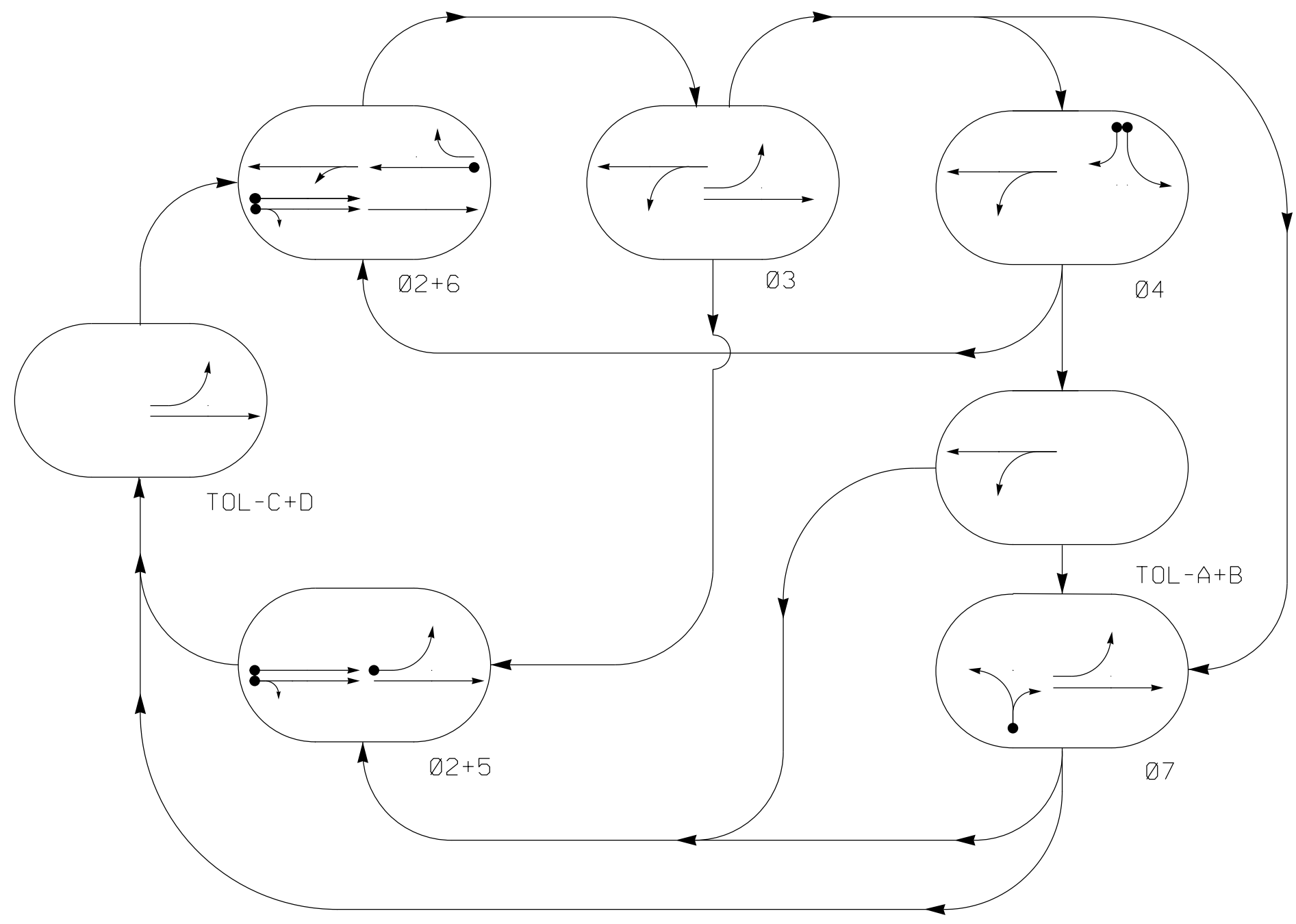


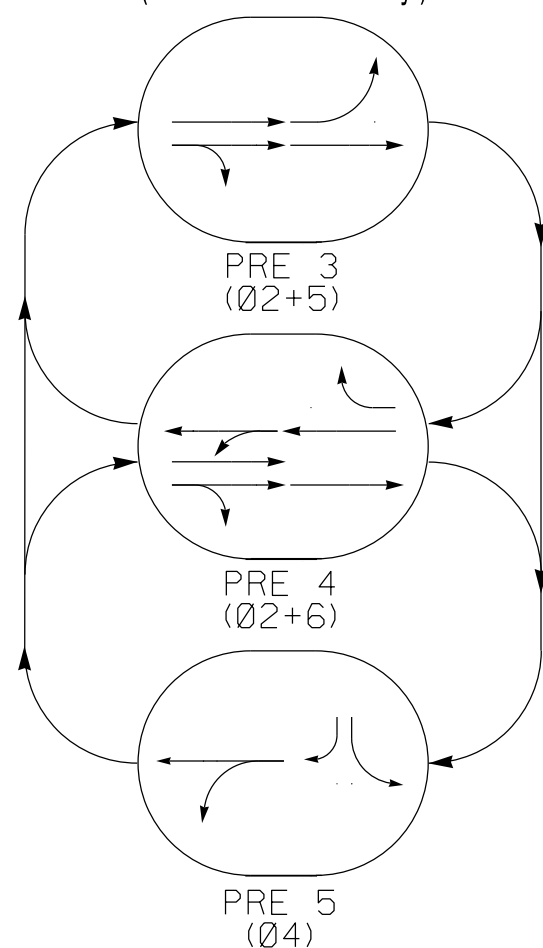
**PHASING DIAGRAM**



**PHASING DIAGRAM DETECTION LEGEND**

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

**EV PREEMPT PHASES (Medium Priority)**



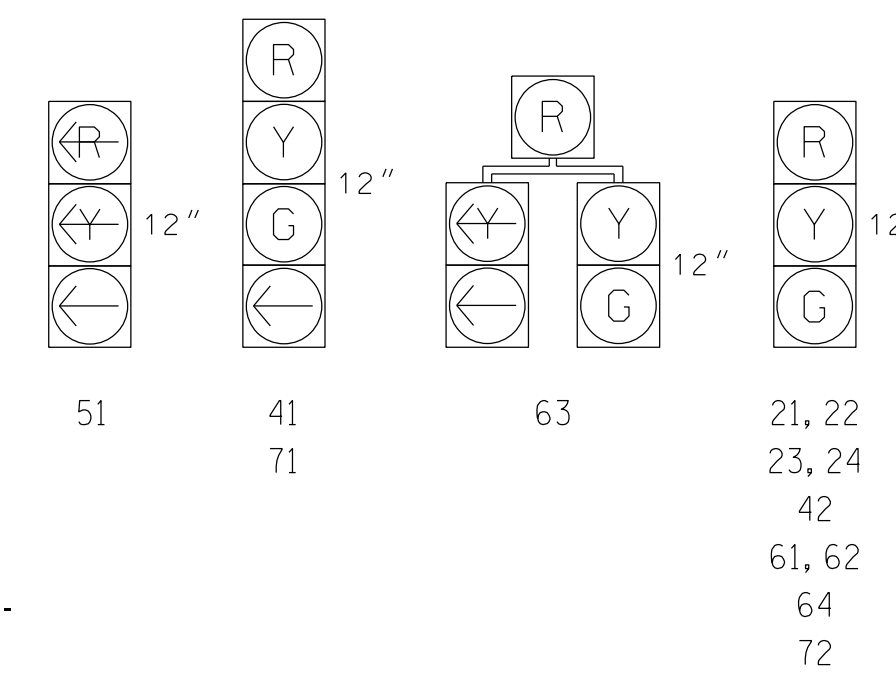
**OASIS 2070 LOOP & DETECTOR INSTALLATION CHART**

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
					PHASE	CALLING	EXTENSION	FULL TIME DELAY				
2A	6x6	70	*	*	2	Y	Y	-	-	-	-	*
2B	6x6	70	*	*	2	Y	Y	-	-	-	-	*
4A	6x40	0	*	*	4	Y	Y	-	-	3	-	*
4B	6x40	0	*	*	4	Y	Y	-	-	-	-	*
5A	6x40	0	2-4-2	Y	5	Y	Y	-	-	3	-	Y
6A	6x6	70	*	*	6	Y	Y	-	-	-	-	*
7A	6x40	0	2-4-2	Y	7	Y	Y	-	-	3	-	Y

\* Video Detection Zone

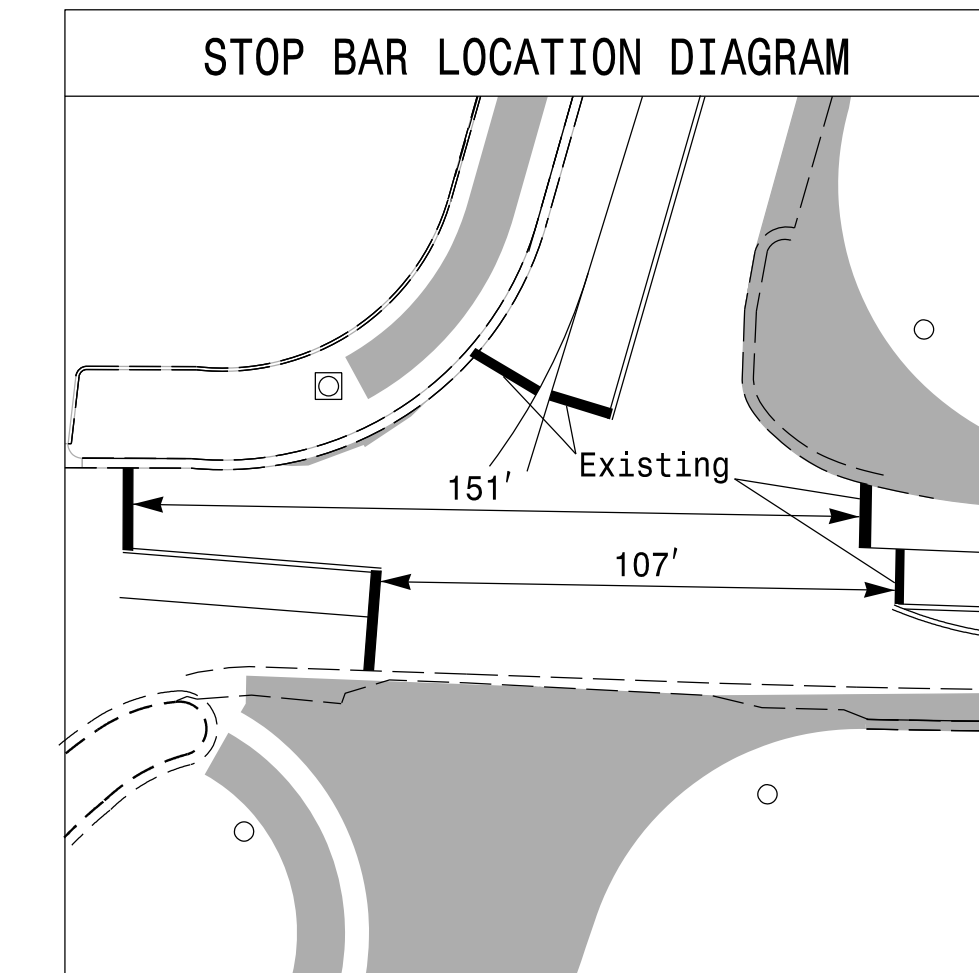
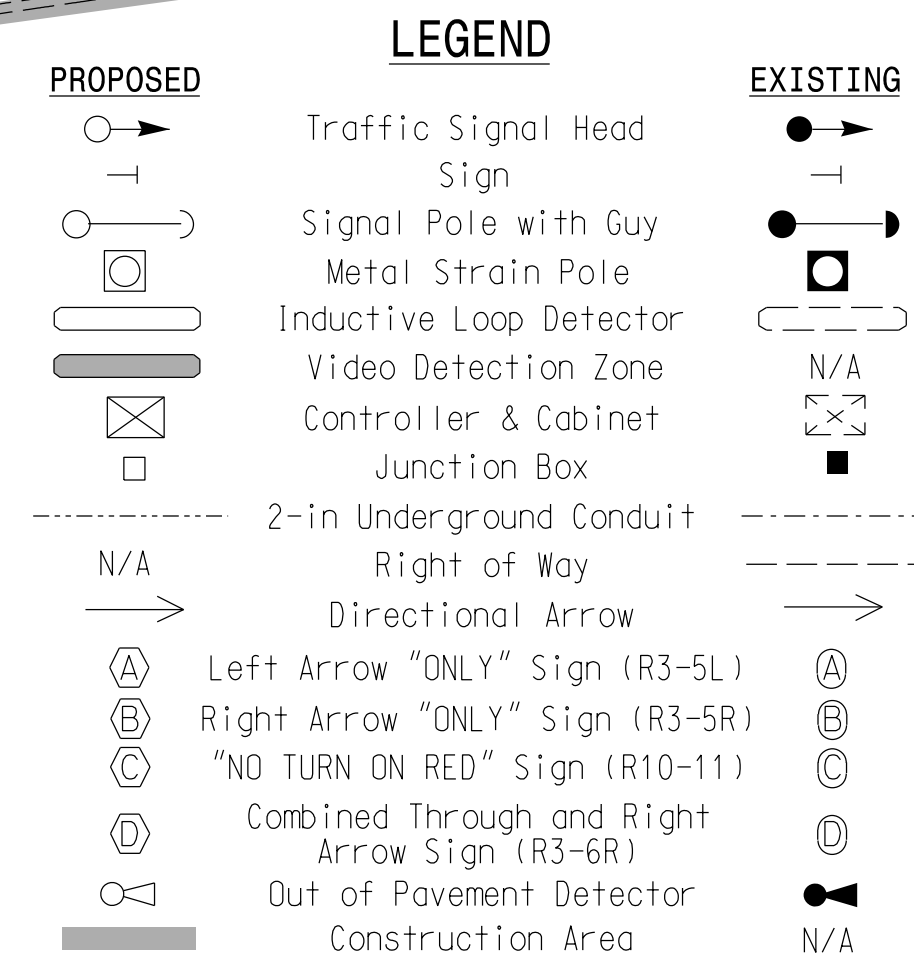
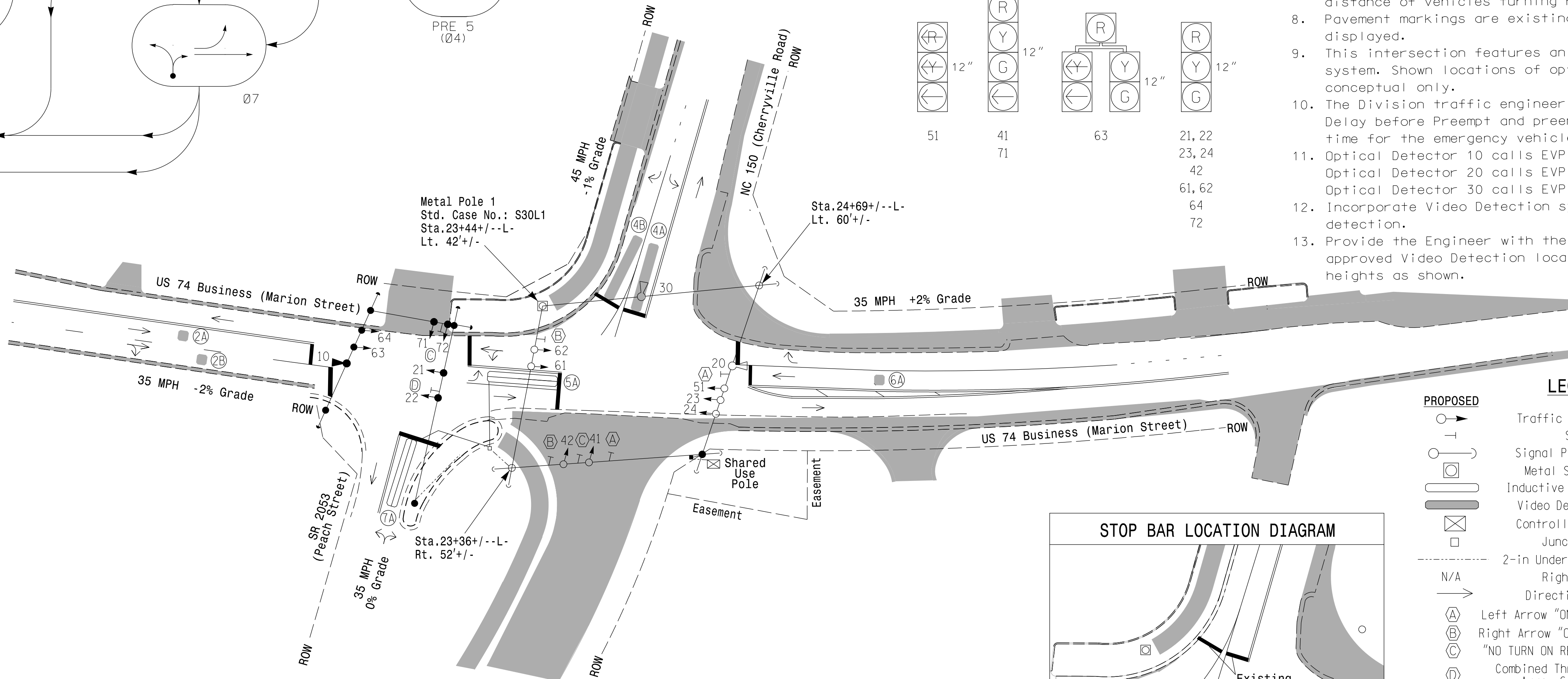
**SIGNAL FACE I.D.**

All Heads L.E.D.



**TABLE OF OPERATION**

SIGNAL FACE	PHASE													
	Ø2+5	Ø2+6	Ø3	Ø4	Ø7	TOL-A	TOL-B	TOL-C	TOL-D	PREF 3	PREF 4	PREF 5	PREF 6	PREF 7
21, 22	G	G	R	R	R	R	R	G	G	R	Y			
23, 24	G	G	G	R	G	R	G	G	G	R	Y			
41	R	R	R	G	R	R	R	R	R	G	R			
42	R	R	R	G	R	R	R	R	R	G	R			
51	←	←	←	←	←	←	←	←	←	←	←			
61, 62	R	G	R	R	R	R	R	R	G	R	Y			
63	R	G	G	R	G	R	R	G	G	Y				
64	R	G	G	R	G	R	R	G	G	Y				
71	R	R	R	R	G	R	R	R	R	R	R			
72	R	R	R	R	G	R	R	R	R	R	R			



**OASIS 2070 TIMING CHART**

FEATURE	PHASE									
	2	3	4	5	6	7	TOL-A	TOL-B	TOL-C	TOL-D
Min Green 1*	10	4	7	4	10	7	4	4	4	4
Extension 1*	3.0		2.0	2.0	3.0	2.0				
Max Green 1*	45		20	20	45	20				
Yellow Clearance	4.0	4.0	3.0	3.0	4.0	3.0	3.7	3.0	4.0	3.0
Red Clearance	2.1	1.9	2.1	1.9	2.1	2.3	1.2	1.9	1.3	1.9
Red Revert	2.0		2.0	2.0	2.0	2.0				
Walk 1*	-		-	-	-	-				
Don't Walk 1	-		-	-	-	-				
Seconds Per Actuation*	-		-	-	-	-				
Max Variable Initial*	-		-	-	-	-				
Time Before Reduction*	-		-	-	-	-				
Time To Reduce*	-		-	-	-	-				
Minimum Gap	-		-	-	-	-				
Recall Mode	MIN RECALL		-	-	MIN RECALL	-				
Vehicle Call Memory	YELLOW		-	-	YELLOW	-				
Dual Entry	-		-	-	-	-				
Simultaneous Gap	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 EV PREEMPT**

FUNCTION	PRE 3	PRE 4	PRE 5
Interval 1 - Dwell Green	255	255	255
Interval 1 - Dwell Yellow	0.0*	0.0*	0.0*
Interval 1 - Dwell Red	0.0*	0.0*	0.0*
Interval 5 - Exit Green	1	1	1
Interval 5 - Yellow	0.0	0.0	0.0
Interval 5 - Red	0.0	0.0	0.0
Exit Phase(s)	2, 5	2, 6	2, 6
Priority	Medium	Medium	Medium
Delay Time	0	0	0
Min Green Before Pre	1	1	1
Ped Clear Before Pre	0*	0*	0*
Yellow Clear Before Pre	0.0*	0.0*	0.0*
Red Clear Before Pre	0.0*	0.0*	0.0*
Dwell Min Time	10	10	7
Enable Backup Protection	Y	N	N
Ped Clear Through Yellow	N	N	N
Omit Overlaps	-	-	-
Preempt Extend**	2	2	2

\* Time defaults to time used for phase during normal operation  
\*\* Program Timing on Optical Detection Unit

- 8 Phase Fully Actuated w/ EV Preemption (Isolated) NOTES**
- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018. The PSP can be accessed at the following website: <http://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>
  - Do not program signal for late night flashing operation unless otherwise directed by the Engineer. Program controller to clear from phase 2+6 to phase 2+5 by progressing through phase 3 (see Electrical Details).
  - Reposition existing signal heads numbered 21, 22, 71 and 72.
  - Remove existing signal head 52.
  - Set all detector units to presence mode.
  - Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
  - Pavement markings are existing unless otherwise displayed.
  - This intersection features an optical preemption system. Shown locations of optical detector are conceptual only.
  - The Division traffic engineer will determine the Delay before Preempt and preempt Dwell Min Green time for the emergency vehicle preemption timing.
  - Optical Detector 10 calls EVP 3, Optical Detector 20 calls EVP 4, Optical Detector 30 calls EVP 5.
  - Incorporate Video Detection system for vehicle detection.
  - Provide the Engineer with the Manufacturer's approved Video Detection locations and mounting heights as shown.

Signal Upgrade-Temporary Phase I

**US 74 Bus. (Marion Street) at NC 150 (Cherryville Road) / SR 2053 (Peach Street)**

Division 12 Cleveland County Shelby

PLAN DATE: March 2022 REVIEWED BY: J.L. Lewis

PREPARED BY: M.L. Stygles REVIEWED BY: J. Ma

REVISIONS: INIT. DATE

SCALE: 1"=40'

3/1/2022

SIG. INVENTORY NO. 12-060011