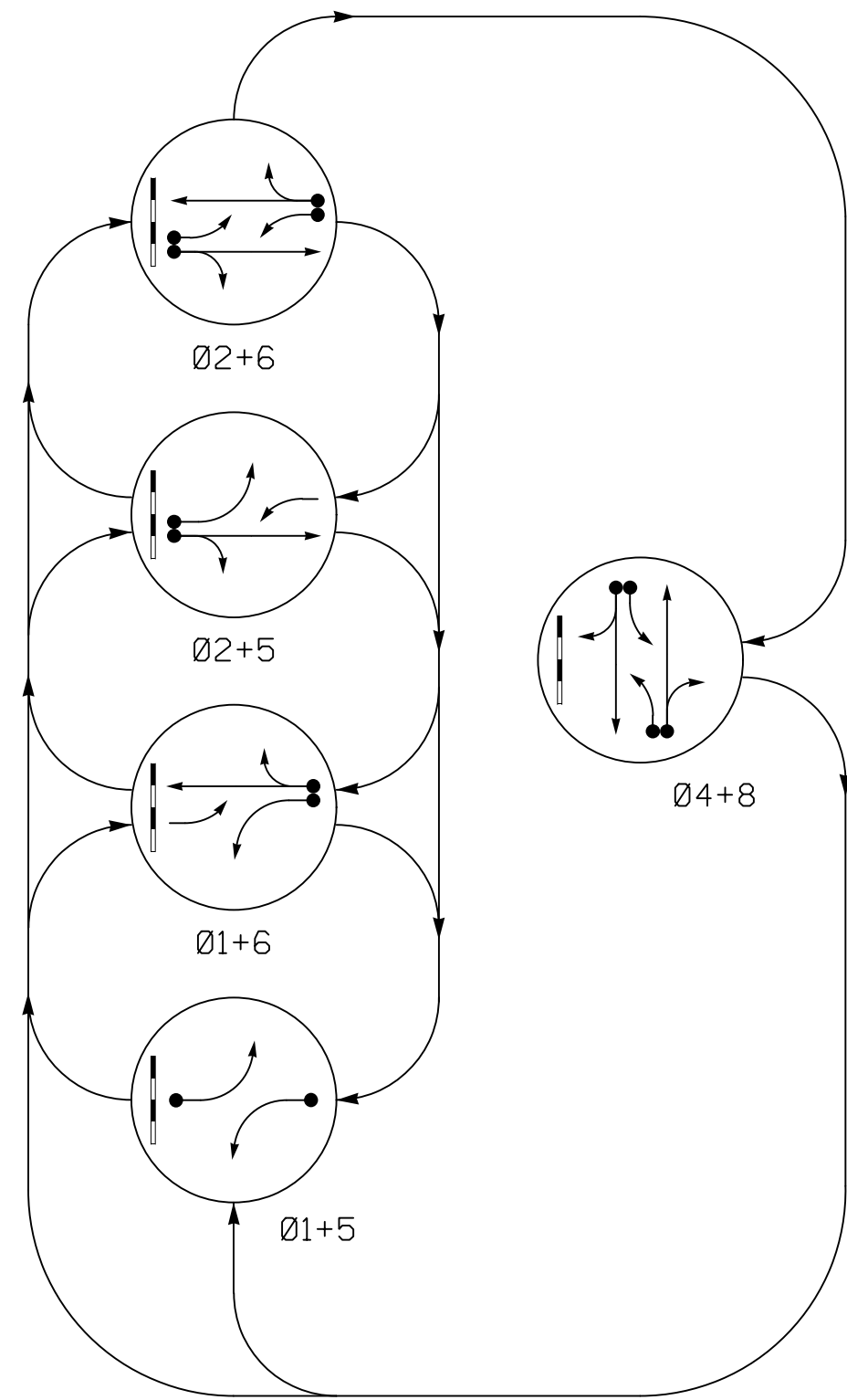


PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

RAIL PREEMPT PHASES (High Priority)

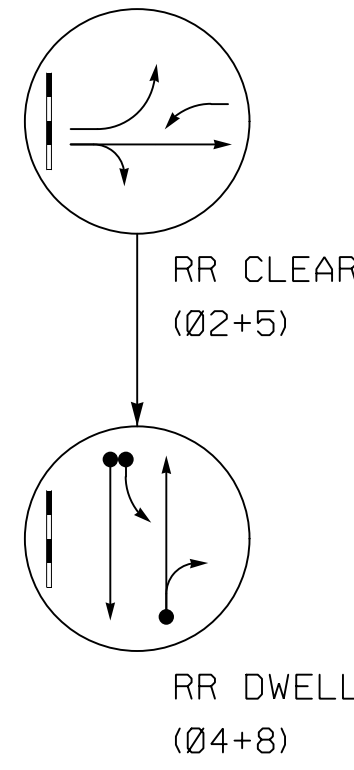


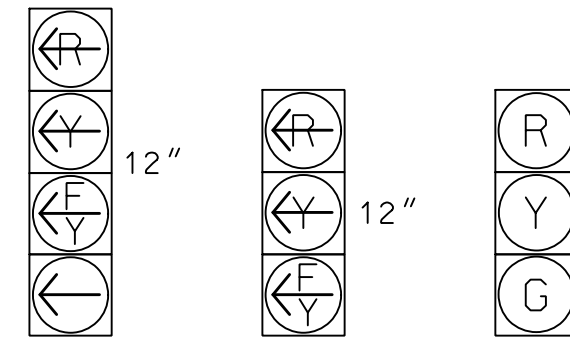
TABLE OF OPERATION

SIGNAL FACE	PHASE									
	01+5	01+6	02+5	02+6	04+8	RR CLEAR	RR DWELL	RR DWELL	RR DWELL	RR DWELL
11	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
21,22	R	R	G	G	R	G	R	Y	Y	Y
41	R	R	R	R	Y	Y	Y	Y	Y	Y
42,43	R	R	R	R	G	R	G	R	Y	Y
51	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
61,62	R	G	R	G	R	R	R	Y	Y	Y
81	R	R	R	R	Y	Y	Y	Y	Y	Y
82,83	R	R	R	R	G	R	G	R	Y	Y
Sign (A)	OFF	OFF	OFF	OFF	OFF	ON	ON	*		

* See note 6

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING							
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	Y
2A	6X6	200	5	Y	2	Y	Y	-	-	-	-	Y
2B	6X40	0	2-4-2	Y	2	Y	Y	Y	2.0	5	-	Y
4A	6X6	300	5	Y	4	-	Y	-	-	-	-	Y
4B	6X40	0	2-4-2	Y	4	Y	Y	Y	2.0	5	-	Y
4C	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
6A	6X6	420	5	Y	6	Y	Y	-	-	-	-	Y
6B	6X40	0	2-4-2	Y	6	Y	Y	Y	2.0	5	-	Y
8A	6X6	300	5	Y	8	-	Y	-	-	-	-	Y
8B	6X40	0	2-4-2	Y	8	Y	Y	Y	2.0	5	-	Y
8C	6X6	0	3	Y	8	Y	Y	Y	2.0	10	-	Y
8D	6X40	0	2-4-2	Y	8	Y	Y	-	-	3	-	Y

5 Phase Fully Actuated With Railroad Preemption Isolated

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- This location contains railroad preemption phasing. Do not program signal for late night flashing operation.
- Phase 1 and/or phase 5 may be lagged.
- Reposition all existing signal heads.
- Set all detector units to presence mode.
- Ensure flashing operation does not alter operation of blackout signs.
- Program parent phases for Overlap "P" for all phases used in normal operation.
- Remove existing "NO LEFT TURN - TRAIN" LED Blackout Sign and return equipment to Division 14 office.

This plan supersedes the one signed and sealed on 2/15/2017.

NC Dept of Transportation
Division of Highways
Final Drawing Date: 7/10/2018
R. N. Ziser
ITS & Signals Unit

OASIS 2070 TIMING CHART

FEATURE	PHASE							
	1	2	4	5	6	8		
Min Green 1 *	7	12	7	7	14	7		
Extension 1 *	2.0	6.0	6.0	2.0	6.0	6.0		
Max Green 1 *	20	60	60	15	60	60		
Yellow Clearance	3.0	5.1	4.5	3.1	5.1	4.5		
Red Clearance	1.8	1.0	1.6	2.9	1.0	1.6		
Walk 1 *	-	-	-	-	-	-		
Don't Walk 1	-	-	-	-	-	-		
Seconds Per Actuation *	-	-	-	-	-	-		
Max Variable Initial *	-	-	-	-	-	-		
Time Before Reduction *	-	15	5	-	15	5		
Time To Reduce *	-	30	20	-	30	20		
Minimum Gap	-	3.0	3.0	-	3.4	3.0		
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-		
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-		
Dual Entry	-	-	ON	-	-	ON		
Simultaneous Gap	ON	ON	ON	ON	ON	ON		

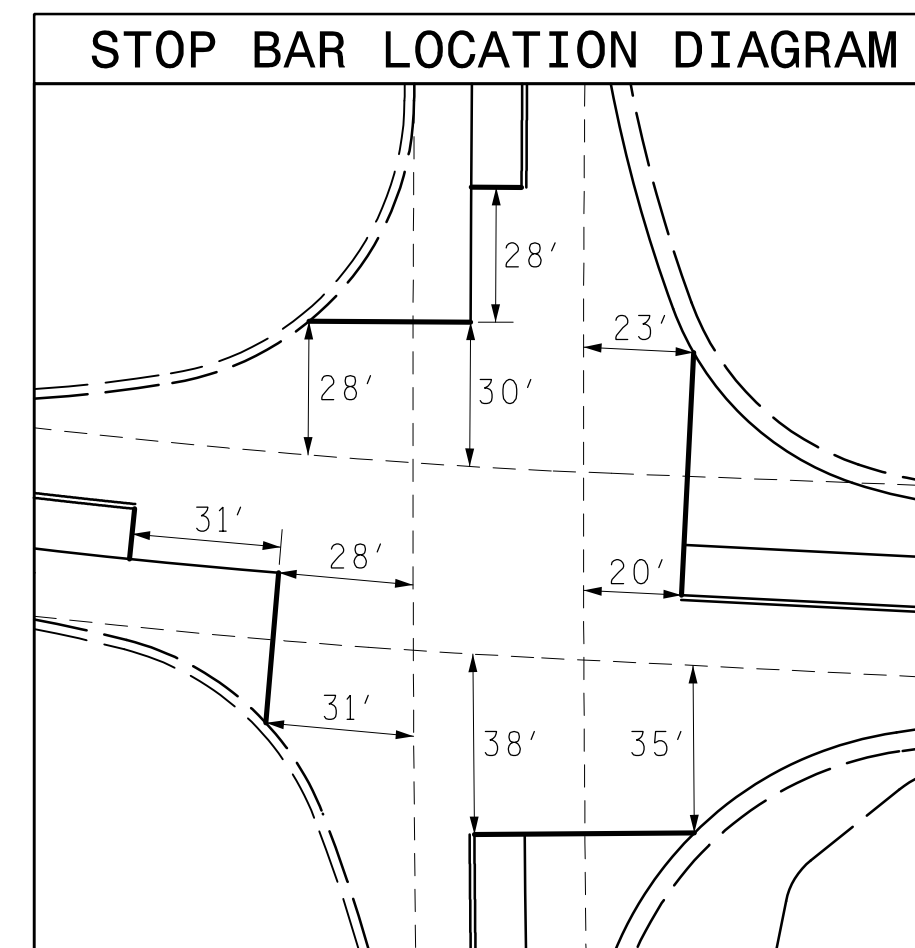
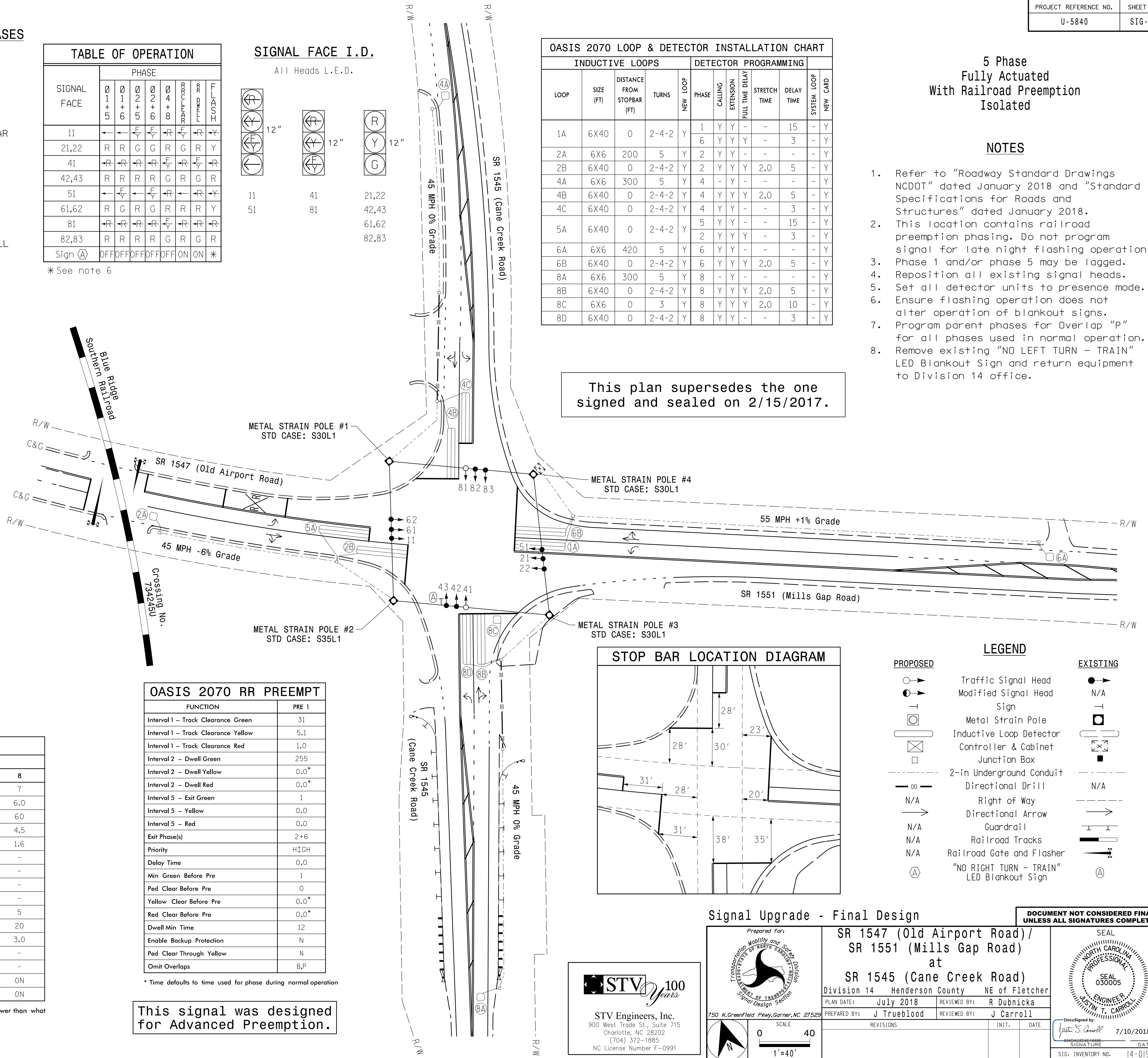
* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

OASIS 2070 RR PREEMPT

FUNCTION	PRE 1
Interval 1 - Track Clearance Green	31
Interval 1 - Track Clearance Yellow	5.1
Interval 1 - Track Clearance Red	1.0
Interval 2 - Dwell Green	255
Interval 2 - Dwell Yellow	0.0*
Interval 2 - Dwell Red	0.0*
Interval 5 - Exit Green	1
Interval 5 - Yellow	0.0
Interval 5 - Red	0.0
Exit Phase(s)	2+6
Priority	HIGH
Delay Time	0.0
Min Green Before Pre	1
Ped Clear Before Pre	0
Yellow Clear Before Pre	0.0*
Red Clear Before Pre	0.0*
Dwell Min Time	12
Enable Backup Protection	N
Ped Clear Through Yellow	N
Omit Overlaps	B,P

* Time defaults to time used for phase during normal operation

This signal was designed for Advanced Preemption.

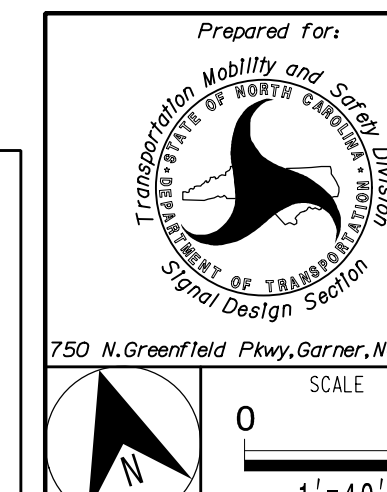


LEGEND

PROPOSED	EXISTING
○→	●→
○→	○→
○	○
⊗	⊗
⊠	⊠
---	---
N/A	N/A
→	→
N/A	N/A
N/A	N/A
N/A	N/A
⊠	⊠

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SR 1547 (Old Airport Road) / SR 1551 (Mills Gap Road) at SR 1545 (Cane Creek Road)
Division 14 Henderson County NE of Fletcher
PLAN DATE: July 2018 REVIEWED BY: R Dubnicka
PREPARED BY: J Trueblood REVIEWED BY: J Carroll

SEAL
JUSTIN T. CARROLL
PROFESSIONAL ENGINEER
030005
7/10/2018



REVISIONS
INIT. DATE
SIGNATURE DATE
SIG. INVENTORY NO. 14-0196