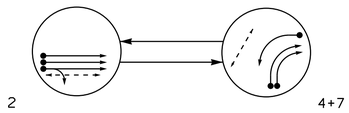
PROJECT REFERENCE NO.	SHEET NO.
U-5302	Sig. 14.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

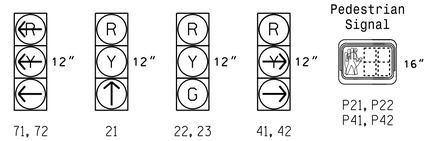
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 2	PHASE 4 + 7	FLASH
21	↑	R	R
22, 23	G	R	R
41, 42	R	→	R
71, 72	~~R~~	~~←~~	~~R~~
P21, P22	W	DW	DRK
P41, P42	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



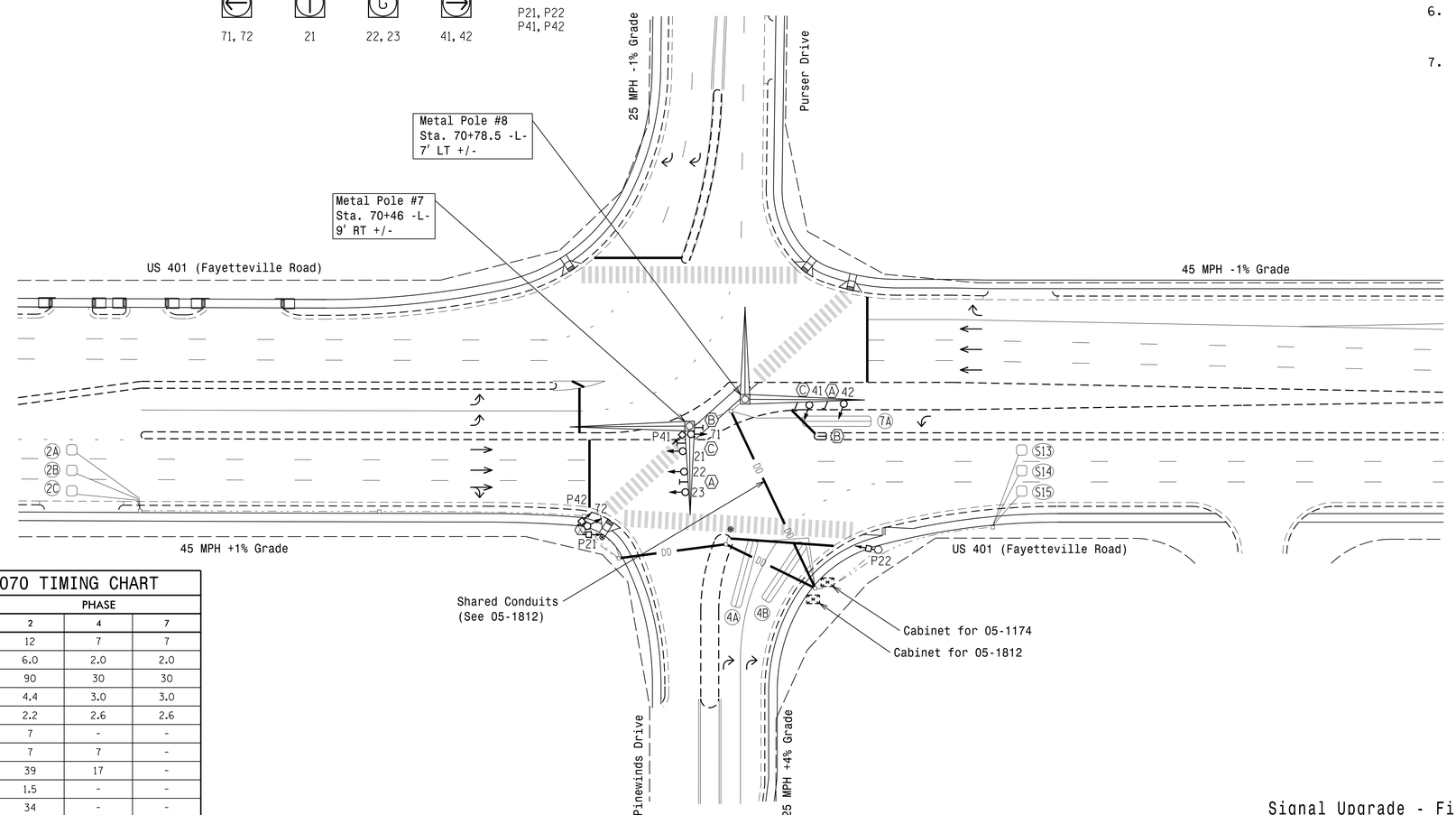
SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS						DETECTOR PROGRAMMING														
							TIMING		OPERATION MODE									STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	DELAY	EXTEND (STRETCH)	0 VEHICLE	1 PEDESTRIAN	2 I CALL	3 STOP A	4 STOP B	5 PROTIFTER CLEAR	6 PROTIFTER THROUGH	7 AND	SWITCH	SYSTEM LOOPS NEW	SYSTEM LOOPS EXISTING
2A	6X6	5	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2B	6X6	5	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2C	6X6	5	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
4A	6X40	2-4-2	0	X	-	4	15.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
4B	6X40	2-4-2	0	X	-	4	15.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
7A	6X40	2-4-2	0	X	-	7	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
S13	6X6	3	+250	X	-	-	- SEC.	- SEC.	X	-	-	-	-	-	-	-	X	X	-
S14	6X6	3	+250	X	-	-	- SEC.	- SEC.	X	-	-	-	-	-	-	-	X	X	-
S15	6X6	3	+250	X	-	-	- SEC.	- SEC.	X	-	-	-	-	-	-	-	X	X	-

2 Phase
Fully Actuated
(Raleigh Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
5. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
6. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



SE-PAC 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 7
Min Green *	12	7	7
Passage Gap *	6.0	2.0	2.0
Maximum Green *	90	30	30
Yellow Change	4.4	3.0	3.0
Red Clear	2.2	2.6	2.6
Advance Walk	7	-	-
Walk *	7	7	-
Pedestrian Clear	39	17	-
Added Initial *	1.5	-	-
Maximum Initial *	34	-	-
Time Before Reduction *	15	-	-
Time To Reduce *	30	-	-
Minimum Gap	3.0	-	-
Recall Mode	MIN RECALL	-	-
Vehicle Call Memory	LOCK	NON-LOCK	NON-LOCK
Dual Entry	-	ON	ON
Simultaneous Gap	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phase 2 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21, P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Pinewinds.
P41, P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Fayetteville.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Metal Pole with Mastarm	
	Type I Pushbutton Post	
	Type II Signal Pedestal	
	Type III Signal Pedestal	
DD	Directional Drill	N/A
N/A	Curb Ramp	
A	Street Name Sign (D3-1)	A
B	No U-Turn Sign (R3-4)	B
C	No Left Turn Sign (R3-1)	C

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared In 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'

US 401 NB (Fayetteville Road)
at
Pinewinds Drive

Division 5 Wake County Raleigh

PLAN DATE: February 2025 REVIEWED BY:
PREPARED BY: J.A. Lohr REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
DocuSigned by: 18084B6E274A494...
03/27/2025
DATE

SIG. INVENTORY NO. 05-1174

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JALOHR