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INDEX OF SIGNALIZATION PLANS

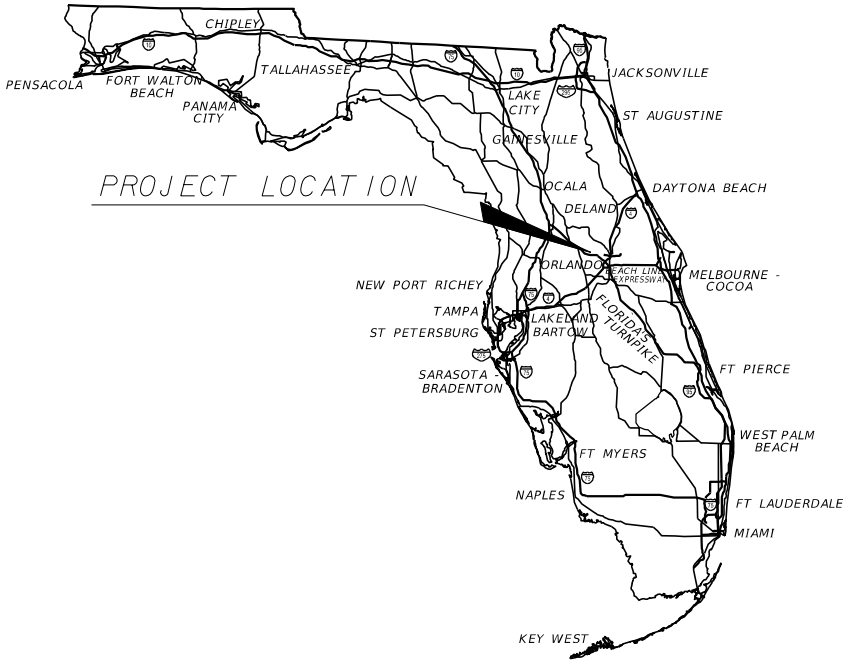
SHEET NO.	SHEET DESCRIPTION
T-1	KEY SHEET
T-2	SIGNATURE SHEET
T-3 & T-4	TABULATION OF QUANTITIES
T-5	GENERAL NOTES
T-6 - T-14	SIGNALIZATION PLAN
T-15 - T-21	INTERCONNECT PLAN SHEET
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T-27	DETECTION SYSTEM INSTALLATION DETAIL
T-28 - T-30	REPORT OF CORE BORINGS

SIGNALIZATION PLANS

FINANCIAL PROJECT ID 441781-1-58-01

HARTWOOD MARSH ROAD - PHASE 1

FROM SR 25 (US 27) TO MAJESTIC ISLE DR



SIGNALIZATION PLANS

ENGINEER OF RECORD:

MOHAN GOPALAKRISHNA, P.E., PTOE

P.E. NO.: 60720

STANLEY CONSULTANTS, INC.

80 SPRING VISTA DRIVE

DEBARY, FL 32713

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2026-27 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>

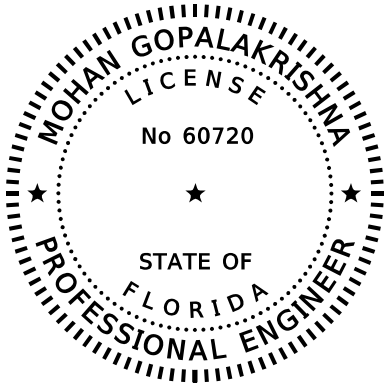
GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, FY 2026-27 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

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

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

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THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

Mohan Gopalakrishna

Digitally signed by Mohan Gopalakrishna
DN: CN=Mohan Gopalakrishna,
oQualifer=AD1410D0000019F05DBC414001848E2,
O=Unaffiliated, C=US
Date: 2026.09.21 16:53:56-04'00'

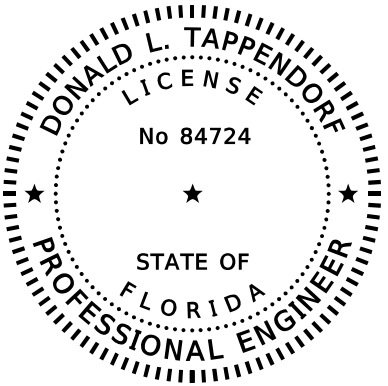
ON THE DATE ADJACENT TO THE SEAL

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STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FLORIDA 32713
MOHAN GOPALAKRISHNA, P.E., PTOE
P.E. NO. 60720

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 - T-4	TABULATION OF QUANTITIES
T-5	GENERAL NOTES
T-6 - T-14	SIGNALIZATION PLAN SHEET
T-23	GUIDE SIGN WORKSHEET
T-24	MAST ARM TABULATION
T-26	DETECTION SYSTEM WIRING DIAGRAM
T-27	DETECTION SYSTEM INSTALLATION DETAIL



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

Donald L Tappendorf

Digitally signed by Donald L. Tappendorf
DN: CN=Donald L. Tappendorf,
oQualifer=AD1410D0000019813F15FD4000AA0C2,
O=STANLEY CONSULTANTS INC., C=US
Date: 2026.09.21 14:57:22-07'00'

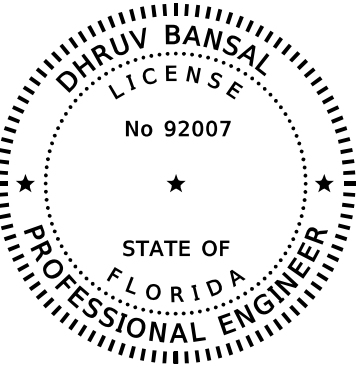
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STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FLORIDA 32713
DONALD L. TAPPENDORF,
P.E. NO. 84724

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-15 - T-21	INTERCONNECTION PLAN SHEET
T-22	SPLICING DIAGRAM



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

DHRUV
BANSAL

Digitally signed by DHRUV
BANSAL
Date: 2026.09.22 07:17:04
-04'00'

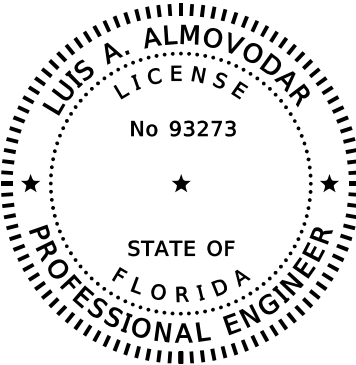
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OM ENGINEERING SERVICES, INC.
621 WASHINGTON ST # 8
ORLANDO, FL 32801
DHRUV BANSAL, P.E. NO. 92007

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-25	MAST ARM ASSEMBLIES DATA TABLE



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

Luis A Almodovar
2026.09.22 07:22:19-04'00'

ON THE DATE ADJACENT TO THE SEAL

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TIERRA, INC.
591 SUSAN B. BRITT COURT
WINTER GARDEN, FLORIDA 34787
LUIS A. ALMODOVAR, P.E. NO. 93273

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-28 - T-30	REPORT OF CORE BORINGS

REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			SIGNATURE SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.			
					HARTWOOD MARSH	441781-1-58-01			T-2

TABULATION OF QUANTITIES																			
PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		
			T-6		T-8		T-9		T-12		T-13		T-15		T-16				
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
102-14	TRAFFIC CONTROL OFFICER	HR			8				8								16		
102-104	TEMPORARY SIGNALIZATION AND MAINTENANCE, INTERSECTION	ED			250				250								500		
102-107-1	TEMPORARY TRAFFIC DETECTION AND MAINTENANCE, INTERSECTION	ED			250				250								500		
611-1-1	ITSFM SUBSURFACE DOCUMENTATION- PROJECT LENGTH	MI																	
611-2-1	ITSFM LOCATION DOCUMENTATION- INTERSECTION	EA																	
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	72		183				215				233		437		1140		
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	309		567				415						168		1459		
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF			24				24								48		
632-7-1	SIGNAL CABLE, NEW OR RECONSTRUCTED INTERSECTION, F&I	PI	1		2				1								4		
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND,2-12 FIBERS	LF																	
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND,49-96 FIBERS	LF											604		755		1359		
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA											72				72		
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA											1				1		
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA											6				6		
633-3-13	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED CONNECTOR ASSEMBLY	EA																	
633-3-16	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL, FIELD TERMINATED	EA																	
633-3-17	FIBER OPTIC CONNECTION HARDWARE, F&I, CONNECTOR PANEL	EA																	
633-6	FIBER OPTIC CABLE LOCATOR	DA																	
635-2-11	PULL & SPLICE BOX, F&I, 13"x24" COVER SIZE	EA	10		23				26								59		
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	1		1				1				2		3		8		
635-2-13	PULL & SPLICE BOX, F&I, 30"x60" ROUND	EA			1				1								2		
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS			2				1								3		
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF			113				44								157		
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA			2				1								3		
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 SERVICE POLE (12' HEIGHT)	EA			2				1								3		
641-2-80	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- POLE 30' AND GREATER	EA			2				2								4		
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	4		6				8								18		
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	4						3								7		
649-21-9	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 50'-50'	EA			1												1		
649-21-10	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 60'	EA							1								1		
649-21-13	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 60'-50'	EA			1												1		
649-21-15	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'	EA							1								1		
649-21-18	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'-50'	EA			1												1		
649-21-21	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 78'	EA							2								2		
650-1-14	TRAFFIC SIGNAL, F&I, ALUMINUM, 3 SECTION, 1 WAY	AS	1					10				11					22		
650-1-16	TRAFFIC SIGNAL, F&I, ALUMINUM, 4 SECTION, 1 WAY	AS						2				2					4		
653-1-11	PEDESTRIAN DETECTOR, F&I, LED COUNTDOWN, 1 WAY	AS	4					4				8					16		
653-1-12	PEDESTRIAN DETECTOR, F&I, LED COUNTDOWN, 2 WAY	AS						2									2		
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA			1				1								2		
660-3-12	VEHICLE DETECTION SYSTEM- RADAR, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA						3				4					7		
660-3-51	VEHICLE DETECTION SYSTEM- MICROWAVE, ADJUST & MODIFY, CABINET EQUIPMENT	EA	1														1		
663-1-111	SIGNAL PRIORITY AND PREEMPTION SYSTEM, F&I, OPTICAL, CABINET EQUIPMENT	EA			2				1								3		
663-1-112	SIGNAL PRIORITY AND PREEMPTION SYSTEM, F&I, OPTICAL, DETECTOR	EA			5				4								9		
665-1-12	PEDESTRIAN DETECTOR, FURNISH & INSTALL, ACCESSIBLE	EA	8		8				8								24		
665-1-60	PEDESTRIAN DETECTOR, REMOVE- POLE/PEDESTAL TO REMAIN	EA	4														4		
670-5-161	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA W/STANDARD LOCK, 1 PREEMPTION	AS							1								1		
670-5-162	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA W/STANDARD LOCK, 2 PREEMPTION	AS			1												1		
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS							1								1		
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA																	
685-1-13	UNINTERRUPTABLE POWER SUPPLY, F&I, LINE INTERACTIVE WITH CABINET	EA			1				1								2		
685-2-1	REMOTE POWER MANAGEMENT UNIT- RPMU, FURNISH AND INSTALL	EA	1														1		
700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA						3									3		
700-5-22	INTERNALLY ILLUMINATED SIGN, F&I, OH MOUNT 12-18 SF	AS						4				4					8		
700-141-360	ENHANCED HIGHWAY SIGN ASSEMBLY, AC POWERED, F&I OVERHEAD MOUNT, BLANK OUT SIGN <12 SF	EA						1									1		
REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713				HARTWOOD MARSH ROAD				TABULATION OF QUANTITIES					SHEET NO. T-3		
DATE	DESCRIPTION		DATE																

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TABULATION OF QUANTITIES																			
PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS												TOTAL THIS SHEET		GRAND TOTAL		
			T-17		T-18		T-19		T-20		T-21								
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
102-14	TRAFFIC CONTROL OFFICER	HR															16		
102-104	TEMPORARY SIGNALIZATION AND MAINTENANCE, INTERSECTION	ED															500		
102-107-1	TEMPORARY TRAFFIC DETECTION AND MAINTENANCE, INTERSECTION	ED															500		
611-1-1	ITSFM SUBSURFACE DOCUMENTATION- PROJECT LENGTH	MI															0.75		
611-2-1	ITSFM LOCATION DOCUMENTATION- INTERSECTION	EA															3		
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	473		602		478		342		393				2288		3428		
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	147				125		259						531		1990		
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF															48		
632-7-1	SIGNAL CABLE, NEW OR RECONSTRUCTED INTERSECTION, F&I	PI															4		
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND,2-12 FIBERS	LF	262								310				572		572		
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND,49-96 FIBERS	LF	920		652		753		701		643				3669		5028		
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	24								18				42		114		
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA	1								1				2		3		
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA	2								2				4		10		
633-3-13	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED CONNECTOR ASSEMBLY	EA	12								12				24		24		
633-3-16	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL, FIELD TERMINATED	EA	1								1				2		2		
633-3-17	FIBER OPTIC CONNECTION HARDWARE, F&I, CONNECTOR PANEL	EA	1								1				2		2		
633-6	FIBER OPTIC CABLE LOCATOR	DA															250		
635-2-11	PULL & SPLICE BOX, F&I, 13"x24" COVER SIZE	EA															59		
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	2		1		3		2		1				9		17		
635-2-13	PULL & SPLICE BOX, F&I, 30"x60" ROUND	EA															2		
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS															3		
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF															157		
639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA															3		
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-11 SERVICE POLE (12' HEIGHT)	EA															3		
641-2-80	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- POLE 30' AND GREATER	EA															4		
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA															18		
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA															7		
649-21-9	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 50'-50'	EA															1		
649-21-10	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 60'	EA															1		
649-21-13	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 60'-50'	EA															1		
649-21-15	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'	EA															1		
649-21-18	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'-50'	EA															1		
649-21-21	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 78'	EA															2		
650-1-14	TRAFFIC SIGNAL, F&I, ALUMINUM, 3 SECTION, 1 WAY	AS															22		
650-1-16	TRAFFIC SIGNAL, F&I, ALUMINUM, 4 SECTION, 1 WAY	AS															4		
653-1-11	PEDESTRIAN DETECTOR, F&I, LED COUNTDOWN, 2 WAY	AS															16		
653-1-12	PEDESTRIAN DETECTOR, F&I, LED COUNTDOWN, 1 WAY	AS															2		
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA															2		
660-3-12	VEHICLE DETECTION SYSTEM- RADAR, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA															7		
660-3-51	VEHICLE DETECTION SYSTEM- MICROWAVE, ADJUST & MODIFY, CABINET EQUIPMENT	EA															1		
663-1-111	SIGNAL PRIORITY AND PREEMPTION SYSTEM, F&I, OPTICAL, CABINET EQUIPMENT	EA															3		
663-1-112	SIGNAL PRIORITY AND PREEMPTION SYSTEM, F&I, OPTICAL, DETECTOR	EA															9		
665-1-12	PEDESTRIAN DETECTOR, FURNISH & INSTALL, ACCESSIBLE	EA															24		
665-1-60	PEDESTRIAN DETECTOR, REMOVE- POLE/PEDESTAL TO REMAIN	EA															4		
670-5-161	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA W/STANDARD LOCK, 1 PREEMPTION	AS															1		
670-5-162	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA W/STANDARD LOCK, 2 PREEMPTION	AS															1		
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS															1		
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	1								1				2		2		
685-1-13	UNINTERRUPTABLE POWER SUPPLY, F&I, LINE INTERACTIVE WITH CABINET	EA															2		
685-2-1	REMOTE POWER MANAGEMENT UNIT- RPMU, FURNISH AND INSTALL	EA															1		
700-3-201	SIGN PANEL, F&I, OVERHEAD, SPAN, UP TO 12 SF	EA															3		
700-5-22	INTERNALLY ILLUMINATED SIGN, F&I, OH MOUNT 12-18 SF	EA															8		
700-141-360	ENHANCED HIGHWAY SIGN ASSEMBLY, AC POWERED, F&I OVERHEAD MOUNT, BLANK OUT SIGN <12 SF	EA															1		
REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713					HARTWOOD MARSH ROAD				TABULATION OF QUANTITIES					SHEET NO.	
DATE	DESCRIPTION		DATE																
																		T-4	

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GENERAL NOTES:

1.

A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE LAKE COUNTY TRAFFIC OPERATIONS AT (352) 742-1766, PRIOR TO ANY CONSTRUCTION.
2.

IT SHALL BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE JOB SITE CONDITIONS PRIOR TO SUBMITTING BID PROPOSALS.
3.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING LAKE COUNTY TRAFFIC OPERATIONS, AT (352) 742-1766, 48 HOURS IN ADVANCE OF ALL PHASES OF CONSTRUCTION INCLUDING AND NOT LIMITED TO, INSTALLING SIGNAL POLES, GROUND RODS, UNDERGROUND CONDUIT, AND SIGNAL HEAD ASSEMBLIES INSTALLATION.
4.

DURING CONSTRUCTION PEDESTRIAN AND VEHICULAR TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE FDOT TRAFFIC DESIGN STANDARDS.
5.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS INCLUDING THE ELECTRIC PERMIT. THE APPLICATION FOR POWER SHOULD BE COORDINATED WITH LAKE COUNTY TRAFFIC OPERATIONS.
6.

THE EXACT LOCATIONS OF ALL UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION.
7.

THE CONTRACTOR SHALL STAKE ALL POLE LOCATIONS AND HAVE IT APPROVED BY LAKE COUNTY TRAFFIC OPERATIONS.
8.

THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY DEPARTMENT AT LEAST 48 HOURS HOLES IN ADVANCE OF POLE SETTING OPERATIONS WHERE A CONFLICT WITH OVERHEAD ELECTRICAL CONDUCTORS IS EXPECTED AND WHEN JOINT USE POLES ARE TO BE USED.
9.

ALL MATERIALS AND HARDWARE SHALL BE F.D.O.T. APPROVED, AND PRE-APPROVED BY LAKE COUNTY TRAFFIC OPERATIONS.
10.

ANY STRIPING/PAVEMENT MARKINGS OR LANDSCAPING DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
11.

THE COST FOR THE USE OF "TRAFFIC CONTROL OFFICER" IN THE EVENT OF LANE CLOSURES SHALL BE INCIDENTAL TO THE WORK AND WILL NOT BE PAID SEPARATELY.
12.

THE CONTRACTOR SHALL FURNISH LAKE COUNTY TRAFFIC OPERATIONS WITH EMERGENCY CONTACTS AND PHONE NUMBERS AND HAVE AN IMSA LEVEL II CERTIFIED SIGNAL TECHNICIAN ON CALL WITHIN A TWO HOUR MINIMUM RESPONSE TIME.
- 13

THE NEW TRAFFIC SIGNAL SHALL FLASH NOT LESS THAN 7 DAYS AND NO MORE THAN 14 DAYS PRIOR TO SIGNAL TURN ON INSPECTION. THE CONTRACTOR SHALL NOTIFY LAKE COUNTY TRAFFIC ENGINEERING WHEN THE SIGNAL IS READY FOR INSPECTION. LAKE COUNTY TRAFFIC ENGINEERING WILL COMPLETE THE INSPECTION WITHIN 7 DAYS OF NOTIFICATION WHEN SIGNAL IS DEEMED READY FOR FULL OPERATION BY LAKE COUNTY TRAFFIC ENGINEERING. THE SIGNAL SHALL BE TURNED ON TO FLASH MODE UNTIL THE FINAL ACCEPTANCE. REMOVE THE EXISTING STOP SIGNS (REFER TO S&PM PLANS) ON FINAL ACCEPTANCE DATE.

PULL BOXES:

1.

PULL BOX COVERS SHALL BE FDOT APPROVED NON-METALLIC WITH RECESSED COVER LOGO "TRAFFIC SIGNAL" OR "FIBER OPTICS" AS APPROPRIATE.
2.

PULL BOXES SHALL BE LOCATED AWAY FROM EDGE OF PAVEMENT, OR BEHIND A CURB WHEN POSSIBLE, ATTEMPTING TO KEEP FROM THE BOTTOM OF A DITCH OR RETENTION AREA, AND WHERE LARGE VEHICLES PARK.
3.

MULTIPLE CONDUITS IN THE SAME RUN SHALL BE PAID FOR AS DIRECTIONAL BORED OR JACK AND BORED, INCLUDING THE NUMBER OF THE CONDUIT RUNS AS SHOWN IN THE PLANS. NO ADDITIONAL PAYMENT WILL BE PAID FOR THE CONDUIT RUNS.

SIGNAL/PEDESTRIAN HEADS:

1.

SIGNAL HEADS SHALL BE WIRED DIRECTLY TO THE TERMINAL BLOCKS. THE USE OF "JONES" PLUGS IS PROHIBITED.
2.

DISCONNECTS SHALL OPEN FROM THE SIGNAL FACE. (NOT FROM THE REAR)
3.

SIGNAL HEADS SHALL BE WIRED PER IMSA NEMA PHASING, PHASE 2 AND 6 ARE TYPICALLY ASSIGNED TO MAJOR-STREET WITH PHASE 2 BEING SOUTH OR WEST BOUND THROUGH MOVEMENTS. THE USUSAL CONVENTION IS FOR THROUGH PHASES TO BE NUMBERED IN THE CLOCKWISE DIRECTION STARTING WITH PHASE 2, AND THE LEFT-TURN PHASES TO BE NUMBERED IN THE CLOCKWISE DIRECTION, WITH PHASE 1 BEING ACCOMPANYING LEFT-TURN TO PHASE 6.
4.

VEHICLE SIGNAL HEAD ASSEMBLIES SHALL BE BLACK, CAST ALUMINUM, WITH TUNNEL VISORS, BACKPLATES, (WITH YELLOW RETROREFLECTIVE BORDER), AND LED's FOR ALL INDICATIONS, UNLESS OTEHRWISE NOTED.

5.

ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE LOUVERS AND BE COUNTDOWN LED SIGNALS WITH PROPER COUNTDOWN PEDESTRIAN SIGNAGE. ALL PEDESTRIAN SIGNAL NOT MOUNTED ON SIGNAL POLES OR MAST ARM POLES SHALL BE THE BREAKAWAY TYPE COMMONLY REFERRED TO AS A "T-BASE". T-BASE WILL HAVE AN ACCESS DOOR FOR WIRING AND MAINTENANCE.

CABINET/CONTROLLER:

1.

THE CABINET ASSEMBLY TEMPLE MODEL TF5116TFL02-NEMA TS2 ELS1008FLG2 DOUBLE DOOR CABINET, 67" H, FRONT & BACK DOORS TS-2-1 OR TCS MODEL # D684426B2D2PGSD-P CABINET (ZLAKECOUNTY), NEMA, TYPE 6 STRETCH, FRONT/REAR DOOR, PEC, WHITE INSIDE WITH A TS2-1 INTELIGHT-QFREE CONTROLLER XN-1 or XN-2 CONTROLLER ETHERNET ENABLED FOR COUNTY CLOSED LOOP SYSTEM, TO INCLUDE AN EHTERNET SWITCH WITH BYPASS CAPABILITIES, TO INCLUDE A GENERATOR SWITCH BOX PANEL, TYPE 6 CABINET.
2.

UNINTERRUPTABLE POWER SUPPLY (UPS) SHALL BE STAND ALONE WITHIN ITS OWN CABINET, INSTALLED ON A CONCRETE PAD ADJACENT TO THE CABINET BASE. THE UPS SHALL BE ON THE FDOT APPROVED PRODUCTS LIST (APL).
3.

A GENERATOR PAD, 3'X3'X4" CONCRETE SHALL BE INSTALLED WITH 5/8" EYEBOLT INSTALLED IN THE PAD ADJACENT TO CABINET BASE.
4.

THE CABINET CONCRETE BASE SHALL BE A MINIMUM OF 32"X48" TO ACCOMMODATE TYPE 6 CABINETS.
5.

THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION WHEN POSSIBLE.
6.

THE MOUNTING OF ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL CABINET SHALL BE PROHIBITED.
7.

AN ELECTRICAL SERVICE DISCONNECT WITH A 30 AMP BREAKER FOR THE TRAFFIC SIGNAL AND A 20 AMP BREAKER FOR THE OVERHEAD INTERNALLY ILLUMINATED STREET SIGNS SHALL BE INSTALLED AT THE TRAFFIC SIGNAL CABINET ON A SEPARATE POLE.
8.

A MANUAL PUSH BUTTON CORD SHALL BE FURNISHED IN ALL CONTROLLER CABINETS.
9.

GROUNDING FOR THE CONTROLLER ASSEMBLY SHALL MEASURE 5 OHMS, OR LESS.
10.

THE FIRST BUFFER (BLUE BUFFER) OF SINGLE MODE FIBER SHALL BE TERMINATED IN THE CABINET USING CONNECTORS.

ILLUMINATED STREET SIGNS:

- 1

INTERNALLY ILLUMINATED STREET NAME SIGNS (LED), SHALL BE INSTALLED ON ARM BRACKETS ATTACHED TO THE UPRIGHTS, SWINGING FREE, POWERED BY A SEPARATE CIRCUIT BREAKER, AND BE DESIGNED AND INSTALLED IN ACCORDANCE WITH LAKE COUNTY PUBLIC WORKS INTERNALLY ILLUMINATED STREET NAME SIGN DETAIL AND SPECIFICATIONS. A PHOTOCCELL SHALL BE INSTALLED NEAR THE ELECTRIC SERVICE WITHIN REACH OF A LIFT TRUCK. CARE TO BE GIVEN TO INSTALL WHERE STREET LIGHTING DOES NOT AFFECT OPERATION.
2.

THE CONTRACTOR SHALL FURNISH LAKE COUNTY TRAFFIC OPERATIONS, TWO COMPLETE SETS OF AS-BUILT PLANS THAT INCLUDE CONDUIT AND PULL BOX LOCATIONS, AT FINAL INSPECTION.

OTHER:

1.

OPTICOM PREEMPTION OR EQUIVALENT SHALL BE USED WHEN EMERGENCY PREEMPTION IS REQUESTED.
2.

A FIBER OPTIC VAULT AND CONDUIT INTO THE CONTROLLER ASSEMBLY SHALL BE INSTALLED.
3.

FIBER SHALL BE 72SM FOR MAINLINE INSTALLATION AND 12SM FOR CONNECTION TO THE CABINET.
4.

ALL DAMAGED/DESTROYED CONDUIT DURING CONSTRUCTION SHALL BE REPLACED BY CONTRACTOR.

PAY ITEM NOTES:

660-3-11, 660-3-12

USE A HYBRID VIDEO/RADAR VEHICLE DETECTION SYSTEM CONSISTING OF IP CAMERAS, RADAR SENSORS, CABINET-MOUNTED PROCESSING EQUIPMENT, MOUNTING HARDWARE, AND ALL NECESSARY ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATIONAL VEHICLE DETECTION SYSTEM.

REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
					ROAD NO.	PROJECT NO.			
					HARTWOOD MARSH	441781-1-58-01			T-5

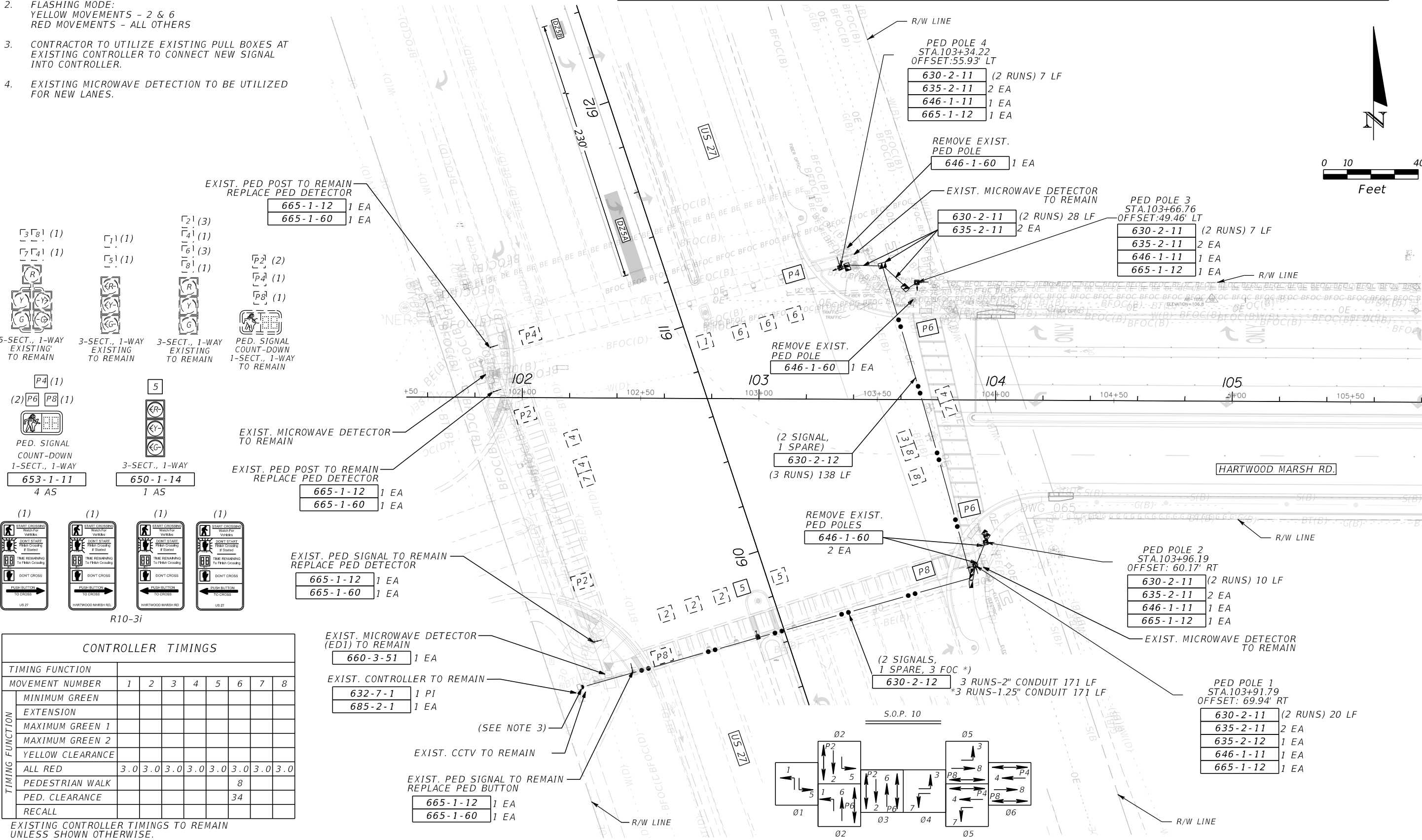
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

NOTES:

- THE MAJOR STREET IS US27 (55 MPH)
THE MINOR STREET IS HARTWOOD MARSH ROAD (40 MPH)
- FLASHING MODE:
YELLOW MOVEMENTS - 2 & 6
RED MOVEMENTS - ALL OTHERS
- CONTRACTOR TO UTILIZE EXISTING PULL BOXES AT
EXISTING CONTROLLER TO CONNECT NEW SIGNAL
INTO CONTROLLER.
- EXISTING MICROWAVE DETECTION TO BE UTILIZED
FOR NEW LANES.

US27 & HARTWOOD MARSH ROAD

SIGNAL: HARTWOOD MARSH ROAD & US 27															
BIU NO.	CARD NO.	CHANNEL NO.	DETECTOR	DIRECTION	MOVEMENT TYPE	APP. SPEED MPH	PROTECTED PHASE	OVERLAP	DELAY SEC.	CAMERA ID	DETECTOR SYSTEM	DISTANCE TO STOP BAR	DETECTOR TYPE	LANE TYPE	LANE NO.
1	1	1	DZ5A	SB	L	55	5	-	-	ED1	RADAR	-5	PD	V	*
		2	DZ5B	SB	L	55	5	-	-	ED1	RADAR	230	AD	V	*



CONTROLLER TIMINGS								
TIMING FUNCTION								
MOVEMENT NUMBER		1	2	3	4	5	6	7 8
TIMING FUNCTION	MINIMUM GREEN							
	EXTENSION							
	MAXIMUM GREEN 1							
	MAXIMUM GREEN 2							
	YELLOW CLEARANCE							
	ALL RED	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PEDESTRIAN WALK							8	
PED. CLEARANCE							34	
RECALL								

EXISTING CONTROLLER TIMINGS TO REMAIN
UNLESS SHOWN OTHERWISE.

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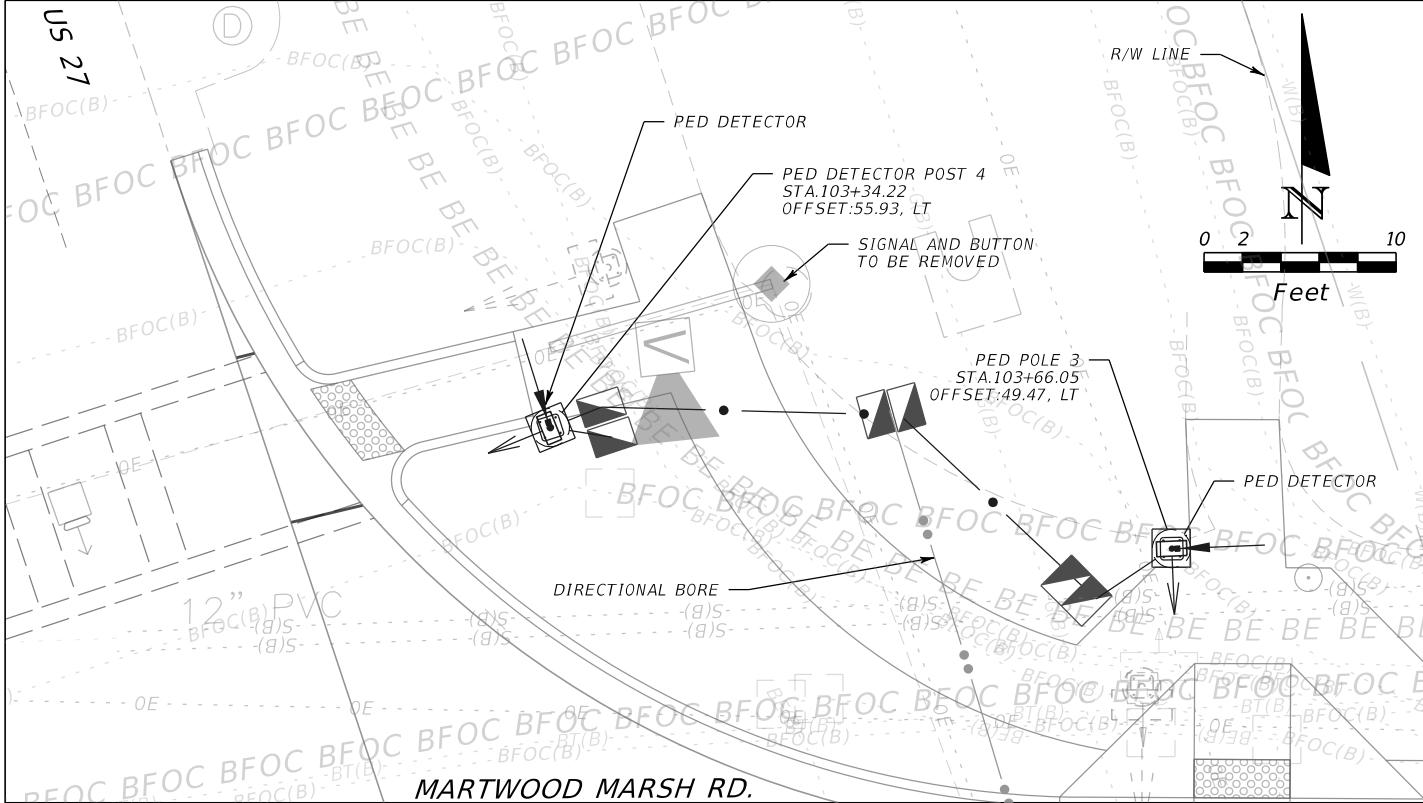
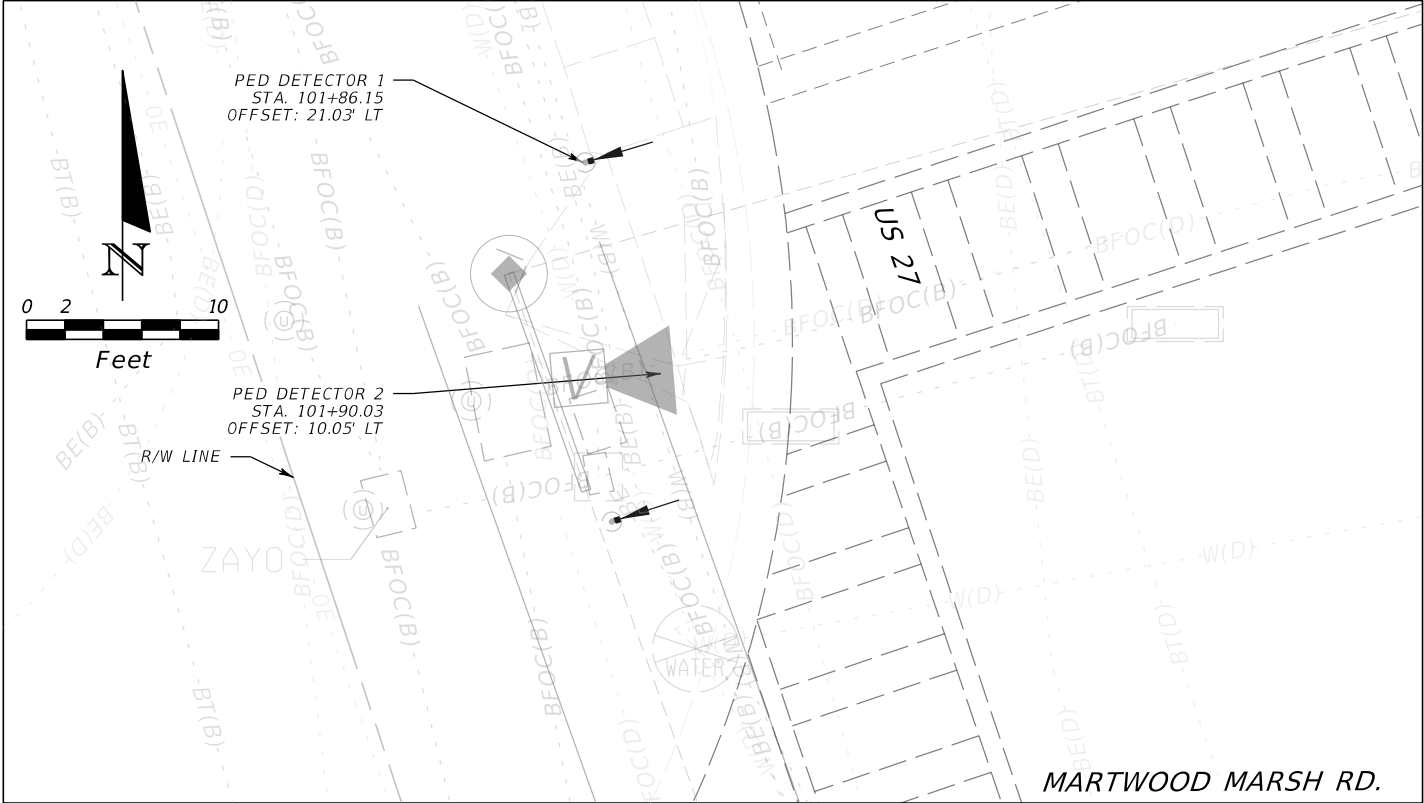
10851

REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD		SIGNALIZATION PLAN	SHEET NO. T-6
DATE	DESCRIPTION	DATE	DESCRIPTION					

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

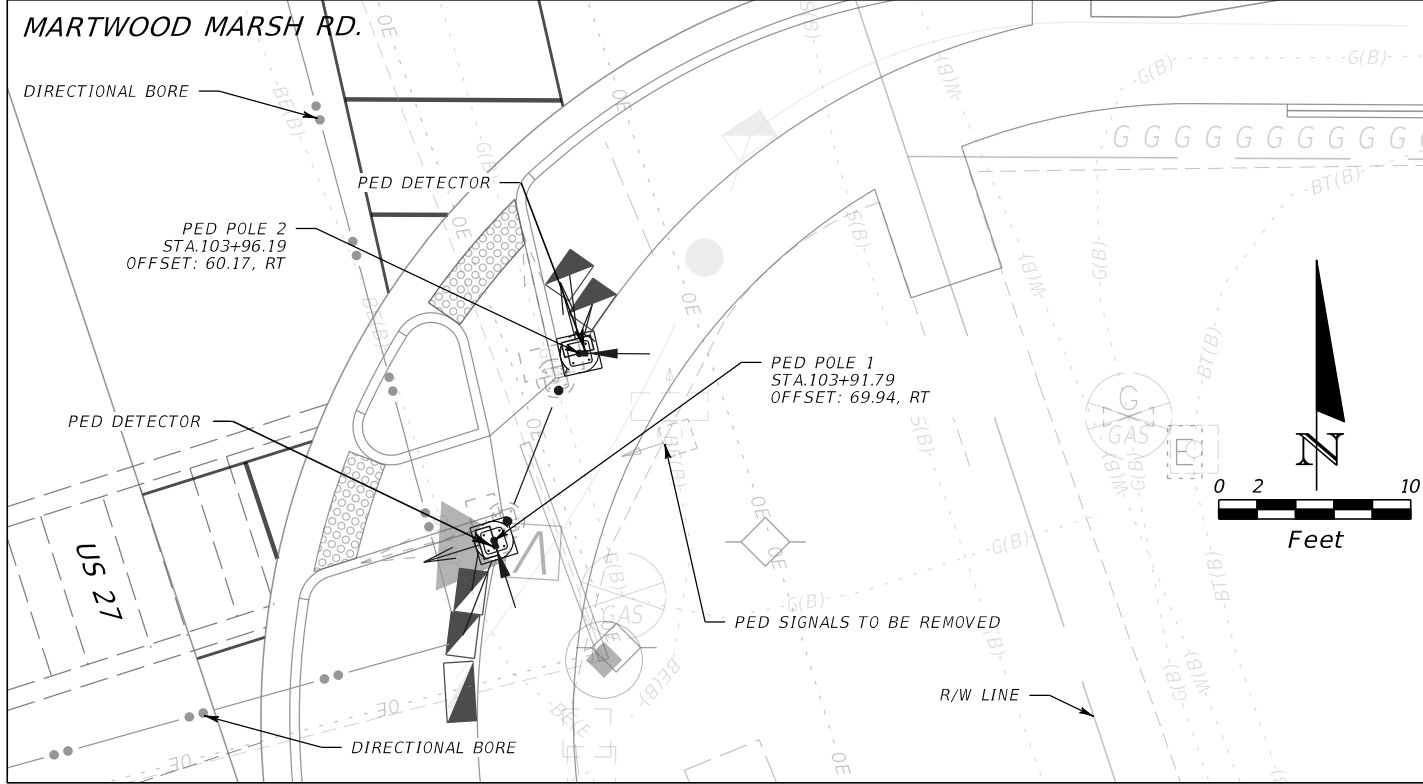
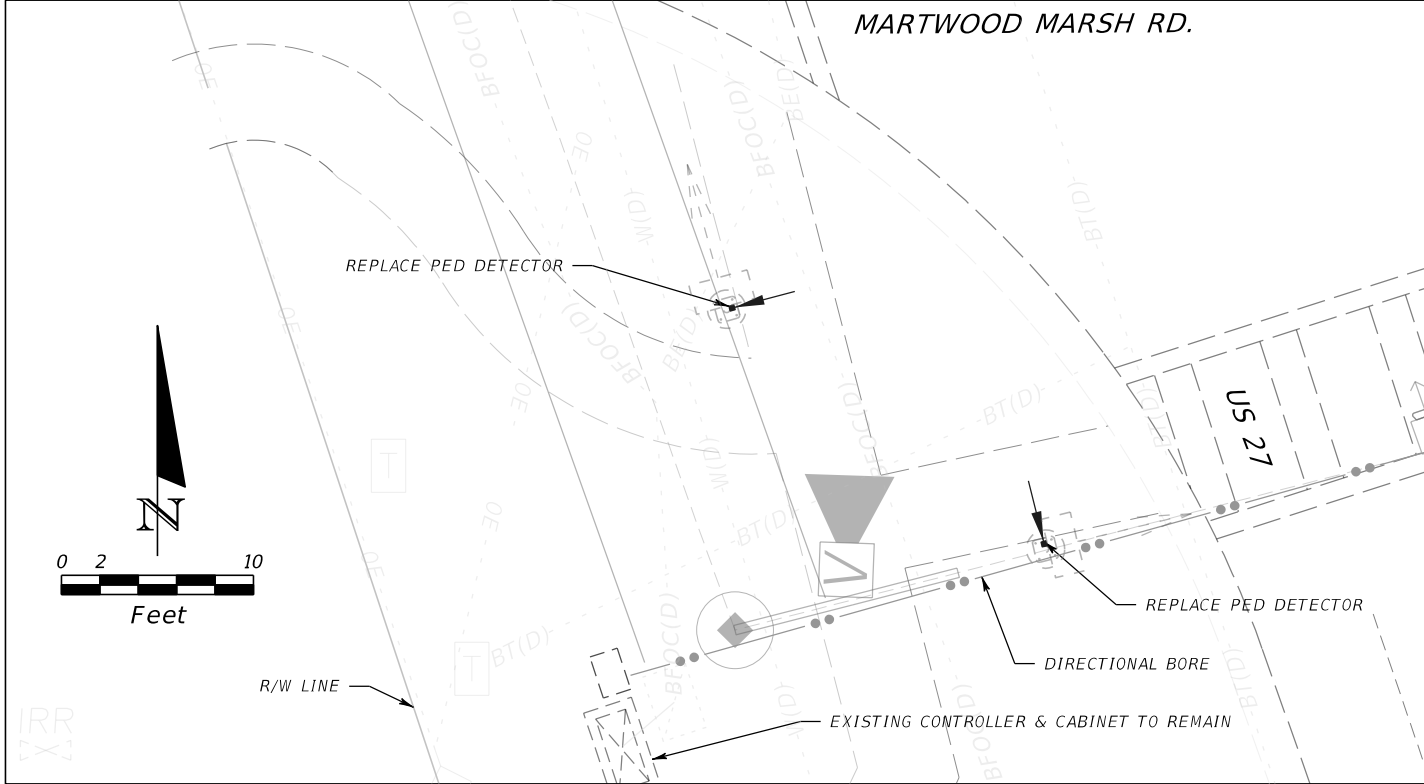
NORTHWEST QUADRANT

NORTHEAST QUADRANT



SOUTHWEST QUADRANT

SOUTHEAST QUADRANT



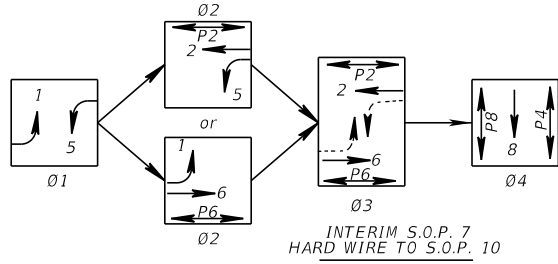
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REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD		SIGNALIZATION PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION					
								T-7

NOTES:

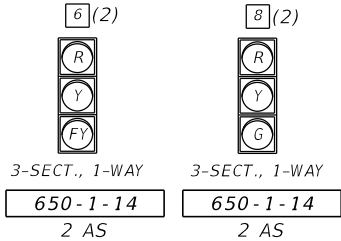
- MAJOR STREET IS HARTWOOD MARSH RD. (40 MPH).
MINOR STREET IS DANBURY MILL BLVD. (25 MPH).
- FLASHING MODE:
YELLOW MOVEMENTS - 2 & 6
RED MOVEMENTS - 1, 3, 5, & 8
- CABINET SHALL BE HARD WIRED TO S.O.P. 10
- ALL ITEMS (SIGNAL HEADS, SIGNS, VIDEO SENSOR) ARE SHOWN
FOR INFORMATION FOR STRUCTURAL DESIGN OF MAST ARM POLE C
ARM 2 AND ARE NOT TO BE INSTALLED ON THIS PROJECT.

HARTWOOD MARSH & FIRE STATION 2
HARTWOOD MARSH & DANBURY MILL BLVD.

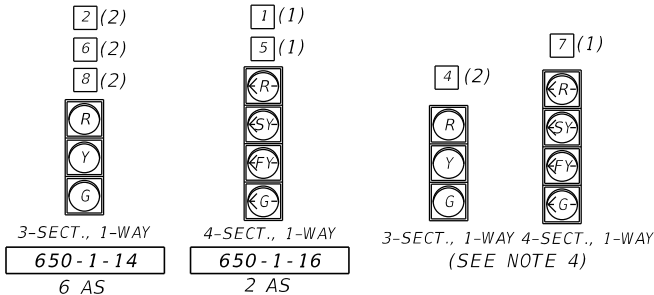


TRAFFIC SIGNAL DETAILS:

HARTWOOD MARSH RD./
FIRE STATION



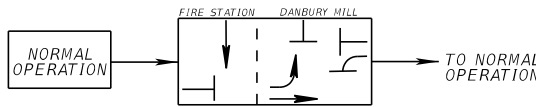
HARTWOOD MARSH RD./ DANBURY MILL BLVD.



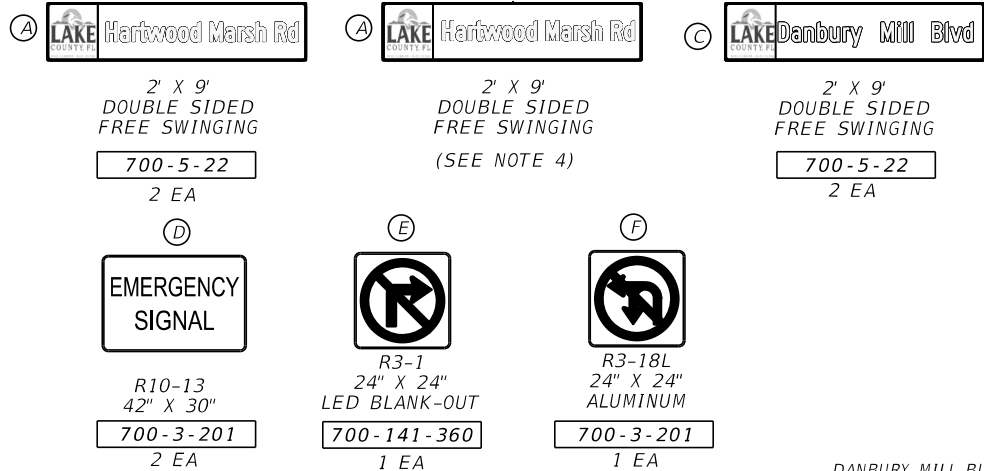
VIDEO DETECTOR
660-3-12 3 EA

VIDEO DETECTOR
(SEE NOTE 4)

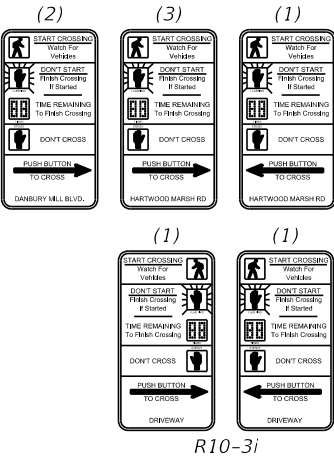
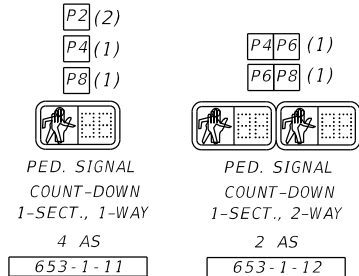
CLERMONT FIRE STATION 2 PREEMPTION



OVERHEAD SIGN DETAILS:



PEDESTRIAN SIGNAL DETAILS:



NOTES:

- CONTRACTOR TO CONFIRM ALL CHANNEL NUMBERS AND
ASSIGNMENTS WITH THE MAINTAINING AGENCY DURING
CONSTRUCTION.
- CONTRACTOR SHALL ENSURE ALL PROPOSED CABINET
ASSEMBLIES ARE WIRED FOR 64 DETECTION CHANNELS.

SIGNAL: HARTWOOD MARSH ROAD & DANBURY MILL BLVD.															
BIU NO.	CARD NO.	CHANNEL NO.	DETECTOR	DIRECTION	MOVEMENT TYPE	APP. SPEED MPH	PROTECTED PHASE	OVERLAP	DELAY SEC.	CAMERA ID	DETECTOR SYSTEM	DISTANCE TO STOP BAR	DETECTOR TYPE	LANE TYPE	LANE NO.
1	1	1	DZ1A	EB	L	40	1	-	5	D1	VIDEO	-5	PD	V	*
		2	DZ1B	EB	L	40	1	-	-	D1	VIDEO	150	QD	V	*
	2	3	DZ2A	WB	T	40	2	-	-	D2	VIDEO	-5	PD	V	*
		4	DZ2B	WB	T	40	2	-	-	D2	VIDEO	-5	PD	V	*
	3	5	DZ2C	WB	T	40	2	-	-	D2	VIDEO	138	AD	V	*
		6	DZ2D	WB	T	40	2	-	-	D2	VIDEO	138	AD	V	*
	4	7	DZ3A	SB	L	25	8	-	5	D3	VIDEO	-5	PD	V	*
		8	DZ5A	WB	L	40	5	-	5	D2	VIDEO	-5	PD	V	*
	5	9	DZ5B	WB	L	40	5	-	-	D2	VIDEO	150	QD	V	*
		10	DZ6A	EB	T	40	6	-	-	D1	VIDEO	-5	PD	V	*
	6	11	DZ6B	EB	T	40	6	-	-	D1	VIDEO	-5	PD	V	*
		12	DZ6C	EB	T	40	6	-	-	D1	VIDEO	138	AD	V	*
	7	13	DZ6D	EB	T	40	6	-	-	D1	VIDEO	138	AD	V	*
		14	DZ8A	SB	R	25	8	-	5	D3	VIDEO	-5	PD	V	*
	8	15	DZ6E	EB	T	40	6	-	-	D1	VIDEO	244	AD	V	*
		16	DZ6B	EB	T	40	6	-	-	D1	VIDEO	244	AD	V	*
2	1	17	DZ6B	WB	T	40	2	-	-	D2	VIDEO	244	AD	V	*
		18	DZ6B	WB	T	40	2	-	-	D2	VIDEO	244	AD	V	*
	2	19													
		20													
	3	21													
		22													
	4	23													
		24													
	5	25													
		26													
	6	27													
		28													
	7	29													
		30													
	8	31													
		32													

LEGEND:
PD: PRESENCE DETECTION
AD: ADVANCE DETECTION
QD: QUEUE DETECTION
V: VEHICLE
B: BIKE
T: THRU
L: LEFT
R: RIGHT
T/L: THRU-LEFT
L/T/R: LEFT-THRU-RIGHT

CONTROLLER TIMINGS

TIMING FUNCTION									
MOVEMENT NUMBER		1	2	3	4	5	6	7	8
TIMING FUNCTION	MINIMUM GREEN	8	15	8	-	8	15	-	8
	EXTENSION	3.5	0.5	3.0	-	3.5	0.5	-	3.0
	MAXIMUM GREEN 1	25	60	20	-	25	60	-	35
	MAXIMUM GREEN 2								
	YELLOW CLEARANCE	4.4	4.4	3.4	-	4.4	4.4	-	3.4
	ALL RED	2.0	2.0	2.2	-	2.0	2.0	-	2.2
	PEDESTRIAN WALK		7		7		11	-	7
	PED. CLEARANCE		23		30		34	-	30
RECALL			MIN				MIN		

SIGNAL TIMING IS INITIAL AND MAY REQUIRE
ADJUSTMENT BY THE MAINTAINING AGENCY.

FIRE STATION SIGNAL PREEMPTION 1 PROGRAMMING TABLE

FUNCTION	PREEMPT. 1
DELAY PREEMPTION CALL (SECONDS)	0
MINIMUM GREEN BEFORE PREEMPT (SECONDS)	0
PED WALK BEFORE PREEMPT (SECONDS)	0
PED CLEAR BEFORE PREEMPT (SECONDS)	0
YELLOW CLEARANCE BEFORE PREEMPT (SECONDS)	4.4
ALL RED BEFORE PREEMPT (SECONDS)	5.0
PREEMPTION DWELL TIME (SECONDS)	20.0
YELLOW CLEARANCE AFTER PREEMPT (SECONDS)	0
ALL RED AFTER PREEMPT (SECONDS)	3.0
PRIORITY	HIGH
LOCK INPUT	ON
OVERRIDE AUTOFLASH	ON
OVERRIDE HIGHER NUMBER PREEMPT	OFF
FLASH IN DWELL	OFF

EMERGENCY VEHICLE PREEMPTION 2 TIMINGS

FUNCTION	PRE-EMPT 3	PRE-EMPT 4	PRE-EMPT 5	PRE-EMPT 6
DELAY	0	0	0	-
MAXIMUM PRESENCE	120	120	120	-
MINIMUM GREEN BEFORE PREEMPT	0	0	0	-
MINIMUM WALK BEFORE PREEMPT	0	0	0	-
PED CLEAR BEFORE PREEMPT	0	0	0	-
MINIMUM DWELL	10	10	10	-
LOCK INPUT	OFF	OFF	OFF	-
OVERRIDE AUTOFLASH	ON	ON	ON	-
OVERRIDE HIGHER NUMBER PREEMPT	OFF	OFF	OFF	-
FLASH IN DWELL	OFF	OFF	OFF	-

OUTPUT CONNECTION AND PROGRAMMING TABLE

CONNECT PHASE SELECTOR OUTPUT (HIGH PRIORITY)	TO CONTROLLER PREEMPTION INPUT	CONTROLLER TO DISPLAY GREENS FOR:	PRIORITY VEHICLE DIRECTION AND TURN SIGNAL ACTIVATION
OUTPUT 1	PRE-EMPT 3	PHASES 1 AND 6	EB: NO TURN SIGNAL, RT SIGNAL, OR LT SIGNAL
OUTPUT 2	PRE-EMPT 4	PHASES 2 AND 5	WB: NO TURN SIGNAL, RT SIGNAL, OR LT SIGNAL
OUTPUT 3	PRE-EMPT 5	PHASE 8	SB: NO TURN SIGNAL, RT SIGNAL, OR LT SIGNAL
OUTPUT 4	PRE-EMPT 6	-	-
OUTPUT 5 (A/P OUTPUT 1)	-	-	-
OUTPUT 6 (A/P OUTPUT 2)	-	-	-
LOGIC COMMON	LOGIC COMMON	-	-
A/P OPTO COMMON	LOGIC COMMON	-	-

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

MOHAN GOPALAKRISHNA, P.E., PTOE
P.E. NO.: 60720
STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FL 32713

HARTWOOD MARSH ROAD

ROAD NO.	PROJECT NO.
HARTWOOD MARSH	441781-1-58-01

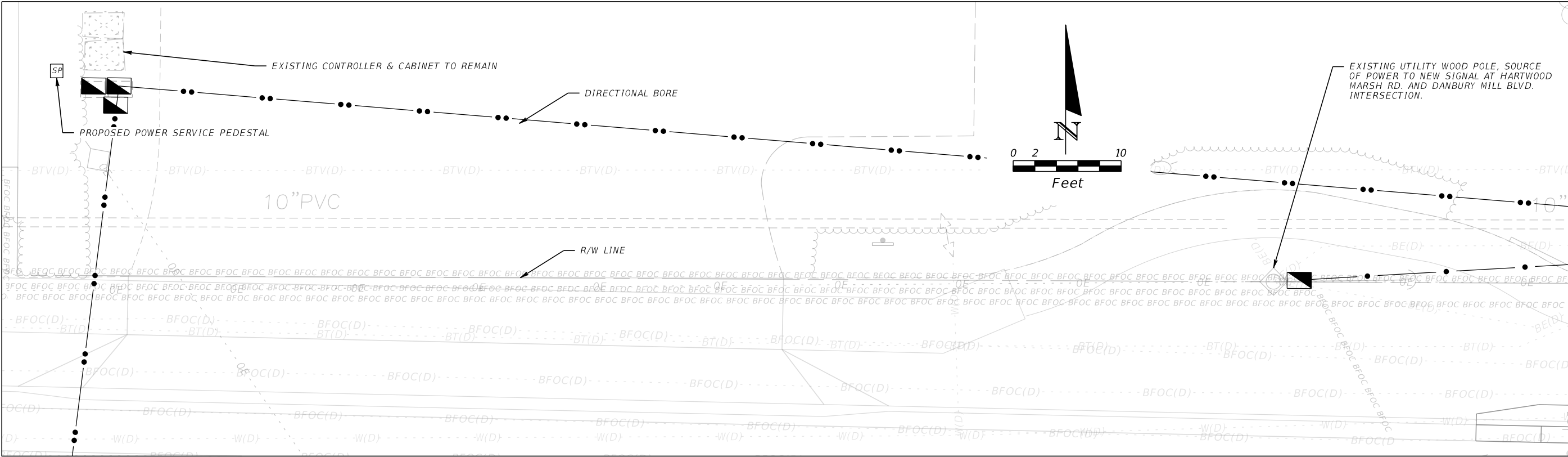


SIGNALIZATION PLAN

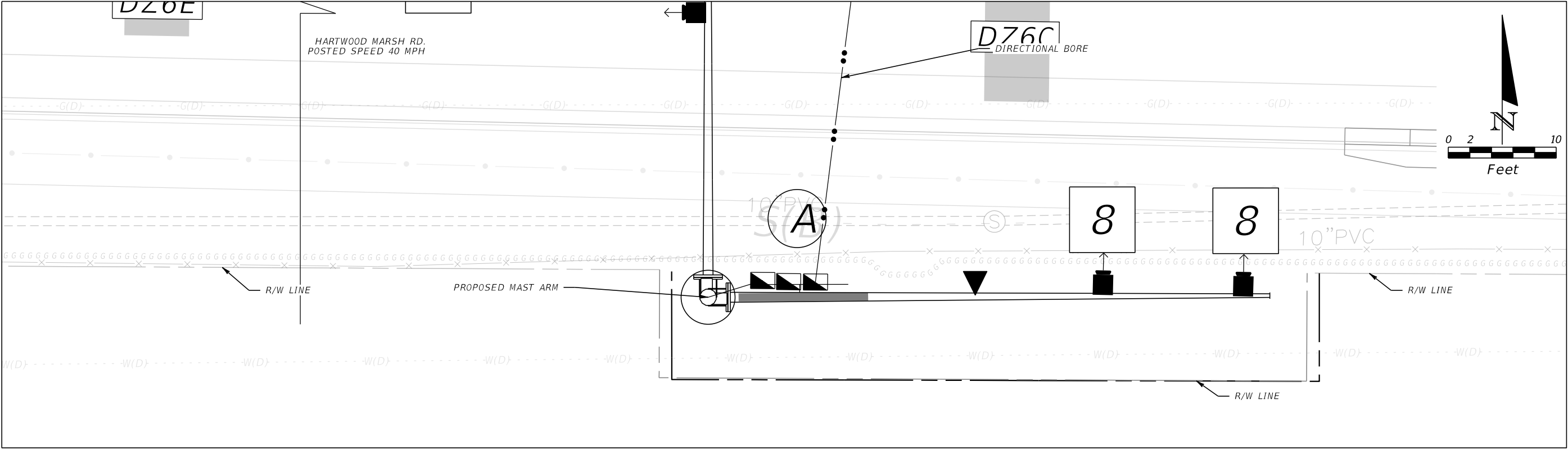
SHEET
NO.

T-9

HARTWOOD MARSH & FIRE STATION 2
NW QUADRANT



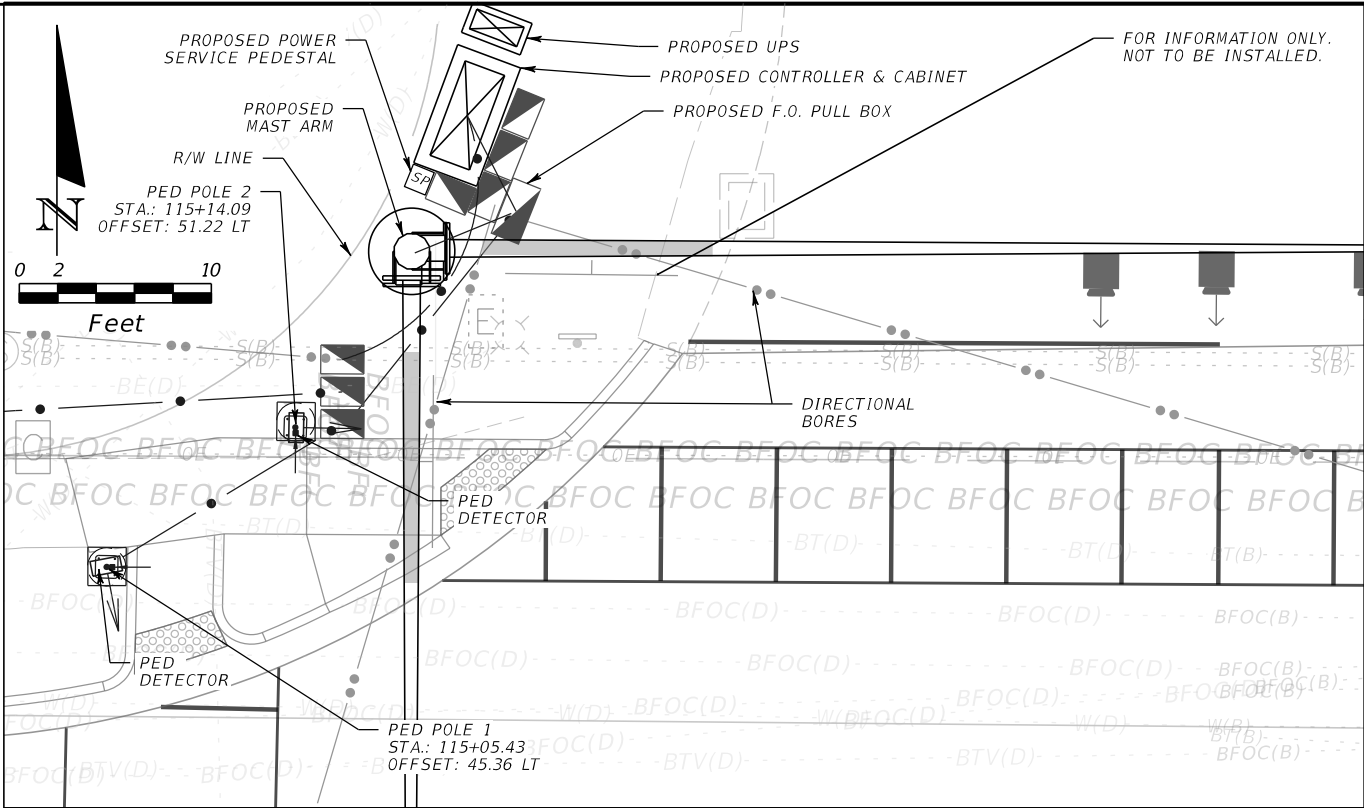
SW QUADRANT



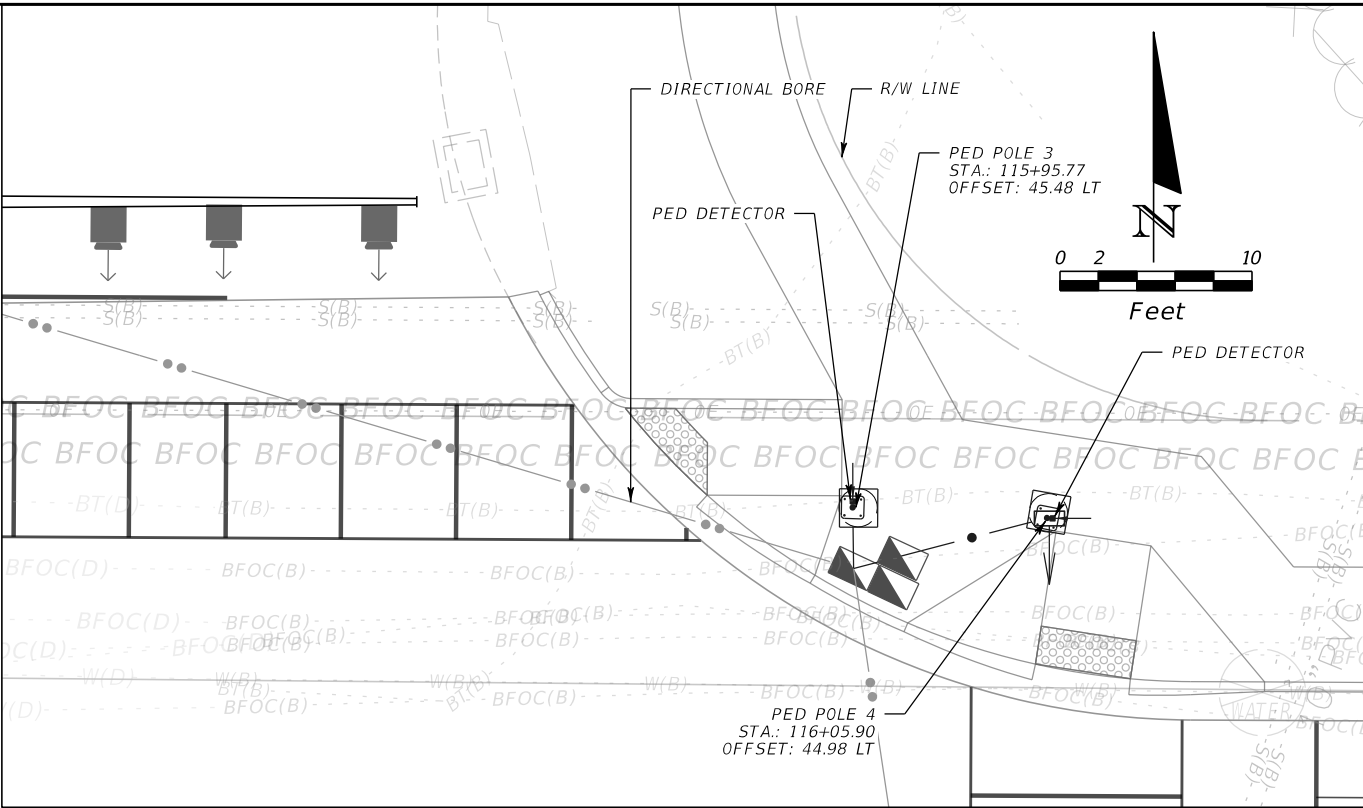
REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			SIGNALIZATION PLAN	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.				
					HARTWOOD MARSH	441781-1-58-01				
									T-10	

HARTWOOD MARSH & DANBURY MILL

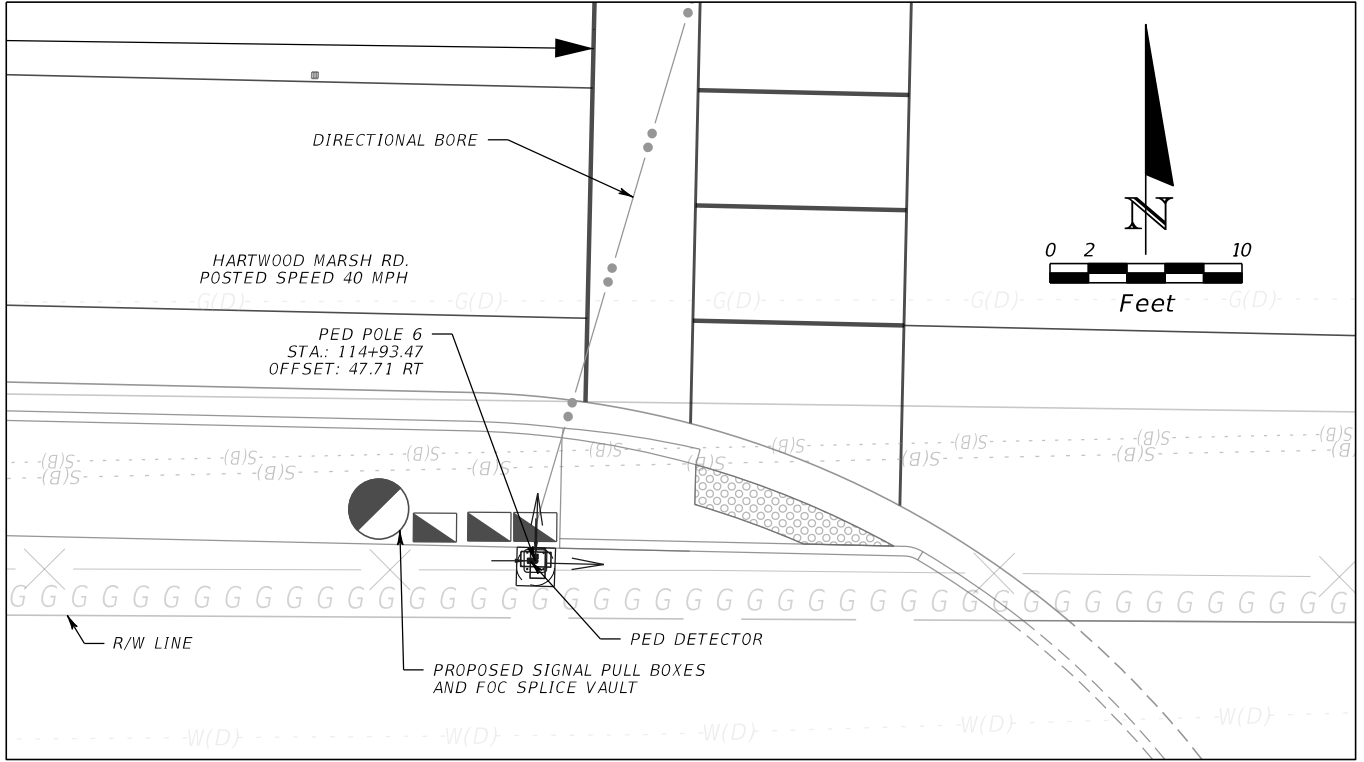
NORTHWEST QUADRANT



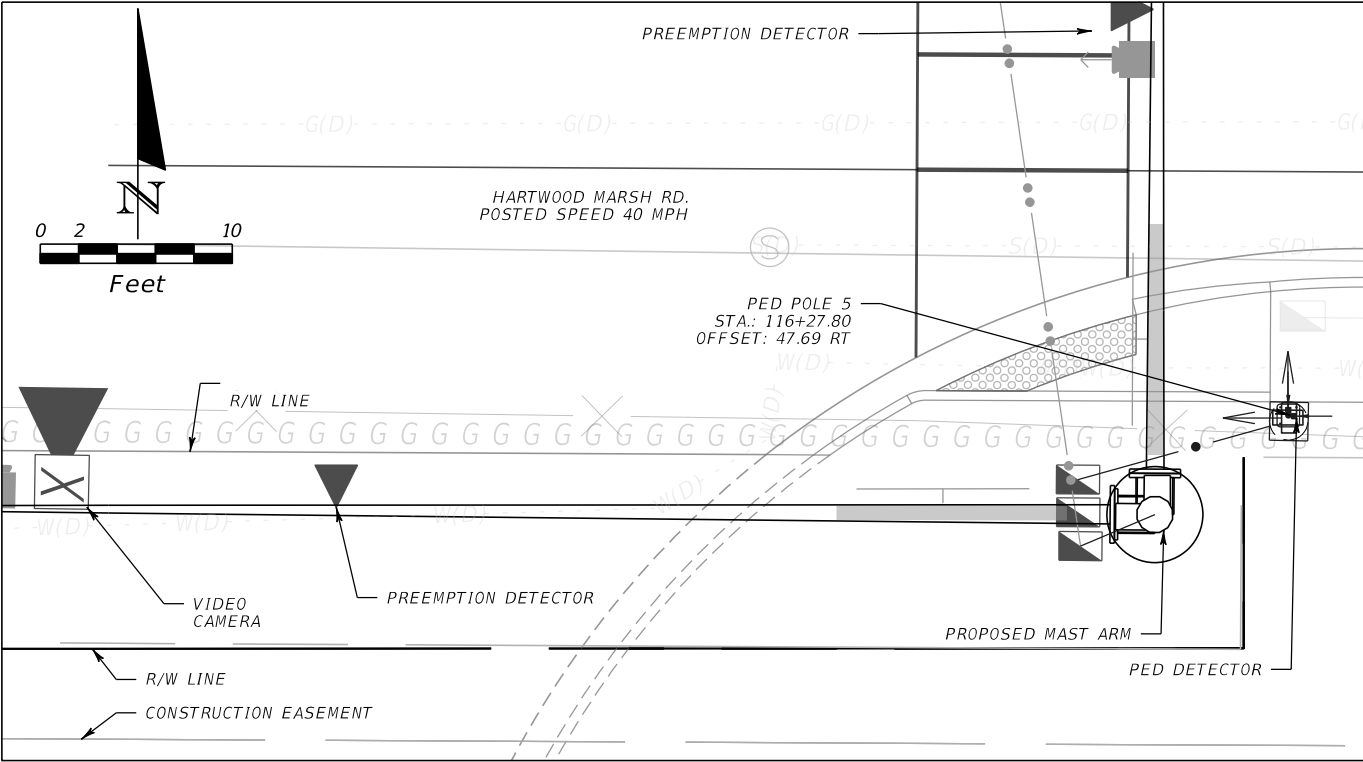
NORTHEAST QUADRANT



SOUTHWEST QUADRANT



SOUTHEAST QUADRANT

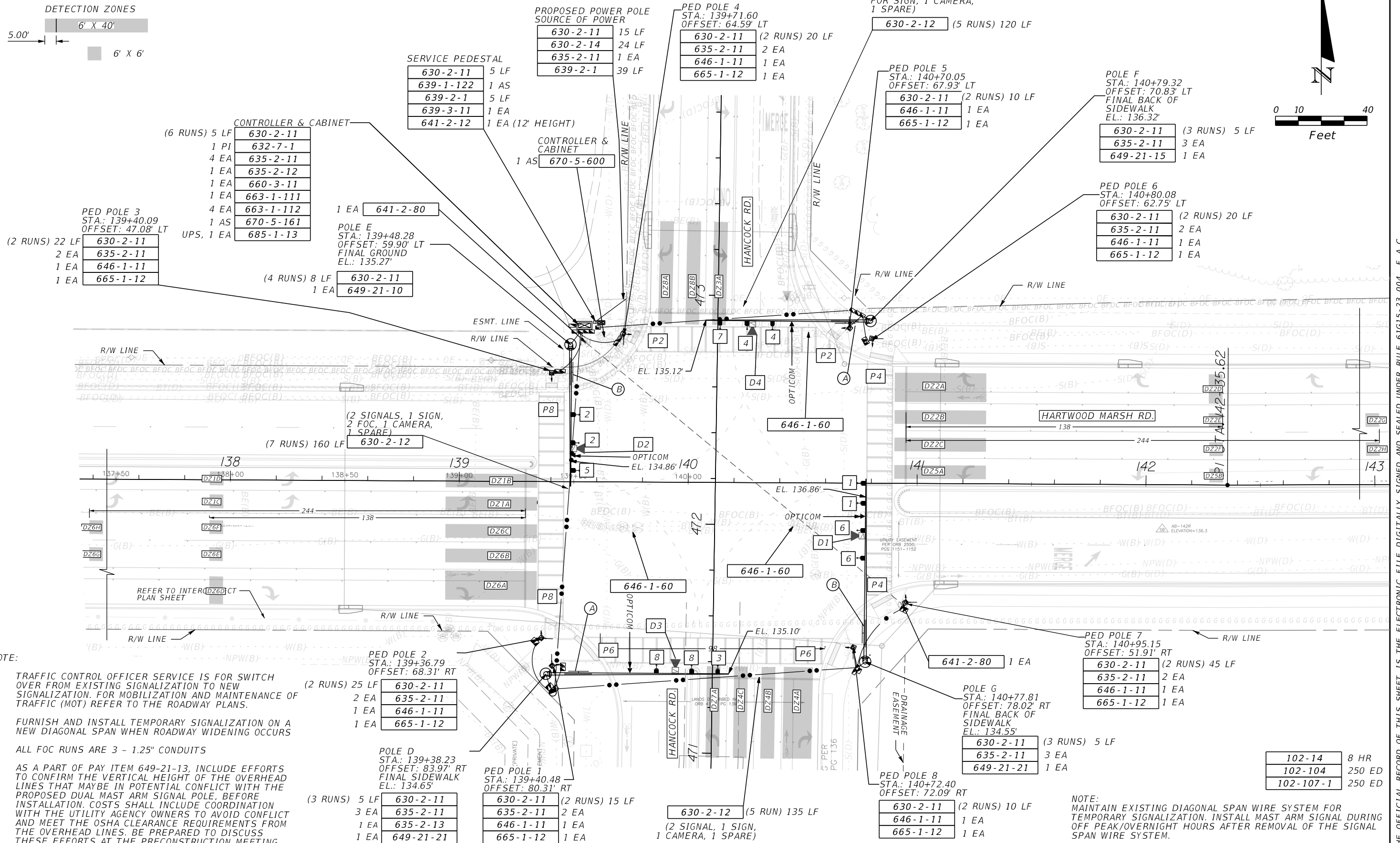
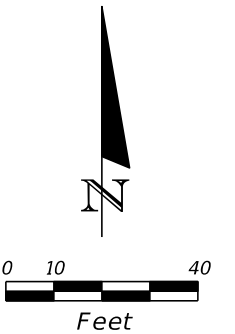
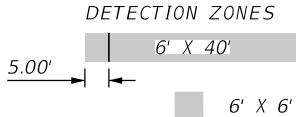


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REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD		SIGNALIZATION PLAN	SHEET NO. T-11
DATE	DESCRIPTION	DATE	DESCRIPTION					

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

HARTWOOD MARSH ROAD & HANCOCK ROAD



NOTE:

1. TRAFFIC CONTROL OFFICER SERVICE IS FOR SWITCH OVER FROM EXISTING SIGNALIZATION TO NEW SIGNALIZATION. FOR MOBILIZATION AND MAINTENANCE OF TRAFFIC (MOT) REFER TO THE ROADWAY PLANS.
2. FURNISH AND INSTALL TEMPORARY SIGNALIZATION ON A NEW DIAGONAL SPAN WHEN ROADWAY WIDENING OCCURS
3. ALL FOC RUNS ARE 3 - 1.25" CONDUITS
4. AS A PART OF PAY ITEM 649-21-13, INCLUDE EFFORTS TO CONFIRM THE VERTICAL HEIGHT OF THE OVERHEAD LINES THAT MAYBE IN POTENTIAL CONFLICT WITH THE PROPOSED DUAL MAST ARM SIGNAL POLE, BEFORE INSTALLATION. COSTS SHALL INCLUDE COORDINATION WITH THE UTILITY AGENCY OWNERS TO AVOID CONFLICT AND MEET THE OSHA CLEARANCE REQUIREMENTS FROM THE OVERHEAD LINES. BE PREPARED TO DISCUSS THESE EFFORTS AT THE PRECONSTRUCTION MEETING.

(2 RUNS) 25 LF	630-2-11
2 EA	635-2-11
1 EA	646-1-11
1 EA	665-1-12

		POLE D
		STA.: 139+38.23
		OFFSET: 83.97' RT
		FINAL SIDEWALK
		EL.: 134.65'
(3 RUNS)	5 LF	630-2-11
	3 EA	635-2-11
	1 EA	635-2-13
	1 EA	649-21-21

630-2-11	(2 RUNS) 15 LF
635-2-11	2 EA
646-1-11	1 EA
665-1-12	1 EA

630-2-12 (5 RUN) 135 LF
(2 SIGNAL, 1 SIGN,
1 CAMERA, 1 SPARE)

630-2-11	(2 RUNS) 10 LF
646-1-11	1 EA
665-1-12	1 EA

630-2-11	(2 RUNS) 45 LF
635-2-11	2 EA
646-1-11	1 EA
665-1-12	1 EA

630-2-11	(3 RUNS) 5 LF
635-2-11	3 EA
649-21-21	1 EA

102-14	8 HR
102-104	250 ED
102-107-1	250 ED

NOTE:
MAINTAIN EXISTING DIAGONAL SPAN WIRE SYSTEM FOR
TEMPORARY SIGNALIZATION. INSTALL MAST ARM SIGNAL DURING
OFF PEAK/OVERNIGHT HOURS AFTER REMOVAL OF THE SIGNAL
SPAN WIRE SYSTEM.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MOHAN GOPALAKRISHNA, P.E., PTOE
P.E. NO.: 60720
STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FL 32713

HARTWOOD MARSH ROAD	
ROAD NO.	PROJECT NO.
HARTWOOD MARSH	441781-1-58-01



SIGNALIZATION PLAN

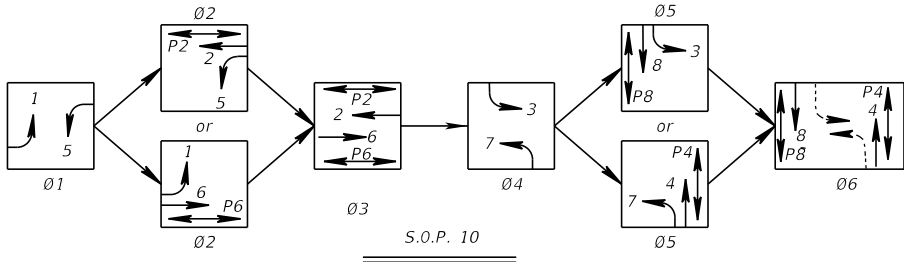
SHEET
NO.

T-12

HARTWOOD MARSH ROAD & HANCOCK ROAD

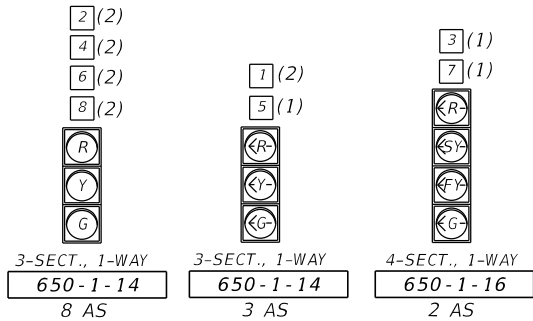
NOTES:

1. MAJOR STREET IS HARTWOOD MARSH RD. (40 MPH)
MINOR STREET IS HANCOCK RD. (45 MPH)
2. FLASHING MODE:
YELLOW MOVEMENTS - 2 & 6
RED MOVEMENTS - ALL OTHERS
3. POWER SERVICE POINT TO BE DETERMINED FOLLOWING A SITE VISIT WITH THE POWER COMPANY REPRESENTATIVE.

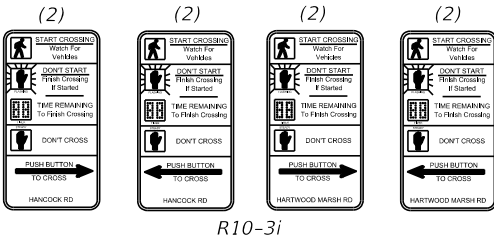
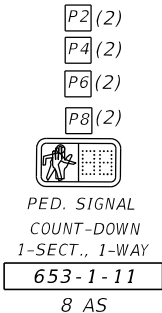


S.O.P. 10

TRAFFIC SIGNAL DETAILS:



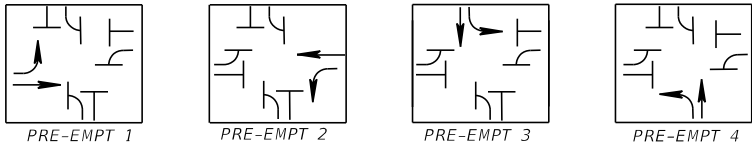
PEDESTRIAN SIGNAL DETAILS:



OVERHEAD SIGN DETAILS:



HANCOCK RD PREEMPTION



LEGEND:

PD: PRESENCE DETECTION
AD: ADVANCE DETECTION
QD: QUEUE DETECTION
V: VEHICLE
B: BIKE
T: THRU
L: LEFT
R: RIGHT
T/L: THRU-LEFT
L/T/R: LEFT-THRU-RIGHT

NOTES:

1. CONTRACTOR TO CONFIRM ALL CHANNEL NUMBERS AND ASSIGNMENTS WITH THE MAINTAINING AGENCY DURING CONSTRUCTION.
2. CONTRACTOR SHALL ENSURE ALL PROPOSED CABINET ASSEMBLIES ARE WIRED FOR 64 DETECTION CHANNELS.

SIGNAL: HARTWOOD MARSH ROAD & HANCOCK ROAD

BIU NO.	CARD NO.	CHANNEL NO.	DETECTOR	DIRECTION	MOVEMENT TYPE	APP. SPEED MPH	PROTECTED PHASE	OVERLAP	DELAY SEC.	CAMERA ID	DETECTOR SYSTEM	DISTANCE TO STOP BAR	DETECTOR TYPE	LANE TYPE	LANE NO.
1	1	1	DZ1A	EB	L	40	1	-	-	D1	VIDEO	-5	PD	V	*
		2	DZ1B	EB	L	40	1	-	-	D1	VIDEO	-5	PD	V	*
	2	3	DZ1C	EB	L	40	1	-	-	D1	VIDEO	138	AD	V	*
		4	DZ1D	EB	L	40	1	-	-	D1	VIDEO	138	AD	V	*
	3	5	DZ2A	WB	R	40	2	-	5	D2	VIDEO	-5	PD	V	*
		6	DZ2B	WB	T	40	2	-	-	D2	VIDEO	-5	PD	V	*
	4	7	DZ2C	WB	T	40	2	-	-	D2	VIDEO	-5	PD	V	*
		8	DZ2D	WB	T	40	2	-	-	D2	VIDEO	138	AD	V	*
	5	9	DZ2E	WB	T	40	2	-	-	D2	VIDEO	138	AD	V	*
		10	DZ2F	WB	T	40	2	-	-	D2	VIDEO	138	AD	V	*
	6	11	DZ3A	SB	L	45	3	-	5	D3	VIDEO	-5	PD	V	*
		12	DZ4A	NB	R	45	4	-	5	D4	VIDEO	-5	PD	V	*
	7	13	DZ4B	NB	T	45	4	-	-	D4	VIDEO	-5	PD	V	*
		14	DZ4C	NB	T	45	4	-	-	D4	VIDEO	-5	PD	V	*
	8	15	DZ5A	WB	L	40	5	-	-	D2	VIDEO	-5	PD	V	*
		16	DZ5B	WB	L	40	5	-	-	D2	VIDEO	138	AD	V	*
2	1	17	DZ6A	EB	R	40	6	-	5	D1	VIDEO	-5	PD	V	*
		18	DZ6B	EB	T	40	6	-	-	D1	VIDEO	-5	PD	V	*
	2	19	DZ6C	EB	T	40	6	-	-	D1	VIDEO	-5	PD	V	*
		20	DZ6D	EB	T	40	6	-	-	D1	VIDEO	138	AD	V	*
	3	21	DZ6E	EB	T	40	6	-	-	D1	VIDEO	138	AD	V	*
		22	DZ6F	EB	T	40	6	-	-	D1	VIDEO	138	AD	V	*
	4	23	DZ7A	NB	L	45	7	-	5	D4	VIDEO	-5	PD	V	*
		24	DZ8A	SB	R	45	8	-	5	D3	VIDEO	-5	PD	V	*
	5	25	DZ8B	SB	T	45	8	-	-	D3	VIDEO	-5	PD	V	*
		26	DZ2G	WB	T	40	6	-	-	D2	VIDEO	244	AD	V	*
	6	27	DZ2H	WB	T	40	6	-	-	D2	VIDEO	244	AD	V	*
		28	DZ6G	EB	T	40	6	-	-	D1	VIDEO	244	AD	V	*
	7	29	DZ6H	EB	T	40	6	-	-	D1	VIDEO	244	AD	V	*
		30													
	8	31													
		32													

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

MOHAN GOPALAKRISHNA, P.E., PTOE
P.E. NO.: 60720
STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FL 32713

HARTWOOD MARSH ROAD

ROAD NO.	PROJECT NO.
HARTWOOD MARSH	441781-1-58-01



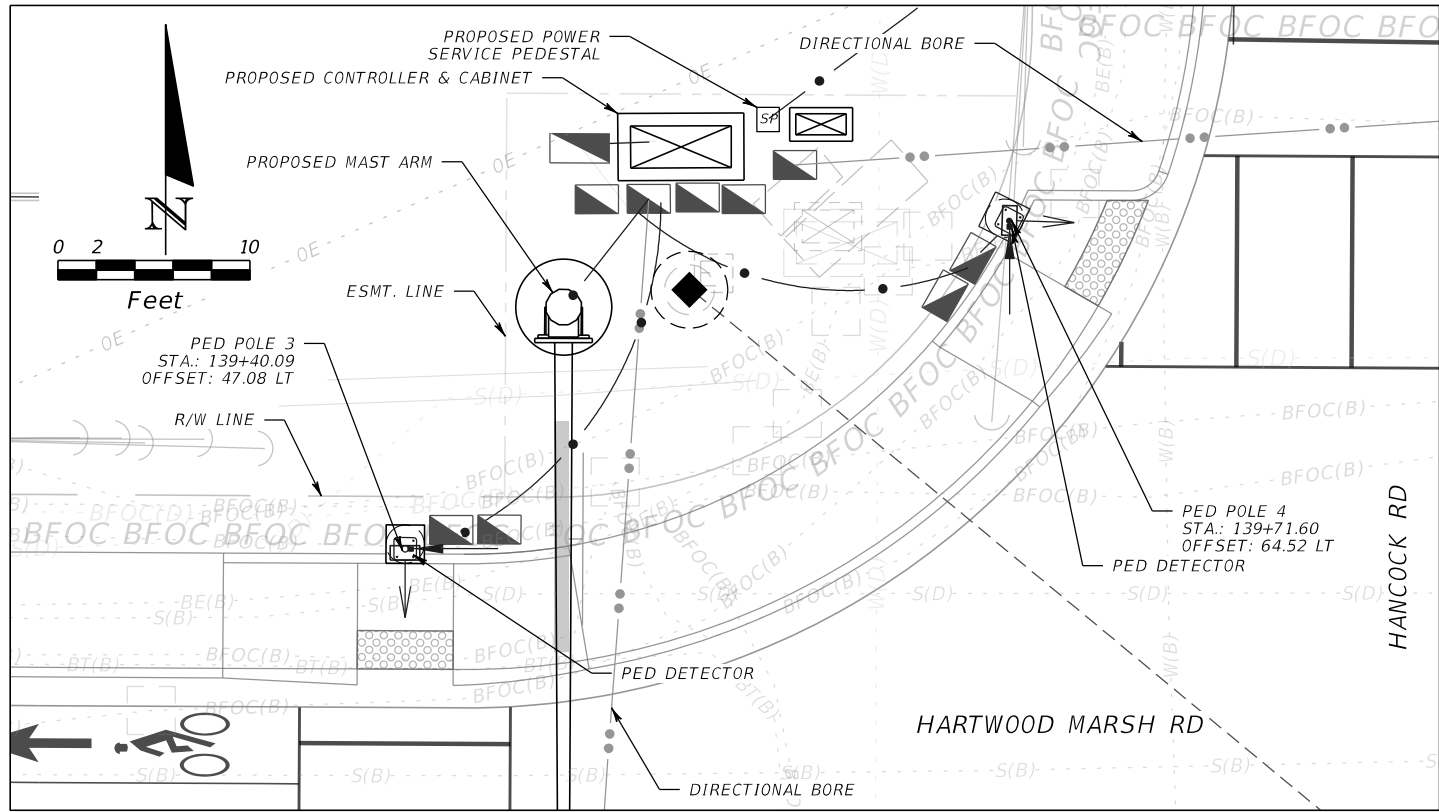
SIGNALIZATION PLAN

SHEET NO.

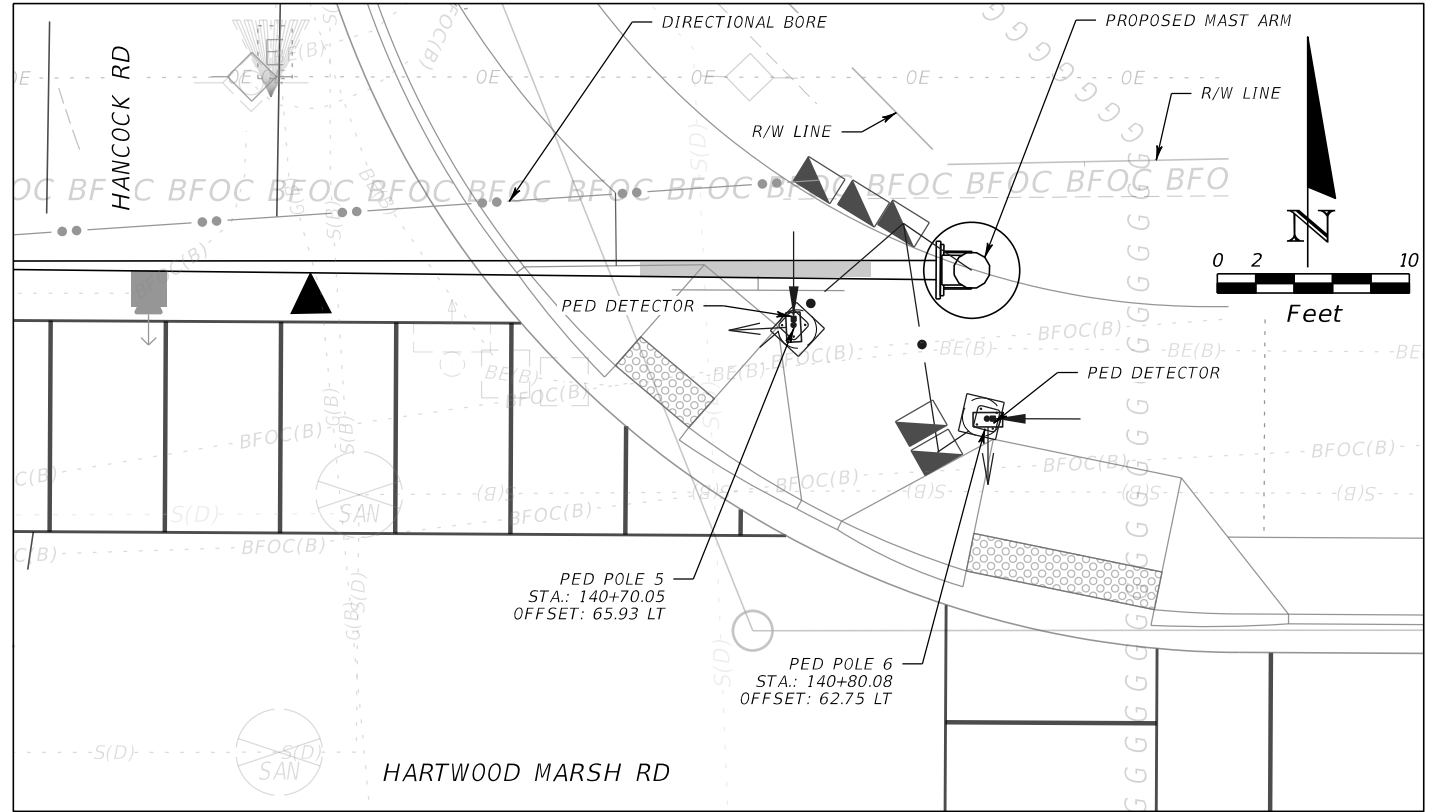
T-13

HARTWOOD MARSH & HANCOCK

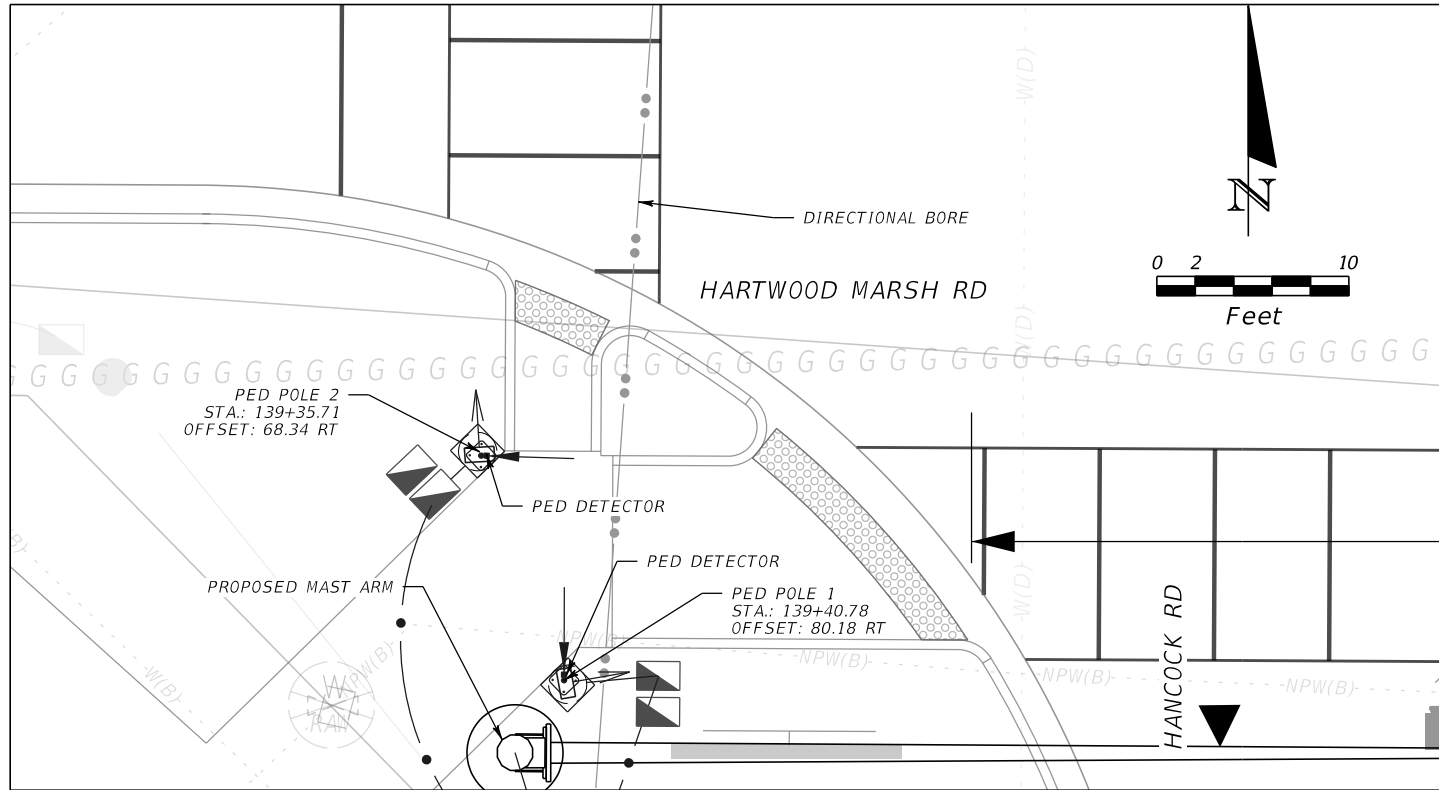
NORTHWEST QUADRANT



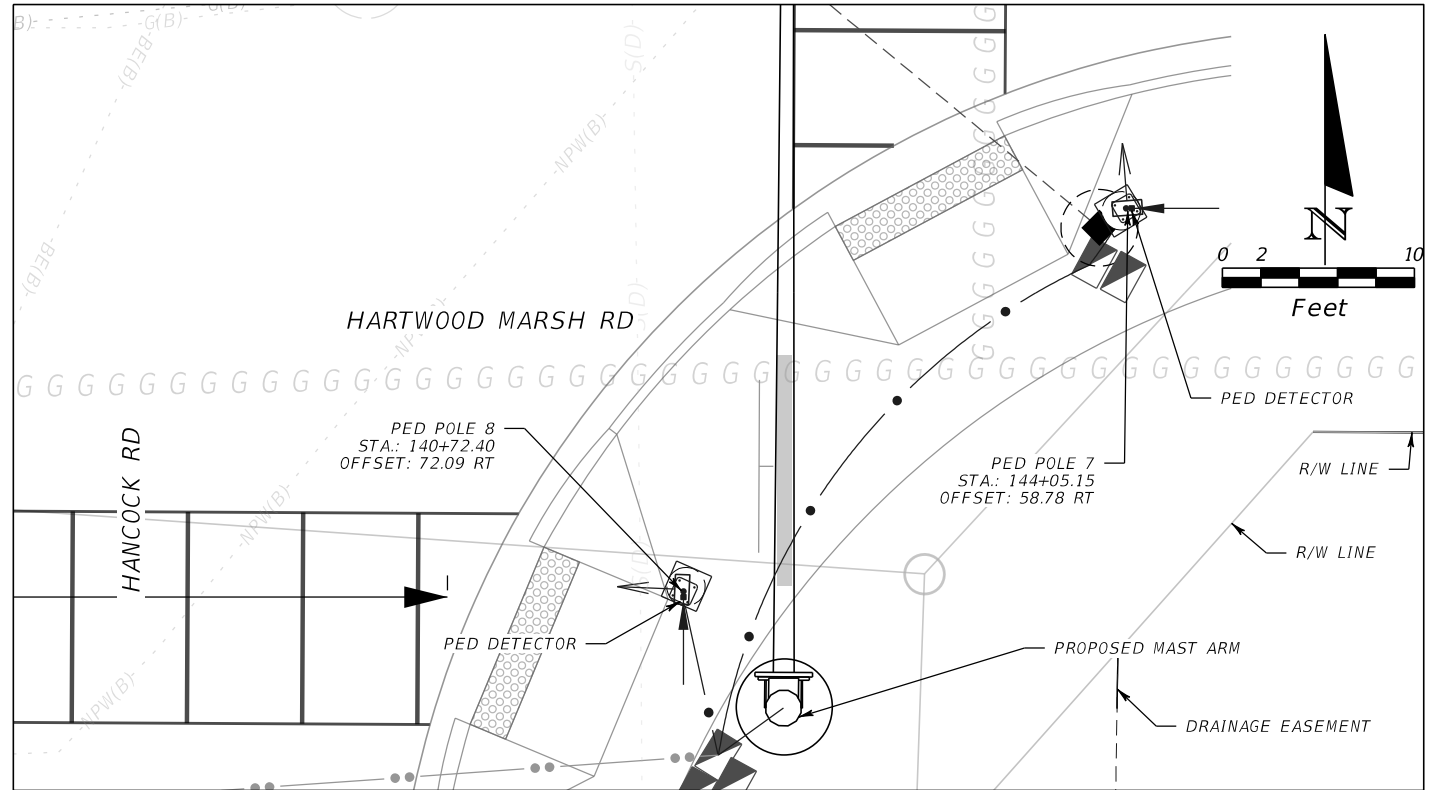
NORTHEAST QUADRANT



SOUTHWEST QUADRANT



SOUTHEAST QUADRANT



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MOHAN GOPALAKRISHNA, P.E., PTOE
P.E. NO.: 60720
STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FL 32713

HARTWOOD MARSH ROAD

ROAD NO.	PROJECT NO.
HARTWOOD MARSH	441781-1-58-01



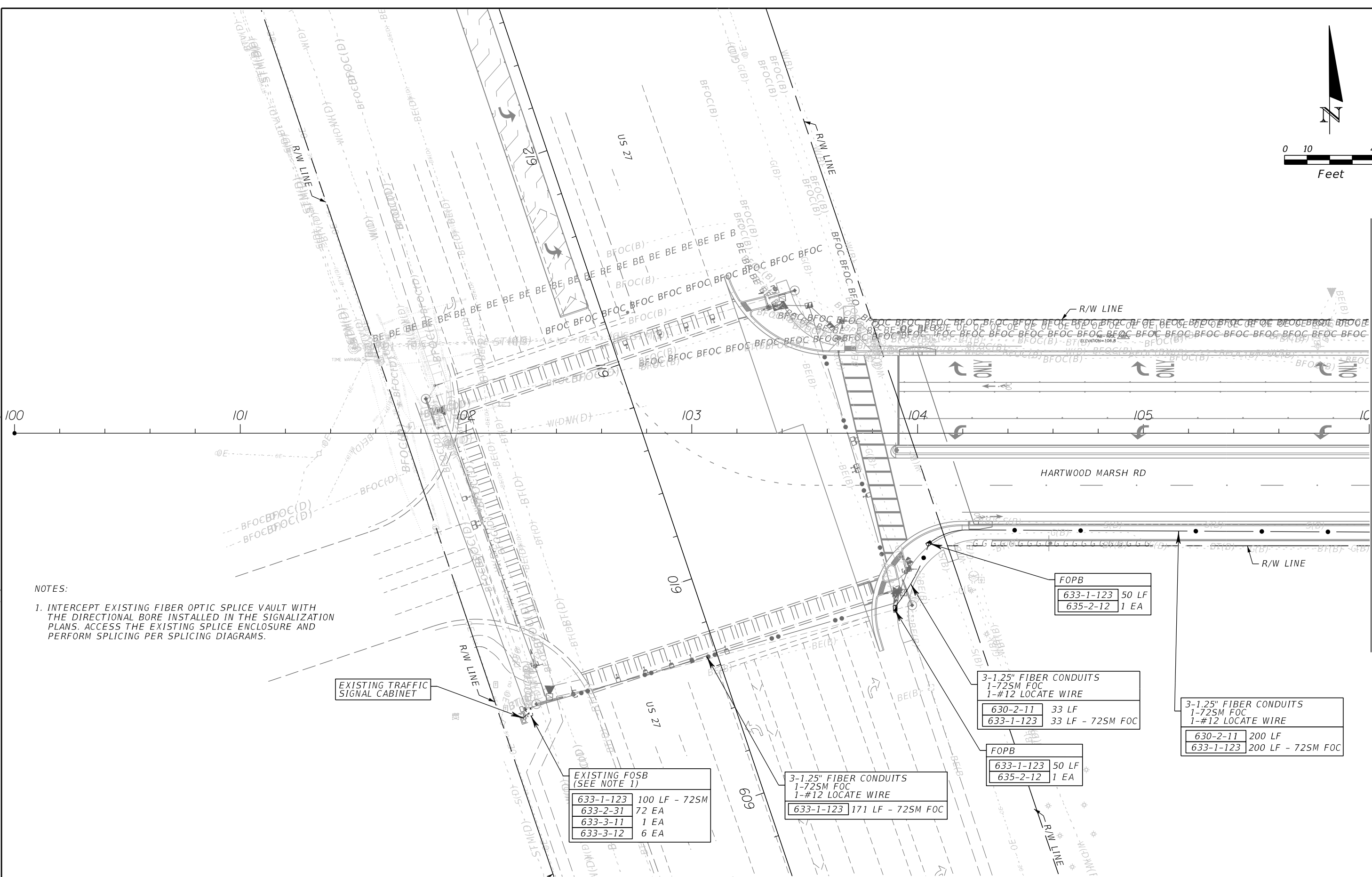
SIGNALIZATION PLAN

SHEET NO.
T-14

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NOTES:
1. INTERCEPT EXISTING FIBER OPTIC SPLICE VAULT WITH THE DIRECTIONAL BORE INSTALLED IN THE SIGNALIZATION PLANS. ACCESS THE EXISTING SPLICE ENCLOSURE AND PERFORM SPLICING PER SPLICING DIAGRAMS.

REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			INTERCONNECT PLAN SHEET	SHEET NO. T-15
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.			
					HARTWOOD MARSH	441781-1-58-01			

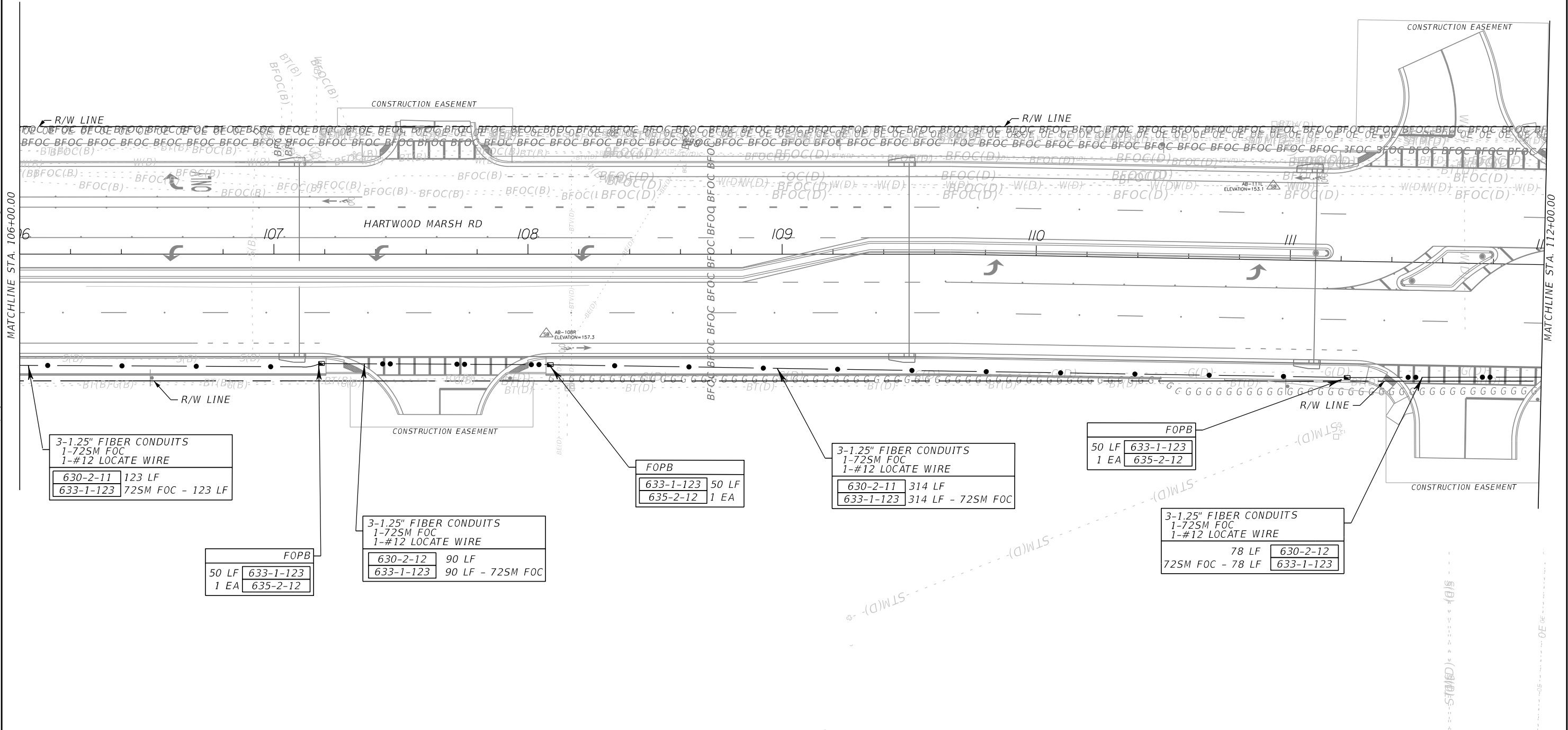
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

10851

9/18/2026

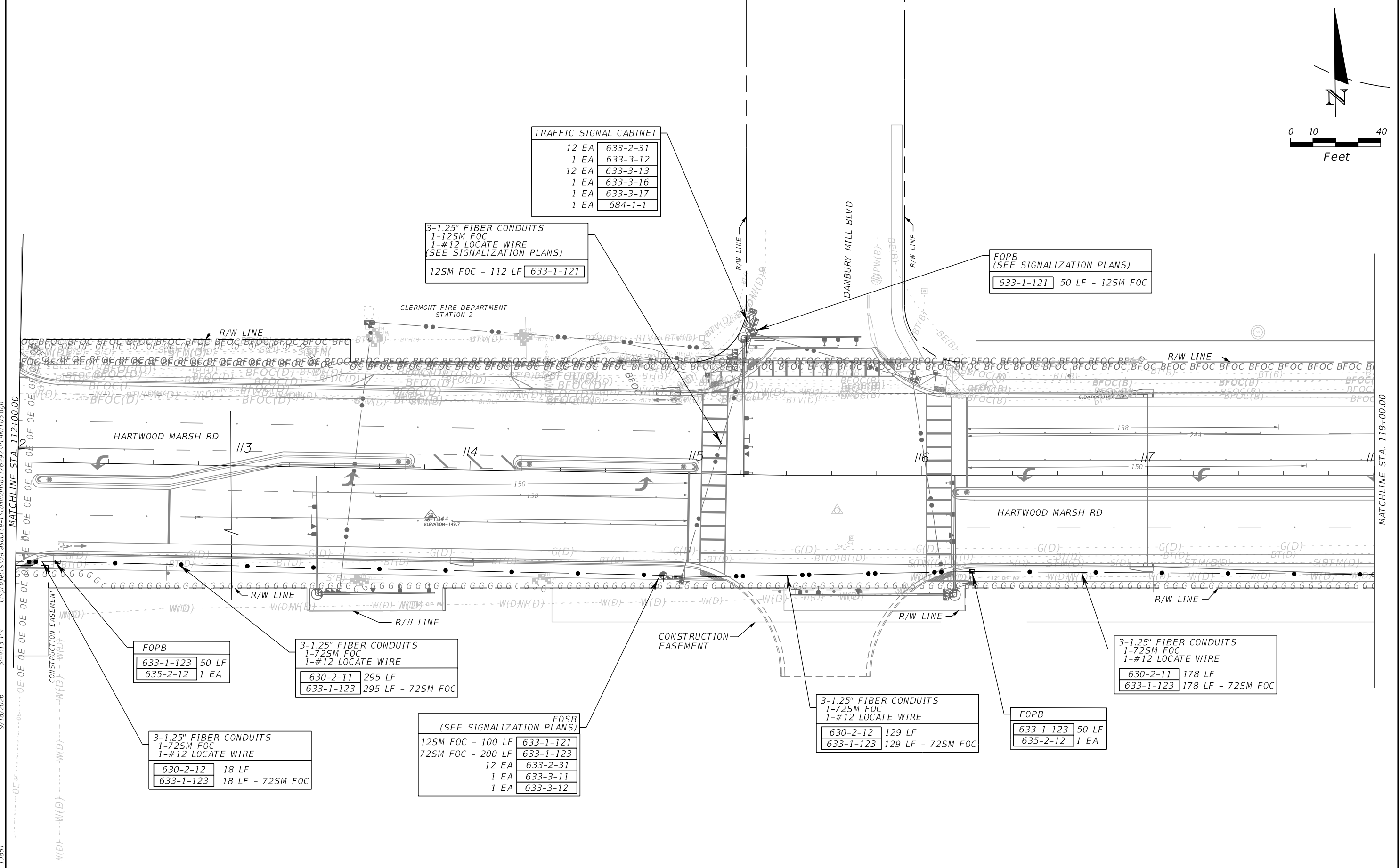
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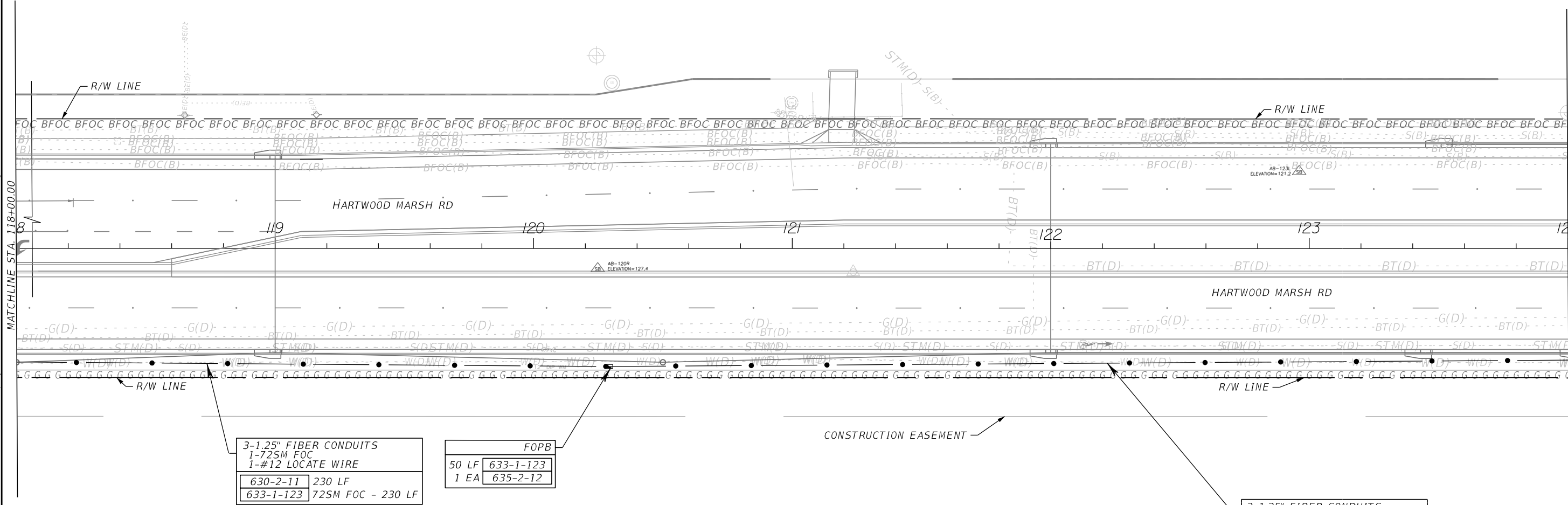
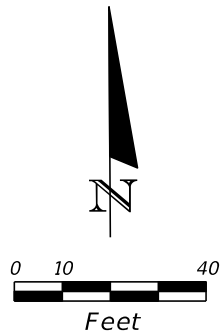
REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD		 LAKE COUNTY, FL REAL FLORIDA - REAL CLOSE	INTERCONNECT PLAN SHEET	SHEET NO. T-16
DATE	DESCRIPTION	DATE	DESCRIPTION						

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



REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			INTERCONNECT PLAN SHEET	SHEET NO. T-17
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.			
					HARTWOOD MARSH	441781-1-58-01			

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3-1.25" FIBER CONDUITS 1-72SM FOC 1-#12 LOCATE WIRE	
630-2-11	230 LF
633-1-123	72SM FOC - 230 LF

FOPB	
50 LF	633-1-123
1 EA	635-2-12

3-1.25" FIBER CONDUITS 1-72SM FOC 1-#12 LOCATE WIRE	
630-2-11	372 LF
633-1-123	372 LF - 72SM FOC

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

DONALD L. TAPPENDORF, P.E.
P.E. NO.: 84724
STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FL 32713

HARTWOOD MARSH ROAD	
ROAD NO.	PROJECT NO.
HARTWOOD MARSH	441781-1-58-01

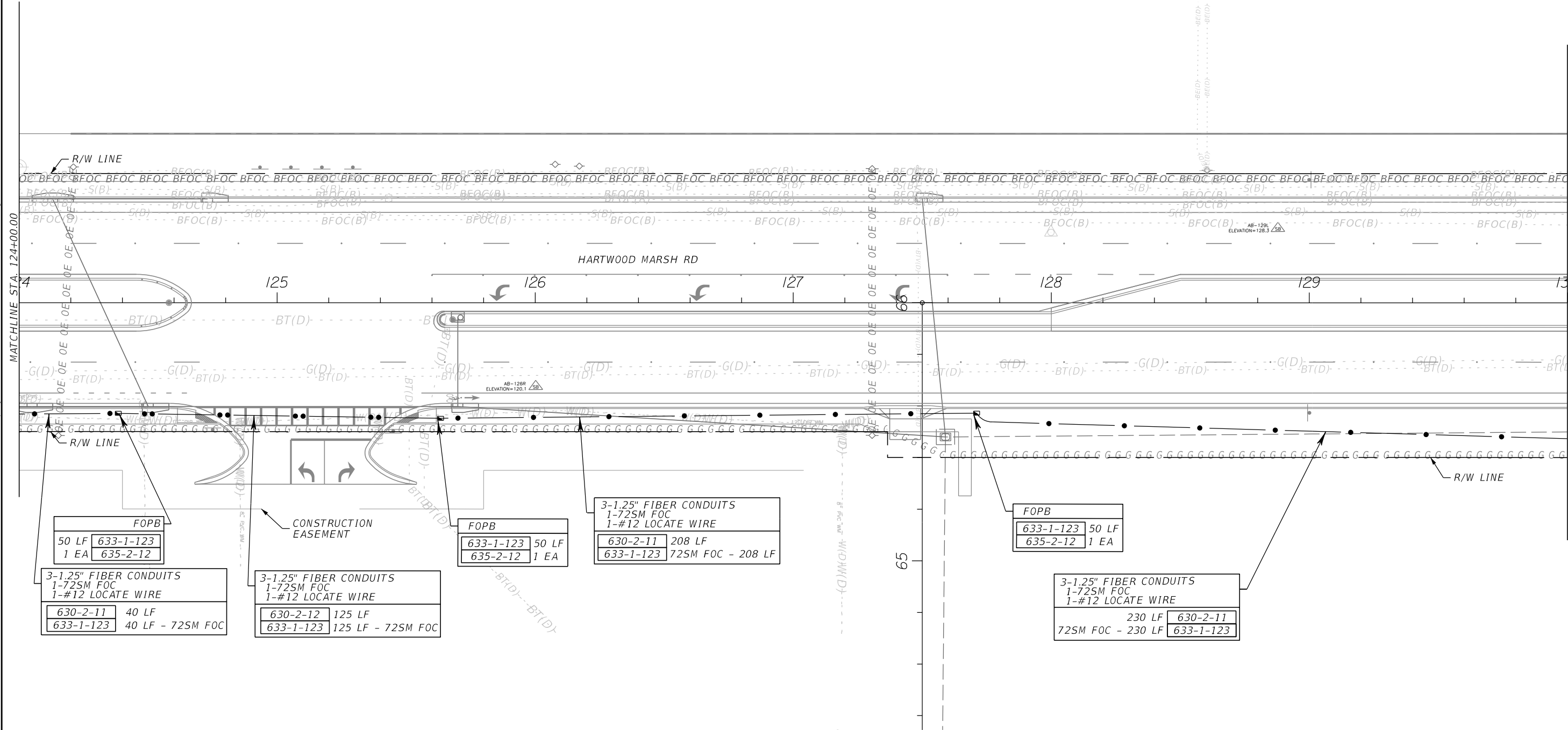
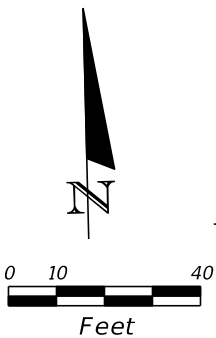


INTERCONNECT PLAN SHEET

SHEET NO.
T-18

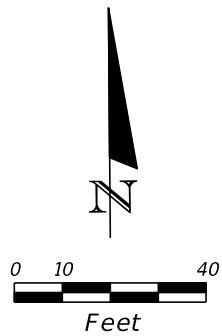
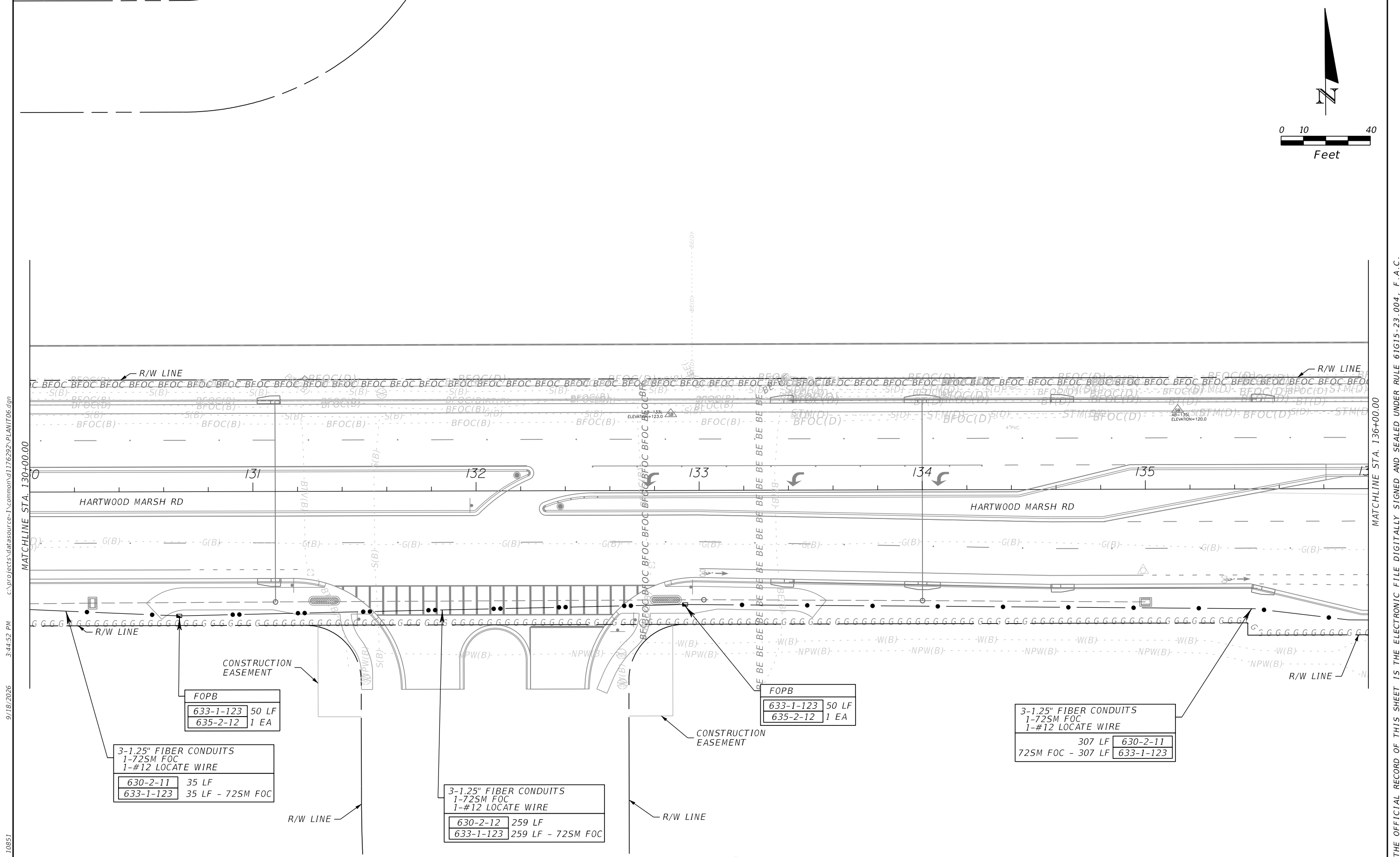
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			INTERCONNECT PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.			
					HARTWOOD MARSH	441781-1-58-01			T-19

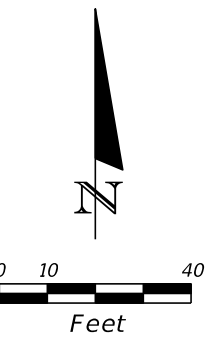
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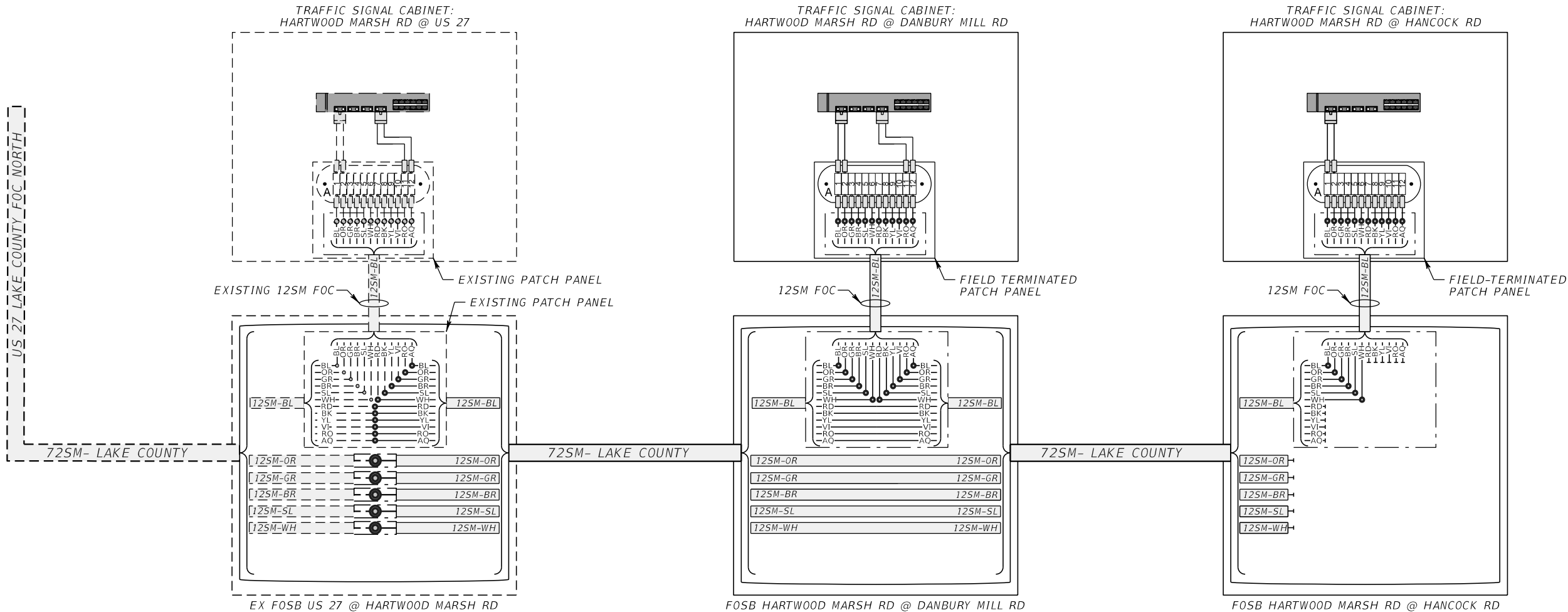
REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			INTERCONNECT PLAN SHEET	SHEET NO. T-20
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.			
					HARTWOOD MARSH	441781-1-58-01			

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



REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD		 LAKE COUNTY, FL REAL FLORIDA • REAL CLOSE	<i>INTERCONNECT PLAN SHEET</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.			T-21
					HARTWOOD MARSH	441781-1-58-01			

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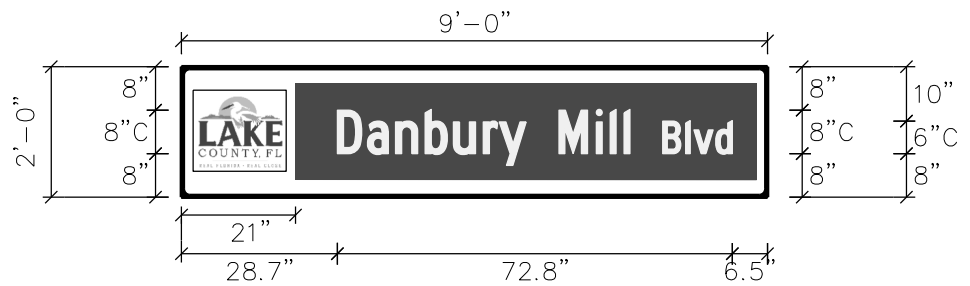
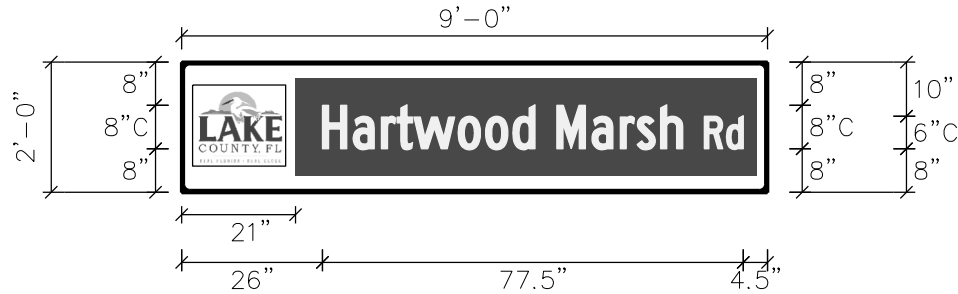


SPLICING DIAGRAM LEGEND

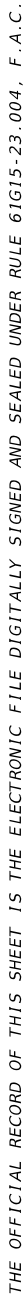
- EXISTING ELEMENTS
- EXISTING SPLICE
- SPLICE
- BUFFER TUBE SPLICES (COLOR TO COLOR)
- FIBER CABLE BUTT-SPLICE (BUFFER TO BUFFER, COLOR TO COLOR)
- SC CONNECTOR
- LC DUPLEX CONNECTOR
- ##SM FIBER OPTIC CABLE
- 12SM-BL BUFFER TUBE
- FIBER STRAND
- CAPPED AND COILED FIBER
- FIBER JUMPER (CONNECTORS VARY)
- SPLICE TRAY
- CONNECTOR PANEL
- MANAGED ETHERNET SWITCH
- SPLICE ENCLOSURE

REVISIONS				DONALD L. TAPPENDORF, P.E. P.E. NO.: 84724 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			SPlicing DIAGRAM	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT NO.				
					HARTWOOD MARSH	441781-1-58-01			T-22	

<i>SHEET</i> <i>NO.</i>
<i>T-23</i>

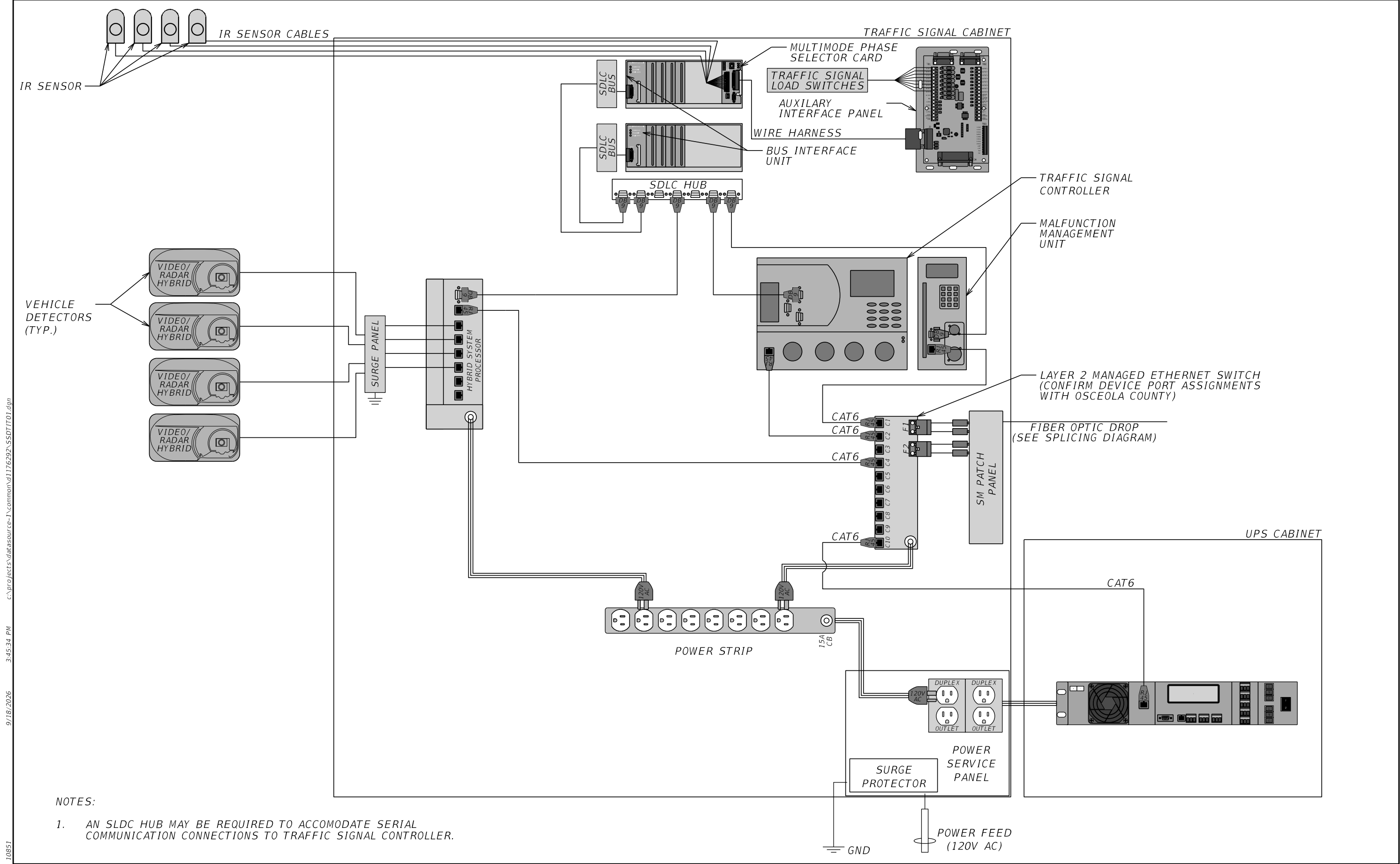
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** Denotes future signal head or future sign
PD DENOTES THE PREEMPTION DETECTOR
V DENOTES DETECTOR OF VIDEO CAMERA SENSOR
*** PROVIDE A COLOR CHIP TO THE MAINTAINING AGENCY PRIOR TO ORDERING MAST ARM SIGNAL POLES

10851



10851

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9/18/2026

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MOHAN GOPALAKRISHNA, P.E., PTOE
P.E. NO.: 60720
STANLEY CONSULTANTS, INC.
80 SPRING VISTA DRIVE
DEBARY, FL 32713

HARTWOOD MARSH ROAD	
ROAD NO.	PROJECT NO.
HARTWOOD MARSH	441781-1-58-01

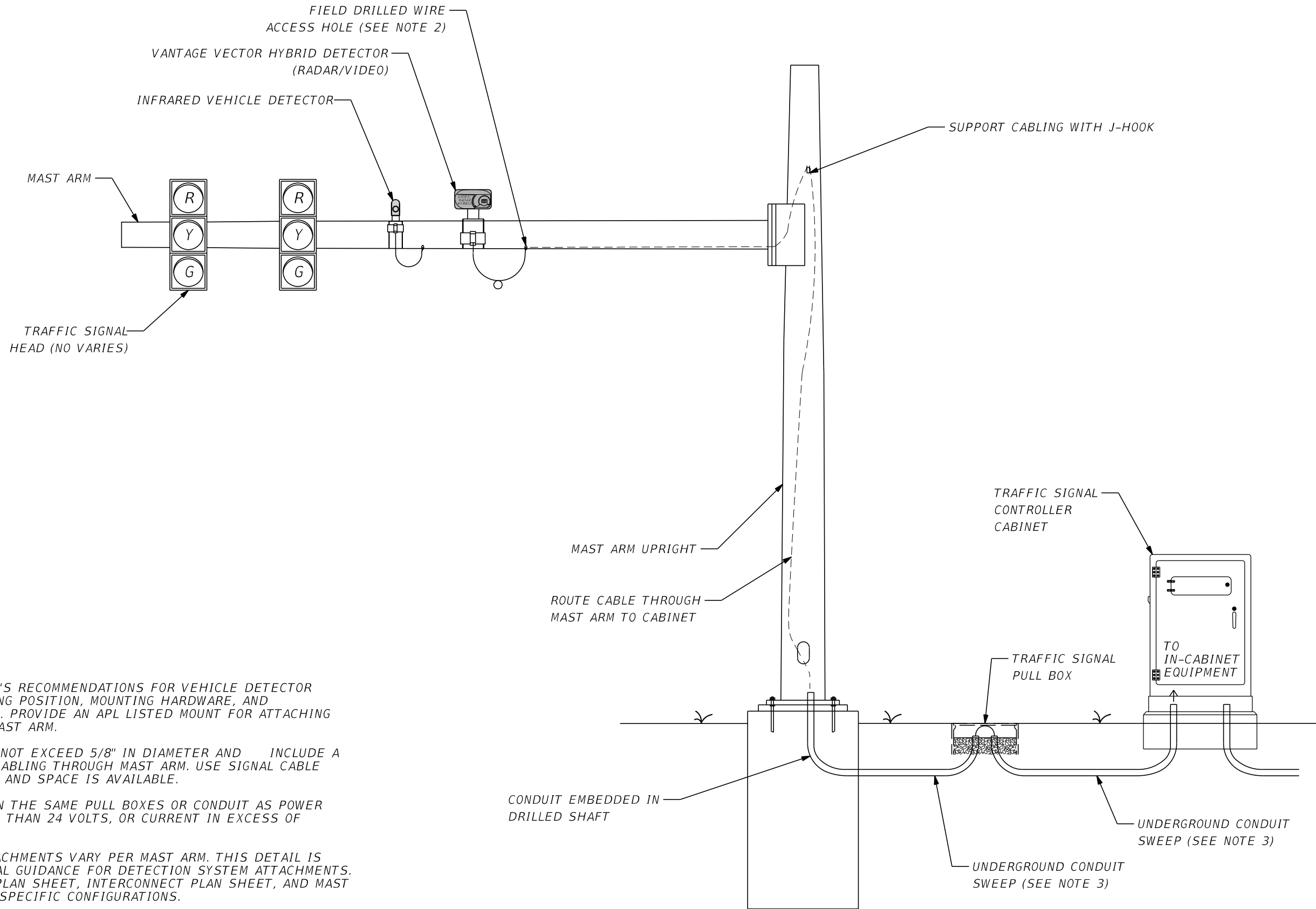


DETECTION SYSTEM WIRING DIAGRAM	

SHEET NO.
T-26

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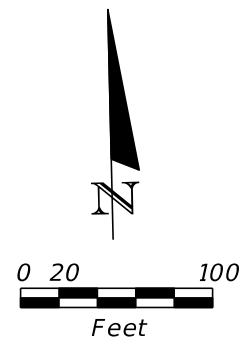
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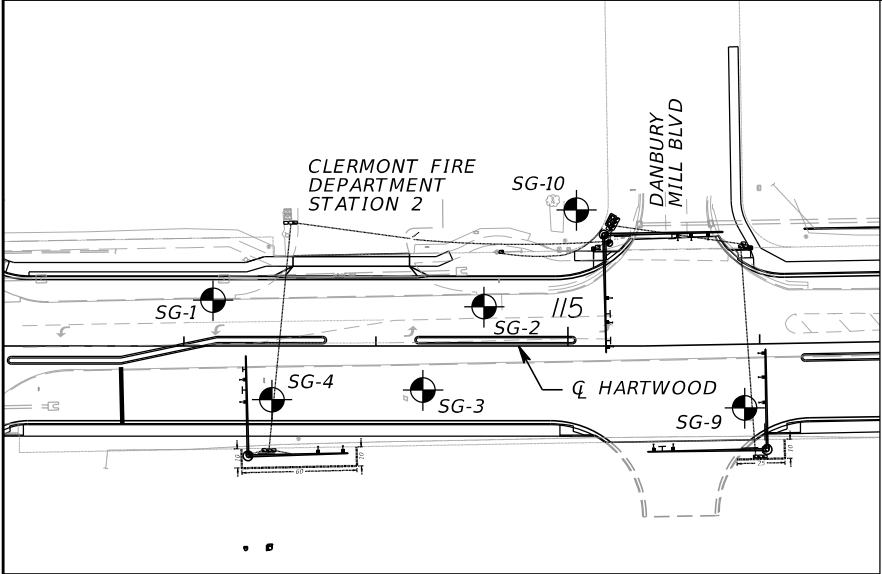


- NOTES:
- ADHERE TO MANUFACTURER'S RECOMMENDATIONS FOR VEHICLE DETECTOR MOUNTING HEIGHT, MOUNTING POSITION, MOUNTING HARDWARE, AND INSTALLATION PROCEDURES. PROVIDE AN APL LISTED MOUNT FOR ATTACHING THE DETECTORS TO THE MAST ARM.
 - WIRE ACCESS HOLE SHALL NOT EXCEED 5/8" IN DIAMETER AND INCLUDE A RUBBER GROMMET. ROUTE CABLING THROUGH MAST ARM. USE SIGNAL CABLE ACCESS HOLE IF WITHIN 5' AND SPACE IS AVAILABLE.
 - DO NOT INSTALL CABLING IN THE SAME PULL BOXES OR CONDUIT AS POWER CABLES CARRYING GREATER THAN 24 VOLTS, OR CURRENT IN EXCESS OF 1.5 AMPS.
 - NUMBER AND TYPE OF ATTACHMENTS VARY PER MAST ARM. THIS DETAIL IS MEANT TO PROVIDE GENERAL GUIDANCE FOR DETECTION SYSTEM ATTACHMENTS. REFER TO SIGNALIZATION PLAN SHEET, INTERCONNECT PLAN SHEET, AND MAST ARM DATA TABLE FOR ARM-SPECIFIC CONFIGURATIONS.

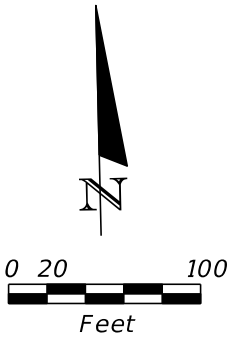
REVISIONS				MOHAN GOPALAKRISHNA, P.E., PTOE P.E. NO.: 60720 STANLEY CONSULTANTS, INC. 80 SPRING VISTA DRIVE DEBARY, FL 32713	HARTWOOD MARSH ROAD			DETECTION SYSTEM INSTALLATION DETAIL	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
									T-27

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





BORING LOCATION PLAN



SAND

PAVEMENT/BASE

APPROXIMATE SPT BORING LOCATION

GNA
GROUNDWATER NOT APPARENT DUE TO THE INTRODUCTION OF DRILLING FLUID.

SP

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.

N

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

HA

HAND AUGERED TO VERIFY UTILITY CLEARANCE

-200

PERCENT PASSING #200 SIEVE

NAVD 88

NORTH AMERICAN VERTICAL DATUM OF 1988

Q

HARTWOOD

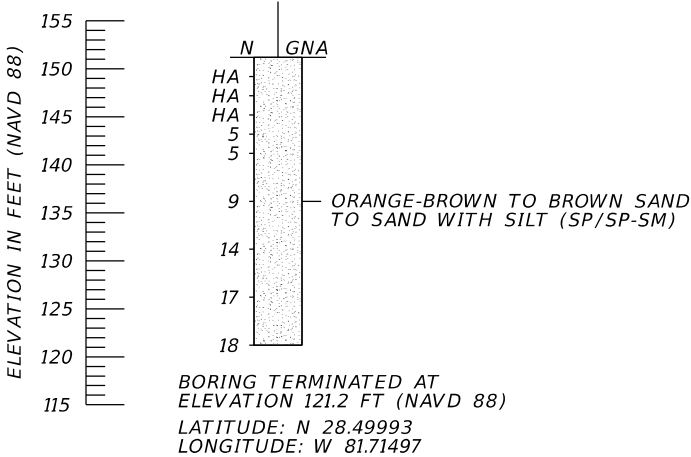
CENTERLINE OF CONSTRUCTION OF HARTWOOD MARSH ROAD

AUTOMATIC HAMMER	
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 3
LOOSE	3 to 8
MEDIUM DENSE	8 to 24
DENSE	24 to 40
VERY DENSE	GREATER THAN 40

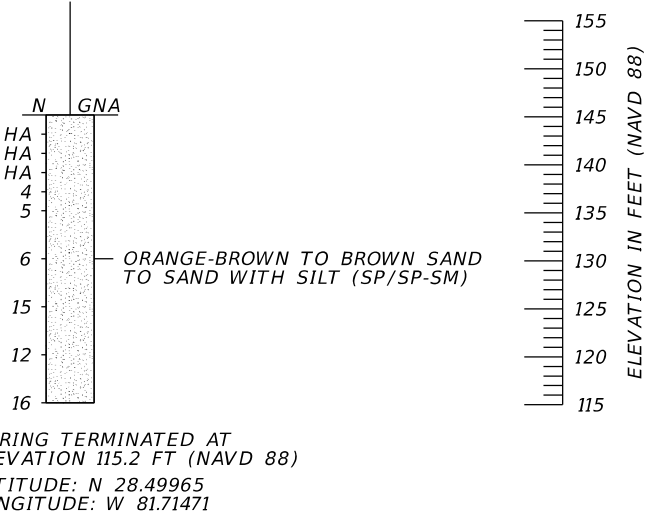
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 1
SOFT	1 to 3
FIRM	3 to 6
STIFF	6 to 12
VERY STIFF	12 to 24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:
SUBSTRUCTURE CONCRETE: EXTREMELY AGGRESSIVE (ASSUMED)
SUBSTRUCTURE STEEL: EXTREMELY AGGRESSIVE (ASSUMED)

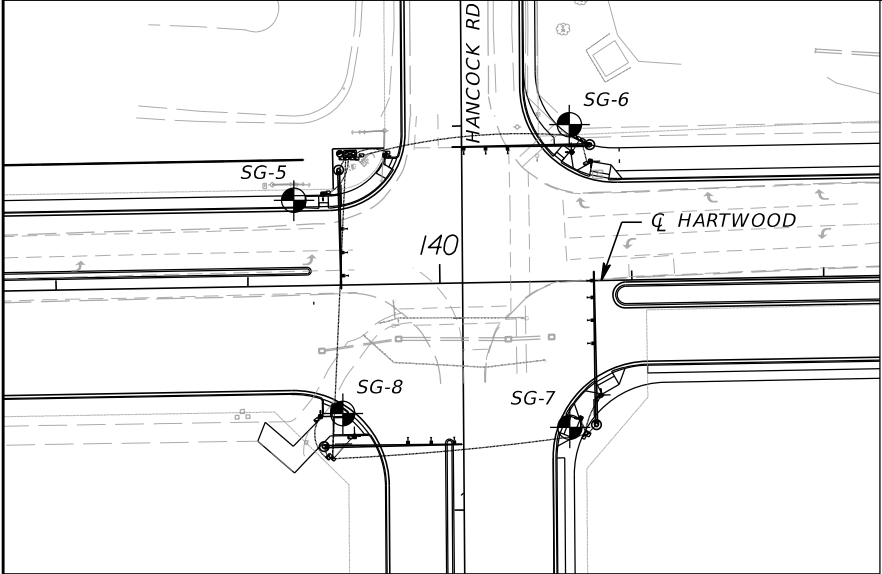
BOR # SG-10
STA. 115+04
REF. Q HARTWOOD
OFF. 71' LT.
ELEV. 151.2
DATE 5/11/2023
DRILLER G.SMITH
HAMMER AUTOMATIC
RIG D-25



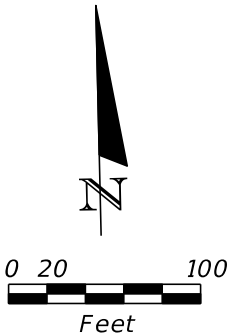
BOR # SG-9
STA. 115+92
REF. Q HARTWOOD
OFF. 33' RT.
ELEV. 145.2
DATE 5/11/2023
DRILLER G.SMITH
HAMMER AUTOMATIC
RIG D-25



REVISIONS			LUIS A. ALMODOVAR, P.E. P.E. LICENSE NUMBER 93273 TIERRA, INC. 591 SUSAN B. BRITT COURT WINTER GARDEN, FLORIDA 34787		HARTWOOD MARSH ROAD - PHASE I	REPORT OF CORE BORINGS (2)	SHEET NO.
DATE	BY	DESCRIPTION					T-29



BORING LOCATION PLAN



SAND

PAVEMENT/BASE

APPROXIMATE SPT BORING LOCATION

GNA

GROUNDWATER NOT APPARENT DUE TO THE INTRODUCTION OF DRILLING FLUID.

Q HARTWOOD

CENTERLINE OF CONSTRUCTION OF HARTWOOD MARSH ROAD

SP

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.

N

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

HA

HAND AUGERED TO VERIFY UTILITY CLEARANCE

-200

PERCENT PASSING #200 SIEVE

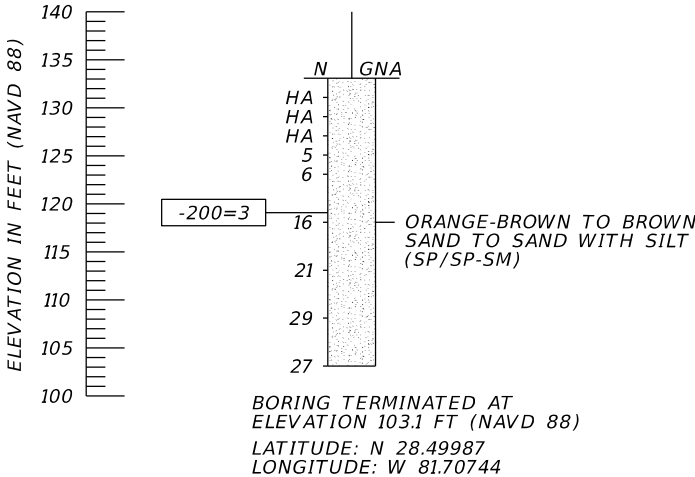
NAVD 88

NORTH AMERICAN VERTICAL DATUM OF 1988

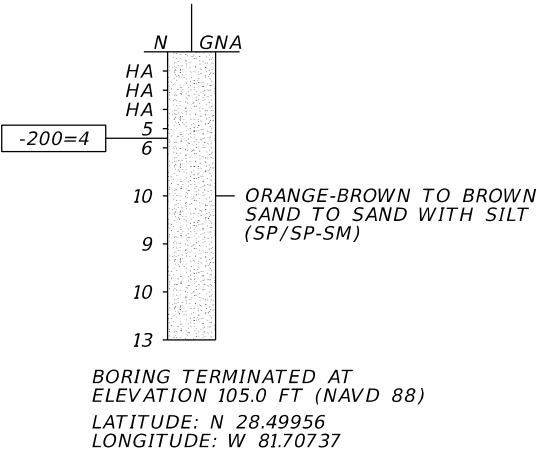
AUTOMATIC HAMMER	
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 3
LOOSE	3 to 8
MEDIUM DENSE	8 to 24
DENSE	24 to 40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 1
SOFT	1 to 3
FIRM	3 to 6
STIFF	6 to 12
VERY STIFF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

ENVIRONMENTAL CLASSIFICATION:
SUBSTRUCTURE CONCRETE: EXTREMELY AGGRESSIVE (ASSUMED)
SUBSTRUCTURE STEEL: EXTREMELY AGGRESSIVE (ASSUMED)

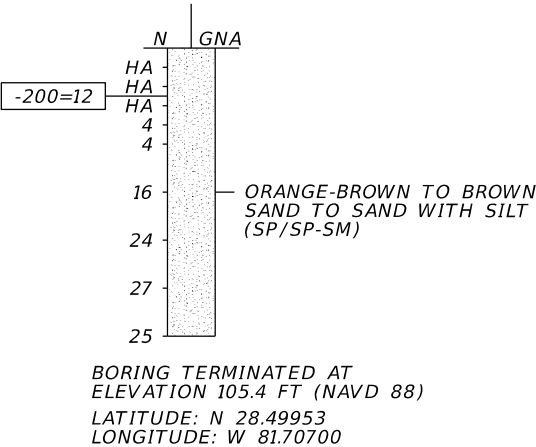
BOR # SG-5
STA. 139+25
REF. Q HARTWOOD
OFF. 45' LT.
ELEV. 133.1
DATE 9/26/2022
DRILLER G.SMITH
HAMMER AUTOMATIC
RIG D-25



BOR # SG-8
STA. 139+48
REF. Q HARTWOOD
OFF. 67' RT
ELEV. 135.0
DATE 8/24/2022
DRILLER G.SMITH
HAMMER AUTOMATIC
RIG D-25



BOR # SG-7
STA. 140+66
REF. Q HARTWOOD
OFF. 76' RT.
ELEV. 135.4
DATE 8/24/2022
DRILLER G.SMITH
HAMMER AUTOMATIC
RIG D-25



BOR # SG-6
STA. 140+69
REF. Q HARTWOOD
OFF. 81' LT.
ELEV. 135.5
DATE 8/26/2022
DRILLER G.SMITH
HAMMER AUTOMATIC
RIG D-25

