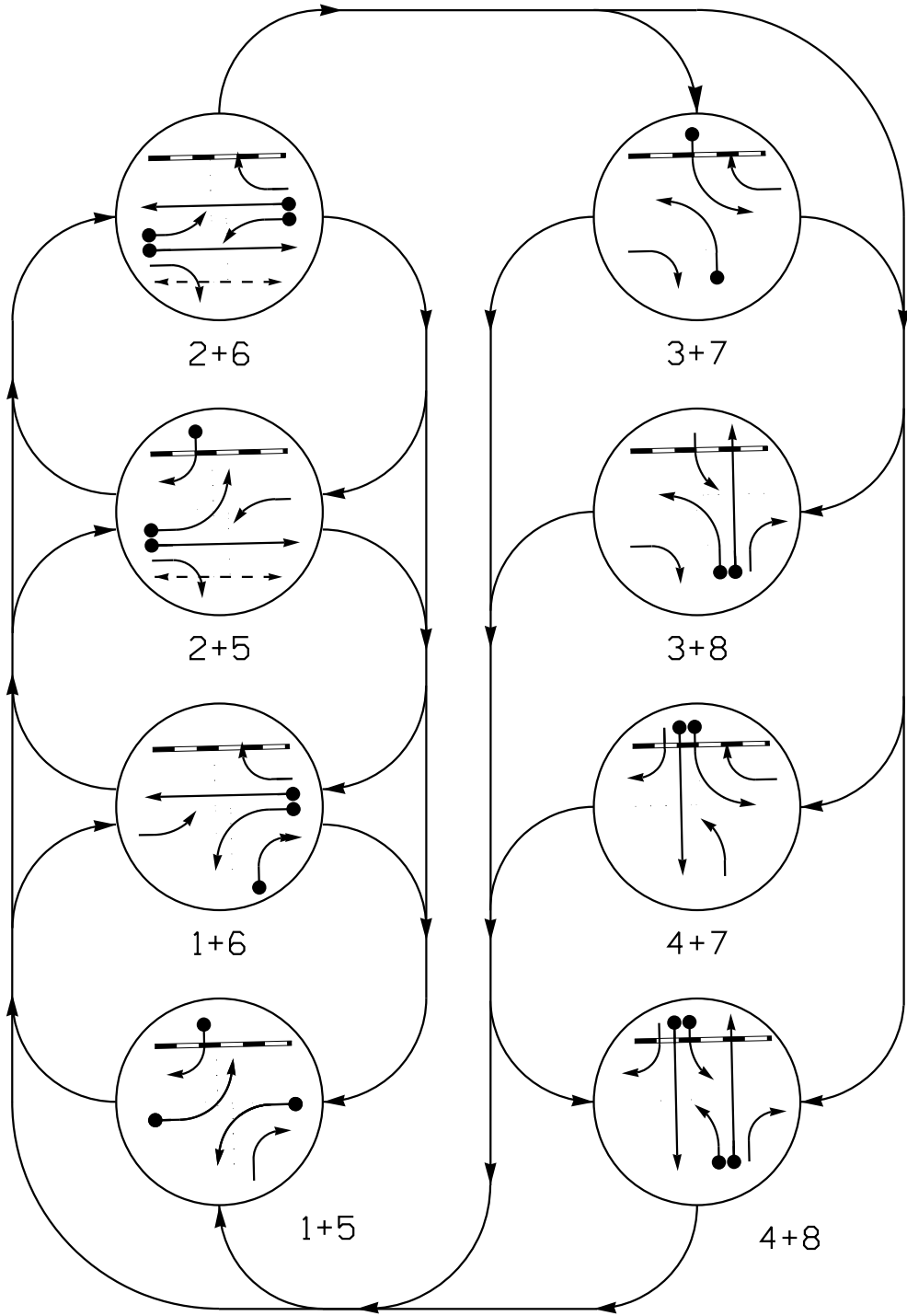


PHASING DIAGRAM

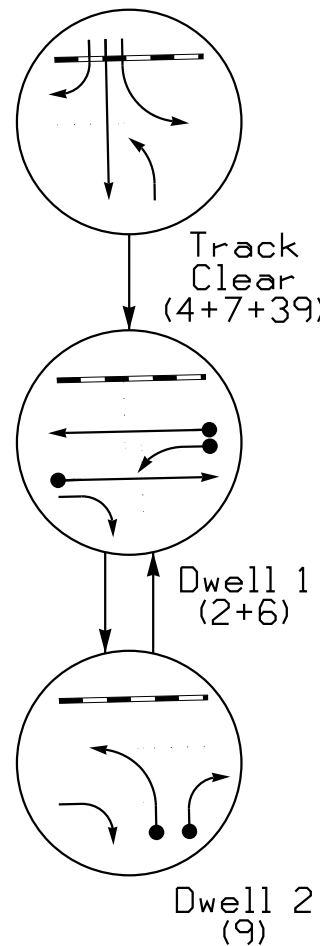


PHASING DIAGRAM DETECTION LEGEND

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

RAIL PREEMPT PHASES

(High Priority)



MAXTIME PREEMPTION CHART

FUNCTION		PRE 1
Type	RAIL ROAD	
Exit Phases		4,8
Delay		0
Call Extend Time		1.0
Max Presence		0
Enter Min Green		1
Enter Walk		1
Enter Ped Clear		5
Enter Yellow Change		4.9
Enter Red Clear		3.3
Track Green		28
Track Yellow Change		4.4
Track Red Clear		2.3
Dwell Green		0
Exit Min Green		255 *
Exit Yellow Change		25.5 *
Exit Red Clear		25.5 *
Exit Type	EXIT PHASES	
Ped Clear Through Yellow		Y
Require All Red Entry		-

* Controller uses lesser of time shown and the normal time used for all phases.

This signal was designed for advance preemption.

TABLE OF OPERATION

SIGNAL FACE	PHASE															
	1 + 5	1 + 6	2 + 5	2 + 6	3 + 7	3 + 8	4 + 7	4 + 8	C	R	R	R	R	R	R	R
11	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
21	R	R	G	G	R	R	R	R	R	R	G	R	R	R	R	R
22	R	R	G	G	R	R	R	R	R	R	G	R	R	R	R	R
31	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
41	R	R	R	R	R	R	G	G	G	R	R	R	R	R	R	R
42	R	R	R	R	R	R	G	G	G	R	R	R	R	R	R	R
51	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
61	R	G	R	G	R	R	R	R	R	G	R	R	R	R	R	R
62	R	G	R	G	R	R	R	R	R	G	R	R	R	R	R	R
71	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
81	R	R	R	R	R	G	R	G	R	R	R	R	R	R	R	R
82	R	R	R	R	R	G	R	G	R	R	R	R	R	R	R	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DRK	DRK
Sign A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	*

* See Note 8.

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING				
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	INITIAL
1A	6X40	0	2-4-2	-	1 6	15.0 3.0	-	X	X
1B	6X40	0	2-4-2	X	1/9	15.0	-	X	X
2A	6X6	355	5	X	2	-	-	X	X
3A	6X40	0	2-4-2	X	3/9 8	15.0	-	X	X
4A	6X40	0	2-4-2	-	4	-	-	X	X
4B	6X25	+12 #	2-4-2	-	4	-	-	X	X
4C	6X25	0 ##	2-4-2	-	4	-	-	X	X
4D	6X25	0 ##	2-4-2	-	4	5.0	-	X	X
5A	6X40	0	2-4-2	X	5 2	15.0 3.0	-	X	X
5B	6X40	0	2-4-2	-	5	15.0	-	X	X
5C	6X25	+12 #	2-4-2	-	5	10.0	-	X	X
6A	6X6	355	5	-	6	-	-	X	X
7A	6X35	0	2-4-2	-	7	15.0	-	X	X
7B	6X25	+12 #	2-4-2	-	7	3.0	-	X	X
7C	6X25	0 ##	2-4-2	-	7	3.0	-	X	X
8A	6X40	0	2-4-2	X	8	-	-	X	X
* 8B	6X6 Diagonal	0	2-4-2	X	8	-	-	X	X

- # From Stopbar at Railroad Gate.
- ## From Stopbar at SR 2403.
- * Set sensitivity for bicycles

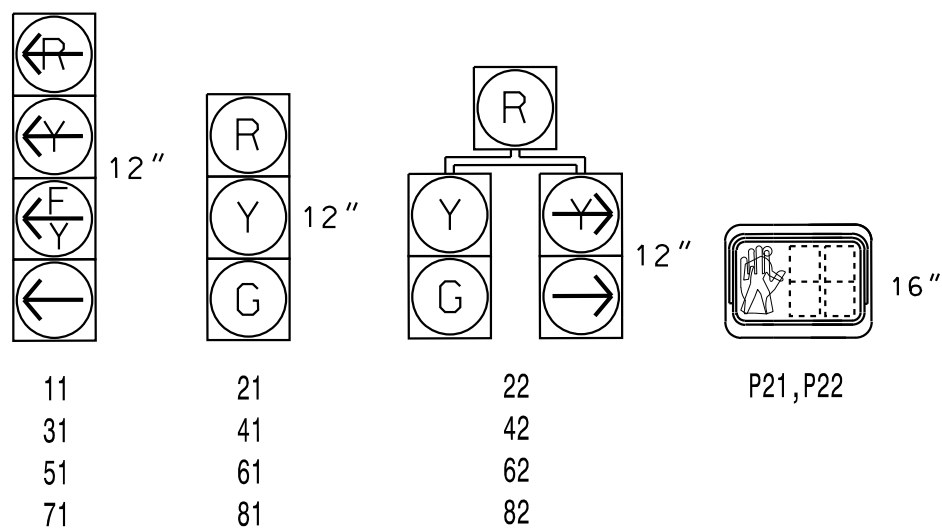
8 Phase Fully Actuated w/ Railroad Preemption (Isolated)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- This location contains railroad preemption phasing. Do not program signal for late night flashing operation.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- 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.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Ensure flashing operation does not alter operation of blank out signs.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Program phase 40 to run concurrently with all phases during normal operation. Phase 39 must be incompatible with phase 40 and included as a track clear phase.

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME TIMING CHART

FEATURE	PHASE										
	1	2	3	4	5	6	7	8	9	39	40
Walk *	-	14	-	-	-	-	-	-	-		
Ped Clear	-	22	-	-	-	-	-	-	-		
Min Green *	7	14	7	7	7	14	7	7	7		
Passage *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0		
Max I *	20	60	20	30	30	60	40	30	20		
Yellow Change	3.0	4.9	3.0	4.4	3.0	4.9	3.0	4.4	3.0	4.4	4.9
Red Clear	2.8	1.3	3.3	1.9	2.9	1.3	2.3	1.9	3.3	2.3	3.3
Added Initial *	-	2.5	-	-	-	2.5	-	-	-		
Maximum Initial *	-	40	-	-	-	40	-	-	-		
Time Before Reduction *	-	15	-	-	-	15	-	-	-		
Time To Reduce *	-	20	-	-	-	20	-	-	-		
Minimum Gap	-	3.0	-	-	-	3.0	-	-	-		
Advance Walk	-	7	-	-	-	-	-	-	-		
Non Lock Detector	X	-	X	X	X	-	X	X	X		
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-	-		MIN RECALL
Dual Entry	-	-	-	X	-	-	-	X	-		

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED	EXISTING

Signal Upgrade - Final Design

Prepared For:

750 N. Greenfield Pkwy, Garner, NC 27529

PLANS PREPARED IN THE OFFICE OF:

Kimley»Horn

NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

NC 66/SR 2377 (W. Mountain St.)
at
NC 66 (Old Hollow Road) and
SR 2649 (Hopkins Road)

Division 9 Forsyth County Kernersville

PLAN DATE: August 2024 REVIEWED BY: KP Baumann

PREPARED BY: CF Davis REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE: 0 50
1"=50'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

7/14/2025

SIG. INVENTORY NO. 09-0567