PROJECT REFERENCE NO.	SHEET NO.
HS-2005K	Sig. 1.0

8 Phase
Fully Actuated
(Raleigh Signal System)

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, 12	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21, 22, 23	R	R	G	G	R	R	R	R	Y
31	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
41, 42	R	R	R	R	R	R	G	G	R
51, 52	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61, 62, 63	R	G	R	G	R	R	R	R	Y
71, 72	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
81, 82	R	R	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

12" — 11, 12 / 31 / 51, 52 / 71, 72

12" — 21, 22, 23 / 41, 42 / 61, 62, 63 / 81, 82

Accessible Pedestrian Signal — 16" — P21, P22 / P41, P42 / P61, P62 / P81, P82

SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS						DETECTOR PROGRAMMING														
							TIMING		OPERATION MODE									STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	DELAY	EXTEND (STRETCH)	0 VEHICLE	1 PEDESTRIAN	2 I. CALL	3 STOP A	4 STOP B	5 PROTPER LEFT	6 PROTPER THROUGH	7 AND	SWITCH	SYSTEM LOOPS	NEW	EXISTING
1A	6X40	2-4-2	0	X	-	1	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
1B	6X40	2-4-2	0	X	-	1	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
1C	6X60	2-4-2	0	-	X	-	- SEC.	- SEC.	DISCONNECT & ABANDON										-	-
2A, 2B	6X6	5	330	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2C, 2D	6X6	5	330	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
3A	6X60	2-4-2	0	-	X	3	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4A,4B,4C	6X6	4	270	-	X	4	- SEC.	3.1 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4D	6X40	2-4-2	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4E	6X40	2-4-2	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5A	6X60	2-4-2	0	-	X	5	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5B	6X60	2-4-2	0	-	X	5	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5C	6X60	2-4-2	0	-	X	-	- SEC.	- SEC.	DISCONNECT & ABANDON										-	-
6A, 6B	6X6	4	335	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6C, 6D	6X6	4	335	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
7A	6X60	2-4-2	0	-	X	7	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
7B	6X60	2-4-2	0	-	X	7	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
8A,8B,8C	6X6	5	325	-	X	8	- SEC.	3.1 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
8D	6X40	2-4-2	0	X	-	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
8E	6X40	2-4-2	0	X	-	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
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. Reposition existing signal heads numbered 21, 22, 41, 61, 62, and 81.
6. Set all detector units to presence mode.
7. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
11. Pavement markings are existing unless otherwise shown.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

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	
	Metal Strain Pole	
	Type II Signal Pedestal	
	Directional Drill	N/A
N/A	Curb Ramp	
Ⓐ	"YIELD" Sign (R1-2)	Ⓐ
Ⓒ	Street Name Sign (D3-1)	Ⓒ

This plan supersedes the plan signed and sealed on 10/7/22.

SE-PAC 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Passage Gap *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Maximum Green *	30	60	20	40	20	60	20	40
Yellow Change	3.0	4.7	3.0	4.9	3.0	4.7	3.0	4.9
Red Clear	3.9	2.4	3.4	2.1	3.9	2.4	3.7	2.1
Walk *	-	7	-	7	-	7	-	7
Pedestrian Clear	-	14	-	22	-	15	-	23
Added Initial *	-	1.0	-	-	-	1.0	-	-
Maximum Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	NON-LOCK	LOCK	NON-LOCK	NON-LOCK	NON-LOCK	LOCK	NON-LOCK	NON-LOCK
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* 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 STOP LINE, CROSSWALK, AND ISLAND LOCATIONS

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21, P22	X	-	Walk	New Hope. Walk sign is on to cross New Hope.
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope
P41, P42	X	-	Walk	Louisburg. Walk sign is on to cross Louisburg.
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Louisburg.
P61, P62	X	-	Walk	New Hope. Walk sign is on to cross New Hope.
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross New Hope
P81, P82	X	-	Walk	Louisburg. Walk sign is on to cross Louisburg.
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Louisburg.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Signal Upgrade

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

US 401 (Louisburg Road) at SR 2036/2108 (N. New Hope Road)

Division 5 Wake County Raleigh

PLAN DATE: February 2024	REVIEWED BY:
PREPARED BY: J.A. Lohr	REVIEWED BY:

SCALE 1"=40' (0 — 40)

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: Robert J. Ziemba 1B9B4B9B27AA404 — 02/27/2024 DATE

SIG. INVENTORY NO. 05-0139

27-FEB-2024 12:27
*MOLDS*defaults*Groups-TECC*ITS&SU&ITS Signals*Signal Design Section*Central Region*Div 5*HS-2005K*050139_sig_dsn_2024mmdd.dgn
JALohr