

*LEE COUNTY PUBLIC WORKS
DEPARTMENT OF TRANSPORTATION*

CORKSCREW ROAD WIDENING - PHASE II

BELLA TERRA BOULEVARD TO ALICO ROAD

JEI PROJECT ID: 20192030-000

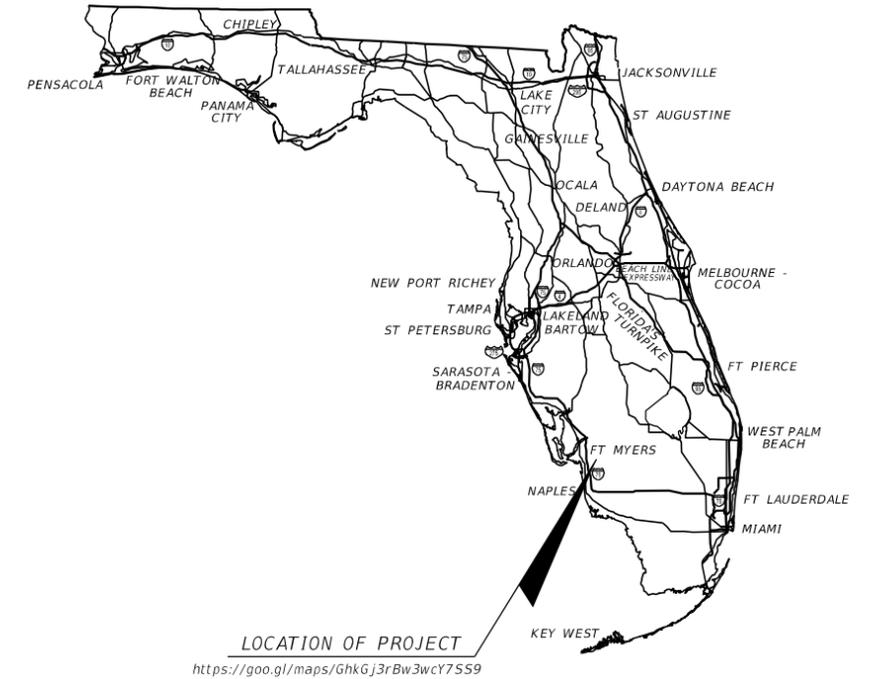
LEE COUNTY (2014100)

COUNTY ROAD NO. 850

SIGNALIZATION PLANS

INDEX OF SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
T-2	SIGNATURE SHEET
T-3	TABULATION OF QUANTITIES
T-4 - T-5	GENERAL NOTES
T-6 - T-7	PAY ITEM NOTES
T-8	SIGNALIZATION PLAN
T-9	GUIDE SIGN WORKSHEET
T-10	SIGNAL OPERATIONS
T-11	MAST ARM TABULATION
T-12	STANDARD MAST ARM ASSEMBLIES DATA TABLES



SIGNALIZATION SHOP DRAWINGS
TO BE SUBMITTED TO:

THOMAS MARQUARDT, P.E.

SIGNALIZATION PLANS
ENGINEER OF RECORD:



LEAH M. HOLMES, P.E.
P.E. LICENSE NUMBER 85359
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
FORT MYERS, FLORIDA 33901
CONTRACT NO.:
VENDOR NO.:
CERTIFICATE OF AUTHORIZATION NO.: 642

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2019-20 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>

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

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2019 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

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

**90% SUBMITTAL
FEBRUARY 2020**

**LEE COUNTY
PROJECT MANAGER:
THOMAS MARQUARDT, P.E.**

48 HOURS BEFORE DIGGING
"CALL SUNSHINE"
1-800-432-4770



CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
	19	T-1

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

THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED.
THE SIGNATURE MUST BE VERIFIED
IN THE ELECTRONIC DOCUMENTS.

JOHNSON ENGINEERING
2122 JOHNSON STREET
FORT MYERS, FLORIDA 33902
CERTIFICATE OF AUTHORIZATION: 00642
LEAH M. HOLMES, P.E. NO. 85359

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

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
T-1	KEY SHEET
T-2	SIGNATURE SHEET
T-3	TABULATION OF QUANTITIES
T-4 - T-5	GENERAL NOTES
T-6 - T-7	PAY ITEM NOTES
T-8	SIGNALIZATION PLAN
T-9	GUIDE SIGN WORKSHEET
T-10	SIGNAL OPERATIONS
T-11	MAST ARM TABULATION

THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED.
THE SIGNATURE MUST BE VERIFIED
IN THE ELECTRONIC DOCUMENTS.

HIGH SPANS ENGINEERING, INC.
2121 MCGREGOR BOULEVARD, SUITE 200
FORT MYERS, FLORIDA 33901
REGISTRY NO: 27559
THOMAS M. WAITS, P.E. NO. 55460

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

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
T-2	SIGNATURE SHEET
T-12	STANDARD MAST ARM ASSEMBLIES DATA TABLES

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

REVISIONS				 LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			SHEET NO. T-2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
					CR 850	LEE	20192030-000	

SIGNATURE SHEET

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			T-7														PLAN	FINAL	PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL						
630-2-11	Conduit, Furnish & Install, Open Trench	LF	121														121		121	
630-2-12	Conduit, Furnish & Install, Directional Bore	LF	220														220		220	
632-7-1	Signal Cable, New Or Reconstructed Intersection, Furnish & Install	PI	1														1		1	
633-1-121	Fiber Optic Cable, F&I, Underground, 2-12 Fibers	LF	70																	
633-2-31	Fiber Optic Connection, Splice	EA	12														12		12	
633-2-32	Fiber Optic Connection, Termination	EA	12														12		12	
633-3-11	Fiber Optic Connection Hardware, F&I, Splice Enclosure	EA	1														1		1	
633-3-12	Fiber Optic Connection Hardware, F&I, Splice Tray	EA	1														1		1	
633-3-13	Fiber Optic Connection Hardware, F&I, Preterminated Connector Assembly	EA	1														1		1	
633-3-14	Fiber Optic Connection Hardware, F&I, Buffer Tube Fan Out Kit	EA	1														1		1	
633-3-15	Fiber Optic Connection Hardware, F&I, Preterminated Patch Panel	EA	1														1		1	
633-3-17	Fiber Optic Connection Hardware, F&I, Connector Panel	EA	1														1		1	
635-2-11A	Pull & Splice Box, F&I, 17" x 30" Cover Size	EA	16														16		16	
635-2-13	Pull & Splice Box, F&I, 30" x 60" Cover Size	EA	1														1		1	
639-1-122	Electrical Power Service, F&I, Underground, Meter Purchased By Contractor From Power Company	AS	1														1		1	
639-2-1	Signal, Electrical Service Wire, F&I	LF	50														50		50	
639-3-11	Electrical Service Disconnect, F&I, Pole	EA	1														1		1	
641-2-11	Prestressed Conc. Pole, F&I, Type P-II Pedestal	EA	1														1		1	
646-1-11	Aluminum Signals Pole, F&I, Pedestal	EA	4														4		4	
649-21-3	Steel Mast Arm Assembly, Furnish And Install, 40' Single Arm	EA	1														1		1	
649-21-9	Steel Mast Arm Assembly, Furnish And Install, Double Arm 50'-50'	EA	1														1		1	
650-1-14	Vehicular Traffic Signal, Furnish & Install - Aluminum, 3 Section, 1 Way	AS	6														6		6	
650-1-16	Vehicular Traffic Signal, Furnish & Install - Aluminum, 4 Section, 1 Way	AS	1														1		1	
653-1-11	Pedestrian Signal, Furnish & Install LED Count Down, 1 Way	AS	4														4		4	
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	3														3		3	
665-1-12	Pedestrian Detector, F&I, Accessible	EA	4														4		4	
670-5-110	Traffic Controller Assembly, F&I, NEMA	AS	1														1		1	
682-1-133	ITS CCTV Camera, F&I, Dome Enclosure - Non-Pressurized, IP, High Definition	EA	1																	
684-1-1	Managed Field Ethernet Switch, LAYER 2, Furnish & Install	EA	1														1		1	
685-1-13	Uninterruptible Power Supply, Furnish & Install, Line Interactive with Cabinet	EA	1														1		1	
700-3-201	Sign Panel, Furnish & Install Overhead Mount, Up to 12 SF	EA	4														4		4	
715-5-32	Luminaire & Bracket Arm	EA	2														2		2	

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
 LEAH M. HOLMES • P.E. LICENSE NO. 85359
 JOHNSON ENGINEERING, INC.
 2122 JOHNSON STREET • FORT MYERS, FL 33901
 CERTIFICATE OF AUTHORIZATION NO. 642

LEE COUNTY PUBLIC WORKS
 DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	JEI PROJECT ID
CR 850	LEE	20192030-000

TABULATION OF QUANTITIES

SHEET NO.
T-3

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

GENERAL NOTES:

1. LOCATES: ONE (1) COURTESY LOCATE SHALL BE PERFORMED BY LEE COUNTY SIGNALS AT THE START OF THE PROJECT AT THE CONTRACTOR'S REQUEST. THE CONTRACTOR SHALL DOCUMENT THE LOCATION OF THE EXISTING UNDERGROUND AND ABOVE GROUND FACILITIES. AFTER THE COURTESY LOCATE, ALL LOCATES WITHIN THE PROJECT LIMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED IN A TIMELY MANNER. TIMELY MANNER IN RESPONSE TO LOCATES IS DEFINED AS LOCATE SHALL BE PERFORMED NO LATER THAN TWENTY-FOUR (24) HOURS AFTER NOTIFICATION OR AS REQUIRED BY FLORIDA STATUTE. LEE COUNTY SIGNALS WILL ADVISE THE CONTRACTOR VIA E-MAIL OR FAX OF SUNSHINE LOCATE REQUESTS WITHIN THE WORK ZONE. ANY DAMAGE INCURRED DUE TO CONTRACTOR FAILURE TO LOCATE SHALL BE REPAIRED BY THE CONTRACTOR. SHOULD LEE COUNTY FORCES BE CALLED OUT TO MAKE REPAIRS DUE TO CONTRACTOR REFUSAL OR INABILITY TO MAKE REPAIRS, THE CONTRACTOR WILL BE BILLED THE ENTIRE COST AS A "DEDUCT" ON THE NEXT PAYMENT REQUEST AND WILL TRIGGER A "VENDOR/CONTRACTOR COMPLAINT" NOTICE TO BE FILED WITH LEE COUNTY CONTRACTS. BEING AN "OUT OF TOWN" CONTRACTOR DOES NOT RELIEVE THIS RESPONSIBILITY.
2. DAMAGE TO EXISTING FACILITIES: ANY DAMAGE TO LEE COUNTY FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR. REPAIRS SHALL BE MADE TO ENSURE FACILITIES ARE LIKE NEW OR BETTER. ANY DAMAGE TO EXISTING COMMUNICATION LINES SHALL NECESSITATE THE REMOVAL OF ALL DAMAGED LINES AND THE RE-PULLING OF NEW CABLE. SPLICING OF COMMUNICATION LINES WILL NOT BE ALLOWED. CAUTION SHALL BE EXERCISED DURING EXCAVATION NEAR EXISTING LEE COUNTY FIBER OPTIC LINES, SINCE MANY ENTITIES USE THESE FACILITIES. SHOULD DAMAGE OCCUR TO FIBER OPTIC LINES, LEE COUNTY WILL DECIDE WHICH QUALIFIED FIBER OPTIC SPLICING COMPANY WILL BE USED TO MAKE REPAIRS. CONTRACTOR WILL BE RESPONSIBLE FOR ALL REPAIR COSTS INCURRED, WHETHER REPAIRS ARE MADE BY LEE COUNTY OR A THIRD PARTY.
3. CABINET/CONTROLLER/VIDEO DETECTION/POLARAPED PREP: LEE COUNTY SIGNALS WILL ASSIST THE CONTRACTOR IN THE SETUP OF NEW SIGNAL CABINET/CONTROLLERS/CAMERAS WHEN THE FOLLOWING CONDITIONS ARE MET: DELIVERY OF EQUIPMENT TO 5650 ENTERPRISE PARKWAY BY CONTRACTOR OR SHIPPER. THE CONTRACTOR SHALL SEND A QUALIFIED TECHNICIAN TO THE SIGNAL SHOP TO SET UP THE EQUIPMENT WITH THE AID OF A SENIOR SIGNAL TECH, GIVING MINIMUM OF 48 HOURS NOTICE. AFTER SET UP, CONTRACTOR SHALL ARRANGE TO PICK UP THE EQUIPMENT WITHIN ONE WEEK. AT TIME OF REMOVAL FROM THE LEE COUNTY SIGNAL SHOP, THE EQUIPMENT SHALL BE SIGNED OUT BY THE CONTRACTOR REPRESENTATIVE AS COMPLETE. LEE COUNTY WILL NOT STORE CONTRACTOR EQUIPMENT. UNDER THESE CONDITIONS, LEE COUNTY SIGNALS WILL ASSIST THE CONTRACTOR ON TURN ON DAY IN THE FIELD. SHOULD THE CONTRACTOR ELECT TO SET UP, BURN IN, AND TEST THE EQUIPMENT WITHOUT LEE COUNTY ASSISTANCE, A MANUFACTURERS REPRESENTATIVE SHALL BE ON SITE, AT CONTRACTORS EXPENSE, ON THE DAY OF TURN ON TO ASSIST THE CONTRACTOR AND TO VERIFY PROPER OPERATION.
4. SPECIAL NOTE REGARDING NEW CONTROLLERS: LEE COUNTY RESERVES THE RIGHT TO SUBSTITUTE DIFFERENT CONTROL EQUIPMENT IN THE EVENT THAT DELIVERED EQUIPMENT IS NOT COMPATIBLE WITH THE EXISTING SYSTEM. SINCE SYSTEM UPGRADES MAY BE BEHIND CONTROLLER TECHNOLOGY, AS THE MAINTAINING AGENCY, LEE COUNTY SIGNALS WILL DECIDE EQUIPMENT PLACEMENT AND TIMING AND MAY PROVIDE AN ALTERNATE CONTROLLER TEMPORARILY UNTIL FUTURE UPGRADES ARE MADE. IF THERE IS A COST DIFFERENTIAL, PAYMENT WILL BE MADE TO THE CONTRACTOR PER PLAN QUANTITY AND SPECIFICATION. SIGNAL CABINETS ARE TO PROVIDE SUFFICIENT SPACE FOR COMPATIBILITY FOR FUTURE UPGRADES SUCH AS CONNECTED AND AUTONOMOUS VEHICLE TECHNOLOGY.
5. CONTRACTOR IS REQUIRED TO HAVE AN AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR AND NECESSARY EQUIPMENT TO COMPLETE THE INSPECTIONS ON SITE AT ALL SIGNAL AND LIGHTING INSPECTIONS. FAILURE TO HAVE A REPRESENTATIVE ON SITE WILL RESULT IN THE CANCELLATION OF THE INSPECTION AND THE WITHHOLDING OF FINAL PAYMENT. AUTHORIZED REPRESENTATIVE IS A PERSON WITH THE KNOWLEDGE AND ABILITY TO MAKE CORRECTIONS AS NEEDED. THIS IS A REQUIREMENT AND IS NECESSARY TO ELIMINATE COSTLY RE-INSPECTIONS AND TO SPEED UP THE CLOSE OUT OF THE PROJECT.
6. RESULTS OF FIELD TESTS SHALL BE MADE AVAILABLE IN WRITTEN FORM. A QUALIFIED REPRESENTATIVE SHALL BE PRESENT AT THE CONDITIONAL ACCEPTANCE INSPECTION OF THE CONTROLLER ASSEMBLY. THE QUALIFICATIONS OF THE REPRESENTATIVE SHALL INCLUDE:
 - A. COMPLETE FAMILIARITY WITH ALL SYSTEM ELEMENTS INCLUDING CONTROLLERS, COORDINATION UNITS, SYSTEM CLOCKS AND SYSTEM COMMUNICATIONS ELEMENTS.
 - B. THE REPRESENTATIVE SHALL BE QUALIFIED TO INPUT AND RECALL ALL CONTROLLER AND SYSTEM TIMING FUNCTIONS.
7. SIGNALS SHALL BE PLACED IN FULL OPERATION ON A MONDAY, TUESDAY, OR WEDNESDAY; HOWEVER, THE SIGNAL SHALL NOT BE PLACED IN FULL OPERATIONS THE DAY PRECEDING OR SUCCEEDING A HOLIDAY, IN ACCORDANCE WITH FDOT STANDARDS SPECIFICATIONS ACCEPTANCE PROCEDURES. THE 48 HOUR TEST SHALL NOT START ON THE DAY PRECEDING OR SUCCEEDING A HOLIDAY.
8. THE CONTRACTOR SHALL BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUIT IS TO BE INSTALLED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.
9. PULL BOXES AND CONDUIT ARE TO BE PLACED BEHIND CURB AND GUTTER. IF CURB AND GUTTER ARE NOT PRESENT, THE PULL BOXES AND CONDUIT SHALL BE PLACED A MINIMUM OF TEN (10) FEET FROM THE EDGE OF PAVEMENT OR AT THE BACK OF THE EXISTING RIGHT OF WAY TO AVOID EXISTING UTILITIES. ALL PULL BOXES SHALL HAVE CONCRETE MOW PAD PER FDOT SPECIFICATIONS.
10. INSURANCE AS REFERENCED IN SECTIONS 7-13 IN THE FDOT STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) SHALL BE PROVIDED BY THE CONTRACTOR WHEN INSTALLING OR WHEN WORKING ON OR IN THE VICINITY OF JOINT-USE POLES OR WHEN WORKING IN THE VICINITY OF POWER LINES.
11. WHEN PERFORMING NECESSARY WORK UNDER POWER LINES, SUCH AS THE INSTALLATIONS OF SIGNAL CABLE, AND SIGNAL POLES, THE CONTRACTOR SHALL NOTIFY THE POWER COMPANY AT LEAST 72 HOURS PRIOR TO THE INSTALLATION OF THIS EQUIPMENT.
12. ALL SIGNALIZATION WORK SHALL CONFORM TO LEE COUNTY'S SUPPLEMENTAL SPECIFICATIONS. CONTRACTOR SHALL NOTIFY LEE COUNTY DOT 48 HOURS PRIOR TO THE START OF WORK. EFFECTIVE JANUARY 1, 2003, LEE COUNTY BECAME PART OF THE ONE-CALL LOCATE SYSTEM. IF THE CONTRACTOR REQUIRES INSPECTION SERVICES THERE SHALL BE AT LEAST 48 HOUR NOTICE. CONTRACTOR SHALL MAINTAIN THE TRAFFIC SIGNAL DURING CONSTRUCTION UNTIL SUCH TIME LEE COUNTY ASSUMES MAINTENANCE RESPONSIBILITY. IF CONTRACTOR DOES NOT FOLLOW THE REQUIREMENT, THEY WILL BE SUBJECT TO ALL COST OF DAMAGED EQUIPMENT.
13. ALL EQUIPMENT AND WORK TO BE COMPLIANT TO LEE COUNTY DEPARTMENT OF TRANSPORTATION PLAN SPECIFICATIONS FOR TRAFFIC SIGNALS (LATEST EDITION).
14. MINIMUM DEPTH OF CONDUIT SHALL BE THIRTY SIX (36) INCHES.
15. ALL PEDESTAL POLES WHICH ARE PROVIDED WITH A BREAKAWAY FEATURE SHALL CONFORM TO THE LEE COUNTY DEPARTMENT OF TRANSPORTATION SPECIFICATIONS (LATEST EDITION).
16. REFER TO LATEST EDITION FDOT STANDARD PLANS 665-001 FOR PEDESTRIAN DETECTOR ASSEMBLY INSTALLATION DETAILS.
17. THE POSITION OF PEDESTRIAN PUSH BUTTON SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSH BUTTON. PUSH BUTTON AND SIGNS ARE TO BE MOUNTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 665, AND MEET ALL GROUNDING REQUIREMENTS OF SECTION 620 OF THE STANDARD SPECIFICATIONS. THE CONTROL FACE AND VIBROTACTILE ARROW OF THE APS SHALL BE CAREFULLY ALIGNED WITH THE DIRECTION OF TRAVEL TO THE DESIGNATED PEDESTRIAN RAMP AND CROSSWALK WHILE ENSURING A MAXIMUM OF 10" REACH DISTANCE FOR WHEELCHAIR USERS. INCORPORATING THE BASE INTO THE CURB OR SIDEWALK IS AN OPTION BUT WOULD REQUIRE A NON-CHAMFERED EDGE BASE TO BE USED.
18. PULL BOXES SHALL BE POLYMER CONCRETE CONSTRUCTION (QUAZITE), HAVE ANSI TIER RATING OF T22 AND DESIGN LOAD RATING OF 20,500 LBS. NO EXCEPTIONS WILL BE APPROVED. PULL BOX LIDS SHALL BE SHALL BE POLYMER CONCRETE CONSTRUCTION (QUAZITE), HAVE ANSI TIER RATING OF T22 AND DESIGN LOAD RATING OF 22,500 LBS. NO EXCEPTIONS WILL BE APPROVED) AND MARKED APPROPRIATELY, "TRAFFIC SIGNAL" OR "STREET LIGHTS". NO STEEL LIDS SHALL BE ALLOWED. PULL BOXES SHALL BE SIZED TO ACCOMMODATE MAXIMUM NUMBER OF PIPES ALLOWED PER NEC AND TO COMPLY WITH CABLE MANUFACTURE'S BEND RADIUS.
19. CABINET BASE SHALL BE COMPOSITE CONSTRUCTION (QUAZITE). EQUAL TO QUAZITE PIN: PB40581224B24, "POLYMER CONCRETE PRECAST BASE" APPROVED FOR LEE COUNTY. CABINET BASE SHALL BE BURIED TO MANUFACTURER'S RECOMMENDED DEPTH. ELEVATION OF THE CABINET BASE SHALL BE AT THE SAME ELEVATION AS THE CENTER OF ROADWAY, BUT NO HIGHER THAN TWELVE (12) INCHES ABOVE THE CENTER OF THE ROADWAY. SPARE CONDUITS FROM CABINET BASE SHALL TERMINATE AT A PULL BOX IN FRONT OF THE BASE AND SHALL BE SEALED WITH DUCT SEAL OR CAPPED. ALL FILL DIRT MUST BE COMPACTED AROUND THE CABINET BASE. STUB UP CONDUITS SHALL BE NO LOWER THAN TWELVE (12) INCHES AND NO HIGHER THAN SIX (6) INCHES BELOW THE ACCESS HOLE IN CABINET PAD. INSTALL TWELVE (12) INCH MINIMUM OF BED OF ROCK UNDER CABINET BASE. GRAVE SHALL BE #57 STONE OR EQUIVALENT. SIGNAL CABINET SHALL NOT BE PLACED IN DRAINAGE SLOPES, SWALES, OR WHERE SHEET WATER CAN INTRUDE. THERE SHALL BE A SIX (6) FOOT LEVEL CLEAR ZONE SURROUNDING THE CABINET BASE. CABINET WORK PAD SHALL BE Poured IN PLACE ON SIGNAL CABINET ACCESS SIDE OF BASE. IT SHALL BE THE LENGTH OF THE BASE AND A MINIMUM THIRTY-SIX (36) INCHES WIDE AND FOUR (4) INCHES THICK WITH A FINISHED EDGE AND SURFACE. A COMPOSITE OR PRECAST PAD IS NOT ACCEPTABLE.
20. ON MAST ARM, ALL THREE (3) AND/OR FOUR (4) SECTION HEADS SHALL HAVE A MINIMUM SEVEN (7) CONDUCTOR SIGNAL CABLE INSTALLED CONTINUOUS FROM THE MAST ARM HAND HOLE COMPARTMENT TO SIGNAL HEAD TERMINATION BLOCK. ALL FIVE (5) SECTION HEADS SHALL HAVE A MINIMUM NINE (9) CONDUCTOR SIGNAL CABLE

REVISIONS				 LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			SHEET NO. GENERAL NOTES T-4
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
					CR 850	LEE	20192030-000	

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

GENERAL NOTES (CONTD.)

INSTALLED CONTINUOUS FROM THE MAST ARM HAND HOLE COMPARTMENT TO SIGNAL HEAD TERMINATION BLOCK. EACH ONE-WAY MAST ARM (NEAR SIDE OR FAR SIDE) SHALL HAVE A MINIMUM NINETEEN (19) CONDUCTOR SIGNAL CABLE INSTALLED CONTINUOUS FROM CONTROLLER CABINET TO MAST ARM HAND HOLE COMPARTMENT FOR VEHICULAR SIGNAL INDICATIONS. EACH TWO-WAY MAST ARM (NEAR SIDE OR FAR SIDE) SHALL HAVE A MINIMUM OF TWO (2) - NINETEEN (19) CONDUCTOR SIGNAL CABLE INSTALLED CONTINUOUS FROM CONTROLLER CABINET TO MAST ARM HAND HOLE COMPARTMENT FOR VEHICULAR SIGNAL INDICATIONS.

21. EACH SIGNAL POLE SHALL HAVE A MINIMUM OF TWENTY (20) FEET OF GROUND ROD DRIVEN. GROUND RODS MUST READ LESS THAN 15 OHMS WHEN TESTED AFTER INSTALLATION.

EACH PEDESTRIAN POLE SHALL HAVE MINIMUM OF TWENTY (20) FEET OF GROUND ROD DRIVEN. GROUND RODS MUST READ LESS THAN 15 OHMS WHEN TESTED AFTER INSTALLATION.

EACH CABINET SHALL HAVE MINIMUM OF FIFTY (50) FEET OF GROUND ROD DRIVEN. GROUND RODS MUST READ LESS THAN 5 OHMS WHEN TESTED AFTER INSTALLATION.

CONNECTIONS TO GROUND RODS SHALL BE CAD WELDED. NO RODS INSTALLED IN CABINET BASE. NO GROUND RODS IN CABINET BASE. EACH ELECTRICAL SERVICE SHALL HAVE MINIMUM OF TWENTY (20) FEET OF GROUND ROD DRIVEN. GROUND RODS MUST READ LESS THAN 15 OHMS WHEN TESTED AFTER INSTALLATION.

ALL GROUND WIRE SHALL BE #6 STRANDED COPPER. ENSURE THAT ALL GROUNDED ELEMENTS AT AN INTERSECTION ARE BONDED TOGETHER TO FORM AN INTERSECTION GROUNDING NETWORK (620-3.1). ALL SIGNAL POLES, PEDESTRIAN POLES SHALL BE TIED INTO A NETWORK GROUND SYSTEM AND BROUGHT BACK TO THE CABINET. ALL GROUND RODS SHALL BE INSTALLED IN A PULL BOX. TOP OF GROUND ROD SHALL BE TWO (2) INCHES ABOVE TOP OF ROCK IN PULL BOX. FOR MAST ARM FOUNDATIONS OR STEEL POLES, INSTALL GROUND ROD IN PULL BOX WITH SIGNAL CABLE NEXT TO POLE GROUND SPARE CONDUCTORS INSIDE CABINET ON CABINET GROUND BAR.

22. MAINTENANCE OF TRAFFIC SIGNAL SHALL BE THE RESPONSIBILITY OF THE SIGNAL CONTRACTOR. MAINTENANCE SHALL INCLUDE LOCATES.

23. ALL THREE (3), FOUR (4), AND FIVE (5) SECTION SIGNAL HEADS SHALL HAVE A METAL LOUVERED BACK PLATE WITH REFLECTORIZED TAPE PER THE FDOT STANDARD PLANS.

24. HUBS SHALL BE SILICONE SEALED TO SIGNAL HEADS, METAL HEADS SHALL BE USED UNLESS OTHERWISE APPROVED IN THE LEE COUNTY DEPARTMENT OF TRANSPORTATION PLAN SPECIFICATIONS. ALL SIGNAL HEADS SHALL BE NEW AND UNIFORM FOR EACH INTERSECTION. TWO (2) EACH 1/4 INCH DRAIN HOLES SHALL BE PLACED IN BOTTOM OF EACH SIGNAL HEAD. THE SIGNAL PHASE SHALL BE MARKED IN SIGNAL HEAD.

25. IMSA 19-1 SIGNAL CABLE OUTER JACKET SHALL REMAIN INTACT THROUGH ASSEMBLY, EXTENDING A MINIMUM THREE (3) INCHES INTO TRAFFIC SIGNAL HEAD ON MAST ARM INSTALLATION. NO STRIPPED SIGNAL CABLE INSIDE GUSSET TUBES. WHEN MAST ARM POLES ARE INSTALLED, THE POLE HEIGHT SHALL INCLUDE ADDITIONAL HEIGHT TO INCLUDE STREET LIGHTS. NO ELECTRICAL SERVICES AND CONTROLLER CABINETS ARE TO BE ATTACHED TO MAST ARM POLES UNLESS APPROVED BY ENGINEER. NO TERMINAL BLOCKS ARE TO BE USED IN MAST ARM POLES OR ASTRO BRACKETS.

26. ASTRO CLAMPS SHALL BE STAINLESS STEEL CABLES. NO BANDS SHALL BE PERMITTED. ALL MAST ARM HARDWARE SHALL BE STAINLESS STEEL 304 OR 316. STRAIN RELIEF'S SHALL BE USED TO SUPPORT SIGNAL CABLE IN A MAST ARM POLE. ASTRO BRACKETS SHALL BE CAPABLE OF BEING ROTATED 90 DEGREES WITHOUT DISASSEMBLY.

27. NO PREFORMED CONCRETE BASES FOR MAST ARM POLES WILL BE PERMITTED. EACH SIGNAL HEAD SHALL HAVE A SEPARATED CABLE FROM HEAD TO BOTTOM OF MAST ARM POLE. A MINIMUM OF FOUR (4) SPARE CONDUCTORS AT BASE OF MAST ARM POLE IS REQUIRED PER CABLE FROM CABINET. BOLT CAPS SHALL BE INSTALLED ON ALL MAST ARM BASE BOLTS. BUCANON B2 B-CAP NON-SILICON FILLED WIRE NUTS SHALL BE USED TO SPLICE SIGNAL CABLE IN THE BASE OF THE POLE.

28. CONTRACTOR SHALL INSTALL FIVE (5) EACH 2-INCH CONDUITS, PLUS ONE (1) EACH 3/4-INCH CONDUIT IN EACH FOUNDATION. STUB OUT LOCATION TO BE DETERMINED IN FIELD. STUB OUTS SHALL BE A MINIMUM OF THIRTY (30) INCHES DEEP. CONDUITS SHALL BE PLUMBED AND CENTERED IN FOUNDATION.

29. INSTALLATION MOUNTING HEIGHT OF PED HEAD SHALL BE NINE (9) FEET SIX (6) INCHES ABOVE GRADE TO BOTTOM OF HEAD. MOUNTING HEIGHT OF PED BUTTON SHALL BE FOURTY-TWO (42) INCHES TO CENTER OF BOTTOM ABOVE GRADE. BUTTON SHOULD BE UNDER THE HEAD IT CALLS. SEAL WITH SILICONE AROUND ROSETTE CAPS AND PED BUTTONS. EACH SIGN IS TO IDENTIFY THE CROSSWALK TO WHICH EACH BUTTON APPLIES. SIGNAL CABLE SHALL BE SPLICED IN BASE OF PED POLE AND NOT IN PED HEAD. SPLICE CABLE WITH RED B2 B-CAP WIRE UTS. PED CALL WIRES SHALL BE CONNECTED TO A PED ISOLATOR BOARD AND CHASSIS GROUND IN CABINET. PED BUTTONS SHALL HAVE ONLY BELDEN CABLE. INSTRUCTION SIGNS AND PUSH BUTTON SIGN SHALL BE ONE SIGN

MOUNTED ABOVE PED BUTTON. PEDESTRIAN PUSH BUTTON WIRES SHALL BE 2 CONDUCTOR SHIELDED CABLE AND MEET IMSA 50-20 SPECIFICATIONS.

30. ONCE TRAFFIC SIGNAL ELECTRIC SERVICE SHALL BE MOUNTED ON EIGHT (8) INCH X EIGHT (8) INCH X TWELVE (12) FOOT CONCRETE POLE. ALL TRAFFIC SIGNAL ELECTRICAL SERVICES SHALL BE METERED. METER SOCKET SHALL BE MILBANK 200 AMP LEVER BYPASS NEMA 3R ENCLOSURE RATED FOR OUTDOOR USE (MILBANK UAP9551-X-QG-HSP). MAIN LUG LOAD CENTER SHALL BE SQUARE D QO 100 AMP 6 SPACE/12 CIRCUIT RATED FOR OUTDOOR USE (SQUARE DQO612L100RB). SURGE PROTECTION DEVICE (SPD) SHALL BE ASCO MODEL 420 - S50A120V2PN IF SIGNALIZATION PLANS CALL FOR INTERSECTION LIGHTING, THE FOLLOWING SHALL BE INCLUDED: PHOTO CONTROL SHALL BE 1/2" STEM DIECAST ZINC, 120-277 VAC, 2000W TUNGSTEN, 1800VA BALLAST (TORK 2129A) AND MOUNTED ON THE MAIN LOAD CENTER.

ALL CIRCUIT BREAKERS SHALL BE SQUARE D QO AND SPACES SHALL BE ASSIGNED AS FOLLOWS:
SPACE 2 SHALL BE A SINGLE POLE 30 AMP FOR TRAFFIC SIGNAL CABINET
SPACE 3-4 SHALL BE A DOUBLE POLE 20 AMP FOR SPD
SPACE 5 SHALL BE A SINGLE POLE 20 AMP FOR INTERSECTION LIGHTING
SPACE 6-7 SHALL BE RESERVED FOR FUTURE USE
ANY CONDUIT ABOVE GROUND SHALL BE RIGID GALVANIZED STEEL CONDUIT OR SCHEDULE 80 PVC CONDUIT.

31. AFTER GALVANIZING, ALL GALVANIZED SURFACES MUST BE ALLOWED TO COOL AND VENT GASES PRODUCED DURING THE COOLING DOWN PROCESS. AFTER SURFACES HAVE BEEN ALLOWED AIR DRY, THEY SHALL BE CLEANED TO ACHIEVE A "BRUSH BLAST" CONDITION AS DEFINED BY SSPC-SP6. TEST GALVANIZING THICKNESS TO ENSURE SUFFICIENT GALVANIZING REMAINS ON THE SUBSTRATE TO MEET SPECIFICATION.

32. MAINTENANCE - LEE COUNTY IS RESPONSIBLE FOR THE MAINTENANCE OF THE TRAFFIC SIGNAL FACILITY AFTER FINAL INSPECTION AND A 90 DAY BURN IN PERIOD.

33. ALL MAST ARMS SHALL BE GALVANIZED.

34. AT THE UPRIGHT BASE AND FOR A LENGTH OF TWO (2) FEET, THE INTERIOR OF THE POLE IS MECHANICALLY CLEANED AND COATED WITH A ZINK RICH EPOXY POWDER THAT IS ELECTRO STATICALLY APPLIED AND CURED BY HEATING THE STEEL SUBSTRATE 350 DEGREES FAHRENHEIT MINIMUM, AND 400 DEGREES FAHRENHEIT MAXIMUM.

35. EXISTING TRAFFIC SIGNALS SHALL REMAIN IN OPERATION AND FREE OF OBSTRUCTIONS DURING THE CONSTRUCTION OF THE NEW TRAFFIC SIGNALS.

UTILITY/AGENCY OWNERS:

COMCAST	MARK COOK	239-432-1805
FPL FIBERNET, LLC	DANNY HASKETT	305-552-2931
FPL RELOCATION COORINATOR	JAMEL J. BAKER	239-947-7356
FLORIDA POWER & LIGHT	TRACY STERN	800-868-9554
LEE COUNTY UTILITIES	TALYA MAYER	239-533-8504
TECO - PEOPLES GAS SYSTEM	MARILYN D. ALOI	239-690-5517 / 239-896-0812
CENTURYLINK	JIM NOTTINGHAM	239-336-2035

REVISIONS				 LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
					CR 850	LEE	20192030-000	GENERAL NOTES
							T-5	

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

PAY ITEM FOOTNOTES:

PAY 630-2-11, & 630-2-12:
 THE CONTRACT UNIT PRICE PER FOOT OF CONDUIT, FURNISHED AND INSTALLED WILL INCLUDE FURNISHING ALL HARDWARE AND MATERIALS AS SPECIFIED ON THE TABULATION SHEET. ALL LABOR, TRENCHING, BACK FILLING, AND RESTORATION MATERIALS NECESSARY FOR A COMPLETE AND ACCEPTED INSTALLATION. CONSIDER THE LOCATIONS OF CONDUIT AS SHOWN ON THE PLANS AS APPROXIMATE. CONSTRUCT CONDUIT RUNS AS STRAIGHT AS POSSIBLE, AND OBTAIN THE ENGINEER'S APPROVAL OF ALL MAJOR DEVIATIONS IN CONDUIT LOCATIONS FROM THOSE SHOWN ON THE PLANS. UNDERGROUND CONDUITS ARE TO BE ADJUSTED TO AVOID UNDERGROUND UTILITIES AND SIDEWALKS. INCLUDES CONDUIT FOR MULTIPLE RUNS IN ONE TRENCH. LINEAR FOOTAGE SHOWN ON PLANS ARE FOR LENGTH OF TRENCH ONLY.

PAY ITEM NO. 632-7-1:
 THIS ITEM SHALL INCLUDE ALL LABOR AND WIRE NECESSARY FOR A COMPLETE INSTALLATION. THE COLOR CODE OF SIGNAL CABLE SHALL BE VERIFIED WITH THE INSPECTION TEAM PRIOR TO WIRING INTERSECTION. THERE SHALL BE NO SPLICES IN ANY SIGNAL CABLE AT ANY POINT BETWEEN THE CONTROLLER CABINET AND SIGNAL HEADS. NUMBER OF SPARE CONDUCTORS SHALL BE IN ACCORDANCE WITH SECTION 632 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2019.

PAY ITEM NO. 633-2-31, 633-2-32 & 633-3-12:
 CORKSCREW ROAD AND BEN HILL GRIFFIN PARKWAY: SHALL HAVE 300 TERMINATIONS (96 EAST, 96 WEST, AND 96 NORTH, 12 DROP) IN FIBER SPLICE CABINET, AND 12 TERMINATIONS IN TRAFFIC SIGNAL CABINET FOR 12 DROP. CORKSCREW ROAD AND STONEYBROOK GOLF DRIVE, AND CORKSCREW ROAD AND BELLA TERRA BOULEVARD: SHALL HAVE 12 SPLICES (6-IN AND 6-OUT) IN SPLICE ENCLOSURE AND 12 TERMINATIONS IN TRAFFIC SIGNAL CABINET FOR 12 DROP. ALL FIBERS USED AND UNUSED, NEED TO BE TESTED BI-DIRECTIONAL. A DIGITAL COPY OF ALL FIBER OPTIC TEST RESULTS SHALL BE PROVIDED TO LEE COUNTY DOT TRAFFIC VIA LCDOTPROJECTS@LEEGOV.COM PRIOR TO FIELD INSPECTION

PAY ITEM NO. 635-2-11A, 635-2-13:
 PULL BOXES SHALL BE POLYMER CONCRETE CONSTRUCTION (QUAZITE), HAVE ANSI TIER RATING OF T22 AND DESIGN LOAD RATING OF 22,500 LBS, NO EXCEPTIONS WILL BE PERMITTED. MINIMUM PULL BOX SIZE SHALL BE AS FOLLOWS:

- I. TRAFFIC SIGNAL AND STREET LIGHTING 17" X 30" X 12" - PG1730BA12
- II. FIBER OPTIC CABLE MID RUNS 24" X 36" X 24" - PG2436BA30
- III. FIBER OPTIC CABLE SPLICE VAULT 30" X 60" X 36" - PG3060BA36

PULL BOX COVERS SHALL BE POLYMER CONCRETE CONSTRUCTION (QUAZITE), HAVE ANSI TIER RATING OF T22 AND DESIGN LOAD RATING OF 22,500 LBS, AND MARKED APPROPRIATELY, "TRAFFIC SIGNAL" OR "STREET LIGHTING", NO EXCEPTIONS WILL BE PERMITTED. COVER SIZES SHALL BE AS FOLLOWS:

- I. 17" X 30" COVER - "TRAFFIC SIGNAL" - PG1730HH0046, "STREET LIGHTING" - PG1730HH0041
- II. 24" X 36" COVER - "TRAFFIC SIGNAL" - PG2436HH0046
- III. 30" X 60" COVER 2 PIECE - "TRAFFIC SIGNAL" - PG3060HH0046

PULL BOXES SHALL BE SIZED TO ACCOMMODATE MAXIMUM NUMBER OF PIPES ALLOWED PER NEC AND TO COMPLY WITH CABLE MANUFACTURER'S BEND RADIUS. ALL PULL BOXES SHALL HAVE A CONCRETE APRON; THE APRON SHALL BE MINIMUM 1-FOOT WIDE X 6 INCHES DEEP. APRON SHALL BE LEVEL TO EXISTING GRADE AND HAVE A FINISHED EDGE AND SURFACE. COST TO INCLUDE THE REMOVAL OF EXISTING PULL BOXES AND COMPONENTS. COST SHALL INCLUDE REMOVAL OF EXISTING PULL BOXES.

PAY ITEM NO. 639-2-1:
 PAYMENT SHALL BE BASED UPON THE LENGTH OF COMPLETE WIRE RUN, ALL CONDUCTORS INCLUDED.

PAY ITEM NO. 646-1-60:
 COST TO INCLUDE COMPLETE REMOVAL OF EXISTING PEDESTRIAN SIGNALS INCLUDING FOUNDATION AND ASSOCIATED PULL BOXES.

PAY ITEM NO. 646-2-600:
 COST TO INCLUDE COMPLETE MAST ARM AND FOUNDATION REMOVAL.

PAY ITEM NO. 646-2-400:
 COST TO INCLUDE NEW FOUNDATION, RELOCATION OF EXISTING MAST ARM TO NEW FOUNDATION, AND COMPLETE REMOVAL OF OLD FOUNDATION.

PAY ITEM NO. 649-21-6, 649-21-10, 649-21-15, 649-21-20, 649-21-21 & 649-21-26:
 MAST ARM POLES SHALL INCLUDE FIVE (5) EACH TWO (2) INCH CONDUITS AND ONE (1) EACH 3/4 INCH CONDUIT AND CONDUITS SHALL BE PLUMBED AND CENTERED IN FOUNDATION.

PAY ITEM NO. 650-1-14, 650-1-16 & 650-1-19:
 TWELVE (12) INCH SIGNAL HEAD SECTIONS SHALL BE USED. PEDESTRIAN SIGNAL HEADS SHALL BE UNIFORM IN SIZE, APPEARANCE, AND FROM THE SAME MANUFACTURER. ALL SIGNAL INDICATIONS SHALL BE 15-YEAR "LED". COST

TO INCLUDE 1 SPARE LED FOR EACH OF THE U-TURN SIGNAL INDICATIONS FOR LEE COUNTY DOT.

PAY ITEM NO. 653-1-11:
 COUNT DOWN PEDESTRIAN SIGNALS SHALL BE USED. THESE SHALL BE SINGLE- SECTION, INTERNATIONAL SYMBOL HEADS & LED HEADS. ALL ATTACHING HARDWARE SHALL BE STAINLESS STEEL 304 OR 316. CONTRACTOR SHALL USE PELCO OR EQUAL BREAKAWAY BASES FOR PED POLES WITH LOCKING PED COLLAR AND GROUND LUG. USE FOUR (4) INCH ID ALUMINUM CONDUIT FOR PED POLES.

PAY ITEM NO. 660-4-11 & 660-4-12:
 VIDEO DETECTION SYSTEM SHALL BE ITERIS VANTAGE NEXT SYSTEM, SIDE STREETS WILL BE VANTAGE (CAMERA ONLY), MAIN STREET WILL BE VANTAGE VECTOR NEXT (CAMERA/RADAR). PROGRAMMING SHALL BE PROVIDED BY VENDOR/ MANUFACTURER AND LEE COUNTY DOT TRAFFIC MUST BE NOTIFIED PRIOR TO SENIOR TECH CAN BE ON SITE.

PAY ITEM NO. 665-1-12:
 PEDESTRIAN DETECTORS TO BE ACCESSIBLE AUDIBLE DETECTORS. ACCESSIBLE PEDESTRIAN DETECTION SHALL BE POLARA INS2 INAVIGATION 2-WIRE SYSTEM: CENTRAL CONTROL SYSTEM SHALL BE MODEL - POLARA ICCU-S2 (TS2 CONFIGURATION) PED BUTTON STATION SHALL BE MODEL - POLARA INS2 POLARA SHALL PROGRAM STREET NAMES, AND LEE COUNTY SHALL RECEIVE THE VOICE FILES DIGITALLY. STREET NAMES SHALL BE IN THE FORM OF THE FULL STREET NAME. CONTRACTOR SHALL BRING ICCU-S2 AND ALL INS2'S TO LEE COUNTY SIGNAL SHOP FOR PROGRAMMING AND SW UPGRADE IF NEEDED AND PROGRAM IP ADDRESS. LEE COUNTY WILL LABEL WHERE EACH INS2 GOES AFTER BEING PROGRAMMED. ADD ATTACHED CUT SHEET TO THE PLANS. FOR THE TWO-WAY PED AT CORKSCREW ROAD AND BELLA TERRA BOULEVARD, A POLARA INSPA4X2-B ADAPTER SHALL BE USED. FOR ANY FURTHER QUESTIONS, PLEASE CALL LEE COUNTY DOT TRAFFIC AT (239) 533-9500.

PAY ITEM NO. 682-1-133:
 PTZ SHALL BE AXIS Q6075-E. COST TO INCLUDE ALL ITEMS NECESSARY FOR A COMPLETE AND ACCEPTABLE INSTALLATION, INCLUDING ALL MOUNTING HARDWARE AND WIRING.

PAY ITEM NO. 684-1-1:
 FIBER SWITCH TO BE CISCO IE 2000 AND SHALL INCLUDE POWER SUPPLY AND OPTICS (SFP)

PAY ITEM NO. 660-6-121, 660-6-122:
 PAY ITEM SHALL BE BLUETOOTH SPECTRA

PAY ITEM NO. 670-5-110:
 CABINET SHALL BE ECONOLITE NEMA TS2-TYPE 1 CABINET AND SHALL BE TYPE VII SIZE. CONTROLLER SHALL BE ECONOLITE COBALT RM (TS2 CONFIGURATION)

PAY ITEM NO. 676-2-134:
 FIBER SPLICE CABINET SHALL NOT BE PLACED IN DRAINAGE SLOPES, SWALES, OR WHERE SHEET WATER CAN INTRUDE. FIBER SPLICE CABINET BASE SHALL BE A POLYMER CONCRETE CONSTRUCTION (QUAZITE) AND SHALL BE 40"X58"X24" WITH A 12"X24" THROAT OPENING. QUAZITE P/N: PB40581224B24, APPROVED FOR LEE COUNTY. THE CABINET BASE SHALL BE BURIED TO MANUFACTURER'S RECOMMENDED DEPTH AND THE ELEVATION OF CABINET BASE SHALL BE AT THE SAME ELEVATION AS THE CENTER OF ROADWAY, BUT NO HIGHER THAN TWELVE (12) INCHES ABOVE THE CENTER OF ROADWAY. INSTALL TWELVE (12) INCH MINIMUM BED OF ROCK UNDER CABINET BASE AND FILL INSIDE OF CABINET BASE WITH SIX (6) INCHES OF ROCK. ROCK SHALL BE 57 STONE (3/4" CLEAR) OR EQUIVALENT. CABINET WORK PAD SHALL BE POURED IN PLACE ON BOTH SIDES OF THE FIBER CABINET ACCESS SIDE OF BASE. IT SHALL BE THE LENGTH OF THE BASE AND A MINIMUM THIRTY-SIX (36) INCHES WIDE AND FOUR (4) INCHES THICK WITH A FINISHED EDGE AND SURFACE. A COMPOSITE OR PRECAST PAD IS NOT ACCEPTABLE. FIBER SPLICE CABINET SHALL BE A TYPE 332/334 - 170 UNWIRED CABINET - TRANSPORTATION CONTROL SYSTEMS - TYPE 332/334 - 170 UNWIRED CABINET WITH RACK AND FRONT AND REAR DOOR (PART # F672430B2D2R). INSTALL FOUR - 1-1/4" HDPE CONTINUOUS CONDUIT (1 - GREEN, 1 - BLUE, 1 - ORANGE, 1 - YELLOW) FOR FOC FROM SPLICE VAULT PULL BOX TO FIBER SPLICE CABINET. INSTALL FOUR - 1-1/4" HDPE CONTINUOUS CONDUIT (1 - GREEN, 1 - BLUE, 1 - ORANGE, 1 - YELLOW) FOR FOC FROM SPLICE VAULT PULL BOX TO TRAFFIC SIGNAL CABINET. INSTALL TWO (2) INCH CONDUIT FROM FIBER SPLICE CABINET TO THE TRAFFIC SIGNAL ELECTRIC SERVICE. INSTALL #10 AWG (THHN/THWN-2) BLACK, WHITE, AND GREEN FROM TRAFFIC SIGNAL ELECTRIC SERVICE TO FIBER SPLICE CABINET. FIBER SPLICE CABINET TO BE PLACED NEXT TO THE FIBER SPLICE VAULT.

PAY ITEM NO. 685-1-13:
 UPS SHALL BE MYERS POWERBACK MP2000-ITS WITH ETHERNET

REVISIONS				 LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			SHEET NO. PAY ITEM NOTES T-6
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
					CR 850	LEE	20192030-000	

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

PAY ITEM FOOTNOTES (CONTD.):

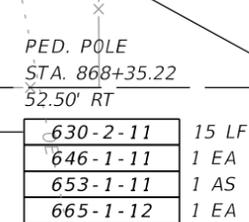
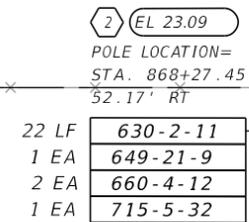
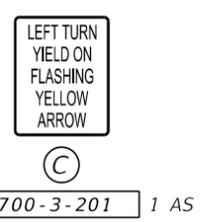
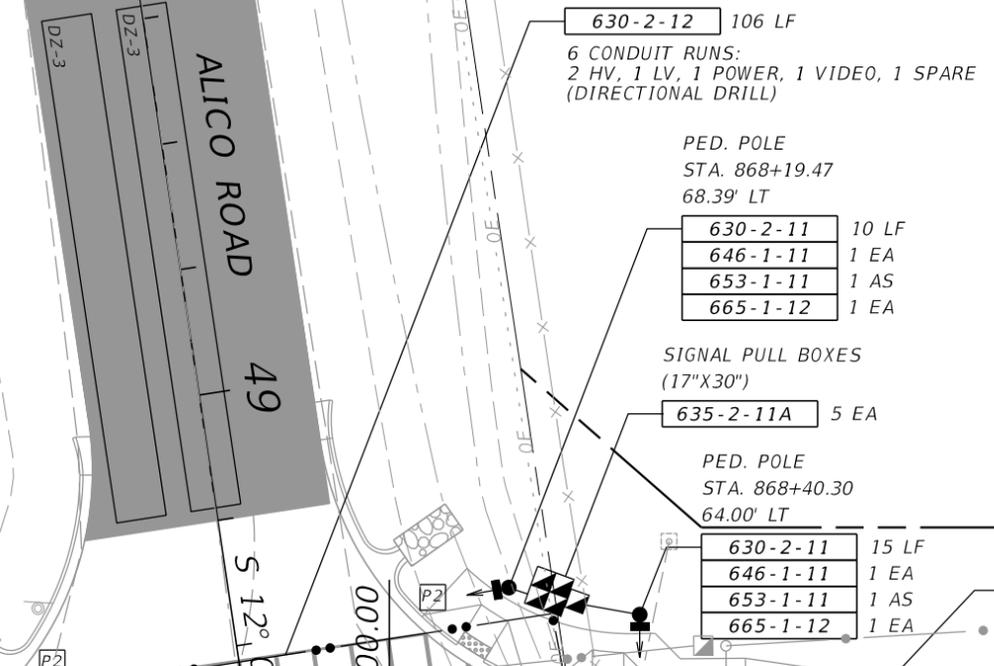
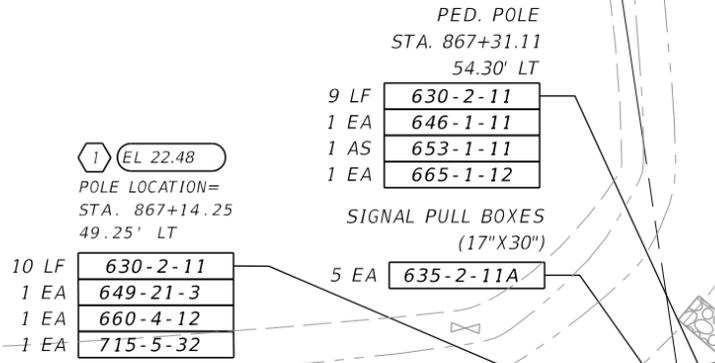
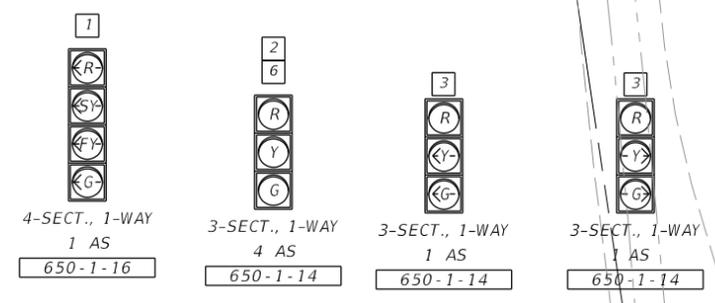
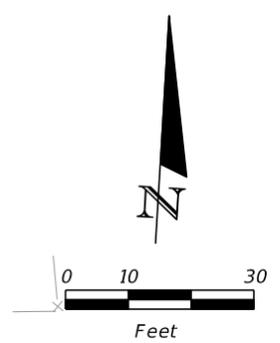
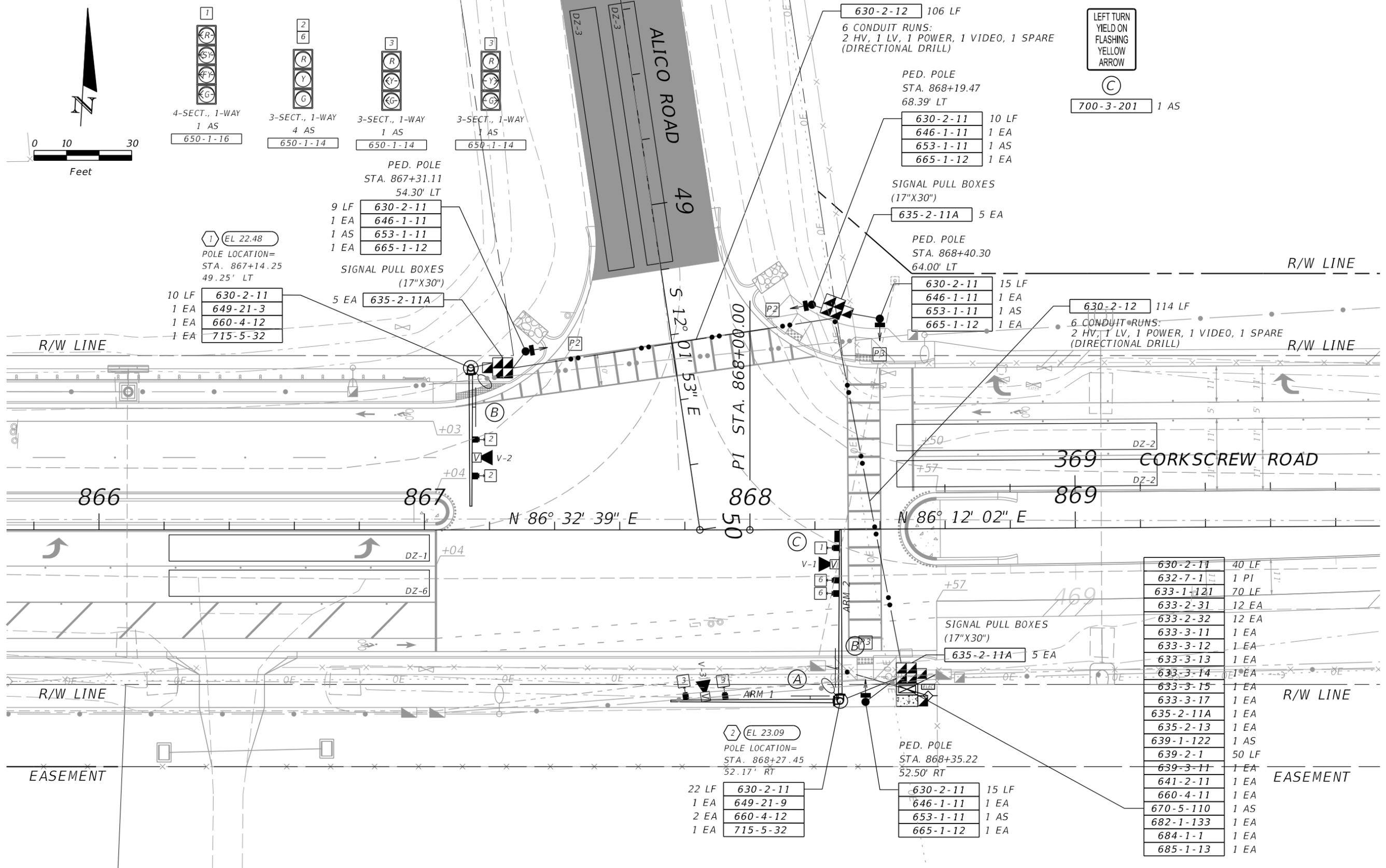
PAY ITEM NO. 700-3-201, 700-3-202:
 STATIC SIGNS SHALL HAVE DIAMOND GRADE TYPE XI

PAY ITEM NO. 700-11-391:
 ELECTRONIC BLANK OUT SIGN SHALL BE TRANSPORTATION CONTROL SYSTEMS LED BLANK OUT SIGN. EACH SINGLE MESSAGE OR DUAL MESSAGE BLANK OUT SIGN SHALL HAVE A MINIMUM SEVEN (7) CONDUCTOR #14 AWG STRANDED SIGNAL CABLE AND MEET IMSA 19-1 SPECIFICATIONS INSTALLED CONTINUOUS FROM CONTROLLER CABINET TO BLANK OUT SIGN TERMINATION BLOCK, NO SPLICING ALLOWED. CONTACT LEE COUNTY DOT TRAFFIC FOR WIRE COLOR CODE AND CABINET HOOK UP ASSISTANCE OF BLANK OUT SIGNS.

PAY ITEM NO. 715-5-32:
 LUMINAIRE SHALL BE HOLOPHANE MONGOOSE MEDIUM P7 (MGLEDMP740KMVOLTFTVHGRSDAO)

REVISIONS				 LEAH M. HOLMES • P.E. LICENSE NO. 85359 JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET • FORT MYERS, FL 33901 CERTIFICATE OF AUTHORIZATION NO. 642	LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			PAY ITEM NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID		T-7
					CR 850	LEE	20192030-000		

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



630-2-11	40 LF
632-7-1	1 PI
633-1-121	70 LF
633-2-31	12 EA
633-2-32	12 EA
633-3-11	1 EA
633-3-12	1 EA
633-3-13	1 EA
633-3-14	1 EA
633-3-15	1 EA
633-3-17	1 EA
635-2-11A	1 EA
635-2-13	1 EA
639-1-122	1 AS
639-2-1	50 LF
639-3-11	1 EA
641-2-11	1 EA
660-4-11	1 EA
670-5-110	1 AS
682-1-133	1 EA
684-1-1	1 EA
685-1-13	1 EA

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
 LEAH M. HOLMES • P.E. LICENSE NO. 85359
 JOHNSON ENGINEERING, INC.
 2122 JOHNSON STREET • FORT MYERS, FL 33901
 CERTIFICATE OF AUTHORIZATION NO. 642

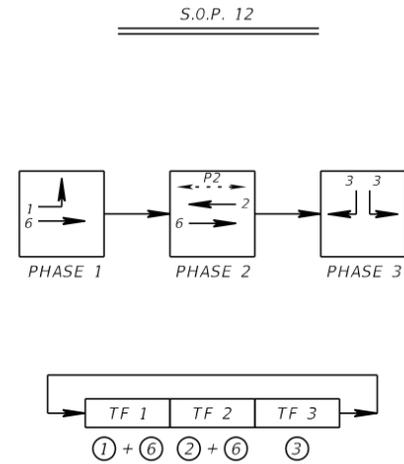
LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	JEI PROJECT ID
CR 850	LEE	20192030-000

**CORKSCREW ROAD AT
ALICO ROAD
SIGNALIZATION PLAN**

SHEET NO.
T-8

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

VIDEO DETECTION			
CAMERA DETECTOR	DETECTION ZONE	TIMING FUNCTION CONNECTION	DELAY TIME (SEC)
V-1	DZ-1	TF-1	
	DZ-6	TF-6	
V-2	DZ-2	TF-2	
V-3	DZ-3	TF-3	



CONTROLLER OPERATION

MAJOR STREET IS CORKSCREW ROAD
MINOR STREET IS ALICO ROAD

CONTROLLER TO OPERATE AS INDICATED IN THE FLASH MODE:
CORKSCREW ROAD (2 & 6) SHALL FLASH YELLOW
ALICO ROAD (8) SHALL FLASH RED
CORKSCREW ROAD POSTED SPEED = 45 MPH
ALICO ROAD SPEED = 55 MPH

CONTROLLER TIMINGS (SECONDS)								
MOVEMENT #	1	2	3	4	5	6	7	8
DIRECTION	EBL	WB	SBL			EB		SB
TURN TYPE	PROT/PERM	-	PROT			-		-
MIN GREEN								
EXT								
YELLOW								
ALL RED								
MAX I								
MAX II								
WALK								
FLASHING DON'T WALK								
DETECTOR MEMORY								
DET. CROSS SWITCH								
DUAL ENTRY								
VEHICLE RECALL								

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
LEAH M. HOLMES • P.E. LICENSE NO. 85359
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET • FORT MYERS, FL 33901
CERTIFICATE OF AUTHORIZATION NO. 642

LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	JEI PROJECT ID
CR 850	LEE	20192030-000

**CORKSCREW ROAD AT
ALICO ROAD
SIGNAL OPERATIONS**

SHEET NO.	T-10
-----------	------

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

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.)	

* POLE#/SHEET#

NOTES [Notes Date 11-01-16]:

1. 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.
2. 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.
3. Arm mounting height UB must be between 18-22 feet.
4. 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.
5. 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.
6. Work with Index 649-030 and 649-031.
7. Temporary casing may be required to install the drilled shaft foundations.
8. Drilled shaft concrete mix shall include the use of fly ash used in accordance with FDOT Specifications.

REVISIONS				LEE COUNTY PUBLIC WORKS DEPARTMENT OF TRANSPORTATION			STANDARD MAST ARM ASSEMBLIES DATA TABLES	SHEET NO. T-12
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	JEI PROJECT NO.		
				CR 850	LEE	20192030-000		

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