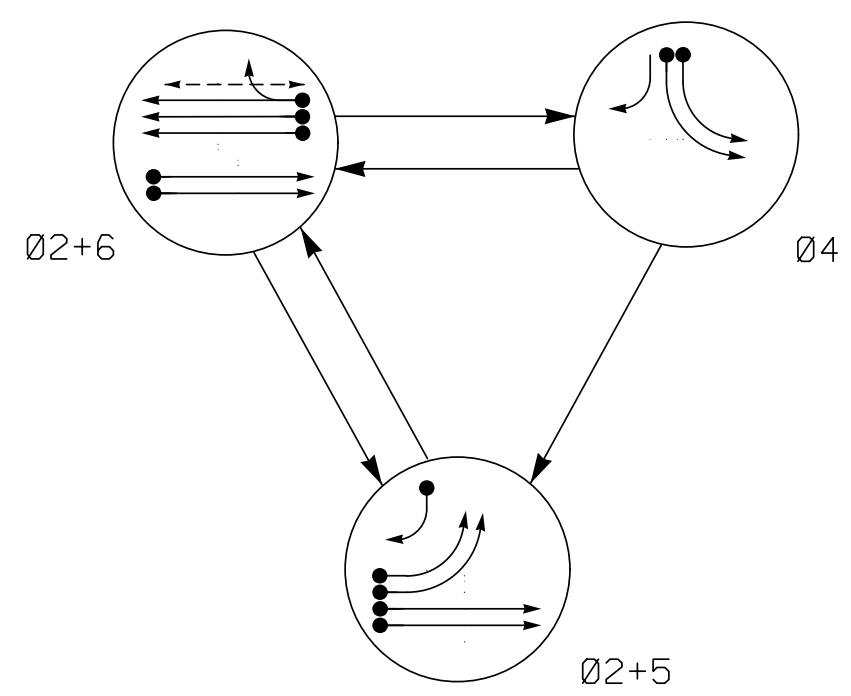


PHASING DIAGRAM



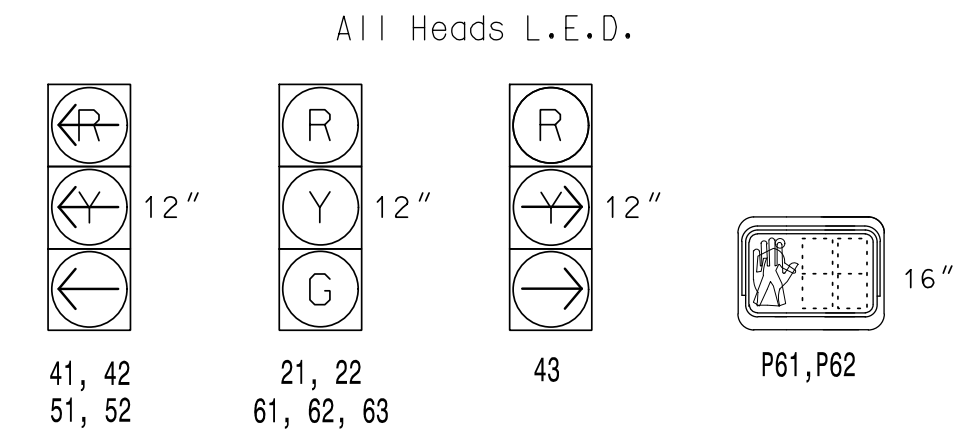
PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE			
	Ø 2+5	Ø 2+6	Ø 4	FLASH
21, 22	G	G	R	Y
41, 42	←	←	←	←
43	→	R	→	R
51, 52	←	←	←	←
61, 62, 63	R	G	R	Y
P61, P62	DW	W	DW	DRK

SIGNAL FACE I.D.



DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING								
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD	
2A	6X6	355	EXIST	-	2	Yes	-	-	-	X	N	-	X
2B	6X6	355	EXIST	-	2	Yes	-	-	-	X	N	-	X
4A	6X60	0	2-4-2	-	4	Yes	-	-	-	-	N	-	X
4B	6X60	0	2-4-2	-	4	Yes	-	-	-	-	N	-	X
5A	6X60	0	2-4-2	-	5	Yes	-	-	-	-	N	-	X
5B	6X60	0	2-4-2	-	5	Yes	-	-	-	-	N	-	X
5C	6X60	0	2-4-2	-	5	Yes	-	15	-	-	N	-	X
6A	6X6	355	EXIST	-	6	Yes	-	-	-	X	N	-	X
6B	6X6	355	EXIST	-	6	Yes	-	-	-	X	N	-	X
6C	6X6	355	EXIST	-	6	Yes	-	-	-	X	N	-	X

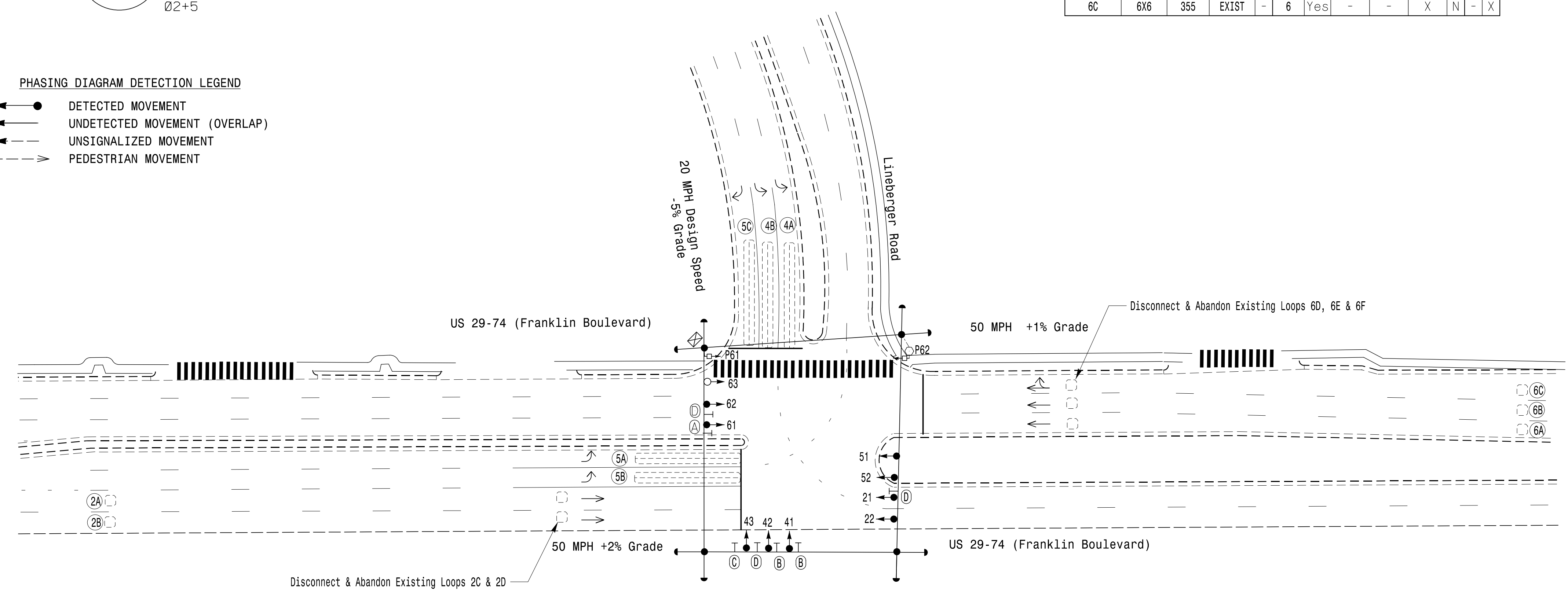
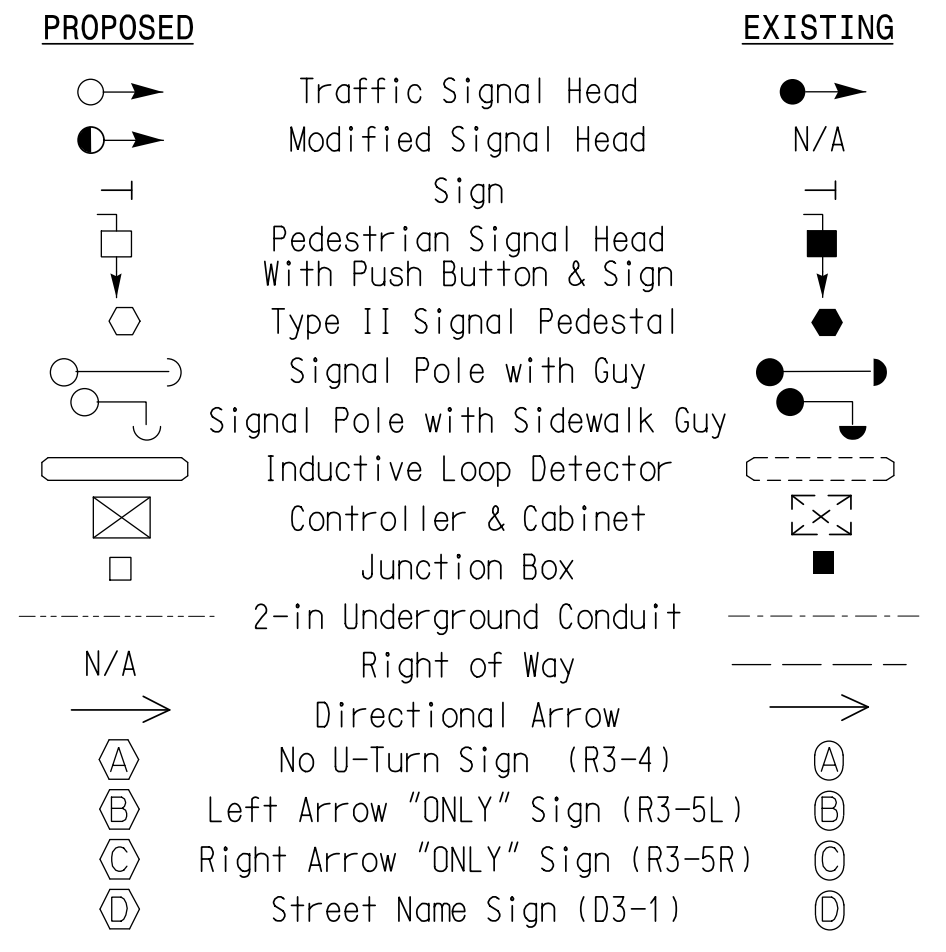
3 Phase Fully Actuated Gastonia Signal System

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.
- Disconnect & abandon existing loops 2C, 2D, 6D, 6E, and 6F.
- Reposition existing signal heads 61 and 62.
- 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.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- 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.
- 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.
- All proposed pedestrian signal heads shall be black in color. See Project Special Provisions for details.
- All proposed pedestrian pedestals and pushbutton posts shall be black in color. See Project Special Provisions for details.
- Reconnect lead-in cable to separate loops 2A, 2B, 6A, 6B, and 6C, as shown.
- City system data:

Controller Asset #1562

LEGEND



TIMING CHART

FEATURE	PHASE			
	2	4	5	6
Min Green *	14	7	7	14
Walk *	-	-	-	7
Ped Clear	-	-	-	32
Veh. Extension *	6.0	1.0	2.0	6.0
Max 1 *	60	20	15	60
Yellow	4.6	3.1	3.0	4.7
Red Clear	1.6	3.5	3.1	1.5
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-
Seconds / Actuation *	1.5	-	-	1.0
Max Initial *	40	-	-	40
Time Before Reduction *	15	-	-	15
Time To Reduce *	30	-	-	30
Minimum Gap	3.1	-	-	3.1
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.

Signal Upgrade

Prepared For:

 TRANSPORTATION DEPARTMENT OF NORTH CAROLINA
 SIGNAL DESIGN SECTION

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn
 NC License #0102
 421 Fayetteville Street, Suite 600
 Raleigh, NC 27601
 (919) 677-2000

US 29-74 (Franklin Boulevard) at Lineberger Road

Division 12 Gaston County Gastonia

PLAN DATE: May 2021 REVIEWED BY: SL Phillips
 PREPARED BY: SP Pennington REVIEWED BY: KP Baumann

REVISIONS: _____ INIT: _____ DATE: _____

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

KEVIN P. BAUMANN
 ENGINEER
 3/11/2022
 DATE
 12-1562
 INVENTORY NO.

3/9/2022 11:12:49 AM Dantelle.Curr1 ***kimley-horn.com** RAL:MRAL:TP:DK-LTS:001:036569 Gastonia Signal System9 Signal:KWS4 - Signal Design:121562-2021.dgn