

PHASING DIAGRAM DETECTION LEGEND

UNSIGNALIZED MOVEMENT

UNDETECTED MOVEMENT (OVERLAP)

DETECTED MOVEMENT

← − → PEDESTRIAN MOVEMENT

EV PREEMPT PHASES

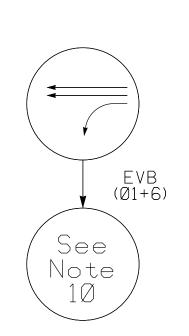


TABLE OF OPERATION										
	PHASE									
SIGNAL FACE	Ø 1 + 6	ØN+6	Ø 4	E>B	FLASH					
11	-	<u></u>		¥	- ¥					
21,22	R	G	R	R	Υ					
41	R	R	G	R	R					
42	R	R	G	R	R					
61,62	G	G	R	G	Y					
P21 , P22	DW	W	DW	DW	DRK					
P41,P42	DW	DW	W	DW	DRK					
P61,P62	W	W	DW	DW	DRK					

SIGNAL FACE I.D.

All Heads L.E.D.

61,62

R/W — — — — NC 55 (S. Alston Avenue)

21,22	R Y 12" G	R Y 12 G 21,22
-------	-----------------	----------------



Metal Pole #1

56' +/- Lt.

See Loading Diagram
Sta. 13 + 88 +/- -LALT-

Arm "A"

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

2033 EV PREEMPTION

* See Timing Chart for Min Ped Clearance

** Program Timing on Optical Detector Unit

	2033		MING TWARE W)LLER			
PHASE	Ø1		Ø2		04		Ø6		
MINIMUM INITIAL *	7	SEC.	10	SEC.	7	SEC.	10	SEC.	
VEHICLE EXTENSION *	2.0	SEC.	3.0	SEC.	2.0	SEC.	3.0	SEC.	
YELLOW CHANGE INT.	4.0	SEC.	4.0	SEC.	3.7	SEC.	4.0	SEC.	
RED CLEARANCE	2.8	SEC.	1.9	SEC.	2.0	SEC.	1.9	SEC.	
MAXIMUM LIMIT *	15	SEC.	50	SEC.	35	SEC.	50	SEC.	
RECALL POSITION	101	1E	VEH. RE	CALL	ИОИ	1E	VEH. RECALL		
VEHICLE CALL MEMORY	ИОИ	1E	YELLOW	LOCK	NON	1E	YELLOW	LOCI	
DOUBLE ENTRY	OFI	F	OFF		OFF	=	OFF		
WALK *	_	SEC.	4	SEC.	4	SEC.	4	SEC	
FLASHING DON'T WALK	_	SEC.	4	SEC.	15	SEC.	12	SEC	
MIN PED CLEARANCE	_	SEC.	2	SEC.	8	SEC.	6	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.	

* 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

2.0 SEC. 3.0 SEC. 2.0 SEC. 3.0 SEC.

2033 SOFTWARE w/ 2070 CONTROLLER LOOP & DETECTOR UNIT INSTALLATION CHART

DETECTOR PROGRAMMING

	INDUCT	IVE LO)PS								ATTRIBUTES									STA	STATUS	
	ı		I			1		TIMING		1	2	3	4	5	6	7	8	LOOPS		()		
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DEL	.AY	CA (STR	RRY ETCH)	FULL TIME DELAY	PEDESTRIAN CALL	RESERVED	COUNT	EXTENSION	TYPE 3	CALLING	ALTERNATE	SYSTEM	NEW	FXISTING	
1 A	6X30	2-4-2	0	X		1	15	SEC.	_	SEC.	-	-	_	-	Χ	-	X	_	-	X	-	
1 A	0 0 0 0	2-4-2		^		6	-	SEC.	-	SEC.	-	-	_	_	Χ	-	Х	-	-	Χ	-	
2A	6×6	4	70	X	-	2	-	SEC.	-	SEC.	-	-	-	-	Χ	-	Χ	-	-	Χ	-	
2B	6×6	4	70	X	-	2	-	SEC.	-	SEC.	-	-	-	-	Χ	-	Х	-	-	Χ	-	
4A	6×40	2-4-2	0	X	-	4	-	SEC.	-	SEC.	-	-	-	-	Χ	-	Х	-	_	Χ	-	
4B	6×40	2-4-2	0	X	-	4	-	SEC.	-	SEC.	-	-	-	-	Χ	-	Х	-	-	Χ	-	
4C	6×40	2-4-2	0	X	-	4	10	SEC.	-	SEC.	-	-	-	-	Χ	-	Χ	-	_	Χ	-	
6A	6×6	*	70	*	-	6	_	SEC.	-	SEC.	-	-	-	_	Χ	-	Х	-	-	-	K	
6B	6×6	*	70	*	-	6	-	SEC.	-	SEC.	-	-	-	-	Χ	-	Χ	-	-	*	-	
PEDESTR	RIAN DE	TECTIO	N			•	•				•	•						•				
P21 , P22	N/A	N/A	N/A	X	-	2	_	SEC.	_	SEC.	-	X	-	-	_	-	-	_	-	Χ	-	
P41,P42	N/A	N/A	N/A	X	-	4	-	SEC.	-	SEC.	-	Χ	-	-	_	-	-	-	-	Χ		
P61.P62	N/A	N/A	N/A	X	-	6	-	SEC.	_	SEC.	-	Χ	-	-	-	-	-	-	-	Χ	-	

35 Mph -2% Grade

NC 55 (S. Alston Avenue)

* Video Detection Zone

(6B) ←

6A) ←

Metal Pole #2

61' +/- Rt.

See Loading Diagram

Sta. 14 + 66 + / - LALT -

- Arm "A"

3 Phase Fully Actuated w/ EV Preemption (Durham Signal System) NOTES

PROJECT REFERENCE NO. Sig. 5.0 U-3308

1. Refer to "Road Standard Drawings NCDOT" dated January 2012, "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

PROPOSED

4. Set all detector units to presence mode.

5. Program all timing information into phase banks 1,2, and 3 unless otherwise noted.

6. Set phase bank 3 maximum limit to 250 seconds for phases used.

7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls

8. Program pedestrian heads to countdown the flashing "Don't Walk" time

9. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.

10. Upon completion of Emergency Vehicle Preemtion, controller returns to normal operation based on vehicle demand.

11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing ues supersede these values.

LEGEND

EXISTING

estrian pedestals are conceptual and shown for erence only. See sheets P1-P3 for pushbutton ation details.

12.	value Pedes refer loca
	ſ

Traffic Signal Head \bigcirc **-**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 Directional Drill N/A Left Arrow "ONLY" Sign (R3-5L) Right Arrow "Only" Sign (R3-5R) No Right Turn Sign (R3-1) No Left Turn Sign (R3-2) Street Name Sign Combined Through and Left Arrow Sign (R3-6L) Type II Signal Pedestal Optical Detector Metal Pole with Mastarm Video Detector

Video Detection Area

Signal Upgrade - Final Design



NC 55 (South Alston Avenue)

NC 147 SB Ramps Division 5 Durham County Durham PLAN DATE: September 2014 REVIEWED BY: J Hochanadel

1025 Wade Avenue Tel:919-789-9977 Fax:919-789-9591 License #: C-2197

Raleigh, NC 27605 750 N.Greenfield Pkwy, Garner, NC 27529 PREPARED BY: R Drayton REVIEWED BY: REVISIONS

INIT. DATE MyPALL SIG. INVENTORY NO.

SEAL

DATE

05-1028

MAXIMUM GAP*

REDUCE 0.1 SEC EVERY *

2.0 SEC. 3.0 SEC. 2.0 SEC. 3.0 SEC MINIMUM GAP than 4 seconds