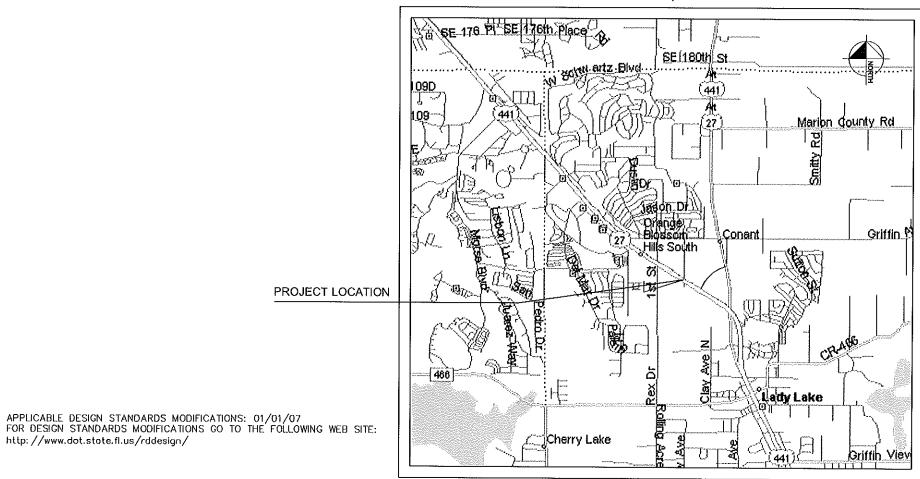
SIGNALIZATION PLANS FOR

VILLAGE CROSSROADS U.S. 27 / 441 and Crossroads Drive

SECTION 11230000, MILEPOST 1.015

TOWN OF LADY LAKE, FL AUGUST, 2007





PROJECT LOCATION

SHEET NO. DESCRIPTION

T1	KEY SHEET
Т2	TABULATION OF QUANTITIES
T3	GENERAL NOTES
T4	SIGNALIZATION PLAN
<i>T5</i>	INTERCONNECT PLAN
T6	STRAIN POLE SCHEDULE
<i>T7</i>	GUIDE SIGN WORK SHEET
T8	STRIPING MODIFICATION PLAN

VICINITY MAP

GOVERNING STANDARDS AND SPECIFICATIONS: FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS DATED 2006, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2007, AS AMENDED BY CONTRACT DOCUMENTS.

http://www.dot.state.fl.us/rddesign/

PREPARED BY and Associates, Inc.

TABULATION OF QUANTITIES

PAY	DESCRIPTION	UNIT	SHEET NO.						ТО	TOTAL	
ITEM NO.	DECOMM 1700	0,,,,		T4		75		T8			
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
101-1	MOBILIZATION	LS	1		_		_		1		
102-1	MAINTENANCE OF TRAFFIC	LS	1		_		-		1		
102-99	CHANGEABLE VARIABLE MESSAGE SIGN - TEMPORARY	ED	28		-		-		28	**************************************	
630-1-12	CONDUIT (FURNISH & INSTALL) (ABOVEGROUND)	LF	1075		2530	İ			2530		
630-1-14	CONDUIT (FURNISH) (UNDERGROUND JACKED)	LF	270		340		_		610		
632-7-1	CABLE (SIGNAL) (FURNISH & INSTALL)	PI	1		-		-		1		
634-4-112	SPAN WIRE ASSEMBLY (DIAGONAL)	PI	1		-				1		
635-1-11	PULL AND JUNCTION BOXES (F&I)	EA	10					ļ	10		
635-1-15	PULL AND JUNCTION BOXES (F&I) (FIBER OPTIC)	EA			2			ļ	2		
635-1-16	PULL AND JUNCTION BOXES (F&I) (FIBER OPTIC) (OVERSIZED)	EA	1		-		-		1		
639-1-22	ELECTRICAL POWER SERVICE (UNDERGROUND)	AS	1		-				1		
639-2-1	ELECTRICAL SERVICE WIRE	LF	150		_		-	· · · · · ·	150	() a () () () () () () () () (
									,	· · · · · · · · · · · · · · · · · · ·	
641-41-112	PRESTRESSED CONCRETE POLE (TYPE NII SERVICE POLE)	EA	1				-	· · · · · · · · · · · · · · · · · · ·	1	· ~	
641-17-150	PRESTRESSED CONCRETE POLE (TYPE N-VIII)	EA	2						2	***************************************	
650-51-313	SIGNAL TRAFFIC (F&I) (3 SECT 1 WAY) (L.E.D.)	AS	10				-		10		
653-191	SIGNAL, PEDESTRIAN (F&I) (LED-COUNTDOWN) (1-WAY)	AS	2						2		
659-106	SIGNAL HEAD AUXILIARIES (TUNNEL VISORS)	EA	30		_				30		
659-108	SIGNAL HEAD AUXILIARIES (TONNEL VISURS) SIGNAL HEAD AUXILIARIES (CONCRETE PEDESTAL)	EA	2			-	_		2		
660-1-109	LOOP DETECTOR, INDUCTIVE	EA	12		_				12		
660-1-109	LOOP DETECTOR, INDUCTIVE (DELAY)	EA	2				_		2		
000 1 110	EGGI BETEGION, INDOGNAL (BLEAT)										
660-2-102	LOOP ASSEMBLY (TYPE B) (6'x6')	AS	8				_		8		
660-2-106	LOOP ASSEMBLY (TYPE F) (6'x40')	AS	6		_				6		
663-74-1	VEHICLE DETECTOR ASSEMBLY (OPTICAL) (2-WAY)	PI	1		_		1		1		
665-11	PEDESTRIAN DETECTOR	EA	2		_		_		2		
670-5-110	CNTL ASSEM ACT SS F&I NEMA	AS	1				-		1		
670-5-410	CNTL ASSEM ACT SS (MODIFY)	AS			1		-		1		
684-14	SYSTEMS COMMUNICATION CARRIER (F&I) (FIBER OPTIC CABLE)	LF	2530		_		_		2530		
685-128	SYSTEM AUXILIARIES (INTERFACE PANEL)	EA	1				-		1		
000 4 4											
699-1-1	INTERNALLY ILLUMINATED SIGN	EA	4		-		-		4		
700-20-11	SINGLE POST SIGN	AS			_		2		2		
700-20-60	REMOVE SIGN ASSEMBLY	AS	_		-		5		5		
706-3	REFLECTIVE PAVEMENT MARKERS (WHITE/RED)	EA	_		_		12		12		
706-3	REFLECTIVE PAVEMENT MARKERS (YELLOW/RED)	EA	_		-		4		4		
711-11-121	THERMO., (STD) (WHITE) (SOLID) (6")	LF			-		235		235		
711-11-125	THERMO., (STD) (WHITE) (SOLID) (24")	LF	_				140		140		
711-11-170	THERMO., (STD) (WHITE) (ARROWS)	EA					4		4		
711-11-221	THERMO., (STD) (YELLOW) (SOLID) (6")	LF					70		70		
711-17	THERMO., (REMOVE)	SF	-				186		186		
999-2	GENERATOR PAD (3'x3'x4")	EΑ	1		-				11		

TABULATION OF QUANTITIES

VILLAGE CROSSROADS

VILLAGE CROSSROADS

US 27 / 441 AND
US 27 / 441 AND
CROSSROADS DRIVE
FLORIDA
CROSSROADS DRIVE
FLORIDA
SHEET NUMBER

SHEET NUMBER

T2

GENERAL

- The Contractor shall verify color codes for signal cable with Steve Bollinger, Lake County Traffic Operations, 352-742-1766 before ordering.
- The Contractor is required to inspect the installation of the traffic signals in accordance with FDOT Specification 105-5.10. The Contractor shall coordinate the final acceptance inspection in accordance with FDOT Specification 611-2.2 with the Engineer at least ten days in advance. Steve Bollinger of Lake County Traffic Operations at (352) 742-1766 and Ray Martin of FDOT at (386) 943-5318 should also be contacted ten days before the inspection is to be performed so they may be present.
- It should be noted that no test borings were made where conduit runs are to be installed by directional boring, or trenching. It shall be the Contractor's responsibility to examine job site conditions before submitting bid proposals in accordance with Section 2-4 of the Specifications.
- A pre-construction meeting shall be scheduled with Lake County Traffic Operations, (352) 742-1766, prior to any construction.
- All materials and hardware shall be F.D.O.T. approved, and pre-approved by Lake County Traffic Operations.
- The Contractor shall furnish Lake County Traffic Operations with emergency contacts and phone numbers and have an I.M.S.A. Level II or III certified signal technician on call within a two hour maximum response time.
- 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.
- The Contractor shall notify Lake County Traffic Operations and FDOT 2 business days prior to beginning construction.
- Lane closures shall be allowed only between 7:00 pm and 7:00 am.
- The Contractor shall hand dig the first 4 feet at each pole location to verify there are no utility conflicts.

CONDUITS / PULL BOXES / CABLING

- All signal cable, loop cable, and communication cable shall be installed in separate pull boxes.
- Pull boxes and covers shall be FDOT approved of non-metallic construction with recessed cover logo "Traffic Signal" or "Fiber Optic" as appropriate.
- Multiple conduit runs in the same trench shall be jack and bored or directional bored for the first conduit only. Subsequent conduit runs shall be paid for as underground.
- Conduit under reconstructed driveways shall be placed prior to placing povement and shall be paid as underground conduit.
- Signal cable shall be attached to messenger wire using proper size spiral wrap.
- A fiber optic pull box and conduit into the controller assembly shall be furnished and installed.
- 'F' Type loops shall be 40' long by 6' wide and extend 5' beyond the stop line.
- Any new or existing striping cut because of loop placement shall be re-striped prior to acceptance.

TIMINGS / CONTROLLER

- The controller cabinet assembly shall be a Lake County Naztec Regional TS-2 with a TS-1 controller, ethernet enabled for the Lake County closed loop system. The additional equipment and accessories for the fiber optic cable interconnect shall be furnished and installed as part of the controller assembly.
- The controller shall be wired for future S.O.P. 10 Operation.
- Delay times shall be set to 5 seconds.
- Spare cabinet conduit shall be stubbed and capped in the nearest pull box.
- Grounding for the controller assembly shall measure 25 ohms or less.
- The mounting of the electrical service to the traffic signal cabinet shall be prohibited.
- A manual pushbutton cord shall be furnished in the controller cabinet.
- The cabinet door shall open away from the intersection, within the FDOT right-of-way.
- Traffic signal shall flash for no less than 7 days and no more than 14 days prior to turn-on inspection. Contractor shall contact permit engineer 48 hours prior to turning signal on flash.
- Contractor shall contact permit engineer 48 hours before any directional bores.

SIGNAL HEADS

- All signal displays including pedestrian signals shall be LED.
- All signal head assemblies shall be black cast aluminum.
- All signal head assemblies shall include tunnel visors.
- The use of "Jones" plugs shall be prohibited.

PEDS

- Contractor to ensure that a 4'X4' flat landing is adjacent to all pedestrian buttons for pedestrian access.
- Three (3) spare conductors are to be run to the furthest pedestrian signal head.
- All pedestrian signals shall be 16" L.E.D., countdown type.
- Pushbuttons shall be Pelco oversized metal buttons or approved equal.

STREET NAME SIGNS

 All internally Illuminated street name signs shall be Illuminated by LED's Installed one foot below the messenger cable, powered by a separate circuit breaker, and be installed in accordance with the internally Illuminated Street Name Sign Detail for Lake County Public Works.

PAY ITEM NOTE

Pay Item No. 102—99 shall include furnishing, installing, operating, and removing two (2) VMS's. The VMS's shall be installed along US 27/44l approximately 750 feet in advance of the proposed northbound and southbound stop bars. The VMS's shall be activated when the proposed signal is fully operational, and shall operate for 7 to 14 full days thereafter. The messages shall alternate and be as follows:

С	Α	U	T	I	0	N	
С	Α	כ	T		0	Ν	
С	Α	J	T		O	Z	

N		W				
S		G	Z	Α	L	
Α	Н	E	Α	D		

- Pay Item Nos. 635-1-15, and 635-1-16 shall include all costs for furnishing and installing fiber optic pull boxes and be defined as a fiber optic pull box as identified in Technical Special Provisions attached hereto.
- Pay Item 639-1-22 The Contractor shall be responsible for contacting the power company providing the electrical power, to determine if any additional fees are required to connect power and for connection of power. If required, the fee shall be included as part of bid item payment for electrical service assembly. The Contractor is also responsible for acquiring the electrical permit and coordinating the application for power with the Town of Lady Lake.
- Pay Item Nos. 653-191 shall include FTP-25-04 and RIO-3E Modified signs without arrow.
- Pay Item No. 663-74-I shall be bid, furnished, and installed as a per-intersection Item, and shall include all equipment
 and timings fully operational and functional for each approach to the intersection. The brand of emergency preemption
 shall be Opticom.
- Pay Item No. 684-14 shall include all costs for furnishing and installing fiber optic cable as specified in Technical Special Provisions attached hereto.
- Pay Item No. 684-14 shall be minimum 24 single-mode / 12 multi-mode loose tube, dry block, dielectric hybrid PE cable and and will include furnishing and installing a 14 gauge, single conductor trace wire through the entire length of each conduit run where proposed fiber optic cable is installed.

	<u>د</u>		1000		`	
	-	_	Н	Н	Š Ž	
					REVISIONS	
_						
					DATE	
			ı	ı	à	

and Associates

3 2007 KINLEY—HORN AND ASSOCIATES,
Meguire Boulewert, Suite 200, Orlondo, Foor (407) 894
www.KINLEY—HORN-COM, CA. OSOCIASO,
WWW.KINLEY—HORN-COM, CA. OSOCIASO

Ranald C Hildebrand, P.E. FLORIDA REGISTRATION NUMBER: 41936

DESIGNED BY DEN FLOR

SIGNALIZATION GENERAL NOTES

VILLAGE CROSSROADS
US 27 / 441 AND
CROSSROADS DRIVE

DATE Nov., 2007 PROJECT NO. 049372002

SHEET NUMBER

GENERAL

- The Contractor shall verify color codes for signal cable with Steve Bollinger, Lake County Traffic Operations, 352-742-1766 before ordering.
- The Contractor is required to inspect the installation of the traffic signals in accordance with FDOT Specification 105-5.10. The Contractor shall coordinate the final acceptance inspection in accordance with FDOT Specification 611-2.2 with the Engineer at least ten days in advance. Steve Bollinger of Lake County Traffic Operations at (352) 742-1766 and Ray Marlin of FDOT at (386) 943-5318 should also be contacted ten days before the inspection is to be performed so they may be present.
- It should be noted that no test borings were made where conduit runs are to be installed by directional boring, or trenching. It shall be the Contractor's responsibility to examine job site conditions before submitting bid proposals in accordance with Section 2-4 of the Specifications.
- A pre-construction meeting shall be scheduled with Lake County Traffic Operations, (352) 742-1766, prior to any construction.
- All materials and hardware shall be F.D.O.T. approved, and pre-approved by Lake County Traffic Operations.
- The Contractor shall furnish Lake County Traffic Operations with emergency contacts and phone numbers and have an I.M.S.A. Level II or III certified signal technician on call within a two hour maximum response time.
- 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.
- The Contractor shall notify Lake County Traffic Operations and FDOT 2 business days prior to beginning construction.
- Lane closures shall be allowed only between 7:00 pm and 7:00 am.
- The Contractor shall hand dig the first 4 feet at each pole location to verify there are no utility conflicts.

CONDUITS / PULL BOXES / CABLING

- All signal cable, loop cable, and communication cable shall be installed in separate pull boxes.
- Pull boxes and covers shall be FDOT approved of non-metallic construction with recessed cover logo "Traffic Signal" or "Fiber Optic" as appropriate.
- Multiple conduit runs in the same trench shall be jack and bored or directional bored for the first conduit only. Subsequent conduit runs shall be paid for as underground.
- Conduit under reconstructed driveways shall be placed prior to placing povement and shall be paid as underground conduit.
- Signal cable shall be attached to messenger wire using proper size spiral wrap.
- A fiber optic pull box and conduit into the controller assembly shall be furnished and installed.
- 'F' Type loops shall be 40' long by 6' wide and extend 5' beyond the stop line.
- Any new or existing striping cut because of loop placement shall be re-striped prior to acceptance.

TIMINGS / CONTROLLER

- The controller cabinet assembly shall be a Lake County Naztec Regional TS-2 with a TS-1 controller, ethernet enabled for the Lake County closed loop system. The additional equipment and accessories for the fiber optic cable interconnect shall be furnished and installed as part of the controller assembly.
- The controller shall be wired for future S.O.P. 10 Operation.
- Delay times shall be set to 5 seconds.
- Spare cabinet conduit shall be stubbed and capped in the nearest pull box.
- Grounding for the controller assembly shall measure 25 ohms or less.
- The mounting of the electrical service to the traffic signal cabinet shall be prohibited.
- A manual pushbutton cord shall be furnished in the controller cabinet.
- The cabinet door shall open away from the Intersection, within the FDOT right-of-way.
- Traffic signal shall flash for no less than 7 days and no more than 14 days prior to turn-on inspection.
 Contractor shall contact permit engineer 48 hours prior to turning signal on flash.
- Contractor shall contact permit engineer 48 hours before any directional bores.

SIGNAL HEADS

- All signal displays including pedestrian signals shall be LED.
- All signal head assemblies shall be black cast aluminum.
- All signal head assemblies shall include tunnel visors.
- The use of "Jones" plugs shall be prohibited.

PEDS

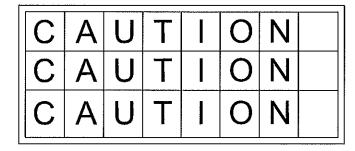
- Contractor to ensure that a 4'X4' flat landing is adjacent to all pedestrian buttons for pedestrian access.
- Three (3) spare conductors are to be run to the furthest pedestrian signal head.
- All pedestrian signals shall be 16" L.E.D., countdown type.
- Pushbuttons shall be Pelco oversized metal buttons or approved equal.

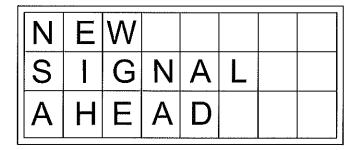
STREET NAME SIGNS

 All internally illuminated street name signs shall be illuminated by LED's installed one foot below the messenger cable, powered by a separate circuit breaker, and be installed in accordance with the internally illuminated Street Name Sign Detail for Lake County Public Works.

PAY ITEM NOTE

— Pay Item No. 102—99 shall include furnishing, installing, operating, and removing two (2) VMS's. The VMS's shall be installed along US 27/441 approximately 750 feet in advance of the proposed northbound and southbound stop bars. The VMS's shall be activated when the proposed signal is fully operational, and shall operate for 7 to 14 full days thereafter. The messages shall alternate and be as follows:





- Pay Item Nos. 635-I-I5, and 635-I-I6 shall include all costs for furnishing and installing fiber optic pull boxes and be defined as a fiber optic pull box as identified in Technical Special Provisions attached hereto.
- Pay Item 639-1-22 The Contractor shall be responsible for contacting the power company providing the electrical power, to determine if any additional fees are required to connect power and for connection of power. If required, the fee shall be included as part of bid item payment for electrical service assembly. The Contractor is also responsible for acquiring the electrical permit and coordinating the application for power with the Town of Lady Lake.
- Pay Item Nos. 653-191 shall Include FTP-25-04 and RIO-3E Modified signs without arrow.
- Pay Item No. 663-74-I shall be bid, furnished, and installed as a per-intersection Item, and shall include all equipment
 and fimings fully operational and functional for each approach to the intersection. The brand of emergency preemption
 shall be Opticom.
- Pay Item No. 684-I4 shall Include all costs for furnishing and installing fiber optic cable as specified in Technical Special Provisions attached hereto.
- Pay Item No. 684-14 shall be minimum 24 single-mode / 12 multi-mode loose tube, dry block, dielectric hybrid PE cable and and will include furnishing and installing a 14 gauge, single conductor trace wire through the entire length of each conduit run where proposed fiber optic cable is installed.

2		INC.	-4791	.0 NO.
			•	REVISIONS
				DATE
	ļ.		Ц	É

and Associates, Inc.
LEY-HORN AND ASSOCIATES. INC.
LEY-HORN AND ASSOCIATES. INC.
BRALLE 2020, ORNORE, P. 2288
BRALLEST, F. (2072), Real-2791

26 (© 2007 KALEY-HORI J860 Maguire Boulevard, 5: PARCE: (407) 898-15:11

DESON ENGINEER:
Ronald C Hildebrand, P.E.
om FLORIDA REGISTRATION NUMBER:
Com 41936 Se

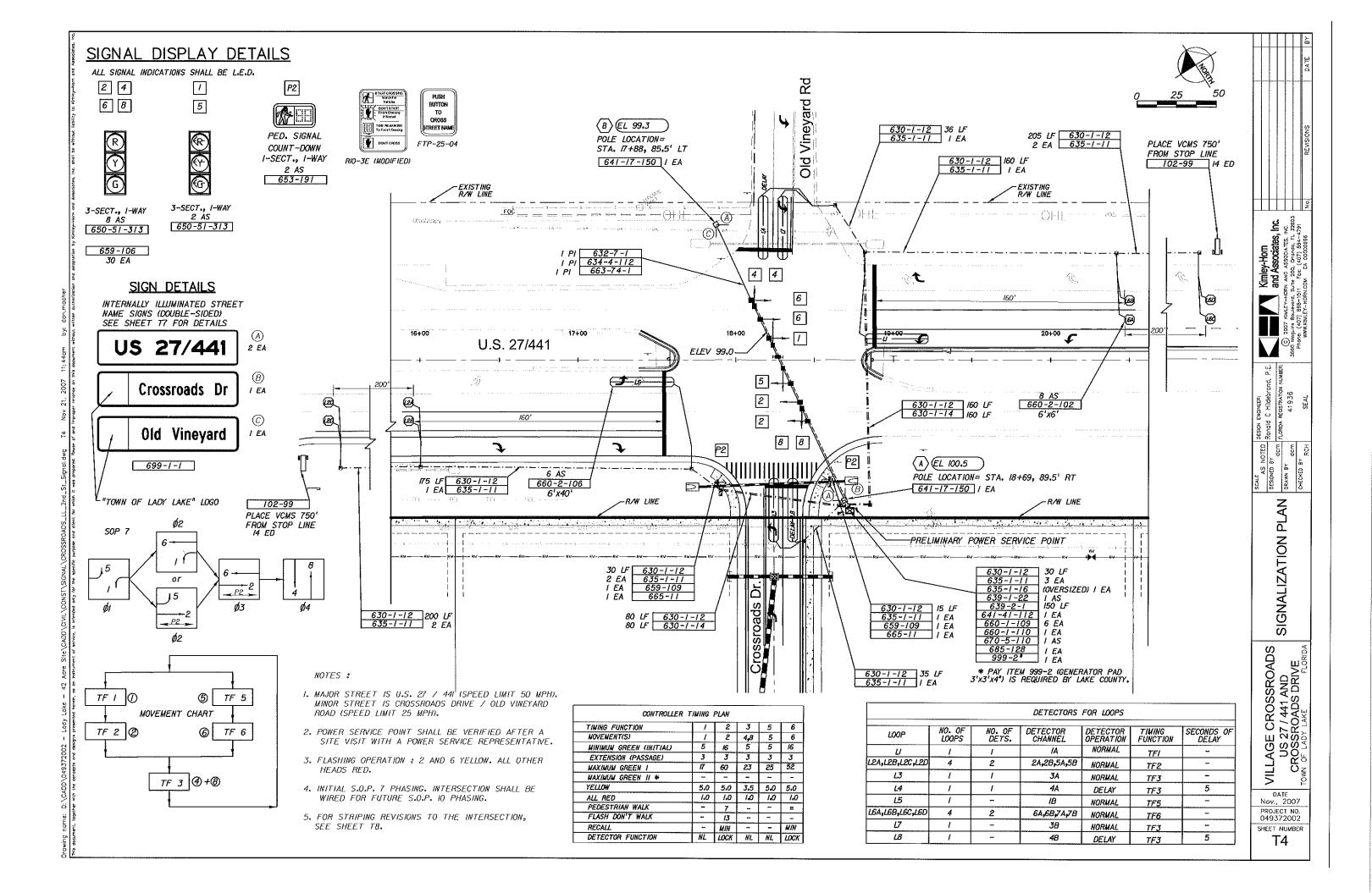
SCALE AS NOTED PENG DESIGNED BY CONC DRAWN BY dcm

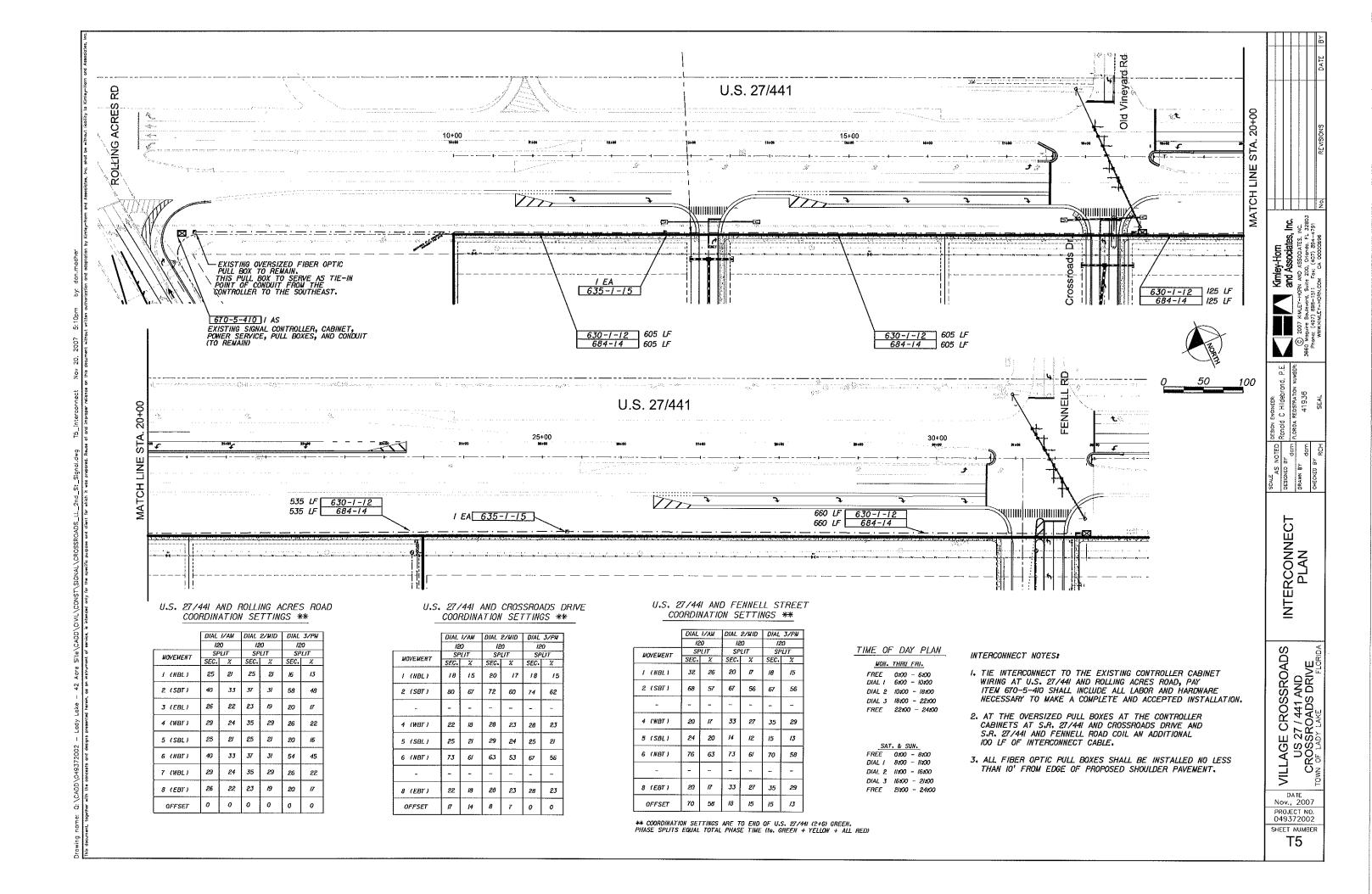
SIGNALIZATION GENERAL NOTES

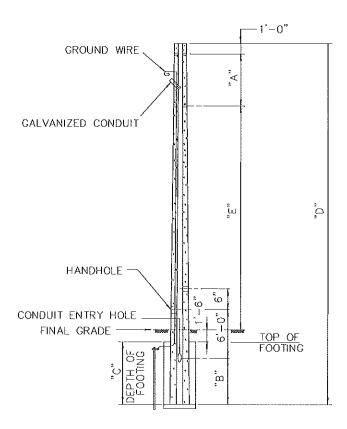
VILLAGE CROSSROADS
US 27 / 441 AND
CROSSROADS DRIVE
TOWN OF LADY LAKE

DATE Nov., 2007 PROJECT NO. 049372002

SHEET NUMBER







DETAIL OF PRESTRESSED CONCRETE

STRAIN POLE NOTES

- INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2007 EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2. DESIGN PARAMETERS:
 - COHESIONLESS SOIL
 - SOIL FRICTION ANGLE = 29 DEGREES (POLE A), 30 DEGREES (POLE B)
 - SOIL WEIGHT (SUBMERGED) = 45.6 pcf (POLE A), 51.6 pcf (POLE B)
 - DESIGN WIND SPEED = 110 mph
- 3. ALL LABOR, MATERIALS, AND EXPENSES FOR DESIGN, FURNISHING AND INSTALLING THESE POLES SHALL BE INCLUDED IN BID ITEM 641-17-150.
- 4. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.

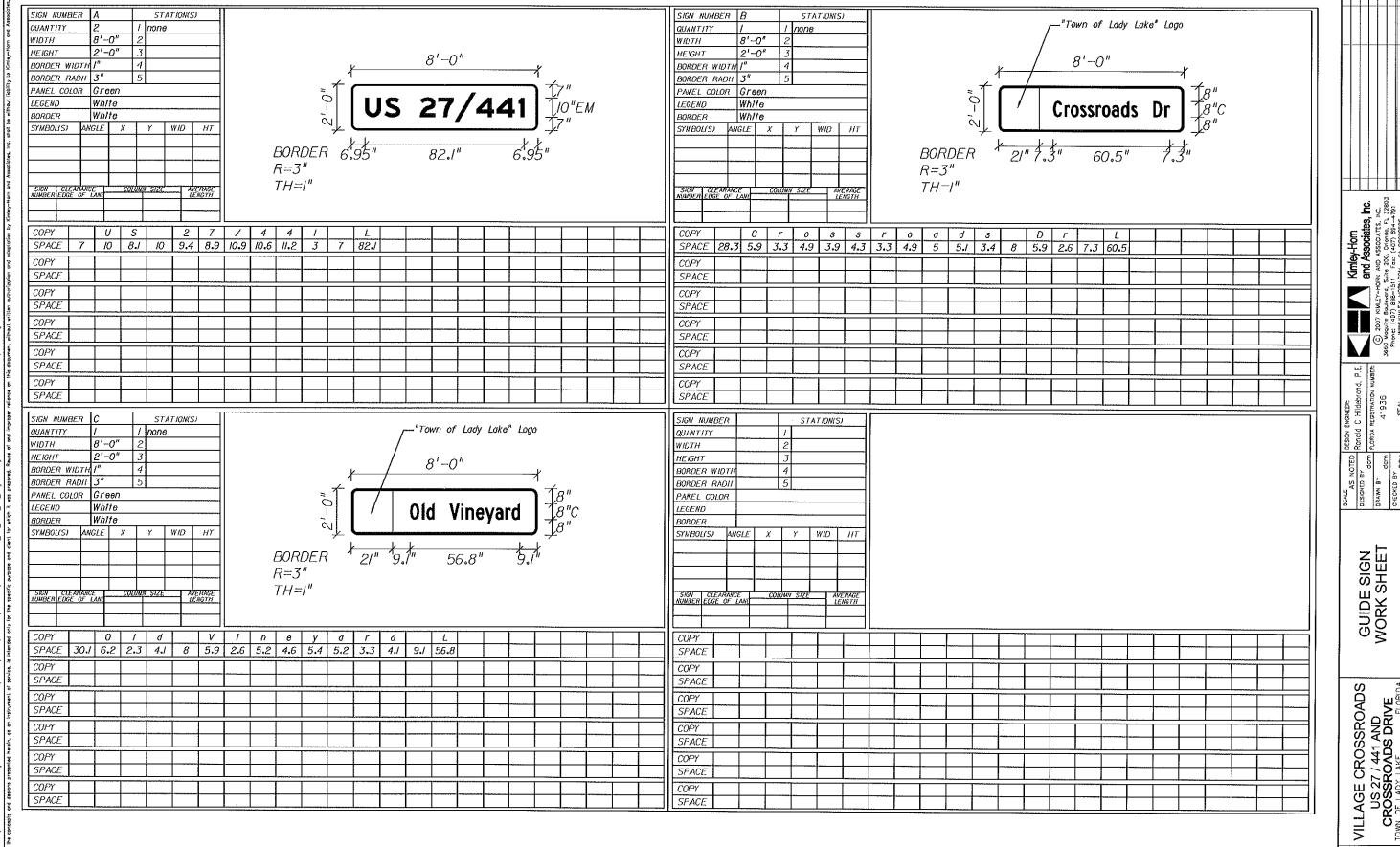
		CABLE	CABLE DATA										
STATION / OFFSET	POLE NO.	SPAN NO.	TYPE	Α	В	С	0	Ε	ITEM NO.	QUAN.	CATENARY SIZE (In)	CAPACITY (KIP-ft)	
18+69 , 89.5' RT	A	A-B	N-VIII	10.5	14	15	50	22	641-17-150	1	3/8"	1/2"	329
17+88 , 85.5' LT	В	A-B	N-VIII	10.5	13	14	50	23	641-17-150	1	3/8*	1/2"	329
									1				
								-					

STRAIN POLE SCHEDULE

VILLAGE CROSSROADS
US 27 / 441 AND
CROSSROADS DRIVE
TOWN OF LADY LAKE

DATE Nov., 2007 PROJECT NO, 049372002

SHEET NUMBER



GUIDE SIGN WORK SHEET

VILLAGE CROSSROADS
US 27 / 441 AND
CROSSROADS DRIVE
TOWN OF LADY LAKE FLORDA

DATE Nov., 2007 PROJECT NO. 049372002 SHEET NUMBER

T7

