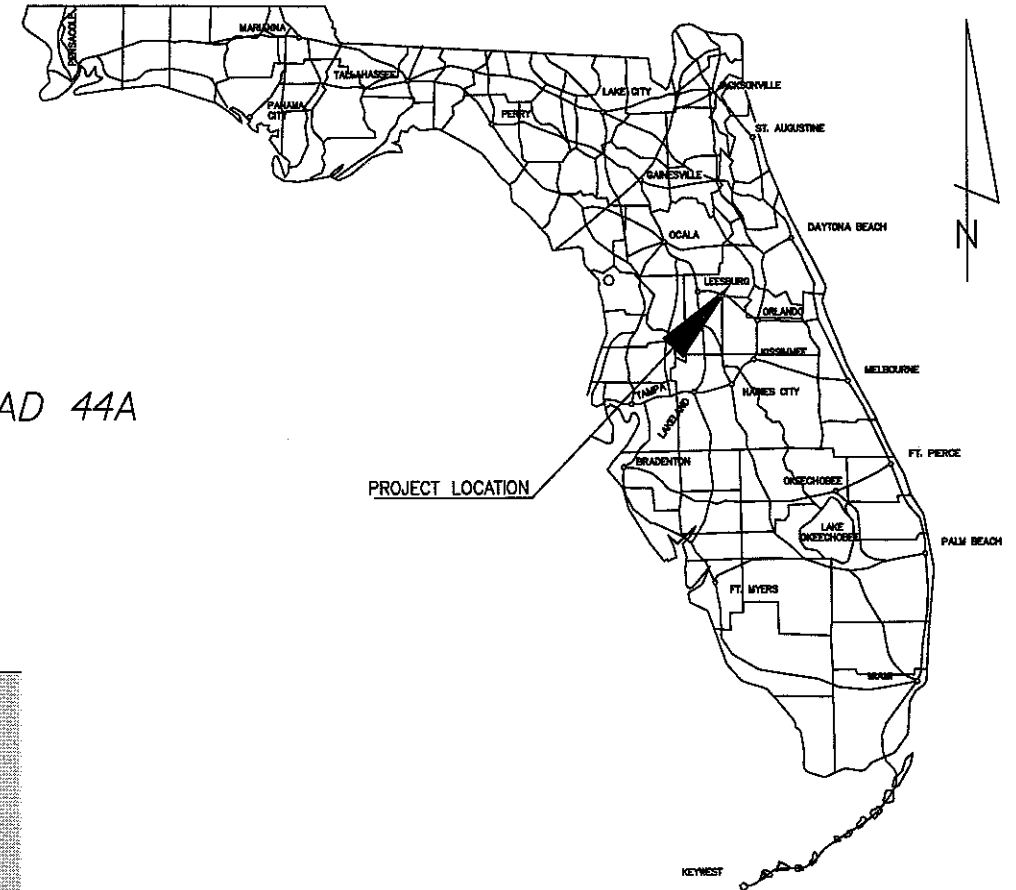


# LAKE COUNTY, FLORIDA

COUNTY ROAD 44 (ORANGE AVENUE) AT COUNTY ROAD 44A

## SIGNALIZATION PLANS



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90% SUBMITTAL FOR REVIEW ONLY



VICINITY MAP  
N.T.S.

PROJECT LOCATION

### SIGNALIZATION SHOP DRAWINGS TO BE SUBMITTED TO:

FRED D. FERRELL, P.E.  
TRAFFIC ENGINEERING DATA SOLUTIONS, INC.  
615 N. CHARLES RICHARD BEALL BLVD., SUITE 103  
DEBARY, FL 32713  
PH: (386) 736-TEDS FAX: (386) 775-6364  
E-Mail: fferrell@teds-fl.com

### PLANS PREPARED BY:

*Traffic Engineering  
Data Solutions, Inc.*  
Phone: (386) 775-TEDS 615 N. Charles Richard Beall Blvd, Suite 103  
Fax: (386) 775-6364 Debary, FL 32713  
ENGINEERING BUSINESS NO. 27392

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

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.

SIGNALIZATION PLAN SET		
DATE	BY	DESCRIPTION

SIGNALIZATION PLANS  
ENGINEER OF RECORD: \_\_\_\_\_  
DATE: \_\_\_\_\_  
P.E. NO.: 41902

FRED D. FERRELL, P.E.

SHEET  
NO.

T-1



**GENERAL NOTES:**

1. THESE PLANS REFLECT CONDITIONS KNOWN DURING PLAN DEVELOPMENT. IN THE EVENT ACTUAL PHYSICAL CONDITIONS PREVENT THE APPLICATION OR THE PROGRESSION OF ANY WORK SPECIFIED IN THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY AND PRIOR TO ANY FURTHER WORK ACTIVITY.
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 BEFORE SUBMITTING BID PROPOSALS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MR. STEVE BOLLINGER (LAKE COUNTY TRAFFIC OPERATIONS/MAINTAINING AGENCY) AT 352.742.1766 AT LEAST TWO (2) BUSINESS DAYS PRIOR TO BEGINNING ANY WORK IN THE RIGHT OF WAY; ANY LANE CLOSURES AND AGAIN FOR LOOP INSTALLATION. ADDITIONALLY, MR. BOLLINGER SHALL BE NOTIFIED TWO (2) BUSINESS DAYS BEFORE ANY DIRECTIONAL BORES AND SHALL BE NOTIFIED AT LEAST 24-HOURS IN ADVANCE OF INSTALLING SIGNAL POLES, GROUND RODS, UNDERGROUND CONDUIT AND THE SEALING OF SIGNAL HEADS, SHOULD HE WISH TO OBSERVE THESE ACTIVITIES.
4. 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 (2) HOUR MAXIMUM RESPONSE TIME.
5. A PRECONSTRUCTION MEETING SHALL BE SCHEDULED WITH LAKE COUNTY TRAFFIC OPERATIONS PRIOR TO ANY CONSTRUCTION.
6. ALL MATERIALS AND HARDWARE SHALL BE FDOT APPROVED AND MEET THE REQUIREMENTS OF LAKE COUNTY TRAFFIC OPERATIONS.
7. ALL WORK WITHIN THE RIGHT OF WAY SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND FDOT STANDARD INDICES, CURRENT EDITIONS.
8. ANY ITEMS NOT SPECIFICALLY ADDRESSED IN THESE PLANS, REFER TO FDOT STANDARD SPECIFICATIONS AND STANDARD INDICES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS, INCLUDING THE ELECTRIC PERMIT, ALONG WITH COORDINATION OF APPLICATION FOR POWER WITH LAKE COUNTY TRAFFIC OPERATIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY PROVIDING 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.
11. THE CONTRACTOR IS REQUIRED TO INSPECT THE INSTALLATION OF THE TRAFFIC SIGNAL(S) IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 105-5.10. THE CONTRACTOR SHALL COORDINATE THE FINAL ACCEPTANCE INSPECTION IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 611-2.2 WITH LAKE COUNTY TRAFFIC OPERATIONS AT LEAST TEN (10) BUSINESS DAYS IN ADVANCE. THE MAINTAINING AGENCY SHALL ALSO BE CONTACTED TEN (10) BUSINESS DAYS BEFORE THE INSPECTION IS TO BE PERFORMED SO THEY MAY BE PRESENT.
12. THE CONTRACTOR SHALL PROVIDE THREE (3) SETS OF CONSTRUCTION "AS-BUILTS" - ONE (1) TO FDOT, ONE (1) FOR CABINET, ONE (1) TO MAINTAINING AGENCY AND ONE (1) TO ENGINEER OF RECORD.
13. ENGINEER CERTIFICATION (IF REQUIRED) MUST BE RECEIVED WITHIN 30 DAYS OF COMPLETION OF THE PROJECT.
14. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH FDOT DESIGN STANDARD INDICES, 600 SERIES, CURRENT EDITION.
15. NO LANE CLOSURES ARE ALLOWED ALONG COUNTY ROAD 44 AND COUNTY ROAD 44A FROM: 6:00 AM -9:AM AND 4:00PM - 6:00PM.
16. THE COST FOR THE USE OF TRAFFIC CONTROL OFFICERS IN THE EVENT OF LANE CLOSURES SHALL BE INCIDENTAL TO THE WORK AND WILL NOT BE PAID SEPARATELY.

**GENERAL NOTES:**

17. UTILITY LOCATIONS SHOWN ON PLANS ARE BASED ON BEST INFORMATION AVAILABLE AT THE TIME OF PLANS PREPARATION AND SHALL BE USED FOR GENERAL INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EXACT LOCATIONS OF ALL UTILITIES PRIOR TO BEGINNING ANY WORK.
18. THE CONTRACTOR SHALL HAND DIG THE FIRST 48 INCHES OF THE HOLE FOR THE STRAIN POLE(S) FOUNDATION AND 24 INCHES OF THE HOLE FOR EACH PEDESTAL LOCATION TO VERIFY THERE ARE NO UTILITY CONFLICTS. SHOULD THERE BE OTHER UTILITIES; THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER WHO WILL RESOLVE THE CONFLICT AND ADJUSTMENT, IF REQUIRED.
19. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY DEPARTMENT(S) AT LEAST 48 HOURS IN ADVANCE OF POLE SETTING OPERATIONS WHERE A CONFLICT WITH OVERHEAD ELECTRICAL CONDUCTORS IS EXPECTED AND/OR WHEN JOINT USE POLES ARE TO BE USED.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING THE PROPER AMOUNT OF RAKE WITH RESPECT TO LOADING TO BE USED ON POLES AT THE TIME OF INSTALLATION.
21. 22. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR SIGNAL CABLE AND INTERCONNECT WITH LAKE COUNTY TRAFFIC OPERATIONS BEFORE ORDERING MATERIAL.
22. SIGNAL CABLE SHALL BE ATTACHED TO MESSENGER WIRE USING PROPER SIZE SPIRAL WRAP.
23. SEPARATE CONDUIT AND PULL BOXES SHALL BE PROVIDED FOR LOOP WIRE, SIGNAL CABLE AND ELECTRICAL SERVICE WIRE.
24. THE CONTRACTOR SHALL CONTACT THE POWER COMPANY (PROGRESS ENERGY) AT LEAST 48 HOURS PRIOR TO INSTALLING SIGNAL CABLE. THE POWER COMPANY AND/OR ELECTRIC DEPARTMENT PERSONNEL SHALL BE ON-SITE WHEN FEEDING THE CABLE IN BETWEEN THE EXISTING ELECTRICAL WIRE.
25. THE CONTRACTOR SHALL NOTIFY "SUNSHINE ONE CALL" AT 1-800-432-4770 AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION OR ANY WORK WHICH WOULD OTHERWISE INTERFERE WITH ANY ABOVE GROUND OR BELOW GROUND UTILITIES. IN ADDITION, THE CONTRACTOR SHALL DIRECTLY NOTIFY ALL UTILITIES WHICH ARE NOT "SUNSHINE ONE CALL" MEMBERS, BUT MAY HAVE EXISTING FACILITIES WITHIN THE VICINITY OF THE PROJECT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING A CURRENT LOCATE TICKET THROUGHOUT THE DURATION OF THE WORK.
26. PRIOR TO STARTING ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WHICH MAY BE AFFECTED BY THE WORK. THE FOLLOWING IS A PARTIAL LISTING:

**UTILITY AGENCY OWNER:**

PROGRESS ENERGY  
CITY OF EUSTIS/UTILITY DEPARTMENT  
PEOPLES GAS/ TECO  
EMBARQ  
COMCAST COMMUNIATIONS  
LAKE COUNTY PUBLIC WORKS  
LAKE COUNTY SIGNAL DEPARTMENT  
SUNSHINE ONE-CALL

**CONTACT:**

JOEL MASTROGIACOMO  
ERWIN GAJENTAN  
BILL WILLIAMS  
PAT JOHNSON  
DANNY FERGUSON  
JUAN CHAN  
STEVE BOLLINGER

**PHONE:**

(407) 646-8569  
(352) 357-5618  
(877) 832-6747  
(352) 326-1545  
(352) 787-9601  
(352) 253-4952  
(352) 742-1766  
(800) 432-4770

**SIGNS:**

1. INTERNALLY ILLUMINATED SIGNS SHALL BE LED ILLUMINATED AND HAVE SEPARATE CIRCUIT BREAKERS.
2. THE SUPPORT ARM AND BRACKET FOR THE INTERNALLY ILLUMINATED STREET NAME SIGN(S) SHALL BE DESIGNED TO SUPPORT A SIGN WEIGHING 75 POUNDS AND SUSTAINED WINDS OF 110 MPH. THE COST OF SUPPORT ARM(S) SHALL BE INCLUDED IN THE PAY ITEM FOR THE SIGNS (699-1-1).

**SIGNAL HEADS:**

1. SIGNAL HEADS SHALL BE WIRED DIRECTLY TO THE TERMINAL BLOCKS. THE USE OF "JONES" PLUGS SHALL BE PROHIBITED.
2. VEHICLE SIGNAL HEADS SHALL BE BLACK, CAST ALUMINUM, WITH TUNNEL VISORS AND LED DISPLAYS FOR ALL INDICATIONS.
3. ALL SIGNAL HEADS SHALL HAVE A VERTICAL CLEARANCE OF 17.5 FEET MINIMUM AND 19 FEET MAXIMUM FROM THE BOTTOM OF THE ASSEMBLY TO THE ROAD.

**STRIPING:**

1. ANY STRIPING / PAVEMENT MARKINGS DESTROYED BY CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

**LOOPS / PULL BOXES:**

1. EACH LOOP SHALL BE TREATED AS AN INDIVIDUAL LOOP WITH SEPARATE LOOP LEAD-INS, FROM SPLICE POINT TO CABINET TERMINAL.
2. TYPE "F" LOOPS SHALL BE 40' LONG BY 6' WIDE, CENTERED UPON LANE AND EXTENDING 5' BEYOND THE STOP BAR.
3. LOOP HOME RUNS SHALL NOT BE CUT INTO THE RADIUS.
4. PULL BOXES AND COVERS SHALL BE FDOT APPROVED OF NONMETALLIC CONSTRUCTION WITH RECESSED COVER LOGO STAMPED "TRAFFIC SIGNAL".
5. PULL BOXES SHALL BE LOCATED TEN (10) FEET FROM EDGE OF PAVEMENT OR BEHIND CURB WHEN POSSIBLE, ATTEMPTING TO KEEP FROM BOTTOM OF A DITCH OR RETENTION AREA.

**TIMINGS / CONTROLLER:**

1. DELAY TIMES SHALL BE SET AT FIVE (5) SECONDS.
2. A MANUAL PUSH BUTTON CORD SHALL BE FURNISHED IN THE CONTROLLER CABINET.
3. THE MOUNTING OF ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL CABINET SHALL BE PROHIBITED.
4. THE CONTROLLER ASSEMBLY SHALL BE A "LAKE COUNTY" NAZTEC REGIONAL TS2-1, WITH A TS2-2 CONTROLLER ETHERNET ENABLED FOR COUNTY CLOSED LOOP SYSTEM, AND SHALL INCLUDE A GENERATOR SWITCH BOX PANEL.
5. A CONCRETE GENERATOR PAD, 3'X3'X4', SHALL BE INSTALLED AND PAID FOR AS PART OF PAY ITEM NO. 670-5-111.
6. THE CABINET DOOR SHALL OPEN AWAY FROM THE INTERSECTION WHEN POSSIBLE.
7. GROUNDING FOR THE CONTROLLER ASSEMBLY SHALL MEASURE 25 OHMS OR LESS.

**VEHICLE DETECTOR ASSEMBLIES:**

1. THE OPTICAL TYPE VEHICLE DETECTOR ASSEMBLIES SHALL BE 3M OPTICOM OR EQUIVALENT. PAY ITEM 663-74-11 SHALL INCLUDE ALL MATERIALS NECESSARY TO ENABLE THE VEHICLE DETECTOR TO BE OPERATIONAL.

**CONSTRUCTION SCHEDULE:**

1. THE CONTRACTOR SHALL NOTIFY LAKE COUNTY TRAFFIC OPERATIONS TWO (2) BUSINESS DAYS PRIOR TO TURNING TRAFFIC SIGNAL ON FLASH.

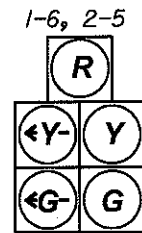
REVISIONS			Engineer of Record: Fred Ferrell, P.E. PE No. 41902 Date: January 1, 2008	<i>Traffic Engineering Data Solutions, Inc.</i> Phone 386.775.1EDS 615 N. Charles Richard Beall Blvd, Suite 103 Fax 386.775.6364 Debary, FL 32713	LAKE COUNTY PUBLIC WORKS			SHEET NO.  T-3
DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				44	LAKE	-----		

**GENERAL NOTES**

SIGNAL HEAD DETAILS



3-SECT, 1-WAY  
12" LED  
650-51-313 [6 AS]



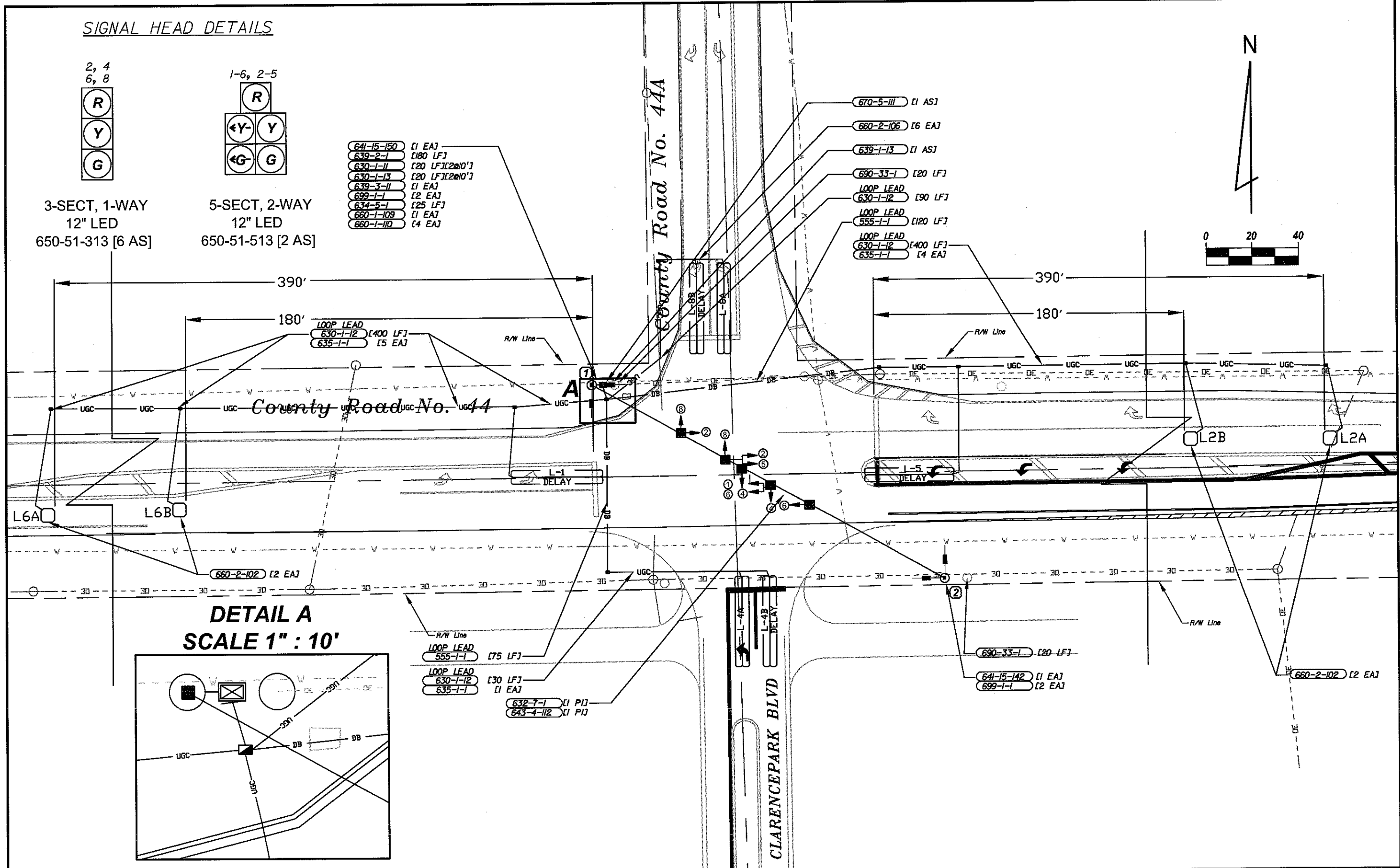
5-SECT, 2-WAY  
12" LED  
650-51-513 [2 AS]

- 641-15-150 [1 EA]
- 639-2-1 [180 LF]
- 630-1-11 [20 LF] [2@10']
- 630-1-13 [20 LF] [2@10']
- 639-3-11 [1 EA]
- 699-1-1 [2 EA]
- 634-5-1 [25 LF]
- 660-1-109 [1 EA]
- 660-1-110 [4 EA]

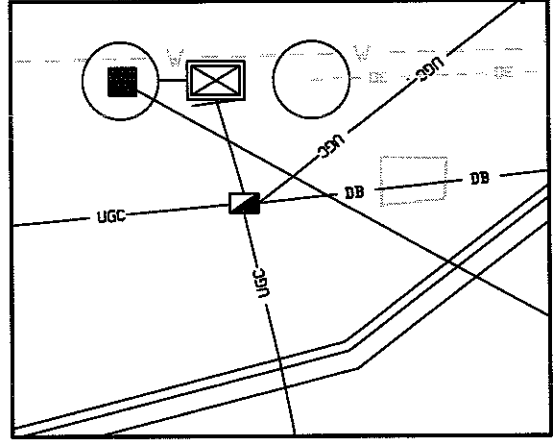
- 670-5-111 [1 AS]
- 660-2-106 [6 EA]
- 639-1-13 [1 AS]
- 690-33-1 [20 LF]
- LOOP LEAD [90 LF]
- 630-1-12 [90 LF]
- LOOP LEAD [120 LF]
- 555-1-1 [120 LF]
- LOOP LEAD [400 LF]
- 630-1-12 [400 LF]
- 635-1-1 [4 EA]

- LOOP LEAD [75 LF]
- 555-1-1 [75 LF]
- LOOP LEAD [30 LF]
- 630-1-12 [30 LF]
- 635-1-1 [1 EA]
- 632-7-1 [1 PI]
- 643-4-112 [1 PI]

- 690-33-1 [20 LF]
- 641-15-142 [1 EA]
- 699-1-1 [2 EA]



DETAIL A  
SCALE 1" : 10'



REVISIONS		
DATE	BY	DESCRIPTION

Engineer of Record:  
Fred Ferrell, P.E.  
PE No. 41902  
Date: January 1, 2008

Traffic Engineering  
Data Solutions, Inc.  
Phone 386.775.7EDS 615 N. Charles Richard Beall Blvd, Suite 103  
Fax 386.775.6364 DeBary, FL 32713

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44	LAKE	----

SIGNALIZATION PLANS

