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

PHASING DIAGRAM

PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	PHASE Ø4+8	FLASH
21, 22	G	R	Y
23	F Y	~~R~~	~~Y~~
41, 42	R	G	R
43	~~R~~	F Y	~~R~~
61, 62	G	R	Y
63	F Y	~~R~~	~~Y~~
81, 82	R	G	R
83	~~R~~	F Y	~~R~~
P21, P22	W	DW	DRK
P41, P42	DW	W	DRK
P61, P62	W	DW	DRK
P81, P82	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

LOOP & DETECTOR UNIT INSTALLATION CHART

SE-PAC 2070 CONTROLLER WITH 170 CABINET

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 1 CALL	3 STOP A	4 STOP B	5 PROTECTED LEFT	6 PROTECTED THROUGH	7 AND	SWITCH	SYSTEM LOOPS	NEW	EXISTING
2A	6X6	EXIST	290	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2B	6X6	EXIST	290	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2C	6X40	2-4-2	+8	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
4A	6X60	2-4-2	+9	-	X	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
4B	6X60	2-4-2	+9	-	X	4	10 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
6A	6X6	EXIST	295	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
6B	6X6	EXIST	295	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
6C	6X40	2-4-2	+5	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
8A	6X40	2-4-2	+4	-	X	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
8B	6X40	2-4-2	+4	-	X	8	10 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21, P22	-	-	Walk	(Rapid Ticks)
	-	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Valey Stream.
P41, P42	-	-	Walk	(Rapid Ticks)
	-	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Buffaloe.
P61, P62	-	-	Walk	(Rapid Ticks)
	-	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Valey Stream.
P81, P82	-	-	Walk	(Rapid Ticks)
	-	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Buffaloe.

SE-PAC 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Min Green *	12	7	12	7
Passage Gap *	6.0	1.0	6.0	2.0
Maximum Green *	90	20	90	20
Yellow Change	4.7	3.7	4.6	3.1
Red Clear	1.6	2.2	1.6	2.8
Advance Walk *	5	4	5	4
Walk *	7	7	7	7
Pedestrian Clear	14	16	15	17
Added Initial *	1.5	-	1.5	-
Maximum Initial *	33	-	33.5	-
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	LOCK	NON-LOCK	LOCK	NON-LOCK
Dual Entry	-	ON	-	ON
Simultaneous Gap	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 CROSSWALK AND STOP LINE LOCATIONS

This plan supersedes the plan signed and sealed on 5/20/21.

2 Phase
Fully Actuated
(Raleigh Signal System)

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. Reposition existing signal heads as shown.
4. Set all detector units to presence mode.
5. 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.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
10. Pavement markings are existing unless otherwise shown.
11. Repaint stopbars and/or crosswalks.
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	
	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	
N/A	Curb Ramp	
	Type I Pushbutton Post	
	Type II Signal Pedestal	

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

SR 2215 (Buffaloe Road)
at
Valley Stream Drive

Division 05 Wake County Raleigh

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

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

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

SIG. INVENTORY NO. 05-2247

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JALOHR