

BANNERMAN ROAD & BULL HEADLEY ROAD INTERSECTION IMPROVEMENTS

Commissioners:

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District 1
- Jane G. Saule
District 2
- John E. Deiley
District 3
- Bryan Desloge-Chalman
District 4
- Bob Rackleff-Vice Chairman
District 5
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- Akin Aldnyemil
At-Large



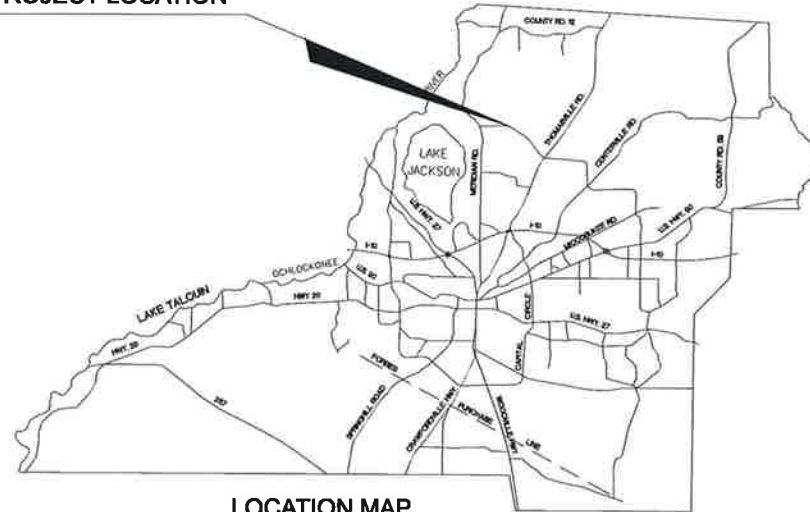
- Parwez Alam
County Administrator
- Herbert W. A. Thiele
County Attorney
- Tony Park, P.E.
Public Works Director

APPROVED

[Signature] 6/15/2010

CITY OF TALLAHASSEE
TRAFFIC ENGINEERING DIVISION

PROJECT LOCATION



LOCATION MAP

Signalization Plans Index

Sheet	Sheet Description
T-1	Key Sheet
T-2	Tabulation of Quantities
T-3	Signalization General Notes
T-4	Signalization Plan
T-5	Mast Arm Tabulation
T-6	Table of Variables For Standard Mast Arm Assemblies Index No. S-1700
T-7	Guide Sign Worksheet

LEON COUNTY

Department of Public Works Division of Engineering Services

Public Works Center
2280 Miccosukee Road, Tallahassee, FL 32308-5310
Ph: (850)606-1500 Fax: (850)606-1501
Web: <http://www.leoncountyfl.gov>

GOVERNING STANDARDS AND SPECIFICATIONS

Florida Department of Transportation (FDOT) Design Standards dated January 2010, and Standard Specifications For Road and Bridge Construction dated 2010, as amended by contract documents.

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[Signature]
6-8-2010

ENGINEER OF RECORD

SEAN E. DOHERTY, PE. #48100

Date: _____

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																		TOTAL THIS SHEET		REF. SHEET
			T-4																				
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
630-1-11	CONDUIT, ABOVEGROUND	LF	20																			20	
630-1-12	CONDUIT, UNDERGROUND	LF	950																			950	
630-1-13	CONDUIT, UNDERPAVEMENT	LF	15																			15	
630-1-14	UNDERGROUND CONDUIT - JACKED	LF	235																			235	
632-7-1	SIGNAL CABLE	PI	1																			1	
635-1-11	PULL & JUNCTION BOXES	EA	17																			17	
639-1-22	ELECTRICAL POWER SERVICE, UNDERGROUND	AS	1																			1	
639-2-1	ELECTRICAL SERVICE WIRE	LF	150																			150	
649-31-112	MAST ARM ASSEMBLY, ARM 1 TYPE D5, ARM 2 TYPE D2 POLE TYPE S3	EA	1																			1	
650-51-311	TRAFFIC SIGNAL, 12" LED, 1 WAY, 3 SECTION	AS	5																			5	
650-51-511	TRAFFIC SIGNAL, 12" LED, 1 WAY, 5 SECTION	AS	1																			1	
653-191	PEDESTRIAN SIGNAL HEAD (LED-COUNTDOWN) (1 WAY)	AS	2																			2	
659-101	BACK PLATE (3-SECTION SIGNAL HEAD)	EA	5																			5	
659-118	BACK PLATE (5-SECTION SIGNAL HEAD)	EA	1																			1	
659-108	STEEL PEDESTAL	EA	2																			2	
659-109	CONCRETE PEDESTAL	EA	1																			1	
660-1-109	INDUCTIVE LOOP DETECTOR (F&I) (TYPE 9)	EA	1																			1	
660-1-110	INDUCTIVE LOOP DETECTOR (F&I) (TYPE 10)	EA	1																			1	
660-2-102	LOOP ASSEMBLY (TYPE B)	AS	2																			2	
660-2-106	LOOP ASSEMBLY (TYPE F)	AS	2																			2	
663-74-11	OPTICOM PRE-EMPTION SYSTEM	EA	1																			1	
665-11	PEDESTRIAN DETECTOR (POLE MOUNTED)	EA	2																			2	
670-5-121	TRAFFIC CONTROLLER ASSEMBLY (F&I) TYPE 170 (1 PRE-EMPTION PLAN)	AS	1																			1	
690-10	TRAFFIC SIGNAL HEAD ASSEMBLY REMOVAL	EA	6																			6	
690-33-1	POLE REMOVAL - DEEP	LF	20																			20	
690-50	CONTROLLER ASSEMBLY - REMOVE	EA	1																			1	
690-80	SPAN WIRE ASSEMBLY REMOVE	EA	1																			1	
690-90	REMOVE CONDUIT AND CABLING	PI	1																			1	
690-100	SIGNAL EQUIPMENT, MISCELLANEOUS REMOVE	PI	1																			1	
700-48-18	STREET NAME SIGN PANEL	EA	3																			3	

Sean E. Doherty
6-9-2010

REVISIONS					Engineer of Record: SEAN E. DOHERTY P.E. # 48100 2639 N. MONROE ST. BLDG C TALLAHASSEE, FL 32303 (850) 575-1800 www.pbsj.com	LEON COUNTY SIGNALIZATION PLANS FOR: BANNERMAN ROAD & BULL HEADLEY ROAD	TABULATION OF QUANTITIES	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY				DESCRIPTION



GENERAL NOTES:

- 1) INSTALL NEW SIGNAL POLES WITH MAST ARMS AS SHOWN. ALL MAST ARM ASSEMBLIES SHALL MEET THE CURRENT TECHNICAL SPECIAL PROVISIONS (TSP's) FOR THE CITY OF TALLAHASSEE TRAFFIC SIGNAL SYSTEM DATED DECEMBER 2000 FOUND ON THE WEB AT <http://webappsrv01.talgov.net:8080/tsp.html> .
- 2) ALL ATTACHMENT HARDWARE TO INSTALL 1) POLE TO FOUNDATION 2) ARMS TO POLES AND 3) TRAFFIC SIGNALS TO MAST ARM SHALL BE SUPPLIED BY THE VENDOR BASED ON REQUIREMENTS NEEDED AT EACH POLE LOCATION.
- 3) UNDERGROUND AND OVERHEAD UTILITIES TO BE CLEARED AT ALL FOUNDATION SITES BY FIELD SUPERVISOR.
- 4) ALL SIGNAL CABLE AND OTHER REQUIRED ELECTRICAL CIRCUITS SHALL BE THRU RACEWAYS (CONDUIT) FROM THE CABINET OR OTHER SOURCE TO POLES OR PEDESTALS.
- 5) POLE FOUNDATION HEIGHT ABOVE GROUND LEVEL MAY BE ADJUSTED TO MAINTAIN 18' TO 19' FT. HEIGHT TO BOTTOM OF SIGNAL HEAD ABOVE ROAD SURFACE, ABOVE GROUND HEIGHT OF FOUNDATION TO BE MAX. OF 12 INCHES WITH APPROVAL OF FIELD SUPERVISOR.
- 6) ALL SIGNAL HEADS TO MEET CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, BE L.E.D. ONLY, BE BLACK IN COLOR, 12 INCH SECTION SIZE, GLASS LENS AND BE CONSTRUCTED OF DIE CASE ALUMINUM.
- 7) ALL TRAFFIC CONTROL SIGNS TO BE INSTALLED SHALL CONFORM TO THE STANDARDS SET FORTH BY THE M.U.T.C.D. AND FLORIDA D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS, DATED JANUARY 2010.
- 8) ALL PAVEMENT MARKINGS INSTALLED SHALL CONFORM TO STANDARDS SET FORTH BY THE M.U.T.C.D. AND FLORIDA D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS, DATED JANUARY 2010.
- 9) ALL POLES, SIGNAL CABINETS, CABLES, JUNCTION BOXES AND ELECTRICAL SERVICES TO BE PROPERLY GROUNDED AS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO.'S 17727, 17733, 17736, 17764, 17841 AND SECTION 620 OF THE STANDARD SPECIFICATIONS.
- 10) ALL TRAFFIC CONTROLLER ASSEMBLIES SHALL MEET THE CURRENT TECHNICAL SPECIAL PROVISIONS (TSP's) FOR THE CITY OF TALLAHASSEE TRAFFIC SIGNAL SYSTEM DATED DECEMBER 2000 FOUND ON THE WEB AT <http://webappsrv01.talgov.net:8080/tsp.html> .
- 11) THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE STATE ONE CALL OF FLORIDA, INC. (1-800-432-4770, UNIVERSAL NUMBER 811) AT LEAST TWO BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION.
- 12) ALIGNMENT OF SIGNAL HEADS FOR VISIBLE SIGHT DISTANCE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, SECTION 4B-12, TABLE 4-1.
- 13) THE MAJOR STREET IS BANNERMAN ROAD WITH A POSTED SPEED LIMIT OF 35 M.P.H., THE MINOR STREET IS BULL HEADLEY ROAD WITH A POSTED SPEED LIMIT OF 45 M.P.H..
- 14) SEPARATE CONDUIT AND PULL BOX SYSTEMS SHALL BE USED FOR LOOPS LEAD-IN CABLES, SIGNAL CABLES, POWER CABLES AND INTERCONNECT CABLES RESPECTIVELY.
- 15) PAY ITEM NO. 663-74-II TO INCLUDE ALL CHANNEL DETECTORS, DETECTOR CABLES, PREEMPTION SYSTEM CHASSIS WITH DISCRIMINATOR CARDS AND ANY CONTROLLER/SYSTEM INTERFACE PANELS WITH ASSOCIATED WIRING AND PREEMPTION TIMINGS TO MAKE A FULLY OPERATIONAL AND FUNCTIONAL PREEMPTION SYSTEM. THE NUMBER AND TYPE OF OPTICAL DETECTORS (1 WAY OR 2 WAY) ARE SHOWN ON THE SIGNALIZATION PLANS. THE SYSTEM IS TO BE PAID AS ONE ASSEMBLY PER INTERSECTION.
- 16) PAY ITEM 700-48-18 SHALL INCLUDE THE STREET NAME SIGN PANEL, MOUNTING BRACKET, AND ALL HARDWARE AND LABOR REQUIRED FOR A COMPLETE AND ACCEPTABLE INSTALLATION.
- 17) THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL MAST ARM AND ROADWAY ELEVATIONS FOR PROPER SIGNAL CLEARANCE PRIOR TO FABRICATING POLE AND MAST ARM STRUCTURES.

PAY ITEM NOTES:

- 630-1-14: CONDUIT MAY BE EITHER JACK & BORE OR DIRECTIONAL BORE.
- 665-II: PAY ITEM INCLUDES SIGN FTP - 68B - 06.
- 690-33-1: EXISTING POLES SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN AREA DESIGNATED AND PROVIDED BY THE CONTRACTOR.
- 690-100: PAY ITEM INCLUDES REMOVAL OF EXISTING PULL BOXES.

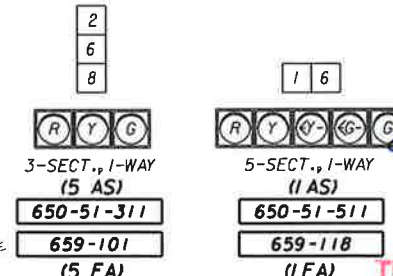
Sean E. Doherty
6-8-2010

REVISIONS						Engineer of Record: SEAN E. DOHERTY P.E. # 48100  2639 N. MONROE ST. BLDG C TALLAHASSEE, FL 32303 (850) 575-1800 www.pbsj.com Certificate of Authorization No. 24	 LEON COUNTY SIGNALIZATION PLANS FOR: BANNERMAN ROAD & BULL HEADLEY ROAD	SHEET NO. SIGNALIZATION GENERAL NOTES T-3
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			

NOTES:

- 1) THE MAJOR STREET IS BANNERMAN ROAD. THE MINOR STREET IS BULL HEADLEY ROAD
- 2) ROTATE MAST ARM POLE STRUCTURE NO. (1), 9.14 DEGREES COUNTER CLOCKWISE FROM PERPENDICULAR TO THE CENTER LINE OF BANNERMAN ROAD AS SHOW IN PLAN.
- 3) SIGNAL BACK PLATES SHALL BE INSTALLED IN ALL TRAFFIC SIGNAL HEADS.
- 4) CONTRACTOR SHALL COORDINATE WITH THE CITY OF TALLAHASSEE FOR REMOVAL AND RECONNECTION OF FIRE STATION PRE-EMPTION AND FIBER OPTIC INTERCONNECT. CONTACT MR. DON DOBSON AT (850) 879-0910 OR DON.DOBSON@TALGOV.COM

SIGNAL HEAD DETAILS



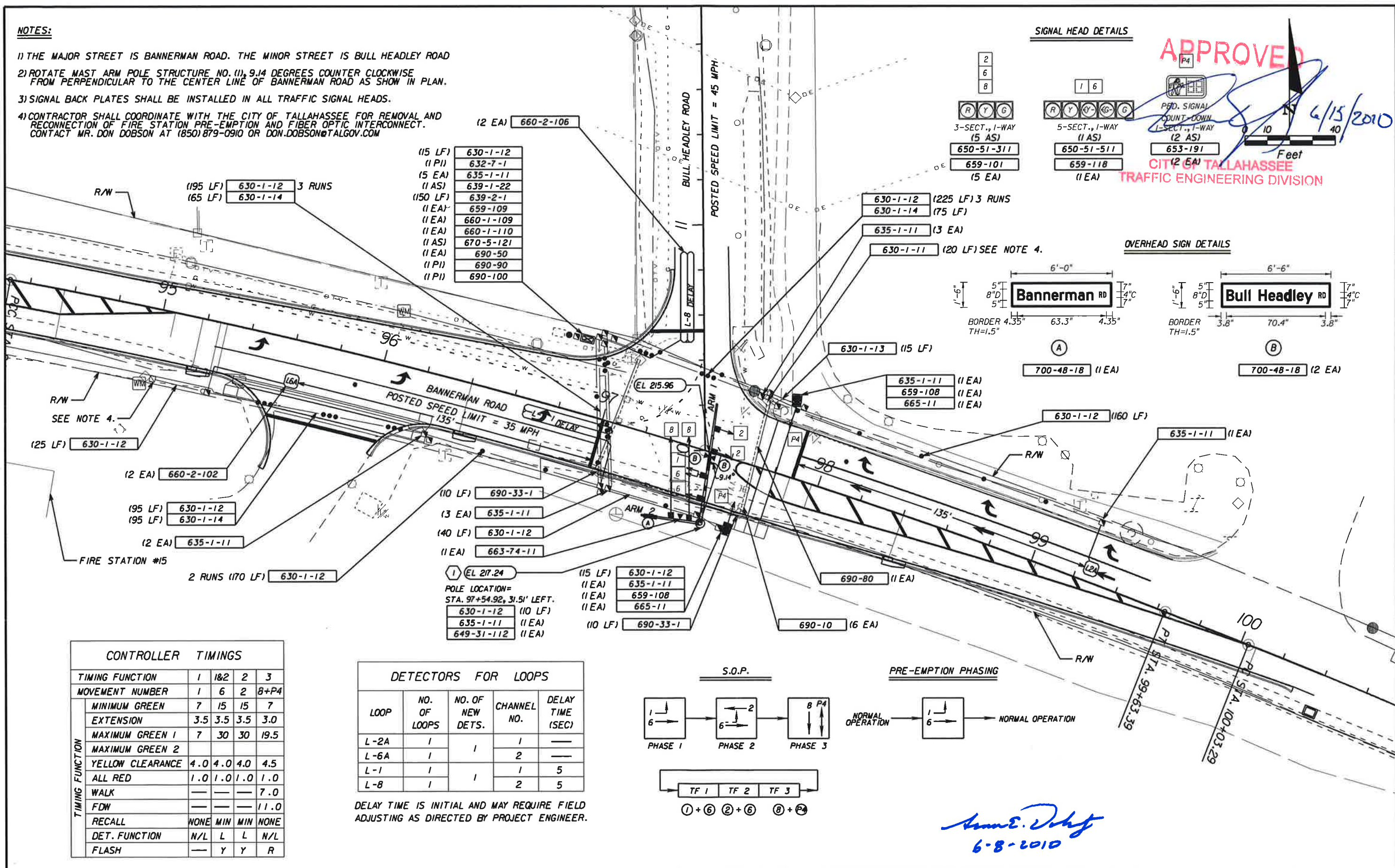
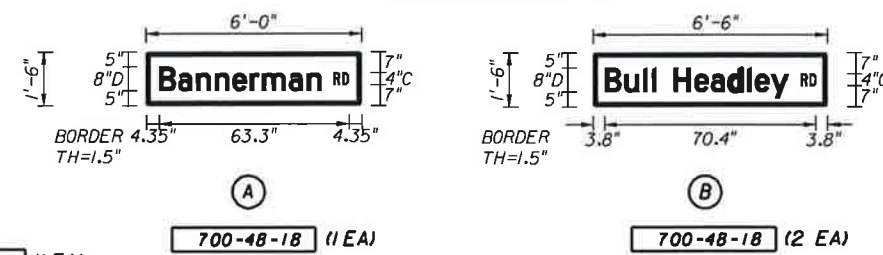
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6/15/2010

CITY OF TALLAHASSEE
TRAFFIC ENGINEERING DIVISION

Scale: 0 10 40 Feet

OVERHEAD SIGN DETAILS



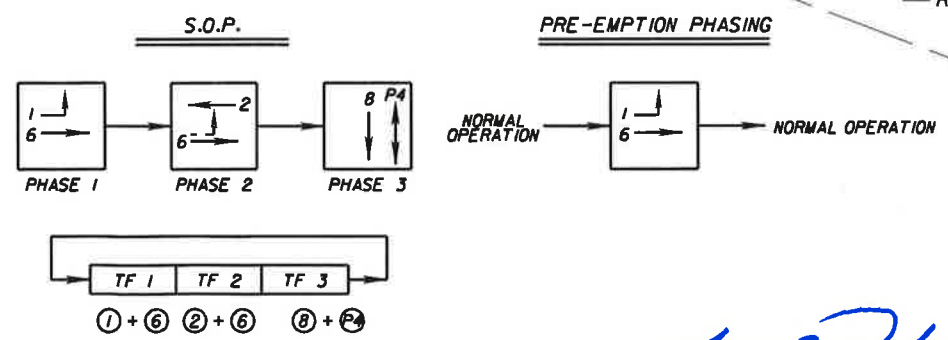
CONTROLLER TIMINGS

TIMING FUNCTION	1	1&2	2	3
MOVEMENT NUMBER	1	6	2	8+P4
MINIMUM GREEN	7	15	15	7
EXTENSION	3.5	3.5	3.5	3.0
MAXIMUM GREEN 1	7	30	30	19.5
MAXIMUM GREEN 2				
YELLOW CLEARANCE	4.0	4.0	4.0	4.5
ALL RED	1.0	1.0	1.0	1.0
WALK	—	—	—	7.0
FDW	—	—	—	11.0
RECALL	NONE	MIN	MIN	NONE
DET. FUNCTION	N/L	L	L	N/L
FLASH	—	Y	Y	R

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF NEW DETS.	CHANNEL NO.	DELAY TIME (SEC)
L-2A	1	1	1	—
L-6A	1	1	2	—
L-1	1	1	1	5
L-8	1	1	2	5

DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY PROJECT ENGINEER.



Ann E. Doherty
6-8-2010

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Engineer of Record: **SEAN E. DOHERTY**, P.E. # 48100
2639 N. MONROE ST. BLDG C TALLAHASSEE, FL 32303 (850) 575-1800 www.pbsj.com

PBSJ Certificate of Authorization No. 24

LEON COUNTY
SIGNALIZATION PLANS FOR:
BANNERMAN ROAD & BULL HEADLEY ROAD

SIGNALIZATION PLAN

SHEET NO. **T-4**

STANDARD MAST ARM ASSEMBLIES DATA TABLE

STRUCTURE ID NUMBERS	ASSEMBLY NUMBERS ⁽¹⁾	FIRST ARM			SECOND ARM			UF (deg)	LL (deg)	POLE				SPECIAL DRILLED SHAFT ⁽⁴⁾				GROUT PAD Y/N
		ARM TYPE	FAA ⁽²⁾ (ft.)	FBA ⁽²⁾ (in.)	ARM TYPE	FAA ⁽²⁾ (ft.)	FBA ⁽²⁾ (in.)			POLE TYPE	UAA ⁽³⁾ (ft.)	UB (ft.)	UCA ⁽³⁾ (in.)	DA (ft.)	DB (ft.)	RA	RB	
POLE 1	E5-E2-T3	E5	52	7.22	E2	25	7.50	90	N/A	T3	20	17.75	16.20					

TABLE NOTES:

1. Assembly Number Legend

Single Arm:

Arm Type - Pole Type = D# - S#
 = E# - T#
 = F# - W#

Double Arm:

First Arm Type - Second Arm Type - Pole Type = D# - D# - S#
 = E# - E# - T#
 = F# - F# - W#

2. If an entry appears in columns "FAA" and "FBA", a shorter arm is required. This is obtained by removing length from the arm tip. For these cases the most arm length shall be shortened from "FA" to "FAA" and the tip diameter shall be increased from "FB" to "FBA".

3. If an entry appears in columns "UAA" and "UCA", a shorter pole is required. This is obtained by removing length from the pole tip. For these cases the pole height shall be shortened from "UA" to "UAA" and the pole tip diameter shall be increased from "UC" to "UCA".

4. The foundations for Standard Mast Arm Assemblies are pre-designed and are based upon the following conservative soil criteria which covers the great majority of soil types found in Florida. Only complete the "Special Drilled Shaft" data information if site conditions dictate drilled shafts with additional foundation capacity.


Classification = Cohesionless (Fine Sand)
 Friction Angle = 30 Degrees (30°)
 Unit Weight = 50 lbs. / cu. ft. (assumed saturated)

5. The standard foundations were verified for the specific criteria for this site as shown in the Geotechnical Report dated August 2009 prepared by EGS.

0-7.5' Medium Dense Silty Fine Sand $\phi = 30^\circ$ $\gamma' = 115 \text{ lb/ft}^3$
 7.5'-30' Very Stiff Highly Plastic Clay $C = 2300$ $\gamma' = 115 \text{ lb/ft}^3$

GENERAL NOTES:

1. 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.
2. Work with Index Nos. 17743 and 17745.
3. When placing Standard Mast Arm Assemblies on existing foundations, remove existing grout pad and cut existing anchor bolts flush with top of foundation. Replace damaged or removed portions of the foundation, using epoxy bonding compound according to Section 400 of the Specifications. Replace grout pad according to Section 934 of the Specifications.

REVISIONS						Engineer of Record: PBS&J Certificate of Authorization No. 24	JERRY O'STEEN P.E. # 28466 1901 COMMONWEALTH LANE TALLAHASSEE, FL 32303 (850) 575-1800 www.pbsj.com		LEON COUNTY SIGNALIZATION PLANS FOR: BANNERMAN ROAD & BULL HEADLEY ROAD	TABLE OF VARIABLES FOR STANDARD MAST ARM ASSEMBLIES INDEX NO. S-1700	SHEET NO. T-6
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION						

