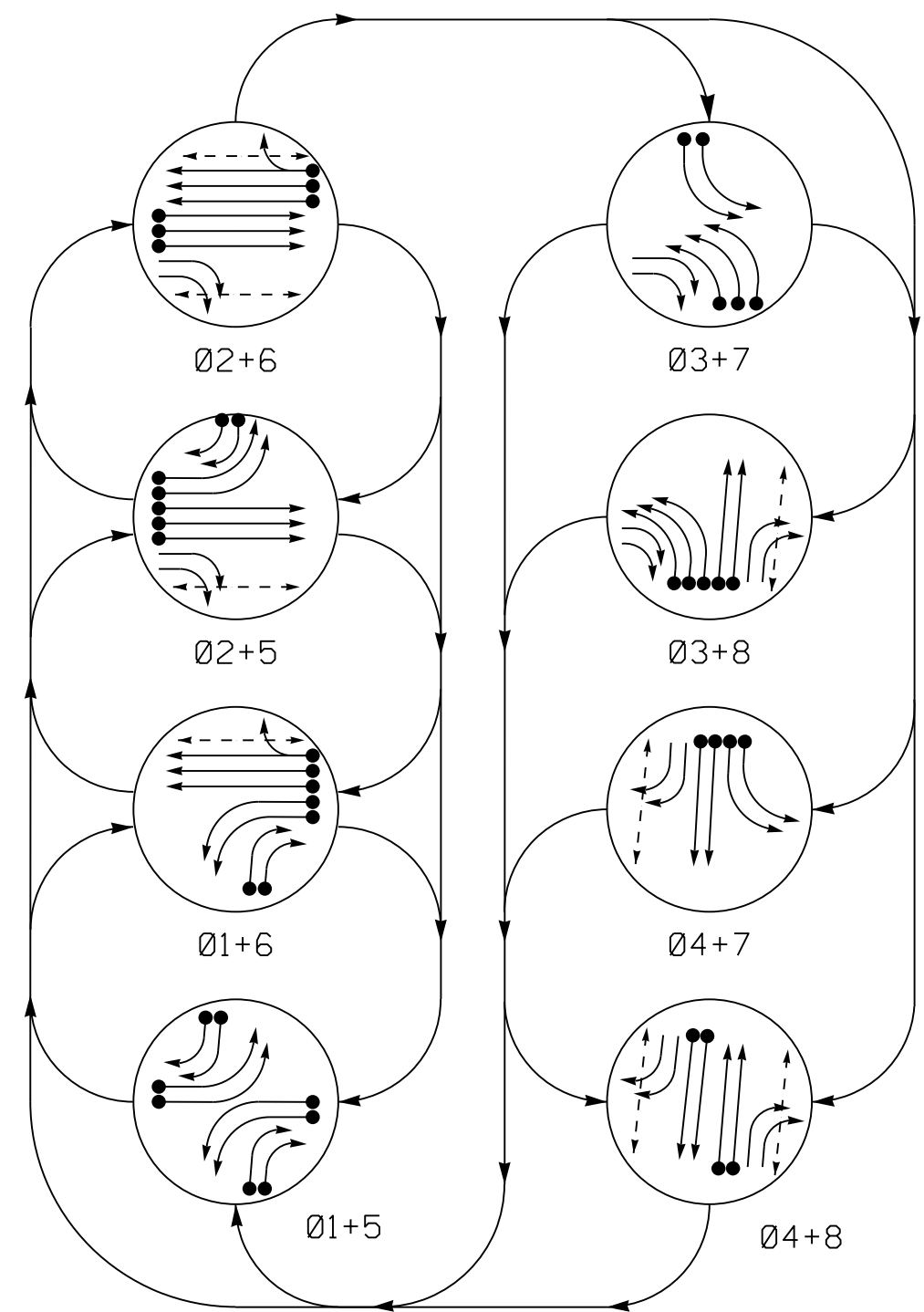


PHASING DIAGRAM



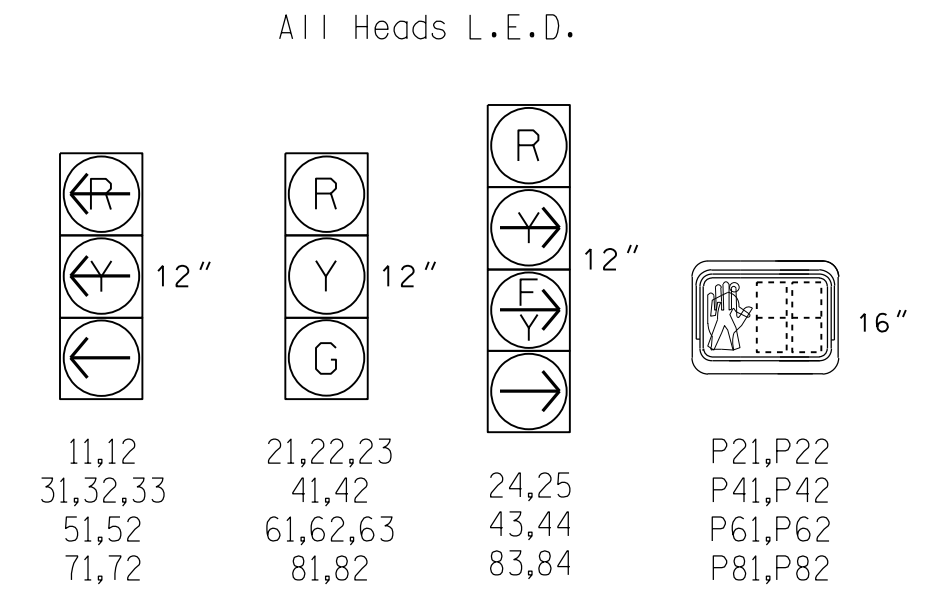
PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE							
	Ø 1 + 5	Ø 2 + 5	Ø 3 + 5	Ø 4 + 5	Ø 1 + 6	Ø 2 + 6	Ø 3 + 6	Ø 4 + 6
11,12	←	←	←	←	←	←	←	←
21,22,23	R	R	G	G	R	R	R	Y
24,25	R	R	←	←	←	←	←	←
31,32,33	←	←	←	←	←	←	←	←
41,42	R	R	R	R	R	G	G	R
43,44	←	←	←	←	←	←	←	←
51,52	←	←	←	←	←	←	←	←
61,62,63	R	G	R	G	R	R	R	Y
71,72	←	←	←	←	←	←	←	←
81,82	R	R	R	R	R	G	G	R
83,84	←	←	←	←	←	←	←	←
P21,P22	DW	DW	W	W	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.



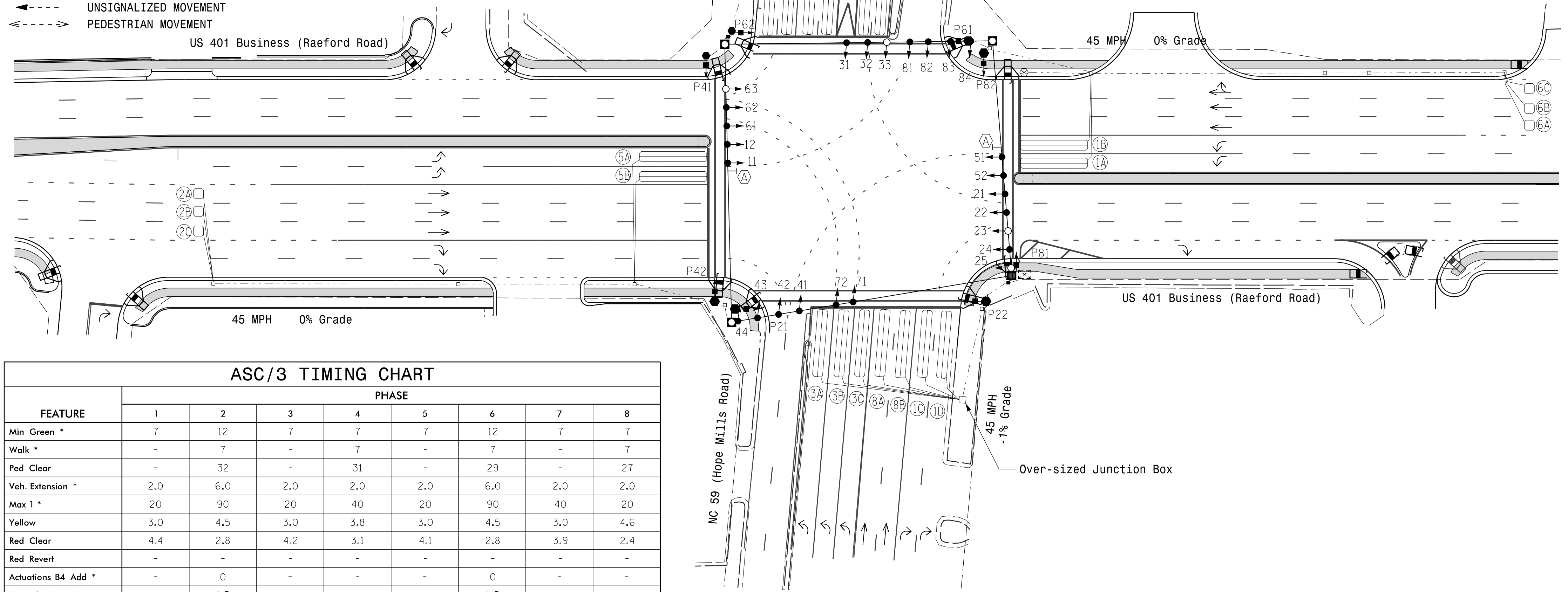
ASC/3 DETECTOR INSTALLATION CHART

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	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	X
1B	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	X
1C	6X40	0	2-4-2	X	1	Yes	-	15	-	S	-	X
1D	6X40	0	2-4-2	X	1	Yes	-	15	-	S	-	X
2A	6X6	300	6	X	2	Yes	-	-	X	N	-	X
2B	6X6	300	6	X	2	Yes	-	-	X	N	-	X
2C	6X6	300	6	X	2	Yes	-	-	X	N	-	X
3A	6X40	0	2-4-2	X	3	Yes	-	3	-	S	-	X
3B	6X40	0	2-4-2	X	3	Yes	-	-	-	S	-	X
3C	6X40	0	2-4-2	X	3	Yes	-	-	-	S	-	X
4A	6X40	0	2-4-2	X	4	Yes	-	-	-	S	-	X
4B	6X40	0	2-4-2	X	4	Yes	-	-	-	S	-	X
5A	6X40	0	2-4-2	X	5	Yes	-	-	-	S	-	X
5B	6X40	0	2-4-2	X	5	Yes	-	-	-	S	-	X
5C	6X40	0	2-4-2	X	5	Yes	-	15	-	S	-	X
5D	6X40	0	2-4-2	X	5	Yes	-	15	-	S	-	X
6A	6X6	300	6	X	6	Yes	-	-	X	N	-	X
6B	6X6	300	6	X	6	Yes	-	-	X	N	-	X
6C	6X6	300	6	X	6	Yes	-	-	X	N	-	X
7A	6X40	0	2-4-2	X	7	Yes	-	-	-	S	-	X
7B	6X40	0	2-4-2	X	7	Yes	-	-	-	S	-	X
8A	6X40	0	2-4-2	X	8	Yes	-	-	-	S	-	X
8B	6X40	0	2-4-2	X	8	Yes	-	-	-	S	-	X

8 Phase Fully Actuated Fayetteville Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated July 2018 and "Standard Specifications for Roads and Structures" dated July 2018.
- 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 11, 12, 21, 22, 24, 25, 51, 52, 61, and 62.
- Set all detector units to presence mode.
- 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.
- Pedestrian pedestals are conceptual and shown for reference only. See 2018 NCDOT Roadway Standard Drawings 1705.04 Sheets 1-3 for push button location details.



ASC/3 TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Walk *	-	7	-	7	-	7	-	7
Ped Clear	-	32	-	31	-	29	-	27
Veh. Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	20	90	20	40	20	90	40	20
Yellow	3.0	4.5	3.0	3.8	3.0	4.5	3.0	4.6
Red Clear	4.4	2.8	4.2	3.1	4.1	2.8	3.9	2.4
Red Revert	-	-	-	-	-	-	-	-
Actuations B4 Add *	-	0	-	-	-	0	-	-
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	-	VEH. RECALL	-	-	-	VEH. RECALL	-	-
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	X	X	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 | ● → N/A |
| ○ → Modified Signal Head | ○ → 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 |
| ○ → Metal Strain Pole | ○ → N/A |
| ○ → Type I Pushbutton Post | ○ → N/A |
| ○ → Type II Signal Pedestal | ○ → N/A |
| ○ → "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | ○ → N/A |

Signal Upgrade - Final Design

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Prepared For the Offices of:
 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 STATE OF NORTH CAROLINA
 Signal Design Section
 750 N. Greenfield Pkwy, Garner, NC 27526
 SCALE: 1" = 40'

US 401 Business (Raeford Road) at NC 59 (Hope Mills Road) / SR 1592 (Glensford Drive)
 Division 6 Cumberland County Fayetteville
 PLAN DATE: March 2018 REVIEWED BY: E D Harris
 PREPARED BY: B L Watson REVIEWED BY: B L Watson
 REVISIONS: INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Professional Engineer Seal: 29449
 Signature: Betsy L. Watson
 Date: 3/29/2018
 SIG. INVENTORY NO. 06-0155

3/29/2018 10:41:11 AM
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