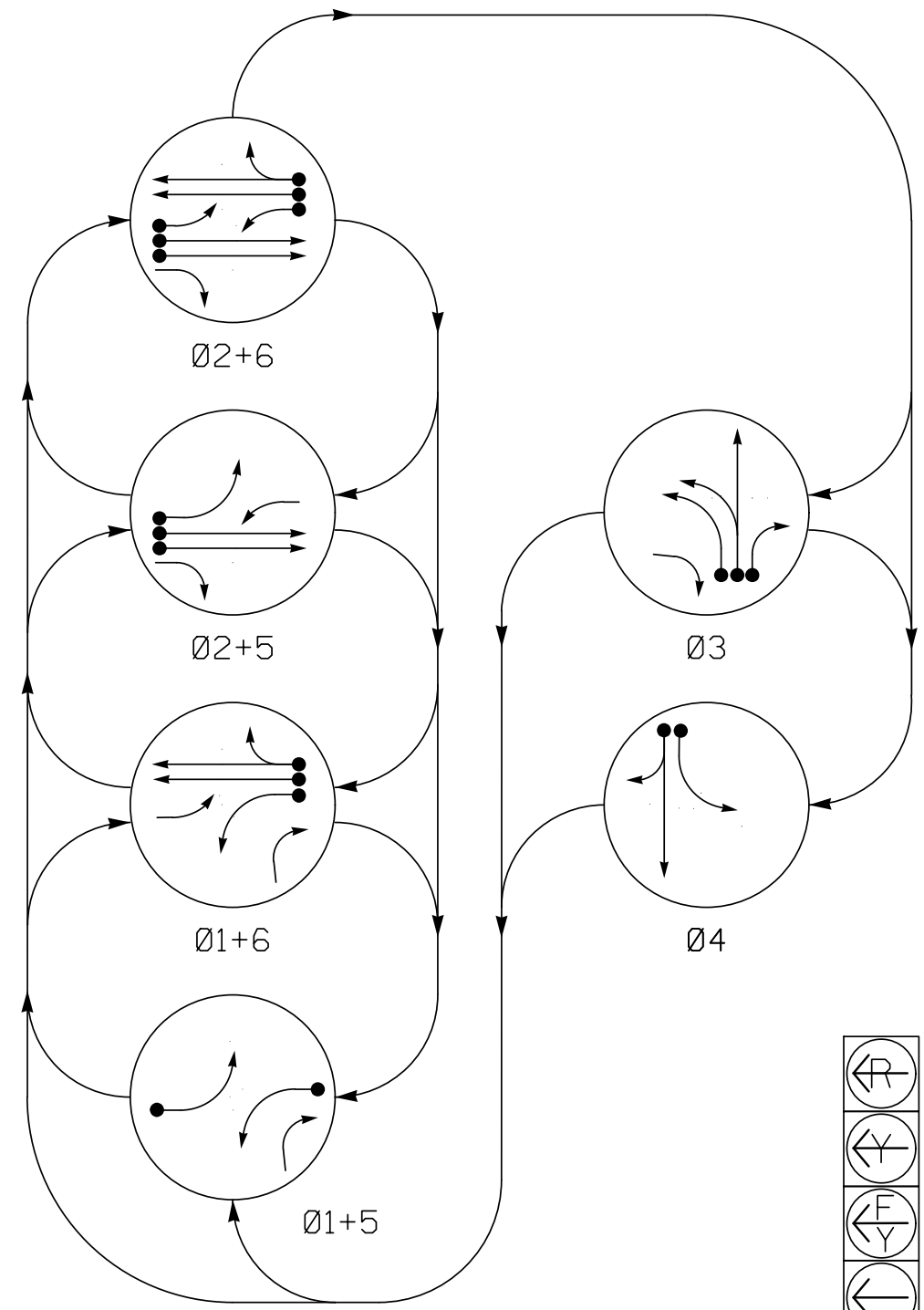


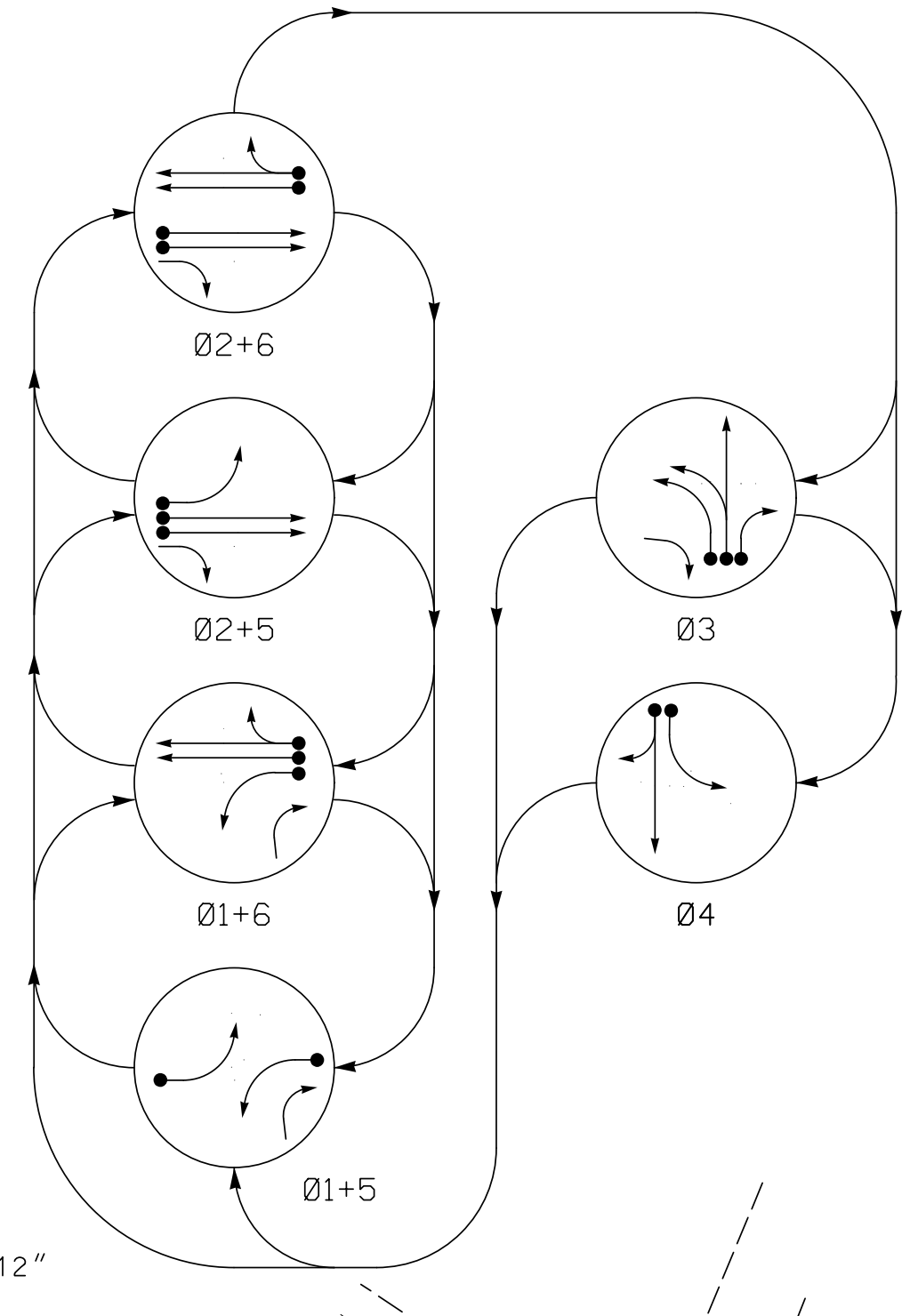
**DEFAULT PHASING DIAGRAM**



**DEFAULT PHASING TABLE OF OPERATION**

SIGNAL FACE	PHASE					
	Ø 1+5	Ø 1+6	Ø 2+5	Ø 2+6	Ø 3	Ø 4
11	←	←	←	←	←	←
21	R	R	G	G	R	R
22	R	R	G	G	R	R
31	R	R	R	R	G	R
32	R	R	R	R	G	R
41	R	R	R	R	G	R
42	R	R	R	R	G	R
51	←	←	←	←	←	←
61, 62	R	G	R	G	R	R

**ALTERNATE PHASING DIAGRAM**



**ALTERNATE PHASING TABLE OF OPERATION**

SIGNAL FACE	PHASE					
	Ø 1+5	Ø 1+6	Ø 2+5	Ø 2+6	Ø 3	Ø 4
11	←	←	←	←	←	←
21	R	R	G	G	R	R
22	R	R	G	G	R	R
31	R	R	R	R	G	R
32	R	R	R	R	G	R
41	R	R	R	R	G	R
42	R	R	R	R	G	R
51	←	←	←	←	←	←
61, 62	R	G	R	G	R	R

**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
1A	6X60	+20	2-4-2	-	1	Yes	-	15*	-	N	-	X
2A	6X6	300	EXIST	-	2	Yes	-	-	-	X	N	-
2B	6X6	300	EXIST	-	2	Yes	-	-	-	X	N	-
3A	6X60	+5	2-4-2	-	3	Yes	-	3	-	N	-	X
3B	6X60	+5	2-4-2	-	3	Yes	-	-	-	N	-	X
3C	6X60	+5	2-4-2	-	3	Yes	-	10	-	N	-	X
4A	6X30	+5	2-4-2	-	4	Yes	-	3	-	N	-	X
4B	6X60	+5	2-4-2	-	4	Yes	-	10	-	N	-	X
5A	6X60	+5	2-4-2	-	5	Yes	-	15*	-	N	-	X
6A	6X6	300	EXIST	-	6	Yes	-	-	-	X	N	-
6B	6X6	300	EXIST	-	6	Yes	-	-	-	X	N	-

\* Reduce delay to 3 seconds during Alternate Phasing Operation.  
# Disable Phase call for loop during Alternate Phasing Operation.

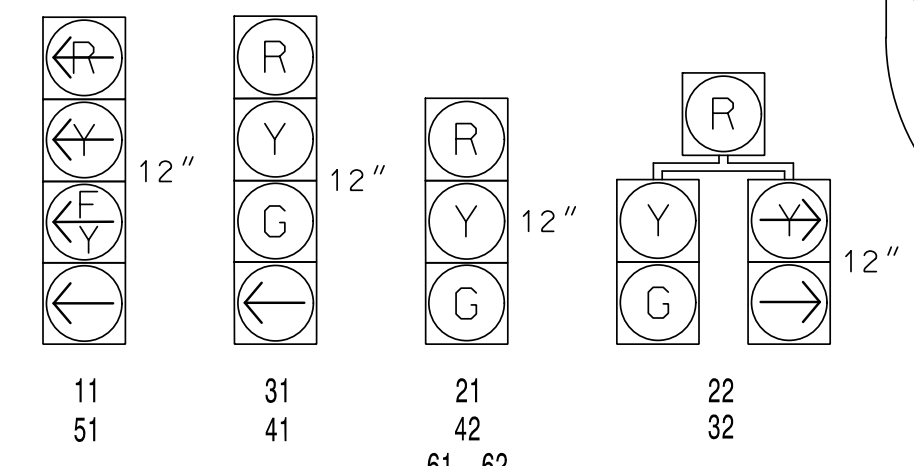
**6 Phase Fully Actuated w/ Alternate Phasing Operation Gastonia Signal System**

**NOTES**

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Reposition existing signal head numbered 62.
6. Abandon and disconnect existing loops 2C, 2D, 6C, and 6D.
7. Set all detector units to presence mode.
8. 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.
9. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
10. Pavement markings are existing.
11. The City Engineer or their representative will determine the hours of use for each phasing plan.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
13. Install new cabinet on the existing cabinet foundation.
14. All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
15. Reconnect lead-in cable to separate loops 2A, 2B, 6A & 6B, as shown.
16. Existing signal heads 22 and 23 have been relabeled to 21 and 22, respectively.
17. City system data:  
Controller Asset #: 1410

**SIGNAL FACE I.D.**

All Heads L.E.D.



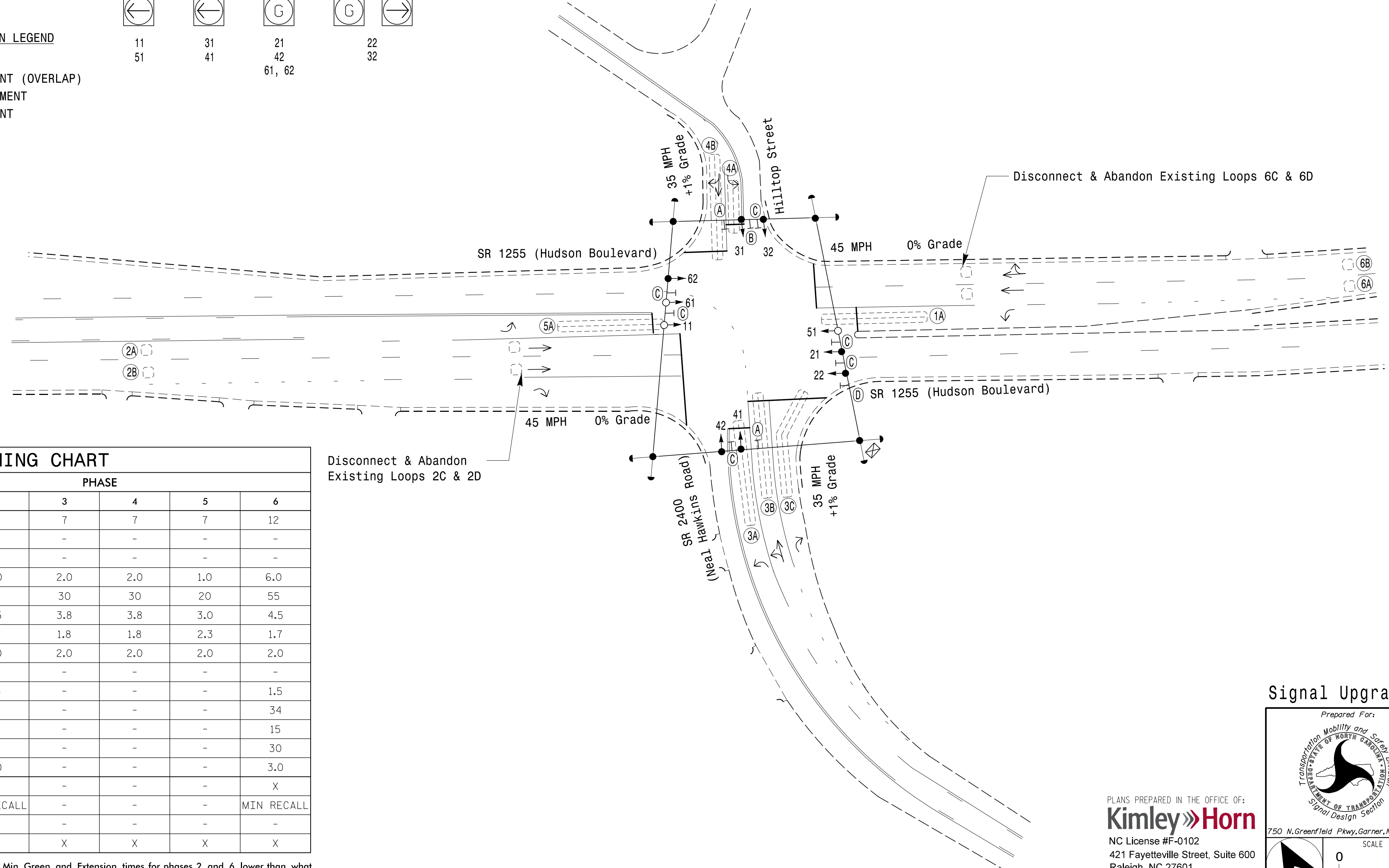
**PHASING DIAGRAM DETECTION LEGEND**

- ← ● DETECTED MOVEMENT
- ← ○ UNDETECTED MOVEMENT (OVERLAP)
- ← - - UNSIGNALIZED MOVEMENT
- ← - - > PEDESTRIAN MOVEMENT

**TIMING CHART**

FEATURE	PHASE					
	1	2	3	4	5	6
Min Green *	7	12	7	7	7	12
Walk *	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-
Veh. Extension *	1.0	6.0	2.0	2.0	1.0	6.0
Max I *	15	55	30	30	20	55
Yellow	3.0	4.5	3.8	3.8	3.0	4.5
Red Clear	3.2	1.7	1.8	1.8	2.3	1.7
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Actions B4 Add *	-	-	-	-	-	-
Seconds / Actuation *	-	1.5	-	-	-	1.5
Max Initial *	-	34	-	-	-	34
Time Before Reduction *	-	15	-	-	-	15
Time To Reduce *	-	30	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Locking Detector	-	X	-	-	-	X
Recall Position	-	MIN RECALL	-	-	-	MIN RECALL
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	X	X	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.



**LEGEND**

- | PROPOSED   | EXISTING   |
|--|--|
| ○ → Traffic Signal Head                          | ● → Traffic Signal Head                          |
| ○ → Modified Signal Head                         | ○ → Modified Signal Head                         |
| ⊥ Sign   | ⊥ Sign   |
| ⊥ Pedestrian Signal Head With Push Button & Sign | ⊥ Pedestrian Signal Head With Push Button & Sign |
| ○ Signal Pole with Guy                           | ○ Signal Pole with Guy                           |
| ○ Signal Pole with Sidewalk Guy                  | ○ Signal Pole with Sidewalk Guy                  |
| ⊠ Inductive Loop Detector                        | ⊠ Inductive Loop Detector                        |
| ⊠ Controller & Cabinet                           | ⊠ Controller & Cabinet                           |
| ⊠ Junction Box                                   | ⊠ Junction Box                                   |
| - - - 2-in Underground Conduit                   | - - - 2-in Underground Conduit                   |
| - - - Right of Way                               | - - - Right of Way                               |
| → Directional Arrow                              | → Directional Arrow                              |
| (A) Left Arrow "ONLY" Sign (R3-5L)               | (A) Left Arrow "ONLY" Sign (R3-5L)               |
| (B) Combined Through and Left Arrow Sign (R3-6L) | (B) Combined Through and Left Arrow Sign (R3-6L) |
| (C) Street Name Sign (D3-1)                      | (C) Street Name Sign (D3-1)                      |
| (D) Right Arrow "ONLY" Sign (R3-5R)              | (D) Right Arrow "ONLY" Sign (R3-5R)              |

**Signal Upgrade**

Prepared For:  
**Kimley-Horn**

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

**SR 1255 (Hudson Boulevard) at SR 2400 (Neal Hawkins Road) / Hilltop Street**

Division 12 Gaston County Gastonia

PLAN DATE: May 2021 REVIEWED BY: SL Phillips  
PREPARED BY: DM Curri REVIEWED BY: KP Baumann

REVISIONS: INIT. DATE

SCALE: 1" = 40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Seal of Professional Engineer  
KEVIN P. BAUMANN  
044434

DocuSigned by:  
KEVIN P. BAUMANN  
3/11/2022

SIG. INVENTORY NO. 12-1410

3/9/2022 11:14:20 AM DanHille.Curri1 \*\*\*K:\mley-horn.com\SE-RAL\RAL-TIP\DK-ITS\011036569 Gastonia Signal System\Signal\SW54 - Signal Design\121410-2021.dgn