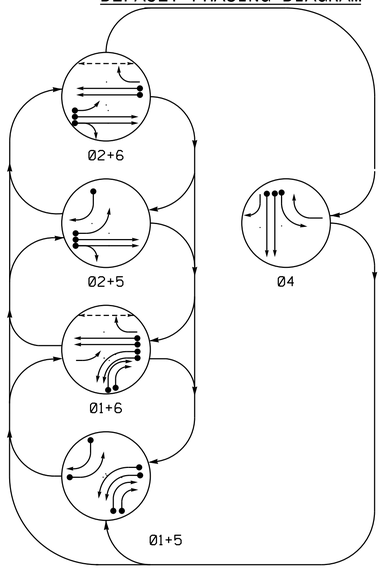
PROJECT REFERENCE NO.	SHEET NO.
U-5312	Sig.12.7

5 Phase
Fully Actuated
W/ Alternate Phasing Operation
Wilkesboro Closed Loop System

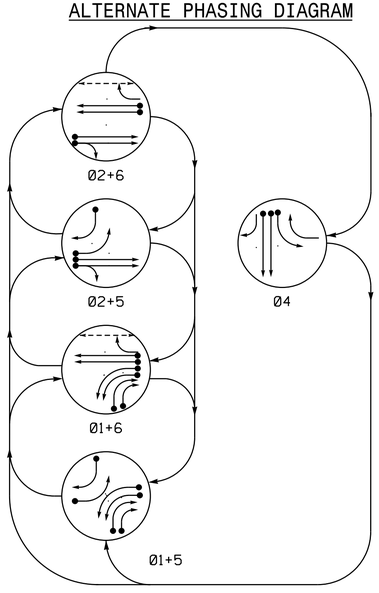
NOTES

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 5 may be lagged.
4. Set all detector units to presence mode.
5. Omit "Walk" and flashing "Don't Walk" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. To provide a leading pedestrian interval on phase 2, program FYA heads 63 to delay for 3 seconds after the start of the phase 6 walk interval. See electrical details.
8. The Division Traffic Engineer will determine the hours of use for each phasing plan.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. Maintain a minimum of 10 foot clearance between the overhead utility wires and the signal pole.
11. Refer to Pavement Marking Plans for proposed stop bar locations.

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	04	FLASH
11,12	←	←	~~R~~	~~R~~	~~R~~	~~R~~
13,14,15	→	→	R	R	R	R
21,22	R	R	G	G	R	Y
41	R	R	R	R	←	R
42	R	R	R	R	G	R
43	→	R	→	R	~~F Y~~	~~Y~~
51	←	~~F Y~~	←	~~R~~	~~R~~	~~Y~~
61,62	R	G	R	G	R	Y
63	R	~~F Y~~	R	~~F Y~~	→	~~Y~~
P21,P22	DW	W	DW	W	DW	DRK

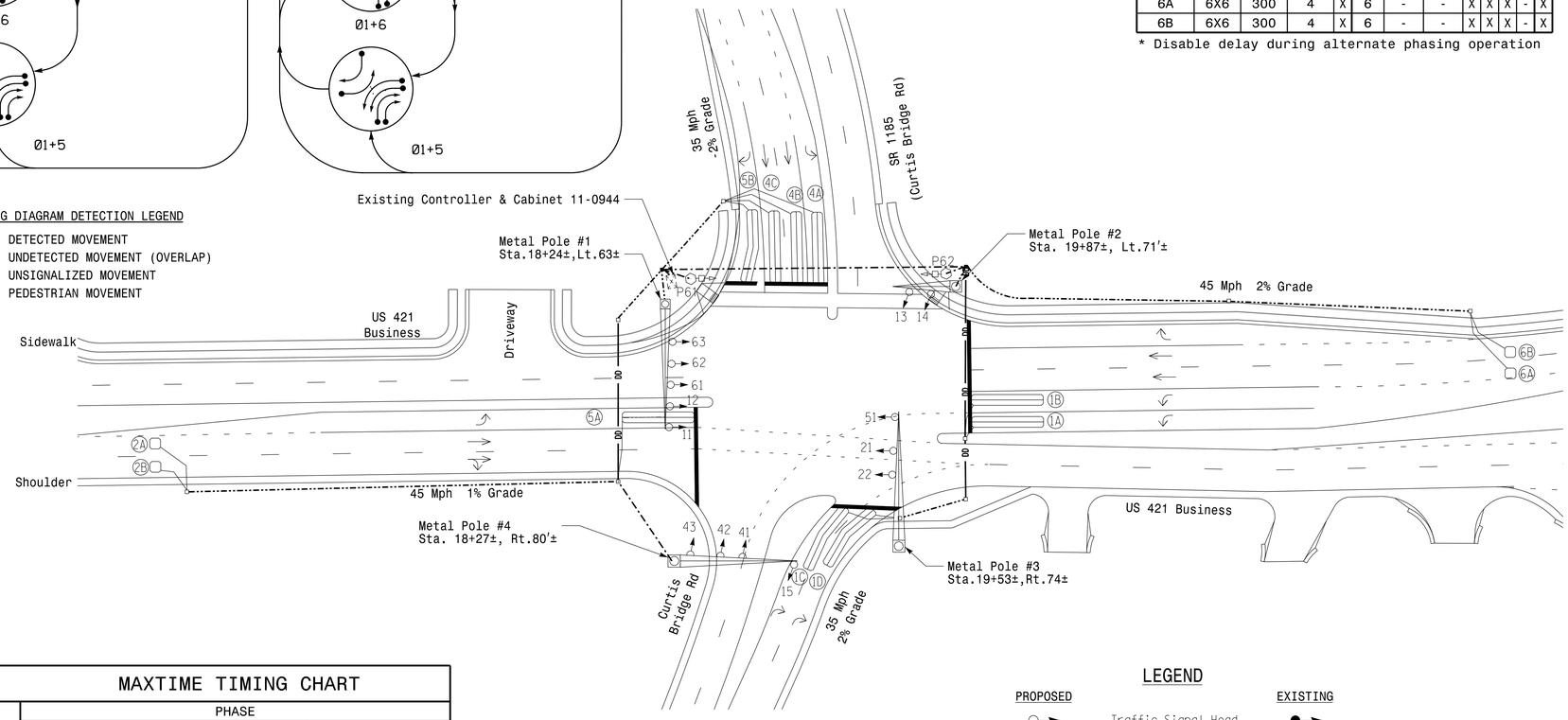
DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	04	FLASH
11,12	←	←	~~R~~	~~R~~	~~R~~	~~R~~
13,14,15	→	→	R	R	R	R
21,22	R	R	G	G	R	Y
41	R	R	R	R	←	R
42	R	R	R	R	G	R
43	→	R	→	R	~~F Y~~	~~Y~~
51	←	~~R~~	←	~~R~~	~~R~~	~~Y~~
61,62	R	G	R	G	R	Y
63	R	~~F Y~~	R	~~F Y~~	→	~~Y~~
P21,P22	DW	W	DW	W	DW	DRK

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	2-4-2	X	1	-	-	X	-	X	-	X
1B	6X40	0	2-4-2	X	1	-	-	X	-	X	-	X
1C	6X40	0	2-4-2	X	1	15.0	-	X	-	X	-	X
1D	6X40	0	2-4-2	X	1	15.0	-	X	-	X	-	X
2A	6X6	300	3	X	2	-	-	X	X	X	-	X
2B	6X6	300	3	X	2	-	-	X	X	X	-	X
4A	6X40	0	2-4-2	Y	4	-	-	X		X	-	X
4B	6X40	0	2-4-2	X	4	-	-	X	-	X	-	X
4C	6X40	0	2-4-2	X	4	-	-	X	-	X	-	X
5A	6X40	0	2-4-2	X	5	-	-	X	-	X	-	X
5B	6X40	0	2-4-2	X	5	15.0	-	X	-	X	-	X
6A	6X6	300	4	X	6	-	-	X	X	X	-	X
6B	6X6	300	4	X	6	-	-	X	X	X	-	X

* Disable delay during alternate phasing operation



PHASING DIAGRAM DETECTION LEGEND

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

MAXTIME TIMING CHART

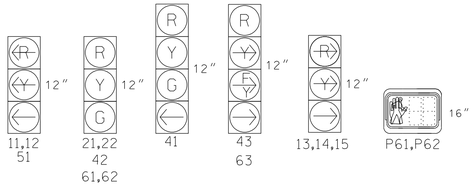
FEATURE	PHASE 1	2	4	5	6	7
Walk *	–	–	–	–	7	–
Ped Clear *	–	–	–	–	32	–
Min Green	7	12	7	7	12	7
Passage *	2.0	6.0	2.0	2.0	6.0	2.0
Max 1 *	30	60	30	30	60	30
Yellow Change	3.0	4.4	3.8	3.0	4.3	3.0
Red Clear	3.4	1.5	2.2	3.5	1.8	3.2
Added Initial *	–	1.5	–	–	1.5	–
Maximum Initial *	–	34	–	–	34	–
Time Before Reduction *	–	15	–	–	15	–
Time To Reduce *	–	30	–	–	30	–
Minimum Gap	–	3.4	–	–	3.4	–
Advance Walk	–	–	–	–	**	–
Non Lock Detector	X	–	X	X	–	X
Vehicle Recall	–	MIN RECALL	–	–	MIN RECALL	–
Dual Entry	–	–	–	–	–	–

* 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.

** See note 7

SIGNAL FACE I.D.

All Heads L.E.D.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Metal Pole with Mastarm	
	Type II Signal Pedestal	
	Type II Signal Pedestal	
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	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	
	Directional Drill	N/A
	Curb Ramp	

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Signal Upgrade - Final Design

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

US 421 Business
at
SR 1372 (Curtis Bridge Rd)

Divsion 11 Wilkes County Wilkesboro

PLAN DATE:	May 2023	REVIEWED BY:	M. Stygles
PREPARED BY:	S.R. Chiluka	REVIEWED BY:	J. Ma

SCALE 0 40

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 047250 ENGINEER SRILATHA R CHILUKA

DocuSigned by: SRChiluka 5/26/2023
SIGNATURE DATE

SIG. INVENTORY NO. 11-0944