

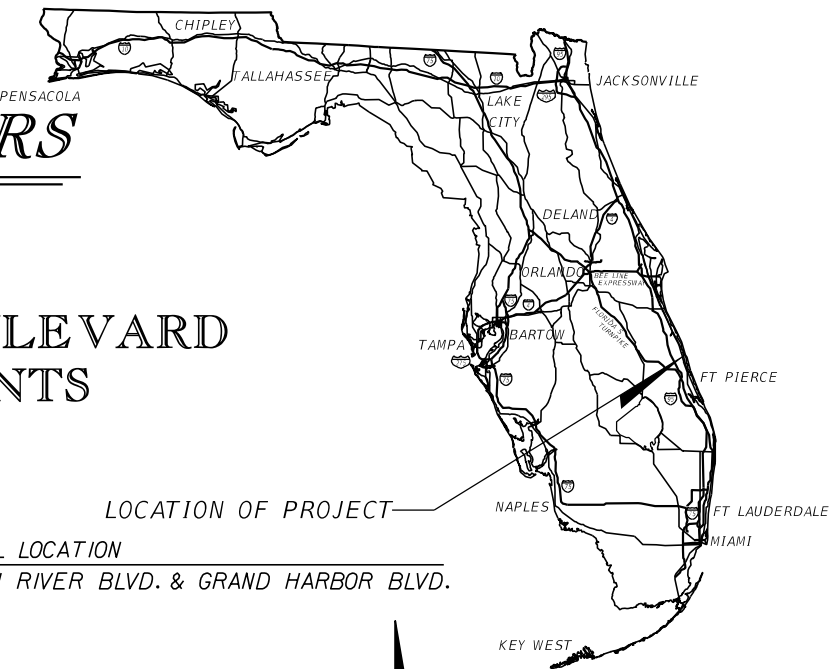
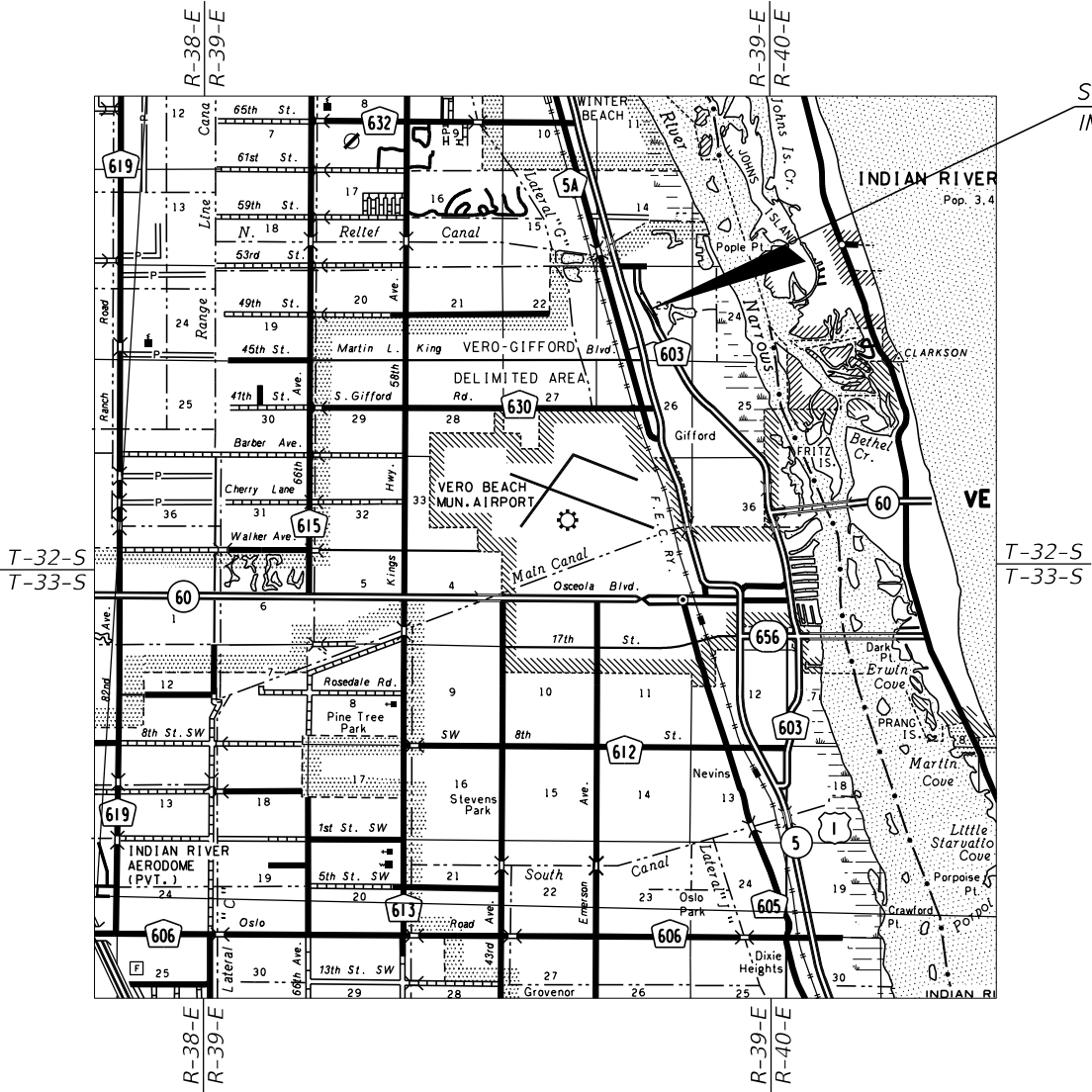
INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

CONTRACT PLANS

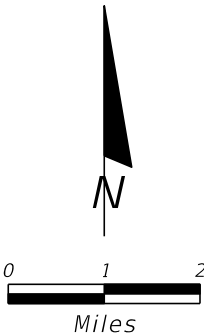
INDIAN RIVER BOULEVARD & GRAND HARBOR BOULEVARD
INTERSECTION SIGNALIZATION IMPROVEMENTS
IRC PROJECT No. 1806

INDEX OF ROADWAY PLANS

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LOCATION OF PROJECT
INDIAN RIVER BLVD. & GRAND HARBOR BLVD.



PLANS PREPARED BY:
Kimley»Horn
445 24TH STREET, SUITE 200
VERO BEACH, FL 32960
(772) 794-4100
PROJECT NUMBER: 047035085
CERTIFICATE OF AUTHORIZATION: 00000696

GOVERNING STANDARDS AND SPECIFICATION
FLORIDA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS FY 2017-18
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED JANUARY 2017.
AS AMENDED BY CONTRACT DOCUMENTS.

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

100% PLAN
SUBMITTAL
MARCH 2019

BID SET

PREPARED FOR



DEPARTMENT OF PUBLIC WORKS
RICHARD B. SZPYRKA P.E., DIRECTOR

ROADWAY PLANS
ENGINEER OF RECORD: BRIAN GOOD

P.E. NO.: 56939

SHEET
NO.

1

GENERAL NOTES

- 1) GOVERNING SPECIFICATIONS: FLORIDA DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" DATED JANUARY 2017 AND INDIAN RIVER COUNTY STANDARD SPECIFICATIONS.
- 2) CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION FY 2017-18 "DESIGN STANDARDS."
- 3) ALL STATIONS AND OFFSETS ARE REFERENCED TO BASELINE OF CONSTRUCTION.
- 4) THE FINISHED ROADWAY SECTION SHALL BE SMOOTH AND SET TO DRAIN.
- 5) ANY MAILBOX WITHIN THE LIMITS OF CONSTRUCTION IS TO BE TAKEN DOWN AND RESET IN ACCORDANCE WITH POSTAL REQUIREMENTS BY THE CONTRACTOR.
- 6) THE EXACT LOCATIONS OF PROPOSED SWALES, BACK SLOPE LINES AND LIMITS OF CONSTRUCTION WILL BE IN ACCORDANCE WITH THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 7) ALL EXISTING DRAINAGE STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE NOTED. ALL DRAINAGE GRATES ARE TO BE CAST IRON, UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL SUBMIT TO THE COUNTY A VIDEO RECORDING OF THE NEWLY INSTALLED CULVERTS AS PER SPECIFICATION 430-4.8 PIPE INSPECTIONS. THE CONTRACTOR SHALL DEWATER INSTALLED PIPE, REMOVE ALL SILT, DEBRI, ETC. AND SCHEDULE VISUAL INSPECTION TO BE PERFORMED BY THE COUNTY.
- 8) ALL DISTURBED R/W SHALL BE SODDED WITHIN THREE DAYS OF FINAL GRADING.
- 9) THE CONTRACTOR WILL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN THAT NOW EXISTING.
- 10) ITEMS IN CONFLICT WITH CONSTRUCTION SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND BASE AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT THE CONTRACTOR'S EXPENSE UNLESS THE ITEMS ARE SPECIFIED TO BE REUSED ON THE PROJECT.
- EXISTING TREES WITHIN THE PROJECT LIMITS ARE INTENDED TO REMAIN, UNLESS THEY ARE IN DIRECT CONFLICT WITH THE PROPOSED IMPROVEMENTS OR INDICATED TO BE REMOVED. CONTRACTOR SHALL TAKE DUE CARE AS TO PROTECT EXISTING TREES WITHIN THE PROJECT LIMITS THAT ARE NOT IN DIRECT CONFLICT WITH THE IMPROVEMENTS. THE CONTRACTOR SHALL REMOVE ALL EXOTIC VEGETATION LOCATED WITHIN THE PROJECT LIMITS WITHIN PUBLIC RIGHT OF WAY. COST OF TREE PRESERVATION AND EXOTIC VEGETATION REMOVAL SHALL BE INCLUDED WITHIN PAY ITEM 110-1-1.
- 11) DRIVEWAYS THAT ARE DISTURBED ARE TO BE RECONSTRUCTED TO THEIR ORIGINAL OR BETTER CONDITION, UNLESS OTHERWISE STATED ON PLANS.
- 12) STAGING AND MATERIAL STORAGE SHALL NOT BE CONDUCTED ON ABUTTING PRIVATE PROPERTY WITHOUT APPROVAL FROM THE OWNER.
- 13) TURNOUTS (DRIVEWAYS) TO BE CONSTRUCTED AS PER FDOT INDEX 515.
- 14) SIDEWALK JOINTS TO BE INSTALLED PER DETAILS ON FDOT INDEX 310 FOR ALL SIDEWALKS. ALL JOINTS SHALL BE SAWCUT AS PER FDOT STANDARDS.
- 15) DETECTABLE WARNING SURFACES SHALL CONSIST OF CAST-IN-PLACE COMPOSITE TACTILE UNITS MANUFACTURED BY ADA SOLUTIONS, INC. (1-800-372-0519) OR APPROVED EQUIVALENT. DETECTABLE WARNING SURFACES SHALL EXTEND TWO FEET FROM BACK OF CURB AND SPAN THE ENTIRE RAMP RUN WIDTH. DETECTABLE WARNING SURFACE COLOR SHALL BE "FEDERAL YELLOW."
- 16) NO EXISTING BASE MATERIAL REMOVED IN EXCAVATION SHALL BE REUSED AS PROPOSED BASE MATERIAL.
- 17) VIBRATORY COMPACTION METHODS, EXCLUDING WALK-BEHIND MACHINERY, WILL NOT BE ALLOWED ON THIS PROJECT. ALL COMPACTION SHALL BE ACCOMPLISHED VIA STATIC METHODS.

ABBREVIATIONS:

ADJ.	ADJUST	AH	AHEAD
BK	BACK	C&G	CURB & GUTTER
CONC.	CONCRETE	CONST.	CONSTRUCT
DIR.	DIRECTIONAL	ESMT.	EASEMENT
EOP	EDGE OF PAVEMENT	EXIST.	EXISTING
LT	LEFT	PC	POINT OF CURVATURE
PT	POINT OF TANGENCY	PAVT.	PAVEMENT
PGL	PROFILE GRADE LINE	PROP.	PROPOSED
RT	RIGHT	R/R	RAIL ROAD
R/W	RIGHT OF WAY	SHLDR.	SHOULDER
SWK.	SIDEWALK	TRANS.	TRANSITION
TYP.	TYPICAL	VAR.	VARIES
X-SLOPE	CROSS-SLOPE		

REVISIONS						<div>Kimley»Horn</div> <div>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 CERTIFICATE OF AUTHORIZATION: 00000696</div>	<div>INDIAN RIVER COUNTY</div> <div>BORDER OF COUNTY COMMISSIONERS</div> <div>INDIAN RIVER BOULEVARD &</div> <div>GRAND HARBOR SIGNALIZATION</div>	GENERAL NOTES	SHEET NO.
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UTILITY NOTES

- 18) CONTRACTOR SHALL ADJUST ALL UTILITY LIDS AND COVERS TO FINISHED GRADE AS REQUIRED.
- 19) THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES, UNDERGROUND UTILITIES, OR NEAR CANAL BANKS.
- 20) EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
- 21) THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION AND ALL NON-PREDETERMINED UTILITY RELOCATIONS TO BE COORDINATED WITH UTILITY OWNERS.
- 22) THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR TWO (2) BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT COMPANY REPRESENTATIVE CAN BE PRESENT.
- 23) PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 556, UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY.
- 24) THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
- 25) THE CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) FOR FIELD LOCATIONS THREE (3) BUSINESS DAYS BEFORE DIGGING NEAR UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT ANY UTILITY OWNER(S) THAT MAY NOT BE A "SUNSHINE" MEMBER.

26) KNOWN UTILITIES:

<u>COMPANY</u>	<u>FACILITIES</u>	<u>CONTACT</u>	<u>TELEPHONE #</u>
AT&T	TELEPHONE	LUKE FOLKERTS	(407) 496-6041
COMCAST CABLE	CATV & FIBER	TONY SPRINGSTEEL	(561) 804-0973
CITY GAS COMPANY OF FLORIDA	GAS	RON MULLER	(321) 288-1142
FLORIDA POWER & LIGHT	ELECTRIC	ROB MORRIS TRICIA D'ANNUNZIO	(772) 223-4215 (561) 904-3560
INDIAN RIVER COUNTY PUBLIC WORKS	SIGNALIZATION	JOHN ANKENY	(772) 226-1563
INDIAN RIVER COUNTY UTILITIES	WATER & SEWER	ARJUNA WERAGODA JESSE ROLAND	(772) 226-1821 (772) 226-1636

- 27) INDIAN RIVER COUNTY TRAFFIC ENGINEERING HAS UNDERGROUND CONDUIT FOR TRAFFIC SIGNAL INTERCONNECTIONS IN THIS AREA AS WELL AS OTHER TRAFFIC SIGNAL EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT SUNSHINE STATE ONE CALL SYSTEM AT 1-800-432-4770 FOR LOCATIONS OF THIS EQUIPMENT AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION.

SURVEY NOTES

- 28) B.M. DATA IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD -'88).
- 29) ANY GEODETIC MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, NOTIFY:
- GEODETIC INFORMATION CENTER
ATTN: MARK MAINTENANCE SECTION N/CG-162
6001 EXECUTIVE BLVD.
ROCKVILLE, MARYLAND 20852
TELEPHONE NO. (301) 443-8319
- 30) EXISTING SECTION CORNERS AND ¼ SECTION CORNERS, AND OTHER LAND MARKERS OR MONUMENTS LOCATED WITHIN PROPOSED CONSTRUCTION ARE TO BE REFERENCED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND RESET AFTER CONSTRUCTION USING A REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA.

MAINTENANCE OF TRAFFIC NOTES

- 31) THE MAINTENANCE OF TRAFFIC FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE FDOT INDEX NUMBERS (600 SERIES) AND THESE DOCUMENTS; THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (U.S. DEPARTMENT OF TRANSPORTATION, FHWA), SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AND PROTECTED AT ALL TIMES.
- 32) ANY TEMPORARY LANE CLOSURES PROPOSED BY THE CONTRACTOR SHALL BE INITIATED NO EARLIER THAN 9:00 AM AND MUST BE REMOVED NO LATER THAN 4:00 PM.
- 33) CONTRACTOR SHALL SUBMIT SIGNED AND SEALED DETAILED MOT PLANS PREPARED BY A FLORIDA LICENSED ENGINEER TWO WEEKS PRIOR TO THE START OF CONSTRUCTION TO THE INDIAN RIVER COUNTY TRAFFIC DIVISION FOR APPROVAL.

REVISIONS						<div>Kimley»Horn</div> <div><small>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 CERTIFICATE OF AUTHORIZATION: 00000696</small></div>	<div>INDIAN RIVER COUNTY</div> <div>BORDER OF COUNTY COMMISSIONERS</div> <div>INDIAN RIVER BOULEVARD & GRAND HARBOR SIGNALIZATION</div>	<div>GENERAL NOTES</div>	SHEET NO.
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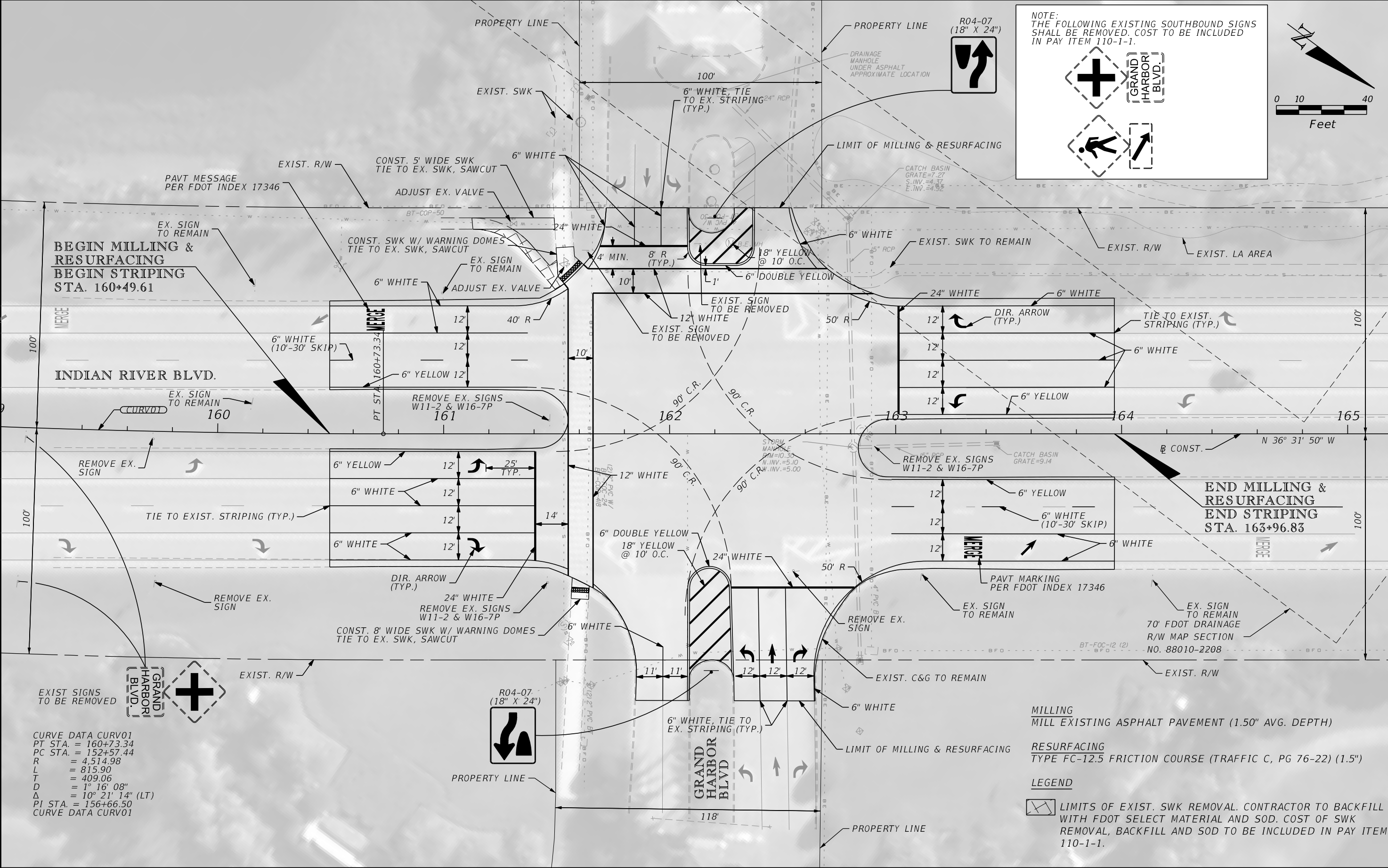
SUMMARY OF PAY ITEMS

PAY ITEM NO.	DESCRIPTION	UNIT	PROJECT QUANTITY
ROADWAY PAY ITEMS			
101-1	MOBILIZATION/ DEMOBILIZATION	LS	1
102-1	MAINTENANCE OF TRAFFIC	LS	1
104-2	PREVENTION, CONTROL & ABATEMENT OF EROSION AND WATER POLLUTION	LS	1
108-1	CONSTRUCTION LAYOUT/ RECORD DRAWINGS	LS	1
110-1-1	CLEARING & GRUBBING	LS	1
327-70-6	ASPHALT PAVEMENT MILLING (1.5")	SY	5,010
337-7-83	ASPHALT CONCRETE FRICTION COURSE (FC-12.5) (TR-C) (PG 76-22)	TN	420
425-6	VALVE BOX (ADJUST)	EA	2
522-2	CONCRETE SIDEWALK , 6" THICK	SY	46
527-2	DETECTABLE WARNINGS	SF	40
570-1-2A	PERFORMANCE TURF (SOD) (FLORATAM)	SY	900
700-1-11	SINGLE POST SIGN (FURNISH & INSTALL) (LESS THAN 12 SF)	AS	2
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	60
711-11-121	THERMOPLASTIC, STD, WHITE, SOLID, 6"	LF	1,516
711-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	LF	493
711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	LF	190
711-11-131	THERMOPLASTIC, STD, WHITE, SKIP (10'-30'), 6"	LF	188
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	2
711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	EA	8
711-11-221	THERMOPLASTIC, STD, YELLOW, SOLID 6"	LF	754
711-11-224	THERMOPLASTIC, STD, YELLOW, SOLID 18"	LF	177
SIGNALIZATION PAY ITEMS			
630-2-11	CONDUIT (SIGNAL) (F & I) (OPEN TRENCH)	LF	118
630-2-12	CONDUIT (SIGNAL) (F & I) (DIRECTIONAL BORE)	LF	515
632-7-1	CABLE (SIGNAL) (F & I)	PI	1
635-2-11	PULL BOX (F & I) (TRAFFIC SIGNAL)	EA	18
639-1-122	ELECTRICAL POWER SERVICE (F & I) (UNDERGROUND) (METER PURCHASED BY CONTRACTOR)	AS	1
639-2-1	ELECTRICAL SERVICE WIRE (F & I)	LF	80
639-3-11	ELECTRICAL SERVICE DISCONNECT (F & I) (POLE MOUNTED)	EA	1
641-2-12	PRESTRESSED CONC. POLE (F & I) (TYPE P-II SERVICE POLE)	EA	1
646-1-11	ALUMINUM SIGNALS POLE (PEDESTAL)	EA	4
649-21-6	STEEL MAST ARM ASSEMBLY (INSTALL) (CONTRACTOR TO PROVIDE FOUNDATION) (50' ARM)	EA	1
649-21-10	STEEL MAST ARM ASSEMBLY (INSTALL) (CONTRACTOR TO PROVIDE FOUNDATION) (60' ARM)	EA	1
649-21-15	STEEL MAST ARM ASSEMBLY (INSTALL) (CONTRACTOR TO PROVIDE FOUNDATION) (70' ARM)	EA	2
650-1-14	TRAFFIC SIGNAL (F & I) (3-SECTION) (1-WAY) (STANDARD) (ALUMINUM)	AS	10
653-1-11	PEDESTRIAN SIGNAL (F & I) (LED-COUNTDOWN) (1-WAY)	AS	4
660-4-11	VEHICLE DETECTION VIDEO (F&I) (CABINET EQUIPMENT)	EA	1
660-4-12	VEHICLE DETECTION VIDEO (F&I) (ABOVE GROUND EQUIPMENT)	EA	2
665-1-11	PEDESTRIAN DETECTOR (F & I) (POLE/PEDESTAL MOUNTED)	EA	4
670-5-111	TRAFFIC CONTROLLER ASSEMBLY (F & I) (NEMA) (TYPE 5) (ONE PREEMPTION PLAN)	AS	1
682-1-133	ITS CCTV CAMERA (DOME ENCLOSURE, PTZ) (NON-PRESSURIZED) (IP) (HD)	EA	1
684-1-1	MANAGED FIELD ETHERNET SWITCH (F & I)	EA	1
684-6-11	WIRELESS COMMUNICATION DEVICE (FURNISH ONLY) (ETHERNET ACCESS POINT)	EA	2
685-1-13	UNINTERRUPTIBLE POWER SUPPLY (F & I) (LINE INTERACTIVE WITH CABINET)	EA	1
700-5-22	INTERNALLY ILLUMINATED STREET NAME SIGN	EA	4
715-1-11	LIGHTING CONDUCTORS (F & I) (INSULATED) (No. 10 OR <)	LF	2,115
715-5-31	LUMINAIRE & BRACKET ARM (F & I)	EA	4

PAY ITEM FOOTNOTES

102-1	COST TO INCLUDE, BUT NOT LIMITED TO, FURNISHING, INSTALLING AND MAINTENANCE OF TRAFFIC CONTROL ITEMS.
110-1-1	COST TO INCLUDE, BUT NOT BE LIMITED TO, THE REMOVAL AND DELIVERY TO IRC PUBLIC WORKS OF EXIST OF SINGLE POST SIGNS AS INDICATED IN PLANS. ALL VOIDS LEFT FROM EXIST SIGN POSTS THAT ARE REMOVED FROM THE EXIST. PAVT SHALL BE BACKFILLED WITH FLOWABLE FILL. DELIVERY OF REMOVED SIGNS SHALL BE TO THE IRC PUBLIC WORKS YARD ON 41ST STREET. CONTRACTOR TO COORDINATE DELIVERY WITH IRC PROJECT MANAGER, KIRSTIN LEIENDECKER (772) 226-1327.
527-2	DETECTABLE WARNING SURFACE SHALL BE FEDERAL YELLOW IN COLOR.
630-2-1X	THESE PAY ITEMS SHALL INCLUDE INSTALLING THE SPECIFIED ADDITIONAL CONDUIT RUNS IN THE TRENCH OR BORE.
639-1-122 639-3-11	THESE PAY ITEMS SHALL BE IN COMPLIANCE WITH INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS FOR POWER SERVICE. SEE SHEET 8, SECTION A FOR DETAILS.
639-2-1	COST TO INCLUDE WIRE RUN TO NEW SERVICE CONNECTION, CONTRACTOR TO COORDINATE WITH CITY OF VERO BEACH T&D FOR LOCATION OF SERVICE CONNECTION.
649-21-XX	INDIAN RIVER COUNTY WILL PURCHASE AND DELIVER MAST ARM ASSEMBLIES TO THE PROJECT SITE. COST TO INCLUDE, BUT NOT BE LIMITED TO, THE CONSTRUCTION OF THE DRILLED SHAFT FOUNDATION, CSL TUBES, AND THE INSTALLATION OF THE MAST ARM ASSEMBLY. CONTRACTOR SHALL COORDINATE DELIVERY LOCATION WITH INDIAN RIVER COUNTY PROJECT MANAGER.
650-1-14 653-1-11 653-1-12	THESE PAY ITEMS SHALL BE IN COMPLIANCE WITH INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS FOR TRAFFIC SIGNAL HEADS. SEE SHEET 8, SECTION F FOR DETAILS.
646-1-11	THIS PAY ITEM SHALL BE AN ALUMINUM PEDESTAL MOUNTED ON A TRANSFORMER BASE AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS NECESSARY FOR A COMPLETE AND ACCEPTED INSTALLATION.
660-4-12	THIS PAY ITEM SHALL BE IN COMPLIANCE WITH INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS FOR VIDEO DETECTORS. SEE SHEET 8, SECTION G FOR DETAILS.
665-11	THIS PAY ITEM SHALL INCLUDE AN FTP-68B-06 PEDESTRIAN SIGN.
684-6-11	WIRELESS COMMUNICATION DEVICE SHALL BE AN UBIQUITI NANOSTATION 5 LOCO. COST TO CONSIST OF FURNISHING WIRELESS COMMUNICATION DEVICE TO INDIAN RIVER COUNTY TRAFFIC ENGINEERING, (772) 226-1547.
670-5-111	THIS PAY ITEM SHALL BE A TRAFFIC CONTROLLER ASSEMBLY IN COMPLIANCE WITH INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS FOR TRAFFIC SIGNAL CONTROLLERS. SEE SHEET 8, SECTION B FOR DETAILS.
700-5-22	THIS PAY ITEM SHALL BE AN INTERNALLY ILLUMINATED SIGN IN COMPLIANCE WITH INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS FOR INTERNALLY ILLUMINATED SIGNS MOUNTED ON MAST ARMS. SEE SHEET 8, SECTION D FOR DETAILS. THIS PAY ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS INCLUDING MOUNTING BRACKETS AND WIRING) NECESSARY FOR A COMPLETE AND ACCEPTED INSTALLATION.
706-3	COST TO INCLUDE, BUT NOT LIMITED TO, REPLACEMENT OF ALL REMOVED AND/OR DAMAGED EXISTING UTILITY LOCATION RPMS PER INDIAN RIVER COUNTY UTILITY DETAILS.
715-1-11	THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SIZING CONDUCTORS.
715-5-31	THIS PAY ITEM SHALL CONSIST OF AN LED LUMINAIRE.

REVISIONS						<div>Kimley»Horn</div> <div>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 CERTIFICATE OF AUTHORIZATION: 00000696</div>	INDIAN RIVER COUNTY BORDER OF COUNTY COMMISSIONERS INDIAN RIVER BOULEVARD & GRAND HARBOR SIGNALIZATION		SUMMARY OF PAY ITEMS	SHEET NO.
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INDIAN RIVER COUNTY - TRAFFIC SIGNAL GENERAL NOTES

- 1) ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD); FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (STANDARD SPECIFICATIONS) 2016; FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS (STANDARD INDEXES) 2016), ALL SUPPLEMENTS THERETO; NATIONAL ELECTRIC CODE; INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS; AND ANY OR ALL INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION REQUIREMENTS.
- 2) THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNAL AND RELATED COMMUNICATIONS EQUIPMENT IS INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION (IRCTED)(772) 226-1547. ALL TRAFFIC SIGNAL AND RELATED COMMUNICATIONS EQUIPMENT WHEN USING PAY ITEM SERIES: 632, 634, 635, 660, 670, 684 AND 685 FOR THIS CONTRACT SHALL BE COMPATIBLE WITH IRCTED'S CENTRAL COMPUTER NETWORK SYSTEM. PRIOR TO ANY PURCHASING OF THE ABOVE PRODUCTS, ENSURE THEY HAVE BEEN APPROVED FOR SYSTEM COMPATIBILITY BY THE MAINTAINING AGENCY.
- 3) IRCTED SHALL BE NOTIFIED AT (772) 226-1547 AT LEAST TWO (2) FULL BUSINESS DAYS PRIOR TO ANY WORK BEING PERFORMED AT A SIGNALIZED LOCATION IN ORDER TO PROPERLY TRANSFER MAINTENANCE RESPONSIBILITIES.
- 4) THE CONTRACTOR SHALL DELIVER ALL REMOVED TRAFFIC SIGNAL EQUIPMENT, EXCEPT CONCRETE STRAIN POLES, TO IRCTED 41ST LOCATED AT 4548 STREET, VERO BEACH, FL 32967 (772) 226-3460. THE COST OF DELIVERY TO IRCTED SHALL BE INCLUDED IN THE REMOVAL OF THE RELATED SIGNAL PAY ITEM. THE CONTRACTOR SHALL CONTACT THE IRCTED SEVEN (7) FULL BUSINESS DAYS PRIOR TO THE DELIVERY OF ANY REMOVED EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR CONCRETE STRAIN POLE DISPOSAL AT THE CONTRACTOR'S EXPENSE.
- 5) THE CONTRACTOR SHALL BE ADVISED THAT OTHER PROJECTS MAY BE UNDER CONSTRUCTION CONCURRENTLY WITH THIS PROJECT AND THAT COORDINATION EFFORTS MAY BE NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE CONSTRUCTION SCHEDULE AND FOR THE AMOUNT OF COORDINATION REQUIRED. THE COST SHALL BE INCLUDED IN THE BID.
- 6) LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND OTHER FEATURES AFFECTING HIS/HER WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER RELATED WORK ACTIVITY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- 7) THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE-CALL AT 1-800-432-4770 FOR LOCATIONS OF UTILITIES WITHIN THE AREA(S) OF CONSTRUCTION FOR THIS PROJECT A MINIMUM OF TWO (2) FULL BUSINESS DAYS PRIOR TO ANY DIGGING OR EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT ANY UTILITY OWNER(S) THAT MY NOT BE A "SUNSHINE" MEMBER.
- 8) EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND PROTECTION, REPAIR AND/OR REPLACMENT OF ALL UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT. EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ANY REQUIRED UTILITY RELOCATIONS.
- 9) THE CONTRACTOR SHALL NOTIFY ALL INVOLVED UTILITIES TWO (2) FULL BUSINESS DAYS IN ADVANCE, BEFORE SETTING TRAFFIC SIGNAL POLES OR PERFORMING ANY DIGGING OR OTHER EXCAVATION WORK, SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR. KNOWN UTILITY COMPANIES INCLUDE:

<u>COMPANY</u>	<u>FACILITIES</u>	<u>CONTACT</u>	<u>TELEPHONE #</u>
AT&T	TELEPHONE	LUKE FOLKERTS	(407) 496-6041
COMCAST CABLE	CATV & FIBER	TONY SPRINGSTEEL	(561) 804-0973
CITY GAS COMPANY OF FLORIDA	GAS	RON MULLER	(321) 288-1142
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INDIAN RIVER COUNTY PUBLIC WORKS	SIGNALIZATION	JOHN ANKENY	(772) 226-1563
INDIAN RIVER COUNTY UTILITIES	WATER & SEWER	ARJUNA WERAGODA JESSE ROLAND	(772) 226-1821 (772) 226-1636

- 10) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE COMPANY PROVIDING ELECTRICAL POWER TO DETERMINE IF A SERVICE PROCESSING FEE IS REQUIRED. IF REQUIRED, FEE SHALL BE REFLECTED IN THE CONTRACTOR'S BID UNIT PRICE FOR ELECTRICAL POWER SERVICE ASSEMBLY.
- 11) THE CONTRACTOR SHALL COORDINATE AND FIELD VERIFY LOCATION(S) OF THE ELECTRIC SERVICE POINT PRIOR TO INSTALLING CONDUIT, DISCONNECT SWITCH, AND PULL BOXES.
- 12) (IF APPLICABLE) IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE FDOT SPECIFICATIONS.
- 13) THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH THE APPLICABLE GUIDELINES SET FORTH IN FDOT DESIGN STANDARD INDEXES 600 THROUGH 660; THE MUTCD; AND SECTION 102 OF THE STANDARD SPECIFICATIONS.
- 14) THE CONSTACTOR SHALL MAKE ALL VIDEO DETECTORS INSTALLED AS PART OF THE PROJECT FULLY OPERATIONAL IN ACCORDANCE WITH THEIR ASSOCIATED ISOLATED INTERSECTION SIGNAL TIMING CHART PRIOR TO THE ACTIVATION OF THE SIGNAL.
- 15) THE CONTRACTOR SHALL VERIFY ALL SIGNAL POLE ELEVATIONS AND LOCATIONS INCLUDING POSSIBLE UTILITY CONFLICTS PRIOR TO PROCURMENT. THE CONTRACTOR SHALL VERIFY THAT ALL SIGNAL POLE ELEVATIONS WILL MEET MUTCD, FDOT AND INDIAN RIVER COUNTY REQUIREMENTS FOR LOW POINT OF CLEARANCE. ALL SIGNAL ASSEMBLIES SHALL HAVE A VERTICAL CLEARANCE OF 17.5 FEET MINIMUM AND 19 FEET MAXIMUM FROM THE BOTTOM OF THE ASSEMBLY TO THE ROAD.
- 16) UNDER NO CIRCUMSTANCES SHALL ENERGIZED CABLE BE PLACED IN THE SAME CONDUIT OR PULL BOX AS VIDEO DETECTION CABLE.
- 17) ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT LEGIBLE, WEATHERPROOF TAGS THAT ARE SECURELY ATTACHED TO EACH CABLE. THE TAGGING SYSTEM PROPOSED SHALL BE SUBMITTED FOR APPROVAL WITH THE OTHER EQUIPMENT SUBMITTALS REQUIRED FOR THIS PROJECT.
- 18) THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION UNLESS SPECIFIED OTHERWISE.
- 19) TRAFFIC SIGNAL ACCEPTANCE TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
- 20) THERE WILL BE A 90 DAY WARRANTY PERIOD SUBJECT TO THE REQUIREMENTS CONTAINED IN ARTICLE (SECTIONS 611-5 THROUGH 611-7.3) "CONTRACTOR'S WARRANTY PERIOD FOR SIGNAL INSTALLATIONS" AS FOUND IN FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2016.
- 21) THE CONTRACTOR SHALL PROVIDE FOUR COPIES OF MARKED-UP (AS-BUILT) CONSTRUCTION PLANS, AND ONE CAD FILE OF SUCH, COPY OF SHOP DRAWING AND A COPY OF MAST ARM SPECIFICATION AND ANY/ALL APPROVED SHOP DRAWINGS AT THE TIME OF SIGNAL CONDITIONAL ACCEPTANCE INSPECTION BY THE MAINTAINING AGENCY.
- 22) ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH SECTION 603 OF THE STANDARD SPECIFICATIONS:
- BRIAN A. GOOD, P.E.
445 24TH STREET, SUITE 200
VERO BEACH, FL 32960
(772) 794-4100
- 23) THE CONTRACTOR SHALL SUBMIT IN WRITING A REQUEST FOR SIGNAL INSPECTION TO THE MAINTAINING AGENCY. (ALLOW TWO (2) WEEKS FOR SIGNAL INSPECTION).
- 24) THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FOUR (4) PORTABLE CHANGEABLE (VARIABLE) MESSAGE SIGNS (PCMS) FOR A PERIOD OF TWO WEEKS. THE PCMS WILL BE LOCATED AT AN APPROPRIATE DISTANCE IN ADVANCE OF THE APPROACHES TO THE NEW SIGNALIZED INTERSECTION AS SPECIFIED BY THE MAINTAINING AGENCY'S ENGINEER. THE PCMS WILL BE PROVIDED ONE (1) WEEK PRIOR TO THE SCHEDULED ACTIVATION TO FULL COLOR OPERATION AND SHALL REMAIN IN PLACE FOR ONE (1) WEEK FOLLOWING ACTIVATION. COST OF FURNISHING PCMS TO BE INCLUDED UNDER PAY ITEM NO. 102-1 MAINTENANCE OF TRAFFIC.

REVISIONS						<div>Kimley»Horn</div> <div>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 CERTIFICATE OF AUTHORIZATION: 00000696</div>	INDIAN RIVER COUNTY BORDER OF COUNTY COMMISSIONERS		SIGNALIZATION GENERAL NOTES	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		INDIAN RIVER BOULEVARD & GRAND HARBOR SIGNALIZATION			6

INDIAN RIVER COUNTY - TRAFFIC SIGNAL GENERAL NOTES

25) IN ACCORDANCE WITH FDOT STANDARDS & SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE THE ASSOCIATED TRAFFIC SIGNAL MANUFACTURE WARRANTIES FOR THE ASSOCIATED MATERIALS AND/OR EQUIPMENT PRIOR TO THE FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL.

26) PRIOR TO ACTIVATION THE PCMS SIGN SHALL BE:

(PANEL ONE - LINE 1) "TRAFFIC"
(PANEL ONE - LINE 2) "SIGNAL"
(PANEL ONE - LINE 3) "WILL BE"
(PANEL TWO - LINE 1) "ACTIVE"
(PANEL TWO - LINE 2) "ON DAY"
(PANEL TWO - LINE 3) "MONTH XX"

SUBSTITUTION FOR THE WORD "DAY" SHALL BE AS FOLLOWS:

SUNDAY AS "SUN"
MONDAY AS "MON"
TUESDAY AS "TUES"
WEDNESDAY AS "WED"
THURSDAY AS "THUR"
FRIDAY AS "FRI"
SATURDAY AS "SAT"

SUBSTITUTION FOR THE WORD "MONTH" SHALL BE AS FOLLOWS:

JANUARY AS "JAN"
FEBRUARY AS "FEB"
MARCH AS "MAR"
APRIL AS "APR"
MAY AS "MAY"
JUNE AS "JUN"
JULY AS "JUL"
AUGUST AS "AUG"
SEPTEMBER AS "SEP"
OCTOBER AS "OCT"
NOVEMBER AS "NOV"
DECEMBER AS "DEC"

SUBSTITUTION FOR THE WORD "XX" SHALL BE AS FOLLOWS:

THE NUMERICAL DAY OF THE MONTH, FROM ONE (1) TO THIRTY-ONE (31). THE DATES LESS THAN TEN (10) SHALL BE PROCEDED BY A ZERO (0); EXAMPLE: "JAN 03" FOR JANUARY 3RD.

27) AFTER THE TURN-ON, THE PCMS SHALL BE CHANGED TO:

(PANEL ONE - LINE 1) "TRAFFIC"
(PANEL ONE - LINE 2) "SIGNAL"
(PANEL TWO - LINE 1) "NOW"
(PANEL TWO - LINE 2) "ACTIVE"

PANEL TWO, LINE 1 AND LINE 2, SHALL FLASH THREE (3) TIMES BEFORE REVERTING BACK TO PANEL ONE.

PRIOR TO SIGNAL ACTIVATION

PANEL 1

T	R	A	F	F	I	C	
	S	I	G	N	A	L	
W	I	L	L		B	E	

PANEL 2 (FLASH)

	A	C	T	I	V	E	
	O	N		D	A	Y	
M	O	N	T	H		X	X

AFTER SIGNAL ACTIVATION

PANEL 1

T	R	A	F	F	I	C	
	S	I	G	N	A	L	

PANEL 2 (FLASH)

		N	O	W			
	A	C	T	I	V	E	

28) THE ENGINEER OR CONTRACTOR SHALL SUBMIT IN WRITING A REQUEST FOR SIGNAL ACTIVATION (TURN-ON) TO THE MAINTAINING AGENCY. THE MAINTAINING AGENCY WILL SCHEDULE THE SIGNAL ACTIVATION A MINIMUM OF SEVEN (7) DAYS AFTER NOTIFICATION THAT THE SIGNAL HAS BEEN PLACED IN FLASHING MODE AND INSPECTIONS BY MAINTAINING AGENCY FORCES HAVE BEEN COMPLETED.

29) THE CONTRACTOR SHALL BE PRESENT AND SHALL CONDUCT THE TURN-ON TO FULL COLOR OPERATION IN THE PRESENCE OF THE MAINTAINING AGENCY'S ENGINEER. NO ACTIVATIONS SHALL BE SCHEDULED ON MONDAYS, FRIDAYS OR WEEKENDS UNLESS OTHERWISE APPROVED BY THE MAINTAINING AGENCY'S ENGINEER. ANY PROPOSED OR NECESSARY SCHEDULE CHANGE DURING THE SEVEN (7) DAYS PRIOR TO SCHEDULED TURN-ON WILL BE AT THE DETERMINATION AND DISCRETION OF THE MAINTAINING AGENCY'S ENGINEER.

30) UPON COMPLETION AND FINAL ACCEPTANCE OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION BY INDIAN RIVER COUNTY, THE SIGNALS AND EQUIPMENT SHALL BE MAINTAINED BY IRCTED.

31) WHEN IRCTED DETERMINES THAT THE NEED FOR A TRAFFIC SIGNAL IS CRITICAL TO THE PUBLIC WELFARE, EARLY TURN ON OF THE SIGNAL WILL BE REQUIRED BEFORE THE COMPLETION OF THE CONTRACT. IF THIS NEED ARISES, IRCTED WILL ASSUME THE RESPONSIBILITY FOR MAINTENANCE AND LIABILITY, OR NEGOTIATE WITH THE CONTRACTOR FOR MAINTENANCE AND LIABILITY, FOR SUCH A SIGNAL. NEW SIGNALS SHALL NOT BE PLACED ON FULL COLOR OPERATION UNTIL THE DATE OF INSPECTION EXCEPT AS STATED ABOVE. NEW SIGNALS SHALL BE FLASHED NO LESS THAN A WEEK OR MORE THAN TWO WEEKS PRIOR TO THE INSPECTION. SIGNAL HEADS MUST BE BAGGED WITH BURLAP OR TURNED BACK UNTIL THIS TIME.

32) THE CONTRACTOR SHALL TAKE NOTE THAT EXISTING IRRIGATION LINES ARE IN THE PROJECT AREA. THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING IRRIGATION LINES MAY BE IMPACTED BY THE PROPOSED IMPROVEMENTS AND SHALL ADJUST/RELOCATE ANY CONFLICTING LINES/IRRIGATION HEADS, THE COST SHALL BE INCLUDED WITHIN PAY ITEM 110-I-1.

REVISIONS						<div>Kimley»Horn</div> <div>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 CERTIFICATE OF AUTHORIZATION: 00000696</div>	INDIAN RIVER COUNTY BORDER OF COUNTY COMMISSIONERS INDIAN RIVER BOULEVARD & GRAND HARBOR SIGNALIZATION		SIGNALIZATION GENERAL NOTES		SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION						7

INDIAN RIVER COUNTY - TRAFFIC SIGNAL GENERAL NOTES

A) POWER SERVICE

- 1) POWER SERVICES SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT STANDARD INDEX No. I7736
- 2) POWER SERVICES ARE TO BE 120/240 VAC WITH TRIPLEX SERVICE DROP WIRE.
- 3) CITY OF VERO BEACH POWER SUPPLIED INSTALLATIONS MUST HAVE A SPECIAL METER CAN, SUPPLIED FROM THE CITY OF VERO BEACH TRANSMISSION & DISTRIBUTION.
- 4) FLORIDA POWER & LIGHT POWER SUPPLIED INSTALLATIONS REQUIRE A METER CAN.
- 5) MAST ARM POWER SERVICES SHALL BE MOUNTED ON A STUB POLE.
- 6) CONCRETE STRAIN POLE INSTALLATIONS SHALL HAVE THE POWER SERVICE MOUNTED ON THE STRAIN POLE.

B) TRAFFIC SIGNAL CONTROLLER

- 1) SHALL BE COMPATIBLE WITH ECONOLITE SYSTEM SOFTWARE.
- 2) SHALL HAVE INTERNAL TIME-BASED CAPABILITIES.
- 3) SHALL HAVE INTERNAL RAILROAD PREEMPTION WITH IMMEDIATE RETURN TO COORDINATION.
- 4) SHALL HAVE A REMOVABLE EEPROM WITH DOWNLOAD AND UPLOAD CAPABILITIES.

C) TRAFFIC SIGNAL COMMUNICATIONS INTERCONNECT

NOTE: VARIANCE TO COMMUNICATION INTERCONNECT DUE TO DESIGN CRITERIA WOULD REQUIRE PRIOR APPROVAL FROM INDIAN RIVER COUNTY.

- 1) TWO 2" CONDUITS SHALL BE INSTALLED WITH ALL INTERCONNECT RUNS.
- 2) PULL BOXES CONTAINING INTERCONNECT ARE TO BE INSTALLED AT NO MORE THAN 1000 FOOT INTERVALS MARKED "TRAFFIC SIGNAL" (FDOT DESIGN STANDARD I7700).
- 3) FIBER OPTIC INTERCONNECT RUNS SHALL HAVE A SLACK/SPLICE BOX AT ALL SIGNALIZED INTERSECTIONS MARKED "FIBER OPTICS". SLACK/SPLICE BOXES SHALL CONTAIN A MINIMUM OF 100 FEET OF FIBER OPTIC CABLE SLACK (FDOT DESIGN STANDARD I7700) AND SHALL BE LOCATED AT NO MORE THAN 1/2 MILE INTERVALS.
- 4) FIBER OPTIC CABLE SHALL BE 96-FIBER SINGLE MODE. A #14 AWG (OR IRC-APPROVED ALTERNATIVE) TRACE WIRE SHALL BE INSTALLED WITH THE FIBER RUN.
- 5) THE CONNECTION FROM THE SLACK/SPLICE BOX TO THE SIGNAL CABINET (PIG TAIL) SHALL BE A 12-FIBER SINGLE MODE CABLE. FIBER IN THE CABINET SHALL BE TERMINATED IN A FIBER OPTIC TERMINAL PANEL.
- 6) IN THE CABINET, DATA CONVERSION WILL BE ACCOMPLISHED WITH RUGGEDCOM GIGABIT ETHERNET SWITCH OR IRC-APPROVED EQUAL

D) TRAFFIC SIGNAL MAST ARM

- 1) MAST ARMS SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS INDEX No. 649-030, 649-031.
- 2) ALL MAST ARM POLES SHALL HAVE LED, COBRA HEAD LUMINAIRES, BARRING OBSTRUCTIONS OR DESIGN CRITERIA.
- 3) MAST ARMS ARE TO HAVE A TERMINAL COMPARTMENT IN PLACE OF A HAND HOLE, PER FDOT INDEX No. 649-031.
- 4) MAST ARM MOUNTING HEIGHT (MEASUREMENT UB INDEX No. 649-031) SHALL BE 19- FEET FOR HORIZONTAL AND 20- FEET FOR VERTICAL MOUNTED SIGNALS, IN THE ABSENCE OF GEOMETRIC ABNORMALITIES.
- 5) ALL MAST ARMS SHALL BE GALVANIZED STEEL WITH FACTORY FINISHED US GOVERNMENT FEDERAL STANDARD 595C #14066 (HIGHWAY GREEN) IN ACCORDANCE WITH FDOT.
- 6) MAST ARMS ARE TO HAVE INTERNALLY-ILLUMINATED SINGLE-SIDED STREET NAME SIGNS WITH LOCAL STREET NAMES AND 1" WHITE BORDER. THE STREET NAME SIGNS ARE TO BE MOUNTED WITH FIXED BRACKETS ON THE ARM BETWEEN THE POLE AND THE FIRST TRAFFIC SIGNAL.

E) TRAFFIC SIGNAL POLES & SPAN WIRE

- 1) POLES SHALL FOLLOW THE LATEST STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD INDEX No. 641-010.
- 2) STRAIN POLES SHALL HAVE HIGH PRESSURE SODIUM OR APPROVED LED, COBRA HEAD LUMINAIRES, BARRING OBSTRUCTIONS OR DESIGN CRITERIA.
- 3) BOTH UPPER AND LOWER SPAN SHALL BE NO LESS THAN 3/8 INCH CABLE WIRE.
- 4) THE SIGNAL CABLE SHALL BE ATTACHED TO THE MESSENGER WIRE BY LASHING RODS.

F) TRAFFIC SIGNALS HEADS

- 1) TRAFFIC SIGNALS MOUNTED ON SPAN CABLE ARE TO BE LIGHTWEIGHT, (RED SECTION TO BE ALUMINUM AND ALL OTHER SECTIONS TO BE POLY PLASTIC), 12-INCH INDICATIONS.
- 2) TRAFFIC SIGNALS MOUNTED ON MAST ARM SUPPORTS ARE TO BE ALUMINUM 12-INCH INDICATIONS. THE MOUNTING SHALL BE HORIZONTAL USING PELCO ASTRO BRAC OR IRC-APPROVED EQUIVALENT. SPAN MOUNTS ARE TO BE MOUNTED VERTICAL. ALL VEHICLE SIGNAL HEADS ARE TO HAVE RETRO-REFLECTIVE BACK PLATES.
- 3) TRAFFIC SIGNALS ARE TO BE SUPPLIED WITH ALL LED INDICATIONS, INCLUDING ALL ARROWS AND YELLOWS.
- 4) TRAFFIC SIGNALS ARE TO BE SUPPLIED WITH TUNNEL VISORS.
- 5) TRAFFIC SIGNALS AND ASSOCIATED ACCESSORIES, INCLUDING BUT NOT LIMITED TO BACKPLATES SHALL BE MCCAIN.
- 6) PEDESTRIAN SIGNALS ARE TO BE COUNT DOWN PEDESTRIAN SIGNALS WITH INTERNATIONAL-STYLE HAND/MAN (SYMBOLS) WITH FULL (NOT OUTLINE) LED INDICATIONS.

G) VIDEO DETECTORS

- 1) VIDEO DETECTION SYSTEM SHALL BE GRIDSMART DUAL CAMERA SYSTEM OR IRC-APPROVED EQUIVALENT.

H) VIDEO SURVEILLANCE

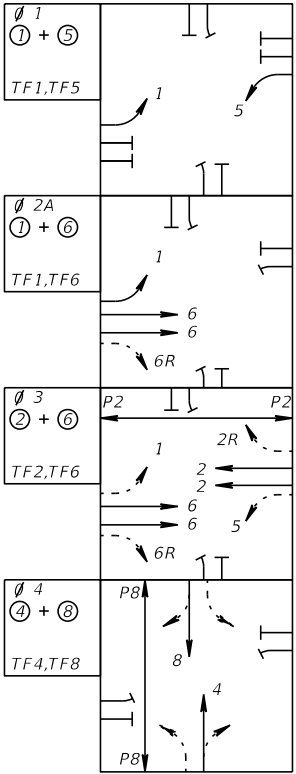
- 1) VIDEO CAMERAS SHALL BE BOSCH PAN, TILT & ZOOM LATEST TECHNOLOGY OR IRC-APPROVED EQUIVALENT.
- 1) BATTERY BACK-UP
- 1) BATTERY BACKUP SYSTEM TO BE USED ON ALL INSTALLATIONS UNLESS OTHERWISE STATED.
- 2) BATTERY BACKUP SHALL BE ALPHA FXM 2000 UPS W/SNMP.

REVISIONS						<div>Kimley»Horn</div> <div>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24th STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4100 CERTIFICATE OF AUTHORIZATION: 00000696</div>	INDIAN RIVER COUNTY BORDER OF COUNTY COMMISSIONERS		INDIAN RIVER COUNTY TRAFFIC SIGNAL SPECIFICATIONS	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		INDIAN RIVER COUNTY INDIAN RIVER BOULEVARD & GRAND HARBOR SIGNALIZATION			8

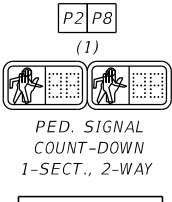
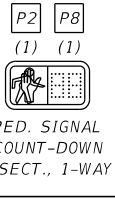
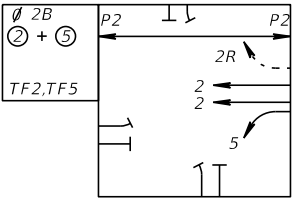
DETECTION CAMERA ASSIGNMENTS				
CAMERA NO.	ZONE NO.	DETECTOR OPERATION	TIMING FUNCTION	DELAY TIME (SEC)
V1	1	NORMAL	1	3
	6	NORMAL	6	-
	4	NORMAL	4	-
V2	8	NORMAL	8	-
	2	NORMAL	2	-
	5	NORMAL	5	3

DETECTION CAMERA ASSIGNMENTS AND DETECTION ZONE AREAS ARE PRELIMINARY AND MAY REQUIRE FIELD ADJUSTMENT BY THE CONTRACTOR DURING INSTALLATION. DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY PROJECT ENGINEER.

ASSOCIATED PHASE MOVEMENTS



OR

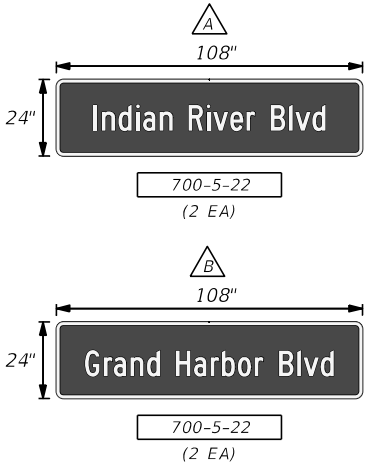
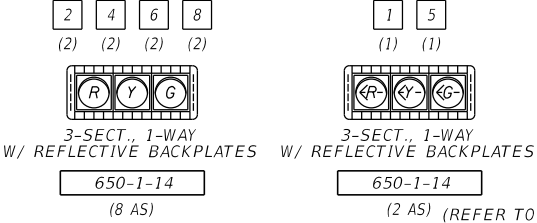


PEDESTRIAN PUSH BUTTON SIGNS FTP-68B-06 INCLUDED IN THE COST OF PAY ITEM 665-1-11.

CONTROLLER OPERATIONS

- MAJOR STREET: INDIAN RIVER BLVD. (MOVEMENTS 2 AND 6)
MINOR STREET: GRAND HARBOR DRIVE (MOVEMENTS 4 AND 8)
- SPEED LIMITS: INDIAN RIVER BLVD 50 MPH
GRAND HARBOR BLVD 25 MPH
- FLASHING OPERATION: MOVEMENTS 2 & 6 - YELLOW
MOVEMENTS 1, 5, 4 & 8 - RED
- ALL SIGNAL TIMING SHALL BE PROVIDED BY INDIAN RIVER COUNTY TRAFFIC ENGINEERING, PHONE (772) 226-1547.
- CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION.
- 5 CONDUIT RUNS (SIGNAL, VIDEO, LIGHTING AND 2 SPARE)

SIGNAL DISPLAY DETAILS



PROPOSED ELECTRICAL SERVICE CONNECTION STA. 161+43.44 86.3' LT

45 LF	630-2-12
1 EA	635-2-11
1 AS	639-1-122
80 LF	639-2-1
1 EA	639-3-11
1 EA	641-2-12

EL 8.10 3 EXIST. R/W

POLE LOCATION= STA. 161+21.18 77.8' LT.

12 LF	630-2-11	(REFER TO NOTE 6)
3 EA	635-2-11	
1 EA	649-21-15	
1 EA	682-1-133	
1 EA	715-5-31	
150 LF	715-1-11	(3 CONDUCTORS)

10 LF 630-2-11 (REFER TO NOTE 6)

1 PI 632-7-1

5 EA 635-2-11

1 EA 660-4-11

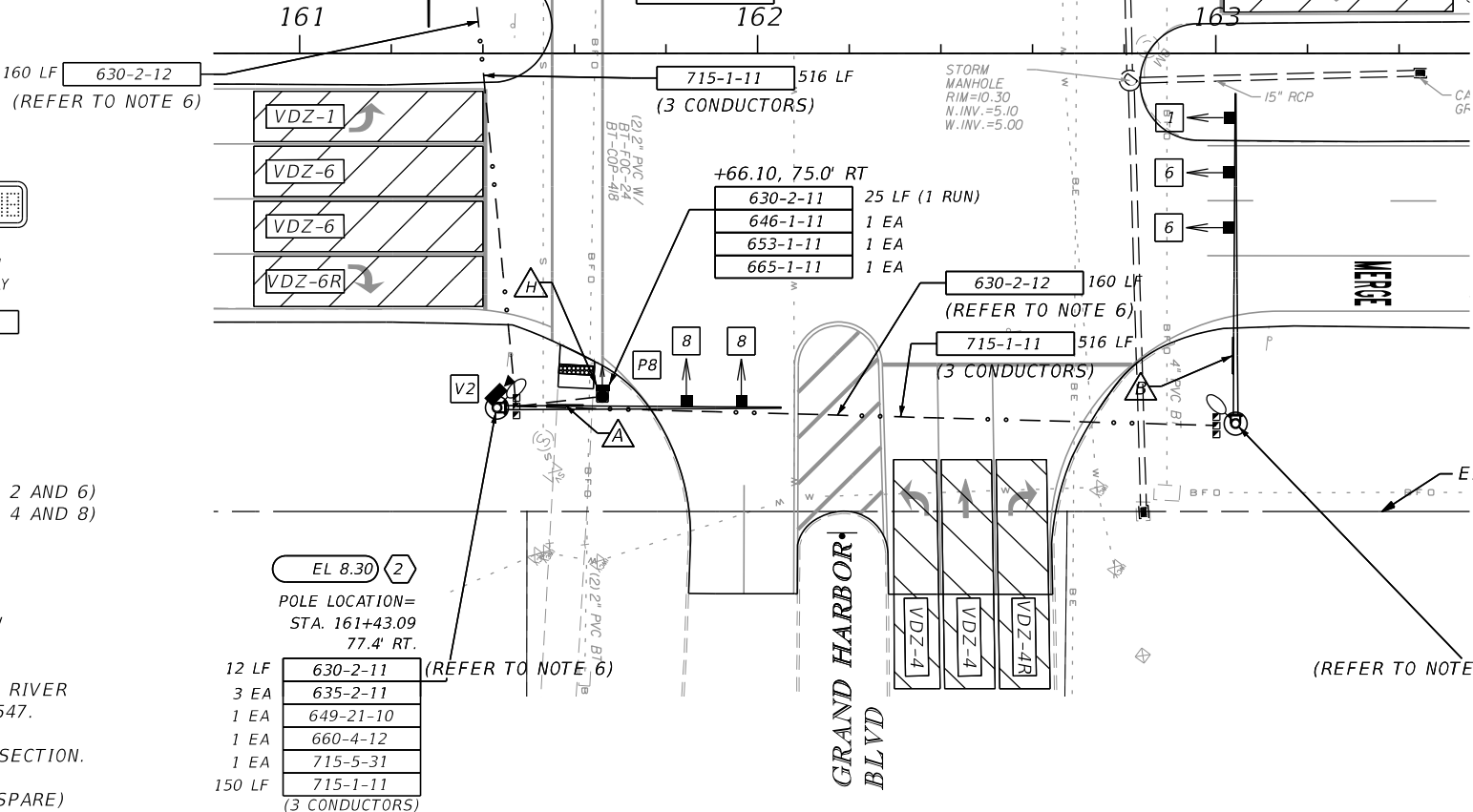
1 AS 670-5-111

1 EA 684-1-1

2 EA 684-6-11

1 EA 685-1-13

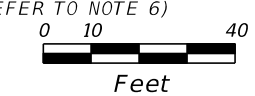
INDIAN RIVER BLVD



4 EL 9.00

POLE LOCATION= STA. 162+84.68 78.2' LT

630-2-11	12 LF (REFER TO NOTE 6)
635-2-11	3 EA
649-21-6	1 EA
660-4-12	1 EA
715-5-31	1 EA
715-1-11	150 LF (3 CONDUCTORS)



+93.00, 73.3' LT

630-2-11	10 LF (1 RUN)
646-1-11	1 EA
653-1-11	1 EA
665-1-11	1 EA

+59.33, 80.8' LT

630-2-11	25 LF (1 RUN)
646-1-11	1 EA
653-1-11	1 EA
665-1-11	1 EA

+48.57, 73.7' LT

630-2-11	25 LF (1 RUN)
646-1-11	1 EA
653-1-11	1 EA
665-1-11	1 EA

+66.10, 75.0' RT

630-2-11	25 LF (1 RUN)
646-1-11	1 EA
653-1-11	1 EA
665-1-11	1 EA

STORM MANHOLE RIM=10.30 N. INV.=5.10 W. INV.=5.00

1 EL 8.80

POLE LOCATION= STA. 163+04.32 83.8' RT.

630-2-11	12 LF
635-2-11	3 EA
649-21-15	1 EA
715-5-31	1 EA

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

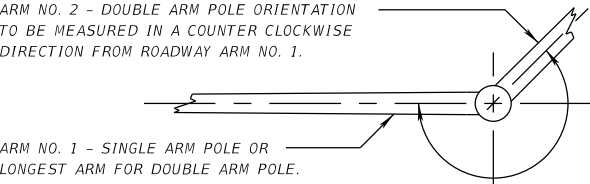
Kimley»Horn

BRIAN A. GOOD, P.E.
P.E. LICENSE NUMBER 56939
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(772) 794-4100
CERTIFICATE OF AUTHORIZATION: 00000696

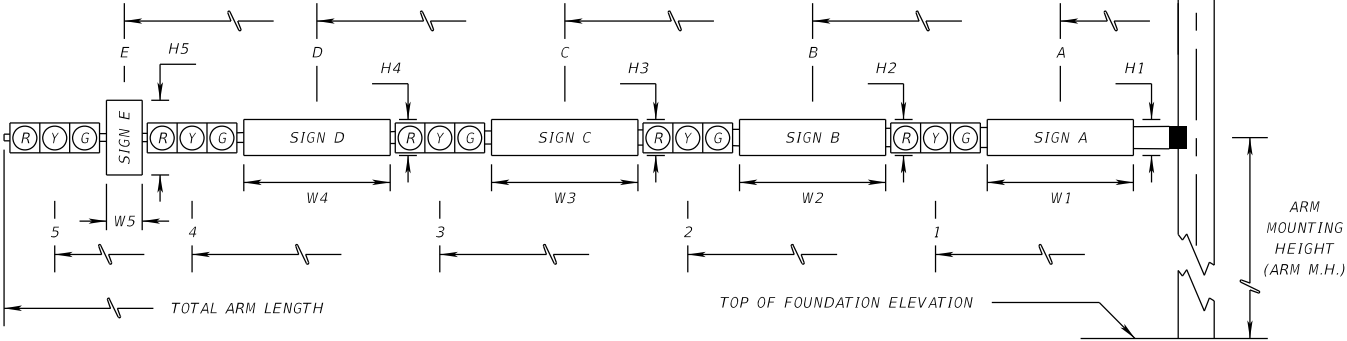
INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS
INDIAN RIVER BOULEVARD &
GRAND HARBOR SIGNALIZATION

SIGNALIZATION
IMPROVEMENTS PLAN

SHEET NO.
9



NOTE: REFER TO THIS PLAN, STANDARD MAST ARM ASSEMBLIES DESIGN TABLE, AND FDOT INDEX NO.'S 17743 AND 17745 FOR LUMINAIRE AND LUMINAIRE CONNECTION DETAILS.



MAST ARM TABULATION

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY																			VD DENOTES VIDEO DETECTION CAMERA; CCTV DENOTES CCTV CAMERA																		
SIGNAL DATA																			SIGN DATA																		
ID NO.	SHEET NO.	LOCATION BY STATION	TOP OF FOUNDATION ELEVATION	RDWY ARM NO.	CROWN ELEVATION	SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE								TOTAL ARM LENGTH	ARM MTG. HEIGHT	ANGLE BETWEEN DUAL ARMS 90/270	DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN															PAINT COLOR		
									1	*	2	*	3	*	4	*				5	*	A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4	E		H5	W5
1	9	163+04.32, 83.8' RT	8.80	1	10.28	H	Y	N	41.0	3	53.0	3	65.00	3				70	20.75		13.0	2.0	8.0													HIGHWAY GREEN	
				2																																	
2	9	161+43.09, 77.4' RT	8.31	1	8.81	H	Y	N	39.5	3	51.5	5						60	19.75		13.0	2.0	8.0													HIGHWAY GREEN	
				2																																	
3	9	161+21.18, 77.8' LT	8.10	1	8.60	H	Y	N	37.5	3	49.5	3	61.50	5				70	19.75		13.0	2.0	8.0													HIGHWAY GREEN	
				2																																	
4	9	162+84.68, 78.2' LT	9.00	1	9.10	H	Y	N	31.0	3	43.0	5						50	19.25		10.0	2.0	8.0													HIGHWAY GREEN	
				2																																	
				1																																	
				2																																	
				1																																	
				2																																	

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 1	A70/S-P5/S/L-DS/14/5	A70/S	-	-	-	-	45	P5/S/L	-	20.75	DS/14/5
Pole 2	A60/S-P4/S/L-DS/14/4.5	A60/S	-	-	-	-	45	P4/S/L	-	19.75	DS/14/4.5
Pole 3	A70/S-P5/S/L-DS/16/5	A70/S	-	-	-	-	45	P5/S/L	-	19.75	DS/16/5
Pole 4	A50/S-P3/S/L-DS/12/4.5	A50/S	-	-	-	-	45	P3/S/L	-	19.25	DS/12/4.5

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 17743 and 17745.

Foundation Notes:

1. Foundation design is based on Geotechnical Engineering Evaluation Report provided by Andersen Andre Consulting Engineers, Inc, dated August 14, 2018 (AAE File No. 18-190)
2. Values used in design:
Soil Type = Sand
Soil Friction Angle = 32°
Soil Weight = 52.6 pcf (submerged)
SPT "N" Value = 22
3. The soil parameters at this site meet the standard Drilled Shaft Foundation Minimum Criteria.
4. Geotechnical Recommendations
- The contractor is advised that caving soils will be encountered during excavation of drilled shafts.
- Drilling mud will be required to stabilize drilled shaft excavations

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