

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS

Letting Date: September 6, 2023

CONTRACT ID: DF00437

TIP NO.: HS-2006L

FEDERAL AID NO.: HSIP-0087(050)

WBS ELEMENT NO.: 49312.3.16

ROUTE NO.: NC 87

LOCATION: at SR 1004 (Tar Heel Rd) and SR 1316 (Tar Heel Ferry Rd)

COUNTY: Bladen

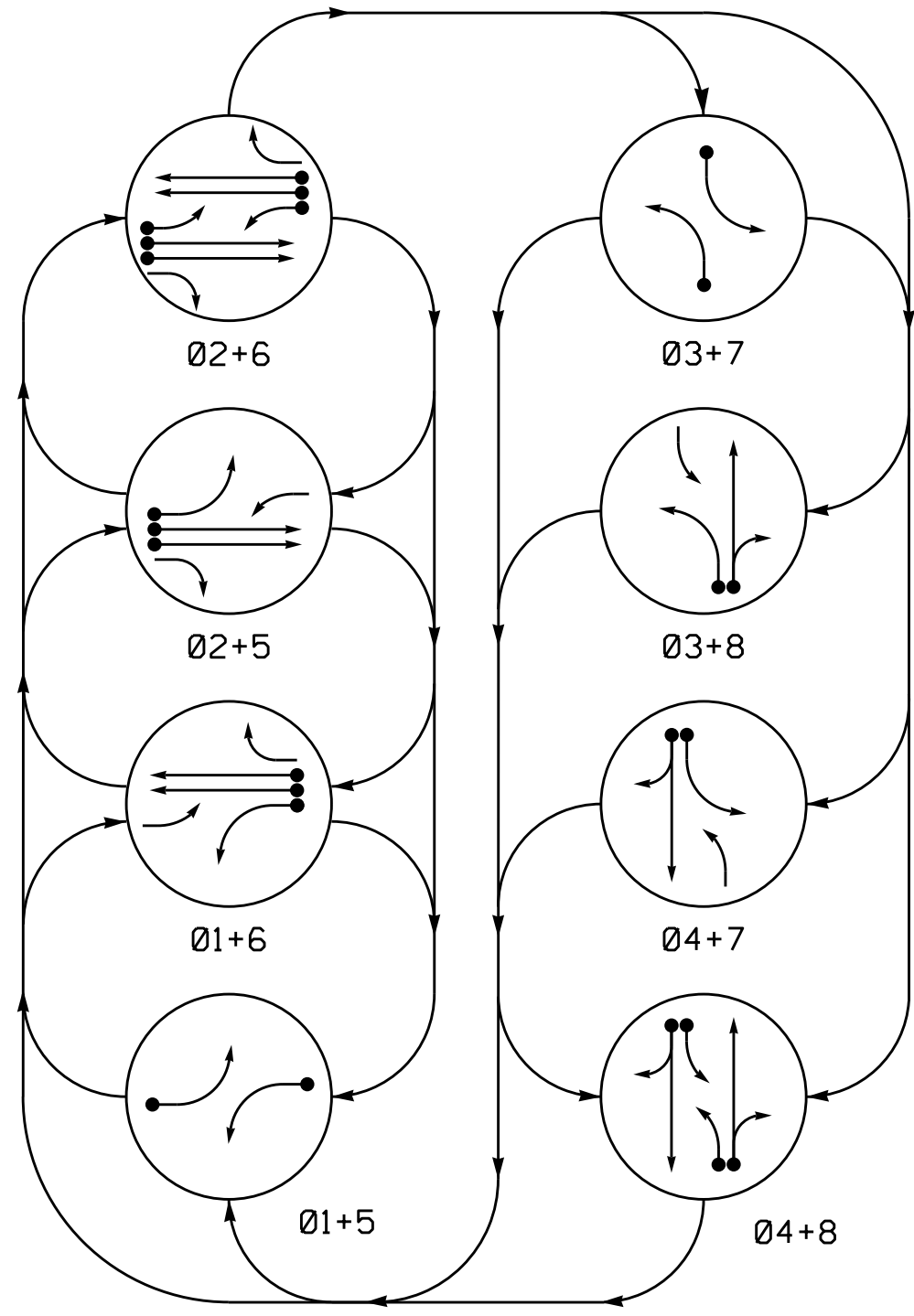
TYPE OF WORK: Signal Revision

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PHASING DIAGRAM



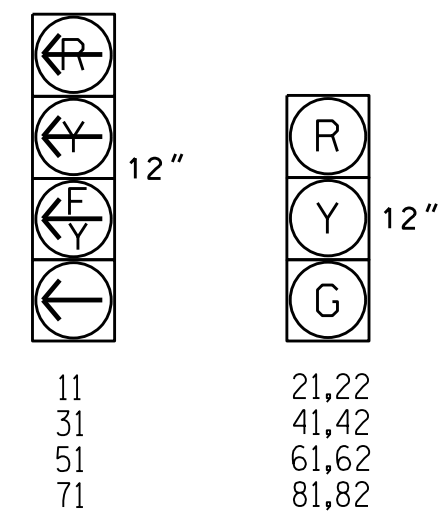
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE	PHASE							
	01+5	02+6	03+7	04+8	05+9	06+10	07+11	08+12
11	←	←	←	←	←	←	←	←
21,22	R	R	G	G	R	R	R	Y
31	←	←	←	←	←	←	←	←
41,42	R	R	R	R	R	R	G	G
51	←	←	←	←	←	←	←	←
61,62	R	G	R	G	R	R	R	Y
71	←	←	←	←	←	←	←	←
81,82	R	R	R	R	R	G	R	G

SIGNAL FACE I.D.

All Heads L.E.D.

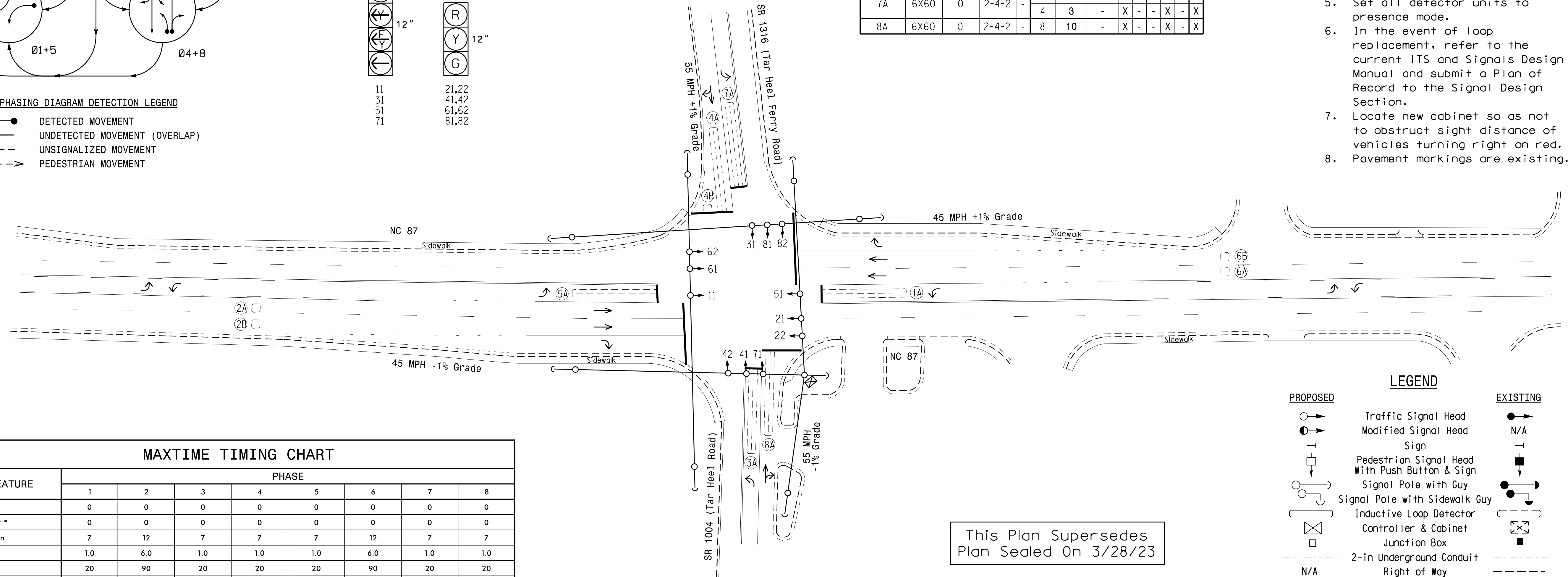


MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL QUEUE	CALL	DELAY DURING GREEN
1A	6X60	0	2-4-2	-	1	15	-	X	-	-	X
2A	6X6	300	EXIST	-	2	-	-	X	-	-	X
2B	6X6	300	EXIST	-	2	-	-	X	X	-	X
3A	6X60	0	2-4-2	-	3	15	-	X	-	-	X
4A	6X60	0	2-4-2	-	4	10	-	X	-	-	X
4B	6X6	0	EXIST	-	4	15	-	X	-	-	X
5A	6X60	0	2-4-2	-	5	15	-	X	-	-	X
6A	6X6	300	EXIST	-	6	-	-	X	X	-	X
6B	6X6	300	EXIST	-	6	-	-	X	X	-	X
7A	6X60	0	2-4-2	-	7	15	-	X	-	-	X
8A	6X60	0	2-4-2	-	8	10	-	X	-	-	X

8 Phase Fully Actuated Isolated

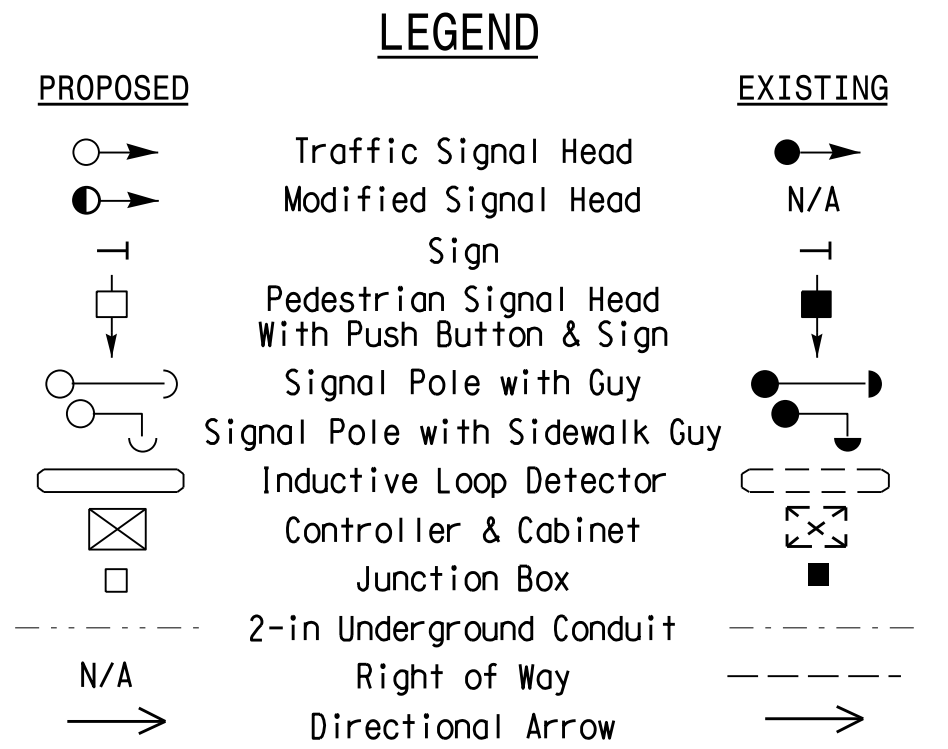
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 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.
- Renumbered existing loops 4A, 4B, 4C, 8A, and 8B to 7A, 4A, 4B, 3A, and 8A.
- Set all detector units to presence mode.
- 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.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Pavement markings are existing.



FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	0	0	0	0	0	0	0	0
Ped Clear *	0	0	0	0	0	0	0	0
Min Green	7	12	7	7	7	12	7	7
Passage *	1.0	6.0	1.0	1.0	1.0	6.0	1.0	1.0
Max 1 *	20	90	20	20	20	90	20	20
Yellow Change	3.0	4.6	3.0	5.3	3.0	4.6	3.0	5.3
Red Clear	2.6	1.3	2.6	1.4	2.9	1.3	3.1	1.4
Added Initial *	-	2.0	-	-	-	2.0	-	-
Maximum Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Advance Walk	-	-	-	-	-	-	-	-
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Dual Entry	-	-	-	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.



This Plan Supersedes Plan Sealed On 3/28/23

Signal Upgrade

Prepared in the Offices of:

NC 87 at SR 1004 (Tar Heel Road) / SR 1316 (Tar Heel Ferry Road)

Division 6 Bladen County Tar Heel

PLAN DATE: June 2023 REVIEWED BY: BMW

PREPARED BY: Jeff Spence REVIEWED BY:

REVISIONS: INIT. DATE

SCALE: 1"=40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL: BRADEN M. WALKER, ENGINEER, SEAL 050017

DATE: 06/09/2023

SIG. INVENTORY NO. 06-0387

08 JUN 2023 10:11:55**TSSU**TSS Signal Design Section Eastern Region 01v-06406-0387*060387.sig.dgn_20230608.dgn bmo/ker1

