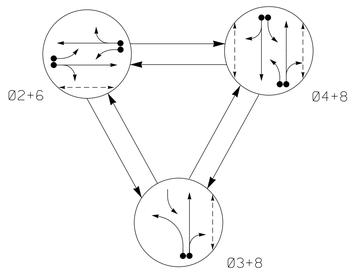
PROJECT REFERENCE NO.	SHEET NO.
U-3308	Sig. 40.0

PHASING DIAGRAM



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	FLOAT
21	~~F Y~~	~~R~~	~~R~~	~~Y~~
22,23	G	R	R	Y
31	~~R~~	←	~~F Y~~	~~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
P21,P22	W	DW	DW	DRK
P41,P42	DW	DW	W	DRK
P81,P82	DW	W	W	DRK

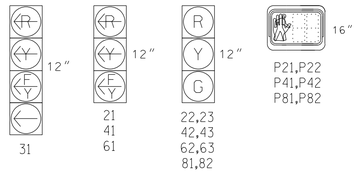
2033 SOFTWARE w/ 2070 CONTROLLER
LOOP & DETECTOR UNIT INSTALLATION CHART

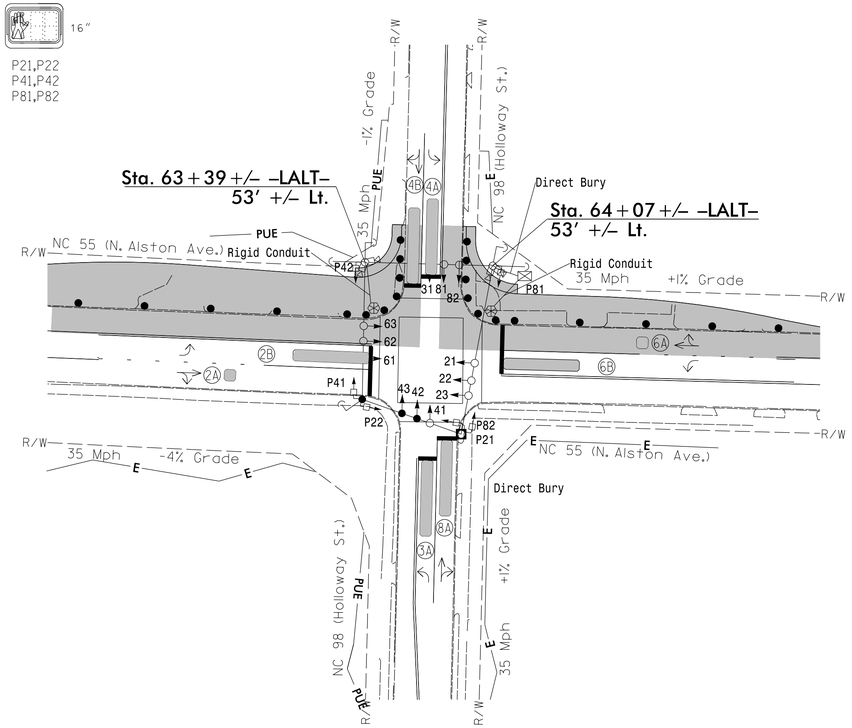
INDUCTIVE LOOPS						DETECTOR PROGRAMMING													
							TIMING		ATTRIBUTES									STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DELAY	CARRY (STRETCH)	1 FULL TIME OR SCA	2 PEDESTRIAN CALL	3 RESERVED	4 COUNT	5 EXTENSION	6 TYPE 3	7 CALLING	8 ALTERNATE	SYSTEM LOOPS	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																			
P21,P22	N/A	N/A	N/A	X	-	2	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-
P41,P42	N/A	N/A	N/A	X	-	4	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-
P81,P82	N/A	N/A	N/A	X	-	8	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-

* Video Detection Zone

SIGNAL FACE I.D.

All Heads L.E.D.





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.	3.9 SEC.	3.9 SEC.	4.1 SEC.	3.9 SEC.	4.1 SEC.	4.1 SEC.	3.9 SEC.
RED CLEARANCE	1.1 SEC.	2.3 SEC.	1.5 SEC.	1.1 SEC.	1.5 SEC.	1.1 SEC.	1.1 SEC.	1.5 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 *	4 SEC.	- SEC.	4 SEC.	- SEC.	4 SEC.			
FLASHING DON'T WALK	8 SEC.	- SEC.	11 SEC.	- SEC.	11 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.

3 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. Locate new cabinet as to not obstruct sight distance of vehicles turning right on red.
6. Program all timing information into phase banks 1,2, and 3 unless otherwise noted.
7. Set phase bank 3 maximum limit to 250 seconds for phases used.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time.
10. Pavement markings are existing.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
12. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
13. Contractor to maintain pedestrian movements through construction areas.

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	→
⊛	Type I Pushbutton Post	☢
▭	Work Area	N/A
●	Drums	N/A
E	Construction Easement	N/A
PDE	Permanent Utility Easement	N/A
———	Rigid Conduit	----------
———	Direct Bury	----------
▭◁	Video Detector	■◀
▭	Video Detection Area	▭

Signal Upgrade - Temporary Design 1 (TMP Phase I, Steps 1-10)

SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
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License #: C-2197

Prepared for the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40 1"=40'

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

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

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 28430 ENGINEER JEFFREY P. HOCHANADEL

DocuSigned by: 4/02/15
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DATE

SIG. INVENTORY NO. 05-1027TI

3/20/2015
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