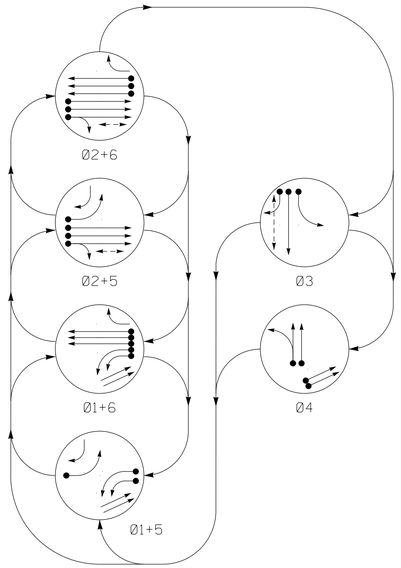
PROJECT REFERENCE NO.	SHEET NO.
U-6229	Sig. 2.0

6 Phase Fully Actuated Fayetteville Signal System

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

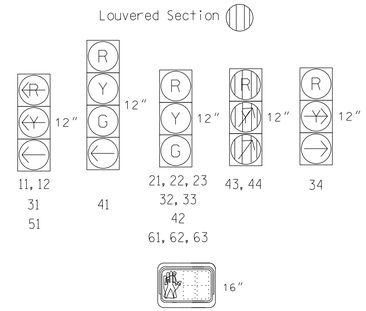
TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03	04	FLASH
11,12	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21,22, 23	R	R	G	G	R	R	Y
31	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~	~~R~~
32,33	R	R	R	R	G	R	R
34	→	R	→	R	→	R	R
41	R	R	R	R	R	G	R
42	R	R	R	R	R	G	R
43,44	↗	↗	R	R	R	↗	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~
61,62,63	R	G	R	G	R	R	Y
P21,P22,P23, P24,P25,P26	DW	DW	W	W	DW	DW	DRK
P31,P32,P33,P34	DW	DW	DW	DW	W	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

Louvered Section

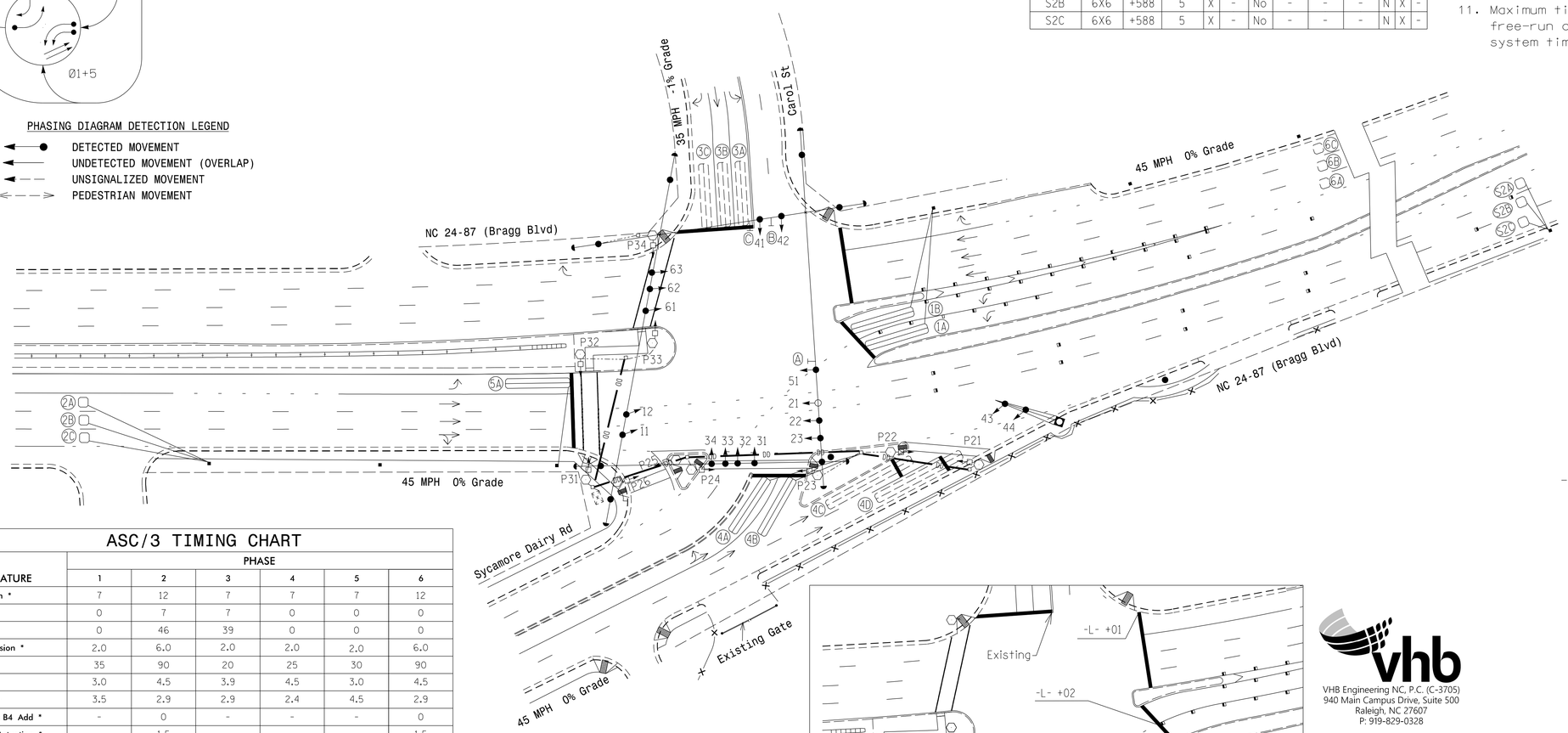


ASC/3 DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	-
1B	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	-
2A	6X6	300	6	-	2	Yes	-	-	X	N	-	-
2B	6X6	300	6	-	2	Yes	-	-	X	N	-	-
2C	6X6	300	6	-	2	Yes	-	-	X	N	-	-
3A	6X40	+5	2-4-2	-	3	Yes	-	3	-	S	-	-
3B	6X40	+5	2-4-2	-	3	Yes	-	-	-	S	-	-
3C	6X40	+5	2-4-2	-	3	Yes	-	15	-	S	-	-
4A	6X40	0	2-4-2	-	4	Yes	-	-	-	S	-	-
4B	6X40	0	2-4-2	-	4	Yes	-	-	-	S	-	-
4C	6X60	+10	2-4-2	-	4	Yes	-	-	-	S	-	-
4D	6X60	+10	2-4-2	-	4	Yes	-	-	-	S	-	-
5A	6X40	0	2-4-2	X	5	Yes	-	-	-	S	-	-
6A	6X6	300	4	-	6	Yes	-	-	X	N	-	-
6B	6X6	300	4	-	6	Yes	-	-	X	N	-	-
6C	6X6	300	4	-	6	Yes	-	-	X	N	-	-
S2A	6X6	+588	5	X	-	No	-	-	-	N	X	-
S2B	6X6	+588	5	X	-	No	-	-	-	N	X	-
S2C	6X6	+588	5	X	-	No	-	-	-	N	X	-

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. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing 'Don't Walk' time only.
9. Reposition existing signal heads 11, 12, 21, and 22.
10. Remove existing "YIELD" sign.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



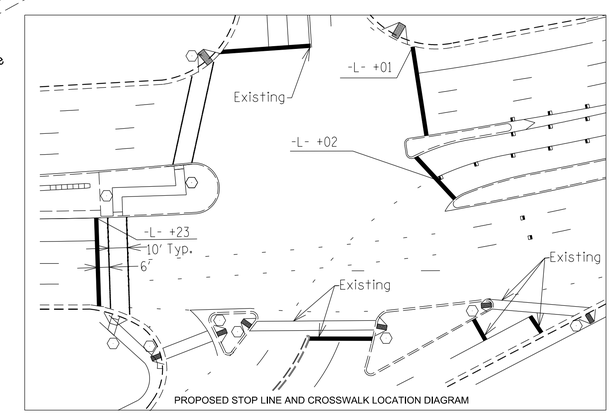
LEGEND

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	
	Metal Pole with Mast Arm	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
N/A	Guard Rail	
N/A	Fence	
N/A	Wheel Chair Ramp	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ
Ⓑ	Through Arrow "ONLY" Sign (R3-5A)	Ⓑ
Ⓒ	Combined Through and Left Arrow Sign (R3-6L)	Ⓒ
	Type II Signal Pedestal	
	Type I Pushbutton Post	
DD	Directional Drill	N/A

ASC/3 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6
Min Green *	7	12	7	7	7	12
Walk *	0	7	7	0	0	0
Ped Clear	0	46	39	0	0	0
Veh. Extension *	2.0	6.0	2.0	2.0	2.0	6.0
Max 1 *	35	90	20	25	30	90
Yellow	3.0	4.5	3.9	4.5	3.0	4.5
Red Clear	3.5	2.9	2.9	2.4	4.5	2.9
Actuations B4 Add *	-	0	-	-	-	0
Seconds /Actuation *	-	1.5	-	-	-	1.5
Max Initial *	-	27	-	-	-	34
Time Before Reduction *	-	15	-	-	-	15
Time To Reduce *	-	30	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Locking Detector	-	X	-	-	-	X
Recall Position	-	VEH. RECALL	-	-	-	VEH. 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.



PROPOSED STOP LINE AND CROSSWALK LOCATION DIAGRAM

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27607
P: 919-829-0328

Signal Upgrade

Prepared for the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40 1"=40'

NC 24-87 (Bragg Blvd)
at
Sycamore Dairy Rd/Carol St

Division 6 Cumberland County Fayetteville

PLAN DATE: December 2022 REVIEWED BY: M. L. Stygles
PREPARED BY: J. Ma REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 033108 ENGINEER JIANXIN MA

DocuSigned by: Jianxin Ma 827E1953081444F 1/6/2023 DATE

SIG. INVENTORY NO. 06-0236

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