

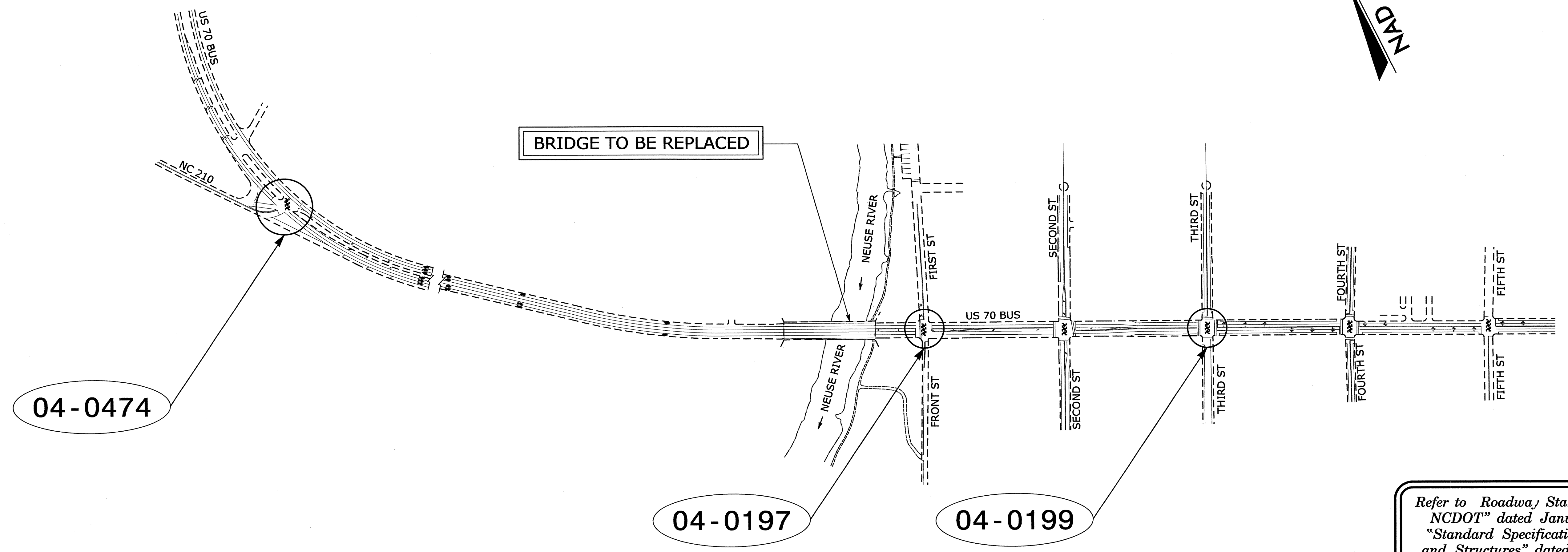
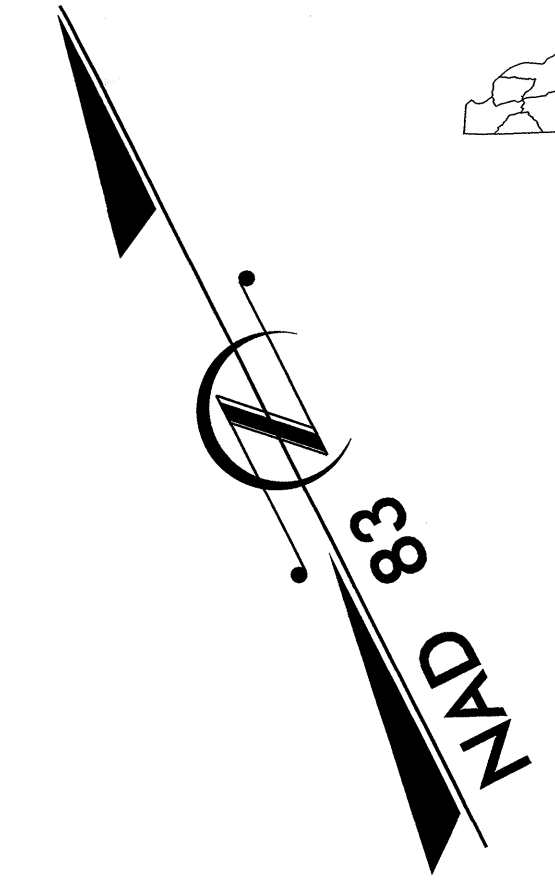
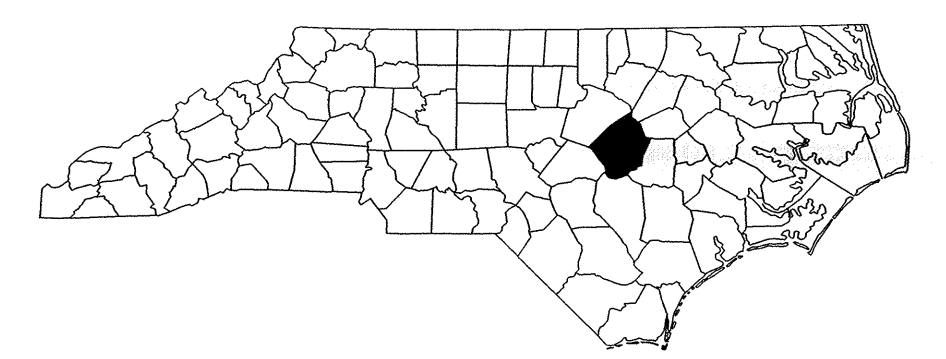
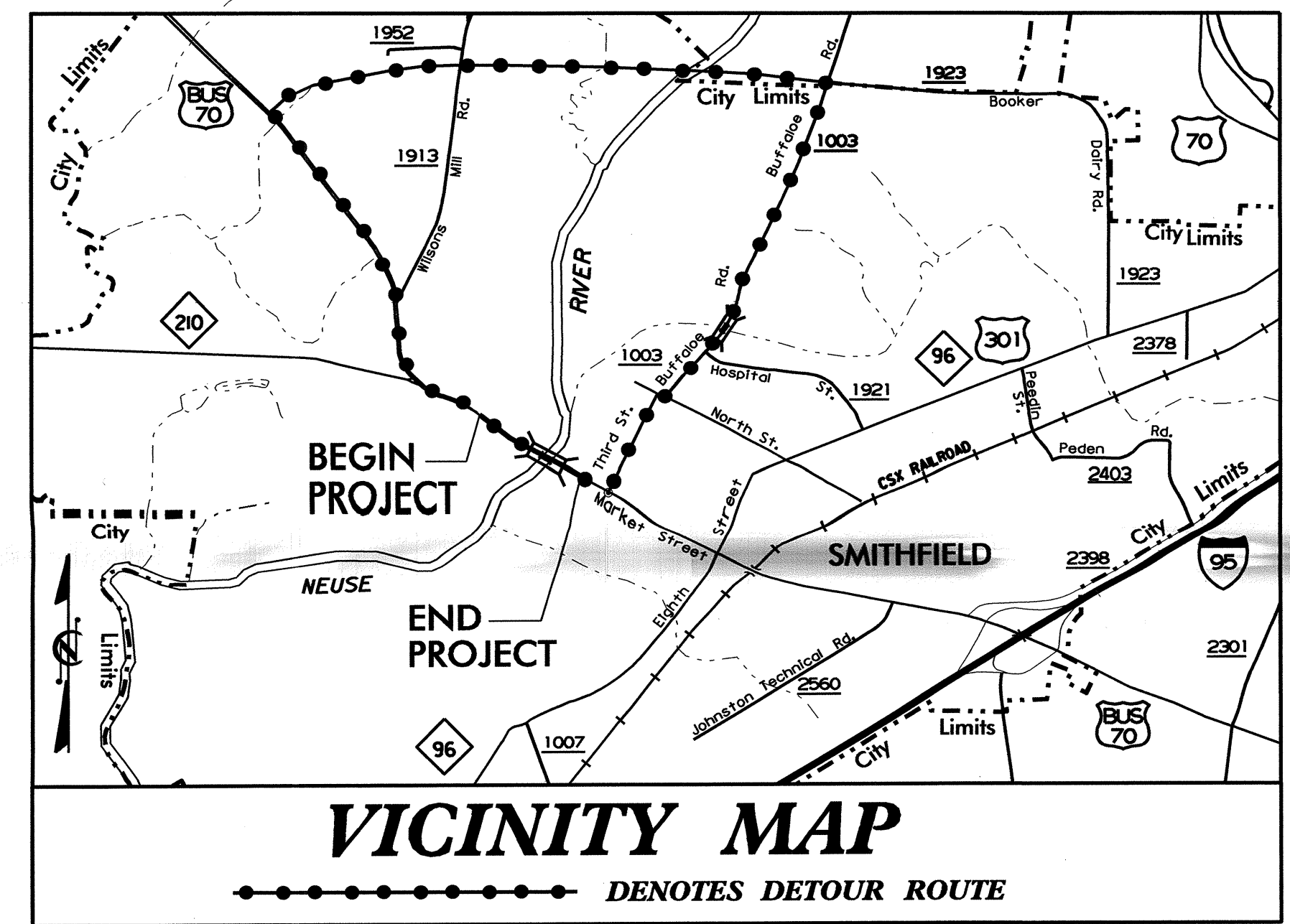
TIP PROJECT: B-3864

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

**LOCATION: BRIDGE NO. 40 OVER NEUSE RIVER
ON US 70 BUSINESS**

TYPE OF WORK: SIGNALS



Refer to *Roadway Standard Drawings NCDOT* dated January, 2012 and *Standard Specifications for Roads and Structures* dated January, 2012.

Sheet #	Reference #	Location/Description
Sig. 1	-----	Title Sheet
Sig. 2-3	04-0474 Temp.&Final	US 70 Business at NC 210
Sig. 4-7	04-0197 Temp.&Final	US 70 Business (Market Street) at Front Street/First Street
Sig. 8-9	04-0199 Temp.&Final	US 70 Business (Market Street) at Third Street

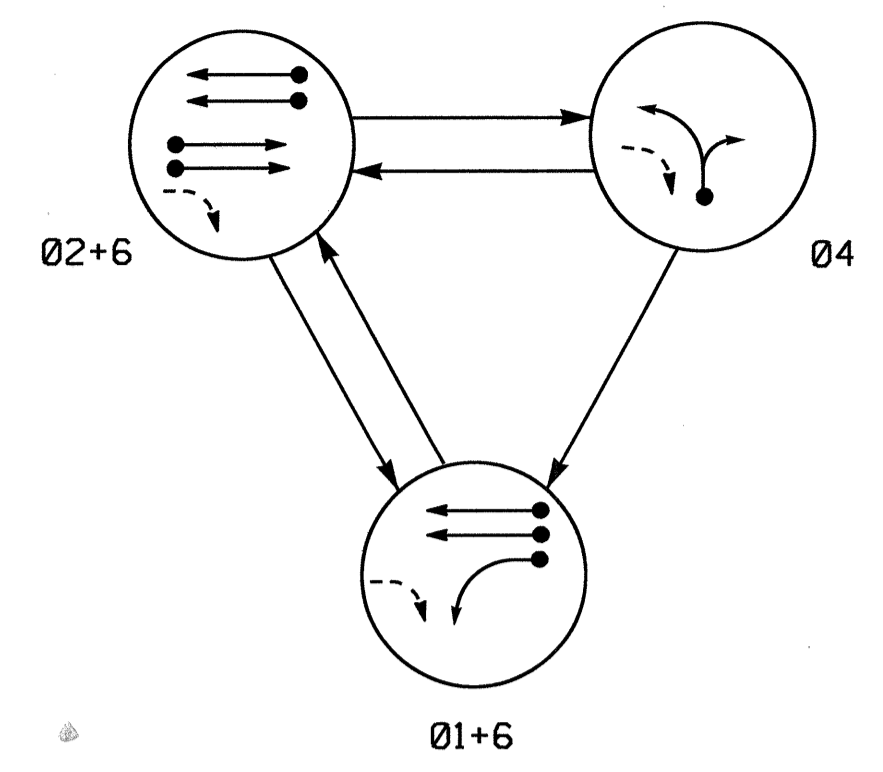
INTELLIGENT TRANSPORTATION AND SIGNALS UNIT
Contacts:
Pamela L Alexander, PE - Eastern Region Signals Engineer
John T Rowe Jr., PE - Signal Equipment Design Engineer

Prepared In the Office of:
DIVISION OF HIGHWAYS
TRANSPORTATION MOBILITY AND SAFETY DIVISION

150 N. Greenfield Parkway, Garner, NC 27529

08-NOV-2011 4:11 PM R:\Traffic\Signals\Design\Titlesheet\B3864_sig_tsh.dgn

PHASING DIAGRAM

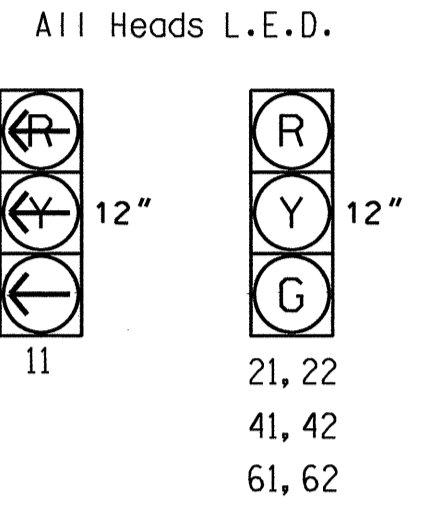


PHASING DIAGRAM DETECTION LEGEND

- → DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- - - UNSIGNALIZED MOVEMENT
- ← - - - PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE			
	01+6	02+6	04	F L S H
11	←	←	←	←
21, 22	R	G	R	Y
41, 42	R	R	G	R
61, 62	G	G	R	Y

SIGNAL FACE I.D.



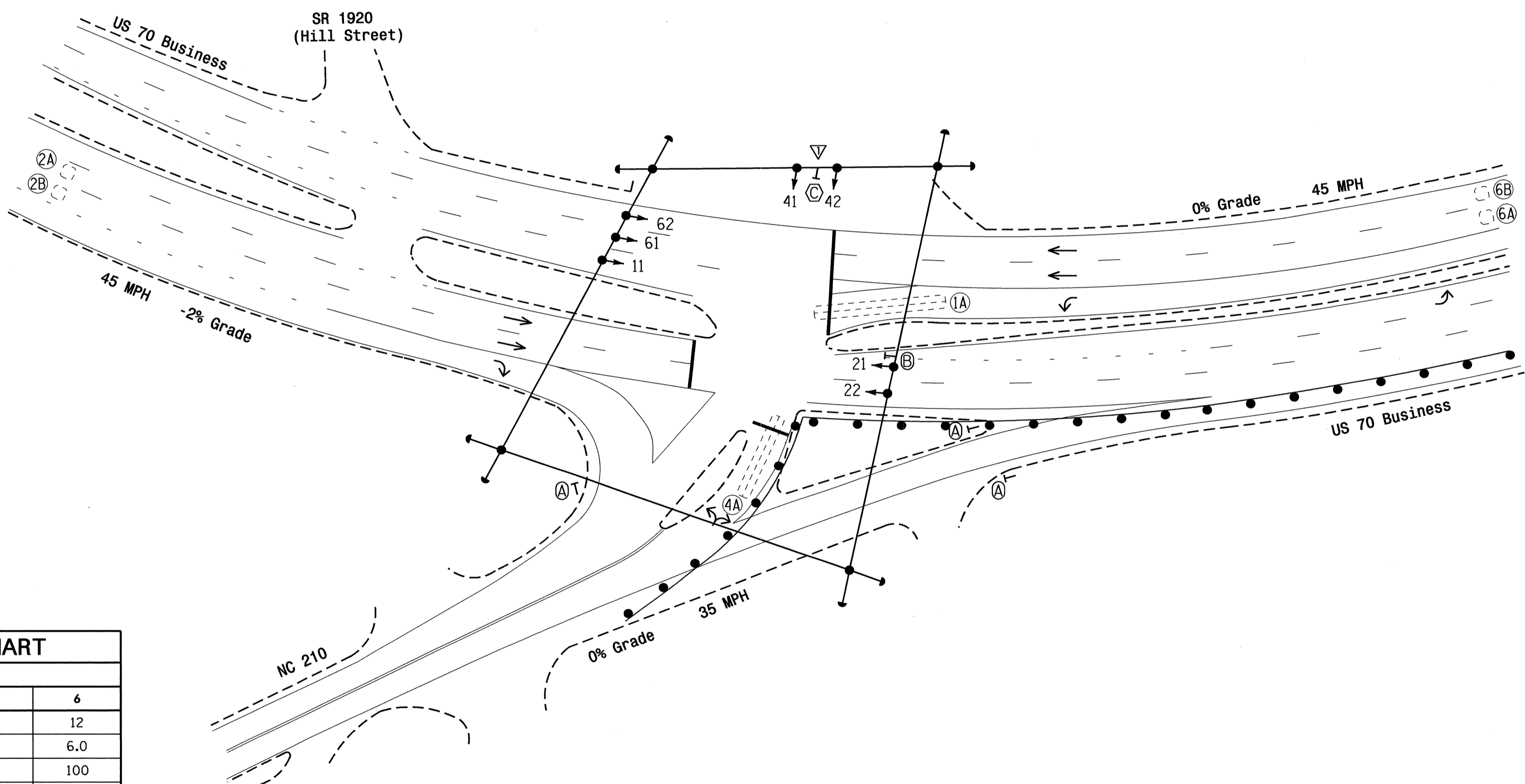
OASIS 2070L LOOP & DETECTOR INSTALLATION

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	FULL TIME DELAY				
1A	6X60	+5	2-4-2	-	1	Y	Y	-	-	-	-	-
2A	6X6	300	5	-	2	Y	Y	-	-	-	-	-
2B	6X6	300	5	-	2	Y	Y	-	-	-	-	-
4A	6X40	+5	2-4-2	-	4	Y	Y	-	-	-	-	-
6A	6X6	300	4	-	6	Y	Y	-	-	-	-	-
6B	6X6	300	4	-	6	Y	Y	-	-	-	-	-

3 Phase Fully Actuated Isolated

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.



FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	12	7	12
Extension 1 *	2.0	6.0	3.0	6.0
Max Green 1 *	30	100	20	100
Yellow Clearance	4.0	4.6	4.5	4.6
Red Clearance	1.4	1.0	1.1	1.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	2.0	-	2.0
Max Variable Initial *	-	34	-	34
Time Before Reduction *	-	30	-	30
Time To Reduce *	-	50	-	50
Minimum Gap	-	2.5	-	2.5
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED	EXISTING
○ → Traffic Signal Head	● → N/A
○ → Modified Signal Head	○ → N/A
⊥ Sign	⊥ Sign
⊥ Pedestrian Signal Head With Push Button & Sign	⊥ Pedestrian Signal Head With Push Button & Sign
○ Signal Pole with Guy	○ Signal Pole with Guy
⊥ Signal Pole with Sidewalk Guy	⊥ Signal Pole with Sidewalk Guy
⊥ Inductive Loop Detector	⊥ Inductive Loop Detector
⊥ Controller & Cabinet	⊥ Controller & Cabinet
⊥ Junction Box	⊥ Junction Box
⊥ 2-in Underground Conduit	⊥ 2-in Underground Conduit
N/A Right of Way	N/A Right of Way
→ Directional Arrow	→ Directional Arrow
⊙ "YIELD" Sign (R1-2)	⊙ "YIELD" Sign (R1-2)
⊙ "No Left Turn Sign" (R3-2)	⊙ "No Left Turn Sign" (R3-2)
⊙ Dual Turn Arrows Sign	⊙ Dual Turn Arrows Sign

Signal Upgrade-Temp

REVISION SEAL

Prepared in the Offices of:

US 70 Business at NC 210

Division 4 Johnston County Smithfield

PLAN DATE: February 1994 REVIEWED BY: L Eddins

PREPARED BY: C Krauss REVIEWED BY: D Harris

REVISIONS: Install Sign. C.

SCALE: 1" = 40'

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally Issued and sealed by G G Murr, Jr., PE # 14543 on 2/14/94.

This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 04-0474T

08-NOV-2011 11:17 R:\RTR\off\cns\signal\oas\signal\04-0474\040474T_s1.g_dsn_2011rmod.dgn pal exander

PHASING DIAGRAM

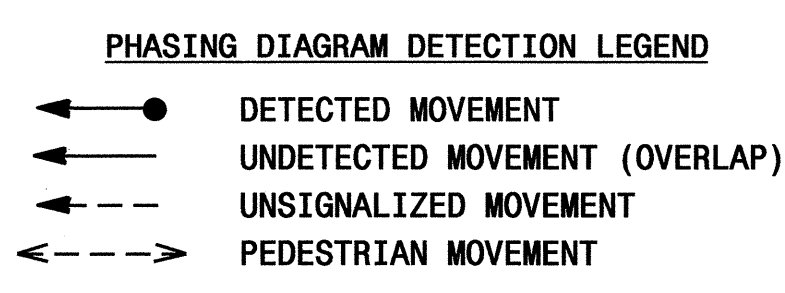
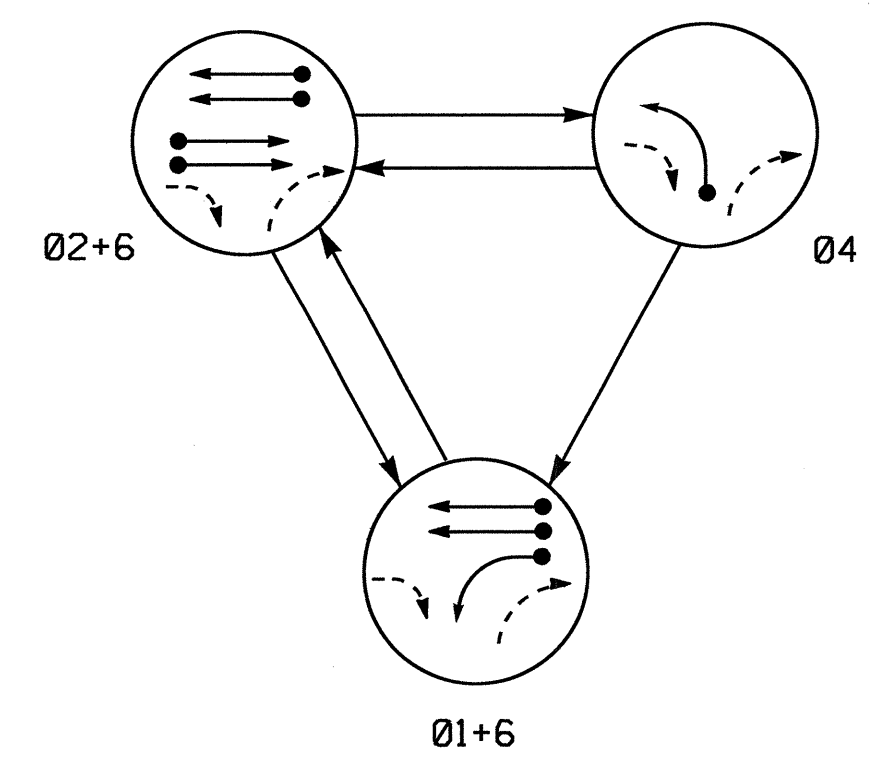
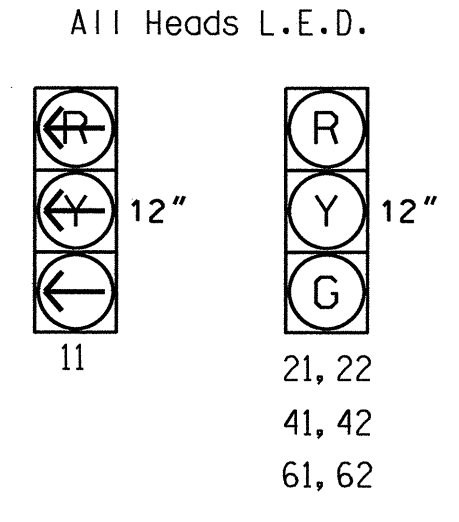


TABLE OF OPERATION

SIGNAL FACE	PHASE			
	Ø 1 + 6	Ø 2 + 6	Ø 4	F
11	←	←	←	←
21, 22	R	G	R	Y
41, 42	R	R	G	R
61, 62	G	G	R	Y

SIGNAL FACE I.D.



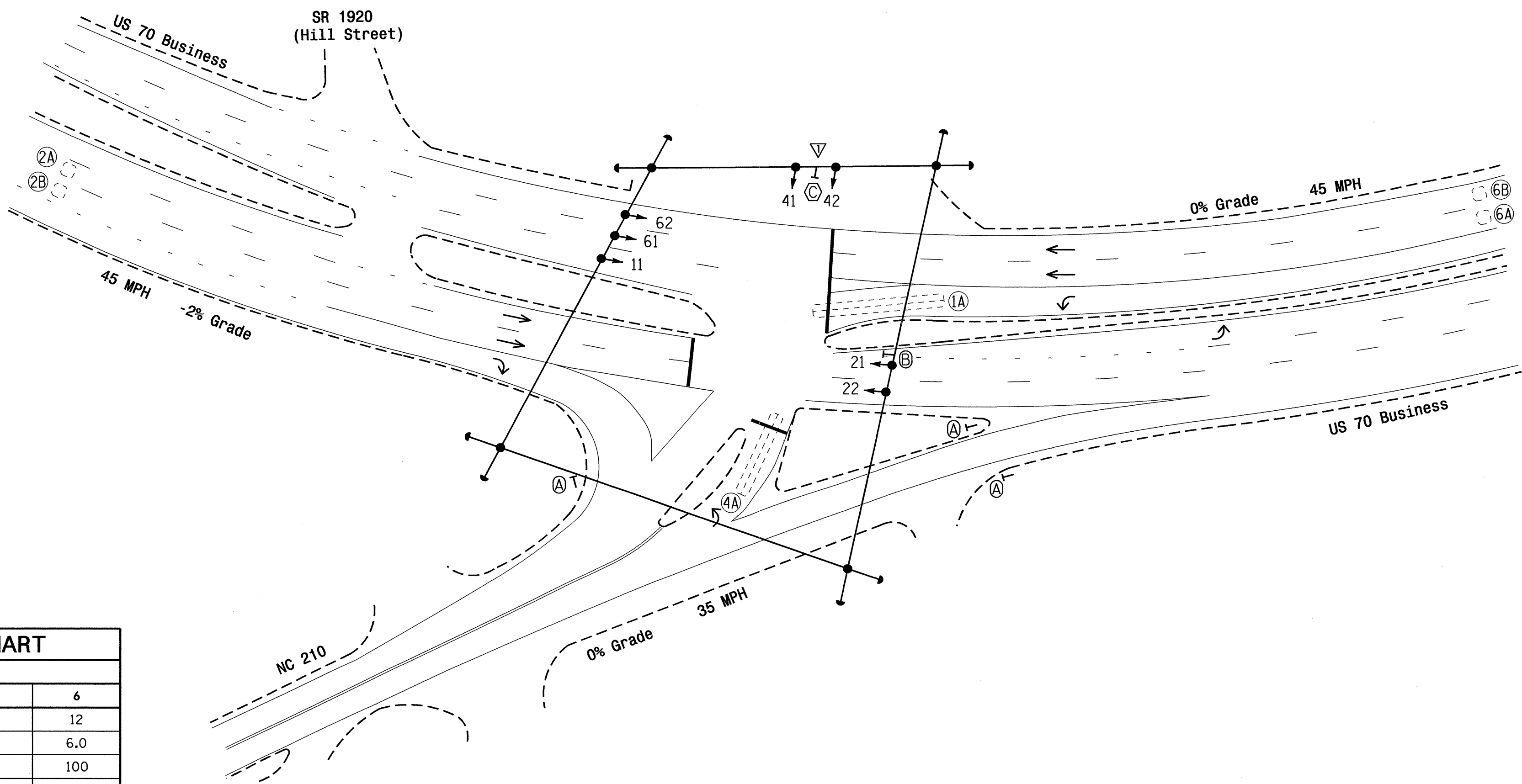
OASIS 2070L LOOP & DETECTOR INSTALLATION

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING							
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X60	+5	2-4-2	-	1	Y	Y	-	-	-	-	-
2A	6X6	300	5	-	2	Y	Y	-	-	-	-	-
2B	6X6	300	5	-	2	Y	Y	-	-	-	-	-
4A	6X40	+5	2-4-2	-	4	Y	Y	-	-	-	-	-
6A	6X6	300	4	-	6	Y	Y	-	-	-	-	-
6B	6X6	300	4	-	6	Y	Y	-	-	-	-	-

3 Phase Fully Actuated Isolated

NOTES

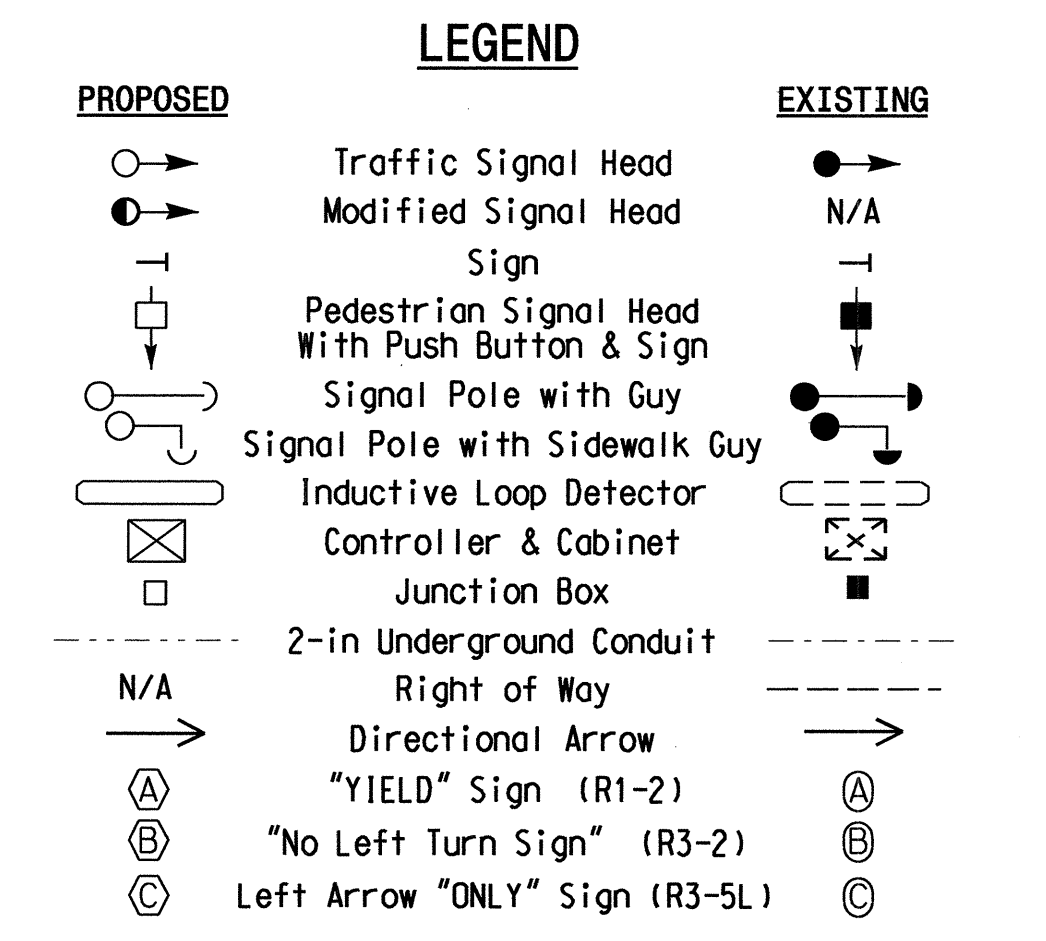
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 may be lagged.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.



OASIS 2070L TIMING CHART

FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	12	7	12
Extension 1 *	2.0	6.0	3.0	6.0
Max Green 1 *	30	100	20	100
Yellow Clearance	4.0	4.6	4.5	4.6
Red Clearance	1.4	1.0	1.1	1.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	2.0	-	2.0
Max Variable Initial *	-	34	-	34
Time Before Reduction *	-	30	-	30
Time To Reduce *	-	50	-	50
Minimum Gap	-	2.5	-	2.5
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



Signal Upgrade-Final

REVISION SEAL (Professional Engineer Seal for C. Krauss)

US 70 Business at NC 210

Division 4 Johnston County Smithfield

PLAN DATE: February 1994 REVIEWED BY: L Eddins

PREPARED BY: C Krauss REVIEWED BY: D Harris

750 N. Greenfield Hwy, Garner, NC 27529

SCALE: 1" = 40'

SIGNATURE: [Signature] DATE: [Date]

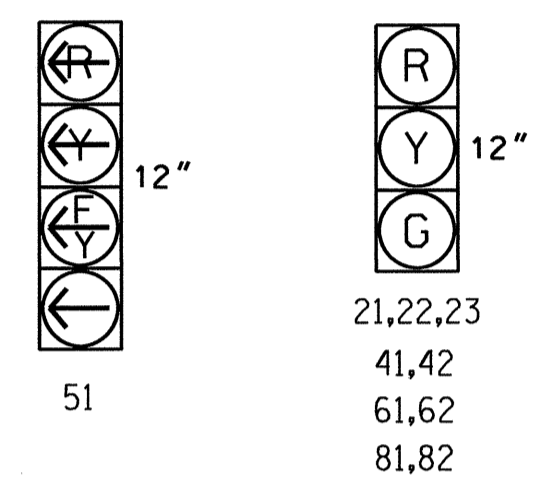
SIG. INVENTORY NO. 04-0474

08-NOV-2011 11:17 R:\Traffic\esign\sign\04-0474\04-0474.sig_dgn_2011.mxd.dgn

Temporary Flasher
All Red Flash

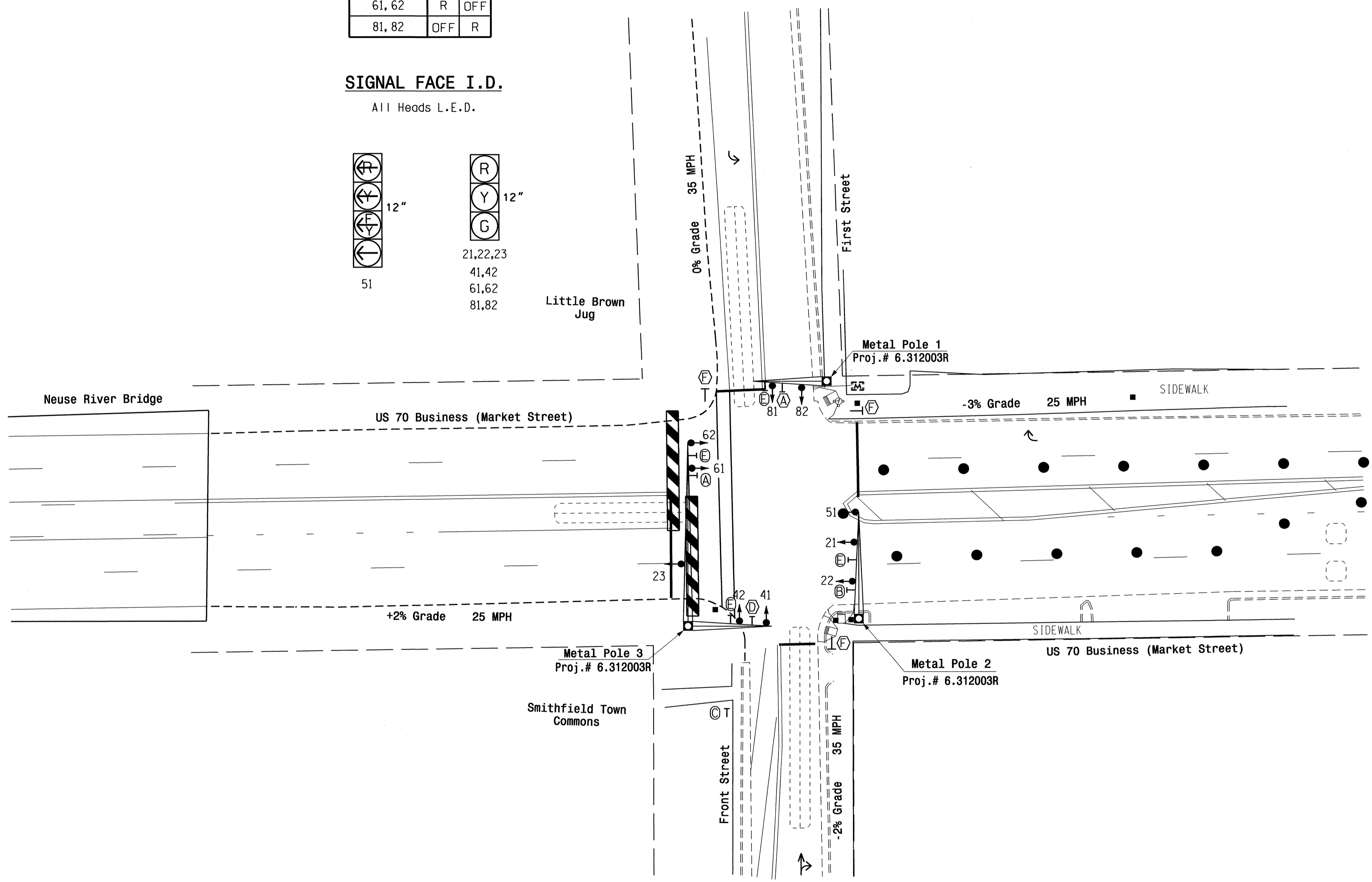
SIGNAL FACE	INTERVAL	
	1	2
21, 22, 23	OFF	OFF
41, 42	OFF	R
51	OFF	OFF
61, 62	R	OFF
81, 82	OFF	R

SIGNAL FACE I.D.
All Heads L.E.D.



NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Flash signal heads 41, 42, 61, 62, 81 and 82 red.



LEGEND

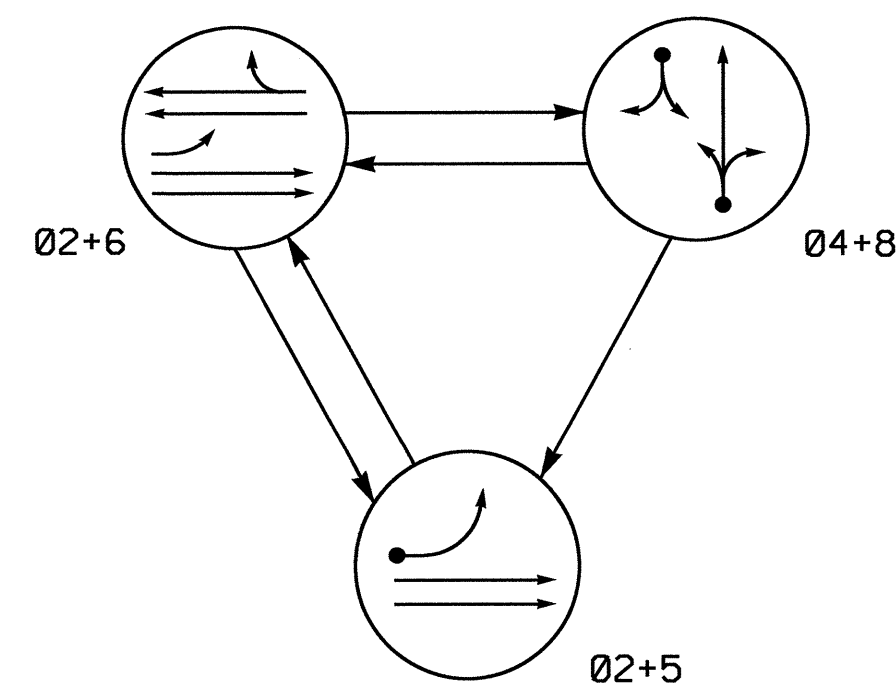
PROPOSED	EXISTING
○ →	○ →
○ →	N/A
⊥	⊥
⊥	⊥
○ ⊥	○ ⊥
○ ⊥	○ ⊥
⊥	⊥
⊥	⊥
⊥	⊥
⊥	⊥
⊥	⊥
N/A	N/A
→	→
⊙	⊙
⊙	⊙
⊙	⊙
⊙	⊙
⊙	⊙
⊙	⊙

Signal Upgrade-Temp

	US 70 Business (Market Street) at Front Street/First Street		
	Division 4 Johnston County Smithfield		
PLAN DATE: October 2011		REVIEWED BY: JP Galloway	
PREPARED BY: PL Alexander		REVIEWED BY:	
REVISIONS		INIT. DATE	
SCALE 0 20 1"=20'		SIGNATURE DATE	
SIG. INVENTORY NO. 04-0197T			

08-NOV-2011 11:15
 R:\Projects\Signal Design\Signal Design\Signal Design.dgn
 PL Alexander

PHASING DIAGRAM

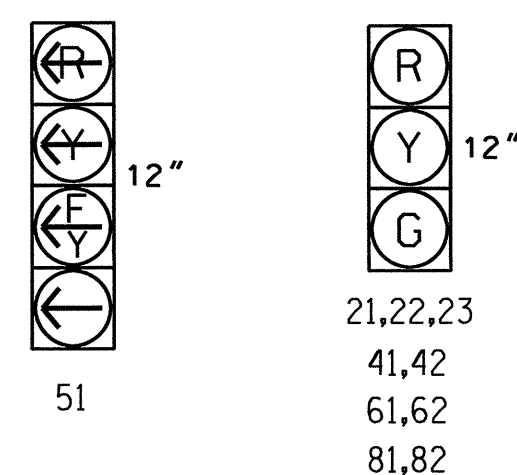


SIGNAL FACE	PHASE			
	02+5	02+6	04+8	FLASH
21,22,23	G	G	R	Y
41,42	R	R	G	R
51	-	F	R	Y
61,62	R	G	R	Y
81,82	R	R	G	R

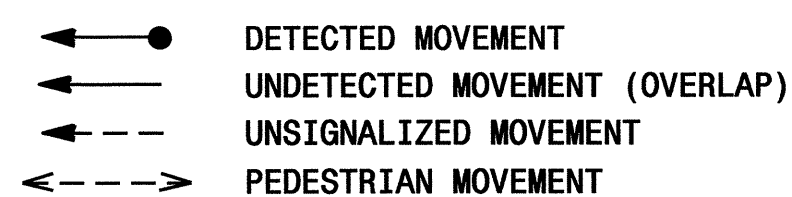
F = Flashing Yellow Arrow

SIGNAL FACE I.D.

All Heads L.E.D.



PHASING DIAGRAM DETECTION LEGEND

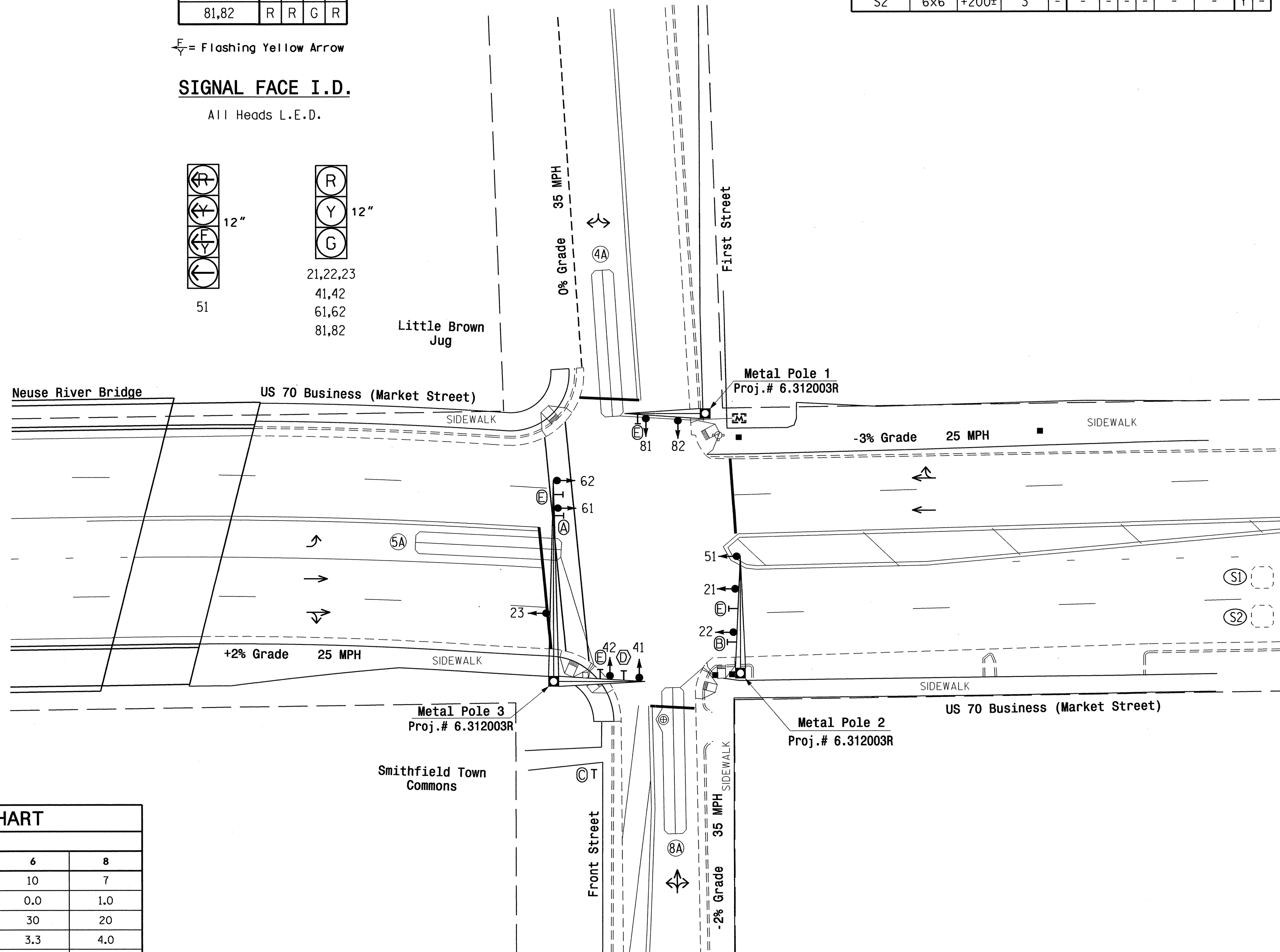


OASIS 2070L LOOP & DETECTOR INSTALLATION CHART										
INDUCTIVE LOOPS					DETECTOR PROGRAMMING					
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME	SYSTEM LOOP NEW CARD
4A	6x40	+5	2-4-2	Y	4	Y	Y	-	5	-
5A	6x40	+5	2-4-2	Y	5	Y	Y	-	15	-
8A	6x40	+5	2-4-2	Y	8	Y	Y	-	-	-
S1	6x6	+200±	3	-	-	-	-	-	-	Y
S2	6x6	+200±	3	-	-	-	-	-	-	Y

3 Phase Semi-Actuated US 70 Bus (Market Street) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Do not install backplates on signal heads on Metal Pole 2 without consulting with the Signal Design Section.
- Remove all Stop signs.
- Remove "No Left Turn" sign (R3-2) on Front Street.
- Set all detector units to presence mode.
- See Pavement Marking Plans to install pavement markings.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Master Asset #10407, Controller Asset #0197.

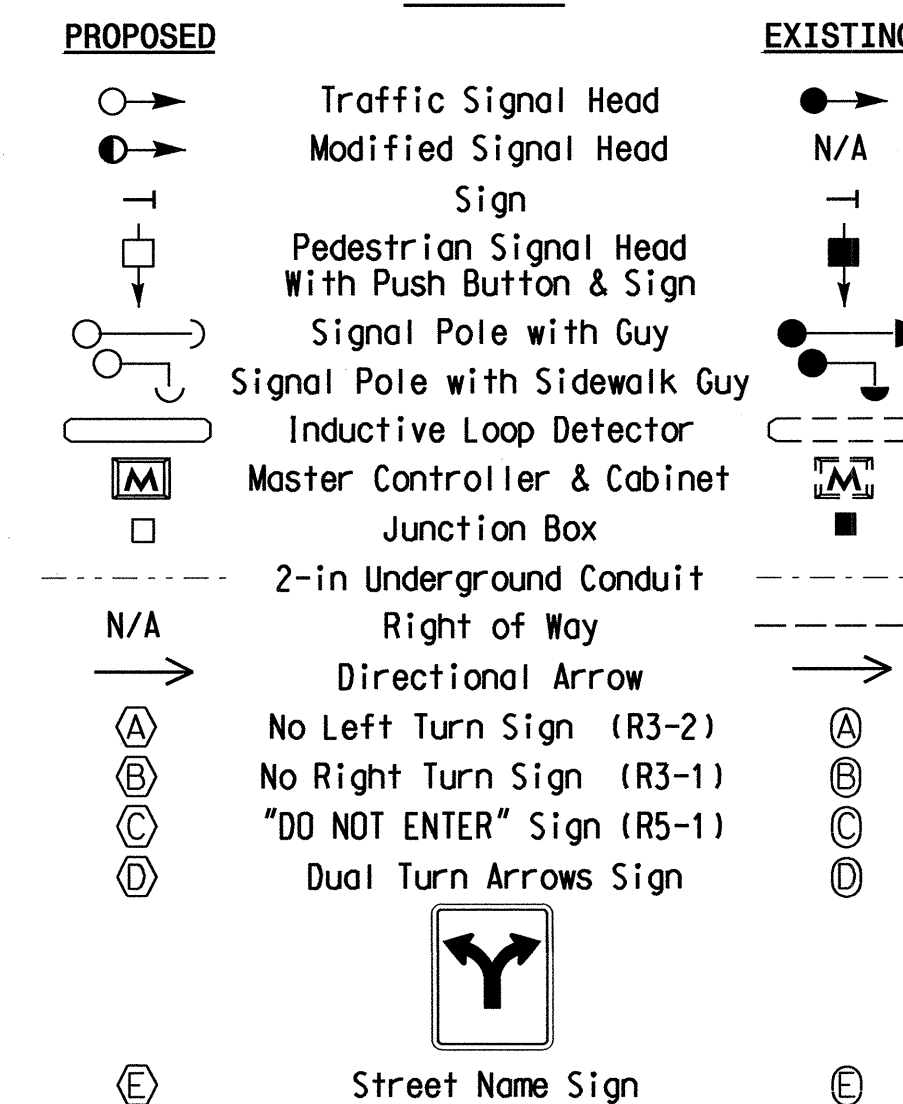


OASIS 2070L TIMING CHART

FEATURE	PHASE				
	2	4	5	6	8
Min Green 1 *	10	7	7	10	7
Extension 1 *	0.0	1.0	3.0	0.0	1.0
Max Green 1 *	30	20	15	30	20
Yellow Clearance	3.3	4.0	3.0	3.3	4.0
Red Clearance	1.5	1.9	1.6	1.5	1.4
Walk 1 *	-	-	-	-	-
Don't Walk 1	-	-	-	-	-
Seconds Per Actuation *	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Recall Mode	MAX RECALL	-	-	MAX RECALL	-
Vehicle Call Memory	-	-	-	-	-
Dual Entry	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND



Signal Upgrade-Final

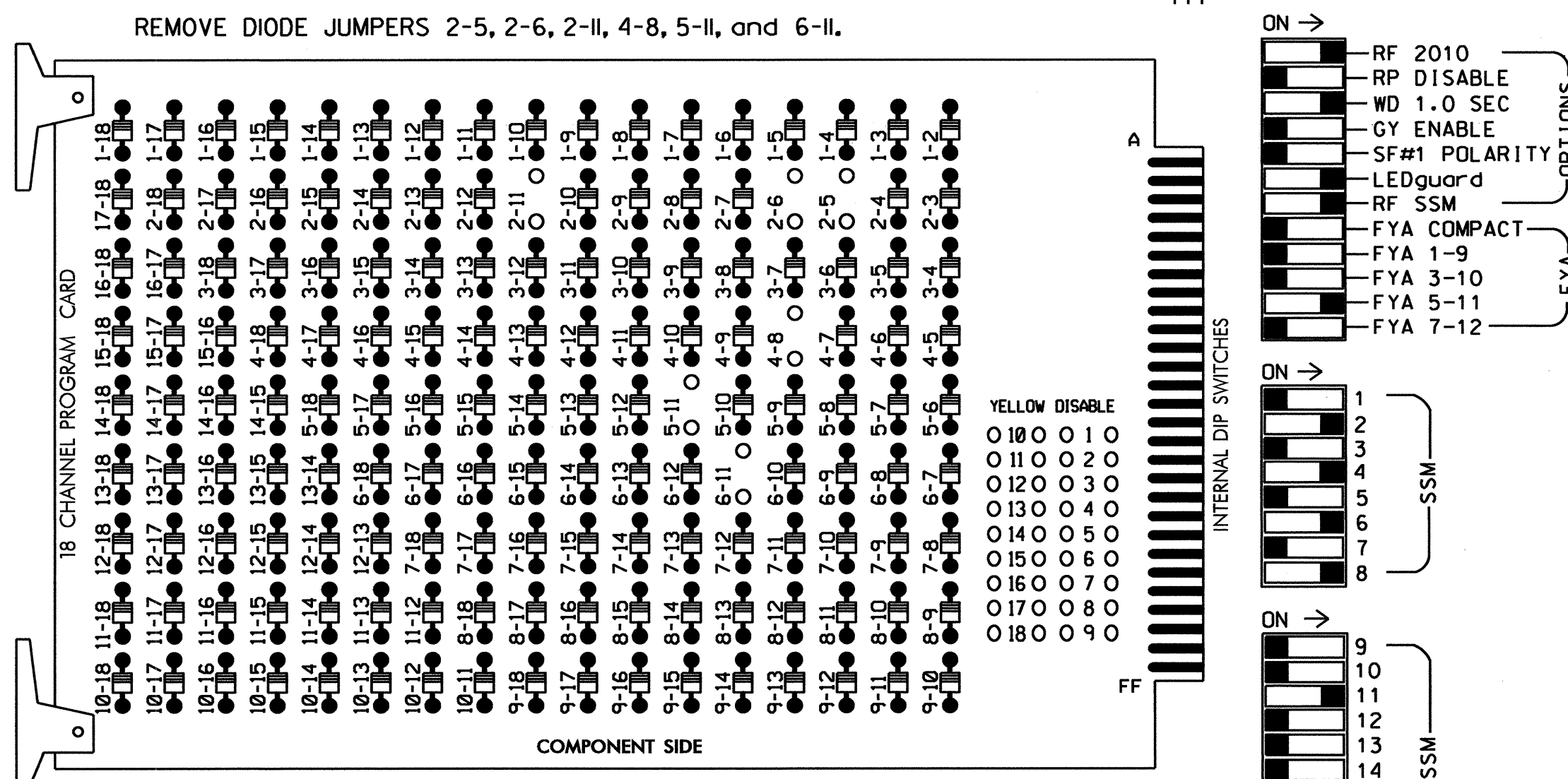
Prepared in the Offices of:

US 70 Business (Market Street) at Front Street/First Street
 Division 4 Johnston County Smithfield
 PLAN DATE: October 2011 REVIEWED BY:
 PREPARED BY: L. Blount REVIEWED BY:
 REVISIONS: INIT. DATE
 SCALE: 1" = 20'
 SEAL: PROFESSIONAL ENGINEER, STATE OF NORTH CAROLINA, No. 23489, L. Blount
 SIGNATURE: [Signature] DATE: 10/20/11
 SIG. INVENTORY NO. 04-0197

08-NOV-2011 11:15 R:\tr\off\cas\signal\oasis\signal\04-0197\04-0197_s1.g...dgn

**EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL**

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash..
- The cabinet and controller are part of the Smithfield Closed Loop System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE LOAD SWITCHES USED.....S2,S5,S7,S8,S11,AUX S4.
 PHASES USED.....2,4,5,6,8.
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6	
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18	
PHASE	1	2	2 PED	3	4	4 PED	5*	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE	
SIGNAL HEAD NO.	NU	21, 22, 23	NU	NU	41, 42	NU	51	61, 62	NU	NU	81, 82	NU	NU	NU	NU	51	NU	NU	
RED		128			101			134			107								
YELLOW		129			102		*	135			108								
GREEN		130			103			136			109								
RED ARROW																		A114	
YELLOW ARROW																			A115
FLASHING YELLOW ARROW																			A116
GREEN ARROW								133											

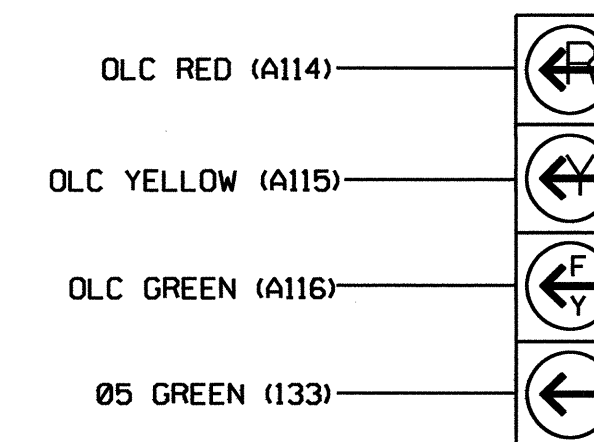
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

* See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



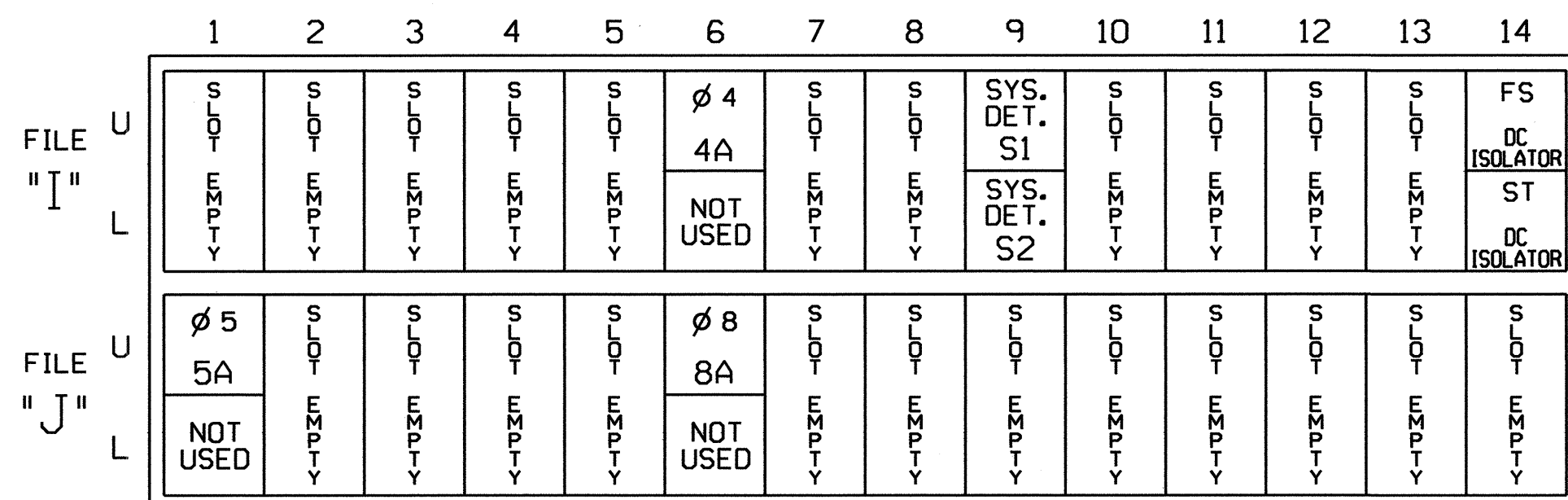
51

NOTE

- The sequence display for this signal requires special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

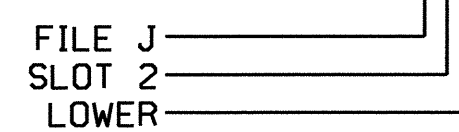
(front view)



EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

INPUT FILE POSITION LEGEND: J2L



INPUT FILE CONNECTION & PROGRAMMING CHART

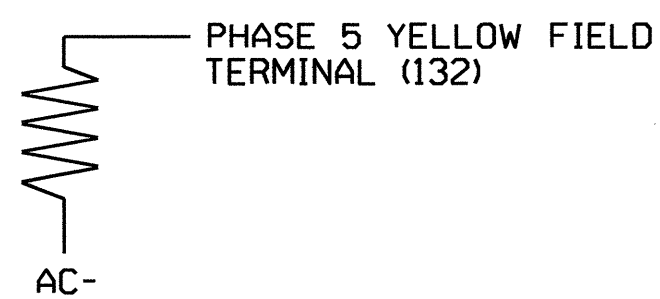
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			5
* S1	TB6-9,10	I9U	60	22	11	SYS					
* S2	TB6-11,12	I9L	62	24	13	SYS					
5A	TB3-1,2	J1U	55	17	5	5	Y	Y			15
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			

* SYSTEM DETECTOR ONLY. REMOVE THE VEHICLE PHASE ASSIGNED TO THIS DETECTOR IN THE DEFAULT PROGRAMMING.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



Signal Upgrade Sheet 1 OF 2

Electrical and Programming Details For:

Prepared In the Offices of:
 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 Signal Management Section
 750 N. Greenfield Pkwy, Garner, NC 27529

US 70 Business (Market Street)
 at
 Front Street / First Street

Division 4 Johnston County Smithfield

PLAN DATE: October 2011 REVIEWED BY: JTR

PREPARED BY: James Peterson REVIEWED BY:

REVISIONS: INIT. DATE

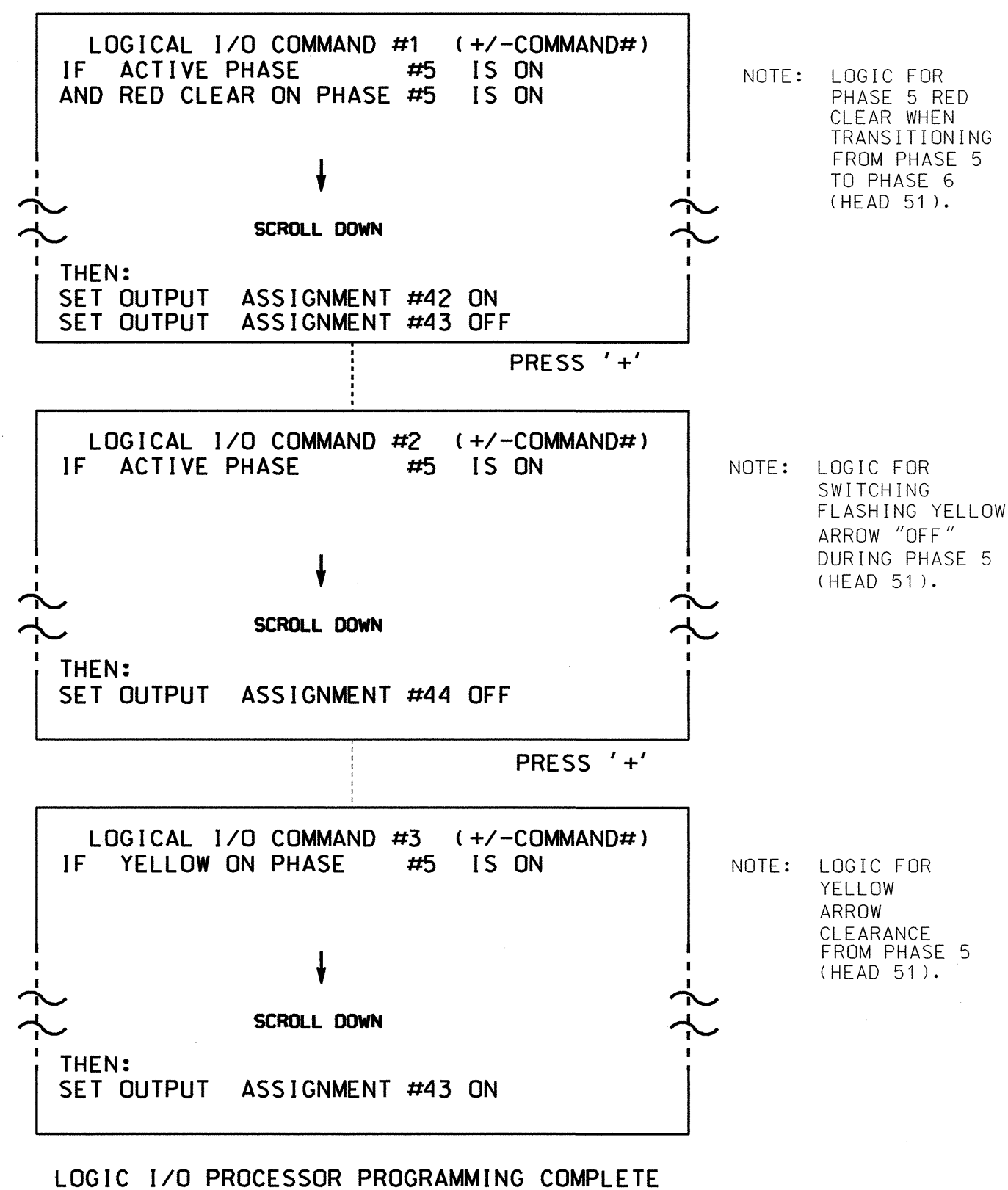
SEAL
 JOHN T. ROWE, JR.
 PROFESSIONAL ENGINEER
 SEAL 008453

Signature: John Rowe
 Date: 10-20-11
 Sig. Inventory No. 04-0197

**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS), SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE
OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN
'1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' TWICE

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS PHASE: :12345678910111213141516 VEH OVL PARENTS: : XX VEH OVL NOT VEH: : VEH OVL NOT PED: : VEH OVL GRN EXT: : STARTUP COLOR: _ RED _ YELLOW _ GREEN FLASH COLORS: _ RED _ YELLOW X GREEN SELECT VEHICLE OVERLAP OPTIONS: (Y/N) FLASH YELLOW IN CONTROLLER FLASH?...Y GREEN EXTENSION (0-255 SEC)...0 YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0 RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0 OUTPUT AS PHASE # (0=NONE, 1-16)...0

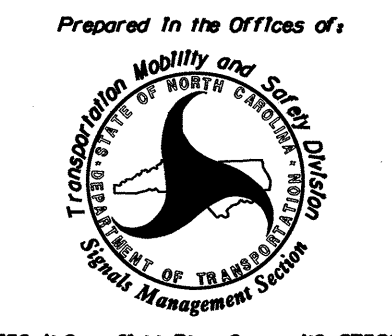
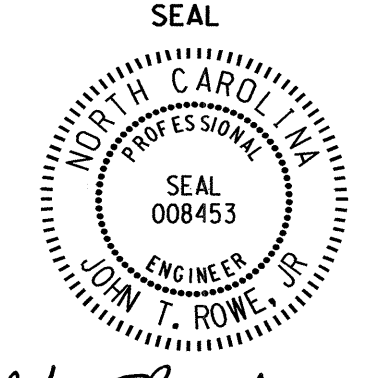

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

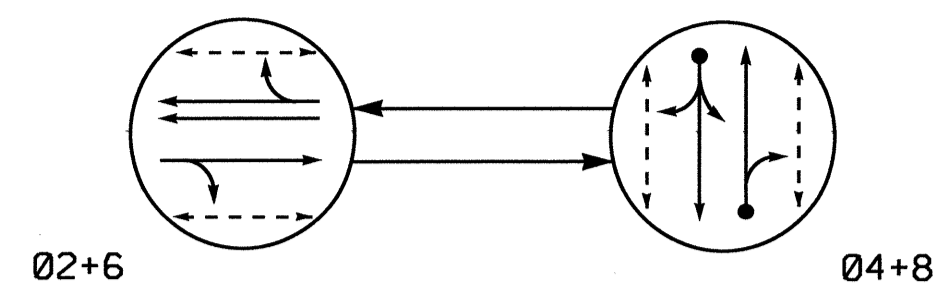
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-0197 DESIGNED: October 2011 SEALED: 10-20-11 REVISED: N/A

08-NOV-2011 11:49 S:\115\ASU\115 Signal\workgroups\510_MarkPeterson\040197_sm.ele_20111020.dgn JPeterson

Signal Upgrade - Sheet 2 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:  Prepared in the Offices of Transportation Mobility and Safety DIVISION OF TRANSPORTATION STATE OF NORTH CAROLINA Signal Management Section 750 N. Greenfield Pkwy, Corner, NC 27529	US 70 Business (Market Street) at Front Street / First Street	SEAL  SEAL 008453 ENGINEER JOHN T. ROWE, JR.									
	Division 4 Johnston County Smithfield										
	PLAN DATE: October 2011 REVIEWED BY: JTR										
	PREPARED BY: James Peterson REVIEWED BY:										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS	INIT.	DATE							 SIGNATURE DATE 10-20-11
REVISIONS	INIT.	DATE									
		SIG. INVENTORY NO. 04-0197									

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- ➔ DETECTED MOVEMENT
- ⬄ UNDETECTED MOVEMENT (OVERLAP)
- ➔ UNSIGNALIZED MOVEMENT
- ➔ PEDESTRIAN MOVEMENT

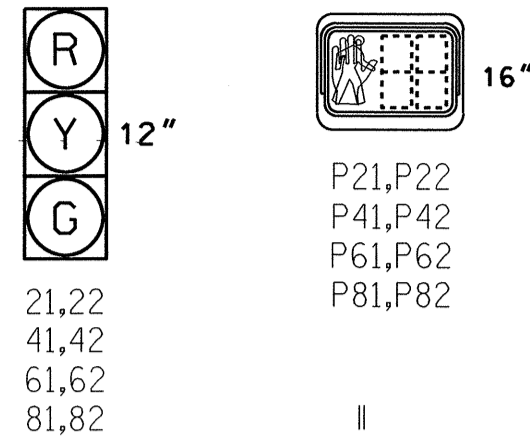
TABLE OF OPERATION

SIGNAL FACE	PHASE		
	02+6	04+8	F L S H
21,22	G	R	Y
41,42	R	G	R
61,62	G	R	Y
81,82	R	G	R
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK
P61,P62	W	DW	DRK
P81,P82	DW	W	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

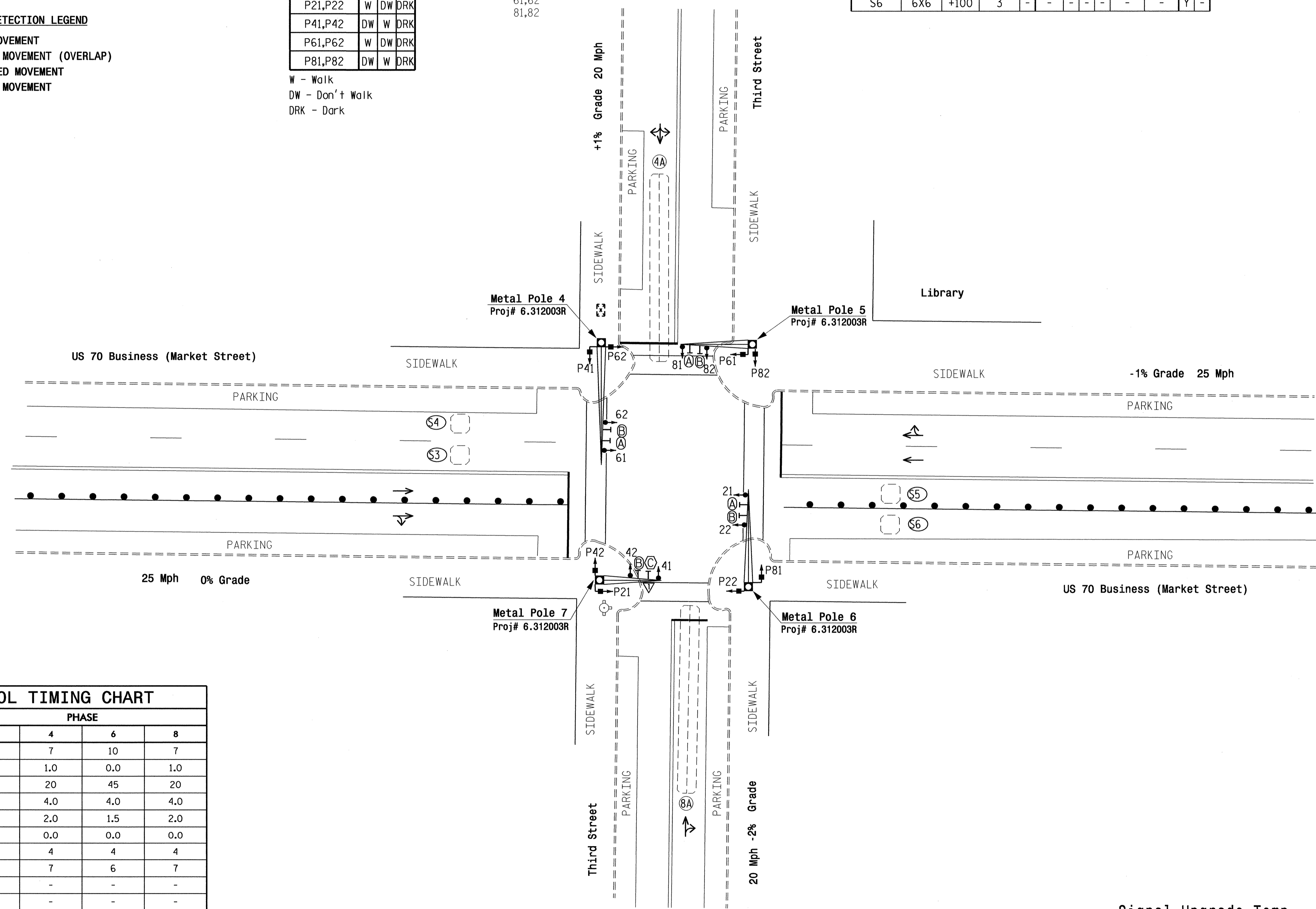
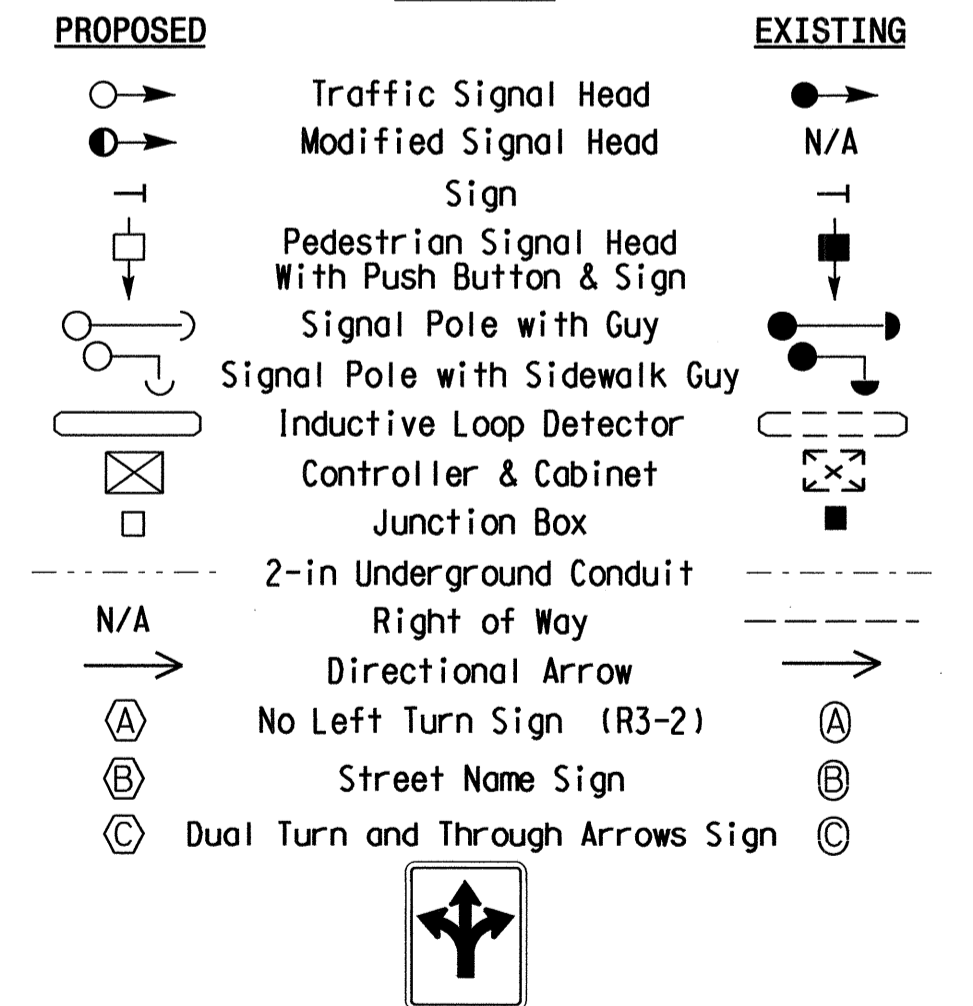
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING							
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
4A	6X60	+5	2-4-2	-	4	Y	Y	-	-	-	-	-
8A	6X60	+5	2-4-2	-	8	Y	Y	-	-	-	-	-
S3	6X6	+100	3	-	-	-	-	-	-	-	-	Y
S4	6X6	+100	3	-	-	-	-	-	-	-	-	Y
S5	6X6	+100	3	-	-	-	-	-	-	-	-	Y
S6	6X6	+100	3	-	-	-	-	-	-	-	-	Y

2 Phase Semi-Actuated US 70 Bus (Market Street) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset # 0199.

LEGEND



OASIS 2070L TIMING CHART

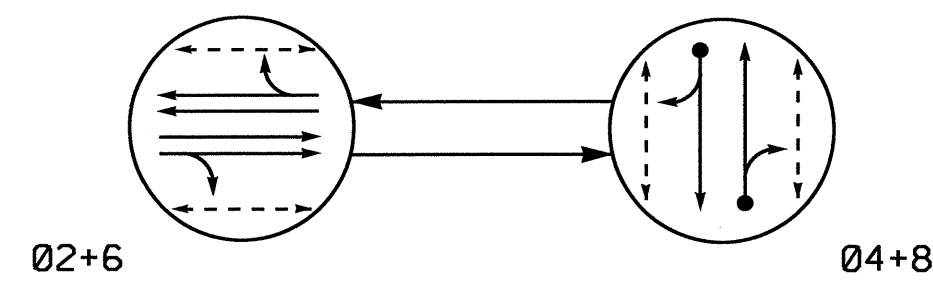
FEATURE	PHASE			
	2	4	6	8
Min Green 1*	10	7	10	7
Extension 1*	0.0	1.0	0.0	1.0
Max Green 1*	45	20	45	20
Yellow Clearance	4.0	4.0	4.0	4.0
Red Clearance	1.5	2.0	1.5	2.0
Red Revert	0.0	0.0	0.0	0.0
Walk 1*	4	4	4	4
Don't Walk 1	6	7	6	7
Seconds Per Actuation*	-	-	-	-
Max Variable Initial*	-	-	-	-
Time Before Reduction*	-	-	-	-
Time To Reduce*	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MIN RECALL	-	MIN RECALL	-
Vehicle Call Memory	-	-	-	-
Dual Entry	-	ON	-	ON
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade-Temp

<p>REVISION SEAL</p>	<p>Prepared in the Offices of:</p>	<p>US 70 Business (Market Street) at Third Street</p> <p>Division 4 Johnston County Smithfield</p> <p>PLAN DATE: April 2003 REVIEWED BY: LM Moon</p> <p>PREPARED BY: MR Cooney REVIEWED BY: JT Brooks</p> <p>SCALE: 0 20 1" = 20'</p> <p>SIGNATURE: _____ DATE: _____</p>	<p>SEAL</p> <p>Not a certified document as to the Original Document but Only as to the Revisions - This document originally Issued and sealed by Lisa M Moon, PE #22516 on April 25, 2003. This document is only certified as to the revisions.</p> <p>SIGNATURE: _____ DATE: _____</p> <p>SIG. INVENTORY NO. 04-0199T</p>
----------------------	------------------------------------	---	--

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

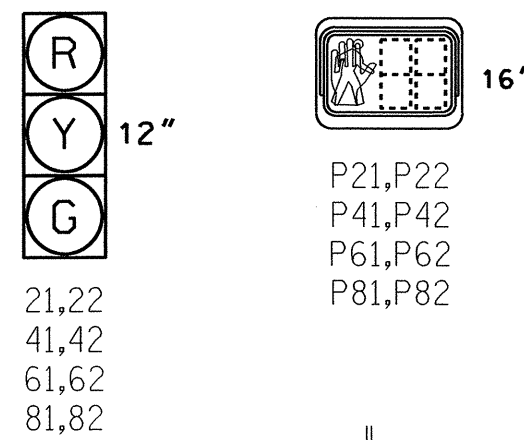
- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←---→ UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE		
	02+6	04+8	FLASH
21,22	G	R	Y
41,42	R	G	R
61,62	G	R	Y
81,82	R	G	R
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK
P61,P62	W	DW	DRK
P81,P82	DW	W	DRK

W - Walk
 DW - Don't Walk
 DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.

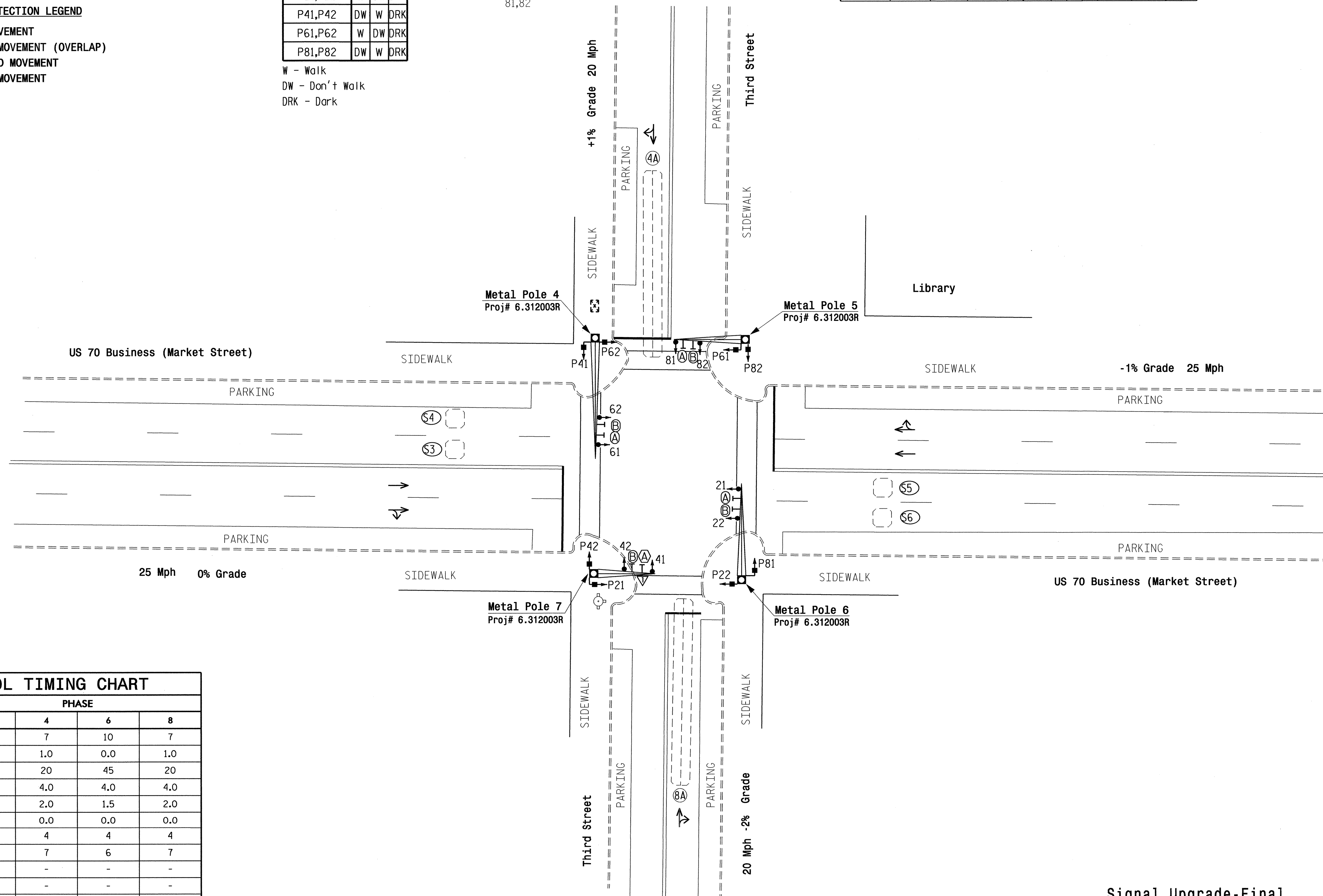


INDUCTIVE LOOPS				DETECTOR PROGRAMMING			
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	PHASE	CALLING	EXTENSION	FULL TIME DELAY
4A	6X60	+5	2-4-2	4	Y	Y	-
8A	6X60	+5	2-4-2	8	Y	Y	-
S3	6X6	+100	3	-	-	-	-
S4	6X6	+100	3	-	-	-	-
S5	6X6	+100	3	-	-	-	-
S6	6X6	+100	3	-	-	-	-

2 Phase Semi-Actuated US 70 Bus (Market Street) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset # 0199.



FEATURE	PHASE			
	2	4	6	8
Min Green 1 *	10	7	10	7
Extension 1 *	0.0	1.0	0.0	1.0
Max Green 1 *	45	20	45	20
Yellow Clearance	4.0	4.0	4.0	4.0
Red Clearance	1.5	2.0	1.5	2.0
Red Revert	0.0	0.0	0.0	0.0
Walk 1 *	4	4	4	4
Don't Walk 1	6	7	6	7
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MAX RECALL	-	MAX RECALL	-
Vehicle Call Memory	-	-	-	-
Dual Entry	-	ON	-	ON
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

PROPOSED	LEGEND	EXISTING
○→	Traffic Signal Head	●→
○→	Modified Signal Head	N/A
⊥	Sign	⊥
⊥	Pedestrian Signal Head With Push Button & Sign	⊥
⊥	Signal Pole with Guy	⊥
⊥	Signal Pole with Sidewalk Guy	⊥
⊥	Inductive Loop Detector	⊥
⊥	Controller & Cabinet	⊥
⊥	Junction Box	⊥
⊥	2-in Underground Conduit	⊥
N/A	Right of Way	---
→	Directional Arrow	→
⊙	No Left Turn Sign (R3-2)	⊙
⊙	Street Name Sign	⊙

Signal Upgrade-Final

REVISION SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23489 PAMELA ALEXANDER ENGINEER	Prepared in the Office of: Transportation Mobility and Safety NORTH CAROLINA DEPARTMENT OF TRANSPORTATION Signal Design Section 750 N. Greenfield Pkwy, Garner, NC 27529	US 70 Business (Market Street) at Third Street Division 4 Johnston County Smithfield		SEAL Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by Lisa M. Moon, PE #22516 on April 25, 2003. This document is only certified as to the revisions.
		PLAN DATE: April 2003 PREPARED BY: MR Cooney REVISIONS: Install Sign A - JRS	REVIEWED BY: LM Moon REVIEWED BY: JT Brooks	

08-N0V-2011, 11:16
 R:\tr\eff\c\m5\signal\sig\04-0199\04-0199\04-0199\sig_dsn_2011\XXXX.dgn
 pal exender