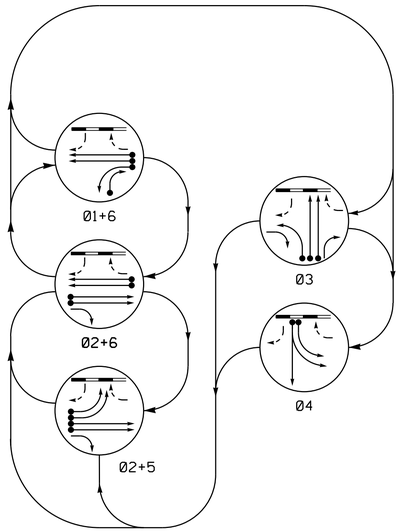
PROJECT REFERENCE NO.	SHEET NO.
U-6223	Sig. 4.0

PHASING DIAGRAM



RAIL PREEMPT PHASES

(High Priority)

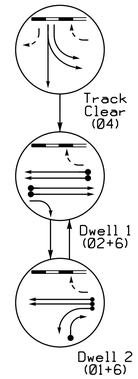
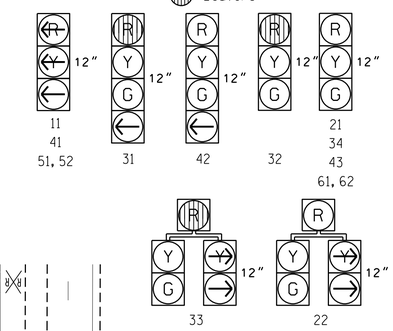


TABLE OF OPERATION

SIGNAL FACE	PHASE 02+5	02+6	01+6	03	04	TRACK CLEARANCE	DWELL 1	DWELL 2	FLASH
11	~~R~~	~~R~~	~~←~~	~~R~~	~~R~~	~~R~~	~~R~~	~~←~~	~~R~~
21	G	G	R	R	R	R	G	R	Y
22	G	G	R	R/	R	R	G	R	Y
31	R	R	R	G	R	R	R	R	R
32,34	R	R	R	G	R	R	R	R	R
33	R	R	R/	G	R	R	R	R/	R
41	~~R~~	~~R~~	~~R~~	~~R~~	~~←~~	~~←~~	~~R~~	~~R~~	~~R~~
42	R	R	R	R	G	G	R	R	R
43	R	R	R	R	G	G	R	R	R
51,52	~~←~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61,62	R	G	G	R	R	R	G	G	Y

SIGNAL FACE I.D.

All Heads L.E.D.
Do Not Install Backplates



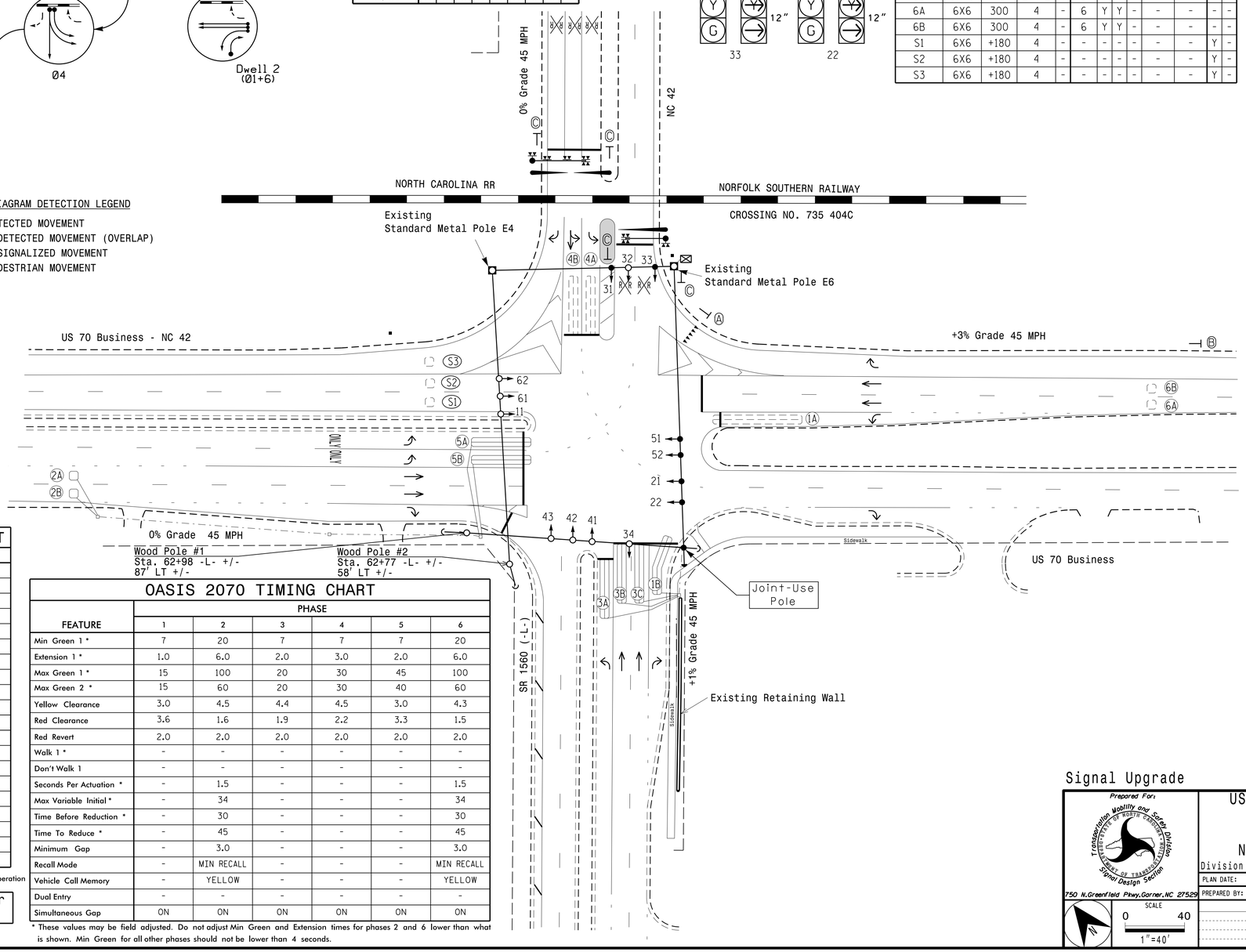
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X60	+5	2-4-2	-	1	Y	Y	-	-	-	-	-
1B	6X40	+5	2-4-2	Y	1	Y	Y	-	-	15	-	-
2A	6X6	300	6	Y	2	Y	Y	-	-	-	-	-
2B	6X6	300	6	Y	2	Y	Y	-	-	-	-	-
3A	6X40	0	2-4-2	Y	3	Y	Y	-	-	-	-	Y
3B	6X40	0	2-4-2	Y	3	Y	Y	-	-	-	-	-
3C	6X40	0	2-4-2	Y	3	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-	-
5A	6X40	+5	2-4-2	Y	5	Y	Y	-	-	-	-	-
5B	6X40	+5	2-4-2	Y	5	Y	Y	-	-	-	-	-
6A	6X6	300	4	-	6	Y	Y	-	-	-	-	-
6B	6X6	300	4	-	6	Y	Y	-	-	-	-	-
S1	6X6	+180	4	-	-	-	-	-	-	-	Y	-
S2	6X6	+180	4	-	-	-	-	-	-	-	Y	-
S3	6X6	+180	4	-	-	-	-	-	-	-	Y	-

5 Phase
Fully Actuated
w/ RR Preemption
US 70 Bus. - NC 42 (Clayton)
D04-01_Clayton

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. This location contains railroad preemption phasing. Do not program signal for late night flashing operation.
3. The order of phase 3 and phase 4 may be reversed.
4. The order of phase 1 and phase 5 may be reversed, but phase 1 and phase 5 shall not operate simultaneously.
5. Reposition existing signal heads numbered 31 and 33.
6. Set all detector units to presence mode.
7. 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.
8. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
9. Program parent phases for Overlap "P" for all phases used in normal operation.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



PHASING DIAGRAM DETECTION LEGEND

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

OASIS 2070 RR PREEMPT

FUNCTION	PRE 1
Interval 1 – Track Clearance Green	25
Interval 1 – Track Clearance Yellow	4.5
Interval 1 – Track Clearance Red	2.2
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)	3
Priority	High
Delay Time	0.0
Min Green Before Pre	1
Ped Clear Before Pre	0
Yellow Clear Before Pre	4.5
Red Clear Before Pre	3.6
Dwell Min Time	7
Enable Backup Protection	N
Ped Clear Through Yellow	N
Omit Overlaps	P

* Time defaults to time used for phase during normal operation

This signal was designed for advanced preemption.

OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6
Min Green 1 *	7	20	7	7	7	20
Extension 1 *	1.0	6.0	2.0	3.0	2.0	6.0
Max Green 1 *	15	100	20	30	45	100
Max Green 2 *	15	60	20	30	40	60
Yellow Clearance	3.0	4.5	4.4	4.5	3.0	4.3
Red Clearance	3.6	1.6	1.9	2.2	3.3	1.5
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	34	-	-	-	34
Time Before Reduction *	-	30	-	-	-	30
Time To Reduce *	-	45	-	-	-	45
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
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.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	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	
N/A	RxR Track	
N/A	Railroad Cantilever	
N/A	Railroad Gate and Flasher	
Ⓐ	"YIELD" Sign (R1-2)	Ⓐ
Ⓑ	RR Advance Warning Sign (W10-2R)	Ⓑ
Ⓒ	"DO NOT STOP ON TRACKS" Sign (R8-8)	Ⓒ

Signal Upgrade

Prepared For: Transportation Mobility and Safety Division, Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40 1"=40'

US 70 Business - NC 42 / US 70 Business at NC 42 / SR 1560 (-L-)

Division 4 Johnston County Clayton

PLAN DATE: January 2022	REVIEWED BY: ZML
PREPARED BY: KGP, Jr.	REVIEWED BY:

REVISIONS	INIT.	DATE

DocuSigned by: Zachary Little 3/29/2022
DC21EF0BEF5A41F...

SIG. INVENTORY NO. 04-1037

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 030530 ENGINEER ZACHARY M. LITTLE

04-APR-2022 11:48
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