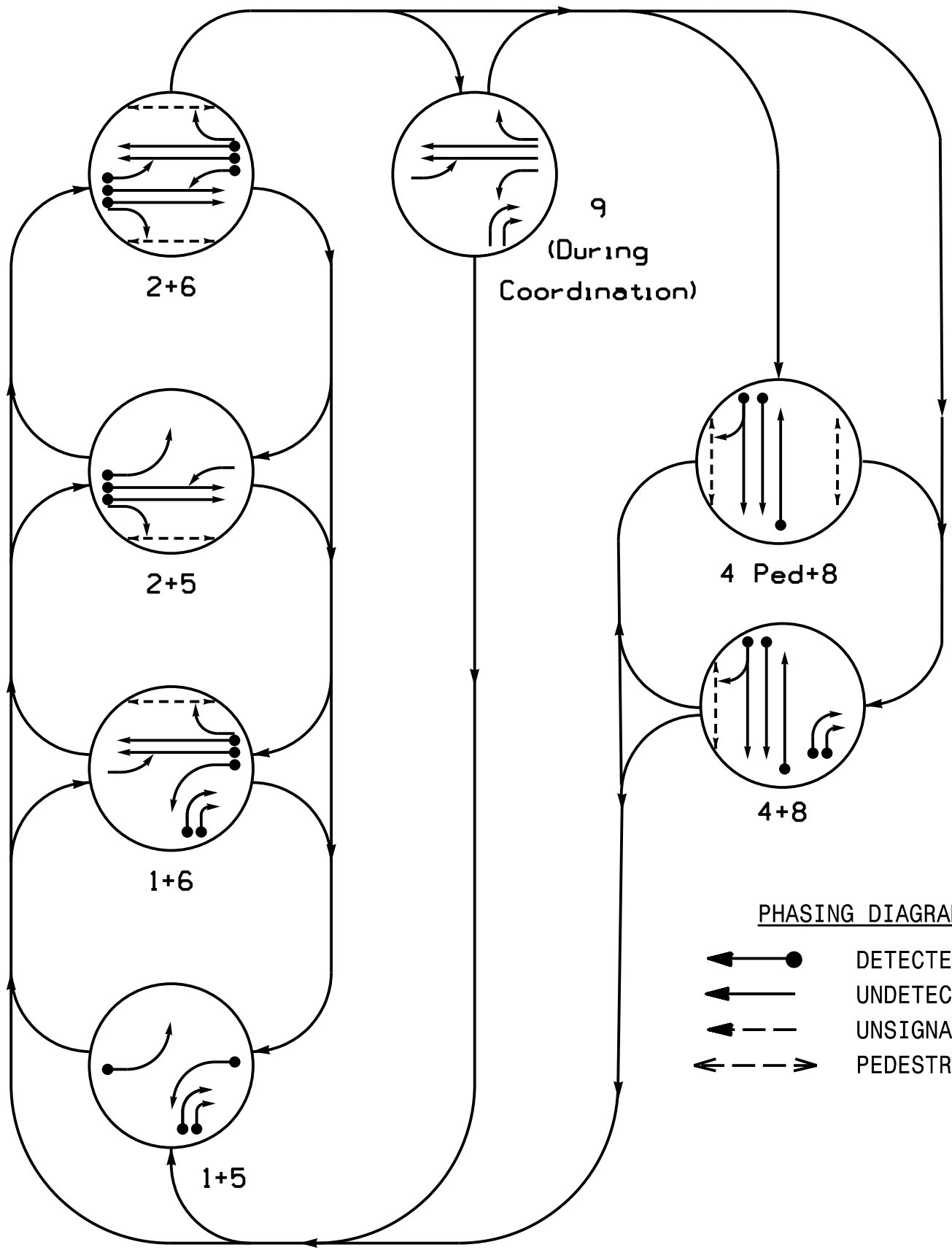


PHASING DIAGRAM



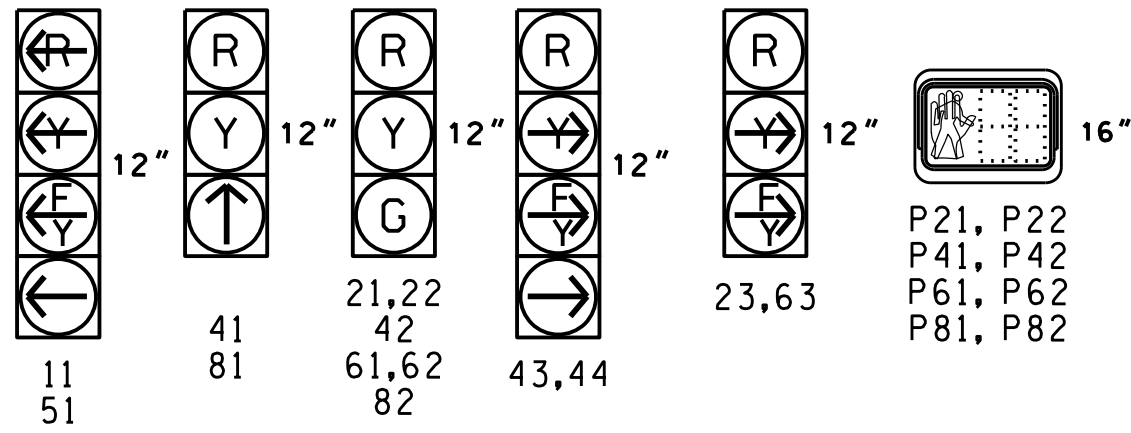
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE	PHASE							FLASH
	1 + 5	1 + 6	2 + 5	2 + 6	9	4 Ped + 8	4 + 8	
11	←	←	←	←	←	←	←	
21,22	R	R	G	G	R	R	R	
23	R	R	←	←	R	R	R	
41	R	R	R	R	↑	↑	R	
42	R	R	R	R	G	G	R	
43,44	←	←	R	←	R	←	R	
51	←	←	←	←	←	←	←	
61,62	R	G	R	G	G	R	R	
63	R	←	R	←	←	←	←	
81	R	R	R	R	↑	↑	R	
82	R	R	R	R	G	G	R	
P21,P22	DW	DW	W	W	DW	DW	DRK	
P41,P42	DW	DW	DW	DW	DW	W	DW	DRK
P61,P62	DW	W	DW	W	DW	DW	DRK	
P81,P82	DW	DW	DW	DW	W	W	DRK	

SIGNAL FACE I.D.

All Heads L.E.D.



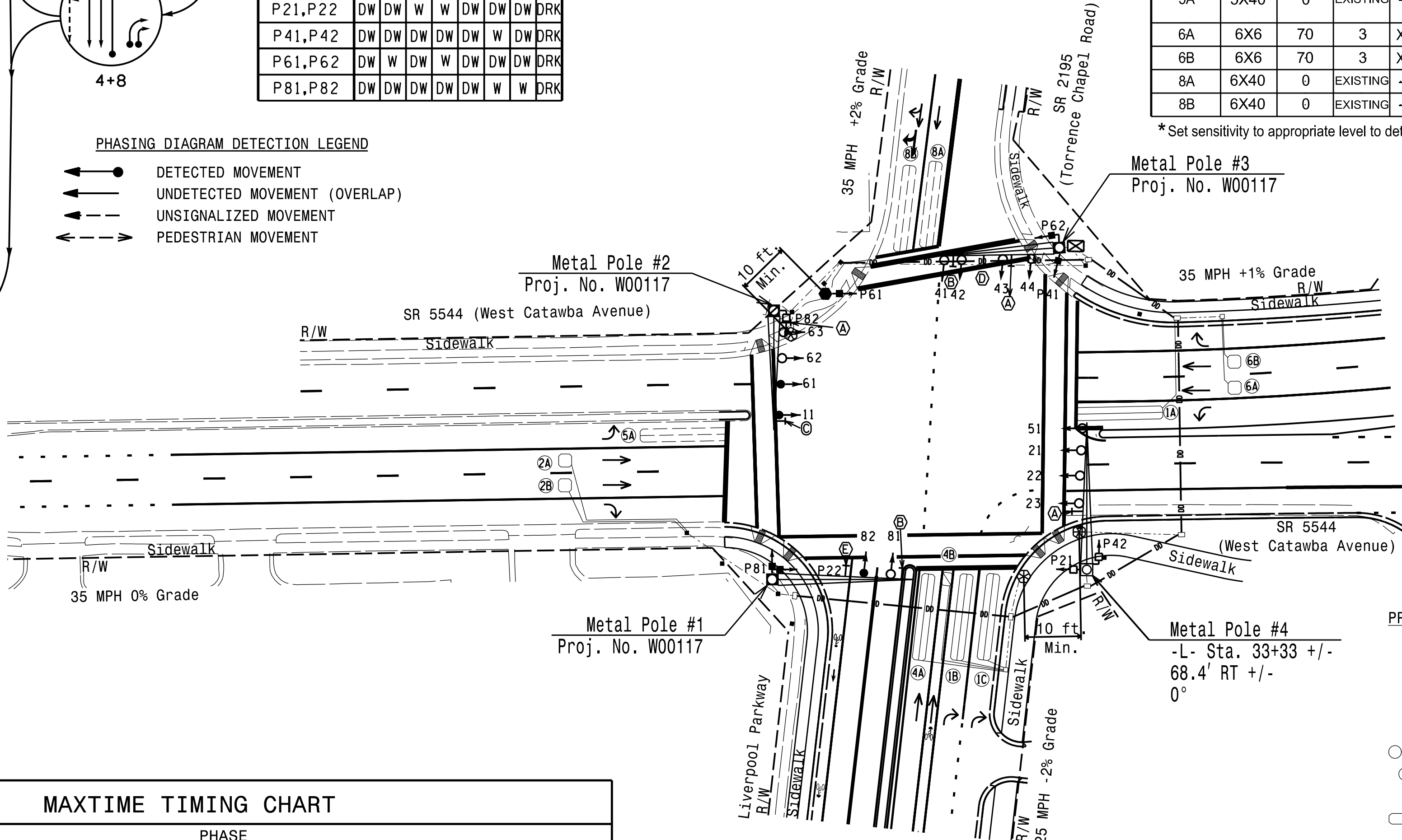
MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING				
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	URNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	INITIAL
1A	6X40	0	2-4-2	X	1/9	15.0	-	X	-
1B	6X40	0	2-4-2	X	1	15.0	-	X	-
1C	6X40	0	2-4-2	X	1	15.0	-	X	-
2A	6X6	70	3	X	2	-	3.0	X	-
2B	6X6	70	3	X	2	-	3.0	X	-
4A	6X40	0	2-4-2	X	4	-	-	X	-
4B*	4X6	0	2-4-2 DIAG	X	4	10.0	-	-	X
5A	5X40	0	EXISTING	-	5	15.0	-	X	-
6A	6X6	70	3	X	6	-	3.0	X	-
6B	6X6	70	3	X	6	-	3.0	X	-
8A	6X40	0	EXISTING	-	8	3.0	-	X	-
8B	6X40	0	EXISTING	-	8	15.0	-	X	-

*Set sensitivity to appropriate level to detect a bicycle

5 Phase
Fully Actuated w/ Phase Reserve
West Catawba Avenue CLS
D10-18 Cornelius

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- To provide a leading pedestrian interval on phase 2, program FYA heads numbered 11 & 23 to delay for 7 seconds after the start of the phase 2 walk interval. See Electrical Details for programming.
- To provide a leading pedestrian interval on phase 6, program FYA heads numbered 51 & 63 to delay for 7 seconds after the start of the phase 6 walk interval. See Electrical Details for programming.
- Remove existing Combined Through and Left Arrow Sign (R3-6L) sign, existing Left Arrow "ONLY" sign (R3-5L), and "TRUCKS AND BUSES" sign.
- This signal utilizes a special ring configuration. See electrical details.
- Phase 9 is used only during coordination.
- Reassign loops 3A and 3B as 8A and 8B, respectively.
- Reassign pedestrian heads P31 and P32 as P81 and P82.
- Reassign signal head 32 as 82.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- The Division Traffic Engineer will determine pushbutton locations.
- See U-5906 pavement marking plans for existing and proposed pavement markings.
- Thirty days after implementation of the revised signal operation, orange flags may be removed at the discretion of the Regional Traffic Engineer.



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	
Right of Way	
Directional Arrow	
Oversized Junction Box	
Type I Pushbutton Post	
Type II Signal Pedestal	
Directional Drill	N/A
Metal Pole with Mastarm	
Curb Ramp	

SIGNS

PROPOSED	EXISTING
(A) "RIGHT TURN SIGNAL" Sign (R10-10R)	(A)
(B) No Left Turn Sign WITH ORANGE FLAGS (R3-2)	(B)
(C) NO U-Turn Sign (R3-4)	(C)
(D) "To Request Green Wait On Stop Bar" Bicycle Sign (R10-22)	(D)
(E) Right Turn "YIELD TO U-TURN" Sign (R10-16)	(E)

FEATURE	PHASE								OL 5	OL 6
	1	2	4	5	6	8	9			
Walk *	-	14	14	-	14	12	-		-	-
Ped Clear	-	28	30	-	18	21	-			
Min Green *	7	10	7	7	10	7	7			
Passage *	2.0	3.0	2.0	2.0	3.0	2.0	2.0			
Max I *	20	60	30	20	60	30	60			
Yellow Change	3.0	3.8	3.7	3.0	3.8	3.7	3.8	3.8	3.8	
Red Clear	3.3	3.0	3.5**	3.7	3.0	3.5**	2.8	2.8	2.8	
Added Initial *	-	-	-	-	-	-	-			
Maximum Initial *	-	-	-	-	-	-	-			
Time Before Reduction *	-	-	-	-	-	-	-			
Time To Reduce *	-	-	-	-	-	-	-			
Minimum Gap	-	-	-	-	-	-	-			
Advance Walk	-	-	7	-	-	5	-			
Non Lock Detector	X	-	X	X	-	X	X			
Vehicle 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.

** Red clearance time increased to allow for cyclist traveling at 15 mph to clear the intersection. Do not reduce below this time.

Signal Upgrade

 NC FIRM LICENSE No: F-0493 1520 SOUTH BOULEVARD, SUITE 200 CHARLOTTE, NC 28203 (704) 752-0610	Prepared For the Offices of: DEPARTMENT OF TRANSPORTATION Signal Design Section 750 N. Greenfield Pkwy, Garner, NC 27526	SR 5544 (West Catawba Avenue) at SR 2195 (Torrence Chapel Road)/ Liverpool Parkway Division 10 Mecklenburg County Cornelius PLAN DATE: July 2025 REVIEWED BY: S.G. Haynie PREPARED BY: A.M. Kollar REVIEWED BY:	DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SEAL SIGNATURE 7/30/2025 DATE SIG. INVENTORY NO. 10-0939
	REVISIONS		
	INIT. DATE		