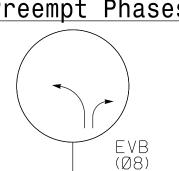
EV Preempt Phases



SEE NOTE #9

PHASING DIAGRAM DETECTION LEGEND

UNSIGNALIZED MOVEMENT

DETECTED MOVEMENT UNDETECTED MOVEMENT (OVERLAP)

PEDESTRIAN MOVEMENT

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

* See Note 11 ** See Note 12

P21**,**P22

NC 55 (N. Alston Ave.)

35 Mph

0_ 0_ 3_ 3_ 3_ 3_ 3_ 3_ 3

+3% Grade

TABLE OF OPERATION

SIGNAL

FACE

22,23

61

62,63

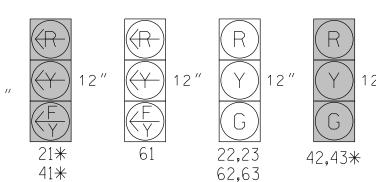
PHASE

-F -R -R -Y

GRRY

R G G R

P21,P22 | W | DW | DW | DRK |



81,82

P41,P42**

P61,P62**

P81,P82**

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

DETECTOR PROGRAMMING

INDUCTIVE LOOPS								ATTRIBUTES								S	STATUS			
					TIMING			1	2	3	3 4	5	6	7	8	OOPS				
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	ZEK	EXISTING	NEMA PHASE	DELAY	CAF		FULL TIME DELAY	PEDESTRIAN CALL	RESERVED	COUNT	EXTENSION	TYPE 3	CALLING	ALTERNATE	SYSTEM L	ZEX	EXISTING
2A	6×6	*	70	-	*	2	- SEC.	_	SEC.	_	_	_	_	Χ	_	Χ	_	_	_	*
6 A	6x6	*	70	-	*	6	- SEC.	_	SEC.	_	_	_	_	Χ	-	Χ	_	-	-	*
6B	6×40	*	0	-	*	6	- SEC.	-	SEC.	-	-	-	-	Χ	-	Χ	-	-	-	*
8.8	6×40	*	0	-	*	8	3 SEC.	-	SEC.	-	-	-	-	Χ	-	Χ	-	-	_	*
8B	6×40	*	0	-	*	8	15 SEC.	_	SEC.	-	-	-	_	Χ	_	Χ	-	-	_	*
PEDESTR	RIAN DE	TECTIO	N																	
P21 , P22	N/A	N/A	N/A	-	X	2	- SEC.	-	SEC.	_	X	_	_	_	-	_	_	_	-	X

* Video Detection Zone

31 81 82

35 Mph

+l% Grade

NC 55 (N. Alston Ave.)

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

TIMING CHART 2033 SOFTWARE w/2070 CONTROLLER									
PHASE	Ø	2	Ø	6	Ø	8	OL1		
MINIMUM INITIAL *	10	SEC.	10	SEC.	7	SEC.	0	SEC.	
VEHICLE EXTENSION *	3.0	SEC.	3.0	SEC.	2.0	SEC.			
YELLOW CHANGE INT.	3.8	SEC.	3.8	SEC.	3.0	SEC.	3.8	SEC.	
RED CLEARANCE	1.8	SEC.	1.8	SEC.	2.1	SEC.	1.8	SEC.	
MAXIMUM LIMIT *	50	SEC.	50	SEC.	35	SEC.			
RECALL POSITION	VEH. R	ECALL	VEH. F	RECALL	NC	NE			
VEHICLE CALL MEMORY	YELLOW	LOCK	YELLOW	/ LOCK	NC	NE			
DOUBLE ENTRY	0	FF	0	FF	0	FF			
WALK *	4	SEC.	_	SEC.	_	SEC.			
FLASHING DON'T WALK	14	SEC.	_	SEC.	_	SEC.			
MIN PED CLEARANCE	7	SEC.	_	SEC.	_	SEC.			
TYPE 3 LIMIT	_	SEC.	_	SEC.	_	SEC.			
ALTERNATE EXTENSION	_	SEC.	_	SEC.	_	SEC.			
ADD PER VEHICLE *	_	SEC.	_	SEC.	_	SEC.			
MAXIMUM INITIAL *	_	SEC.	_	SEC.	_	SEC.			
MAXIMUM GAP*	3.C	SEC.	3.0	SEC.	2.0	SEC.			
REDUCE 0.1 SEC EVERY *	_	SEC.	_	SEC.	_	SEC.			

3.0 SEC. 3.0 SEC. 2.0 SEC. ^c 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

NC 55 (North Alston Avenue) Division 5 Durham County 750 N.Greenfield Pkwy, Garner, NC 27529 PREPARED BY: R Drayton REVIEWED BY:

Liberty St Durham PLAN DATE: September 2014 REVIEWED BY: J Hochanadel INIT. DATE

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

NOTES

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. Set all detector units to presence mode.

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

5. Set phase bank 3 maximum limit to 250 seconds for

phases used.

7. Program pedestrian heads to countdown the flashing

8. This intersection features an optical preemption system. Shown locations of optical detectors

9. Upon completion of Emergency Vehicle Preemption,

10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing

11. Disconnect and bag signal heads #21, #31, #41, #42, and

12. Pedestrian signal heads #P41, #P42, #P61, #P62, #P81 phase of construction.

13. Contractor shall adjust video detection zones as required.

LEGEND

<u>PROPOSED</u>		EXISTING
\bigcirc	Traffic Signal Head	
O ->	Modified Signal Head	N/A
\dashv	Sign	\dashv
ightharpoons	Pedestrian Signal Head	•
*	With Push Button & Sign	\
	Signal Pole with Guy	
S	ignal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	× × ×
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
\longrightarrow	Directional Arrow	\longrightarrow
$\langle A \rangle$	"No Left Turn" (R3-2)	\triangle
$\langle \mathbb{B} \rangle$	"No Right Turn" (R3-1)	B
$\langle \mathbb{C} \rangle$	"Left Arrow Only" (R3-2)	B C D
$\langle \mathbb{D} \rangle$	"Right Arrow Only" (R3-1)	
	Work Area	N/A
	Drums	N/A
——E——	Construction Easement	N/A
PUE	Permanent Utility Easment	N/A
PDE	Permanent Drainage Easment	- N/A
	Barricades	N/A
	Direct Bury	
0	Optical Detector	•
	Video Detector	
	Video Detection Area	

Signal Upgrade - Temporary Design 7 (TMP Phase 2, Steps 1-6)

SIG. INVENTORY NO. 05-1029T7

4/02/15 DATE

1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977

PROJECT REFERENCE NO.

U-3308

|Sig. 37.0|

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

"Don't Walk" time.

are conceptual only.

controller returns to normal operation.

values supersede these values.

#43 during this phase of construction.

and #P82 to remain disconnected and bagged during this