

# OSCEOLA COUNTY, FLORIDA

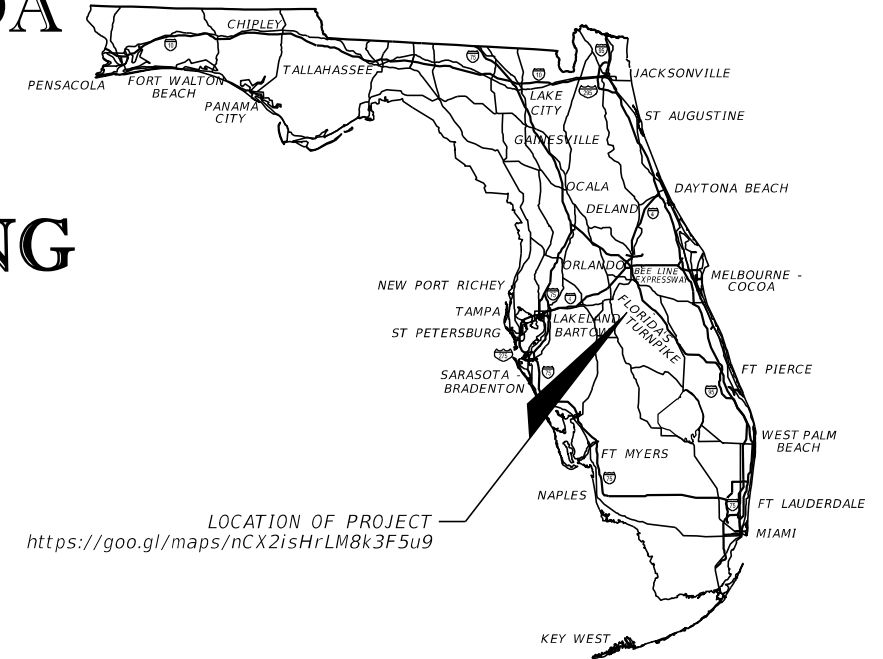
## TRANSPORTATION AND TRANSIT

### CONSTRUCTION PLANS FOR

# POINCIANA BLVD. WIDENING

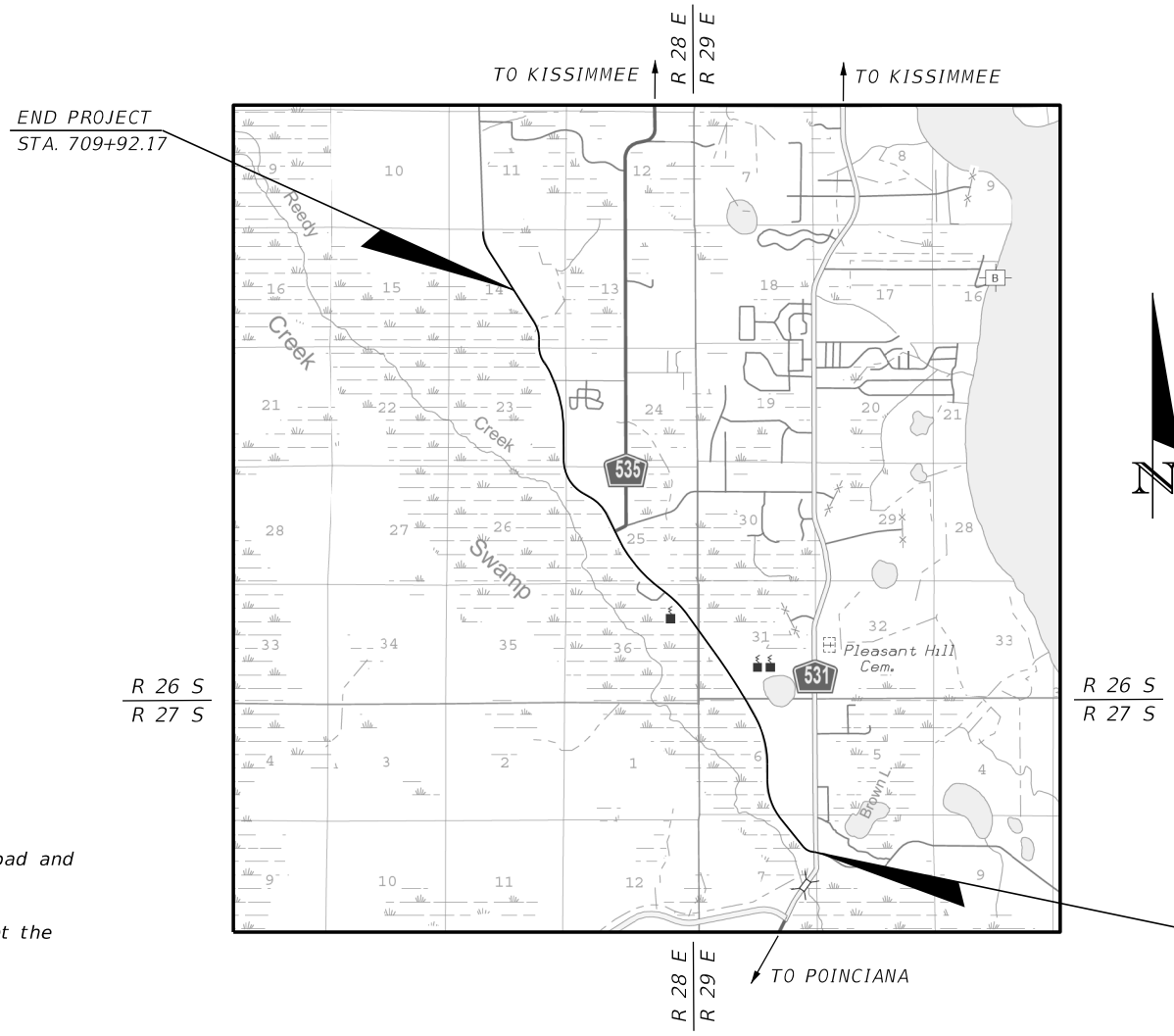
## PS-20-11503-DG

### SIGNALIZATION PLANS



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#### GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2022-23 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

APPLICABLE IRs: NA

Standard Plans for Bridge Construction are included in the Structures Plans Component

#### GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, January 2022 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

#### SIGNALIZATION PLANS ENGINEER OF RECORD:

SUSANNE S. WILLIAMS, P.E.  
P.E. NO.: 49486  
TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
80 SPRING VISTA DRIVE  
DEBARY, FL 32713

#### COUNTY PROJECT MANAGER:

STEVEN KANE, P.E

#### SURVEYORS OF RECORD:

RIGHT-OF-WAY MAPPING  
W. TURNER WALLIS, IV, P.S.M.-LS3967

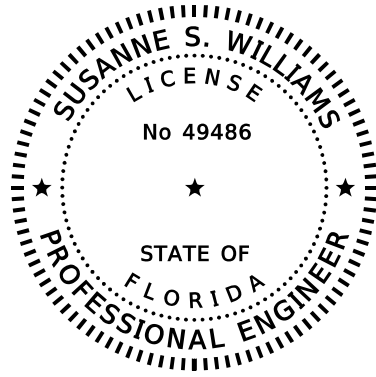
DESIGN/TOPOGRAPHIC SURVEY  
SCOT A. CARPENTER, P.S.M.-LS6177

#### VERTICAL DATUM:

NAVD88

SHEET NO.

T-1



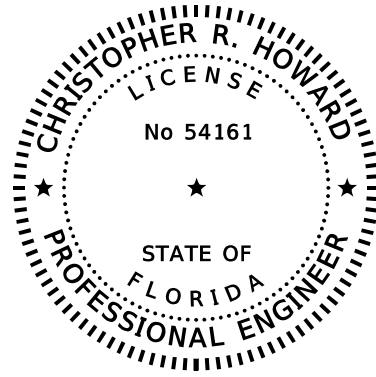
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80 SPRING VISTA DRIVE  
DEBARY, FL 32713  
SUSANNE S. WILLIAMS, P.E. NO. 49486

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SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
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T-12	STANDARD MAST ARM TABULATION
T-15	GUIDE SIGN WORK SHEET



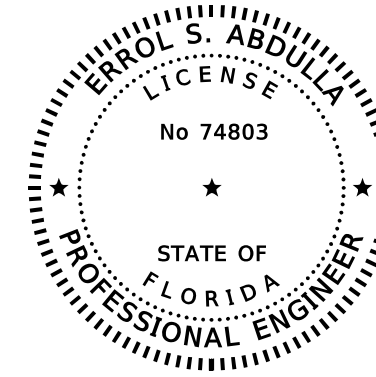
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CONSOR ENGINEERS, LLC  
2511 ST JOHNS BLUFF ROAD, SUITE #103  
JACKSONVILLE, FL 32246  
CHRISTOPHER R. HOWARD, P.E. NO. 54161

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SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-13 - T-14	STANDARD MAST ARM ASSEMBLIES DATA TABLE



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AWK CONSULTING ENGINEERS, INC.  
6457 HAZELTINE NATIONAL DRIVE, SUITE 150  
ORLANDO, FL 32822  
ERROL S. ABDULLA, P.E. NO. 74803

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SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-16 - T-17	SOIL BORINGS REPORT

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SUSANNE S. WILLIAMS, P.E.  
LICENSE NUMBER 49486  
TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
80 SPRING VISTA DRIVE  
DEBARY, FLORIDA 32713



OSCEOLA COUNTY  
TRANSPORTATION AND TRANSIT  
1 Courthouse Square, Suite 3100  
Kissimmee, Florida 34741  
(407) 742-0552 Fax:(407) 742-0560

*SIGNATURE SHEET*

SHEET NO.  
T-2

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS												TOTAL THIS SHEET		GRAND TOTAL	
			T-6		T-8										PLAN	FINAL	PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL						
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	202		193										395		395	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	580		375										955		955	
632-7-1	SIGNAL CABLE-NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1		1										2		2	
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA	28		16										44		44	
639-1-122	ELECTRICAL POWER SERVICE, FURNISH & INSTALL, UNDERGROUND (PURCHASED BY CONTRACTOR FROM POWER CO)	AS	1		1										2		2	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	10		10										20		20	
641-2-60	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL - PEDESTAL/SERVICE POLE	EA	1		1										2		2	
646-1-11	ALUMINUM SIGNAL POLE, PEDESTAL	EA	4		2										6		6	
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	1		2										3		3	
649-21-1	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL SINGLE ARM 30'	EA	1		1										2		2	
649-21-3	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	EA	1												1		1	
649-21-10	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 60'	EA			1										1		1	
649-21-15	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'	EA	3		1										4		4	
649-21-21	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 78'	EA	1												1		1	
649-26-3	STEEL MAST ARM ASSEMBLY, REMOVE, SHALLOW FOUNDATION- BOLT ON ATTACHMENT	EA	4		2										6		6	
650-1-14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	21		6										27		27	
650-1-16	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS			2										2		2	
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNDOWN, 1 WAY	AS	4		2										6		6	
660-4-11	VEHICLE DETECTION SYSTEM- VIDEO, FURNISH & INSTALL CABINET EQUIPMENT	EA	1		1										2		2	
660-4-12	VEHICLE DETECTION SYSTEM- VIDEO, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA	5		3										8		8	
663-1-121	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, REPLACE CABINET ELECTRONICS	EA	1		1										2		2	
663-1-122	SIGNAL PRIORITY AND PREEMPTION SYSTEM, FURNISH AND INSTALL, GPS, DETECTOR	EA	1		1										2		2	
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	4		2										6		6	
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1		1										2		2	
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS	1		1										2		2	
685-1-13	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE WITH CABINET	EA	1		1										2		2	
700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	1		2										3		3	
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	4		3										7		7	

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REVISIONS				SUSANNE S. WILLIAMS, P.E. LICENSE NUMBER 49486 TRAFFIC ENGINEERING DATA SOLUTIONS, INC. 80 SPRING VISTA DRIVE DEBARY, FLORIDA 32713		<b>OSCEOLA COUNTY</b> TRANSPORTATION AND TRANSIT 1 Courthouse Square, Suite 3100 Kissimmee, Florida 34741 (407) 742-0552 Fax:(407) 742-0560	<b>TABULATION OF QUANTITIES</b>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION					T-3



PAY ITEM NOTES

- 630-2-XX  
A green #12 AWG trace wire shall be installed within any unused conduit and spliced within the pull box to provide electrical continuity. All references in the plan to rigid conduit shall be installed as 1.5" galvanized steel metal conduit. There shall be one spare 2" underground conduit installed per run. This shall be reflected in the callout. There shall be a separate conduit for video or loop runs from signal power conduits. Under no circumstances shall loop and video runs be housed in the same conduit as signal power.
- 635-2-XX  
Pull boxes shall be "Quazite", have non-conductive covers, and meet ANSI Tier 22 rating. Covers shall be stamped "Osceola County Traffic Signal" for all signalization applications.
- 641-2-12  
Includes the cost of providing concrete service pole to mount signal disconnect when not permitted to be mounted on power company pole. Service pole shall be exposed 12' above grade with disconnect mounted at 8'. Surge arrestor shall be wired on the load side of the disconnect.
- 646-1-XX  
All pedestrian pedestals shall be provided with aluminum breakaway transformer-type bases.
- 650-1-XX  
All traffic signal heads shall be aluminum. An articulated astro-bracket shall be provided under this pay item if needed for proper orientation of horizontal signal head on a skewed arm or approach. Retro reflective back plate borders are required on all back plates. Any four section signal heads with the flashing yellow arrow shall have the FTP-85-13 sign installed adjacent to the head assembly to the right.
- 653-1-XX  
LED pedestrian signals are to be single section and provided with international style lenses and countdown features.
- 660-4-XX  
All video detectors shall meet Osceola County's functionality requirements. Sunshields shall be provided on each camera, a menu-driven interface requiring no separate computer for set-up or maintenance shall be provided. Video cameras shall be color and sealed pressurized housing. This pay item shall also include lightning and surge protection consisting of point discharge dissipation terminals on each camera, coax or cat 5 line protectors and camera protectors. Proper grounding must be provided including a bond wire attached to the camera assembly running to the pole ground. This item includes exterior use cabling, and mounting brackets necessary to meet the performance expectations of the system as described in the signal general notes. Payment includes all labor (man-hours) and equipment necessary to develop an acceptance testing plan and to complete a successful video detection accuracy test A.K.A. Field acceptance test of the video detection system.
- 663-1-XXX  
contractor to furnish and install Global Traffic Technologies GPS receiver and antenna. The contractor will perform all signal testing, mapping and system activation. Contractor to furnish and install global traffic technologies fire-rescue GPS pre-emption controller interface module. Contractor to furnish and install Global Traffic Technologies system-specific preemption GPS multi-pair cable to connect to GPS antennas to GPS pre-emption controller interface.
- 665-1-XX  
Pedestrian push buttons shall include a MUTCD pedestrian sign, R10-3E for each button. The button and sign shall be placed on the face of the pole. Contact the engineer before proceeding if all A.D.A. Requirements cannot be met regarding the placement and accessibility of the buttons. Audible push buttons shall only be installed when called for in the plans.
- 670-5-XXX  
The controller assembly shall be Econolite R77 TS2 Type 1 operation, consist of an Econolite Cobalt 2100 controller, and 3 shelves. (Special note: if there is limited sidewalk A.D.A. clearance, a reduced depth Type VI cabinet can be used with prior approval from Osceola County Transportation and Transit). The cabinet air filter shall be of the reusable washable aluminum type. The top of the controller pad shall be at least six inches above the roadway elevation. This pay item shall also include complete reintegration of the existing GPS priority control preemption equipment, and relocation to/from the existing cabinet. A flush mounted automatic power transfer switch shall be included on the cabinet. A technician service pad 30" in width shall also be provided. Whenever possible, the cabinet is to be placed so that the door opens away from the intersection and opens fully within the right of way. This pay item includes the cost of the concrete for the controller pad and the service pad.  
  
NOTE- Refer to Osceola County Traffic Signal Cabinet and Controller Specifications 5/2016.  
For more detailed specifications contact:  
  
Aaron Torres (407) 738-9405, aaron.torres@osceola.org  
Ghassan Choueiry, PE at (407) 742-0562, ghassan.choueiry@osceola.org
- 685-1-13  
All UPS systems shall be line interactive and meet Osceola Counties communication system requirements. UPS cabinets shall be installed separately from the controller assembly, no piggy back mounts.
- 700-5-XX  
Illuminated street signs shall be LED producing a minimum of 50 lumens per watt. Signs shall be double-sided and mounted to separate cantilever arms below the mast arms. All internally illuminated street name signs shall be separately breakered and controlled by one master photocell installed in cabinet. Internally illuminated street name signs shall have a 24" viewing height. This viewing height does not include the height of the sign assembly. Internally illuminated street name signs shall be burned in for 60 days before final acceptance.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



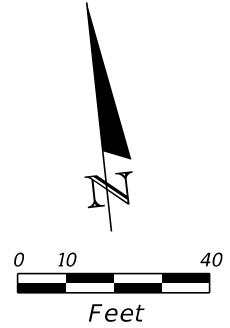
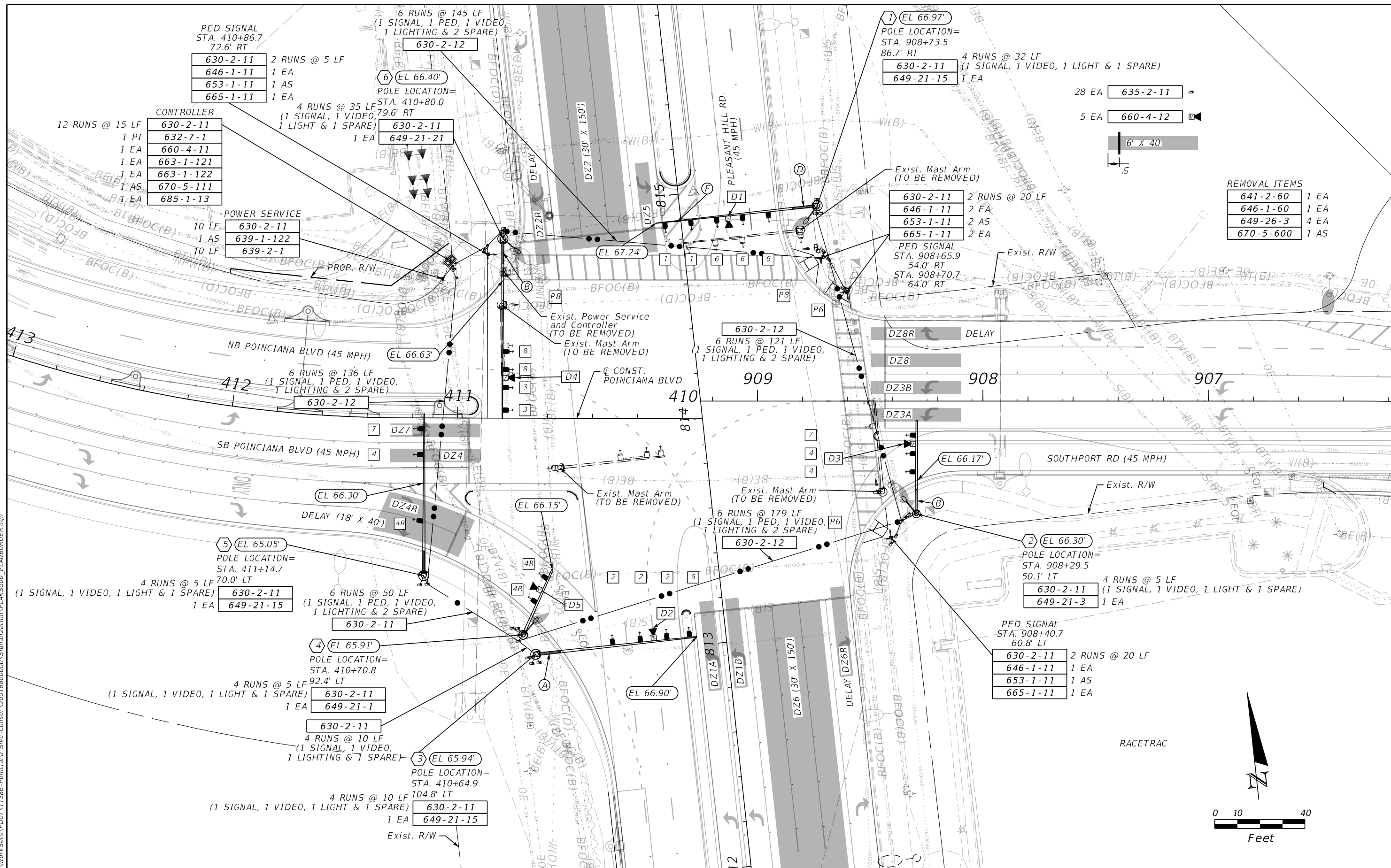
**OSCEOLA COUNTY  
TRANSPORTATION AND TRANSIT**  
1 Courthouse Square, Suite 3100  
Kissimmee, Florida 34741  
(407) 742-0552 Fax:(407) 742-0560

**GENERAL NOTES**

SHEET NO.  
**T-5**

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REVISIONS			
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SUSANNE S. WILLIAMS, P.E.  
 LICENSE NUMBER 49486  
 TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
 80 SPRING VISTA DRIVE  
 DEBARY, FLORIDA 32713



**OSCEOLA COUNTY**  
**TRANSPORTATION AND TRANSIT**  
 1 Courthouse Square, Suite 3100  
 Kissimmee, Florida 34741  
 (407) 742-0552 Fax:(407) 742-0560

**SIGNALIZATION PLAN**

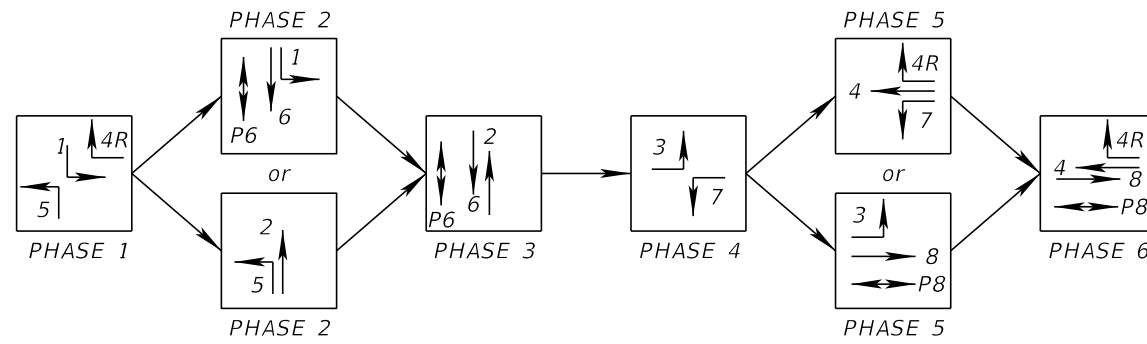
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**T-6**

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NOTES:

- THE MAJOR STREET IS PLEASANT HILL RD (45MPH)  
MINOR STREET IS POINCIANA BLVD (45 MPH) AND  
SOUTHPORT RD (45 MPH).
- FLASHING MODE:  
YELLOW - MOVEMENTS 2 AND 6  
RED - MOVEMENTS 1, 3, 4, 5, 7 AND 8.

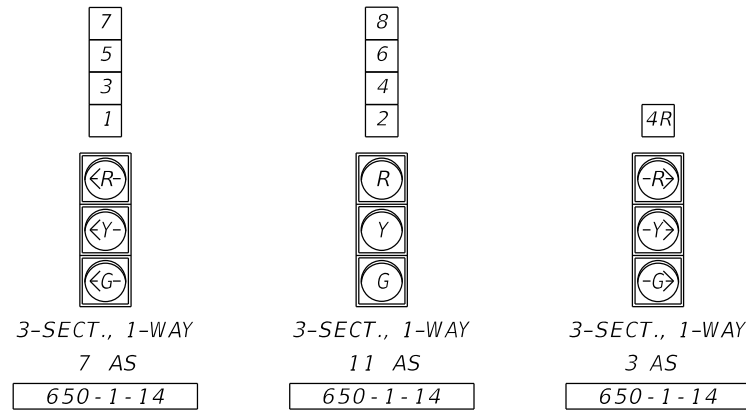
S.O.P. 10



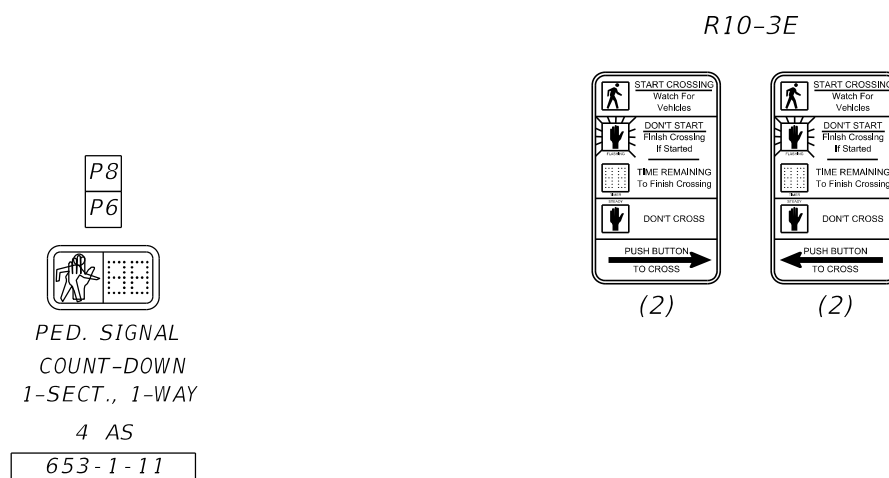
DETECTION ASSIGNMENTS

DETECTOR	DETECTION ZONE	DELAY TIME (SEC)	CHANNEL NO.
D1	DZ1A	-	-
	DZ1B	-	-
	DZ6	-	-
	DZ6R	5	-
D2	DZ5	-	-
	DZ2R	5	-
D3	DZ7	-	-
	DZ4	-	-
D4	DZ3A	-	-
	DZ3B	-	-
	DZ8	-	-
	DZ8R	5	-
D5	DZ4R	5	-

TRAFFIC SIGNAL DETAILS:



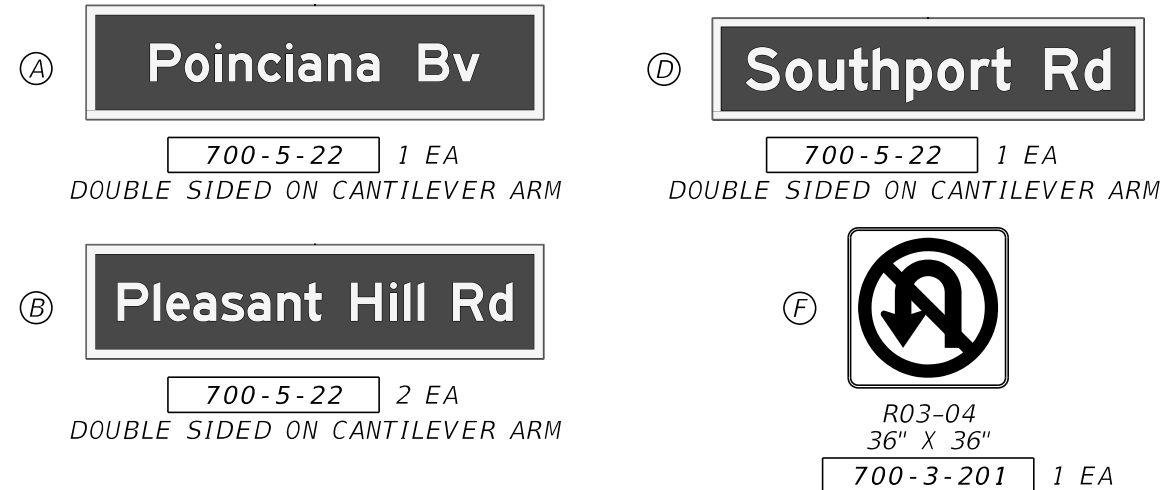
PEDESTRIAN SIGNAL DETAILS:



CONTROLLER TIMINGS

TIMING FUNCTION									
MOVEMENT NUMBER		1	2	3	4	5	6	7	8
TIMING FUNCTION	MINIMUM GREEN	7	18	7	7	7	18	7	7
	EXTENSION	3.0	0.5	3.0	3.0	3.0	0.5	3.0	3.0
	MAXIMUM GREEN 1	25	55	20	30	25	55	20	30
	MAXIMUM GREEN 2	-	-	-	-	-	-	-	-
	YELLOW CLEARANCE	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	ALL RED	2.0	2.0	2.5	2.8	2.4	2.4	2.5	2.5
	PEDESTRIAN WALK	-	-	-	-	-	7	-	7
	PED. CLEARANCE	-	-	-	-	-	30	-	40
RECALL	-	MIN	-	-	-	MIN	-	-	

INTERNALLY ILLUMINATED AND OVERHEAD SIGNS



LUMINAIRE ANGLES

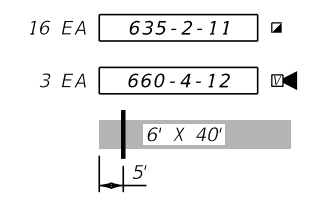
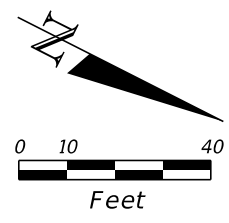
POLE #	ANGLE FROM ARM CENTER
1	45°
2	40°
4	17°
6	50°

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DATE	DESCRIPTION	DATE	DESCRIPTION			

SIGNALIZATION PLAN



**CONTROLLER**

630-2-11	12 RUNS @ 5 LF
632-7-1	1 PI
660-4-11	1 EA
663-1-121	1 EA
663-1-122	1 EA
670-5-111	1 AS
685-1-13	1 EA

**POWER SERVICE**

630-2-11	10 LF
639-1-122	1 AS
639-2-1	10 LF

7 (EL 69.83')  
POLE LOCATION=  
STA. 584+36.5  
63.1' LT  
4 RUNS @ 5 LF  
(1 SIGNAL, 1 VIDEO, 1 LIGHT & 1 SPARE)  
1 EA  
630-2-11  
649-21-10

6 RUNS @ 111 LF  
(1 SIGNAL, 1 PED, 1 VIDEO,  
1 LIGHTING & 2 SPARE)  
630-2-11

8 (EL 69.47')  
POLE LOCATION=  
STA. 585+47.2  
63.1' LT  
4 RUNS @ 5 LF  
(1 SIGNAL, 1 VIDEO, 1 LIGHT & 1 SPARE)  
1 EA  
630-2-11  
649-21-1

6 RUNS @ 138 LF  
(1 SIGNAL, 1 PED, 1 VIDEO,  
1 LIGHTING & 2 SPARE)  
630-2-12

6 RUNS @ 144 LF  
(1 SIGNAL, 1 PED, 1 VIDEO,  
1 LIGHTING & 2 SPARE)  
630-2-12

6 RUNS @ 100 LF  
(1 SIGNAL, 1 PED, 1 VIDEO,  
1 LIGHTING & 2 SPARE)  
630-2-12

9 (EL 69.08')  
POLE LOCATION=  
STA. 585+92.7  
71.3' RT  
4 RUNS @ 5 LF  
(1 SIGNAL, 1 VIDEO, 1 LIGHT & 1 SPARE)  
1 EA  
630-2-11  
649-21-15

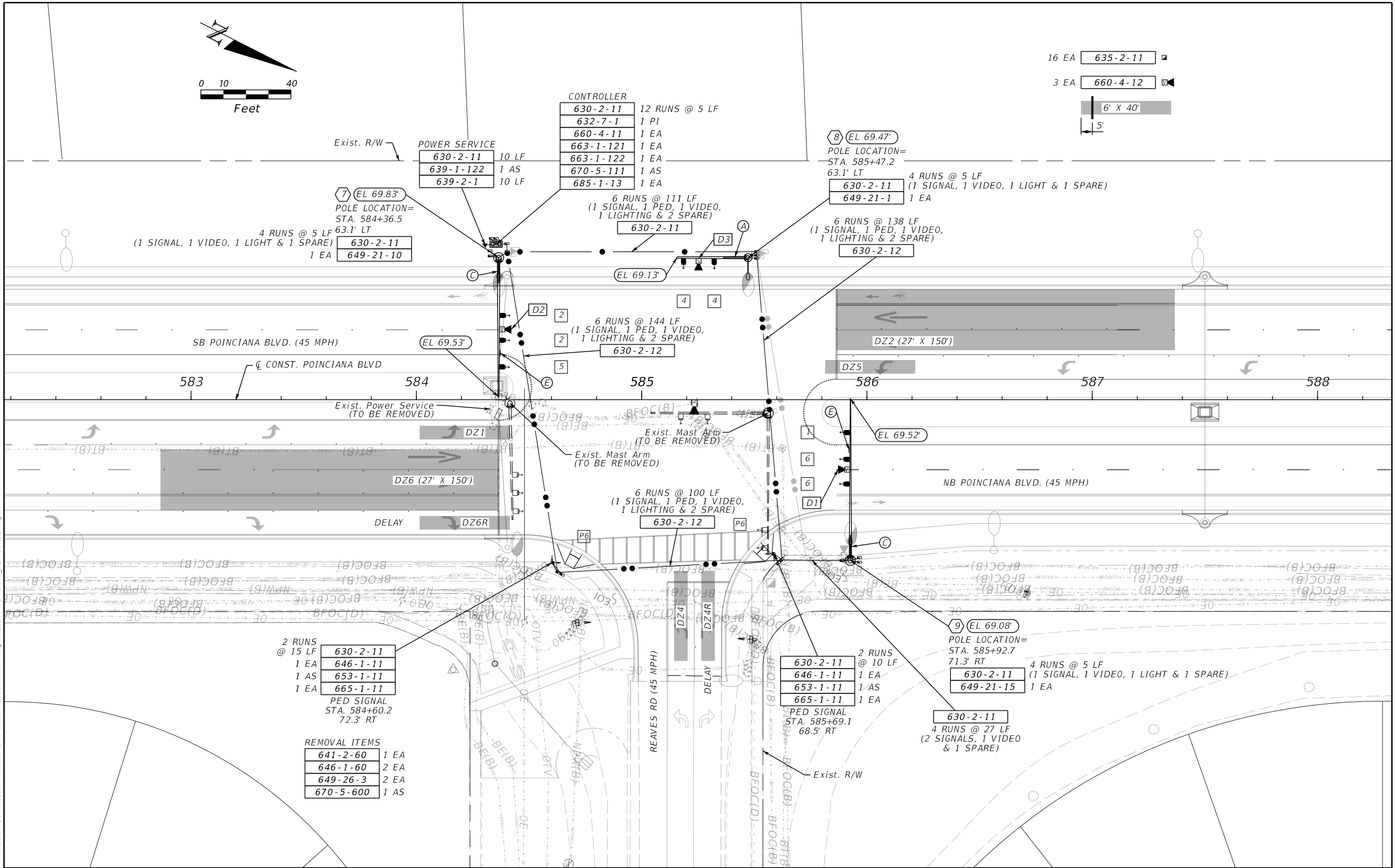
2 RUNS @ 10 LF  
630-2-11  
646-1-11  
653-1-11  
665-1-11  
1 EA  
1 AS  
1 EA

630-2-11  
4 RUNS @ 27 LF  
(2 SIGNALS, 1 VIDEO  
& 1 SPARE)

2 RUNS @ 15 LF  
630-2-11  
1 EA 646-1-11  
1 AS 653-1-11  
1 EA 665-1-11  
PED SIGNAL  
STA. 584+60.2  
72.3' RT

**REMOVAL ITEMS**

641-2-60	1 EA
646-1-60	2 EA
649-26-3	2 EA
670-5-600	1 AS



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**SIGNALIZATION PLAN**

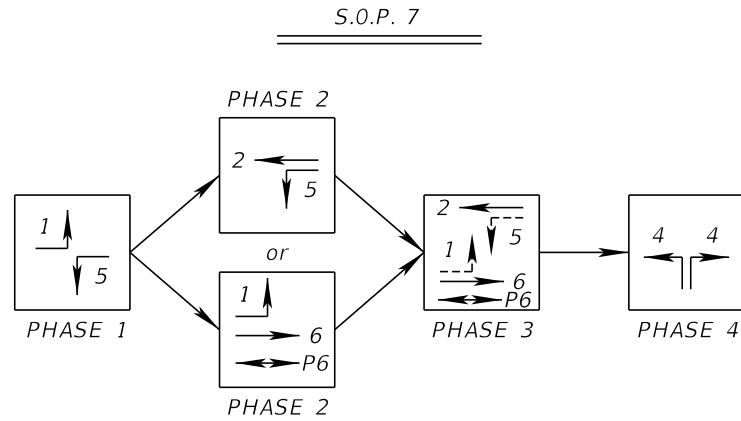
SHEET NO.  
**T-8**

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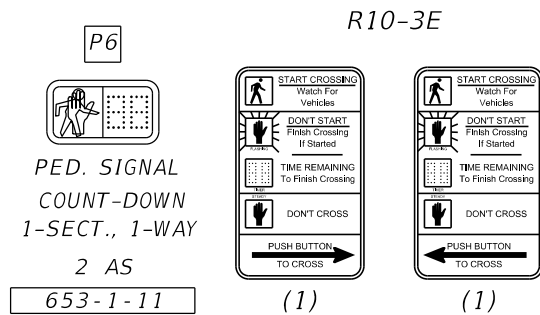


NOTES:

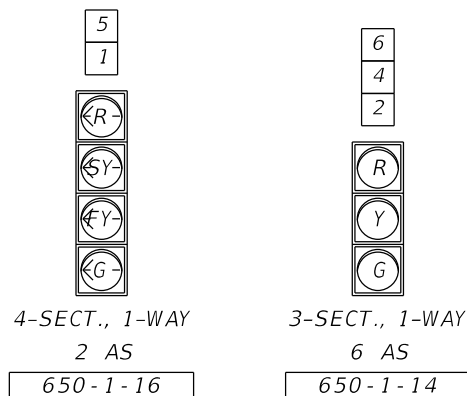
1. THE MAJOR STREET IS POINCIANA BLVD (45MPH)  
MINOR STREET IS REAVES RD (45 MPH).
2. FLASHING MODE:  
YELLOW - MOVEMENTS 2 AND 6  
RED - MOVEMENTS 1, 4, AND 5.
3. MOVEMENTS 1 & 5 SHALL OPERATE PROTECTED-PERMISSIVE.



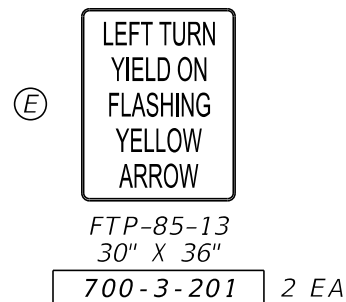
PEDESTRIAN SIGNAL DETAILS:



TRAFFIC SIGNAL DETAILS:



INTERNALLY ILLUMINATED AND OVERHEAD SIGNS



DETECTION ASSIGNMENTS			
DETECTOR	DETECTION ZONE	DELAY TIME (SEC)	CHANNEL NO.
D1	DZ1	-	-
	DZ6	-	-
	DZ6R	5	-
D2	DZ5	-	-
	DZ2	-	-
D3	DZ4	-	-
	DZ4R	5	-

CONTROLLER TIMINGS									
TIMING FUNCTION									
MOVEMENT NUMBER		1	2	3	4	5	6	7	8
TIMING FUNCTION	MINIMUM GREEN	10	15	-	10	10	15	-	-
	EXTENSION	2.5	0.5	-	2.5	2.5	0.5	-	-
	MAXIMUM GREEN 1	20	65	-	25	20	65	-	-
	MAXIMUM GREEN 2	-	-	-	-	-	-	-	-
	YELLOW CLEARANCE	4.8	4.8	-	4.8	4.8	4.8	-	-
	ALL RED	2.0	2.0	-	2.5	2.3	2.0	-	-
	PEDESTRIAN WALK	-	-	-	-	-	7	-	-
	PED. CLEARANCE	-	-	-	-	-	21	-	-
RECALL	-	MIN	-	-	-	MIN	-	-	

LUMINAIRE ANGLES	
POLE #	ANGLE FROM ARM CENTER
7	0°
8	90°
9	0°

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SUSANNE S. WILLIAMS, P.E.  
LICENSE NUMBER 49486  
TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
80 SPRING VISTA DRIVE  
DEBARY, FLORIDA 32713

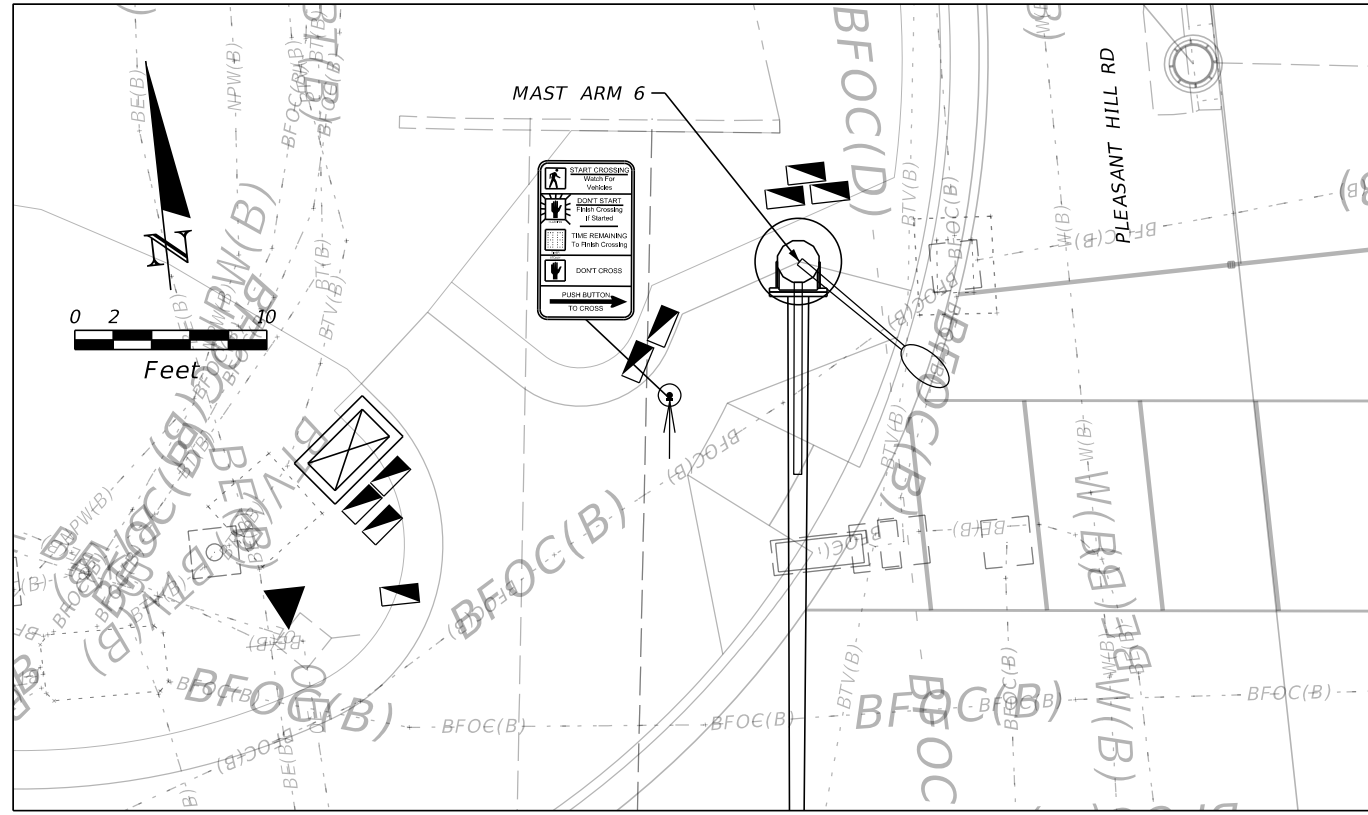


OSCEOLA COUNTY  
TRANSPORTATION AND TRANSIT  
1 Courthouse Square, Suite 3100  
Kissimmee, Florida 34741  
(407) 742-0552 Fax:(407) 742-0560

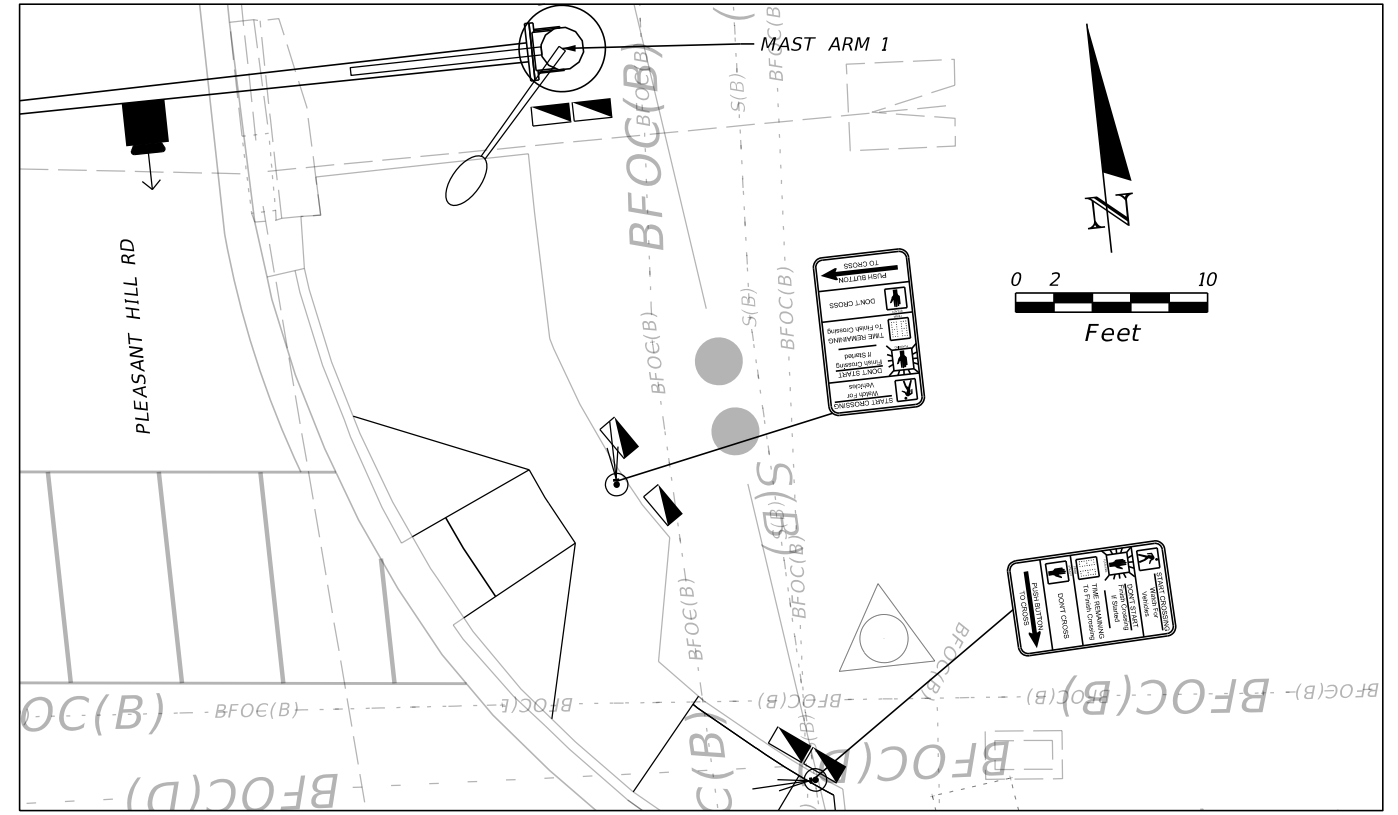
SIGNALIZATION PLAN

SHEET NO.  
T-9

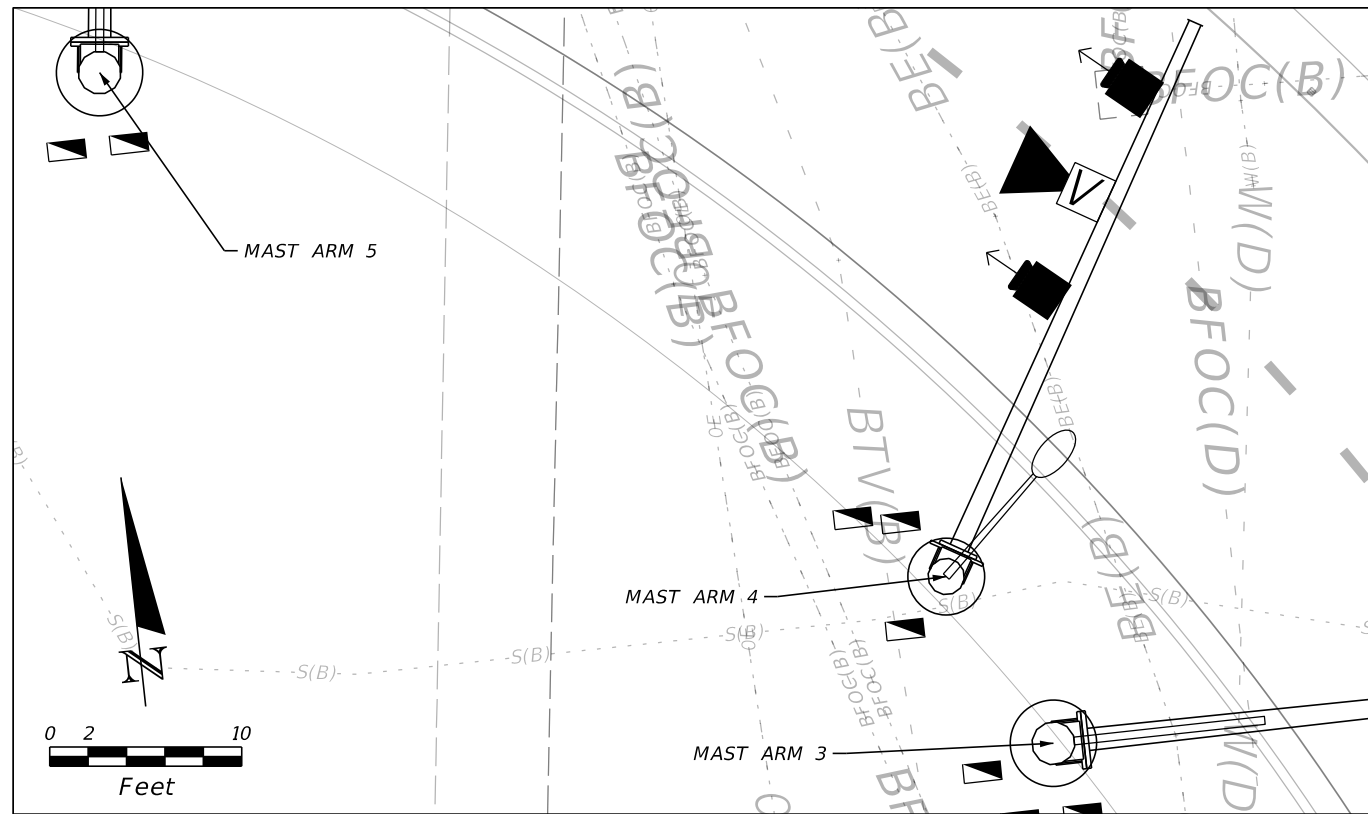
NORTHWEST QUADRANT



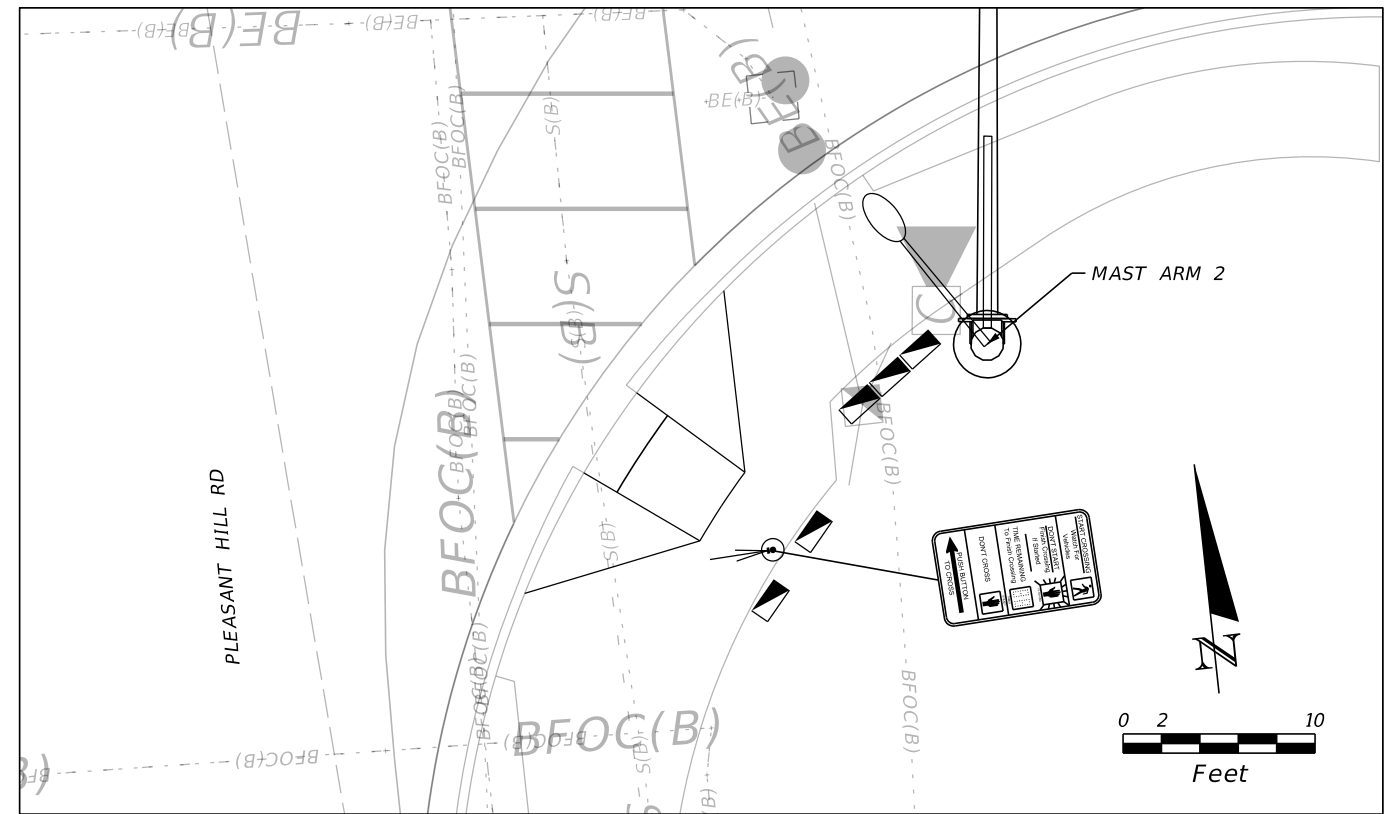
NORTHEAST QUADRANT



SOUTHWEST QUADRANT



SOUTHEAST QUADRANT



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SUSANNE S. WILLIAMS, P.E.  
 LICENSE NUMBER 49486  
 TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
 80 SPRING VISTA DRIVE  
 DEBARY, FLORIDA 32713



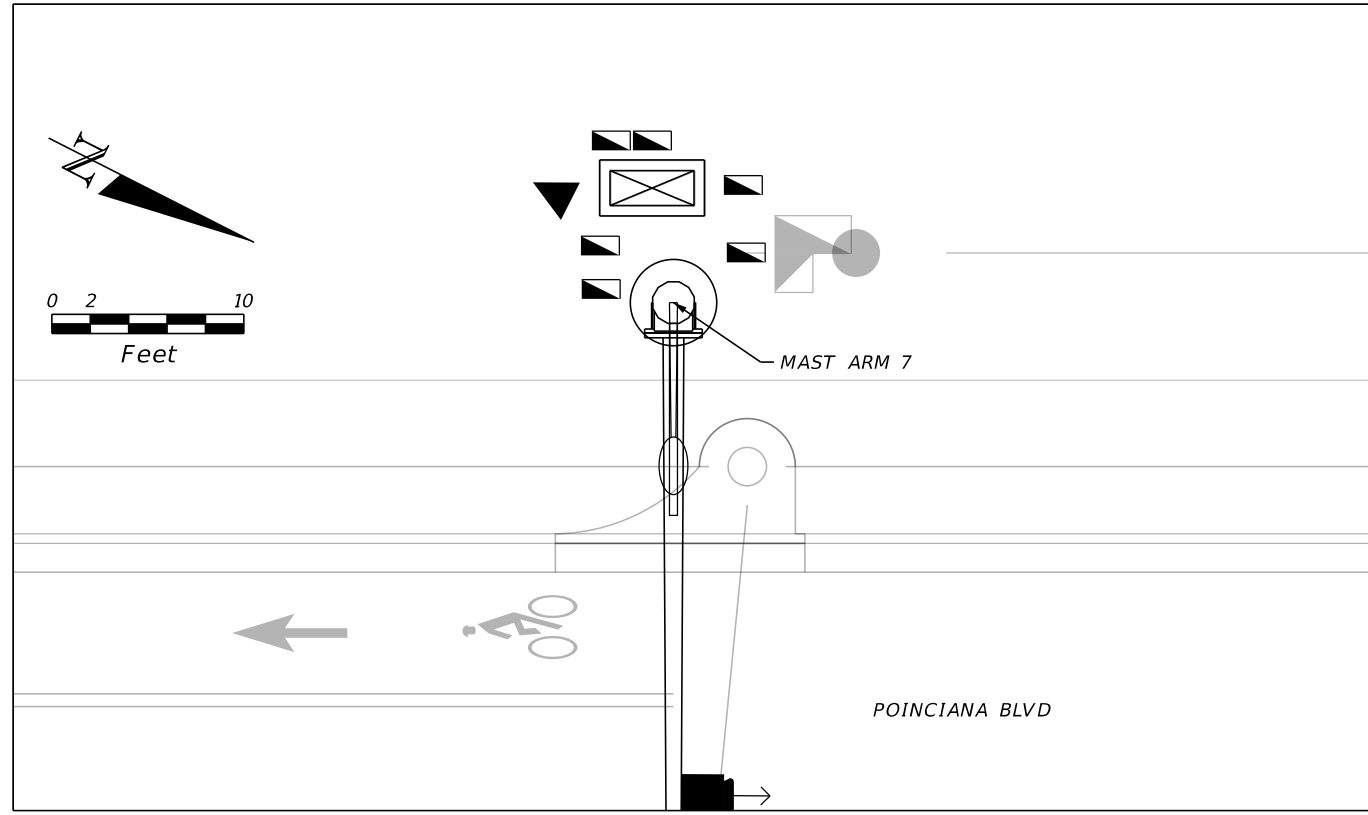
OSCEOLA COUNTY  
 TRANSPORTATION AND TRANSIT  
 1 Courthouse Square, Suite 3100  
 Kissimmee, Florida 34741  
 (407) 742-0552 Fax:(407) 742-0560

QUADRANT DETAILS  
 POINCIANA BLVD &  
 PLEASANT HILL RD

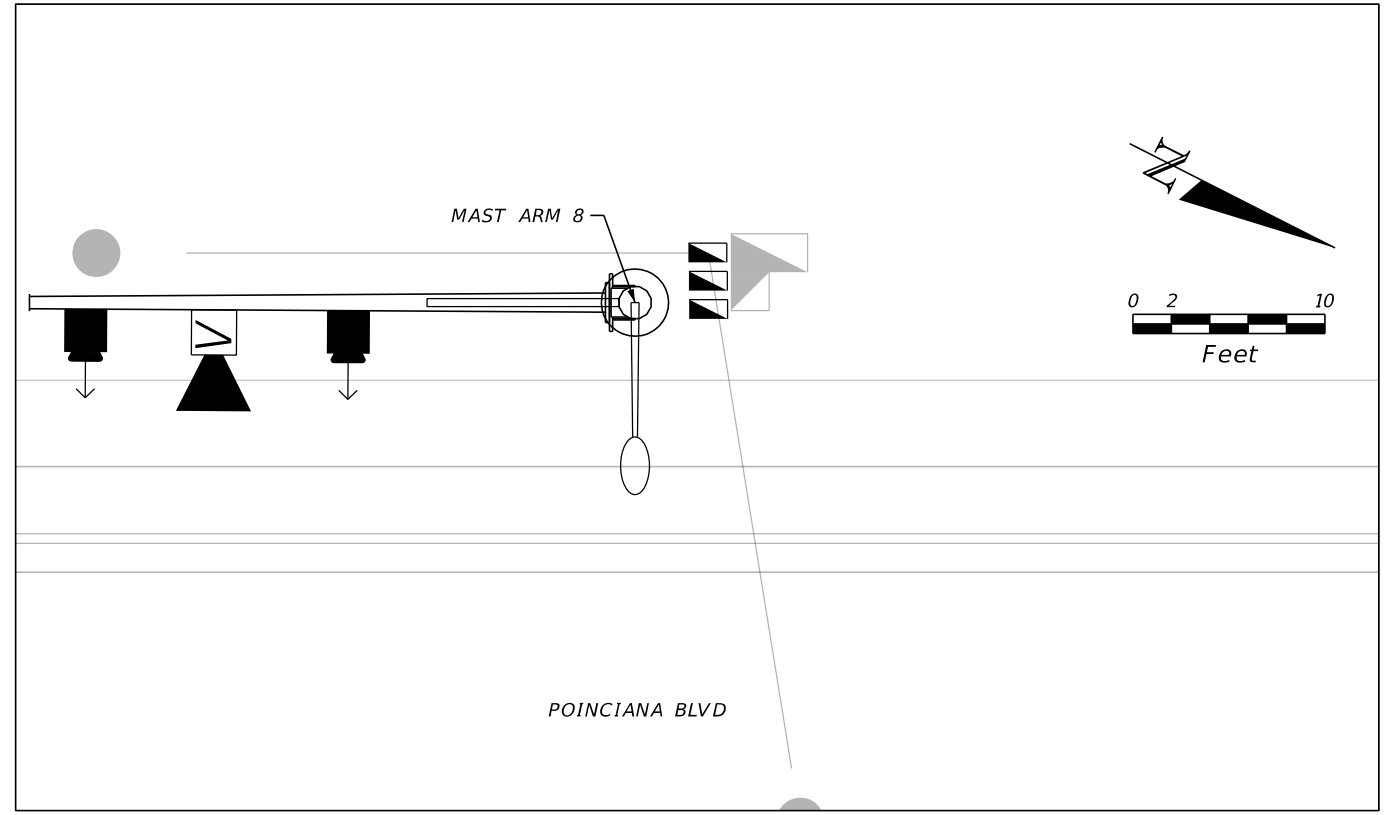
SHEET NO.  
 T-10

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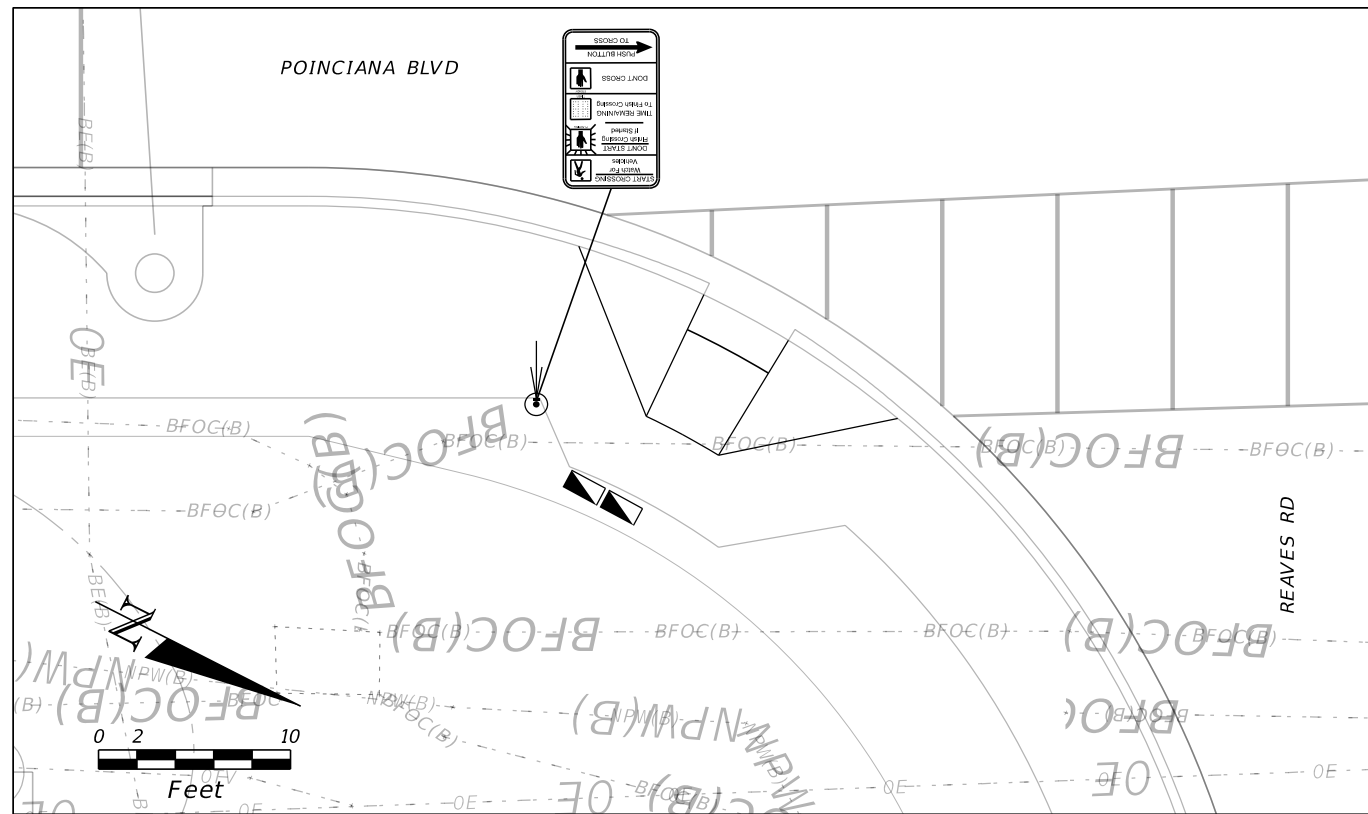
SOUTHWEST QUADRANT



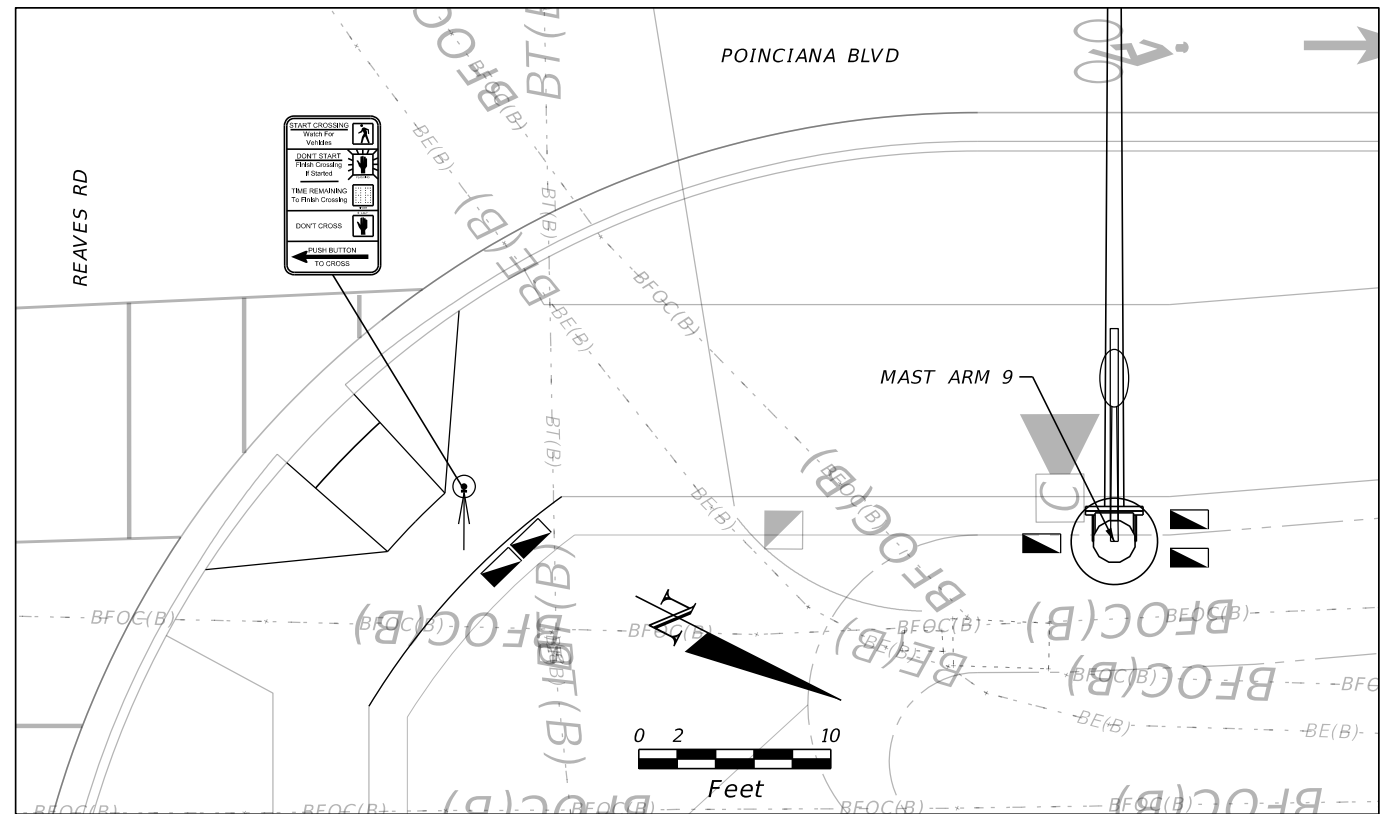
NORTHWEST QUADRANT



SOUTHEAST QUADRANT



NORTHEAST QUADRANT



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SUSANNE S. WILLIAMS, P.E.  
 LICENSE NUMBER 49486  
 TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
 80 SPRING VISTA DRIVE  
 DEBARY, FLORIDA 32713



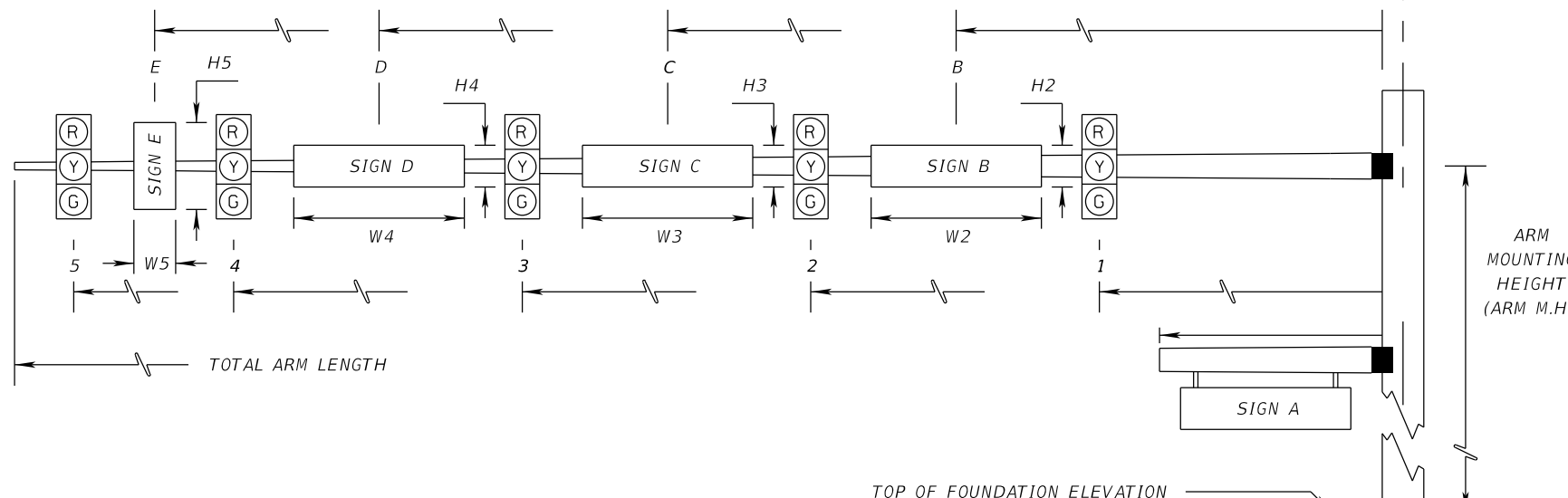
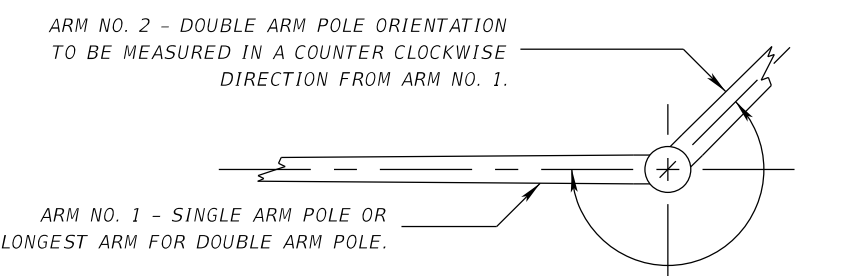
OSCEOLA COUNTY  
 TRANSPORTATION AND TRANSIT  
 1 Courthouse Square, Suite 3100  
 Kissimmee, Florida 34741  
 (407) 742-0552 Fax:(407) 742-0560

QUADRANT DETAILS  
 POINCIANA BLVD & REAVES RD

SHEET NO.  
 T-11

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SPECIAL INSTRUCTIONS			
ID NO.	PED. BUTTON	PED. SIGNALS	HANDHOLE LOCATION



\* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUND. ELEVATION	RDWY ARM NO.	CROWN ELEV.	LUMI - NAIRE Y/N	TERM. COMP. Y/N	SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	SIGNAL DATA										VIDEO DATA				SIGN DATA										PAINT COLOR						
											DISTANCE FROM POLE										VIDEO CAMERA ID No.	DISTANCE FROM POLE V1	TOTAL ARM LENGTH	ARM M.H.	ANGLE BETWEEN DUAL ARMS 90/270	B	H2	W2	C	H3	W3	D	H4	W4		E	H5	W5			
											1	*	2	*	3	*	4	*	5	*																					
1	T-6	908+73.5	66.97	1	67.24	Y	N	V	Y	N	20.5	3	32.0	3	43.0	3	55.0	3	66.0	3	D1	38	70	21										61	3	3	MIDNIGHT-NEUTRAL				
2	T-6	908+29.5	66.30	1	66.17	Y	N	V	Y	N	17.0	3	25.0	3	33.5	3					D3	30	40	20.5												MIDNIGHT-NEUTRAL					
3	T-6	410+64.9	65.94	1	66.90	N	N	V	Y	N	33.0	3	45.0	3	57.0	3	67.0	3			D2	51	70	21.5												MIDNIGHT-NEUTRAL					
4	T-6	410+70.8	65.91	1	66.15	Y	N	V	Y	N	14.0	3	25.5	3							D5	20	30	21												MIDNIGHT-NEUTRAL					
5	T-6	411+14.7	65.05	1	66.30	N	N	V	Y	N	22.5	3	52.0	3	63.5	3							70	22												MIDNIGHT-NEUTRAL					
6	T-6	410+80.0	66.40	1	66.63	Y	N	V	Y	N	48.0	3	56.0	3	64.0	3	74.0	3			D4	60	78	21													MIDNIGHT-NEUTRAL				
7	T-8	584+36.5	69.83	1	69.53	Y	N	V	Y	N	24.0	3	35.0	3	48.0	4					D2	30	60	21.5									41.5	3	2.5	MIDNIGHT-NEUTRAL					
8	T-8	585+47.2	69.47	1	69.13	Y	N	V	Y	N	14.0	3	27.0	3							D3	20	30	20.5													MIDNIGHT-NEUTRAL				
9	T-8	585+92.7	69.08	1	69.52	Y	N	V	Y	N	32.0	3	43.0	3	55.0	4					D1	39	70	22									49	3	2.5	MIDNIGHT-NEUTRAL					

<b>REVISIONS</b> DATE DESCRIPTION DATE DESCRIPTION		SUSANNE S. WILLIAMS, P.E. LICENSE NUMBER 49486 TRAFFIC ENGINEERING DATA SOLUTIONS, INC. 80 SPRING VISTA DRIVE DEBARY, FLORIDA 32713	<b>OSCEOLA COUNTY</b> <b>TRANSPORTATION AND TRANSIT</b> 1 Courthouse Square, Suite 3100 Kissimmee, Florida 34741 (407) 742-0552 Fax:(407) 742-0560	<b>STANDARD MAST ARM</b> <b>TABULATION</b>	SHEET NO. <b>T-12</b>
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**STANDARD MAST ARM ASSEMBLIES DATA TABLE**


Table Date 11-01-16

STRUCTURE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
1	A70/S P5/S/L	A70/S					45	P5/S/L		21.0	DS/20/5
2	A40/S P2/S/L	A40/S					40	P2/S/L		20.5	DS/12/4.5
3	A70/S P5/S	A70/S						P5/S		21.5	DS/25/5
4	A30/S P1/S/L	A30/S					343	P1/S/L		21.0	DS/12/4
5	A70/S P5/S	A70/S						P5/S		22.0	DS/18/5
6	A78/S P6/S/L	A78/S					50	P6/S/L		21.0	DS/25/5
7	A60/S P4/S/L	A60/S					0	P4/S/L		21.5	DS/16/5
8	A30/S P1/S/L	A30/S					90	P1/S/L		20.5	DS/12/4

**NOTES:**

- IF AN ENTRY APPEARS IN COLUMN FAA, A SHORTER ARM IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE ARM TIP AND THE ARM LENGTH SHORTENED FROM FA TO FAA. SAA SIMILAR.
- IF AN ENTRY APPEARS IN COLUMN UAA, A SHORTER POLE IS REQUIRED. THIS IS OBTAINED BY REMOVING LENGTH FROM THE POLE TIP AND THE POLE HEIGHT SHORTENED FROM UA TO UAA.
- ARM MOUNTING HEIGHT UB MUST BE BETWEEN 18-22 FEET.
- POLE TYPES P2 AND LARGER REQUIRE A MINIMUM 4.5 FOOT DIAMETER DRILLED SHAFT. POLE TYPES P5 AND LARGER REQUIRE A MINIMUM 5.0 FOOT DIAMETER DRILLED SHAFT.
- WORK THIS SHEET WITH THE SIGNAL DESIGNER'S "MAST ARM TABULATION". SEE "MAST ARM TABULATION" FOR SPECIAL INSTRUCTIONS THAT INCLUDE NON-STANDARD HANDHOLE LOCATION, PAINT COLOR, TERMINAL COMPARTMENT REQUIREMENT, AND PEDESTRIAN FEATURES.
- WORK WITH INDEX 649-030 AND 649-031.
- GEOTECHNICAL RECOMMENDATIONS:
  - DRILLED SHAFT FOUNDATION MUST BE INSTALLED SUCH THAT THE SOILS ON THE SIDES AND BOTTOM OF SHAFT ARE RELATIVELY UNDISTURBED. INTIMATE CONTACT MUST BE MADE BETWEEN THE CONCRETE AND SURROUNDING SOILS.
  - "NATURAL SLURRY IS NOT ALLOWED BY FDOT SPECIFICATIONS AND SHOULD NOT BE RELIED UPON TO PREVENT CAVING OF SOILS AND MAINTAINING AN OPEN HOLE."
  - ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLER DURING DRILLING PERFORMED TO A MAXIMUM DEPTH OF 30 FEET. HOWEVER, BASED ON REVIEW OF THE FDPE 2017 POTENTIOMETRIC CONTOUR MAP OF THE UPPER FLORIDIAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE AT APPROXIMATELY +60 TO +68 FEET, NGVD.
  - BE PREPARED TO USE TEMPORARY CASING OR OTHER METHODS AS NECESSARY TO CONTROL ARTESIAN WATER UP TO A HEAD ELEVATION OF APPROXIMATELY +60 TO +68 FEET, NGVD.
- FOUNDATION NOTES:
  - DESIGN BASED ON BORINGS PROVIDED BY AWK CONSULTING ENGINEERS, INC.
  - DESIGN WATER TABLE IS AT GRADE.
  - THE STANDARD SOIL PARAMETERS DO NOT MEET THE REQUIREMENTS FOR USING THE PRE-DESIGN STANDARD MAST ARM ASSEMBLY. FOR ASSUMPTIONS AND VALUES USED IN DESIGN, SEE FOUNDATION ASSUMPTIONS TABLE IN THIS SHEET.
- DESIGN WIND SPEED: 150 MPH

FOUNDATION ASSUMPTIONS AND VALUES USED IN DESIGN				
MAST ARM ID	SOIL TYPE	SOIL FRICTION ANGLE (DEG)	SOIL WEIGHT (PCF)	N BLOW COUNT
1, 2 & 5	SAND	28	40	10
3, 6	SAND	28	40	7
4	SAND	28	40	8
7	SAND	30	40	12
8	SAND	30	50	10

REVISIONS				CHRISTOPHER R. HOWARD, P.E. P.E. NO.: 54161 CONSOR ENGINEERS, LLC. 2511 ST. JOHNS BLUFF ROAD SOUTH, SUITE 107 JACKSONVILLE, FLORIDA 32246	 OSCEOLA COUNTY TRANSPORTATION AND TRANSIT 1 Courthouse Square, Suite 3100 Kissimmee, Florida 34741 (407) 742-0552 Fax:(407) 742-0560	STANDARD MAST ARM ASSEMBLIES DATA TABLE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				T-13

SPECIAL MAST ARM ASSEMBLIES DATA TABLE																						Table Date 01-01-12	
NUMBER OF LOCATIONS	STRUCTURE NUMBER	FIRST ARM				FIRST ARM EXTENSION				SECOND ARM				SECOND ARM EXTENSION				POLE					
		FA(ft)	FB(in)	FC(in)	FD(in)	FE(ft)	FF(in)	FG(in)	FH(in)	SA(ft)	SB(in)	SC(in)	SD(in)	SE(ft)	SF(in)	SG(in)	SH(in)	UA(ft)	UB(ft)	UC(in)	UD(in)	UE(in)	UF(deg)
1	9	38.00	7.68	13.00	0.25	35.00	12.10	17.00	0.38								39.00	22.00	18.60	24.00	0.38	0	37.50

SPECIAL MAST ARM ASSEMBLIES DATA TABLE (CONT.)																						Table Date 01-01-12
STRUCTURE NUMBER	FIRST ARM CONNECTION (in) First Arm Camber Angle = 2 Degrees											SECOND ARM CONNECTION (in) Second Arm Camber Angle = 2 Degrees										
	#Bolts	HT	FJ	FK	FL	FN	FO	FP	FR	FS	FT	#Bolts	HT	SJ	SK	SL	SN	SO	SP	SR	SS	ST
9	6	30.00	36.00	3.00	0.75	0.50	18.00	1.25	2.50	12.50	0.50											

- NOTES:**
1. WORK WITH INDEX 649-031.
  2. DESIGN WIND SPEED = 150 MPH

SPECIAL MAST ARM ASSEMBLIES DATA TABLE (CONT.)																								Table Date 07-01-15
STRUCTURE NUMBER	POLE BASE CONNECTION (in)					SHAFT AND REINF.								LUMINAIRE AND LUMINAIRE CONNECTION										
	#Bolts	BA	BB	BC	BF	DA(ft)	DB(ft)	RA	RB	RC	RD(in)	RE	RF(in)	LA(ft)	LB(ft)	LC(in)	LD(in)	LE	LF(ft)	LG(in)	LH(in)	LJ(in)	LK(in)	LL(deg)
9	8	40.00	2.50	2.00	40.00	25.50	5.00	11.00	18.00	10.00	6.00	10.00	9.00	40.00	10.00	3.00	0.13	0.50	8.00	0.50	0.75	0.25	0.25	0

- FOUNDATION NOTES:**
1. DESIGN BASED ON BORINGS PROVIDED BY AWK CONSULTING ENGINEERS, INC.
  2. ASSUMPTIONS AND VALUES USED IN THE DESIGN:  
 CLASSIFICATION = COHESIONLESS  
 SOIL LAYER THICKNESS = 30 FT.  
 SOIL FRICTION ANGLE = 28 DEG.  
 SOIL WEIGHT = 40 PCF (EFFECTIVE)  
 N-BLOW COUNT = 5  
 DESIGN WATER TABLE IS AT GRADE.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CHRISTOPHER R HOWARD  
 P.E. NO.: 54161  
 CONSOR ENGINEERS, LLC.  
 2511 ST. JOHNS BLUFF ROAD SOUTH, SUITE 107  
 JACKSONVILLE, FLORIDA 32246



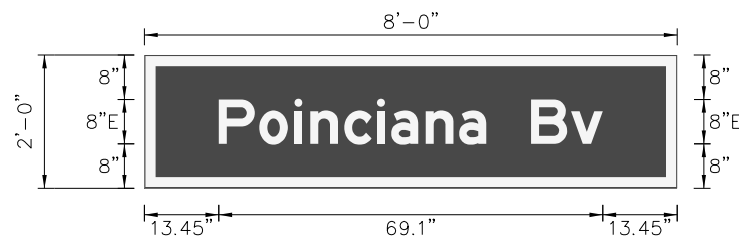
**OSCEOLA COUNTY**  
 TRANSPORTATION AND TRANSIT  
 1 Courthouse Square, Suite 3100  
 Kissimmee, Florida 34741  
 (407) 742-0552 Fax:(407) 742-0560

**SPECIAL MAST ARM  
 ASSEMBLIES DATA TABLE**

SHEET NO.  
**T-14**

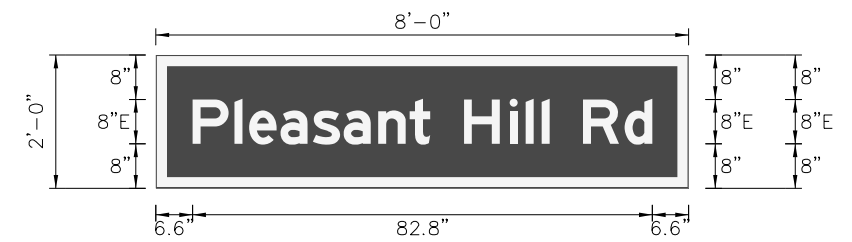
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SIGN NAME A		QTY	2	SIGN NUMBER		STATION(S)
PANEL		BORDER		none		
WIDTH	8'-0"	WIDTH	2'			
HEIGHT	2'-0"	RADII	0'			
LEGEND	White	COLOR	White			
COLOR	Green					
SYMBOL(S)	ANGLE	X	Y	WID	HT	
SIGN NUMBER	CLEARANCE Edge Of Lane	COLUMN SIZE	AVERAGE LENGTH			



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

SIGN NAME B		QTY	2	SIGN NUMBER		STATION(S)
PANEL		BORDER		none		
WIDTH	8'-0"	WIDTH	2'			
HEIGHT	2'-0"	RADII	0'			
LEGEND	White	COLOR	White			
COLOR	Green					
SYMBOL(S)	ANGLE	X	Y	WID	HT	
SIGN NUMBER	CLEARANCE Edge Of Lane	COLUMN SIZE	AVERAGE LENGTH			

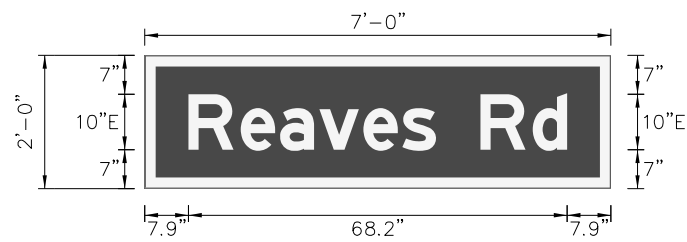


NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		P	o	i	n	c	i	a	n	a	B	v	L						
SPACE	13.4	7.3	6.3	2.9	6.1	5.9	2.6	6.2	6	4.9	8.1	7.2	5.7	13.4	69.1				
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

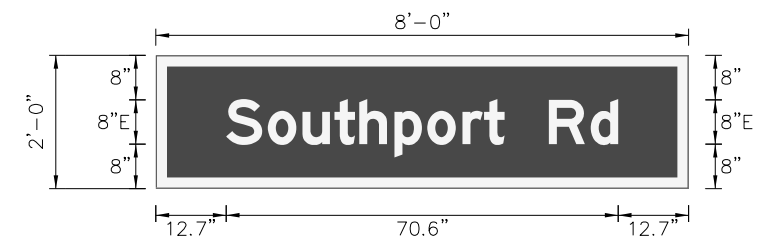
COPY		P	l	e	a	s	a	n	t	H	i	l	i	R	d	L			
SPACE	6.6	7.5	2.6	5.7	5.8	5.5	6.2	5.7	3.7	6.1	8.2	2.9	2.9	1.4	6	7.5	5	6.6	82.8
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

SIGN NAME c		QTY	2	SIGN NUMBER		STATION(S)
PANEL		BORDER		none		
WIDTH	7'-0"	WIDTH	2'			
HEIGHT	2'-0"	RADII	0'			
LEGEND	White	COLOR	White			
COLOR	Green					
SYMBOL(S)	ANGLE	X	Y	WID	HT	
SIGN NUMBER	CLEARANCE Edge Of Lane	COLUMN SIZE	AVERAGE LENGTH			



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

SIGN NAME d		QTY	1	SIGN NUMBER		STATION(S)
PANEL		BORDER		none		
WIDTH	8'-0"	WIDTH	2'			
HEIGHT	2'-0"	RADII	0'			
LEGEND	White	COLOR	White			
COLOR	Green					
SYMBOL(S)	ANGLE	X	Y	WID	HT	
SIGN NUMBER	CLEARANCE Edge Of Lane	COLUMN SIZE	AVERAGE LENGTH			



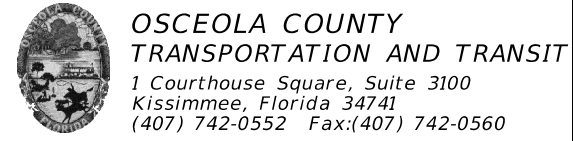
NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		R	e	a	v	e	s	R	d	L								
SPACE	7.9	9.4	7.1	7.1	7.9	7	6.1	8	9.4	6.2	7.9	68.2						
COPY																		
SPACE																		
COPY																		
SPACE																		
COPY																		
SPACE																		
COPY																		
SPACE																		

COPY		S	o	u	t	h	p	o	r	t	R	d	L					
SPACE	12.7	7.5	6.2	5.8	4.5	6.3	5.9	6.3	3.9	3.7	8	7.5	5	12.7	70.6			
COPY																		
SPACE																		
COPY																		
SPACE																		
COPY																		
SPACE																		

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

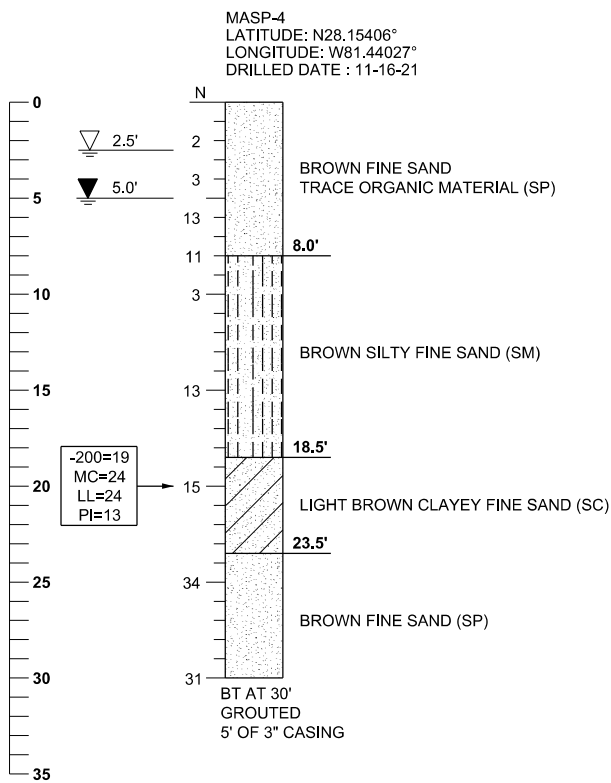
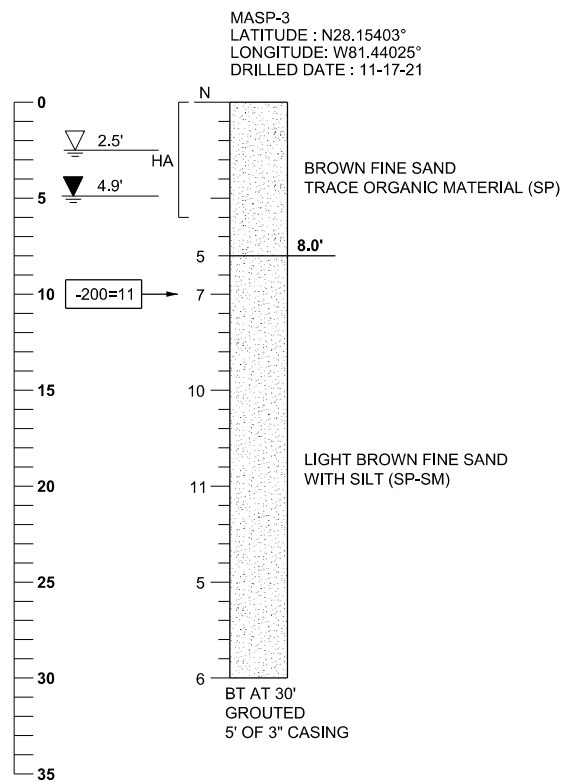
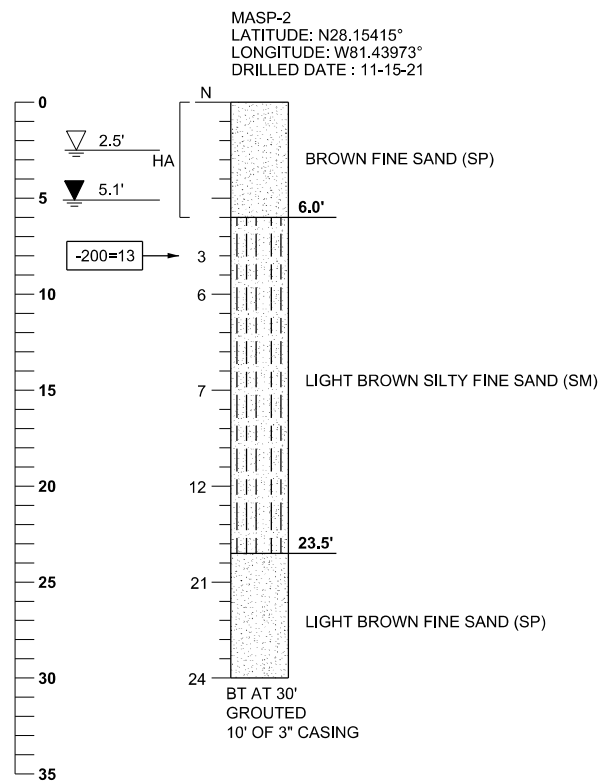
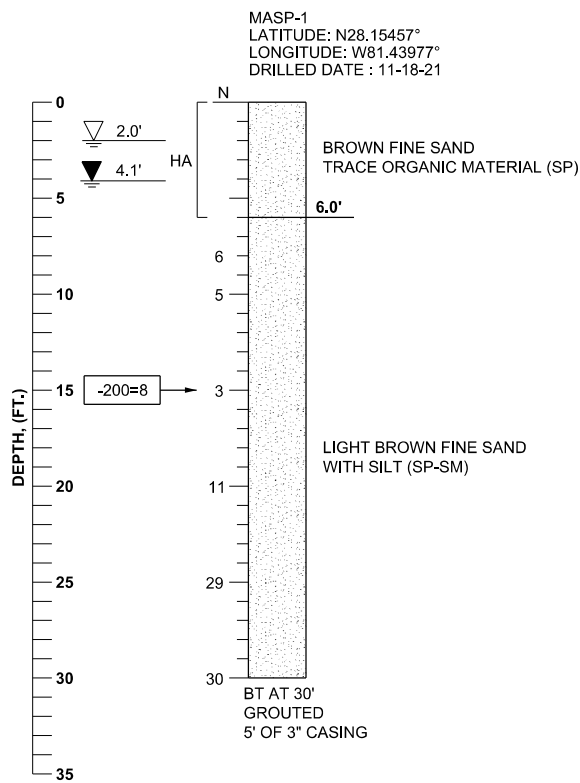
SUSANNE S. WILLIAMS, P.E.  
 LICENSE NUMBER 49486  
 TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
 80 SPRING VISTA DRIVE  
 DEBARY, FLORIDA 32713



**GUIDE SIGN WORK SHEET**

SHEET NO. T-15

PLEASANT HILL ROAD



**LEGEND**

SAND SAND & SILT SAND AND CLAY

3.5' APPROXIMATE SEASONAL HIGH GROUND WATER LEVEL (FT.)

5.5' APPROXIMATE ENCOUNTERED GROUNDWATER LEVEL AT TIME OF DRILLING (FT.)

HA: HAND AUGERED FOR UTILITY CLEARANCE  
BT: BORING TERMINATED  
N: STANDARD PENETRATION RESISTANCE BLOWS PER FOOT  
(SP): UNIFIED SOIL CLASSIFICATION SYMBOL  
-200: PERCENT PASSING NUMBER 200 U.S. STANDARD SIEVE  
MC: PERCENT NATURAL MOISTURE CONTENT  
LL: LIQUID LIMIT  
PI: PLASTICITY INDEX

SPT - STANDARD PENETRATION TEST  
STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586

SPLIT SPOON SAMPLER:  
INSIDE DIAMETER : 1.375"  
OUTSIDE DIAMETER : 2.0"  
AVERAGE HAMMER DROP : 30"  
HAMMER WEIGHT : 140 lb

NOTE:  
1. THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS, DEPTHS AND DATES INDICATED. SOIL CONDITIONS AND GROUNDWATER LEVELS AT OTHER LOCATIONS MAY DIFFER FROM THE CONDITIONS OCCURRING AT THESE BORING LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF THE CONDITIONS AT THESE BORING LOCATIONS.

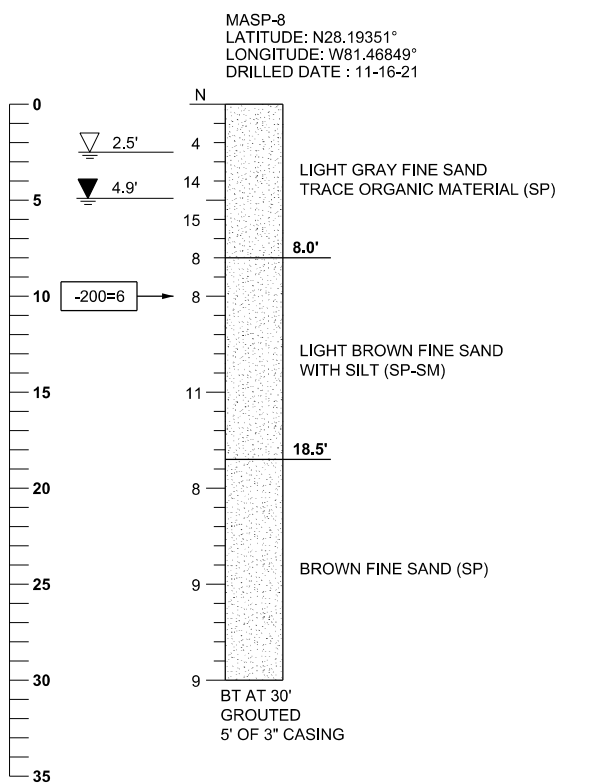
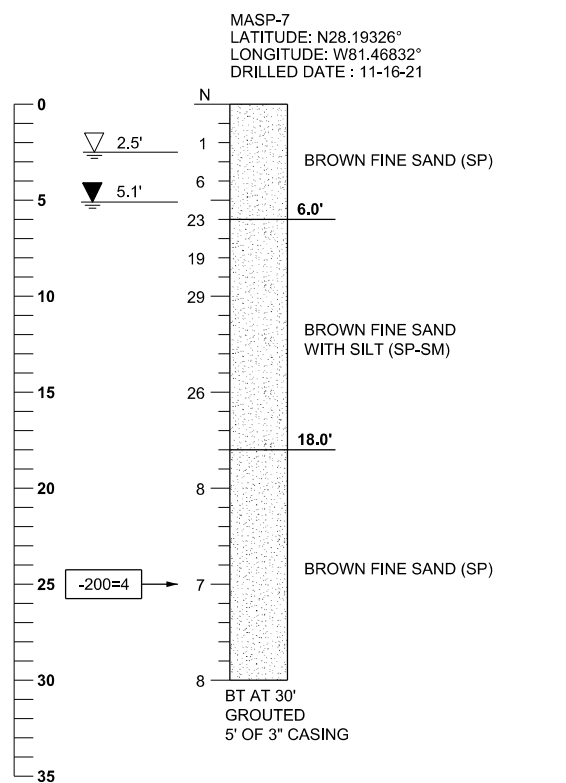
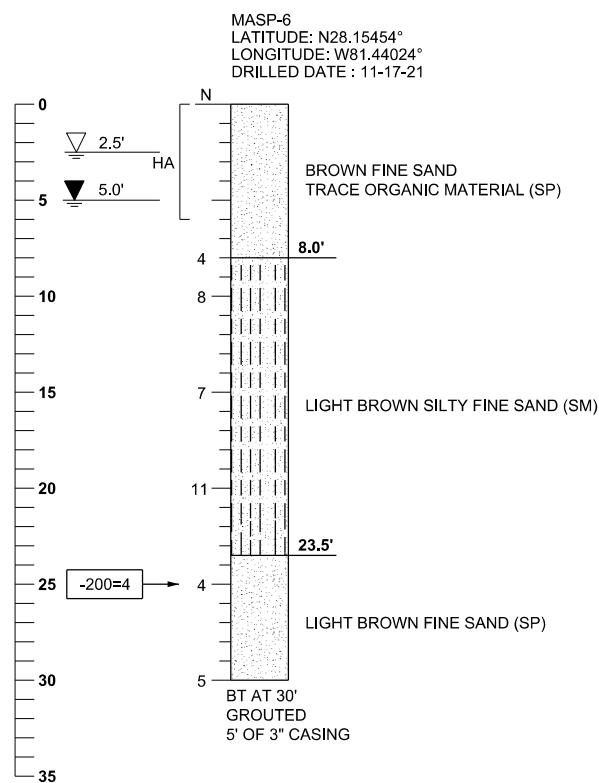
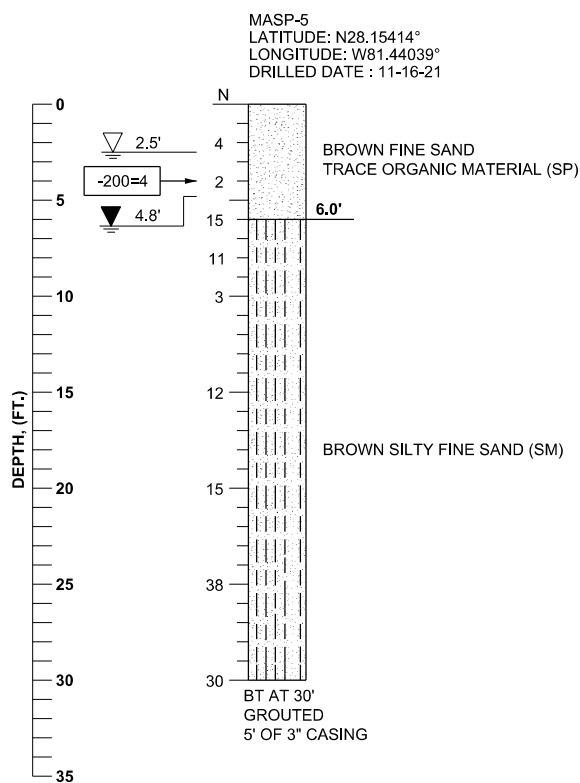
THE BORING LOCATIONS WERE NOT SURVEYED. BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A HANDHELD SUBMETER ACCURACY GPS UNIT.

SPT HAMMER TYPE: AUTOMATIC

GRANULAR:SAND	
RELATIVE DENSITY	SPT N-VALUE (BLOWS/12 INCHES)
VERY LOOSE	0-3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	OVER 40

NON-GRANULAR:SILTS, CLAYS, MUCK AND PEAT	
CONSISTENCY	SPT N-VALUE (BLOWS/12 INCHES)
VERY SOFT	0-1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	OVER 24

PLEASANT HILL ROAD



REAVES ROAD

THE BORING LOCATIONS WERE NOT SURVEYED. BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A HANDHELD SUBMETER ACCURACY GPS UNIT.

SPT HAMMER TYPE: AUTOMATIC

GRANULAR:SAND	
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SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	OVER 24

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

**ERROL S. ABDULLA, P.E.**  
P.E. License No. 74803  
AWK Consulting Engineers, Inc.  
6457 Hazeltine National Dr.  
Suite 150  
Orlando, FL 32822  
PH (407) 203-3804 FAX 888-282-9897

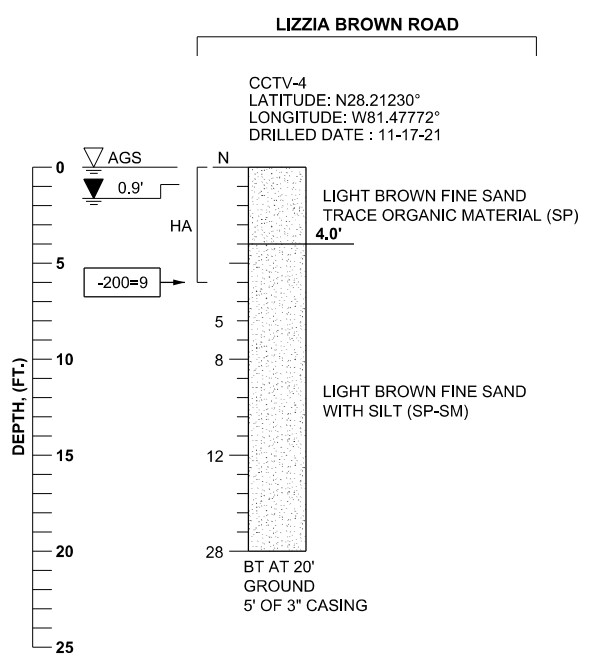
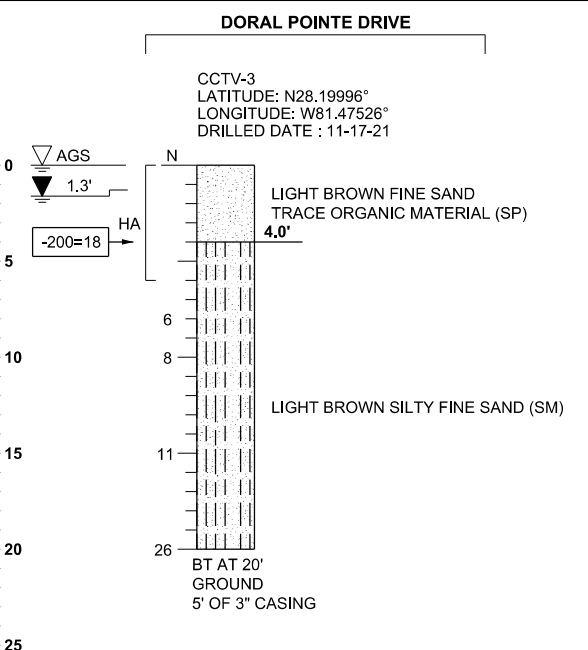
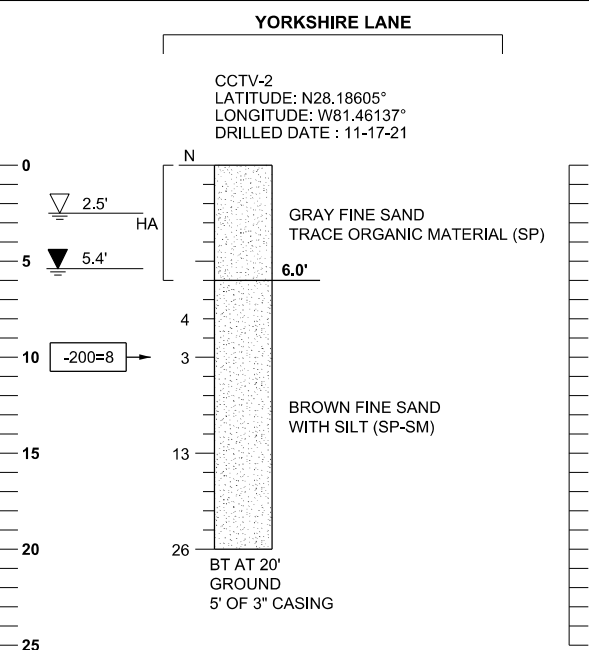
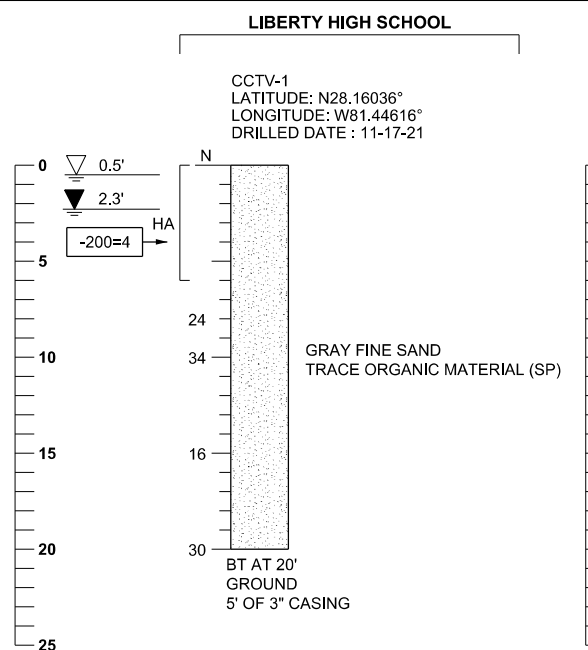
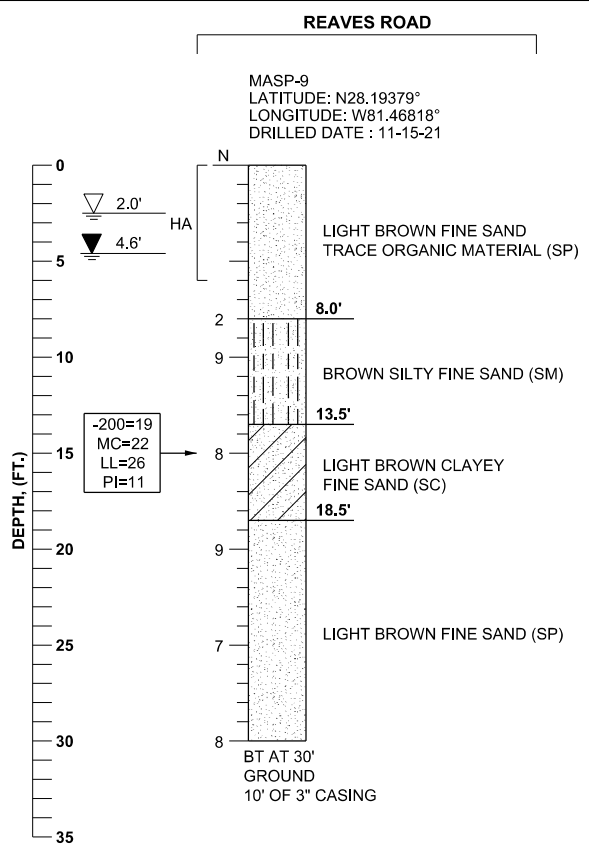
**OSCEOLA COUNTY**  
TRANSPORTATION AND TRANSIT  
1 Courthouse Square, Suite 3100  
Kissimmee, Florida 34741  
(407) 742-0552 Fax:(407) 742-0560

**SOIL BORING RESULTS**  
MASP'S & CCTV'S

SHEET NO.  
T-16

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





- LEGEND**
- SAND
  - SAND & SILT
  - SAND AND CLAY
  - AGS APPROXIMATE SEASONAL HIGH GROUND WATER LEVEL ABOVE GROUND SURFACE
  - 3.5' APPROXIMATE SEASONAL HIGH GROUND WATER LEVEL (FT.)
  - 5.5' APPROXIMATE ENCOUNTERED GROUNDWATER LEVEL AT TIME OF DRILLING (FT.)
  - HA: HAND AUGERED FOR UTILITY CLEARANCE
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**SOIL BORING RESULTS**  
 MASP'S & CCTV'S

SHEET NO.  
 T-17

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