

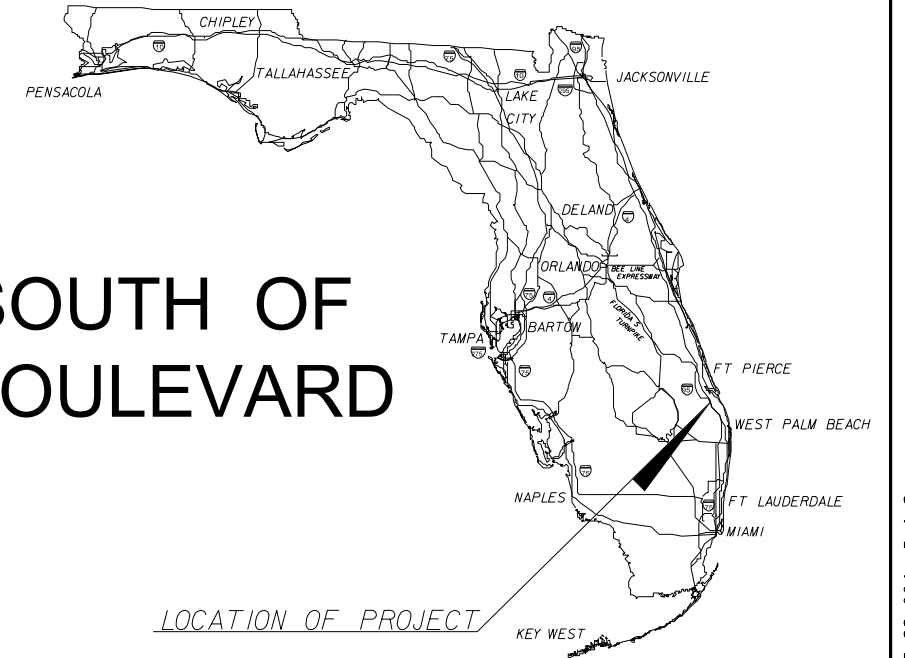
CITY OF PORT ST. LUCIE, FLORIDA
PUBLIC WORKS DEPARTMENT

CONSTRUCTION PLANS
FOR

SW PORT ST. LUCIE BOULEVARD FROM SOUTH OF
SW DARWIN BOULEVARD TO SW GATLIN BOULEVARD

CITY PROJECT #20160085
FDOT PROJECT #431752-4-54-01

SIGNALIZATION PLANS



LOCATION OF PROJECT



INDEX OF SIGNALIZATION PLANS

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T-6 - T-7	SIGNALIZATION PLAN
T-8	MAST ARM TABULATION SHEET
T-9	STANDARD MAST ARM ASSEMBLIES DATA TABLE
T-10	GUIDE SIGN WORKSHEET

SIGNALIZATION PLANS
ENGINEER OF RECORD:

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AMERICAN CONSULTING ENGINEERS OF FLORIDA, LLC
2041 VISTA PARKWAY, SUITE 101
WEST PALM BEACH, FLORIDA 33411
PHONE: (561) 253-9550
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CITY OF PORT ST. LUCIE
PROJECT MANAGER:

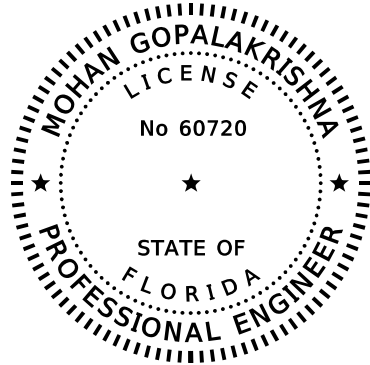
HEATH STOCTON, P.E.



American
Consulting Engineers of Florida, LLC
2041 Vista Parkway, Suite 101
West Palm Beach, Florida 33411
Phone: (561) 253-9550 Fax: (561) 253-9551
Certificate of Authorization No. 9302

FISCAL YEAR	SHEET NO.
20	T-1

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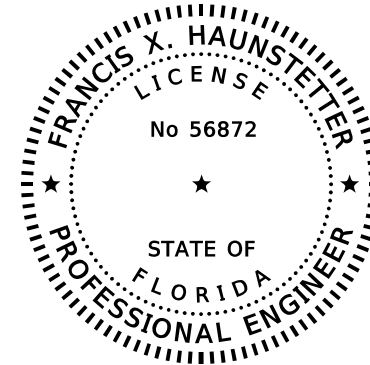
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THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE
FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SIGNALIZATION PLANS

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T - 2	SIGNATURE SHEET
T - 3	TABULATION OF QUANTITIES
T - 4 - T - 5	STANDARD NOTES
T - 6 - T - 7	SIGNALIZATION PLAN
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THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE
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SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
T - 2	SIGNATURE SHEET
T - 9	STANDARD MAST ARM ASSEMBLIES DATA TABLE

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REVISIONS						 American Consulting Engineers of Florida, LLC 2041 Vista Parkway, Suite 101 West Palm Beach, Florida 33411 Phone: (561) 253-9550 Fax: (561) 253-9551 Certificate of Authorization No. 9302 Mohan Gopalakrishna, P.E. No. 60720	 CITY OF PORT ST. LUCIE 121 S.W. PORT ST. LUCIE BLVD. PORT ST. LUCIE, FL 34984	ROAD SW PORT ST. LUCIE BLVD.	COUNTY ST. LUCIE	<i>SIGNATURE SHEET</i>	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION						T-2

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS				TOTAL THIS SHEET		GRAND TOTAL	
			T-6		T-7		PLAN	FINAL	PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL				
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	170		106		276		276	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	269		338		607		607	
632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1		1		2		2	
632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	PI	1				1		1	
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	29		17		46		46	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	25				25		25	
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	5		8		13		13	
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	6		8		14		14	
649-21-1	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 30'	EA	1				1		1	
649-21-6	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	EA	2				2		2	
649-21-15	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'	EA	1				1		1	
650-1-14	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	12				12		12	
650-1-16	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS	1				1		1	
650-1-60	VEHICULAR TRAFFIC SIGNAL, REMOVE- POLES TO REMAIN	AS	8				8		8	
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	8		8		16		16	
653-1-60	PEDESTRIAN SIGNAL, REMOVE PED SIGNAL- POLE/PEDESTAL TO REMAIN	AS	1				1		1	
660-4-11	VEHICLE DETECTION SYSTEM- VIDEO, FURNISH & INSTALL CABINET EQUIPMENT	EA	1				1		1	
660-4-12	VEHICLE DETECTION SYSTEM- VIDEO, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA	4				4		4	
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	8		8		16		16	
670-5-400	TRAFFIC CONTROLLER ASSEMBLY, MODIFY	AS	1		1		2		2	
680-1-112	SYSTEM CONTROL EQUIPMENT, FURNISH & INSTALL, ADAPTIVE SIGNAL CONTROL SYSTEM- NEMA, CABINET EQUIPMENT	EA	4				4		4	
680-1-113	SYSTEM CONTROL EQUIPMENT, FURNISH & INSTALL, ADAPTIVE SIGNAL CONTROL SYSTEM- NEMA, ABOVE GROUND EQUIPMENT	EA	4				4		4	
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	1				1		1	
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	1				1		1	
685-1-11	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE	EA	1				1		1	
700-3-101	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	1				1		1	
700-3-602	SIGN PANEL, REMOVE, 12-20 SF	EA	2				2		2	
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	4				4		4	

PAY ITEM FOOT NOTES

- 649-21-1 SIGNAL POLES INCLUDE BLACK POWDERCOAT FINISH. OBTAIN AND PROVIDE COLOR CHIP FROM MANUFACTURER DURING SHOP DRAWING PROCESS.
- 649-21-6 CHIP CODE (PT-1-17-FTU-017-FR).
- 649-21-15
- 680-1112 ITEM INCLUDES QUANTITIES FOR PORT ST LUCIE BLVD @ DARWIN BLVD., FOR PORT SAINT LUCIE BLVD @ GATLIN BLVD AND PORT SAINT LUCIE BLVD @ SW AURELIA AVE. QUANTITIES INCLUDES LABOR AND EQUIPMENT FOR A COMPLETE AND ACCEPTABLE INSTALLATION. COORDINATE WITH THE CITY AND MANUFACTURER RHYTHM ENGINEERING FOR ADAPTIVE SIGNAL CONTROL SYSTEM (LISTED ON FDOT APPROVED PRODUCTS LIST (APL CERTIFICATION 680-002-001)).
- 680-1113
- 670-5-400 INCLUDES ALL MODIFICATIONS TO EXISTING CONTROLLER TO ACCOMMODATE CHANGES TO SIGNAL DESIGN SUCH AS DETECTION, CONNECTING NEW PEDESTRIAN DETECTORS, SIGNAL TIMING REVISIONS, CONNECTIONS FROM CONTROLLER TO NEW SIGNAL EQUIPMENT, AND RELATED LABOR AND EQUIPMENT FOR COMPLETE AND ACCEPTABLE INSTALLATION. INCLUDES EMERGENCY GENERATOR PER STANDARD NOTE 31 (SHEET T-5).



<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION																			<p>American Consulting Engineers of Florida, LLC 2041 Vista Parkway, Suite 101 West Palm Beach, Florida 33411 Phone: (561) 253-9550 Fax: (561) 253-9551 Certificate of Authorization No. 9302 Mohan Gopalakrishna, P.E. No. 60720</p>	<p>CITY OF PORT ST. LUCIE 121 S.W. PORT ST. LUCIE BLVD. PORT ST. LUCIE, FL 34984</p> <table border="1"> <tr> <th>ROAD</th> <th>COUNTY</th> </tr> <tr> <td>SW PORT ST. LUCIE BLVD.</td> <td>ST. LUCIE</td> </tr> </table>	ROAD	COUNTY	SW PORT ST. LUCIE BLVD.	ST. LUCIE	<p>TABULATION OF QUANTITIES</p>	<p>SHEET NO. T-3</p>
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION																																
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SIGNALIZATION NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF PORT ST. LUCIE PUBLIC WORKS DEPT. NO LATER THAN TWO(2) FULL BUSINESS DAYS IN ADVANCE OF ANY WORK TO BE CARRIED OUT AT ANY SIGNAL. 772-871-5177
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A #8 KEY FROM THE TRAFFIC OPERATIONS COMPOUND AT 821 DWYER AVE TO ACCESS ANY OPERATIONAL TRAFFIC CABINET.
3. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND ALL EXISTING UTILITIES, INCLUDING OVERHEAD POWER LINES.
4. FOR PROGRAMMED FLASH OPERATION, THE MAJOR STREET IS TO FLASH YELLOW AND THE MINOR STREET IS TO FLASH RED
5. THE APPROPRIATE UTILITY COMPANY SHALL BE NOTIFIED BY THE CONTRACTOR FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT.
6. LOCATIONS OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION.
7. CONTACT SUNSHINE ONE CALL OF FLORIDA AT 811 OR SUNSHINE811.COM AT LEAST TWO (2) FULL BUSINESS DAYS BEFORE DIGGING.
8. THE CONTROLLER SHALL OPERATE AN APPROVED FLORIDA D.O.T. SIGNAL OPERATING PLAN.
9. SIGNAL TIMINGS DISPLAYED FOR LOCAL OPERATION ARE SUGGESTED TIMINGS BASED ON THE MPO AREA VOLUME COUNTS ACTUAL TIMING AND COORDINATION PLANS ARE TO BE DETERMINED BY THE CITY OF PORT ST. LUCIE PROFESSIONAL ENGINEER'S REPRESENTATIVE.
10. FINAL LOCATION OF MAST ARMS TO BE FIELD DETERMINED AND APPROVED BY THE CITY AND ENGINEER OF RECORD.
11. OPTICAL VEHICLE DETECTORS SHALL BE ITERIS EDGE II, WITH ITERIS EDGE CONNECT AND ITERIS TS2-IM MODULE, AND SHALL BE CAPABLE OF MULTI ZONE DETECTION. DETECTORS SHALL BE ITERIS RZ4-WDR AND SHALL BE MOUNTED ABOVE THE MAST ARM USING ASTRO BRACKET HARDWARE AT A HEIGHT CAPABLE OF THE REQUIRED DETECTION AND AS RECOMMENDED BY THE SYSTEM MANUFACTURER. THE DETECTION SYSTEM SHALL BE EQUIPPED WITH AN LCD MONITOR FOR CONFIGURATION OF THE DETECTOR LOOPS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY OF PORT ST. LUCIE FOR APPROVAL AND MUST COMPLY WITH THE CITY'S VIDEO SYSTEM. ALL VIDEO POWER CABLES, PROCESSORS, AND EQUIPMENT SHALL BE PROVIDED FOR A COMPLETE AND OPERATIONAL VIDEO DETECTION SYSTEM. MANUFACTURERS SHALL BE PRESENT AT TURN ON FOR PROGRAMMING AND SETUP.
12. ALL PEDESTRIAN SIGNALS SHALL BE ACCESSIBLE PEDESTRIAN SIGNALS AND MEET ALL CURRENT ADA REQUIREMENTS.
13. ALL ILLUMINATED STREET NAME SIGNS SHALL BE RIGIDLY MOUNTED AND WIRED TO A SINGLE PHOTO CELL LOCATED IN THE CONTROLLER CABINET. LETTERING SIZE AND FHWA FONT TYPE SHALL MEET CURRENT MUTCD AND FDOT STANDARDS.
14. ALL SIGNALS SHALL BE EQUIPPED WITH AN UNINTERRUPTABLE POWER SUPPLY (UPS). AN ALPHA NOVUS FXM 2000 IN A NOVUS FORTEX FX 200 CABINET MOUNTED ON A CONCRETE PAD ALONGSIDE THE CONTROLLER FOUNDATION AND HAVE A NETWORK INTERFACE CARD INSTALLED AND CONFIGURED.
15. FIBER OPTIC ETHERNET SWITCH SHALL BE SIEMENS RUGGEDCOM RS-900G-HI-D-2SC10-XX OR CISCO INDUSTRIAL ETHERNET 4000 SERIES 20 PORTS MANAGED- (PART # 1E-4000-8GT8GP4G-E)/CISCO AC-DC POWER MODULE FOR POE SOLUTION (PART #PWR-1E170W-PC-AC) AND SHALL BE FULLY CONFIGURED FOR OPERATION, INCLUDING ASSIGNED IP ADDRESS DETERMINED BY THE CITY OF PORT ST. LUCIE TRAFFIC DIVISION. CONTRACTOR SHALL CONTACT TRAFFIC DIVISION TO DETERMINE WHICH SWITCH WILL BE APPROPRIATE FOR INSTALL.
16. TRAFFIC MONITORING CAMERA SHALL BE BOSCH AUTODOME IP STARLIGHT 7000 HD PAN TILT ZOOM, SHALL HAVE SURGE & LIGHTING PROTECTION, AND SHALL BE MOUNTED WITH MAST-O-BRACKET AND NEOPRENE WRAP. THE CITY OF PORT ST. LUCIE TRAFFIC DIVISION SHALL DETERMINE THE MOUNTING LOCATION.
17. ALL PATCH CABLES, SPLITTERS AND MISC. MATERIALS REQUIRED FOR THE INSTALLATION OF TRAFFIC MONITORING EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. INSTALLED PATCH CABLE SHALL MATCH EXISTING PATCH CABLE DIMENSIONS AND TYPE. ANY DEVIATIONS SHALL BE APPROVED BY TRAFFIC DIVISION.
18. SIGNAL CONDUCTOR SHALL PASS THROUGH HOLE IN PELCO/ASTRO MOUNTING BRACKET, INTO SIGNAL MOUNTING PIPE AND INTO SIGNAL, SO CABLE IS NOT EXPOSED TO THE ELEMENTS.
19. FIVE-SECTION SIGNAL HEADS SHALL HAVE AN ADDITIONAL TERMINAL STRIP INSTALLED IN THE RED BALL SIGNAL HEAD WITH A RED AND NEUTRAL JUMPER WIRE ATTACHED FOR THE EASE OF REPLACING THE RED BALL LED SIGNAL.
20. ALL SIGNAL HEADS SHALL HAVE BACK PLATES INSTALLED USING ALL NECESSARY HARDWARE ACCORDING TO LATEST FDOT STANDARDS.
21. CONTRACTOR SHALL NOT USE WIRE NUTS ANYWHERE WITHIN THE CONTROLLER CABINET, STREET LIGHT CIRCUIT OR SIGNAL CIRCUIT. APPROVED CONNECTIONS ARE TERMINAL STRIPS, WATER TIGHT BUTT SPLICES (RUBBER TAPE ELECTRICAL TAPE, SCOTCH COTE) AND SPLIT BOLTS.
22. ALL SIGNAL UPRIGHT HAND HOLES SHALL HAVE TERMINAL STRIPS INSTALLED FOR THE TERMINATION OF SIGNAL CONDUCTOR FROM THE CONTROLLER CABINET TO THE SIGNAL HEADS/PEDESTRIAN SIGNALS.
23. ALL GROUND WIRING WITHIN PULL BOXES REQUIRING TERMINATION TO GROUND ROD SHALL BE ATTACHED USING CAD WELD IGNITORS.
24. SIGNAL CONDUCTOR WITHIN CONTROLLER CABINET SHALL COMPLETELY ENCIRCLE INSIDE OF CABINET BEFORE TERMINATION TO ALLOW SLACK FOR KNOCK DOWNS.
25. ALL SPARE SIGNAL CONDUCTOR WITHIN CONTROLLER CABINET SHALL BE TERMINATED DIRECTLY TO GROUND/NEUTRAL BARS.
26. ALL SIGNAL CONDUCTOR WITHIN THE UPRIGHT HAND HOLE AND CONTROLLER CABINET SHALL BE PROPERLY LABELED USING FLAG TIE WRAPS.
27. ALL DETECTION CAMERA PELCO BRACKETS SHALL BE DRILLED AND TAPPED FOR 1/4-20 SET SCREW AFTER INSTALLATION TO PREVENT CAMERA FROM LAYING OVER IN HIGH WINDS.
28. WEEP HOLES SHALL BE DRILLED IN ALL TRAFFIC SIGNAL HEADS AND PEDESTRIAN SIGNALS.
29. ANTI SEIZE SHALL BE USED ON ALL MOUNTING HARDWARE FOR SIGNAL/CAMERA BRACKETS.

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD	COUNTY		T-4

30. CCTV CAMERA EQUIPMENT SHALL INCLUDE THE FOLLOWING:

CCTV ITEMS

VIDEO DATA SERIAL CONVERTER (F&I)	1 EA
COPPER DATA PATCH CABLES 5 (F&I)	1 EA
CAMERA ASSEMBLY, BOSCH AUTODOME IP STARLIGHT 7000 HD, SMOKED	
LENS W/ COMPOSITE CABLE & GASKET (F&I)	1 EA
CCTV MOUNT, MASTOBRAC & NEOPRENE WRAP (F&I)	1 EA
VIDEO COAX PATCH CABLES W/ SPLITTER (F&I)	1 EA
CCTV MAINTENANCE UNIT (SURGE ARRESTOR PANEL FOR POWER, DATA, VIDEO W/ INTERFACE) (F&I)	1 EA
MULTI-VOLTAGE POWER SUPPLY MODULE (F&I)	1 EA

31. THE CITY SHALL BE SUPPLIED WITH ONE (1) HONDA EU 3000I PORTABLE INVERTOR GENERATOR (OR EQUIVALENT) UPON COMPLETION OF THE TRAFFIC SIGNAL. IT SHALL BE EQUIPPED WITH ELECTRONIC START AND WHEELS.

32. RHYTHM ENGINEERING'S INSYNC ADAPTIVE PROCESSOR EQUIPMENT ALONG WITH IT'S PROPRIETARY CABINET AND DETECTION COMPONENTS ARE USED FOR THE CITY'S ADAPTIVE TRAFFIC SIGNAL COORDINATION. THIS SYSTEM IS IMPLEMENTED ON SELECTED CORRIDORS AS DETERMINED BY THE CITY'S TRAFFIC DIVISION. REQUIRED INSTALLATION OF THIS EQUIPMENT SHOULD BE VERIFIED BY CONTACTING PAUL JOHNSON AT 772-871-5182. DEVICE ITEMS THAT SHALL BE INCORPORATED INTO THE SIGNALIZATION PLANS FOR EACH INTERSECTION:

INSYNC ADAPTIVE EQUIPMENT


CABINET

INSYNC SHELF MOUNT PROCESSOR	1 EA
INSYNC EQUIPMENT PANEL	1 EA
WINSYNC SDLC MODULE	1 EA
INSYNC INTERCEPT MODULE	1 EA
DIN RELAY IV	1 EA
INSYNC DUAL SERIAL CABLE	1 EA
INSYNC BIU CABLE, 1 OR 2 BIU	1 EA
SDLC MODULE POWER CABLE MW 12VDC 2.03A	1 EA
3' AND 7' PATCH CABLES	1 EA
18/2 CABLE FOR MISC. WIRING	1ROLL
SURGE PROTECTION POWER STRIP	1 EA

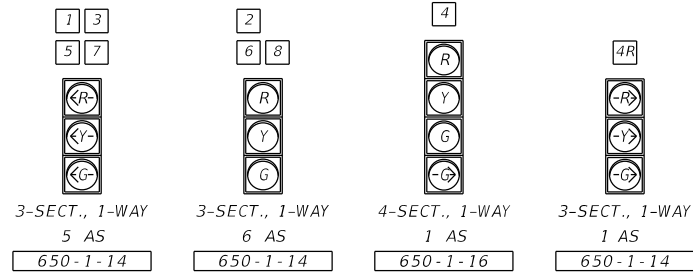
DETECTION

INSYNC DIGITAL CAMERAS FOR VIDEO DETECTION	4 EA
INSYNC UNIVERSAL CAMERA MOUNT BRACKET	4 EA
14/3 TRAFFIC POWER CABLE IMSA 20-1 STRANDED	*TBD
CAT6 SHIELDED ETHERNET CABLE	*TBD
PELCO ASTRO-BRAC MOUNT	4 EA
PELCO GUSSETTED TUBE - 72"	4 EA
PELCO CAMERA BRACKET - SH-514	4 EA
INLINE ETHERNET SURGE PROTECTION	4 EA
VERACITY OUTREACH MAX OR LITE REPEATER	*TBD-MAX 4
MICROSEMI SINGLE PORT 30W INDUSTRIAL POE INJECTOR	*TBD-MAX 3
POLYCASE ENCLOSURE FOR REPEATER IN PULL BOX	*TBD-MAX 44

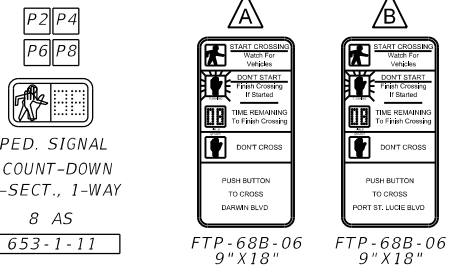
*TBD - CONTRACTOR TO DETERMINE

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD	COUNTY	
						SW PORT ST. LUCIE BLVD.	ST. LUCIE	STANDARD NOTES	

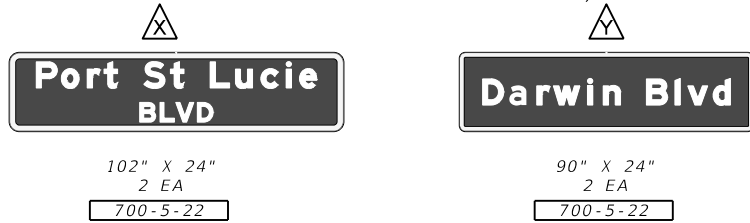
SIGNAL HEAD AND SIGN DETAILS



PEDESTRIAN SIGNAL DETAILS



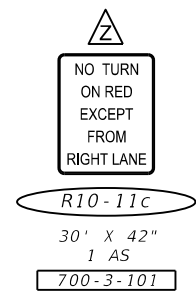
INTERNALLY ILLUMINATED SIGNS (FLUSH MOUNT ON MAST ARM)



PROPOSED PEDESTRIAN SIGNALS

ID	STA	OFFSET	PED. PEDESTAL	PED. DETECTOR
E1	251+04	49.10' LT	1	1
E2	251+38	63.34' LT	1	1
E3	252+35	48.19' LT	1	1
E4	252+17	66.24 RT	1	1
E5	251+04	46.29 RT	1	1

STATIC SIGNS



VEHICLE DETECTION SYSTEM

VIDEO DETECTOR CHART

DETECTOR NO.	MOVEMENTS	ZONES
V1	1, 6	V-1, V-6
V2	5, 2	V-5, V-2
V3	3, 8	V-3, V-8
V4	7, 4, 4R	V-7, V-4, V-4R

REMOVAL ITEMS

632-7-6	1 PI
646-1-60	6 EA
650-1-60	8 AS
653-1-60	1 AS
700-3-602	2 EA

INSYNC VEHICLE DETECTION SYSTEM

680-1-112	3 EA *
680-1-113	3 EA *

* SEE PAY ITEM FOOTNOTES

LEGEND

- ◀ DENOTES PROP. VEHICLE VIDEO DETECTOR
- ◀ DENOTES PROP. INSYNC VEHICLE QUEUE VIDEO DETECTOR

NOTES:

- PEDESTRIAN SIGNAL HEADS TO BE ORIENTED TO THE CENTER OF THE CROSSWALK THEY SERVE.
- EXISTING CONCRETE SIGNAL POLES TO REMAIN WITH POWER LINES, LUMINAIRES, & CCTV CAMERA.
- FOR SUB SURFACE UTILITY INFORMATION REFER TO ROADWAY PLANS.

CONTROLLER TIMINGS

TIMING FUNCTION	1	2	3	4/4R	5	6	7	8
MOVEMENT NUMBER	1	2	3	4/4R	5	6	7	8
MINIMUM GREEN	5	10	5	10	5	10	5	10
EXTENSION	3	3	3	3	3	3	3	3
MAXIMUM GREEN 1	24	24	24	24	24	24	24	24
MAXIMUM GREEN 2	---	---	---	---	---	---	---	---
YELLOW CLEARANCE	4	4	4	4	4	4	4	4
ALL RED	2	2	2	2	2	2	2	2
PEDESTRIAN WALK	---	7	---	7	---	7	---	7
PED. CLEARANCE	---	15	---	16	---	15	---	16
RECALL	---	MIN	---	---	---	MIN	---	---

CONTROLLER OPERATIONS:

- MAJOR STREET: SW PORT ST. LUCIE BOULEVARD
MINOR STREET: SW DARWIN BOULEVARD
- SIGNAL OPERATING PLAN (SOP 10)
- FLASHING OPERATION: 2 & 6 - YELLOW
1,3,4,4R,5,7 & 8 - RED
- SIZE OF VIDEO DETECTION ZONES SHALL BE 6'X40' UNLESS OTHERWISE NOTED.
- SIZE OF INSYNC DETECTION ZONE TO BE SET TO INCLUDE AREA FROM STOP BAR TO ANTICIPATED LOCATION OF QUEUE BACKUP.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

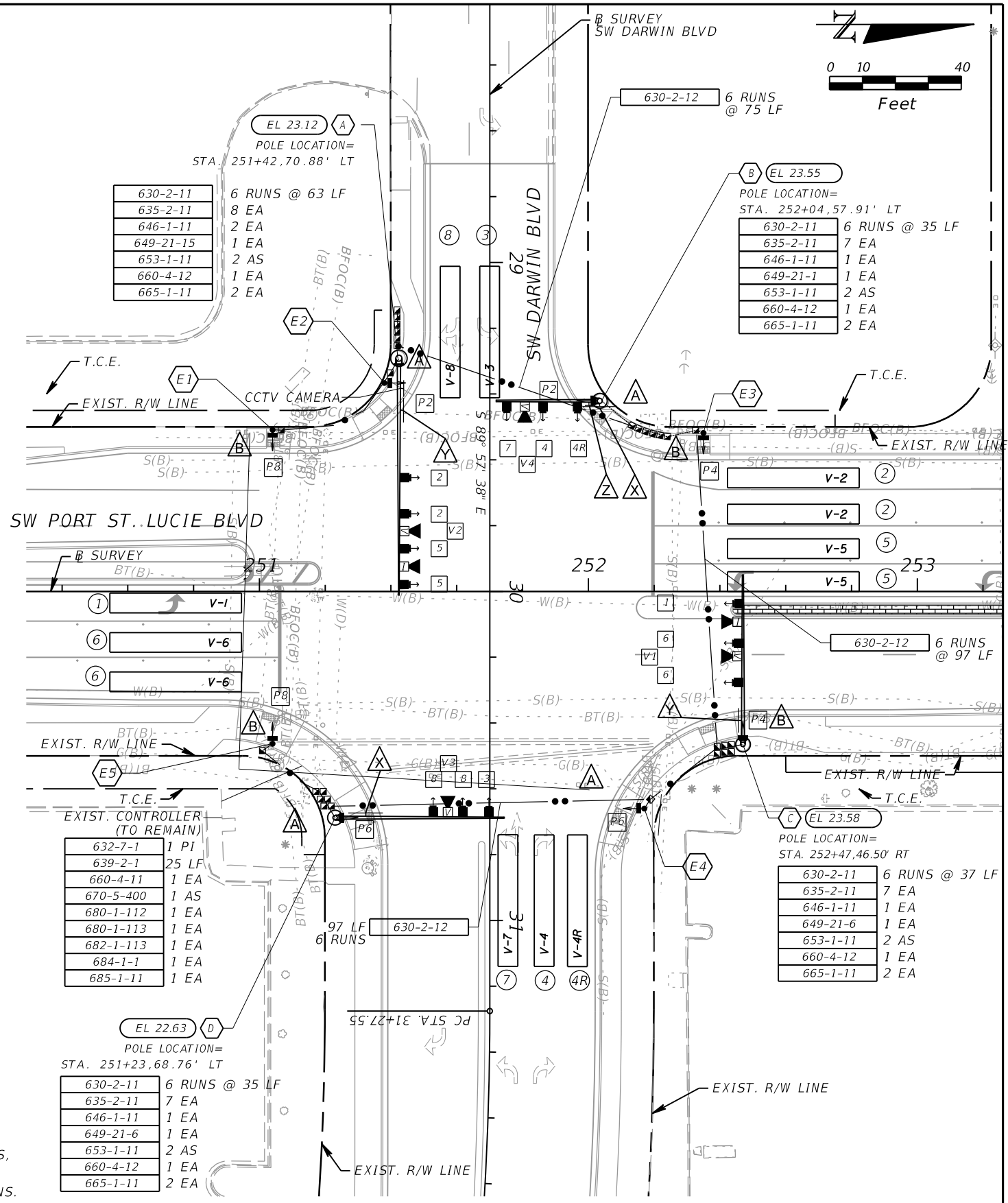
American
Consulting Engineers of Florida, LLC
2041 Vista Parkway, Suite 101
West Palm Beach, Florida 33411
Phone: (561) 253-9550 Fax: (561) 253-9551
Certificate of Authorization No. 9302
Mohan Gopalakrishna, P.E. No. 60720

CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD.
PORT ST. LUCIE, FL 34984

ROAD	COUNTY
SW PORT ST. LUCIE BLVD.	ST. LUCIE

SIGNALIZATION PLAN

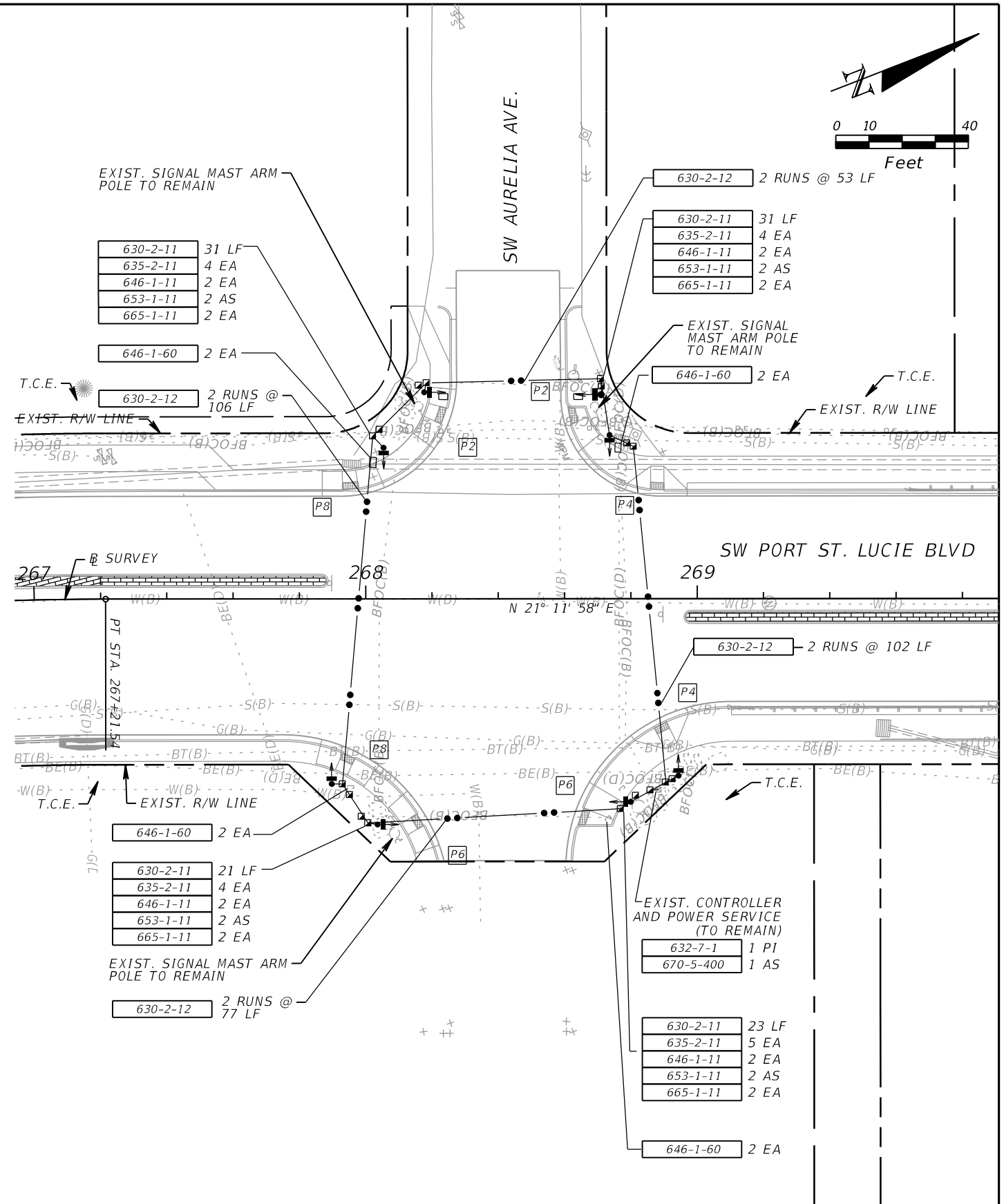
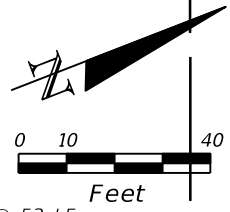
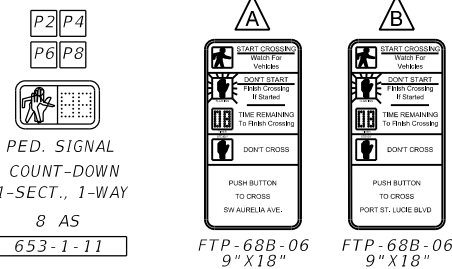
SHEET NO. T-6



SW PORT ST. LUCIE BLVD AND SW DARWIN BLVD. INTERSECTION ID PSL017

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PEDESTRIAN SIGNAL DETAILS



SW PORT ST. LUCIE BLVD AND SW AURELIA AVE.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 PORT ST. LUCIE, FL 34984

ROAD	COUNTY
SW PORT ST. LUCIE BLVD.	ST. LUCIE

SIGNALIZATION PLAN

SHEET NO.
T-7

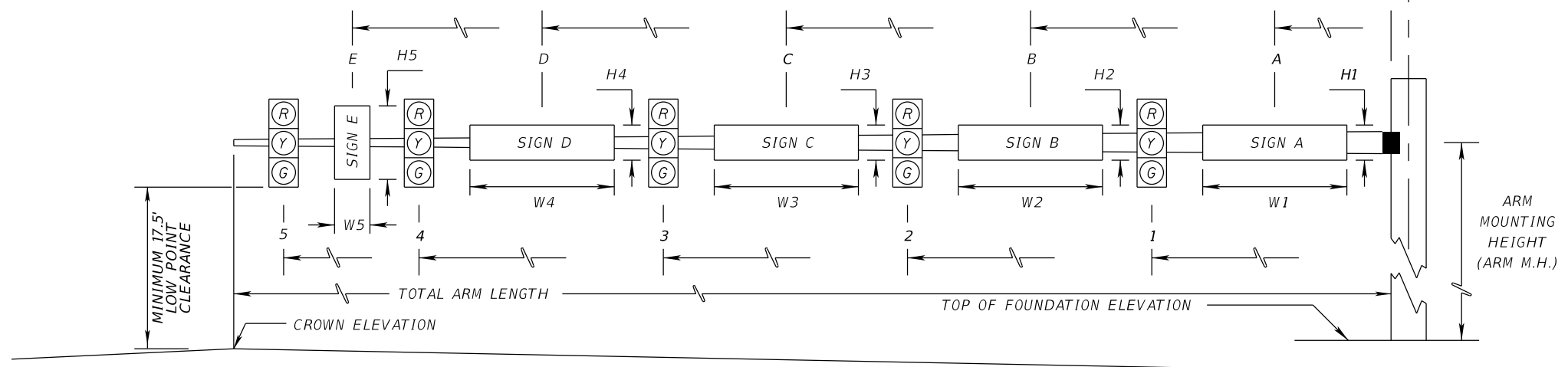
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SPECIAL INSTRUCTIONS

ID NO.	PED. BUTTON	PED. SIGNALS	HANDHOLE LOCATION

ARM NO. 2 - DOUBLE ARM POLE ORIENTATION TO BE MEASURED IN A COUNTER CLOCKWISE DIRECTION FROM ROADWAY ARM NO. 1.

ARM NO. 1 - SINGLE ARM POLE OR LONGEST ARM FOR DOUBLE ARM POLE.



* 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										TOTAL ARM LENGTH	ARM M.H.	ANGLE BETWEEN DUAL ARMS 90/270	SIGN DATA										PAINT COLOR				
											DISTANCE FROM POLE													DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN														
											1	*	2	*	3	*	4	*	CAMERA	VIDEO				INSYNC	A	H1	W1	B	H2	W2	C	H3	W3		D	H4		
A	T-4	251+42	23.12	1	22.80	N	N	V	Y	N	34.5	3	45.5	3	56.0	3	67.0	3	8	50.5	61.5	70	**		14	2	7.5										BLACK***	
				2																					2	2.5	3.5									BLACK***		
B	T-4	252+04	23.55	1	22.69	N	N	V	Y	Y	5.5	3	16.0	3	27.0	4				21.5		30	**													BLACK***		
				2																																		
C	T-4	252+47	23.58	1	22.64	N	N	V	Y	Y	17.5	3	29.5	3	41.5	3				25.5	36.0	50	**		6	2	7.5										BLACK***	
				2																																		
D	T-4	251+23	22.63	1	22.63	N	N	V	Y	Y	28.5	3	37.5	3	45.5	3				33.0		50	**		8	2	8.5										BLACK***	

** FOR ARM MOUNTING HEIGHTS REFER TO STRUCTURES CALCULATIONS AND SHEET IN THIS SET.
 *** POWDERCOAT FINISH. OBTAIN AND PROVIDE COLOR CHIP FROM MANUFACTURER DURING SHOP DRAWING PROCESS. CHIP CODE (PT-1-17-FDU-017-FR).

REVISIONS			American Consulting Engineers of Florida, LLC 2041 Vista Parkway, Suite 101 West Palm Beach, Florida 33411 Phone: (561) 253-9550 Fax: (561) 253-9551 Certificate of Authorization No. 9302 Mohan Gopalakrishna, P.E. No. 60720	CITY OF PORT ST. LUCIE 121 S.W. PORT ST. LUCIE BLVD. PORT ST. LUCIE, FL 34984	ROAD SW PORT ST. LUCIE BLVD.	COUNTY ST. LUCIE	SHEET NO. T-8
DATE	BY	DESCRIPTION					



STANDARD MAST ARM TABULATION

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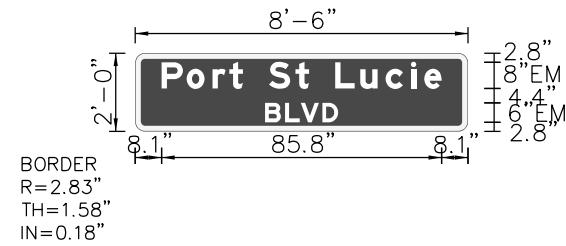
STANDARD MAST ARM ASSEMBLIES DATA TABLE											
STRUCTURE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM TYPE	FAA (ft.)	ARM TYPE	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
A	A70/5-P5/5-D5/16/5	A70/5	---	NA	NA	NA	NA	P5/5	23	20	D5/16/5
B	A30/5-P1/5-D5/12/4.5	A30/5	---	NA	NA	NA	NA	P1/5	22.5	19.5	D5/12/4.5
C	A50/5-P3/5-D5/14/4.5	A50/5	---	NA	NA	NA	NA	P3/5	22.5	19.5	D5/14/4.5
D	A50/5-P3/5-D5/14/4.5	A50/5	---	NA	NA	NA	NA	P3/5	23.5	20.5	D5/14/4.5

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.
- WORK THIS SHEET WITH THE SIGNAL DESIGNER'S "MAST ARM TABULATION". SEE "MAST ARM TABULATION" FOR SPECIAL INSTRUCTIONS THAT MAY INCLUDE NON-STANDARD HANDHOLE LOCATION, PAINT COLOR, TERMINAL COMPARTMENT REQUIREMENT, AND PEDESTRIAN FEATURES.
- WORK WITH INDEXES 649-030 AND 649-031
- THE FOUNDATION FOR STANDARD MAST ARM ASSEMBLIES ARE BASED ON THE FOLLOWING SOIL PARAMETERS
CLASSIFICATION: COHESION LESS (FINE SAND)
FRICTION ANGLE: 30 DEGREES
UNIT WEIGHT: 50 PCF (ASSUMED SUBMERGED)
BLOW COUNTS (N): 15
- DESIGN WIND SPEED IS 170 MPH

REVISIONS						 American Consulting Engineers of Florida, LLC 2818 Cypress Ridge Boulevard, Suite 200 Wesley Chapel, Florida 33544 Phone: (813) 435-2654, Fax: (813) 435-2601 Certificate of Authorization No. 9302 Francis X. Haunstetter, P.E. No. 56872	 CITY OF PORT ST. LUCIE 121 S.W. PORT ST. LUCIE BLVD. PORT ST. LUCIE, FL 34984	STANDARD MAST ARM ASSEMBLIES DATA TABLE		SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD	COUNTY	T-9
						SW PORT ST. LUCIE BLVD.	ST. LUCIE			

SIGN NAME	D3-2	QTY	1	SIGN NUMBER		STATION(S)	
PANEL	BORDER					none	
WIDTH	8'-6"	WIDTH	1.58"				
HEIGHT	2'-0"	RADII	2.83"				
LEGEND	Yellow	COLOR	Yellow				
COLOR	Green						
SYMBOL(S)	ANGLE	X	Y	WID	HT		
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH			



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

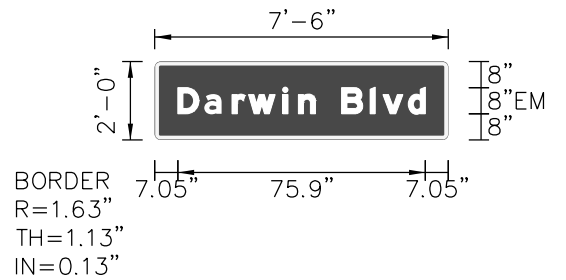
SIGN NAME		QTY		SIGN NUMBER		STATION(S)	
PANEL	BORDER						
WIDTH		WIDTH					
HEIGHT		RADII					
LEGEND		COLOR					
COLOR							
SYMBOL(S)	ANGLE	X	Y	WID	HT		
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH			

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	P	o	r	t	S	t	L	u	c	i	e	L		
SPACE	8.1	15.8	23.7	28.8	33	41	49.2	53.3	61.3	69	76.8	84.5	88.6	85.8
COPY	B	L	V	D	L									
SPACE	39.8	46	50.8	57.4	22.4									
COPY														
SPACE														
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SIGN NAME	D3-2	QTY	1	SIGN NUMBER		STATION(S)	
PANEL	BORDER					none	
WIDTH	7'-6"	WIDTH	1.13"				
HEIGHT	2'-0"	RADII	1.63"				
LEGEND	White	COLOR	White				
COLOR	Green						
SYMBOL(S)	ANGLE	X	Y	WID	HT		
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH			



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

SIGN NAME		QTY		SIGN NUMBER		STATION(S)	
PANEL	BORDER						
WIDTH		WIDTH					
HEIGHT		RADII					
LEGEND		COLOR					
COLOR							
SYMBOL(S)	ANGLE	X	Y	WID	HT		
SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge of Lane	COLUMN SIZE	AVERAGE LENGTH			

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	D	o	r	w	i	n	B	l	v	d	L	
SPACE	7	15.2	23.7	28.7	39.2	44	49.3	57.3	66	69.9	77.7	75.9
COPY												
SPACE												
COPY												
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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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ROAD	COUNTY
SW PORT ST. LUCIE BLVD.	ST. LUCIE

GUIDE SIGN WORKSHEET

SHEET NO.
T-10

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