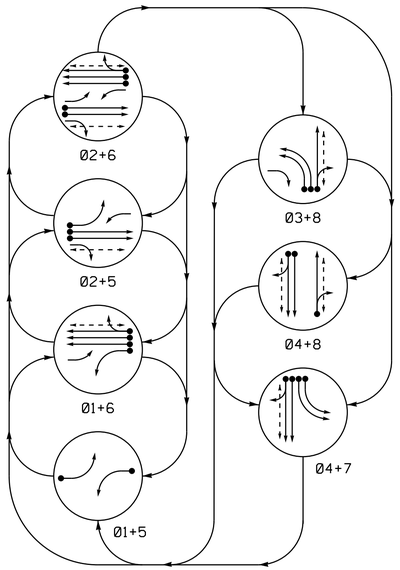
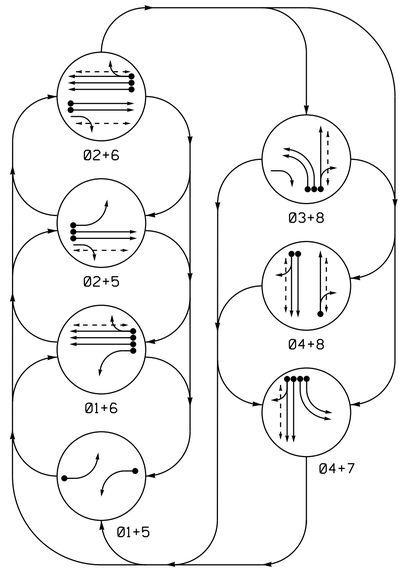
PROJECT REFERENCE NO.	SHEET NO.
U-5826	Sig 16.0

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+8	04+8	04+7	FLASH
11	←	←	F Y	F Y	~~R~~	~~R~~	~~R~~	~~Y~~
21	R	R	G	G	R	R	R	Y
22	R	R	G	G	R	R	R	Y
31, 32	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~	~~R~~	~~R~~
41, 42	R	R	R	R	R	G	G	R
51	←	F Y	←	F Y	~~R~~	~~R~~	~~R~~	~~Y~~
61, 62, 63	R	G	R	G	R	R	R	Y
71, 72	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~
81, 82	R	R	R	R	G	G	R	R
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	W	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	W	W	DW	DRK

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 PROTPER LEFT	6 PROTPER THROUGH	7 AND	SWITCH	SYSTEM LOOPS	NEW	EXISTING
1A	6X40	2-4-2	0	X	-	1	5 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2A	6X6	5	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2B	6X6	5	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
3A	6X60	2-4-2	0	X	-	3	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
3B	6X60	2-4-2	0	X	-	3	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4A	6X60	2-4-2	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4B	6X60	2-4-2	0	X	-	4	10 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5A	6X60	2-4-2	0	X	-	5	5 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6A	6X6	5	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6B	6X6	5	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6C	6X6	5	300	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	6X60	2-4-2	0	X	-	8	10 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X

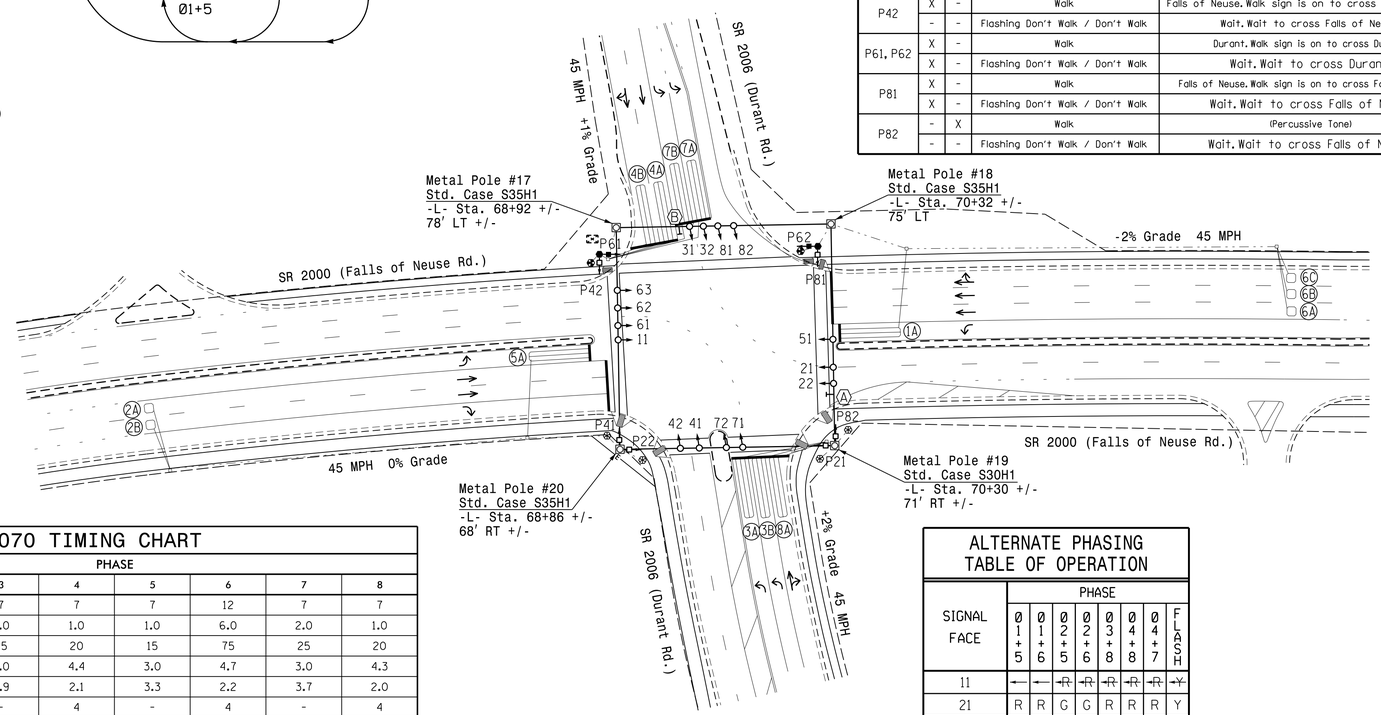
ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21, P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Durant.
P41	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Falls the Neuse
P42	X	-	Walk	Falls of Neuse. Walk sign is on to cross Falls of Neuse
	-	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Falls of Neuse.
P61, P62	X	-	Walk	Durant. Walk sign is on to cross Durant.
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Durant.
P81	X	-	Walk	Falls of Neuse. Walk sign is on to cross Falls of Neuse.
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Falls of Neuse
P82	-	X	Walk	(Percussive Tone)
	-	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Falls of Neuse.

7 Phase
Fully Actuated
(Raleigh 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. The order of phase 3 and phase 7 may be reversed, but phase 3 and phase 7 shall not operate simultaneously.
5. Set all detector units to presence mode.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. The City Traffic Engineer will determine the hours of use for each phasing plan.
9. 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	Easement	E
N/A	Curb Ramp	
	Metal Strain Pole	
	Type I Pushbutton Post	
	Type II Signal Pedestal	
(A)	Right Arrow "ONLY" Sign (R3-5R)	(A)
(B)	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	(B)

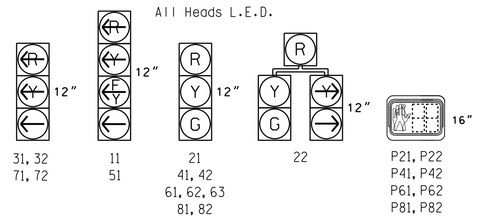
SE-PAC 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Passage Gap *	1.0	6.0	2.0	1.0	1.0	6.0	2.0	1.0
Maximum Green *	15	75	25	20	15	75	25	20
Yellow Change	3.0	4.7	3.0	4.4	3.0	4.7	3.0	4.3
Red Clear	3.6	2.2	3.9	2.1	3.3	2.2	3.7	2.0
Advance Walk *	-	4	-	4	-	4	-	4
Walk *	-	7	-	7	-	7	-	7
Pedestrian Clear	-	20	-	23	-	30	-	23
Added Initial *	-	1.5	-	-	-	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.

SIGNAL FACE I.D.

All Heads L.E.D.



ALTERNATE PHASING TABLE OF OPERATION

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22	R	R	G	G	R	R	R	Y
31, 32	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~	~~R~~	~~R~~
41, 42	R	R	R	R	R	G	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~Y~~
61, 62, 63	R	G	R	G	R	R	R	Y
71, 72	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~
81, 82	R	R	R	R	G	G	R	R
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	W	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	W	W	DW	DRK

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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 0 50
1"=50'

SR 2000 (Falls of Neuse Rd.) at SR 2006 (Durant Rd.)

Division 5 Wake County Raleigh

PLAN DATE: January 2023 REVIEWED BY:
PREPARED BY: J.A. Lohr REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: Robert J. Ziemba 01/03/2023
1B0B1BB0D7244B4... DATE

SIG. INVENTORY NO. 05-1176

03-JAN-2023 15:45
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