STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

INDEX OF SIGNALIZATION PLANS

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T-15 REPORT OF SOIL BORINGS

SIGNAL LOCATION NO. 1

S.R. 684 AT 119TH ST W

MP 1.188

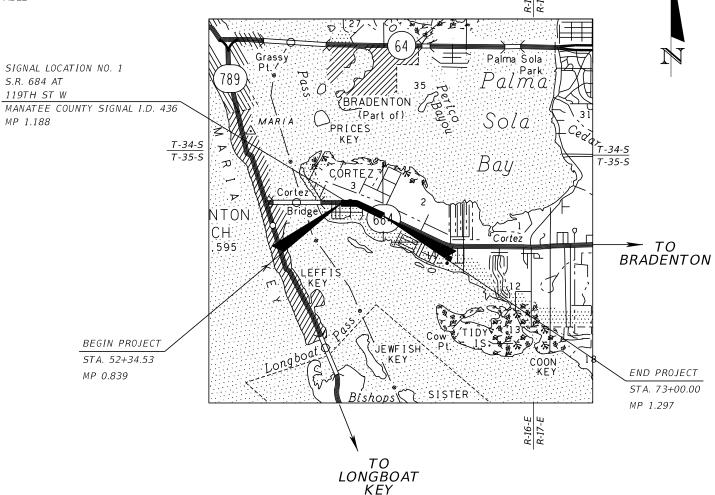
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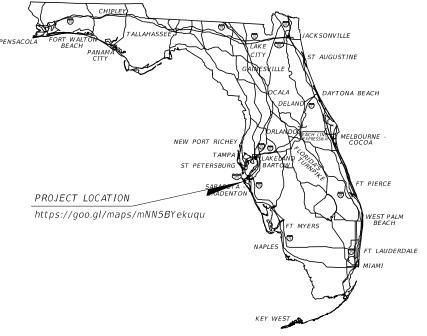
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FINANCIAL PROJECT ID 436551-2-52-01

MANATEE COUNTY (13040000) STATE ROAD NO. 684

SIGNALIZATION PLANS





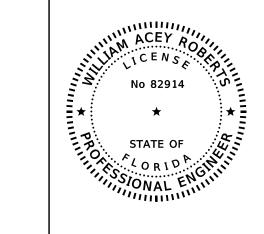
SIGNALIZATION PLANS ENGINEER OF RECORD:

WILLIAM ACEY ROBERTS, P.E. #82914 ATKINS NORTH AMERICA, INC 4030 WEST BOY SCOUT BLVD. STE 700 TAMPA, FLORIDA 33607 CONTRACT NO.: C9L49 VENDOR NO.: F-590-896-138-001 CERTIFICATE OF AUTHORIZATION NO.: 24

FDOT PROJECT MANAGER:

RICHARD (MOSE) HOWARD, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.	
T1720	19	T-1	



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

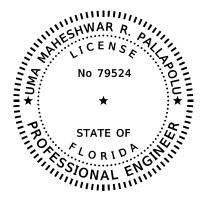
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ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD., STE. 700 TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24 WILLIAM ACEY ROBERTS, P.E. #82914

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

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	PLAN SHEET
T-7	SIGNAL TIMING DETAIL
T-8 - T-9	INTERCONNECTION PLAN
T-10 - T-11	SPLICING DIAGRAM
T-12	GUIDE SIGN WORK SHEET
T-13	MAST ARM TABULATION



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ON THE DATE ADJACENT TO THE SEAL

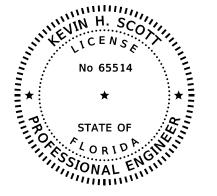
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ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD., STE 700 TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION: 24 UMA MAHESHWARE R. PALLAPOLU, P.E. NO. #79524

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

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

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY



ON THE DATE ADJACENT TO THE SEAL

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TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION: 6486 MARC E. NOVAK, Ph. D., P.E. #67431

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

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-15	REPORT OF CORE BORINGS

REVISIONS WILLIAM ACEY ROBERTS DESCRIPTION DESCRIPTION DATE P.E. NO. 82914 ATKINS NORTH AMERICA, INC. TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24

4030 WEST BOY SCOUT BLVD. STE. 700

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJECT ID SR 684 MANATEE 436551-2-52-01

SIGNATURE SHEET

SHEET NO.

T-2

c:\pw_work\atknafI01\murp7744\dms35644\SIGNSG101.dg

TABULATION OF QUANTITIES

PAY ITEM	DESCRIPTION	UNIT	SHEET NUMBERS												TOTAL THIS SHEET	GRAND TOTAL	
NO.	DESCRIPTION		7	-6	T - 7	T - 8		T - 9							SHEET	,	
740 .			PLAN	FINAL	PLAN FINAL	PLAN FIN	NAL PL	AN F	INAL	PLAN	FINAL	PLAN	FINAL	F	PLAN FINAL	PLAN FINA	
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	101				1	0							111	111	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	258			1673	10	72						3	3003	3003	
632-7-1	SIGNAL CABLE, RECONSTRUCTED INTERSECTION - FURNISH & INSTALL	PΙ	1												1	1	
633 - 1 - 121	FIBER OPTIC CABLE, FURNISH & INSTALL, UNDERGROUND, 2-12	LF	100												100	100	
633 - 1 - 123	FIBER OPTIC CABLE, FURNISH & INSTALL, UNDERGROUND, 49 - 96 FIBERS	LF				1773	12	25						Ĩ.	2998	2998	
633-1-620	FIBER OPTIC CABLE, REMOVE, UNDERGROUND	LF					3	54							354	354	
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERMINATION	EΑ	4			72	7	2							148	148	
633-3-11	FIBER OPTIC CONNECTION HARDWRE, FURNISH & INSTALL, SPLICE ENCLOSURE	EΑ				1		1							2	2	
633-3-15	FIBER OPTIC CONNECTION HARDWARE, FURNISH & INSTALL, PRETERMINATED PATCH PANEL	EΑ	1												1	1	
	PULL & SPLICE BOX, FURNISH AND INSTALL, 17" X 30"	EΑ	8												8	8	
635-2-12	PULL & SPLICE BOX, FURNISH AND INSTALL, 24" X 36" COVER	EΑ				3		6							9	9	
639-1-112	ELECTRICAL POWER SERVICE, FURNISH & INSTALL, OVERHEAD METER PURCHASED BY CONTRACTOR FROM POWER COMPANY	AS	1												1	1	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	8												8	8	
639-3-60	ELECTRICAL SERVICE DISCONNECT, REMOVE - POLE OR CABINET TO REMAIN	EΑ	1												1	1	
641-2-12	PRESTRESSED CONCRETE POLE, FURNISH & INSTALL, TYPE P-II SERVICE POLE	EΑ	1												1	1	
646 - 1 - 11	ALUMINUM SIGNALS POLE, PEDESTAL	EΑ	5												5	5	
646 - 1 - 60	ALUMINUM SIGNALS POLE, REMOVE	EΑ			7										7	7	
649-21-3	STEEL MAST ARM ASSEMBLY, SINGLE 40'	EΑ	2												2	2	
649-21-8	STEEL MAST ARM ASSEMBLY, DOUBLE 50'-40'	EΑ	1												1	1	
649-26-3	STEEL MAST ARM ASSEMBLY, REMOVAL,	EΑ	2												2	2	
650 - 1 - 34	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL POLYCARBONATE, 3 SECTION, 1 WAY	AS			8										8	8	
650 - 1 - 36	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL POLYCARBONATE, 4 SECTION, 1 WAY	AS			2										2	2	
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL COUNTDOWN, 1 WAY	AS			4										4	4	
653-1-12	PEDESTRIAN SIGNAL, FURNISH & INSTALL COUNTDOWN, 2 WAY	AS			1										1	1	
660-4-11	VEHICLE DETECTION SYSTEM - VIDEO, F&I CABINET EQUIPMENT	EΑ	1												1	1	
660-4-12	VEHICLE DETECTION SYSTEM- VIDEO, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EΑ	4												4	4	
660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EΑ	1												1	1	
660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EΑ	1												1	1	
	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	6												6	6	
670-5-110	TRAFFIC CONTROLLER ASSEMBLY, FURNISH & INSTALL, NEMA	AS	1												1	1	
682-1-113	ITS CCTV CAMERA, FURNISH & INSTALL, DOME PTZ ENCLOSURE - PRESSURIZED, IP, THERMAL, HYBRID	EΑ	1												1	1	
	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EΑ	1												1	1	
	UNINTERRUPTIBLE POWER SUPPLY, FURNISH & INSTALL, ONLINE/DOUBLE CONVERSION	EA	1												1	1	
	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12FT^2	EA	1		4				1						4	4	
700 - 11 - 391	ELECTRONIC DISPLAY SIGN, FIRNISH & INSTALL OVERHEAD MOUNT -AC, BLANK OUT SIGN, UP TO 12 SF	EΑ			3										3	3	

	REVIS	SIONS		
DATE	DESCRIPTION	DATE	DESCRIPTION	ĺ
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				FBPE

WILLIAM ACEY ROBERTS
P.E. NO. 82914
ATKINS NORTH AMERICA, INC.
4030 WEST BOY SCOUT BLVD. STE. 700
TAMPA, FLORIDA 33607
FBPE CERTIFICATE OF AUTHORIZATION NO. 24

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO. COUNTY FINANCIAL PROJECT ID

SR 684 MANATEE 436551-2-52-01

TABULATION OF QUANTITIES

SHEET NO.

SIGNALIZATION GENERAL NOTES:

- 1. WHERE MAST ARM, STRAIN POLES, OR ANY OTHER SIGNAL EQUIPMENT
 REQUIRING FOUNDATIONS ARE PROPOSED WITHIN 4 FEET OF ANY UNDERGROUND
 UTILITY, THE UTILITY SHALL BE LOCATED AND PROTECTED AND THE INITIAL 5
 FEET OF THE SHAFT INSTALLATION SHALL BE HAND DUG.
- 2. COAT ALL THREADED HARDWARE AND MECHANICAL/ELECTRICAL CONNECTION TERMINATIONS WITH AN OXIDE INHIBITOR.
- 3. WEATHERPROOF IRREGULAR MATTING SURFACES SUCH AS AREAS INCLUDING SEPARATED SIGNAL COUPLINGS, CONTROLLER CABINET FOUNDATION, PEDESTRIAN PUSH BUTTONS, AND ANY OTHER AREAS TYPICALLY PRONE TO MOISTURE INFILTRATION BY APPLYING A BEAD OF SILICONE CAULK.
- 4. WHEREVER A CABLE ENTERS OR EXITS A FIELD-DRILLED HOLE, THE HOLE
 SHALL BE PROTECTED BY A PERMANENTLY INSTALLED RUBBER GROMMET.
- 5. AT LEAST TWO (2) FULL BUSINESS DAYS PRIOR TO BEGINNING THE TRAFFIC SIGNAL INSTALLATION, CONTACT THE TRAFFIC SIGNAL INSPECTOR/LIAISON:

JAMES NICHOLS
FLORIDA DEPARTMENT OF TRANSPORTATION
MANATEE OPERATIONS CENTER
14000 STATE ROAD 64 EAST
BRADENTON, FL 34212
PH: 941-708-4429

6. WHEN CONSTRUCTION IS COMPLETE, IN ADDITION TO THE REQUIREMENT OF STANDARD SPECIFICATION 9-8, PROVIDE A SET OF "AS-BUILT" PLANS TO:

VISHAL KAKKAD TRAFFIC DIVISION MANAGER P.O. BOX 1000 BRADENTON, FL 34206-1000

7. WHEN CONSTRUCTION IS COMPLETE, PROVIDE A SET OF "AS-BUILT" PLANS IN ELECTRONIC FORM (PDF) TO:

FDOT TRAFFIC OPERATIONS
RENJAN JOSEPH, P.E., FDOT ARTERIAL MANAGEMENT SYSTEM ENGINEER
801 N. BROADWAY AVE
BARTOW, FL 33830-1249
EMAIL: RENJAN.JOSEPH@DOT.STATE.FL.US
PHONE: 863-519-2746

- 8. ALL MAST ARM POLES ARE TO BE GALVANIZED NON-PAINTED.
- 9. USE A MINIMUM OF 7 CONDUCTOR SIGNAL CABLE FOR SIGNAL HEADS AND PEDESTRIAN HEADS.
- 10. PULL BOXES ARE TO BE POLYMER TYPE.
- 11. PULL BOX DIMENSIONS SHALL BE 17"X 30"X 12" AND THE LID SHALL BE STAMPED "MANATEE COUNTY TRAFFIC SIGNAL" ON THE COVER.
- 12. USE ROUTE MARKERS FOR FIBER OPTIC CONDUIT RUNS.

SIGNALIZATION GENERAL NOTES (CONTINUED):

- 13. USE PRE-TERMINATED PATCH PANELS WITH SC CONNECTORS AT ALL DEVICES AND CONTROLLER CABINETS.
- 14. PROVIDE SEPARATE DISCONNECT SERVICE BOXES ONE FOR EACH SIGNAL, INTERNALLY ILLUMINATED SIGNS, AND LUMINARIES. PROVIDE ONE (1)
 PHOTOCELL OUTSIDE THE RESPECTIVE DISCONNECT BOX FOR THE INTERNALLY ILLUMINATED SIGNS AND LUMINARIES.
- 15. STOP BAR DETECTION SHALL BE NON -INTRUSIVE PER MANATEE COUNTY STANDARDS. PROVIDE VIDEO DETECTION FOR STOP BAR FOR ALL APPROACHES OF PROPOSED SIGNAL. THE VIDEO DETECTION CAMERA SHALL MEET MANATEE COUNTY COMPATIBILITY.
- 16. IN ADDITION TO STOP BAR PRESENCE DETECTION, ADVANCE VEHICLE DETECTION SHALL BE PROVIDED FOR ALL MAJOR STREET APPROACHES. THE WAVETRONIX SMART SENSOR ADVANCE SHALL BE USED FOR ADVANCE VEHICLE DETECTION.
- 17. PROVIDE BLUETOOTH TRAVEL-TIME MEASURING DEVICE AT THE PROPOSED SIGNALIZED INTERSECTION. THE BLUETOOTH DEVICE SHALL BE BLUETOAD SPECTRA POE UNIT COMPATIBLE WITH EXISTING MANATEE COUNTY BLUETOOTH DEVICES/NETWORK.
- 18. PROVIDE CCTV CAMERA AT THE PROPOSED SIGNALIZED INTERSECTION. THE CCTV CAMERA UNIT SHALL MEET MANATEE COUNTY COMPATIBILITY.
- 19. SUBMIT A MAINTENANCE OF COMMUNICATIONS (MOC) PLAN TO THE DEPARTMENT FOR APPROVAL. THE MOC PLAN IS TO BE SUBMITTED TO THE DEPARTMENT AT LEAST 4 WEEKS PRIOR TO INTERRUPTING THE EXISTING ATMS COMMUNICATIONS NETWORK. THE MOC PLAN SHALL INCLUDE A DETAILED DESCRIPTION OF THE PHASED CUTOVER WITH MAXIMUM DOWNTIME REQUIREMENTS FOR THE ITS ELEMENTS, TO MINIMIZE THE DOWNTIME.
- 20. NOTIFY THE TRAFFIC OPERATIONS DIVISION, MR. AARON BURKETT, (941) 708-7509 AT LEAST FIVE BUSINESS DAYS IN ADVANCE TO SCHEDULE THE FINAL INSPECTION.
- 21. DELIVER THREE HARD COPY SETS OF AS BUILT RECORD DRAWINGS, TWO SETS OF IMSA INSPECTION FORMS (OTDRS FOR FIBER OPTIC UNITS), AND ONE COMPACT DISK OF RECORD DRAWINGS IN ADOBE ACROBAT (.PDF) AND AUTOCAD (.DWG) FORMAT TO THE MANATEE COUNTY TRAFFIC DESIGN DIVISION (ATTN: MR. VISHAL S. KAKKAD P.E., PTOE) AT 2101 47TH TERRACE EAST BRADENTON, FL 34203. RECORD DRAWINGS AND INSPECTION FORMS MUST BE DELIVERED TO THE COUNTY AT LEAST FIVE BUSINESS DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION

UTILITIES:

- 1. FLORIDA POWER & LIGHT POWER COMPANY TO ASSIST CONTRACTOR IN

 PERFORMING ALL NECESSARY WORK UNDER THEIR POWER LINES, SUCH AS THE

 INSTALLATION OF SPAN WIRE, SIGNAL CABLE, FIBERGLASS INSULATORS AND

 SIGNAL POLES. NOTIFY THE POWER COMPANY AT LEAST (3) FULL BUSINESS

 DAYS PRIOR TO INSTALLATION OF THIS EQUIPMENT.
- 2. CONTACT THE MAINTAINING AGENCY MANATEE COUNTY, COREY MILES AT TELEPHONE NUMBER 941-749-3500 X7262, FOR THE PHYSICAL ADDRESS ONCE THE SERVICE DROP LOCATION HAS BEEN ESTABLISHED.
- 3. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED VV Vh AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATION/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN POINTS HAVE NOT BEEN VERIFIED.
- 4. NOTIFY UTILITY OWNERS OF ANY EXCAVATION OR DEMOLITION ACTIVITY
 THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (1-800-432-4770) AND SHALL
 ALSO NOTIFY THOSE UTILITY OWNERS/AGENCIES LISTED WITHIN OR IMPACTED
 BY THESE PLANS. NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE
 OF BEGINNING CONSTRUCTION ON THE JOB SITE.
 FOR UTILITY OWNERS SEE ROADWAY SHEET NO. 63.

REVISIONS

DATE DESCRIPTION DATE DESCRIPTION

ATKINS NORTH AMERICA, INC.
4030 WEST BOY SCOUT BLVD. STE. 700
TAMPA, FLORIDA 33607
FBPE CERTIFICATE OF AUTHORIZATION NO. 24

SR 684 MANATEE

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

D NO. COUNTY FINANCIAL PROJECT ID

GENERAL NOTES

SHEET NO.

T-4

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436551-2-52-01

USE 4" DIAMETER HDPE CONDUIT WITH 2-2" INNER DUCTS COLORED ORANGE FOR FIBER OPTIC INTERCONNECT CABLE.

USE A MINIMUM OF 3" DIAMETER CONDUIT FOR ALL DIRECTIONAL BORE UNLESS OTHERWISE NOTED IN THE PLANS.

NOTCH CONDUIT FOR RIGHT ANGLE CABLE ENTRY AND USE REMOVABLE PVC PRESSURE CAPS TO SEAL CONDUIT.

USE FOUR (4) RUNS OF SDR 13.5 POLY CONDUITS (GREEN, BLUE, ORANGE AND YELLOW) (USE A # 10 COPPER WIRE IN THE ORANGE CONDUIT FOR LOCATION PURPOSES) FOR INTERCONNECT CABLE.

- 2. 635-2-11, 635-2-12:
 - A. USE POLYMER CONCRETE CONSTRUCTION PULL BOX WITH A POLYMER CONCRETE COVER MARKED "MANATEE COUNTY FIBER OPTIC NETWORK" FOR FIBER OPTIC COMMUNICATION. USE 24" X 36" X 12" PULL BOXES PLACED A MINIMUM OF 800' APART
 - B. PULL BOXES ARE TO BE PLACED BEHIND CURB AND GUTTER. IF THERE IS NO CURB AND GUTTER, PULL BOXES SHALL BE PLACED A MINIMUM OF 7' FROM THE EDGE OF PAVEMENT
 - USE POLYMER CONCRETE CONSTRUCTION PULL BOXES WITH POLYMER CONCRETE COVERS
 - D. PULL BOX DIMENSIONS SHALL BE 17" X 30" X12" AND THE LID SHALL BE STAMPED "MANATEE COUNTY TRAFFIC SIGNAL" ON THE COVER
- 3a. 639-1-112:

USE ALUMINUM RIGID ABOVEGROUND CONDUIT FOR ELECTRICAL POWER SERVICE.

USE GALVANIZED (STEEL) RIGID ABOVEGROUND CONDUIT FOR ELECTRICAL POWER SERVICE.

USE A LEVER-TYPE BYPASS METER SOCKET.

PAY ITEM NOTES (CONTINUED):

3b. 639-1-112 (CONTINUED):

THE ELECTRICAL SERVICE DISCONNECT IS 100 AMP, COMPRISING OF A SIX (6) CIRCUIT DISCONNECT BOX WITH FOUR CIRCUIT BREAKERS - ONE 40 AMP/120 VOLT FOR CONTROLLER CABINET, ONE 15 AMP/120 VOLT FOR INTERNALLY ILLUMINATED STREET SIGNS, ONE 15 AMP/120 VOLT FOR FUTURE USE AND ONE 15 AMP/120 OR 15 AMP/240 VOLT FOR LIGHTING LUMINAIRE.

639-2-1:

USE A BONDING WIRE FROM ELECTRICAL SERVICE POINT TO CONTROLLER.

5. 641-2-12:

USE TWO 2" CONDUITS (EXCEPT FOR THE POLE LOCATED ADJACENT TO THE CONTROLLER CABINET WHICH SHALL HAVE THREE 2" CONDUITS) STUBBED OUT THROUGH PRESTRESSED CONCRETE POLE FOOTER AND TEMPORARILY

ADD AUXILIARY HOLES FOR FUTURE SIGNALIZATION.

6. 646-1-11:

USE LOCKING COLLARS WHEN MOUNTING ALUMINUM PEDESTRIAN POLES TO PEDESTRIAN PEDESTAL BASES.

USE BREAKAWAY ALUMINUM SQUARE BASE ASSEMBLIES WITH ALUMINUM DOORS FOR PEDESTRIAN PEDESTALS. SPLICE SIGNAL CABLE IN BASE OF PEDESTAL (NOT IN PEDESTRIAN HEADS).

7. 650-1-14:

USE RED. YELLOW, GREEN. AND WHITE THHN #14 COPPER WIRES FROM DISCONNECT TO SIGNAL HEAD. PLACE A PERMANENT MARKING ON THE WIRE DESIGNATING THE PHASE USED.

USE LOUVERED ALUMINUM SIGNAL HEAD BACK PLATES WITH A 2" YELLOW REFLECTORIZED OUTER EDGE BORDER.

BACK PLATES TO BE ONE-PIECE ALUMINUM.

RIGID MOUNT TRAFFIC SIGNAL HEADS TO MAST ARMS UTILIZING STAINLESS STEEL WIRE ROPE CABLE.

8. 653-1-11:

MOUNT PEDESTRIAN SIGNAL HEADS 9'-6" ABOVE GRADE.

PEDESTRIAN SIGNAL HEADS TO BE 16" INTERNATIONAL SYMBOL. LED COUNTDOWN TYPE.

PAY ITEM NOTES (CONTINUED):

9. 660-4-11 AND 660-4-12 (CONTINUED):

USE A 72" LONG GUSSET TUBE FOR VIDEO DETECTION CAMERA ATTACHMENT BRACKET. VIDEO DETECTION TO BE COMPATIBLE WITH MAINTAINING AGENCY'S EXISTING VIDEO DETECTION SYSTEM.

10. 665-1-11:

USE PEDESTRIAN BUTTON SIGNAL SIGN FTP-68B-06. STREET NAME SHALL BE IN ACCORDANCE WITH THE STREET NAMES SHOWN ON THE SIGNALIZATION PLAN SHEETS.

DRILL AND TAP ALUMINUM PEDESTAL FOR MOUNTING PEDESTRIAN DETECTOR AND SIGNS.

- 11. 670-5-110:
 - A. USE CONCRETE CONSTRUCTION CONTROLLER BASE, AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 - USE CONCRETE FOR CONTROLLER STEPS.
 - BASE OF CONTROLLER TO BE AT LEAST 18" AND NO MORE THAN 24" ABOVE SURROUNDING GRADE
 - D. THE CONTROLLER SUPPLIED WITH THE CABINET SHALL BE 980 ATC TYPE . CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY TO DETERMINE THE CONTROLLER BEST SUITED FOR THEIR NEED.
 - E. CONTROLLER AND CABINET TO BE COMPATIBLE WITH THE EXISTING ATMS.NOW CLOSED -LOOP COMPUTER SYSTEM. USE INTERFACE PANEL. LIGHTING AND ARRESTORS NECESSARY FOR A COMPLETE AND ACCEPTABLE INSTALLATION.
 - F. USE COORDINATION UNITS WITH CAPABILITIES OF GENERATING SEPARATE FORCEOFFS AND PERMISSIVE PERIODS FOR MOVEMENTS 2, 4, 5, 6, AND/OR 8
 - ADD AN ADDITIONAL 15 AMP/120 VOL CIRCUIT BREAKER DEDICATED TO INTERNALLY ILLUMINATED STREET NAME SIGNS. LOCATE CIRCUIT BREAKER IN THE CONTROLLER CABINET.
 - H. THE CABINETS SHALL COME EQUIPPED WITH A NETWORK SWITCH COMPATIBLE W/ MANATEE COUNTY ATMS SYSTEMS. COMPATIBLE WITH MANATEE COUNTY TO ENDURE ALL OF THE NECESSARY SYSTEMS COMPONENTS FOR INTEGRATION INTO AN ETHERNET-BASED FIBER OPTIC NETWORK.
- 12. 685-1-11:

INCLUDE AN UNINTERRUPTIBLE POWER SUPPLY UNIT (UPS). ATTACH UPS UNIT TO THE OUTSIDE OF THE CONTROLLER CABINET. INSTALL UPS UNIT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. UPS EQUIPMENT TO BE COMPATIBLE WITH MAINTAINING AGENCY'S EXISTING SYSTEM.

WILLIAM	REVISIONS											
P.E	DESCRIPTION	DATE	DESCRIPTION	DATE								
ATKINS NO												
4030 WEST BOY												
TAMPA,												
FBPE CERTIFICATE												

AM ACEY ROBERTS .E. NO. 82914 IORTH AMERICA, INC. OY SCOUT BLVD. STE. 700 A FLORIDA 33607 TE OF AUTHORIZATION NO. 24

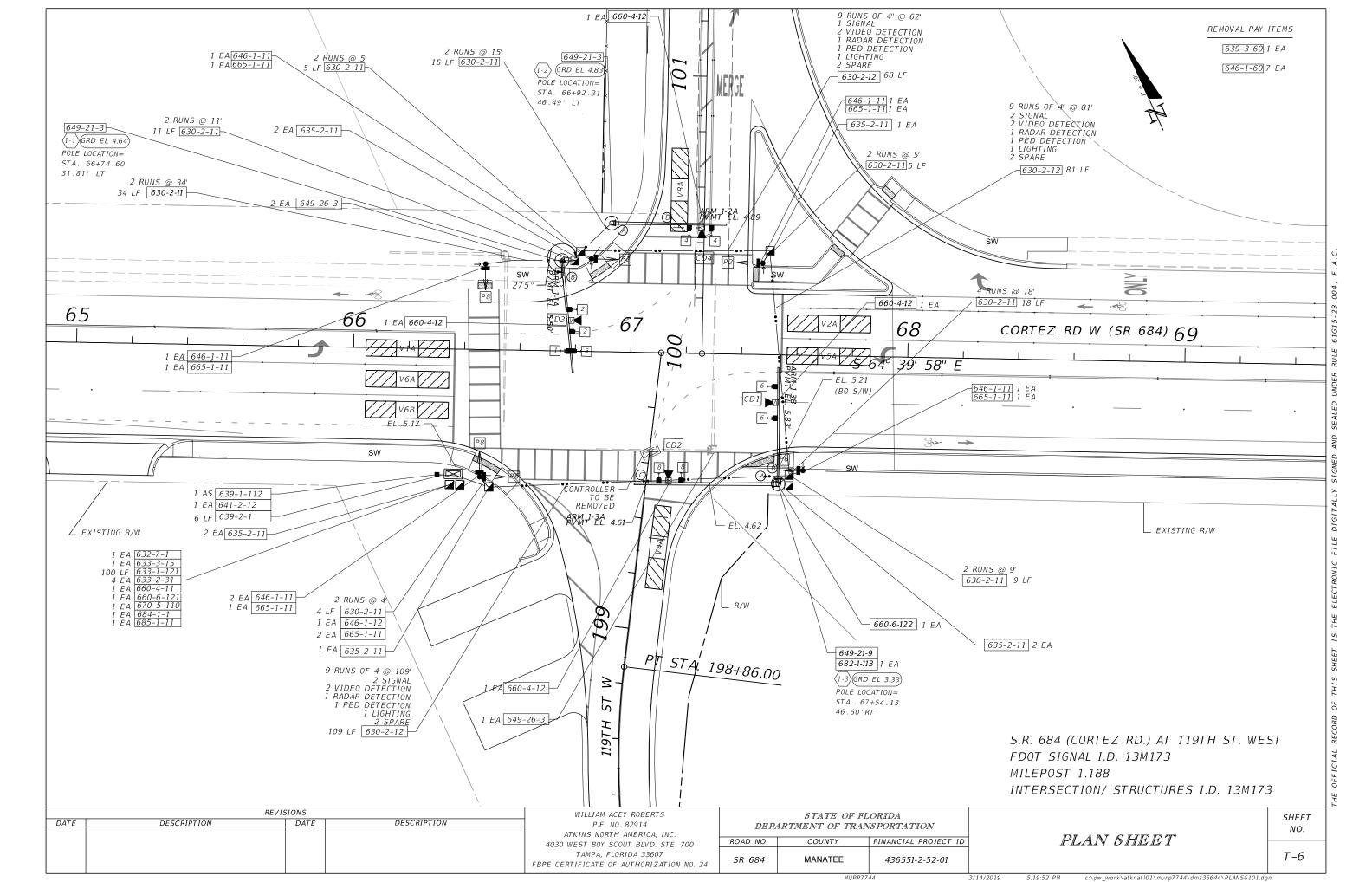
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID SR 684 MANATEE 436551-2-52-01

GENERAL NOTES

SHEET NO.

T-5

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653-1-11



PED. SIGNAL COUNT-DOWN 2-SECT., 2-WAY 1 AS

653-1-12



FTP-68B-06, 6 REQUIRED (INCLUDED W/ 665-1-11)

TRAFFIC SIGNAL HEAD DETAILS







3-SECT., 1-WAY 8 AS

650-1-34

TIMING FUNCTION

TURN TYPE

EXTENSION

ALL RED

MAX LIMIT

ADJUST

MINIMUM GREEN

YELLOW CLEARANCE

MAXIMUM GREEN 1

MAXIMUM GREEN 2

PEDESTRIAN WALK

PED. CLEARANCE

DUAL ENTRY

RECALL

DETECTOR MEMORY

DET. CROSS SWITCH YES

DIRECTION

MOVEMENT NUMBER



1

4-SECT., 1-WAY 2 AS

650 - 1 - 36

CONTROLLER TIMINGS (SECONDS)

2

EBL | WB

3 | 5

3 | 3

15 | 140

7

16

MIN

4

P/P

4

NB

3

4

3

ON

5 6

WBL EB

7

7

16

MIN

P/P

3 5

4 4

3 3

25 | 15 | 140

YES

NOTES

SB

3

2.9

25

7*

30

ON

- 1. REFER TO INTERCONECTION PLAN FOR ALL EXISTING AND PROPOSED DESIGN ELEMENTS RELATED TO FIBER OPTIC COMMUNICATIONS
- 2. REFER TO SHEET T-6 FOR LINEAR FOOT LENGTH QUANTITIES FOR CONDUIT
- 3. PROGRAM 4.0 SECONDS OF "FYA DELAY" FOR FLASHINGYELLOW ARROW INDICATION ON MOVEMENTS 1 AND 5

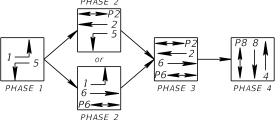
*PEDESTRIAN WALK TIME FOR MOVEMENT 8 (P8) TO BE PROGRAMMED WITH A LEAD PEDESTRIAN INTERVAL OF 5-SECONDS.

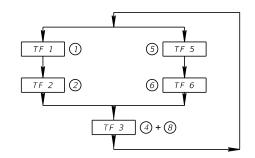
CONTROLLER OPERATIONS

1. MAJOR STREET IS CORTEZ RD, (MOVEMENTS 2 AND 6), AND MINOR STREET IS 119TH ST, (MOVEMENTS 4 AND 8)

STANDARD SIGNAL OPERATING PLAN NO. 7 WITH NO SPECIAL FEATURES

- 2. SPECIAL SIGNAL OPERATING PLAN WITH THE FOLLOWING:
 - A) AT LEAST THREE (3) WEEKS PRIOR TO TIMING IMPLEMENTATION AND PROGRAMMING OF THE CONTROLLER, REQUEST UPDATED SIGNAL TIMINGS (BASIC CONTROLLER AS WELL AS COORDINATION) FROM FDOT ARTERIAL MANAGEMENT SYSTEM ENGINEER, (863-519-2746). PROVIDE ALL "AS-BUILT"INFORMATION NEEDED TO ADEQUATELY TIME THE SIGNALIZED INTERSECTION. THE CONTROLLER SHALL BE PROGRAMMED AS PER THE TIMINGS PROVIDED.
 - B) CONCURRENT/ACTUATED PEDESTRIANS FOR MOVEMENTS 2 (P2), 8 (P8), AND
 - C) PROVIDE A LEADING PEDESTRIAN INTERVAL OF 5 SECONDS FOR PEDESTRIAN MOVEMENT 8 (P8).
- 3. THE CONTRACTOR SHALL PROGRAM PHASE RESTRICTIONS TO OMIT MOVEMENT 1 AND REDIRECT CALLS FROM MOVEMENT 1 TO MOVEMENT 6, WHEN MOVEMENT 2 IS GREEN AND TO OMIT MOVEMENT 5 AND REDIRECT CALLS FROM MOVEMENT 5 TO MOVEMENT 2. WHEN MOVEMENT 6 IS GREEN.





VIDE	O VEHICL	E DETEC	CTION					
ASSIGNMENTS								
CAMERA DETECTOR	DETECTION ZONE	CONNECT TO MOVEMENT	DELAY TIME (SECS.)					
CD1	V 1 A V 6 A V 6 B	1 6	3					
CD2	V8A	8	8					
CD3	V2A V5A	2 5	3					
CD4	V4A	4	8					

OVERHEAD SIGNING DETAILS

(A)



Cortez Rd

119th St W

2 EA 700-5-21

2 EA 700-5-21

(D)

(C)



36" X 36" 2 EA 700-11-391

YIELD TO PED 36" X 36"

1 EA 700-11-391

DUAL SIGNS TO BE ACTIVATED DURING LEAD PEDESTRIAN INTERVAL

REVISIONS DESCRIPTION DATE DESCRIPTION

WILLIAM ACEY ROBERTS P.F. NO. 82914 ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD. STE. 700 TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24

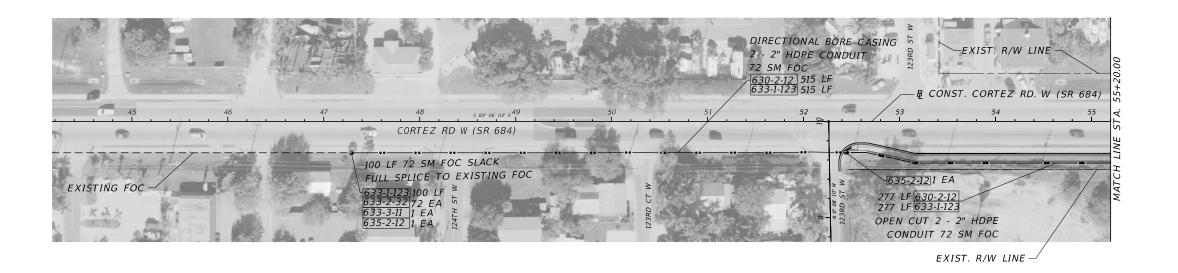
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD NO. COUNTY FINANCIAL PROJECT ID MANATEE 436551-2-52-01 SR 684

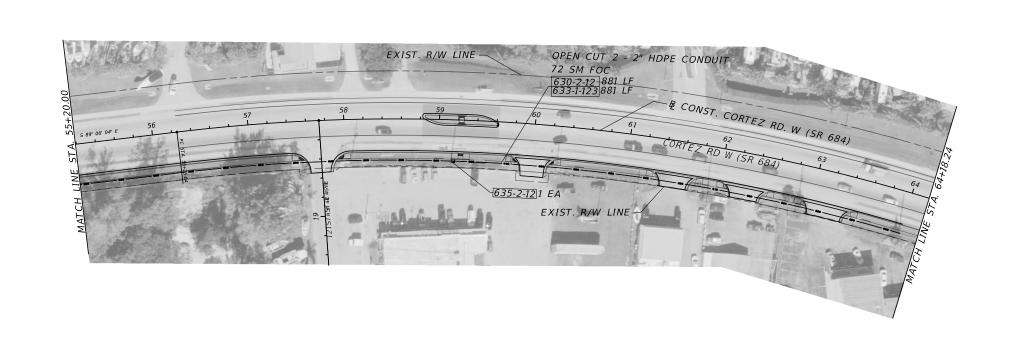
SIGNAL TIMING DETAIL

SHEET NO.

T-7

MURP7744





ROAD NO.

SR 684

WILLIAM ACEY ROBERTS

P.E. NO. 82914

ATKINS NORTH AMERICA, INC.

4030 WEST BOY SCOUT BLVD. STE. 700 TAMPA, FLORIDA 33607

FBPE CERTIFICATE OF AUTHORIZATION NO. 24

REVISIONS

DATE

DESCRIPTION

DESCRIPTION

DATE

INTERCONNECT PLAN (1)

SHEET NO.

T-8

STATE OF FLORIDA

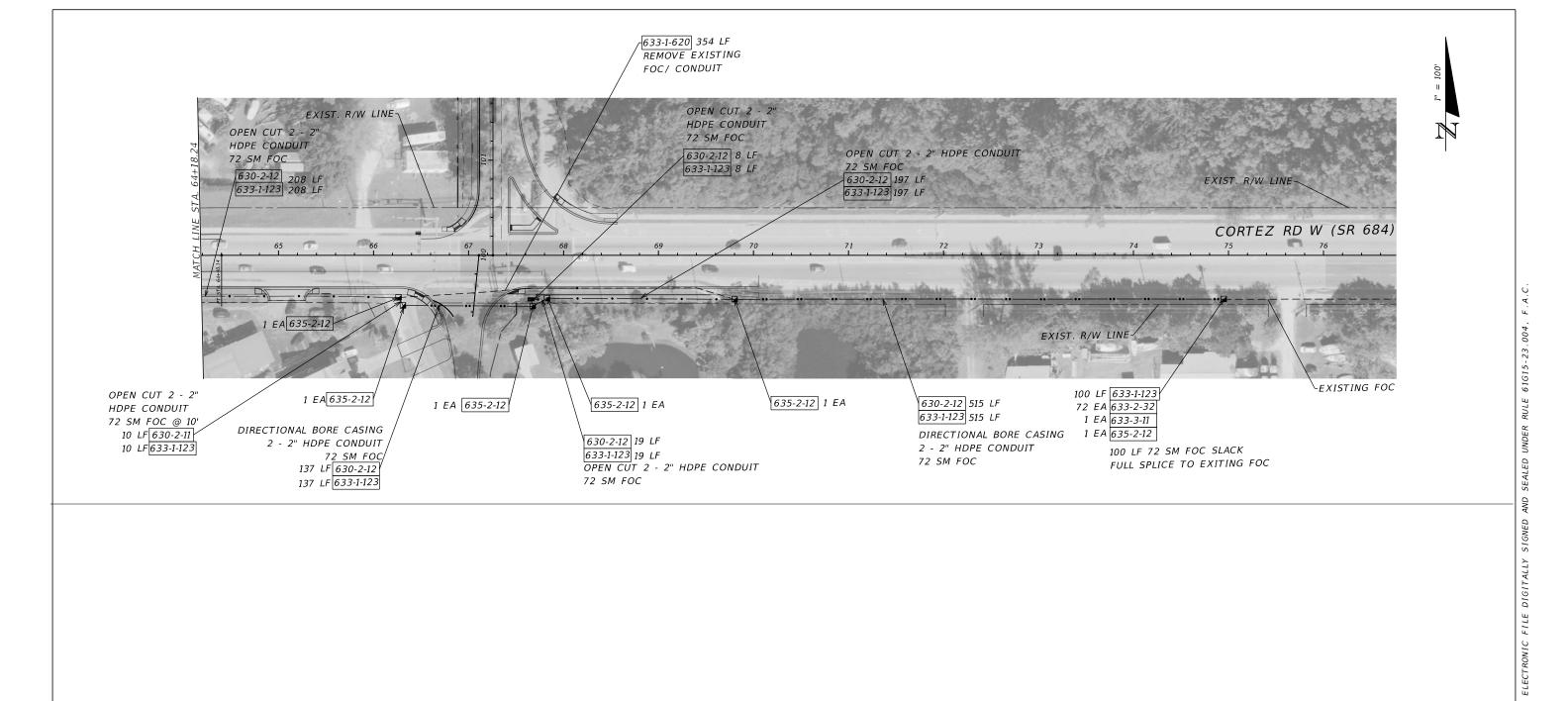
FINANCIAL PROJECT ID

436551-2-52-01

DEPARTMENT OF TRANSPORTATION

COUNTY

MANATEE



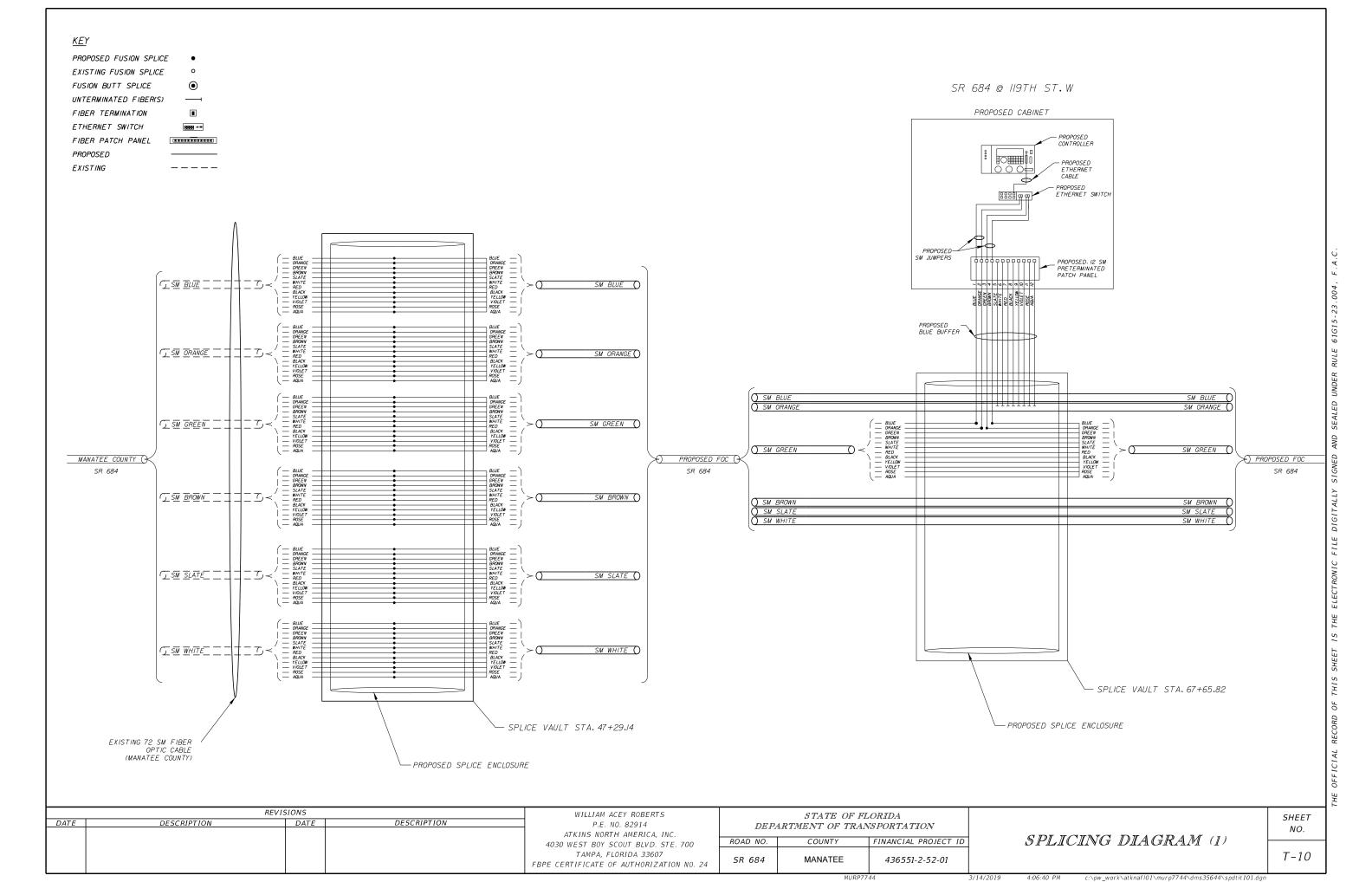
		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

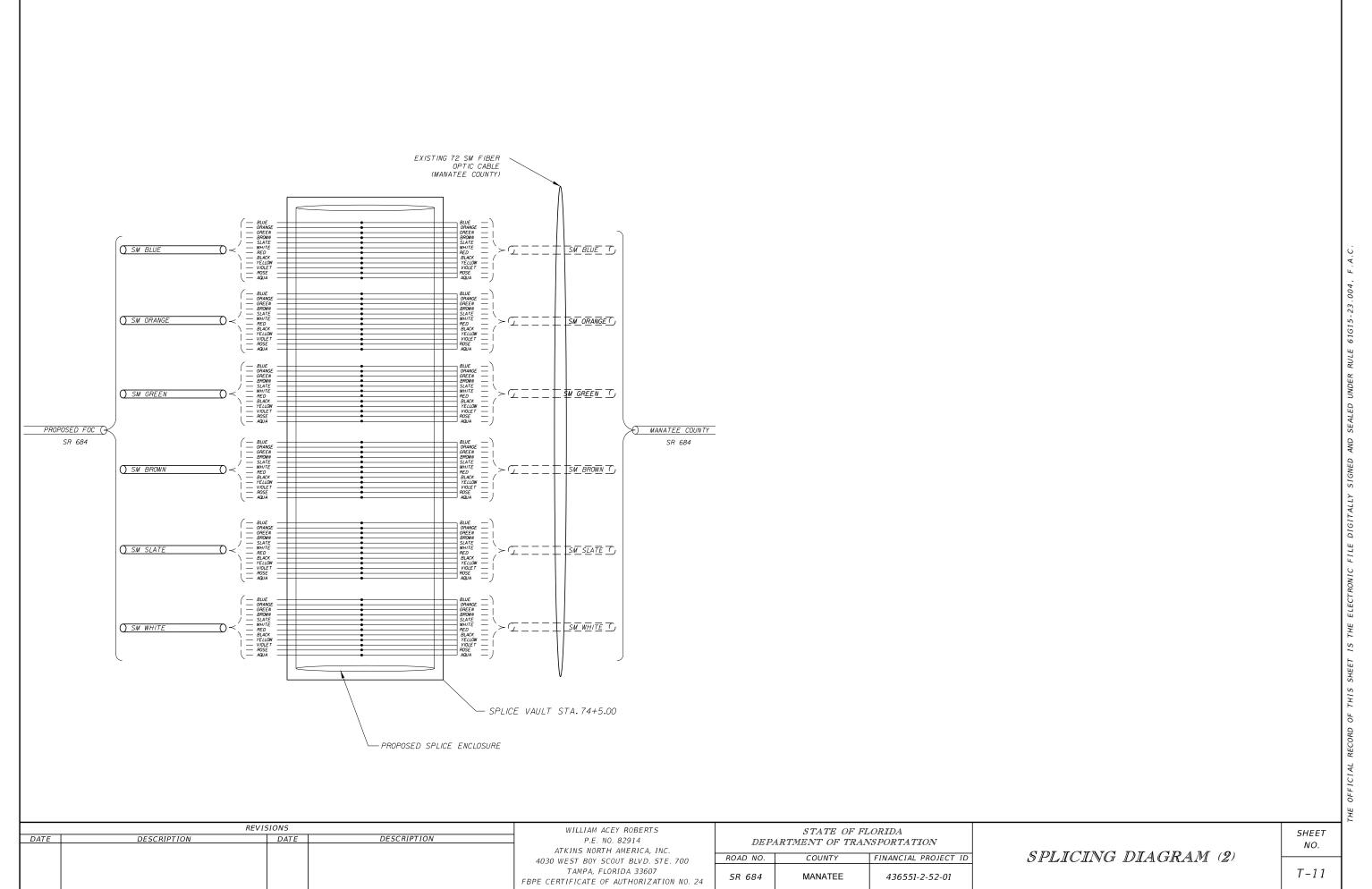
WILLIAM ACEY ROBERTS P.E. NO. 82914 ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD. STE. 700 TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24

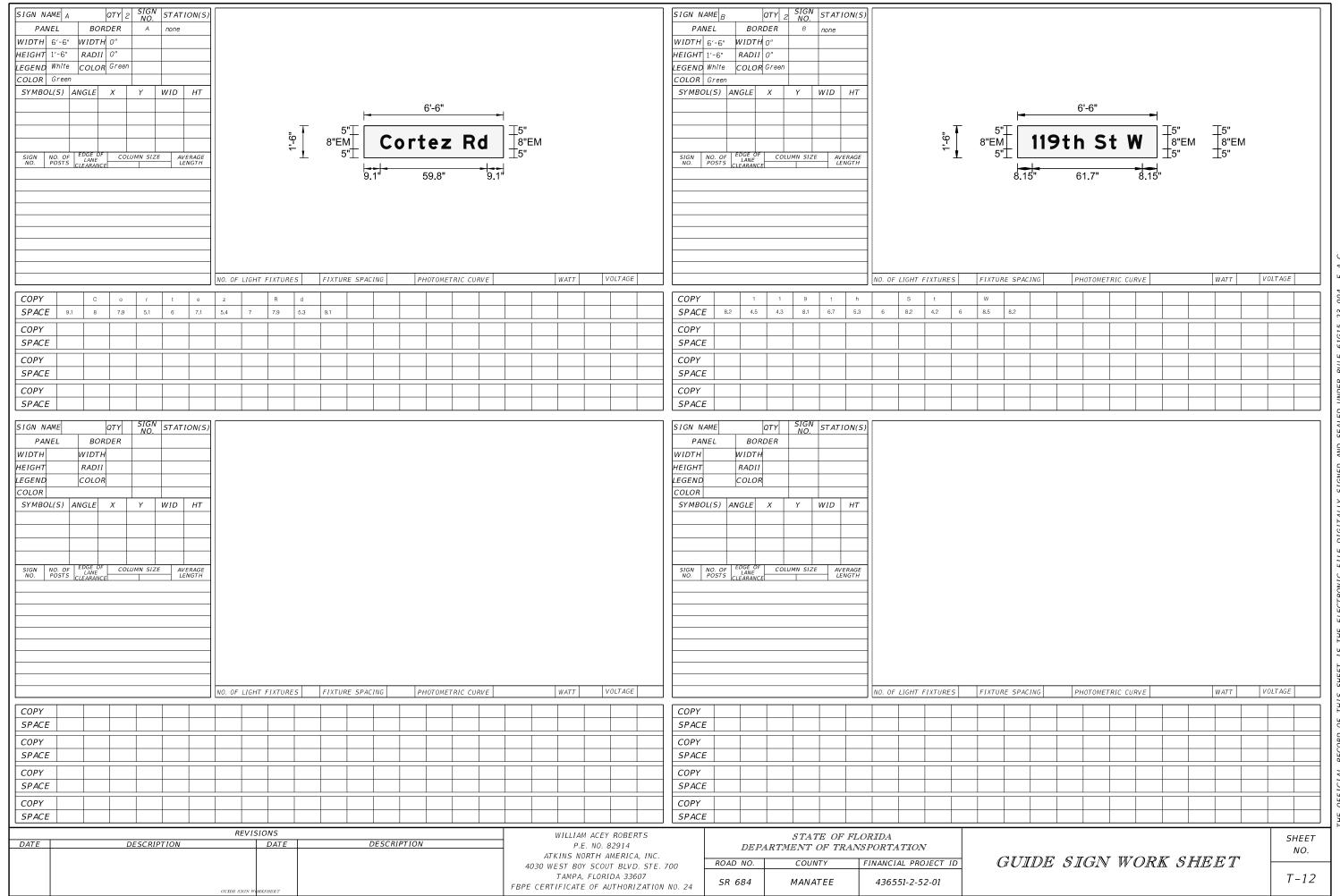
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION FINANCIAL PROJECT ID ROAD NO. COUNTY SR 684 MANATEE 436551-2-52-01

INTERCONNECT PLAN (2)

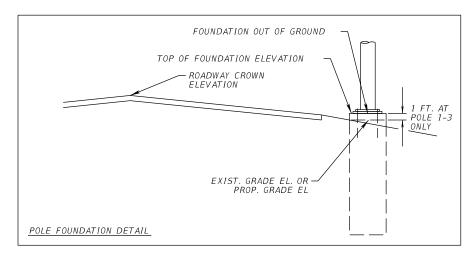
SHEET NO.

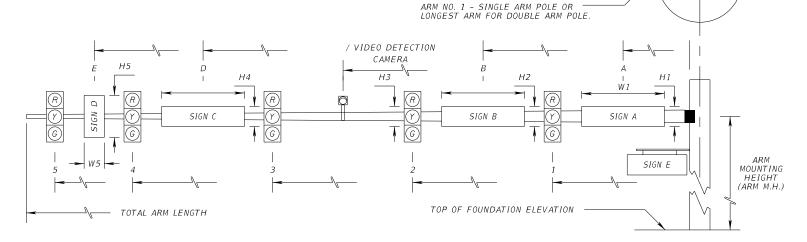






- A. EACH POLE AND MAST ARM SHALL BE IDENTIFIED WITH A PERMANENT ONE (1") INCH HIGH ENGRAVED OR IMPRESSED MARK WHICH BEARS THE POLE IDENTIFICATION NUMBER SHOWN ON THE PLANS.
- B. ANCHOR BOLT COVERS (ORNAMENTAL, NON-ORNAMENTAL, AND/OR PAINTED) SHALL BE GALVANIZED STEEL OR CAST ALUMINUM AND SHALL BE SECURED BY A MINIMUM OF TWO (2) THREADED FASTENERS. THE BOLT COVERS SHALL BE OF SUFFICIENT SIZE SO THAT THERE IS NO GAP BETTER ITSELF AND THE POLE SHAFT.
- C. FIELD VERIFY ALL ELEVATIONS LISTED HEREIN.
- D. INFORMATION BELOW IS FOR DESIGN PURPOSES ONLY, FIELD ADJUSTMENTS MAY BE REQUIRED.
- E. SEE APPROPRIATE PLAN SHEET FOR PROPOSED SIGNAL HEAD ALIGNMENTS AND SIGN CONFIGURATION/LOCATION.
- F. ALL PROPOSED SIGNAL AND SIGN DATA ARE MEASURED FROM THE CENTER OF EACH SIGNAL POLE UPRIGHT.





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

INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE SINGLE-PANEL, LED TYPE, AND RIGIDLY MOUNTED TO THE MAST ARM. INTERNALLY ILLUMINATED SIGN "A" SHALL BE INSTALLED ON SEPARATE CANTILEVER ARMS ATTACHED TO THE SIGNAL POLE UPRIGHT

SHOP DRAWINGS AND SUPPORT CALCULATIONS ARE REQUIRED FOR POLE CANTILEVER ARMS AND HARDWARE WHEN INTERNALLY ILLUMINATED STREET NAME SIGNS EXCEED 18 SQUARE FEET AND/OR 144 LBS. SEND SHOP DRAWINGS AND SUPPORT CALCULATIONS TO DISTRICT ONE STRUCTURES DEPARTMENT AT 801 NORTH BROADWAY AVE. BARTOW, FLORIDA 33830

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

								DL	NOTES	NONDLI	101	520110	3103 1	N 310N	AL 111	LAD AC	JLIND.																				
			SIGNAL DATA																		510	SN DAT	¯A														
POL	E SHEET NO.	LOCATI BY NORT	ION HING	GROUND ELEVATION	RDWY ARM NO.	CROWN	SIGNAL	BACK	K PED.						∠ BETWEEN DUAL ARMS					DISTAN	CE FROM	1 POLE /	HEIGH	T AND	WIDTH O	F SIGN					PAINT COLOR						
NO.	NO.	AND EAS	STING	ELEVATION	NO.	CROWN ELEV.	V/H	Y/N	Y/N	1	*	2	*	3	*	4	*	5	* LENGTH	М.Н.	90/270	Α	Н1	W 1	В	H2	W2	С	НЗ	W3	D	Н4	W4	Ε	H5	W5	COLOR
1-1	T-6	66+75, 31	.81' LT	4.64	1-1A	5.50	V	Y	N	18	3	22	V	26	3	<i>33</i> *÷	* 4**		40	22		0'	18"	78"													
1-2	T-6	66+92, 46	49' 17	4.83	1-2A	4.89	V	V	N	27	3	32	V	37	3				40	21		0'	18"	78"	24'	36"	36"					-		_	_		
		00/02/	.,,		/-	7,03		,				<u> </u>	Ť						70	21			10	7.0		30	30										
1-3	T-6	67+54, 46	.60' RT	3.33	1-3A	4.61	V	Υ	N	35	3	39	V	43	3				50	22	270	0'	18"	78"	48'	36"	36"										
					1-3B	5.83	V	Y	N	24	3	29	V	35	3				40			0'	18"	78"													
																																	<u> </u>				
																															1			1			

^{*} INTERSECTION/ STRUCTURE I.D. 13M173

** THERE ARE TWO SIGNAL HEADS ATTACHED AT THIS LOCATION FACING OPPOSITE DIRECTIONS.

	REV	ISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION
1			

WILLIAM ACEY ROBERTS P.E. NO. 82914 ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD. STE. 700 TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION COUNTY FINANCIAL PROJECT ID ROAD NO. MANATEE SR 684 436551-2-52-01

MAST ARM TABULATION

SHEET NO.

F. A
15-23.004,
E DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.00
D UNDER
SEALED
AND
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JH

STANDARD MAST ARM ASSEMBLIES DATA TABLE							Table Date 11-01-16				
STRUCTURE	DESIGNATION	FIRST ARM SI		SECON	SECOND ARM			POLE		DRILLED	
ID NUMBERS		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)	UF (deg)	LL (deg)	POLE ID	UAA (ft.)	UB (ft.)	SHAFT ID
1-1(13M173)	A40/S-P2/S/L	A40/5						P2/5/L		22	DS/14/4.5
1-2(13M173)	A40/S-P2/S	A40/5						P2/S	24	21	DS/14/4.5
1-3(13M173)	A50/D-A40/D-P3/D	A50/D		A40/D		270		P3/D		22	DS/20/5.0

NOTES:

- 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 Indexes 649-030 and 649-031.

FOUNDATION NOTES:

- 1. Design based on Borings taken August, 2018 Sealed by Tierra, Inc.
- Assumptions and Values used in design: Soil Type = Sand Design Water Table is 0 ft. below surface Soil Layer Thickness = Drilled Shaft Length

STRUC. NO.	SOIL UNIT WEIGHT (PCF)	SOIL FRICTION ANGLE (DEGREES)		
1 – 1	43.0	29		
1-2	43.0	29		
1-3	43.0	29		

	REV I.	SIONS		ATKINS NORTH AMERICA, INC.	STATE OF FLORIDA		
DATE	DESCRIPTION	DATE	DESCRIPTION	4030 WEST BOY SCOUT BLVD. STE. 700	DEPARTMENT OF TRANSPORTATION		
				TAMPA, FLORIDA 33607			
				(813) 282-7275 FBPE CERTIFICATE OF AUTHORIZATION NO. 24	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
					CD CO4	1 44444755	426554 2 52 04
				UMA MAHESWAR R. PALLAPOLU, P.E. NO. 79524	SR 684	MANATEE	436551-2-52-01

MAST ARM ASSEMBLIES

SHEET NO.

T - 14

₽ CONST. SR 684

Feet

LEGEND

LIGHT GRAY TO GRAY SAND TO SAND WITH SILT OCCASIONALLY WITH SHELL (SP/SP-SM)

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW.

NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).

HAND AUGERED TO VERIFY UTILITY CLEARANCE

NAVD 88 NORTH AMERICAN VERTICAL DATUM OF 1988

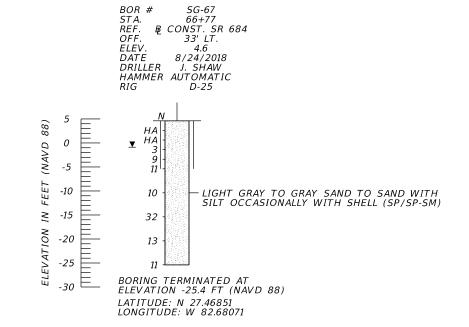
APPROXIMATE SPT BORING LOCATION

GROUNDWATER LEVEL ENCOUNTERED DURING FIELD EXPLORATIONS

₽ CONST. SR 684 BASELINE CONSTRUCTION OF SR 684

BORING LOCATION PLAN

	RECOMMENDED SOIL PARAMETERS							
BORING NUMBER	DEPTH (FT)	N	SOIL CLASSIFICATION	SOIL UNIT WEIGHT (PCF)		SOIL ANGLE OF FRICTION (DEGREES)	COHESION (PSF)	
				∦ SAT	¥ SUB			
SG-67	0 TO 18.5 18.5 TO 23.5 23.5 TO 30	HA TO 11 32 11 TO 13	SP/SP-SM SP/SP-SM SP/SP-SM	105 115 112	43.0 53.0 50.0	29 32 30	0 0 0	
SG-68	0 TO 18.5 18.5 TO 23.5 23.5 TO 30	HA TO 10 31 7 TO 14	SP/SP-SM SP/SP-SM SP/SP-SM	105 115 105	43.0 53.0 43.0	29 32 29	0 0 0	



41' RT. 3.7 DATE 8/24/2018
DRILLER J.SHAW
HAMMER AUTOMATIC
RIG D-25 (NAVD HA 9 10 LIGHT GRAY TO GRAY SAND TO SAND WITH SILT OCCASIONALLY WITH SHELL (SP/SP-SM) -15 ≥ 31 -20 NOI TA 14

5G-68 67+57 & CONST. SR 684

BORING TERMINATED AT ELEVATION -26.3 FT (NGVD)

LATITUDE: N 27.46823 LONGITUDE: W 82.68058

BOR # STA. REF.

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS-	SPT N-VALUE	SPT N-VALUE
RELATIVE DENSITY	(BLOWS/FT.)	(BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS	SPT N-VALUE	SPT N-VALUE
CONSISTENCY	(BLOWS/FT.)	(BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

SIGNALS

	REVI	KEVIN H. SCOTT, P.E.		
DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. LICENSE NUMBER 65514
				TIERRA, INC.
				7351 TEMPLE TERRACE HIGHWAY
				TAMPA, FLORIDA 33637
l .				CERTIFICATE OF AUTHORIZATION NO

KEVIN H. SCOTT, P.E.	STATE OF FLORIDA					
P.E. LICENSE NUMBER 65514	DEPARTMENT OF TRANSPORTATION					
TIERRA, INC.						
7351 TEMPLE TERRACE HIGHWAY	ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
TAMPA, FLORIDA 33637	CD 604	A4 A N AT E E	436551 3 53 01			
CERTIFICATE OF AUTHORIZATION NO. 6486	SR 684	MANATEE	436551-2-52-01			

REPORT OF CORE BORINGS

SHEET NO.