PHASING DIAGRAM

Ø2+6

Ø4+8

Ø3+8

PHASING DIAGRAM DETECTION LEGEND

- ●← DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ◄─ UNSIGNALIZED MOVEMENT
- ◄─ ─ PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	Ø3+8	Ø4+8	FLASH
21	F Y	R	R	Y
22,23	G	R	R	Y
31	R	F Y	R	R
41	R	F Y	F Y	R
42,43	R	R	G	R
61	F Y	R	R	Y
62,63	G	R	R	Y
81,82	R	G	G	R
P61,P62	W	DW	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.
✱ See Note 10
✱✱ See Note 11

12"   12"   12"

P42✱✱
P81✱✱

P61,P62

16"   16"

21   22,23
41✱   42,43
61✱   62,63
31✱   81,82✱

2033 SOFTWARE w/ 2070 CONTROLLER
LOOP & DETECTOR UNIT INSTALLATION CHART
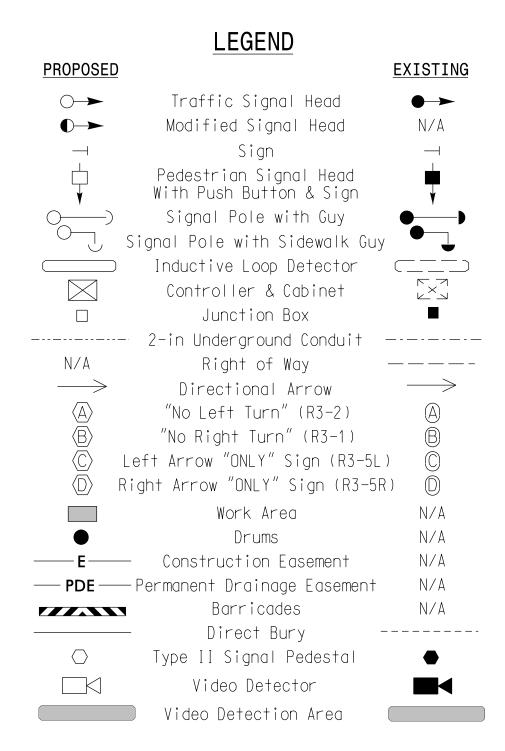
	INDUCTIVE LOOPS					DETECTOR PROGRAMMING												
						TIMING		ATTRIBUTES								SYSTEM LOOPS	STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DELAY	CARRY (STRETCH)	FULL TIME DELAY	PEDESTRIAN CALL	RESERVED	COUNT	EXTENSION	TYPE 3	CALLING	ALTERNATE		NEW	EXISTING
2A	6x6	✱	70	-	✱	2	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
2B	6x40	✱	0	-	✱	2	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
3A	6x40	✱	0	✱		3	15 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
						8	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
4A	6x40	✱	0	✱		4	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
4B	6x40	✱	0	-	✱	4	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
6A	6x6	✱	70	-	✱	6	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
6B	6x40	✱	0	-	✱	6	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
8A	6x40	✱	0	✱	-	8	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	-	✱
PEDESTRIAN DETECTION																		
P61,P62	N/A	N/A	N/A	-	X	6	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	-	X

✱ Video Detection Zone

2 Phase
Fully Actuated
(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. Phase 3 may be lagged.
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. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. Reconnect and unbag signal heads #31, #41, #61, #81, and #82.
11. Pedestrian signal heads #P42 and #P81 shall remain disconnected and bagged during this phase of construction.
12. Contractor shall adjust video detection zones as required.

LEGEND

PROPOSED		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" (R3-2)	Ⓐ
Ⓑ	"No Right Turn" (R3-1)	Ⓑ
Ⓒ	Left Arrow "ONLY" Sign (R3-5L)	Ⓒ
Ⓓ	Right Arrow "ONLY" Sign (R3-5R)	Ⓓ
▬	Work Area	N/A
●	Drums	N/A
—E—	Construction Easement	N/A
—PDE—	Permanent Drainage Easement	N/A
▨	Barricades	N/A
	Direct Bury	- - - -
○	Type II Signal Pedestal	●
▭	Video Detector	◼
▬	Video Detection Area	▬

NC 55 (N. Alston Ave.)

NC 98 (Holloway St.)

US 70 - NC 98 (Holloway Street)

35 Mph

Point Striping

TIMING CHART
2033 SOFTWARE w/2070 CONTROLLER

PHASE	Ø2	Ø3	Ø4	Ø6	Ø8	OL1	OL3	OL4
MINIMUM INITIAL *	10 SEC.	7 SEC.	7 SEC.	10 SEC.	7 SEC.	0 SEC.	0 SEC.	0 SEC.
VEHICLE EXTENSION *	3.0 SEC.	2.0 SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.			
YELLOW CHANGE INT.	4.1 SEC.	3.8 SEC.	3.8 SEC.	4.1 SEC.	3.8 SEC.	4.1 SEC.	4.1 SEC.	3.8 SEC.
RED CLEARANCE	2.1 SEC.	2.4 SEC.	2.0 SEC.	2.1 SEC.	2.0 SEC.	2.1 SEC.	2.1 SEC.	2.0 SEC.
MAXIMUM LIMIT *	50 SEC.	15 SEC.	35 SEC.	50 SEC.	35 SEC.			
RECALL POSITION	VEH. RECALL	NONE	NONE	VEH. RECALL	NONE			
VEHICLE CALL MEMORY	YELLOW LOCK	NONE	NONE	YELLOW LOCK	NONE			
DOUBLE ENTRY	OFF	OFF	ON	OFF	ON			
WALK *	- SEC.	- SEC.	- SEC.	4 SEC.	- SEC.			
FLASHING DON'T WALK *	- SEC.	- SEC.	- SEC.	8 SEC.	- SEC.			
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
ADD PER VEHICLE *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MAXIMUM INITIAL *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MAXIMUM GAP*	3.0 SEC.	2.0 SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.			
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MINIMUM GAP	3.0 SEC.	2.0 SEC.	2.0 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 4 (TMP Phase 1, Steps 11-21)

Prepared for the Offices of:

NC 55 (North Alston Avenue)
at
US 70 - NC 98 (Holloway Street)
Division 5   Durham County   Durham

PLAN DATE: September 2014	REVIEWED BY: J Hochanadel
PREPARED BY: C Lawson	REVIEWED BY:

SEAL

NORTH CAROLINA
PROFESSIONAL
SEAL
28430
ENGINEER
JEFFREY P. HOCHANADEL

REVISIONS	INIT.	DATE

4/02/15
DATE

SIG. INVENTORY NO. 05-1027T4

SCALE
0   40
1"=40'