OR SEED AND MULCH. THIS SHALL BE DONE IN ACCORDANCE WITH SPECIFICATIONS SECTION 570 PERFORMANCE TURF. STABILIZATION METHOD SHALL BE IMPLEMENTED AS SOON AS POSSIBLE FOLLOWING CONSTRUCTION ACTIVITIES, BUT IN NO CASE SHALL THE TIME BE GREATER THAN SEVEN DAYS AFTER THE CONSTRUCTION HAS CEASED. THE CONTRACTOR SHALL DOCUMENT IN THE SWPPP EROSION CONTROL INSPECTION REPORTS.

2.C. STORMWATER MANAGEMENT:

THE EXISTING STORMWATER MANAGEMENT SYSTEM ALONG THE PROJECT LIMITS PRIMARILY CONSISTS OF AN OPEN DRAINAGE SYSTEM WITH SOME CROSS DRAINAGE AND CATCH BASINS THAT CONVEY STORMWATER INTO DITCH SWALES THAT ULTIMATELY DISCHARGE IN PONDS OR CANALS. MINIMAL ADDITIONAL IMPERVIOUS AREAS ARE PROPOSED; THEREFORE, NO CHANGES TO EXISTING STORMWATER MANAGEMENT SYSTEM ARE REQUIRED.

2.D. OTHER CONTROLS:

WASTE DISPOSAL: THE CONTRACTOR SHALL DOCUMENT ANY LITTER REMOVAL IN THE SWPPP EROSION CONTROL INSPECTION

OFF SITE VEHICLE TRACKING AND DUST CONTROL: THE CONTRACTOR SHALL DESCRIBE THE PROPOSED METHODS FOR MINIMIZING OFF-SITE VEHICLE TRACKING OF SEDIMENTS. ALL CONSTRUCTION ENTRANCES TO THE CORRIDOR SHALL BE FROM EXISTING ENTRANCES (RAMPS, MAINLINE). THE CONTRACTOR WILL PROVIDE POLLUTION CONTROL BY IMPLEMENTING DUST CONTROL DURING DUST GENERATING ACTIVITIES, SUCH AS DRILLING POLE FOUNDATIONS. A TRUCK SHALL REMOVE ANY EXCESS SOIL MATERIAL THAT IS TO BE DISCHARGED WITH A TARPAULIN COVERING THE MATERIAL. THE CONTRACTOR SHALL DOCUMENT THIS IN THE SWPPP EROSION CONTROL INSPECTION REPORTS.

STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL: A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR WILL COLLECT ANY SANITARY WASTE FROM THE PORTABLE UNITS AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION. THE CONTRACTOR SHALL DOCUMENT THIS IN THE SWPPP EROSION CONTROL INSPECTION REPORTS.

FERTILIZERS AND PESTICIDES (IF APPLICABLE): FERTILIZERS SHALL BE APPLIED ACCORDING TO APPLICABLE SUBSECTIONS OF SPECIFICATION 570 OF THE FDOT SPECIFICATIONS, FERTILIZERS AND PESTICIDES SHALL NOT BE USED WITHIN 50 FT OF ANY SURFACE WATER BODY. ALL FERTILIZERS AND PESTICIDES SHALL BE STORED, HANDLED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPLICATION RATES. THE DISPOSAL OF ANY FERTILIZER AND PESTICIDES SHALL BE THE CONTRACTOR'S RESPONSIBILITY IN ACCORDANCE WITH EPA'S STANDARD PRACTICE BY MANUFACTURER. THE CONTRACTOR SHALL DOCUMENT THIS IN THE SWPPP EROSION CONTROL INSPECTION REPORTS

TOXIC SUBSTANCES: THE CONTRACTOR IS RESPONSIBLE TO REPORT ANY CHEMICAL SPILLS TO THE FDOT. IF CONTAMINATED SOILS OR GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND

STATE AND LOCAL PLANS: THE CONTRACTOR SHALL FOLLOW THE CONDITIONS AND SPECIFICATIONS OUTLINED IN THE WATER MANAGEMENT DISTRICT AND THE ENVIRONMENTAL PROTECTION AGENCY PERMITS AND CRITERION

STORMWATER POLLUTION PREVENTION PLAN CONTINUED:

MAINTENANCE:

MAINTENANCE AND REPAIR REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION SHALL BE INCLUDED IN THE COST OF THE REQUIRED PAY ITEMS.

IN CASE OF EMERGENCY, THE CONTRACTOR SHALL PROVIDE A 24 HOUR CONTACT FOR EROSION CONTROL REPAIR.

3. INSPECTIONS:

THE CONTRACTOR SHALL PERFORM COMPREHENSIVE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL FEATURES AS REQUIRED. EXCEPT FOR THE DAILY INSPECTIONS OF SEDIMENT BARRIER REQUIRED UNDER THE FDOT SPECIFICATION 104-6.4.6.3, THE CONTRACTOR SHALL GIVE THE DEPARTMENT A MINIMUM OF 24-HOUR ADVANCE NOTICE TO PROVIDE FDOT PROJECT PERSONNEL WITH THE OPPORTUNITY TO ACCOMPANY THE CONTRACTOR ON THE COMPREHENSIVE INSPECTIONS. THE CONTRACTOR SHALL SUBMIT INSPECTION REPORTS TO DISTRICT CONSTRUCTION WEEKLY. WHERE SITES HAVE BEEN FOUND TO HAVE EROSION ISSUES, INSPECTION SHALL BE CONDUCTED AS REQUIRED AT DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.

IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE IMMEDIATE REMEDIAL ACTION MEASURES, AS APPROVED BY THE ENGINEER.

ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED WITHIN 24 HOURS OF A RAIN EVENT THAT IS 0.5 INCHES OR GREATER

4. NON-STORMWATER DISCHARGE:

NONE ANTICIPATED.

REVISIONS DESCRIPTION DATE DESCRIPTION DATE SUITE 524 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294

METRIC ENGINEERING, INC. MICHAEL L. CORNEJO, P.E. # 47734 615 CRESCENT EXECUTIVE CT LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

COUNTY FINANCIAL PROJECT ID ROAD NO. ORANGE **VARIES** 435446-1-52-01 SEMINOLE

STORMWATER POLLUTION PREVENTION PLAN

SHEET NO.

R:\PROJECT\D5 Cont Services 2012\Projects\Transit Signal Priority\43544615201\its\ssc 9:59:06 AM

IT-76

SHEET NO.	CONTENTS
	Preface
1	Manual On Uniform Traffic Control Devices
1	Abbreviations
	Symbols
	Definitions
	Temporary Traffic Control Devices
	Pedestrian and Bicyclist
2	Overhead Work
	Railroads
	Sight Distance
	Above Ground Hazard
	Clear Zone Widths For Work Zones
	Superelevation
	Length Of Lane Closures
3	Overweight/Oversize Vehicles
	Lane Widths
	High-Visibility Safety Apparel
	Regulatory Speeds In Work Zones
	Flagger Control
4	Survey Work Zones
	Signs
5	Work Zone Sign Supports
6	Project Information Sign
7	Commonly Used Warning and Regulatory Signs In Work Zones
	Manholes/Crosswalks/Joints
	Truck Mounted Attenuators
	Removing Pavement Markings
	Signals
8	Channelizing and Lighting Devices
O	Channelizing and Lighting Devices Consistency
	Warning Lights
	Standard Orange Flag
	Portable Changeable (Variable) Message Signs (PCMS)
	Advanced Warning Arrow Boards
9	Drop-Offs In Work Zones
10	Business Entrance
10	Temporary Asphalt Separator
11	Identifications-Channelizing and Lighting Devices
12	Pavement Markings

PREFACE

All projects and works on highways, roads and streets shall have a traffic control plan. All work shall be executed under the established plan and Department approved procedures. This index contains information specific to the Federal and State quidelines and standards for the preparation of traffic control plans and for the execution of traffic control in work zones, for construction and maintenance operations and utility work on highways, roads and streets on the State Highway System. Certain requirements in this Index are based on the high volume nature of State Highways. For highways, roads and streets off the State Highway System, the local agency (City/County) having jurisdiction may adopt requirements based on the minimum requirements provided in the MUTCD.

Index No. 600 provides Department policy and standards. Changes are only to be made thru Department approved procedures. Index Nos. 601 thru 670 provide typical applications for various situations. Modification can be made to these Indexes as long as the changes comply with the MUTCD and Department Design Standards.

The sign spacing shown on the Indexes are typical (recommended) distances. These distances may be increased or decreased based on field conditions, in order to avoid conflicts or to improve site specific traffic controls.

Except for emergencies, any road closure on State Highway System shall comply with Section 335.15, F.S.

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

The Florida Department of Transportation has adopted the "Manual On Uniform Traffic Control Devices For Streets And Highways" (MUTCD) and subsequent revisions and addendums, as published by the U.S. Department of Transportation, Federal Highway Administration, for mandatory use on the State Maintained Highway System whenever there exists the need for construction, maintenance operations or utility work.

SYMBOLS

The symbols shown are found in the FDOT site menu under Traffic Control cell library on the CADD system. Symbols assigned to the 600 series Design Standards and applicable to traffic control plans, unless otherwise identified in the plans, are as follows:

Work Area, Hazard Or Work Phase (Any pattern within a boundary)



Sign With 18" x 18" (Min.) Orange Flag And Type B Light

Channelizing Device



Type III Barricade

Work Zone Sign

Flagger

Automated Flagger Assistance Device (AFAD)

Traffic Signal

Advance Warning Arrow Board

Portable Signal

c. c. Crash Cushion

Stop Bar

Work Vehicle With Flashing Beacon

X ¶ Shadow (S) Or Advance Warning (AW) Vehicle
With Advance Warning Arrow Board And Warning Sign

Truck/Trailer Mounted Attenuator (TMA)

Orange Flag For TCZ Signs

Type B Light For TCZ Signs

Law Enforcement Officer

ி Portable Regulatory Sign

Radar Speed Display Unit

□□⊢ Portable Changeable (Variable) Message Sign

Traffic Control Officer

The flagger must be clearly visible to approaching traffic for a distance sufficient to permit proper response by the motorist to the flagging instructions, and to permit traffic to reduce speed or to stop as required before entering the work site. Flaggers shall be positioned to maintain maximum color contrast between the Flagger's high-visibility safety apparel and equipment and the work area background.

Hand-Signaling Devices

STOP/SLOW paddles are the primary hand-signaling device. The STOP/SLOW paddle shall have an octagonal shape on a rigid handle. If the STOP/SLOW paddle is placed on a rigid staff, the minimum length of the staff, measured from the bottom of the paddle to the end of the staff that rests on the ground, should be 7 ft. STOP/SLOW paddles shall be at least 24 inches wide with letters at least 6 inches high and should be fabricated from light semirigid material. The background of the STOP face shall be red with white letters and border. The background of the SLOW face shall be orange with black letters and border. When used at night-time, the STOP/SLOW paddle shall be retroreflectorized.

Flag use is limited to immediate emergencies, intersections, and when working on the centerline or shared left turn lanes where two (2) flaggers are required and there is opposing traffic in the adjacent lanes. Flags, when used, shall be a minimum of 24 inches square, made of a good grade of red material, and securely fastened to a staff that is approximately 36 inches in length. When used at nighttime, flags shall be retroreflectorized red.

Flashlight, lantern or other lighted signal that will display a red warning light shall be used at night.

Flagger Stations

Flagger stations shall be located far enough in advance of the work space so that approaching road users will have sufficient distance to stop before entering the work space. When used at nighttime, the flagger station shall be illuminated.

SURVEY WORK ZONES

The SURVEY CREW AHEAD symbol or legend sign shall be the principal Advance Warning Sign used for Traffic Control Through Survey Work Zones and may replace the ROAD WORK AHEAD sign when lane closures occur, at the discretion of the Party Chief. Dual orange flags shall be used at all times to enhance the SURVEY CREW AHEAD sign, even with mesh signs.

When Traffic Control Through Work Zones is being used for survey purposes only, the END ROAD WORK sign as called for on certain 600 Series Indexes should be omitted.

Survey Between Active Traffic Lanes or Shared Left Turn Lanes

The following provisions apply to Main Roadway Traffic Control Work Zones. These provisions must be adjusted by the Party Chief to fit roadway and traffic conditions when the Survey Work Zone includes intersections.

- (A) A STAY IN YOUR LANE (MOT-1-06) sign shall be added to the Advance Warning Sign sequence as the second most immediate sign from the work area.
- (B) Elevation Surveys-Cones may be used at the discretion of the Party Chief to protect prism holder and flagger(s). Cones, if used, may be placed at up to 50' intervals along the break line throughout the work zone.
- (C) Horizontal Control-With traffic flow in the same direction, cones shall be used to protect the backsight tripod and/or instrument. Cones shall be placed at the equipment, and up to 50' intervals for at least 200' towards the flow of traffic.
- (D) Horizontal Control-With traffic flow in opposite directions, cones shall be used to protect the backsight tripod and/or instrument. Cones shall be placed at the equipment, and up to 50' intervals for at least 200' in both directions towards the flow of traffic.

SIGNS

SIGN MATERIALS

Mesh signs may be used only for Daylight Operations.

Vinyl signs may be used for Day or Night Operations not to exceed 1 day except as noted in the standards.

Rigid or Lightweight sign panels may be used in accordance with the vendor drawing for the sign stand to which they are attached.

INTERSECTING ROAD SIGNING

Signing for the control of traffic entering and leaving work zones by way of intersecting crossroads shall be adequate to make drivers aware of work zone conditions. When Work operations exceed 60 minutes, place the ROAD WORK AHEAD sign on the side street entering the work zone.

ADJOINING AND/OR OVERLAPPING WORK ZONE SIGNING

Adjoining work zones may not have sufficient spacing for standard placement of signs and other traffic control devices in their advance warning areas or in some cases other areas within their traffic control zones. Where such restraints or conflicts occur or are likely to occur, one of the following methods will be employed to avoid conflicts and prevent conditions that could lead to misunderstanding on the part of the traveling public as to the intended travel way by the traffic control procedure applied:

- (A) For scheduled projects the engineer in responsible charge of project design will resolve anticipated work zone conflicts during the development of the project traffic control plan. This may entail revision of plans on preceding projects and coordination of plans on concurrent projects.
- (B) Unanticipated conflicts arising between adjoining in progress highway construction projects will be resolved by the Resident Engineer for projects under his residency, and, by the District Construction Engineer for in progress projects under adjoining residencies.
- (C) The District Maintenance Engineer will resolve anticipated and occurring conflicts within scheduled maintenance operations.
- (D) The Unit Maintenance Engineer will resolve conflicts that occur within routine maintenance works; between routine maintenance work, unscheduled work and/or permitted work; and, between unit controlled maintenance works and highway construction projects.

SIGN COVERING AND INTERMITTENT WORK STOPPAGE SIGNING

Existing or temporary traffic control signs that are no longer applicable or are inconsistent with intended travel paths shall be removed or fully covered.

Sign blanks or other available coverings must completely cover the existing sign. Rigid sign coverings shall be the same size as the sign it is covering, and bolted in a manner to prevent

Sign covers are incidental to work operations and are not paid for separately.

SIGNING FOR DETOURS, LANE SHIFTS AND DIVERSIONS

Detours should be signed clearly over their entire length so that motorists can easily determine how to return to the original roadway. The reverse curve (W1-4) warning sign should be used for the advanced warning for a lane shift. A diversion should be signed as a lane shift.

EXTENDED DISTANCE ADVANCE WARNING SIGN

Advance Warning Signs shall be used at extended distance of one-half mile or more when limited sight distance or the nature of the obstruction may require a motorist to bring their vehicle to a stop. Extended distance Advanced Warning Signs may be required on any type roadway, but particularly be considered on multilane divided highways where vehicle speed is generally in the higher range (45 MPH or more).

UTILITY WORK AHEAD SIGN

The UTILITY WORK AHEAD (W21-7) sign may be used as an alternate to the ROAD WORK AHEAD or the ROAD WORK XX FT (W20-1) sign for utility operations on or adjacent to a

LENGTH OF ROAD WORK SIGN

The length of road work sign (G20-1) bearing the legend ROAD WORK NEXT MILES is required for all projects of more than 2 miles in length. The number of miles entered should be rounded up to the nearest mile. The sign shall be located at begin construction

SPEEDING FINES DOUBLED WHEN WORKERS PRESENT SIGN

The SPEEDING FINES DOUBLED WHEN WORKERS PRESENT sign should be installed on all projects, but may be omitted if the work operation is less than 1 day. The placement should be 500 feet beyond the ROAD WORK AHEAD sign or midway to the next sign whichever is less.

GROOVED PAVEMENT AHEAD SIGN

The GROOVED PAVEMENT AHEAD sign is required 500 feet in advance of a milled or grooved surface open to traffic. The W8-15P placard shall be used in conjuction with the GROOVED PAVEMENT AHEAD sign.

END ROAD WORK SIGN

The END ROAD WORK sign (G20-2) should be installed on all projects, but may be omitted where the work operation is less than 1 day. The sign should be placed approximately 500 feet beyond the end of a construction or maintenance project unless other distance is called for in the plans. When other Construction or Maintenance Operations occur within 1 mile this sign should be omitted and signing coordinated in accordance with Index No. 600, ADJOINING AND/OR OVERLAPPING WORK ZONE SIGNING.

PROJECT INFORMATION SIGN

The Project information sign shall be installed when called for in the plans.

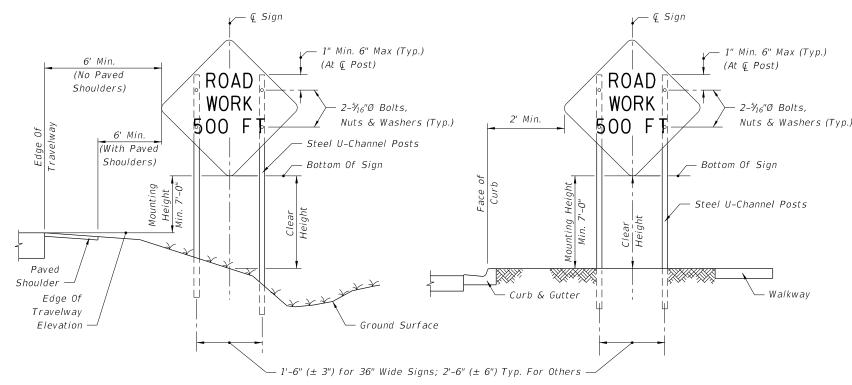
- a. Road closure signs mounted in accordance with the vendor drawing for the Type III Barricade shown on the APL.
- b. Pedestrian advanced warning or regulatory signs mounted on sign supports in accordance with the vendor drawing shown on the APL
- c. Median barrier mounted signs per Index 11871.

TEMPORARY SIGN SUPPORT NOTE:

1. Signs mounted on temporary supports or barricades, and barricade/sign combination shall be crashworthy in accordance with NCHRP 350 requirements and included on the Approved Products List (APL).

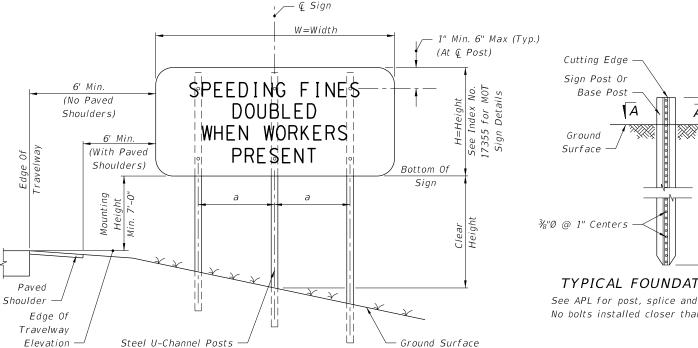
POST MOUNTED SIGN NOTES:

- 1. Use only approved systems listed on the Department's Approved Products List (APL).
- 2. Manufacturers seeking approval of U-Channel and steel square tube sign support assemblies for inclusion on the Approved Products List (APL) must submit a APL application, design calculations (for square tube only), and detailed drawings showing the product meets all the requirements of this Index.
- 3. Provide 3 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.43 in³ for 60 ksi steel, a minimum section modulus of 0.37 in³ for 70 ksi steel, or a minimum section modulus of 0.34 in³ for 80 ksi steel.
- 4. Provide 4 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.56 in³ for 60 ksi steel, or a minimum section modulus of 0.47 in³ for 70 ksi or 80 ksi steel.
- 5. U-channel posts shall conform with ASTM A 499. Grade 60, or ASTM A 576, Grade 1080 (with a minimum yield strength of 60 ksi). Square tube posts shall conform with ASTM A 653, Grade 50, or ASTM A 1011, Grade 50.
- 6. Sign attachment bolts, washers, nuts and spacers shall conform with ASTM A307 or A 36.
- 7. For diamond warning signs with supplement plaque (up to 5 ft² in area), use 4 lb/ft posts for up to 10 ft Clear Height (measure to the bottom of diamond warning sign).
- 8. Install 4 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- 9. The contractor may install 3 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- 10. Install all posts plumb.
- 11. The contractor may set posts in preformed holes to the specified depth with suitable backfill tamped securely on all sides, or drive 3 lb/ft sign posts and any size base post in accordance with the manufacturer's detail shown on the APL.



2 POST SIGN SUPPORT MOUNTING DETAILS (SINGLE POST SIMILAR) RURAL

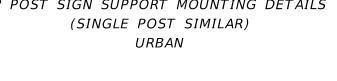
2 POST SIGN SUPPORT MOUNTING DETAILS (SINGLE POST SIMILAR)



3 POST SIGN SUPPORT MOUNTING DETAILS

Where W = 48'': $a = 1' - 4\frac{1}{2}'' (\pm 1'')$ W = 60'': $a = 1' - 9'' (\pm 1'')$ W = 72": a = 2' - 1" (± 1")

WORK ZONE SIGN SUPPORTS

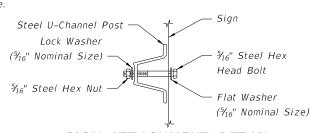


TYPICAL FOUNDATION DETAIL

See APL for post, splice and connection details No bolts installed closer than 1" to cutting edge.



(SCHEMATIC)



SIGN ATTACHMENT DETAIL (WITHOUT Z-BRACKET)

REVISION 12/15/14

DESCRIPTION: Deleted Sheet #4; Renumbered Index.

FDOT

2015 DESIGN STANDARDS

GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

NO. 600

POST AND FOUNDATION

TABLE FOR

WORK ZONE SIGNS

(inches)

30x30

36x36x36

48x48x48

60x60x60

24x18

24x30 30x24

36 x 18

36x24

48 x 18

48x24

36 x 48

48x30

48x36

54x36

48x60

60x54

72x48

120x60*

30x30

36 x 36 48x48

48×48

36Ø

1. Use 3 lb/ft posts for Clear Height up to 10'

Use 4 lb/ft U-channel sign post with a

and 4 lb/ft posts for Clear Height up to 12'.

mounting height of 7' min. and 8' max. Attach

sign panel using Z-bracket detail on Sheet 7.

posts installed in rock, a minimum cumulative

2. Minimum foundation depth is 4.0' for 3 lb/ft

3. For both 3 lb/ft and 4 lb/ft base or sign

depth of 2' of rock layer is required.

4. The soil plate as shown on the APL vendor

sign posts installed in existing rock (as

pavement or soil under sidewalk.

drawing is not required for base posts or

defined in note 3), asphalt roadway, shoulder

posts and 4.5' for 4 lb/ft posts.

SIGN SHAPE

Octagon

Triangle

Rectangle

 $(W \times H)$

Square

Diamond

(See Note 6)

Circle

- Stub Height 4" Max.

For Base Post Only

Notes For Table:

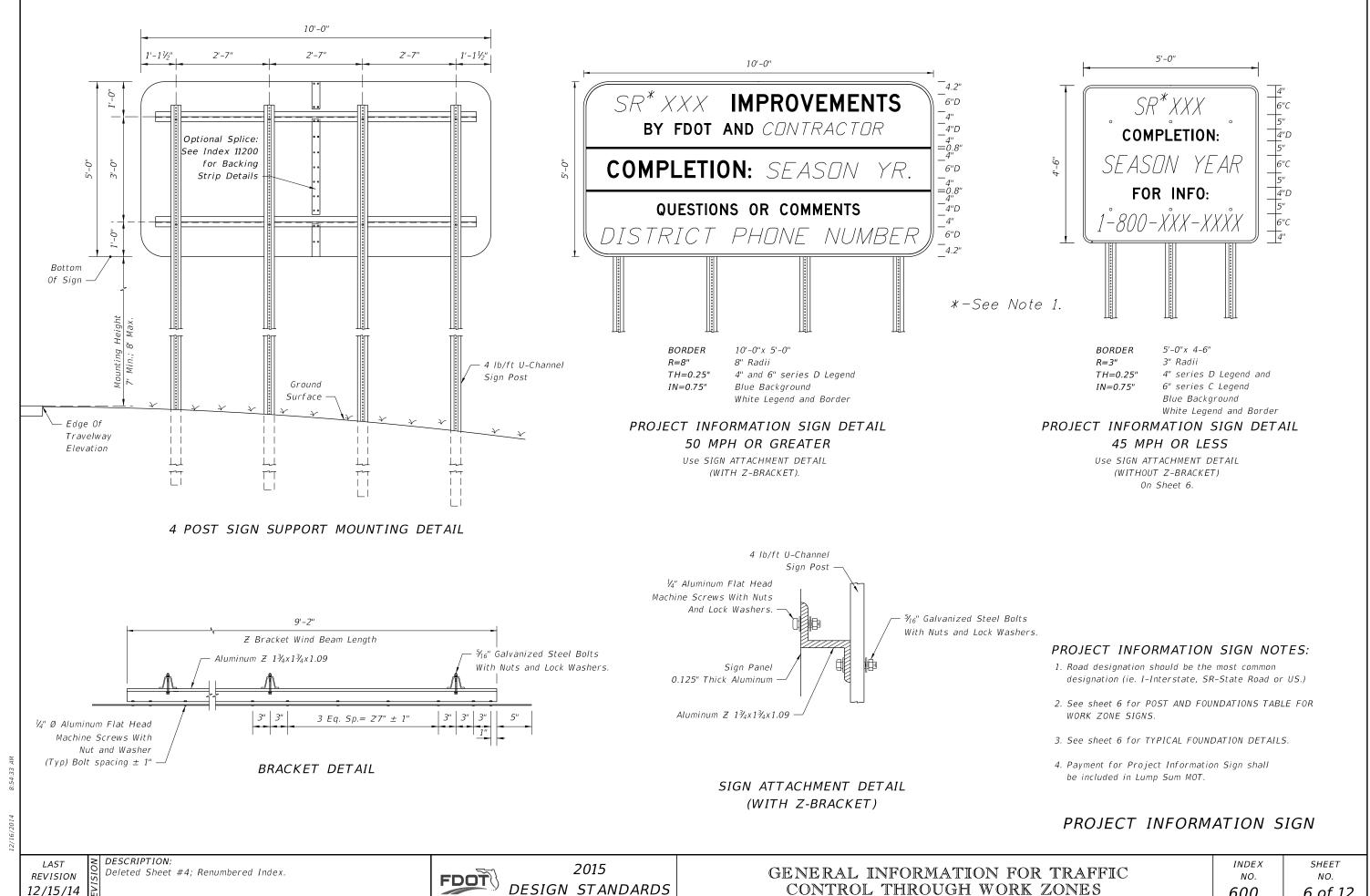
SIGN SIZE | NUMBER OF STEEL

U CHANNEL POSTS

2

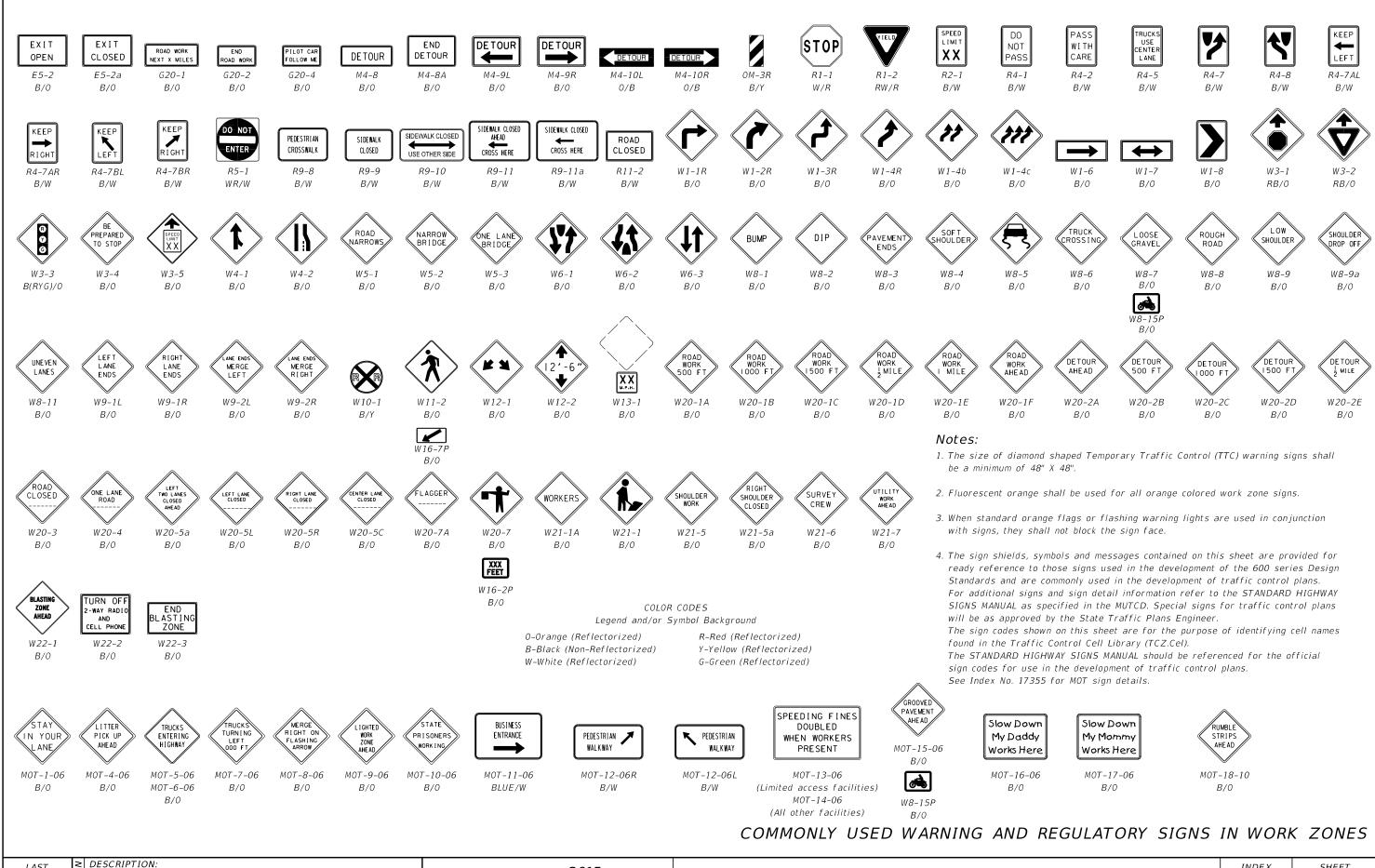
2

SHEET NO. 5 of 12



600

6 of 12



MANHOLES/CROSSWALKS/JOINTS

Manholes extending 1" or more above the travel lane and crosswalks having an uneven surface greater than 1/4" shall have a temporary asphalt apron constructed as shown in the diagram below.

All transverse joints that have a difference in elevation of 1" or more shall have a temporary asphalt apron constructed as shown in the diagram below.



The apron is to be removed prior to constructing the next lift of asphalt. The cost of the temporary asphalt shall be included in the contract unit price for Maintenance of Traffic, LS.

TRUCK/TRAILER-MOUNTED ATTENUATORS

Truck/Trailer-mounted attenuators (TMA) can be used for moving operations and short-term stationary operations. For moving operations, see Index Nos. 607 and 619. For short-term, stationary operations, see Part VI of the MUTCD.

REMOVING PAVEMENT MARKINGS

Existing pavement markings that conflict with temporary work zone delineation shall be removed by any method approved by the Engineer, where operations exceed one daylight period. Painting over existing pavement markings with black paint or spraying with asphalt shall not be accepted as a substitute for removal or obliteration. Full pavement width overlays of either a structural or friction course are a positive means to achieve obliteration

SIGNALS

Existing traffic signal operations that require modification in order to carry out work zone traffic control shall be included in the TCP and be approved by the District Traffic Operations Engineer.

Maintain all existing actuated or traffic responsive mode signal operations for main and side street movements for the duration of the Contract and require restoration of any loss of detection within 12 hours. The contractor shall select only detection technology listed on the Department's Approved Products List (APL) and approved by the Engineer to restore detection capabilities.

CHANNELIZING AND LIGHTING DEVICES

Channelizing and lighting devices for work zone traffic control shall be as prescribed in Part VI of the MUTCD, subject to supplemental revisions provided in the contract documents and Index 600 requirements.

CHANNELIZING AND LIGHTING DEVICE CONSISTENCY

Barricades, vertical panels, cones, tubular markers and drums shall not be intermixed within either the lateral transition or within the tangent alignment.

WARNING LIGHTS

Warning lights shall be in accordance with the MUTCD except for the application limitations stipulated below:

Type A Low Intensity Flashing Warning Lights are to be mounted on barricades, drums, vertical panels or advance warning signs (except as noted below) and are intended to continually warn drivers that they are approaching or proceeding in a hazardous area. Flashing lights shall not be used to delineate the intended path of travel, and not placed with spacings that will form a continuous line to the drivers eye. The Type A light will be used to mark obstructions that are located adjacent to or in the intended travel way. Type A lights shall not be used in conjunction with the first advance warning sign nor the second such sign when used.

For post-mounted signs, Type B High Intensity Flashing Warning Lights shall be mounted on the first advanced warning sign and on the first and second advanced warning sign where two or more signs are used; this applies to all approaches to any work zone. The light shall be mounted on the channel post or on the upper edge of the sign nearest the traffic.

Type B High Intensity Flashing Warning Lights are not to be placed on temporary portable sign supports.

Type C Steady-Burn Lights are to be mounted on barricades, drums, or vertical panels and used in combination with those devices to delineate the travel way on lane closures, lane changes, diversion curves and other similar conditions. Steady-burn lights are intended to be placed in a line to delineate the travel way through and around obstructions in the transition, buffer, work and termination areas of the traffic control zone. Their intended purpose is not for warning drivers that they are approaching or proceeding through a hazardous area.

STANDARD ORANGE FLAG

For post-mounted signs a standard orange flag 18"x 18" (min.) shall be mounted on the first advanced warning sign and on the first and second advanced warning sign where two or more signs are used; this applies to all approaches to any work zone. The flag shall be mounted on the channel post or on the upper edge of the sign furthest from traffic.

Standard orange flags are not to be placed on temporary portable sign supports except to enhance the SURVEY CREW AHEAD sign where dual orange flags shall be used at all times.

PORTABLE CHANGEABLE MESSAGE SIGNS

The PCMS can be used to:

- 1. Supplement standard signing in construction or maintenance work
- 2. Reinforce static advance warning messages.
- 3 Provide motorists with updated guidance information.

PCMS should be placed approx. 500 to 800 feet in advance of the work zone conflicts or 0.5 to 2 miles in advance of complex traffic control schemes which require new and/or unusual traffic maneuvers.

If PCMS are to be used at night, the intensity of the flashers shall be reduced during darkness when lower intensities are desirable.

For additional information refer to the FDOT Plans Preparation Manual, Volume I, Chapter 10.

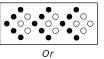
ADVANCE WARNING ARROW BOARDS

An arrow board in the arrow or chevron mode shall be used only for stationary or moving lane closures on multilane roadways.

For shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-way roadway, an arrow board shall be used only in the caution mode.

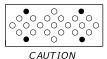
A single arrow board shall not be used to merge traffic laterally more than one lane. When arrow boards are used to close multiple lanes, a single board shall be used at the merging taper for each closed lane.

When Advance Warning Arrow Boards are used at night, the intensity of the flashers shall be reduced during darkness when lower intensities are desirable.



MOVE/MERGE LEFT





000

MOVE/MERGE RIGHT

MOVE/MERGE RIGHT OR LEFT

- Minimum Required Lamps
- Additional Lamps Allowed

MODES

- 1. These conditions and treatments can be applied only in work areas that fall within a properly signed work zone.
- 2. A drop-off is defined as a drop in elevation, parallel to the adjacent travel lanes, greater than 3" with slopes (A:B) steeper than 1:4. When drop-offs occur within the clear zone due to construction or maintenance activities, protection devices are required. See Table 1.
- 3. Distance X is to be the maximum practical under project conditions.
- 4. For Clear Zone widths, see Index No. 600 sheet 3.
- 5. Distance from the travel lane to the barrier or warning device should be maximum practical for project conditions.
- 6. For Conditions 1 and 3 only, any drop-off condition that is created and restored within the same work period will not be subject to the use of barriers; however, warning devices will be required.
- 7. When permanent curb heights are \geq 6", no warning device will be required. For curb heights < 6", see Table 1.
- 8. Where a barrier is specified, any of the types below may be used in accordance with the applicable Index:

Index No. Description

400 Temporary guardrail and end anchorage

412 Temporary low profile barrier

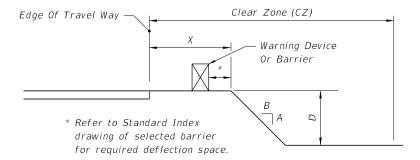
414 Type K temporary concrete barrier

415 Temporary concrete barrier

For other types of temporary barriers see the APL

Table 1 Drop-off Protection Requirements				
Condition	X (ft)	D (in.)	Device Required	
1	0-12 > 3 Barrier (Se		Barrier (See Note 6)	
2	12-CZ > 3 to ≤ 5		Warning Device	
3	0-CZ > 5		Barrier (See Note 6)	
4	Removal of Bridge/ Retaining Wall Barrier		Barrier	
5	5 Removal of portions of Bridge Deck		Barrier	

- 1. This Table is for all speeds.
- 2. See Drop-off Condition Notes.



WARNING DEVICE NOTES

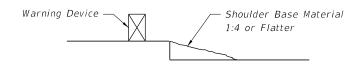
- 1. The following are defined as acceptable warning devices:
- a. Vertical panel
- b. Type I Or Type II barricades
- c. Drum
- d. Cone (where allowed)
- e. Tubular marker (where allowed)
- 2. Warning device spacing shall be as shown in Table 2.

Table 2			
Warning Device Spacing			
Max. Distance Between Devices (ft)			
Cones orTubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
Taper	Tangent	Taper	Tangent
25	50	25	50
25	50	30	50
25	50	50	100
	Max. Cones or Mark Taper 25	Warning Device Max. Distance Be Cones orTubular Markers Taper Tangent 25 50 25 50	Warning Device Spacin Max. Distance Between Dev Cones orTubular Markers Taper Tangent Taper 25 50 25 25 50 30

PEDESTRIAN AND/OR BICYCLIST WAY DROP-OFF CONDITION NOTES

- 1. A pedestrian and/or bicyclist way drop-off is defined as:
- a. a drop in elevation greater than 10 inches that is closer than 2 feet from the edge of the pedestrian or bicyclist way
- b. a slope steeper than 1:2 that begins closer than 2 feet from the edge of the pedestrian or bicyclist way when the total drop-off is greater than 60 inches.
- 2. Any drop-off adjacent to a pedestrian or bicyclist way shall be protected with warning devices, temporary barrier wall or approved handrail.

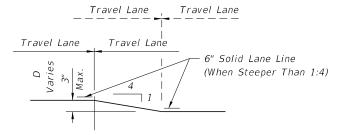
SHOULDER TREATMENT



NOTES

- 1. Shoulder treatment may be used in lieu of barrier. Warning devices are
- 2. Daily inspections shall be conducted to assure that no erosion, excessive slopes, rutting, or other adverse conditions exist. Any deficiencies shall be repaired immediately.
- 3. Compensation for the placement and removal of the material required for the shoulder treatment shall be included in the cost for Maintenance Of Traffic, LS. Use of shoulder treatment in lieu of a barrier is not eligible for CSIP consideration.

TRAVEL LANE TREATMENT FOR MILLING OR RESURFACING



NOTES

- 1. This treatment applies to resurfacing or milling operations between adjacent travel lanes.
- 2. Whenever there is a difference in elevation between adjacent travel lanes, the W8-11 sign with "UNEVEN LANES" is required at intervals of ½ mile maximum.
- 3. If D is $1\frac{1}{2}$ " or less, no treatment is required.
- 4. Treatment allowed only when D is 3" or less.
- 5. If the slope is steeper than 1:4 (not to be steeper than 1:1), the R4-1 and MOT-1-06 signs shall be used as a supplement to the W8-11; this condition should never exceed 3 miles in length.

DROPOFFS IN WORK ZONES

REVISION 12/15/14

DESCRIPTION: Deleted Sheet #4; Renumbered Index.

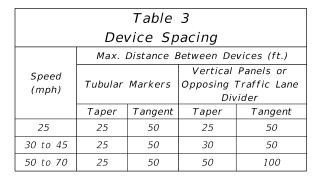


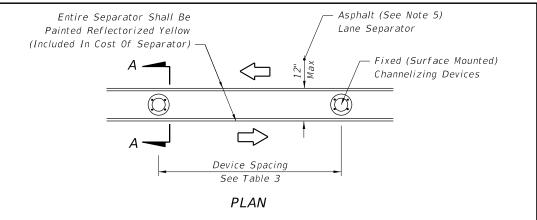


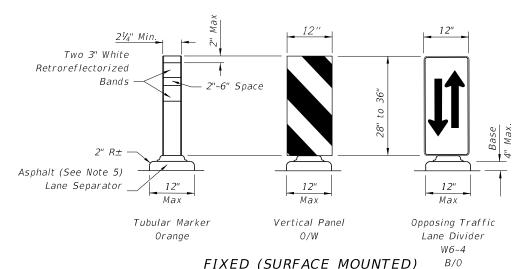
Standard Spacing











SECTION AA

CHANNELIZING DEVICES

- 1. Temporary lane separators shall be supplemented with any of the following approved fixed (surface mounted) channelizing devices: tubular markers, vertical panels, or opposing traffic lane divider panels. Opposing traffic lane divider panels (W6-4) shall only be used as center lane dividers to separate opposing vehicular traffic on a two-lane, two-way operation. Tubular Markers, Vertical Panels and Opposing Traffic Lane Divider panels shall not be intermixed within the limits where the temporary lane separator is used. The connection between the channelizing device and the temporary lane separator curb shall hold the channelizing device in a vertical position.
- 2. Reflectorized materials shall have a smooth sealed outer surface which will display the same approximate color day and night. Furnish channelizing devices having retroreflective sheeting meeting the requirements of Section 990.
- 3. 12" openings for drainage shall be constructed in the asphalt and portable temporary lane separator at a maximum spacing of 25' in areas with grades of 1% or less or 50' in areas with grades over 1% as directed by the Engineer.
- 4. Tapered ends shall be used at the beginning and end of each run of the temporary lane separator to form a gradual increase in height from the pavement level to the top of the temporary lane separator.
- 5. The Contractor has the option of using portable temporary lane separators containing fixed channelizing devices in lieu of the temporary asphalt separator and channelizing devices detailed on this sheet. The portable temporary lane separator shall come in portable sections that can be connected to maintain continuous alignment between the separate curb sections. Each temporary lane separator section shall be 36 inches to 48 inches in total length. Portable temporary lane separators shall duplicate the color of the pavement marking. Portable temporary lane separators shall be one of those listed on the Qualified Products List.
- 6. Any damage to existing pavement caused by the removal of temporary lane separator shall be satisfactorily repaired and the cost of such repairs are to be included in the cost of Maintenance of Traffic, LS.

TEMPORARY LANE SEPARATOR

	2015		
FDUI	DESIGN STANDARDS		

Deleted Sheet #4; Renumbered Index.

 $\overline{}$

 \Longrightarrow

BUSINESS

ENTRANCE

driveway entrance.

40'

Reduced

Spacina

Index 17355 may be used when approved by the Engineer.

which is often the case with resurfacing type projects.

1. For single business entrances, place one 24" x 36" business sign for each

driveway entrance affected. Signs shall show specific business names. Logos

may be provided by business owners. Standard BUSINESS ENTRANCE sign in

2. When several businesses share a common driveway entrance, place one 24" x 36"

standard BUSINESS ENTRANCE sign according with Index 17355 at the common

3. Channelizing devices shall be placed at a reduced spacing on each side of the driveway entrance, but shall not restrict sight distance for the driveway users.

4. Business entrance signs are intended to guide motorist to business entrances moved/modified or disturbed during construction projects. Business entrance

signs are not required where there is minimal distruption to business driveways

PLACEMENT OF BUSINESS ENTRANCE SIGNS AND

CHANNELIZING DEVICES AT BUSINESS ENTRANCE

Reduced

Spacina

INDEX 600

Warning Light 36" Warning Light Warning Light

12" Warning Light Max. A-FRAME POST MOUNT

CONES TUBULAR MARKER PLASTIC DRUMS

TYPE I BARRICADE

TYPE II BARRICADE

DIRECTION INDICATOR **BARRICADE**

VERTICAL PANEL

TYPE III BARRICADE

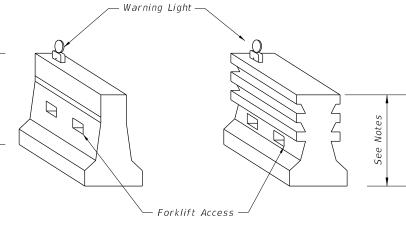
6'-0"

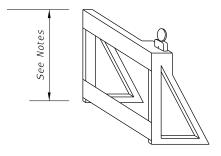
TUBULAR NON-FIXED MARKER TO BE USED DURING DAYLIGHT ONLY

CHANNELIZING AND LIGHTING DEVICE NOTES

- 1. The details shown on this sheet are for the following purposes:
 - (a) For ease of identification and
 - (b) To provide information that supplements or supersedes that provided by
- 2. The Type III Barricade shall have a unit length of 6'-0" only. When barricades of greater lengths are required those lengths shall be in multiples of the 6'-0" unit.
- 3. No sign panel should be mounted on any channelizing device unless the channelizing device/sign combination was found to be crashworthy and the sign panel is mounted in accordance with the vendor drawing for the channelizing device shown on the APL.
- 4. During hours of darkness, warning lights shall be used on LCDs, drums, vertical panels, Type I, Type II, Type III, and direction indicator barricades in accordance with 'Warning Lights' in Index No. 600.
- 5. Ballast shall not be placed on top rails or any striped rails or higher than 13" above the driving surface.
- 6. The direction indicator barricade may be used in tapers and transitions where specific directional guidance to drivers is necessary. If used, direction indicator barricades shall be used in series to direct the driver through the transition and into the intended travel lane.
- 7. The splicing of sheeting is not permitted on either channelizing devices or MOT signs.

- 8. For rails less than 3'-0" long, 4" stripes shall be used.
- 9. Cones shall:
 - a. Be used only in active work zones where workers are present.
 - b. Not exceed 2 miles in length of use at any one time.
 - c. Be reflectorized as per the MUTCD with Department approved reflective collars when used at night.
- 10. Spacing for longitudinal channelizing devices when placed singly shall be the same as Type I or Type II barricades or drums.
- 11. Vehicular longitudinal channelizing devices shall not exceed 36" in height. For vehicular longitudinal channelizing devices (LCDs) less than 32" in height, the LCD shall be supplemented with approved fixed (surface mounted) channelizing devices (tubular markers, vertical panels, etc.) along the run of the LCD, at the ends, at 50' centers on tangents, and 25' centers on radii. The cost of the fixed supplemented channelizing devices shall be included in the cost of the LCD. LCDs less than 32" in height shall not be used for speeds greater than 45 mph.
- 12. For pedestrian longitudinal channelizing devices, the device shall have a minimum of 8" continuous detectable edging above the walkway. A gap not exceeding a height of 2" is allowed to facilitate drainage. The top surface of the device shall be a minimum height of 32" and have smooth connection points between the devices to facilitate hand trailing. The bottom and the top surface of the device shall be in the same vertical plane. If pedestrian drop-off protection is required, the device shall have a footprint or offset of at least 2', otherwise the device must be at least 42" in height above the walkway and be anchored or ballasted to withstand a 200 lb lateral point load at the top of the device.





LONGITUDINAL CHANNELIZING DEVICE

IDENTIFICATIONS - CHANNELIZING AND LIGHTING DEVICES

REVISION 12/15/14

DESCRIPTION: Deleted Sheet #4; Renumbered Index.

2015 DESIGN STANDARDS GENERAL INFORMATION FOR TRAFFIC

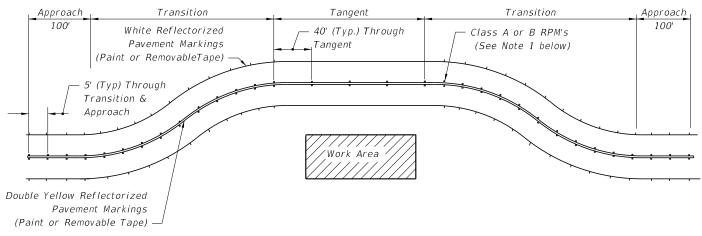
INDEX NO. 600

SHEET NO. 11 of 12

2-LANE - 2-WAY

TEMPORARY SUBSTITUTION OF RPM'S FOR PAINT OR REMOVABLE TAPE

- 1. Paint or removable tape are the required work zone markings and shall be placed in accordance with the plans and specifications. If these work zone markings can not be placed due to weather restrictions identified in the appropriate specification, temporary substitution of RPM's for work zone markings will be allowed until the weather condition permits the placement of appropriate work zone marking. Temporary substitution of RPM's for work zone markings will be allowed for equipment malfunction, placement of the appropriate work zone marking shall be made within 3 days, or sooner if possible. When RPM's are used as a temporary substitution for work zone markings the following shall apply:
- a. Lane widths identified in the plans must be maintained. Placement of RPM's should consider where work zone markings will be placed as soon as conditions allow. If the RPM's can not be placed so that the lane width is maintained after the placement of the work zone markings, the conflicting RPM's must be removed.
- b. The color of the RPM body and the reflective face shall conform to the color of the marking for which they substitute.
- c. In work zones, CLASS A or B RPM's may be used to form lane lines, edge lines and temporary gore areas as a temporary substitute for paint or removable tape at the spacing shown above.



USE OF RPMS TO SUPPLEMENT PAINT OR REMOVABLE TAPE IN WORK ZONES

- 1. RPM's shall be installed as a supplement to:
- a. All lane lines.
- b. Edge lines in transition & approach areas.
- c. Edge lines of gore areas.
- 2. Placement of RPM's should be as shown in Index No. 17352 with the following exceptions: RPM's shall be placed at 5 feet center to center in approach and transition areas.

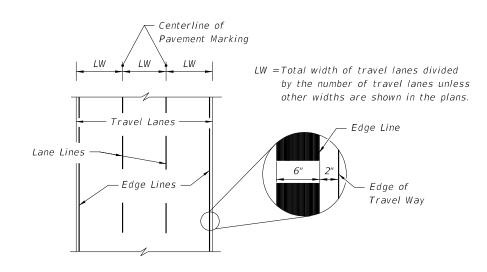
RPMCLASS

APPLICATION FOR REFLECTIVE PAVEMENT MARKERS

- Work Zone Applications Only, For Traffic And Nontraffic Areas.
- Permanent Application In Traffic And Nontraffic Areas Or Can Be Used In Work Zone Applications For Traffic And Nontraffic Areas.

NOTES FOR REFLECTIVE PAVEMENT MARKERS

- 1. The color of the raised pavement marker under both day and night conditions shall conform to the color of the marking for which they serve as a positioning guide, or for which they supplement or substitute.
- 2. To provide contrast on concrete pavement, or light asphalt, the five (5) white RPM's shall be followed by five black RPM's. The spacing between RPM's shall be 2'-6". Black RPM's will not be required for contrast with yellow RPM's.
- 3. RPM's used to supplement lane lines are to be paid for as Reflective Pavement Marker (Temporary), EA. RPM's used as a temporary substitute for paint or removable tape due to weather restrictions are to be paid for as Reflective Pavement Marker (Temporary), EA. RPM's used as a temporary substitute for paint or removable tape due to equipment malfunction are to be placed at the Contractor's expense.



PLACEMENT OF PAVEMENT MARKINGS

PAVEMENT MARKINGS

REVISION 12/15/14

DESCRIPTION: Deleted Sheet #4; Renumbered Index.



2015 DESIGN STANDARDS

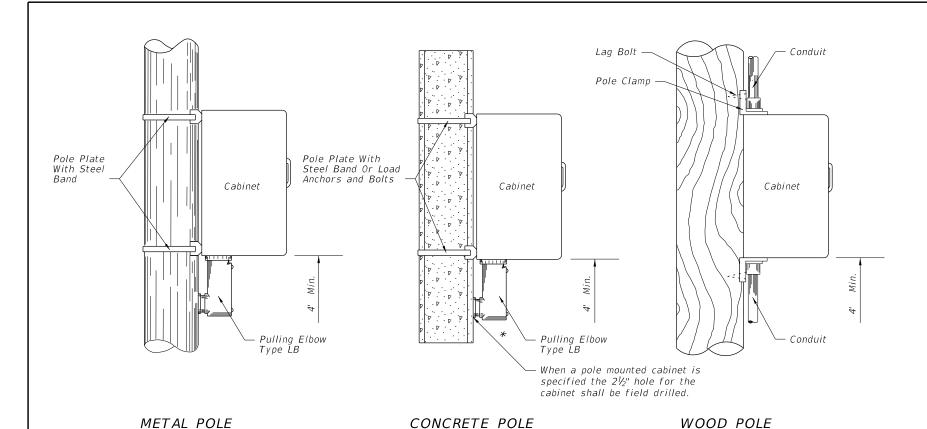
CONTROL THROUGH WORK ZONES

INDEX NO. 600

NO. 12 of 12

SHEET

GENERAL INFORMATION FOR TRAFFIC



Pole Plate With
Steel Band (Or
Method Approved
By The Engineer)

Frame of the Conduit (Rigid)

Grade

Frame of the Conduit (Rigid)

Frame of the Conduit (Ri

POLE MOUNTED

BASE MOUNTED

INTERCONNECT JUNCTION BOX

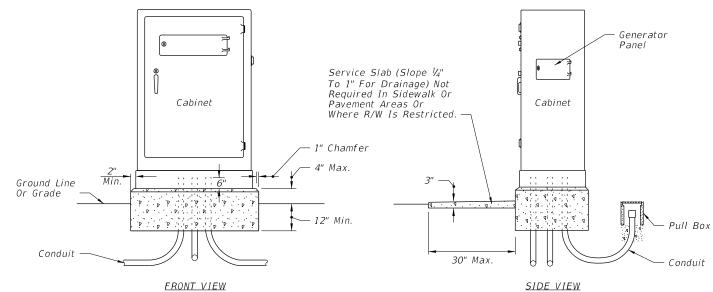
Transfer Switch

POLE MOUNTED CABINET

disconnect to the cabinet when both are installed on the same pole.

Liquidtight flexible conduit is approved for use from the electrical

* If holes for cabinet mounting require relocation, original holes shall be filled in with concrete or covered with a noncorrosive cover plate.



Notes:

- 1. The number, size and orientation of conduit sweep will vary according to site condition or locations. Two spare 2" PVC conduits shall be provided in all bases. The spares shall exit in the direction of the center rear of the cabinet base, into a pullbox and capped with a weathertight fitting. If obstructions prevent the spare conduit from exiting to the rear, or the rear of the cabinet is located on the R/W line, a side exit of the spare conduits will have to be approved by the project engineer. All spare conduit sweeps shall be capped with a weatherproof fitting.
- 2. Meet all grounding rquirements of the Standard Specifications 620.
- 3. New Controller Cabinet installation shall meet the requirements of the Standard Specifications 676.

NEW CONTROLLER CABINET

DESIGN STANDARDS

oller Cabinet; 2015

Notes:

Ground

Line Or Grade

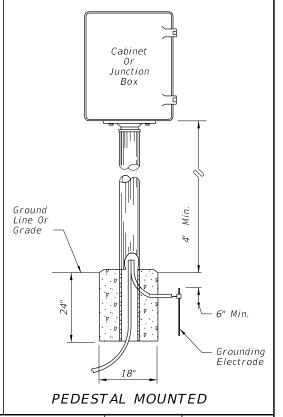
1. Existing controller cabinets to be retrofitted shall meet the requirements of the Standard Specifications 678.

ERONT VIEW

Cabinet

 The signalized intersection controller cabinet retrofit installation procedures are located at: http://www.dot. state.fl.us/TrafficOperations/Doc_Library/Doc_Library.shtm for Generator Power for Signalized Intersection

EXISTING CONTROLLER CABINET



LAST REVISION 12/15/14

DESCRIPTION:

Changed Notes #2 and #3 for New Controller Cabinet; Changed Note #1 for the Existing Controller Cabinet.

CABINET INSTALLATION DETAILS

INDEX NO. 17841 SHEET NO. **1 of 1**

1.02/2014