PROJECT REFERENCE NO.	SHEET NO.
W-5705C	Sig. 3.0

PHASING DIAGRAM

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21,22,23	R	R	G	G	R	R	R	R	Y
24	R	R	→	→	→	R	→	R	~~Y~~
31	~~R~~	~~R~~	~~R~~	~~R~~	←	←	F Y	F Y	~~R~~
41,42	R	R	R	R	R	R	G	G	R
51,52	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61,62,63	R	G	R	G	R	R	R	R	Y
71	~~R~~	~~R~~	~~R~~	~~R~~	←	F Y	←	F Y	~~R~~
81,82	R	R	R	R	R	G	R	G	R
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DRK

* See Note
W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.

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 PULSE	2 PEDESTRIAN CALL	3 RESERVED	4 COUNT	5 EXTENSION	6 TYPE 3	7 CALLING	8 ALTERNATE	SYSTEM LOOPS	NEW	EXISTING
1A	6X40	2-4-2	0	-	X	1	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
2A,2B,2C	6X6	EXIST	300	-	X	2	- SEC.	1.6 SEC.	-	-	-	-	X	-	X	-	-	X	-
2D,2E,2F	6X6	EXIST	90	-	X	2	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
3A	6X40	2-4-2	+5	-	X	3	15 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
						8	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
4A	6X25	EXIST	+10	-	X	4	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
5A	6X40	2-4-2	0	-	X	5	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
5B	6X40	2-4-2	0	-	X	5	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
6A,6B,6C	6X6	EXIST	300	-	X	6	- SEC.	1.6 SEC.	-	-	-	-	X	-	X	-	-	X	-
6D,6E,6F	6X6	EXIST	90	-	X	6	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
7A	6X25	EXIST	+10	-	X	7	15 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
						4	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
8A	6X40	2-4-2	+5	-	X	8	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-
S125	6X6	EXIST	+150	-	X	-	- SEC.	- SEC.	-	-	-	-	-	-	-	-	X	X	-
S126	6X6	EXIST	+150	-	X	-	- SEC.	- SEC.	-	-	-	-	-	-	-	-	X	X	-
S127	6X6	EXIST	+150	-	X	-	- SEC.	- SEC.	-	-	-	-	-	-	-	-	X	X	-
P41,P42	N/A	N/A	N/A	-	X	-	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-

8 Phase Fully Actuated (Durham Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
8. Set phase bank 3 maximum limit to 250 seconds for phases used.
9. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
10. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
11. Pavement markings are existing.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

TIMING CHART

2033 SOFTWARE w/ 2070 CONTROLLER

PHASE	01	02	03	04	05	06	07	08	OL 3
MINIMUM INITIAL *	7 SEC.	12 SEC.	7 SEC.	7 SEC.	7 SEC.	12 SEC.	7 SEC.	7 SEC.	0 SEC.
VEHICLE EXTENSION *	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	
YELLOW CHANGE INT.	3.0 SEC.	4.7 SEC.	3.0 SEC.	4.1 SEC.	3.0 SEC.	4.3 SEC.	3.0 SEC.	4.1 SEC.	4.7 SEC.
RED CLEARANCE	3.3 SEC.	1.2 SEC.	2.9 SEC.	4.5 SEC.	3.1 SEC.	1.6 SEC.	3.7 SEC.	4.5 SEC.	1.2 SEC.
MAXIMUM LIMIT *	20 SEC.	60 SEC.	15 SEC.	30 SEC.	30 SEC.	60 SEC.	15 SEC.	30 SEC.	
RECALL POSITION	NONE	VEH. RECALL	NONE	NONE	NONE	VEH. RECALL	NONE	NONE	
VEHICLE CALL MEMORY	NONE	YELLOW LOCK	NONE	NONE	NONE	YELLOW LOCK	NONE	NONE	
DOUBLE ENTRY	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	
WALK *	- SEC.	- SEC.	- SEC.	7 SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
FLASHING DON'T WALK	- SEC.	- SEC.	- SEC.	32 SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
ADD PER VEHICLE *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
MAXIMUM INITIAL *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
MAXIMUM GAP*	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	
MINIMUM GAP	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 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.

Proposed Metal Pole Locations

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 II Signal Pedestal	
	Luminaire Assembly	
	"NO TURN ON RED" Sign (R10-11)	

Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 1'=40' (0 – 40)

US 15-501 Bus (Durham-Chapel Hill Blvd) at Tower Blvd & South Square Shopping Center

DIVISION 5 DURHAM COUNTY DURHAM

PLAN DATE: July 2017 REVIEWED BY:
PREPARED BY: A. F. Aslami REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036833 ENGINEER RYAN W. HOUGH

DocuSigned by: Ryan W. Hough 430320FAA2854C3... 8/23/2017
DATE

SIG. INVENTORY NO. 05-0006

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