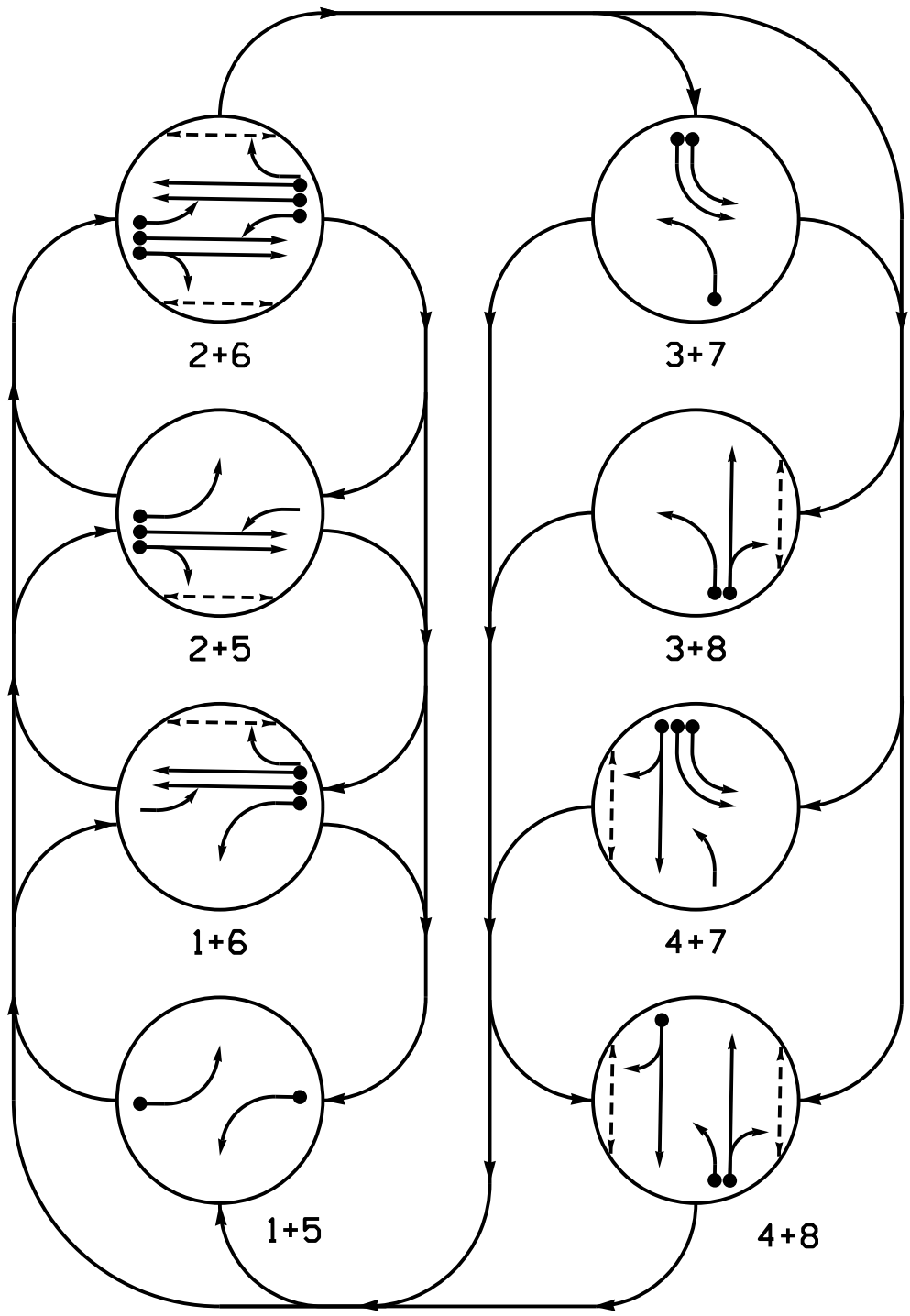


8 Phase
Fully Actuated
West Catawba Avenue CLS
D10-18 Cornelius

NOTES

- 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.
- Phase 3 and/or phase 7 may be lagged.
- Reposition existing signal heads numbered 41, 42, 61, and 62.
- Existing conduit locations shown are approximated.
- Set all detector units to presence mode.
- Remove R3-5L Left Arrow "ONLY" Signs from mast arm pole #1.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- 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.
- Refer to Tip No. U-5906 pavement marking plans for pavement markings.
- Remove existing "Trucks and Buses" and No U-Turn (R3-4) signs.
- Reconnect and unbag signal heads 41, 42, and 51.

PHASING DIAGRAM



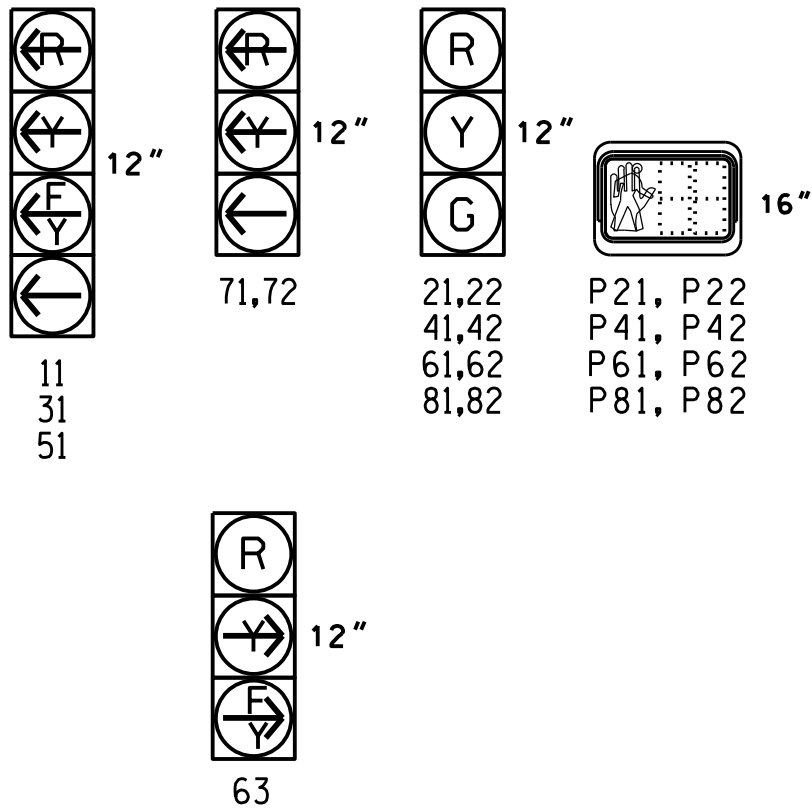
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE	PHASE							
	1 + 5	1 + 6	2 + 5	2 + 6	3 + 7	3 + 8	4 + 7	4 + 8
11								
21, 22	R	R	G	G	R	R	R	R
31	R	R	R	R				
41, 42	R	R	R	R	R	G	G	R
51								
61, 62	R	G	R	G	R	R	R	R
63	R		R		R	R	R	R
71, 72	R	R	R	R				
81, 82	R	R	R	R	R	G	R	G
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	W
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	W

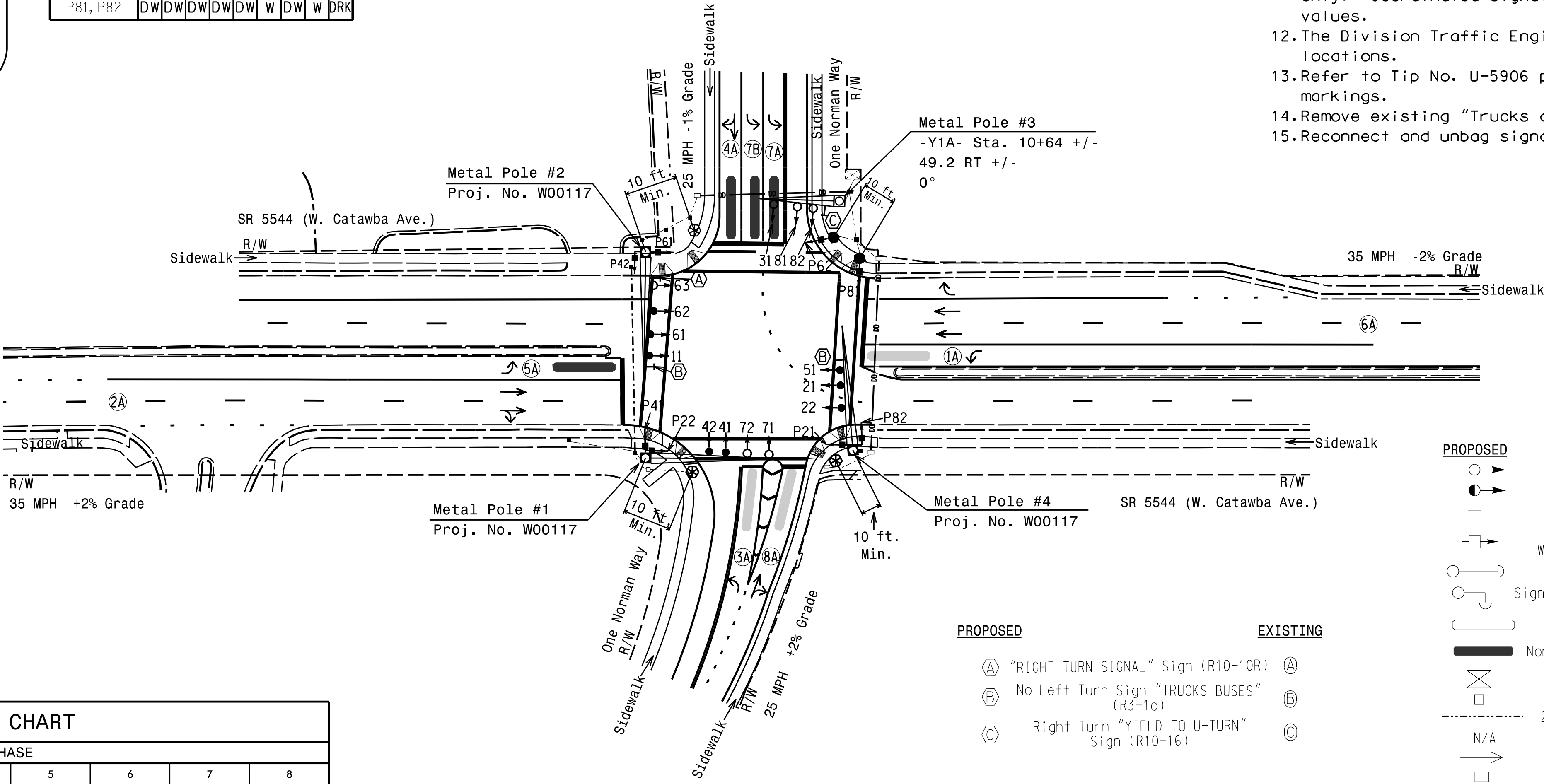
SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR						PROGRAMMING					
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	NEW CARD
1A	6X40	0	*	*	1	15.0	-	X	-	X	*
3A	6X40	0	*	*	3	15.0	-	X	-	X	*
4A	6X40	0	*	*	4	10.0	-	X	-	X	*
5A	6X40	0	*	*	5	15.0	-	X	-	X	*
7A	6X40	0	*	*	7	3.0	-	X	-	X	*
7B	6X40	0	*	*	7	-	-	X	-	X	*
8A	6X40	0	*	*	8	10.0	-	X	-	X	*

*Multizone Microwave Detection



PROPOSED

- (A) "RIGHT TURN SIGNAL" Sign (R10-10R)
- (B) No Left Turn Sign "TRUCKS BUSES" (R3-1c)
- (C) Right Turn "YIELD TO U-TURN" Sign (R10-16)

EXISTING

- (A)
- (B)
- (C)

PROPOSED

- Traffic Signal Head
- Modified Signal Head
- Sign
- Pedestrian Signal Head With Push Button & Sign
- Signal Pole with Guy
- Signal Pole with Sidewalk Guy

EXISTING

- N/A
- N/A
- N/A
- N/A
- N/A
- N/A

- Inductive Loop Detector
- Non-Intrusive Detection Zone

- N/A
- N/A

- Controller & Cabinet
- Junction Box
- 2-in Underground Conduit

- N/A
- N/A
- N/A

- N/A
- Right of Way
- Directional Arrow

- N/A
- N/A
- N/A

- Oversized Junction Box
- Type I Pushbutton Post
- Type II Signal Pedestal

- N/A
- N/A
- N/A

- Directional Drill
- Curb Ramp

- N/A
- N/A

- Metal Pole with Mastarm

- N/A

MAXTIME TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	14	-	11	-	14	-	11
Ped Clear	-	15	-	19	-	15	-	19
Min Green *	7	10	7	7	7	10	7	7
Passage *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Max 1 *	25	90	15	20	15	90	20	20
Yellow Change	3.0	4.0	3.0	3.2	3.0	4.0	3.0	3.2
Red Clear	2.8	2.6	2.8	2.8	3.3	2.6	3.2	2.8
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Advance Walk	-	7	-	4	-	7	-	4
Non Lock Detector	X	-	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.

MICROWAVE DETECTION

FUNCTION		2A	6A
Channel	Sensor 1	1	1
Phase	Sensor 2	2	6
Direction of Travel	EB	WB	
Type	Priority	Priority	
Level	2	2	2
Discovery Zone (ft)	QUEUE	QUEUE	QUEUE
Range (ft)	<750	-	<750
Enable Speed	600-100	150-100	600-100
Speed Range (mph)	Y	Y	Y
Enable Estimated Time of Arrival	35-100	1-35	35-100
Estimated Time of Arrival (sec)	Y	N	Y
	2.5-6.5	-	2.5-6.5



Signal Upgrade - Final Design

Prepared For the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27526

SR 5544 (W. Catawba Avenue)
at
One Norman Way

Division 10 Mecklenburg County Cornelius

PLAN DATE: July 2025 REVIEWED BY: S.G. Haynie

PREPARED BY: A.M. Kollar REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Steve Haynie 7/30/2025

SIGNATURE DATE

SIG. INVENTORY NO. 10-1828