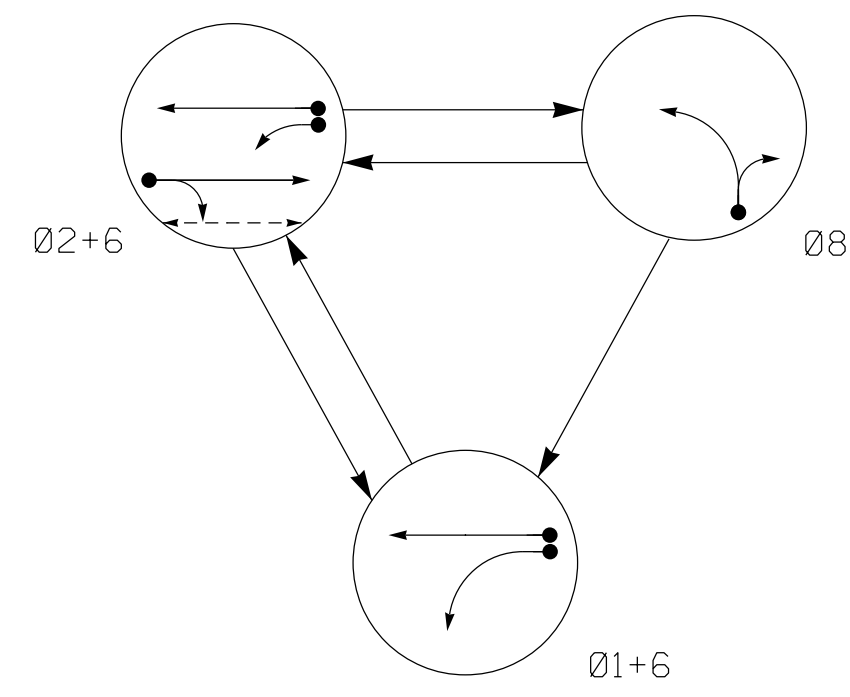
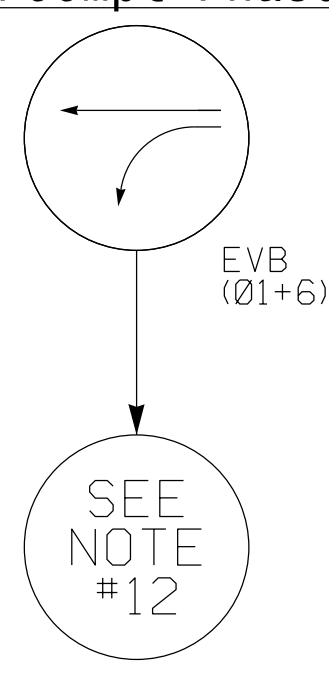


**PHASING DIAGRAM**



**EV Preempt Phases**



SIGNAL FACE	PHASE				
	01+6	02+6	04+8	EVB	FLASH
11	R	G	R	R	Y
21,22	R	G	R	R	Y
61,62	G	G	R	G	Y
81,82	R	R	G	R	R
P21,P22	DW	W	DW	DW	DRK

2033 SOFTWARE w/ 2070 CONTROLLER LOOP & DETECTOR UNIT INSTALLATION CHART																	
INDUCTIVE LOOPS					DETECTOR PROGRAMMING												
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW EXISTING	NEMA PHASE	TIMING		ATTRIBUTES									
						DELAY	CARRY (STRETCH)	1	2	3	4	5	6	7	8	STATUS	
1A	6x40	*	0	*	-	15 SEC.	- SEC.	-	-	-	-	X	X	-	-	*	-
2A	6x6	*	70	*	-	- SEC.	- SEC.	-	-	-	-	X	X	-	-	*	-
6A	6x6	*	70	*	-	- SEC.	- SEC.	-	-	-	-	X	X	-	-	*	-
8A	6x40	*	0	*	-	10 SEC.	- SEC.	-	-	-	-	X	X	-	-	*	-
PEDESTRIAN DETECTION																	
P21,P22	N/A	N/A	N/A	X	-	- SEC.	- SEC.	-	X	-	-	-	-	-	-	X	-

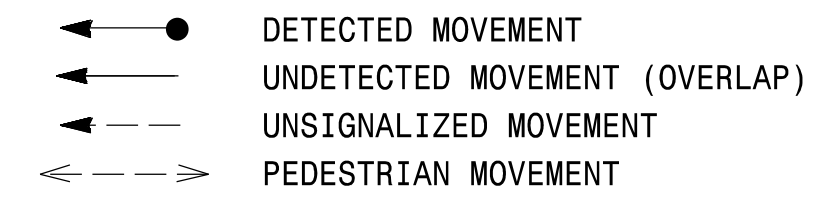
\* Video Detection Zone

**3 Phase Fully Actuated W/ EV Preemption (Durham Signal System)**

**NOTES**

- Refer to "Road Standard Drawings NCDOT" dated January 2012, "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.
- Locate new cabinet as to not obstruct sight distance of vehicles turning right on red.
- Program all timing information into phase banks 1,2, and 3 unless otherwise noted.
- Set phase bank 3 maximum limit to 250 seconds for phases used.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time.
- Pavement markings are existing.
- This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- Upon completion of Emergency Vehicle Preemption, controller returns to normal operation.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Disconnect and bag pedestrian signal heads #P41 and #P82 during this phase of construction.

**PHASING DIAGRAM DETECTION LEGEND**



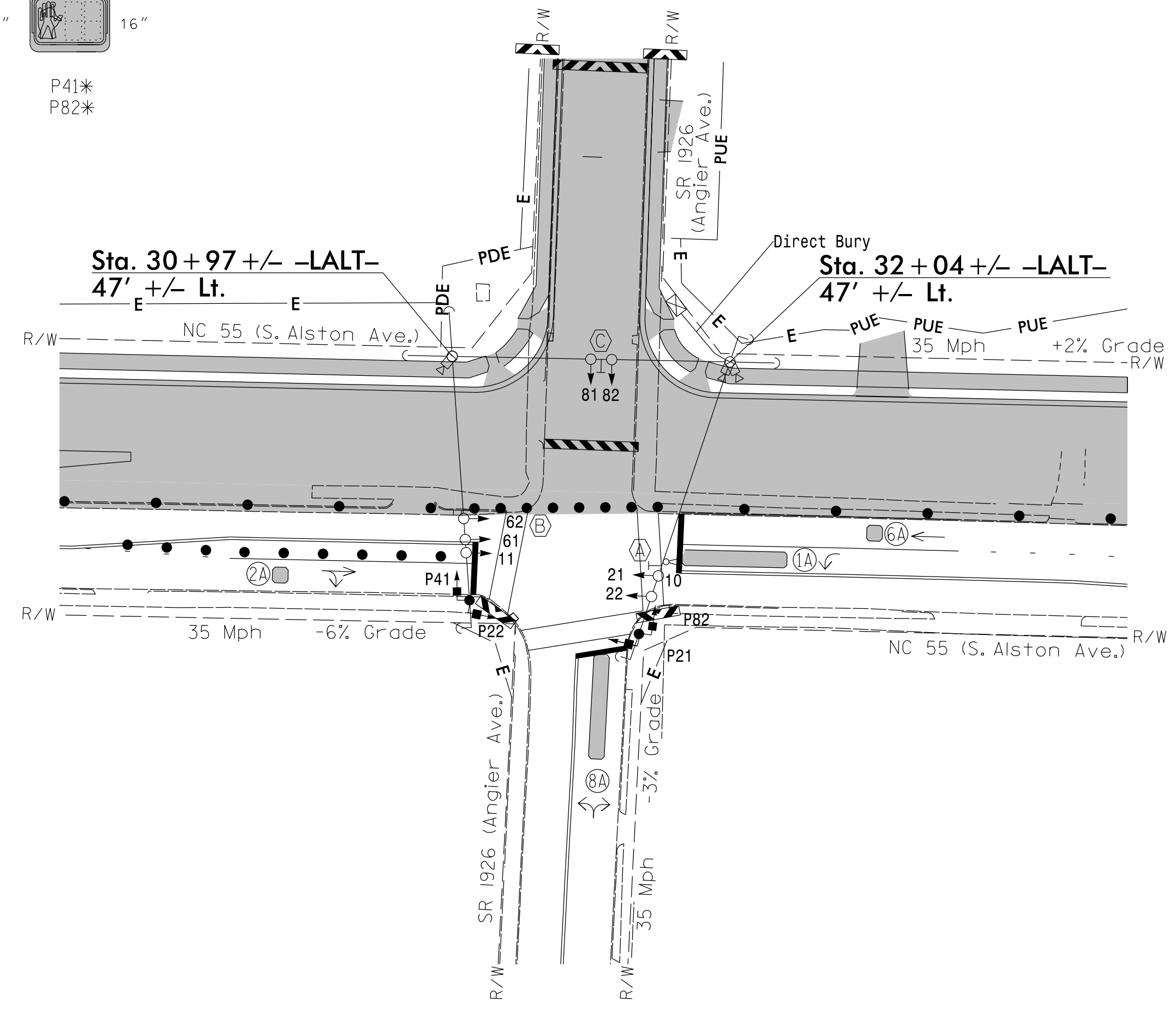
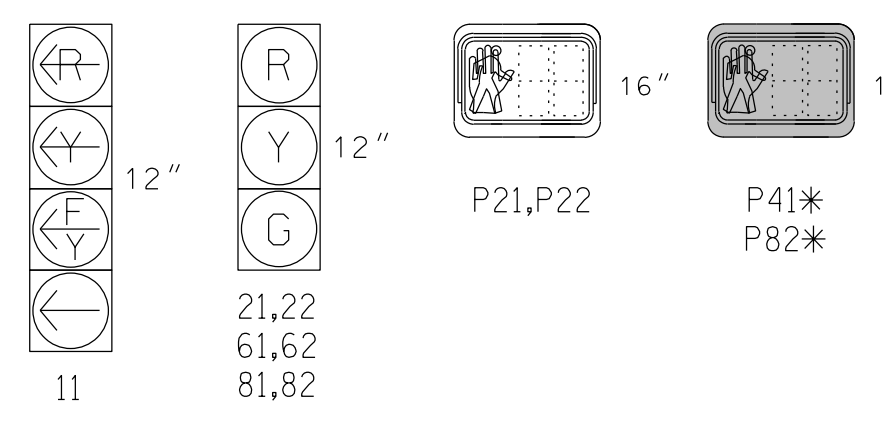
**2033 EV PREEMPTION**

FUNCTION	EVB (SECONDS)
DELAY BEFORE PREEMPT	0
MIN. PED. CLEAR BEFORE PREEMPT	*
MIN. GREEN BEFORE PREEMPT	1
CLEARANCE TIME	2
PREEMPT EXTEND**	2.0

\* See Timing Chart for Min Ped Clearance  
\*\* Program Timing on Optical Detector Unit

**SIGNAL FACE I.D.**

All Heads L.E.D.  
\* See Note 14



**LEGEND**

PROPOSED	EXISTING
	N/A
N/A	
	N/A
	N/A
	N/A
	N/A
	N/A

TIMING CHART 2033 SOFTWARE w/2070 CONTROLLER				
PHASE	01	02	06	08
MINIMUM INITIAL *	7 SEC.	10 SEC.	10 SEC.	7 SEC.
VEHICLE EXTENSION *	2.0 SEC.	3.0 SEC.	3.0 SEC.	2.0 SEC.
YELLOW CHANGE INT.	4.3 SEC.	4.3 SEC.	4.3 SEC.	3.0 SEC.
RED CLEARANCE	1.8 SEC.	1.2 SEC.	1.2 SEC.	1.9 SEC.
MAXIMUM LIMIT *	15 SEC.	50 SEC.	50 SEC.	35 SEC.
RECALL POSITION	NONE	VEH. RECALL	VEH. RECALL	NONE
VEHICLE CALL MEMORY	NONE	YELLOW LOCK	YELLOW LOCK	NONE
DOUBLE ENTRY	OFF	OFF	OFF	OFF
WALK *	- SEC.	4 SEC.	- SEC.	- SEC.
FLASHING DON'T WALK	- SEC.	9 SEC.	- SEC.	- SEC.
MIN PED CLEARANCE	- SEC.	5 SEC.	- SEC.	- SEC.
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	- SEC.
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	- SEC.
ADD PER VEHICLE *	- SEC.	- SEC.	- SEC.	- SEC.
MAXIMUM INITIAL *	- SEC.	- SEC.	- SEC.	- SEC.
MAXIMUM GAP*	2.0 SEC.	3.0 SEC.	3.0 SEC.	2.0 SEC.
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.	- SEC.
MINIMUM GAP	2.0 SEC.	3.0 SEC.	3.0 SEC.	2.0 SEC.

\* 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 - Temporary Design 1 (TMP Phase I, Steps 1-10)**

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NC 55 (South Alston Avenue) at SR 1926 (Angier Avenue)

Division 5 Durham County Durham

PLAN DATE: September 2014 REVIEWED BY: J Hochanadel

PREPARED BY: C Lawson REVIEWED BY:

SEAL

DocuSigned by:  
4/02/15  
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SIG. INVENTORY NO. 05-102611

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