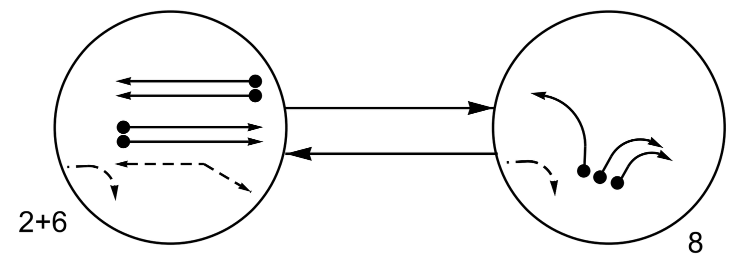
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

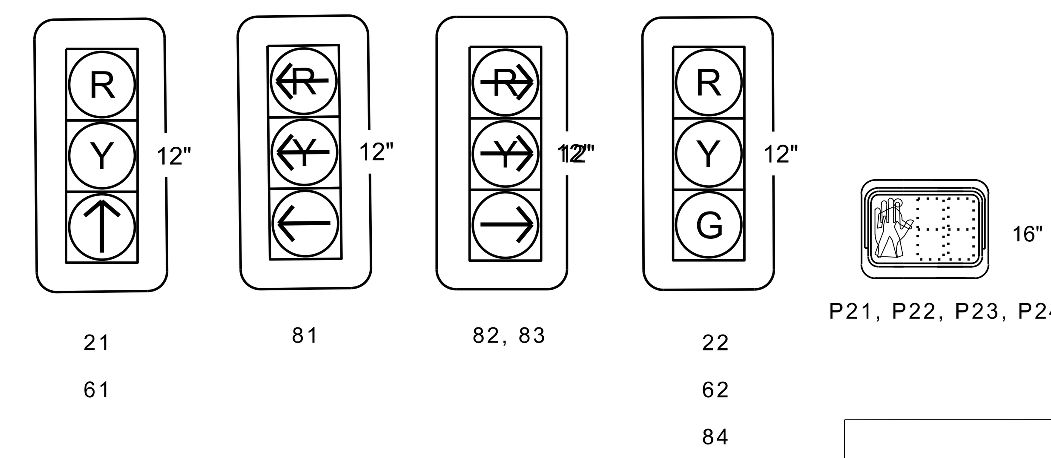
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	2+6	8	FLASH
21	↑	R	R
22	G	R	R
61	↑	R	R
62	G	R	R
81	←R	←	←R
82, 83	R→	→	R→
84	R	G	R
P21, P22, P23, P24	W	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOP						DETECTOR PROGRAMMING														
						ASSIGNED PHASE	TIMING		OPERATION MODE								SWITCH	SYSTEM LOOPS	STATUS	
									0	1	2	3	4	5	6	7				
LOOP NO.	SIZE (FT)	TURNS	DIST. FROM STOP LINE (FT)	NEW	EXISTING		DELAY	EXTEND (STRETCH)	VEHICLE	PEDESTRIAN	1 CALL	STOP A	STOP B	PROT/PER LEFT	PROT/PER THROUGH	AND			NEW	EXISTING
8A	*	*	0	-	X	8	-	-	X	-	-	-	-	-	-	-	-	-	-	X
8B	*	*	0	X	-	8	-	-	X	-	-	-	-	-	-	-	-	-	X	-
8C	*	*	0	X	-	8	-	-	X	-	-	-	-	-	-	-	-	-	X	-

* Multi -Zone Microwave Detection

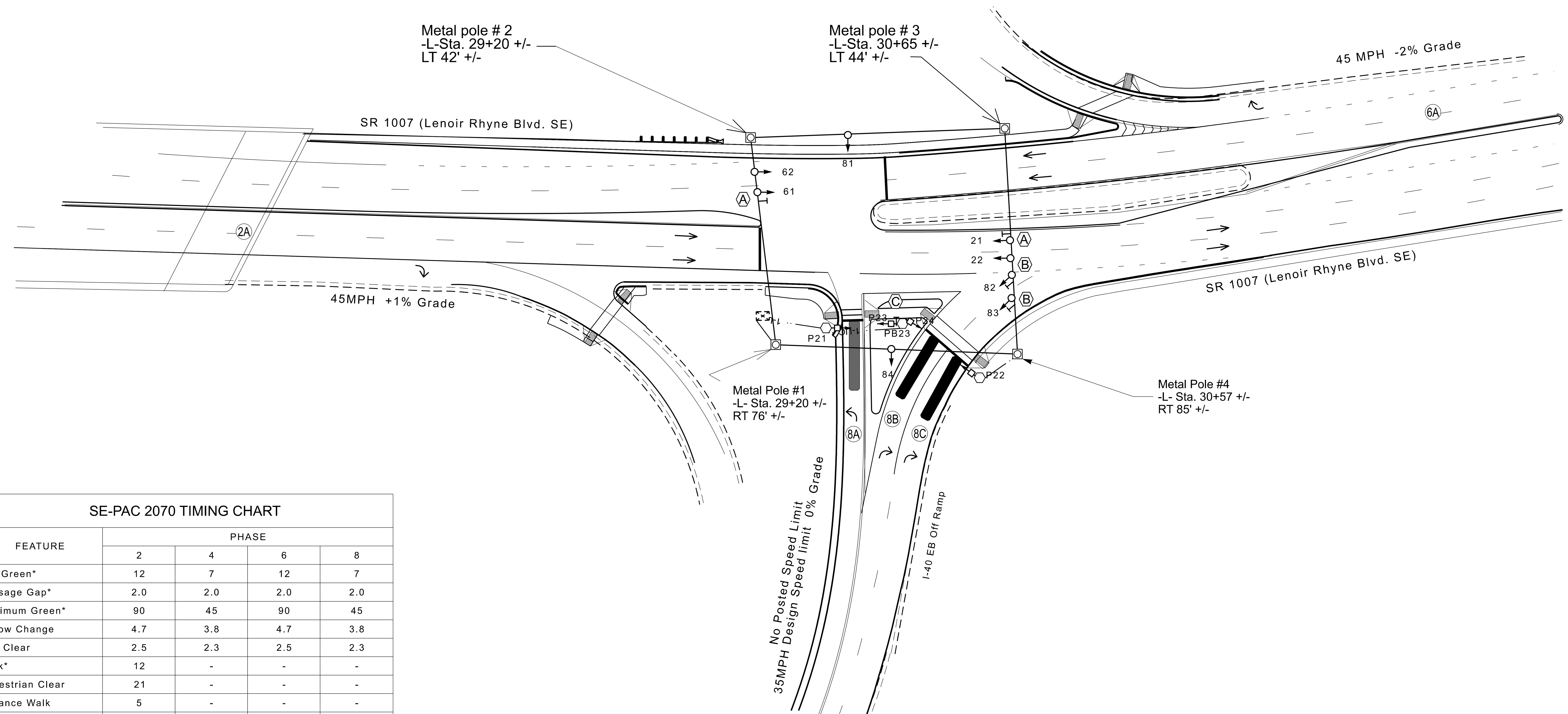
2-Phase
Fully Actuated
Hickory City Signal System

Microwave Detection

FUNCTION	SENSOR 1 (2A)			SENSOR 2 (6A)		
Channel	1			1		
Phase	2			6		
Direction of Travel	SB			NB		
Type	Priority			Priority		
Level	1	2	Queue	1	2	Queue
Discovery Zone (ft)	>= 750	<750	-	>= 750	<750	-
Range	900-100	600-100	150-100	900-100	600-100	150-100
Enable Speed	Y	Y	Y	Y	Y	Y
Speed Range(mph)	35-100	35-100	1-35	35-100	35-100	1-35
Enable Estimated Time of Arrival	Y	Y	N	Y	Y	N
Estimated Time of Arrival (sec)	2.5-10.0	2.5-6.5	-	2.5-10.0	2.5-10.0	-

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. Set all detector units to presence mode
4. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
5. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
6. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
7. Install backplates with retro-reflective sheeting for all signal heads.
8. Program phase 4 as a dummy phase for ring 1.
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	
	Metal Strain Poles	
	Non-Intrusive Detection Zone	
— ·· X-UC ·· —	2-in Underground Conduit	— ·· UC ·· —
N/A	Right of Way	
	Directional Arrow	
	Construction Zone Drums	
N/A	Curb Ramp	
(A)	"No U-Turn/ No Left Turn" Sign (R3-18)	(A)
(B)	"NO TURN ON RED" Sign (R10-11)	(B)
(C)	Pedestrian Signal Information (Countdown) Sign (R10-3E)	(C)
	Type II Push Button	

SE-PAC 2070 TIMING CHART

FEATURE	PHASE			
	2	4	6	8
Min Green*	12	7	12	7
Passage Gap*	2.0	2.0	2.0	2.0
Maximum Green*	90	45	90	45
Yellow Change	4.7	3.8	4.7	3.8
Red Clear	2.5	2.3	2.5	2.3
Walk*	12	-	-	-
Pedestrian Clear	21	-	-	-
Advance Walk	5	-	-	-
Added Initial*	-	-	-	-
Maximum Initial*	-	-	-	-
Time Before Reduction*	-	-	-	-
Time To Reduce*	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MIN RECALL	-	MIN RECALL	-
Vehicle Call Memory	LOCK	NON-LOCK	LOCK	NON-LOCK
Dual Entry	-	-	-	-
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.

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

I-40 EB Ramp at & SR 1007 (Lenoir Rhyne Blvd) & SR 1534 (8th St SE) (West Intersection)

Division 12 | Catawba County | Hickory

PLAN DATE:	December 2025	REVIEWED BY:	R.N. Zinser
PREPARED BY:	Adja Fall	REVIEWED BY:	

SCALE 0 40 1" = 40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043914 RICHARD N. ZINSER

DocuSigned by: R. Nicholas Zinser 04/09/2026
F13889734722248F...
DATE

SIG. INVENTORY NO. 12-0308