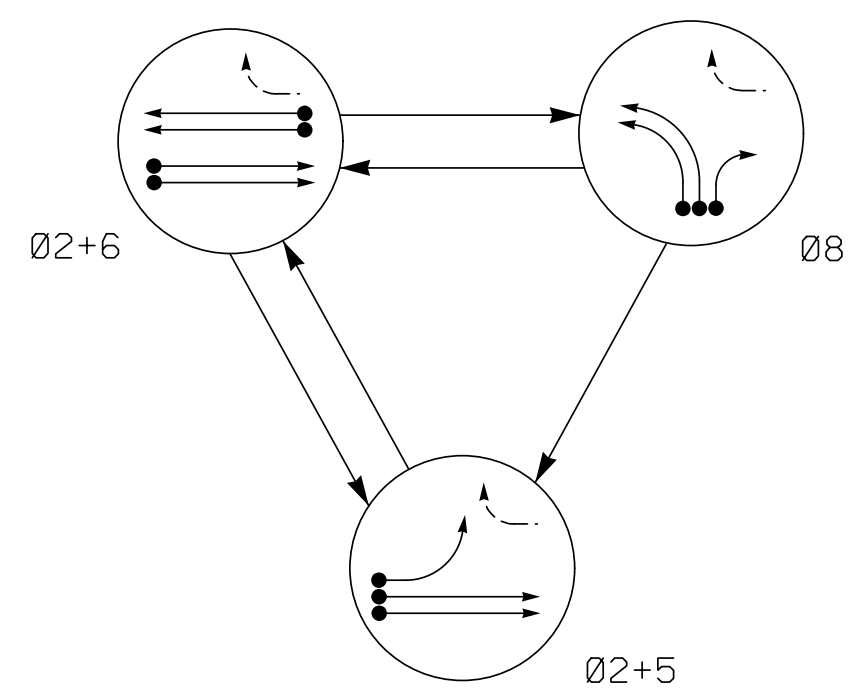


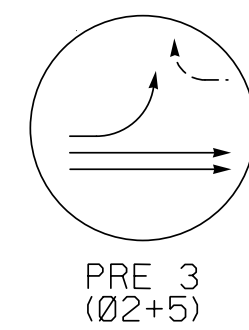
3/9/2022 11:16:54 AM Dan.Hill@ghs.com

PHASING DIAGRAM



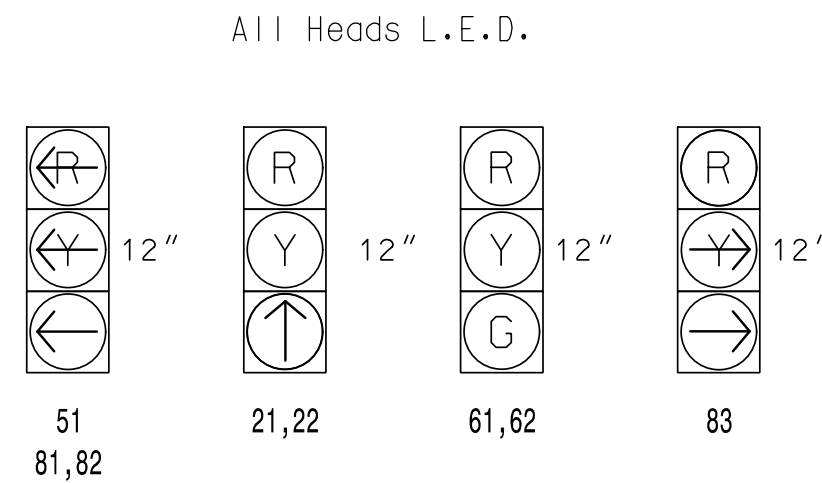
PHASING DIAGRAM DETECTION LEGEND
-●- DETECTED MOVEMENT
- - - UNDETECTED MOVEMENT (OVERLAP)
- - - UNSIGNALIZED MOVEMENT
- - - PEDESTRIAN MOVEMENT

EV PREEMPT PHASES (Medium Priority)



SIGNAL FACE	PHASE				
	02+5	02+6	08	PH 3	PEDESTRIAN
21, 22	↑	↑	R	↑	Y
51	←	←	←	←	←
61, 62	R	G	R	R	Y
81, 82	←	←	←	←	←
83	R	R	←	R	R

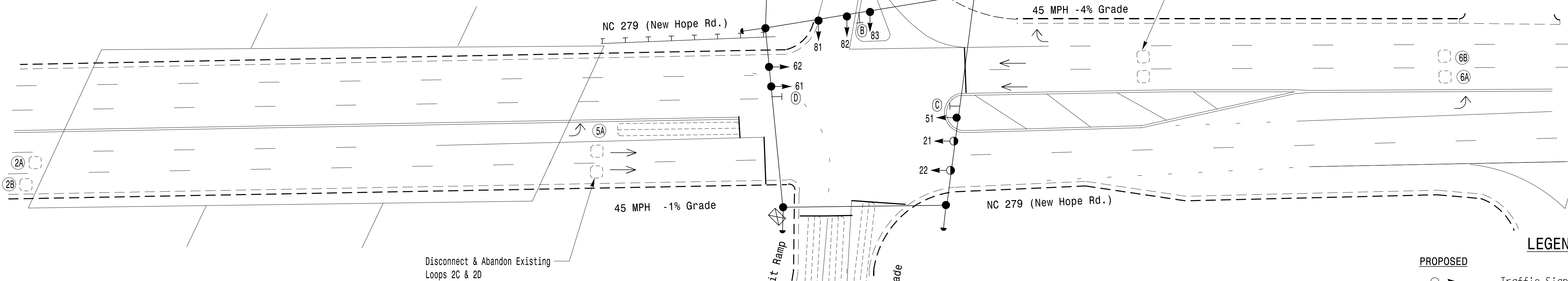
SIGNAL FACE I.D.



DETECTOR INSTALLATION CHART											
DETECTOR				PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	LOOP SYSTEM NEW CARD
2A	6X6	360	EXIST	-	2	Yes	Yes	-	X	N	- X
2B	6X6	360	EXIST	-	2	Yes	Yes	-	X	N	- X
5A	6X60	0	2-4-2	-	5	Yes	Yes	3	-	N	- X
6A	6X6	300	EXIST	-	6	Yes	Yes	-	X	N	- X
6B	6X6	300	EXIST	-	6	Yes	Yes	-	X	N	- X
8A	6X40	0	2-4-2	-	8	Yes	Yes	-	-	N	- X
8B	6X40	0	2-4-2	-	8	Yes	Yes	-	-	N	- X
8C	6X40	0	2-4-2	-	8	Yes	Yes	10	-	N	- X

3 Phase Fully Actuated w/ Emergency Vehicle Preemption Gastonia Signal System
PROJECT REFERENCE NO. C-5703 SHEET NO. Sig. 63.0

- NOTES**
- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
 - Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
 - Phase 5 may be lagged.
 - Set all detector units to presence mode.
 - In the event of loop replacement, refer to the current ITS and Signal Design Manual and submit a Plan of Record to the Signal Design Section.
 - Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
 - Pavement markings are existing.
 - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
 - Disconnect and abandon existing loops labeled 2C, 2D, 6C and 6D.
 - Install new cabinet on the existing cabinet foundation.
 - All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
 - Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
 - Existing phase 4 has been changed to phase 8 on this plan. Change all signal heads, pedestrian signal heads, pedestrian push buttons, and loops as needed to achieve the phasing shown.
 - City system data: Controller Asset #0194.

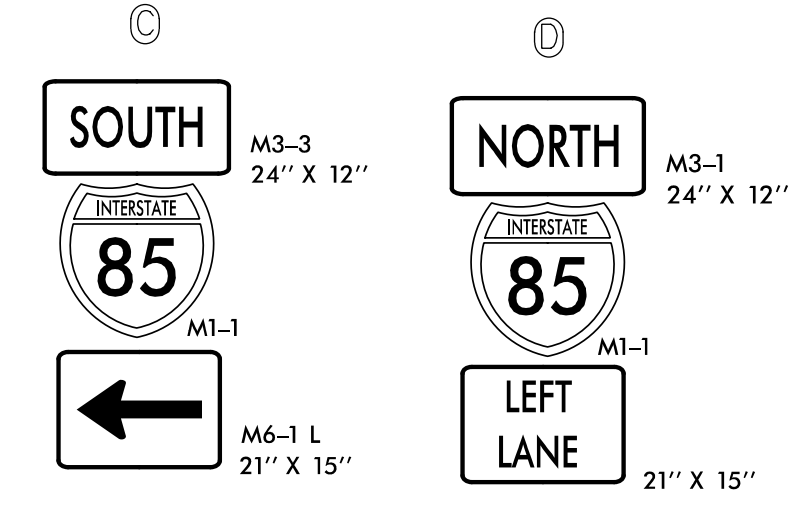


FEATURE	PHASE			
	2	5	6	8
Min Green *	12	7	12	7
Walk *	-	-	-	-
Ped Clear	-	-	-	-
Veh. Extension *	6.0	2.0	6.0	3.0
Max I *	90	20	90	30
Yellow	4.6	3.0	4.9	3.7
Red Clear	1.1	2.1	1.3	1.9
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-
Seconds / Actuation *	1.5	-	1.5	-
Max Initial *	40	-	34	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	30	-	30	-
Minimum Gap	3.0	-	4.1	-
Locking Detector	X	-	X	-
Recall Position	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	-	-	-
Simultaneous Gap	X	X	X	X

* 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.

EV PREEMPT	
FUNCTION	PRE 3
Exit Phase(s)	2+6
Preempt Override	OFF
Delay Time	0
Ped Clear Through Yellow	N
Terminate Phases	N
Entrance Walk	-
Entrance Ped Clear	-
Entrance Min Green	1
Entrance Yellow Change	25.5*
Entrance Red Clear	25.5*
Minimum Dwell Time	7
Preempt Input Extension Time **	2
Preempt Max Time	120
Exit Yellow Change	25.5*
Exit Red Clear	25.5*

* Time defaults to time used for phase during normal operation
** Program Timing on GPS Detection Unit



PROPOSED	EXISTING
Traffic Signal Head	N/A
Modified Signal Head	N/A
Sign	N/A
Pedestrian Signal Head With Push Button & Sign	N/A
Signal Pole with Guy	N/A
Signal Pole with Sidewalk Guy	N/A
Inductive Loop Detector	N/A
Controller & Cabinet	N/A
Junction Box	N/A
2-in Underground Conduit	N/A
Right of Way	N/A
Directional Arrow	N/A
Guardrail	N/A
"YIELD" Sign (R1-2)	N/A
Street Name Sign (D3-1)	N/A

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Signal Upgrade

Prepared For: **Transportation Mobility and Safety Solutions**
STATE OF NORTH CAROLINA
SIGNAL DESIGN SECTION

NC 279 (New Hope Rd.) at I-85 Southbound Ramp

Division 12 Gaston County Gastonia
PLAN DATE: May 2021 REVIEWED BY: SL Phillips
PREPARED BY: SP Pennington REVIEWED BY: KP Baumann

REVISIONS: INIT. DATE

Scale: 1" = 30'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044434
KEVIN P. BAUMANN
ENGINEER

Discussed by: DATE: 3/11/2022
DATE: _____
SIGNATURE: _____
DATE: _____

SIG. INVENTORY NO. 12-0194