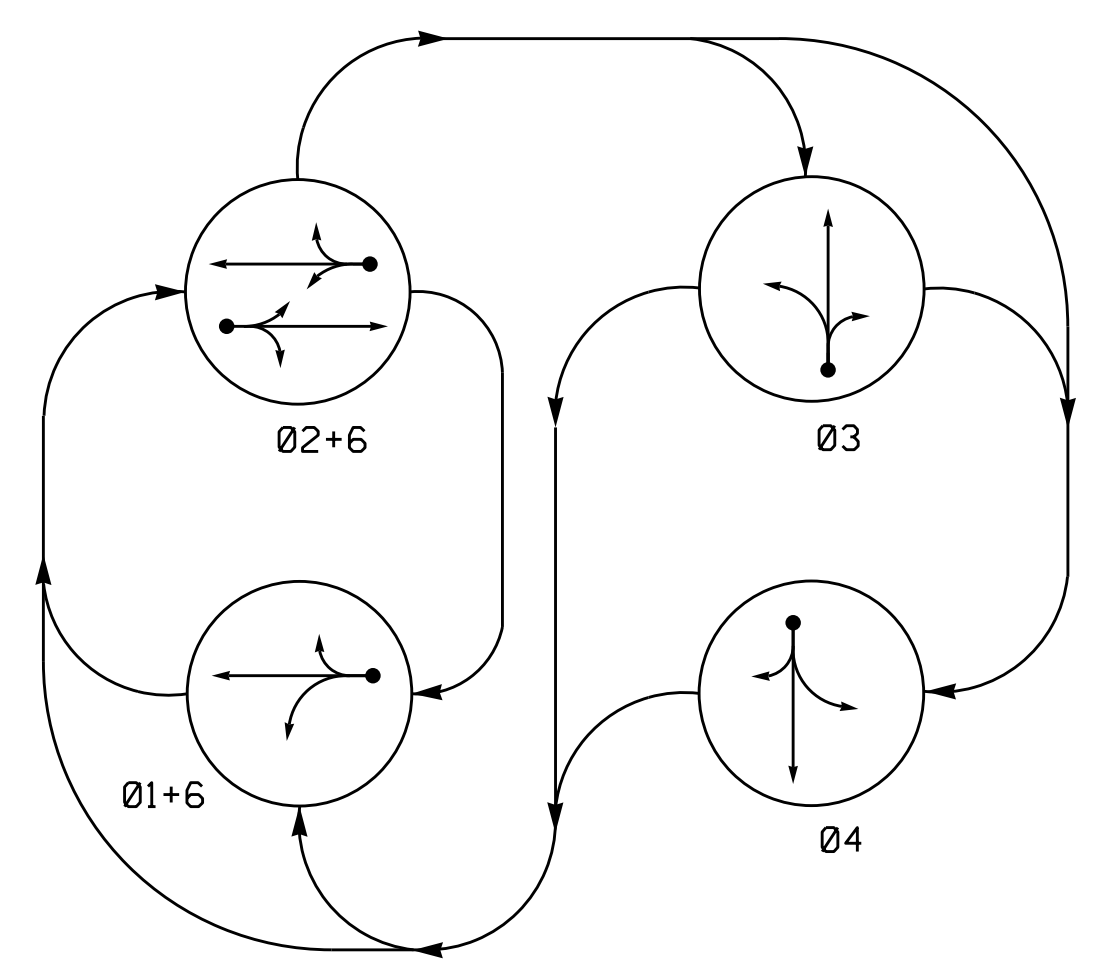


4 Phase Fully Actuated Asheville Signal System

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND
 ● DETECTED MOVEMENT
 ◄ UNDETECTED MOVEMENT (OVERLAP)
 - - - UNSIGNALIZED MOVEMENT
 ◄ - - - PEDESTRIAN MOVEMENT

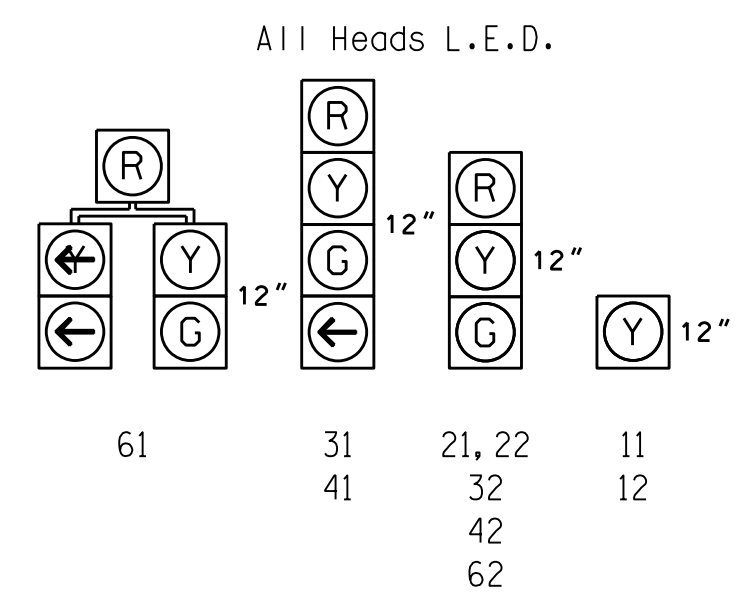
TABLE OF OPERATION

SIGNAL FACE	PHASE				
	Ø1+6	Ø2+6	Ø3	Ø4	PEDEST
21, 22	R	G	R	R	Y
31	R	R	G	R	R
32	R	R	G	R	R
41	R	R	R	G	R
42	R	R	R	G	R
61	G	G	R	R	Y
62	G	G	R	R	Y
11, 12	OFF	OFF	ON	ON	DRK

TABLE OF OPERATION

SIGNAL FACE	INTERVAL	
	1	2
11	ON	OFF
12	OFF	ON

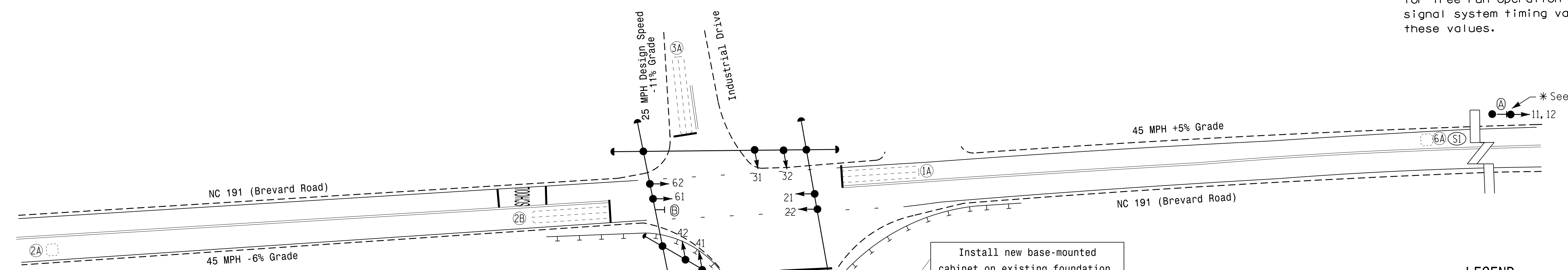
SIGNAL FACE I.D.



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	-	1	Y	Y	-	-	15	-	Y
2A	6X6	300	5	-	2	Y	Y	-	-	-	-	Y
2B	6X40	0	2-4-2	-	2	Y	Y	Y	2.0	5	-	Y
3A	6X40	0	2-4-2	-	3	Y	Y	-	-	5	-	Y
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	5	-	Y
4B	6X30	0	2-4-2	-	4	Y	Y	-	-	15	-	Y
6A/S1	6X6	300	5	-	6	Y	Y	-	-	-	-	Y

- NOTES**
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
 - Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
 - Enable Backup Protect for phase 6 to allow the controller to clear from phase 2+6 to phase 1+6 by progressing through an all red display.
 - The order of phase 3 and phase 4 may be reversed.
 - Set all detector units to presence mode.
 - Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
 - The cabinet should be designed to include an Auxiliary Output file for future use.
 - Pavement markings are existing.
 - Flash beacons 11 and 12 at the end of phase 6 green.
 - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



Install new base-mounted cabinet on existing foundation.

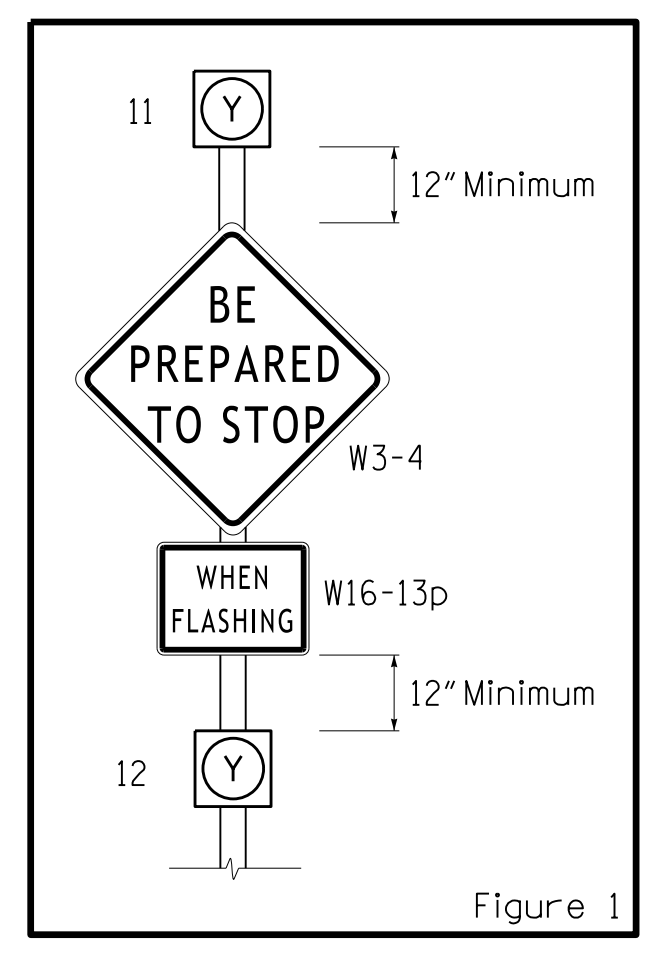
LEGEND

PROPOSED	EXISTING
○ → Traffic Signal Head	● → N/A
● → Modified Signal Head	-
⊥ Sign	⊥ Sign
⊥ Pedestrian Signal Head With Push Button & Sign	⊥ Sign
○ Signal Pole with Guy	● Signal Pole with Guy
○ Signal Pole with Sidewalk Guy	● Signal Pole with Sidewalk Guy
⊠ Inductive Loop Detector	⊠ Inductive Loop Detector
⊠ Controller & Cabinet	⊠ Junction Box
- - - 2-in Underground Conduit	- - - Right of Way
→ Directional Arrow	→ Directional Arrow
Ⓐ See "Figure 1"	Ⓐ See "Figure 1"
Ⓑ "LEFT TURN YIELD ON GREEN" Sign (R10-12)	Ⓑ "LEFT TURN YIELD ON GREEN" Sign (R10-12)

OASIS 2070 TIMING CHART

FEATURE	PHASE				
	1	2	3	4	6
Min Green 1 *	7	12	7	7	12
Extension 1 *	2.0	6.0	2.0	2.0	6.0
Max Green 1 *	20	90	30	30	90
Yellow Clearance	3.0	5.1	3.9	3.7	5.1
Red Clearance	1.6	1.7	2.7	2.4	1.7
Red Revert	2.0	2.0	2.0	2.0	5.0
Walk 1 *	-	-	-	-	-
Don't Walk 1	-	-	-	-	-
Seconds Per Actuation *	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-
Time Before Reduction *	-	15	-	-	15
Time To Reduce *	-	30	-	-	30
Minimum Gap	-	3.0	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	-	-	-	-	-
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.



Signal Upgrade

Prepared In the Offices of:
 TRANSPORTATION MOBILITY AND SAFETY DIVISION
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 Signal Design Section

750 N. Greenfield Pkwy, Garner, NC 27529

NC 191 (Brevard Road) at Industrial Drive / Borg Warner Drive

Division 13 Buncombe County Asheville

PLAN DATE: May 2016 REVIEWED BY: P. Alexander

PREPARED BY: M. Mahbooba REVIEWED BY:

REVISIONS INIT. DATE

SCALE 0 30 1"=30'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 024393
 TIMOTHY J. WILLIAMS
 S. J. Williams 8/22/2016
 DATE
 SIG. INVENTORY NO. 13-1207

22-AUG-2016 09:12
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