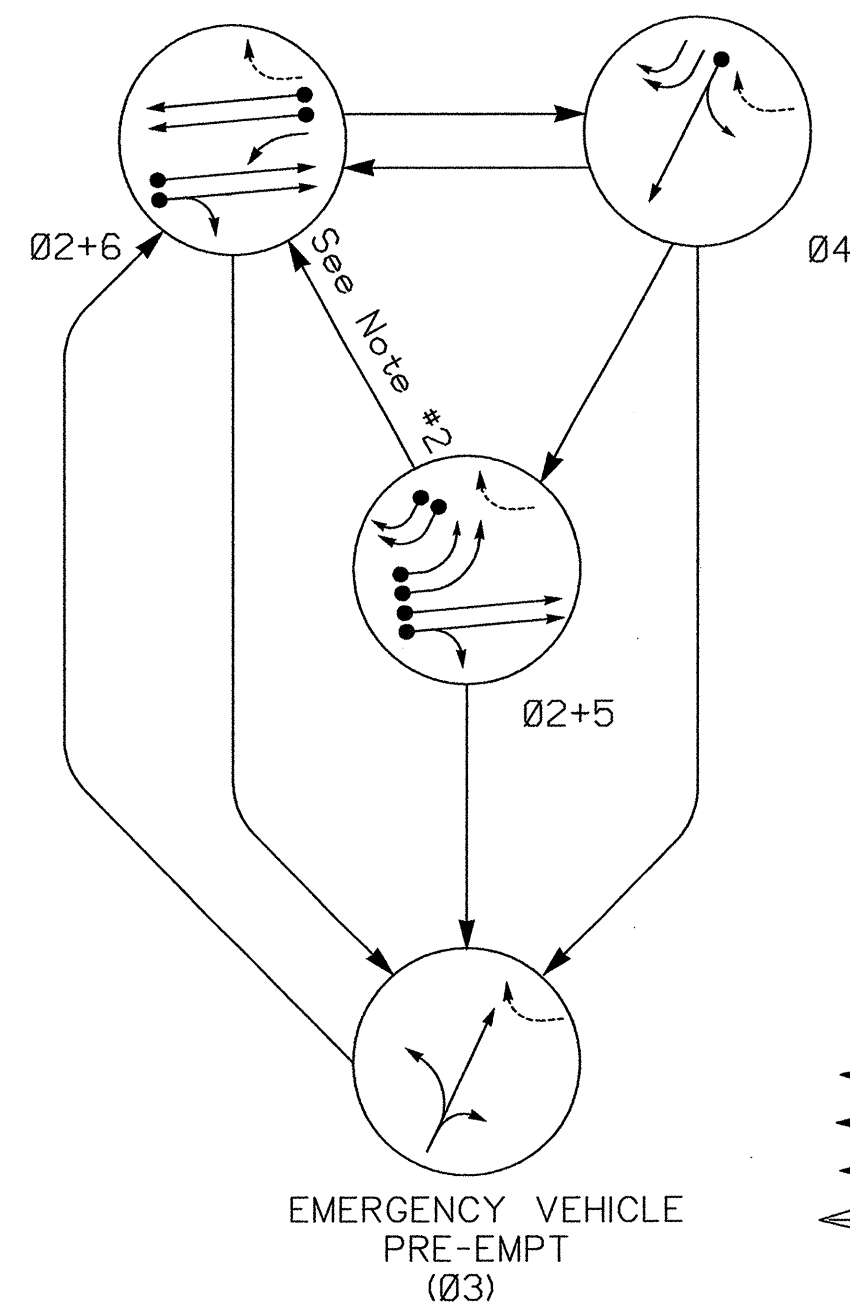
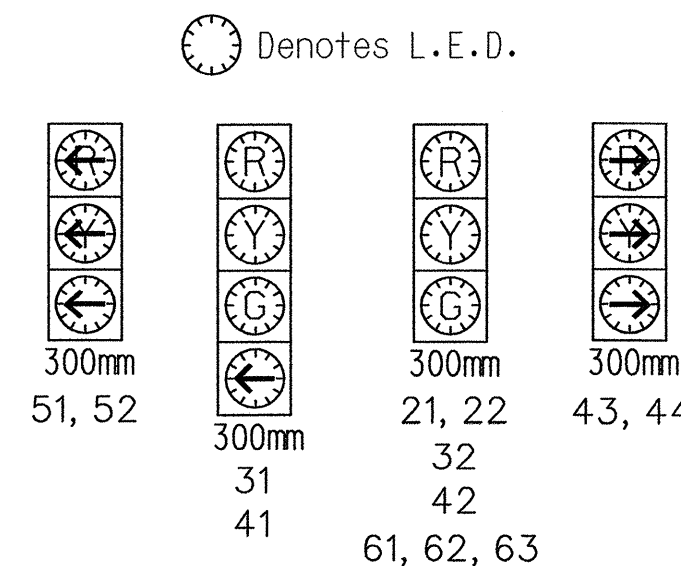


PHASING DIAGRAM



SIGNAL FACE	PHASE				
	Ø2+5	Ø2+6	Ø4	Ø3	FLASH
21, 22	G	G	R	R	Y
31	R	R	R	G	R
32	R	R	R	G	R
41	R	R	G	R	R
42	R	R	G	R	R
43, 44	→	→	→	→	→
51, 52	←	←	←	←	←
61, 62, 63	R	G	R	R	Y

SIGNAL FACE I.D.



Pay Item	Meters
Signal Cable	570
Messenger Cable	0
Lead-in Cable	250

3 Phase
w/Emergency Pre-empt
(Fully Actuated)
(Military Cutoff Road Closed Loop System)

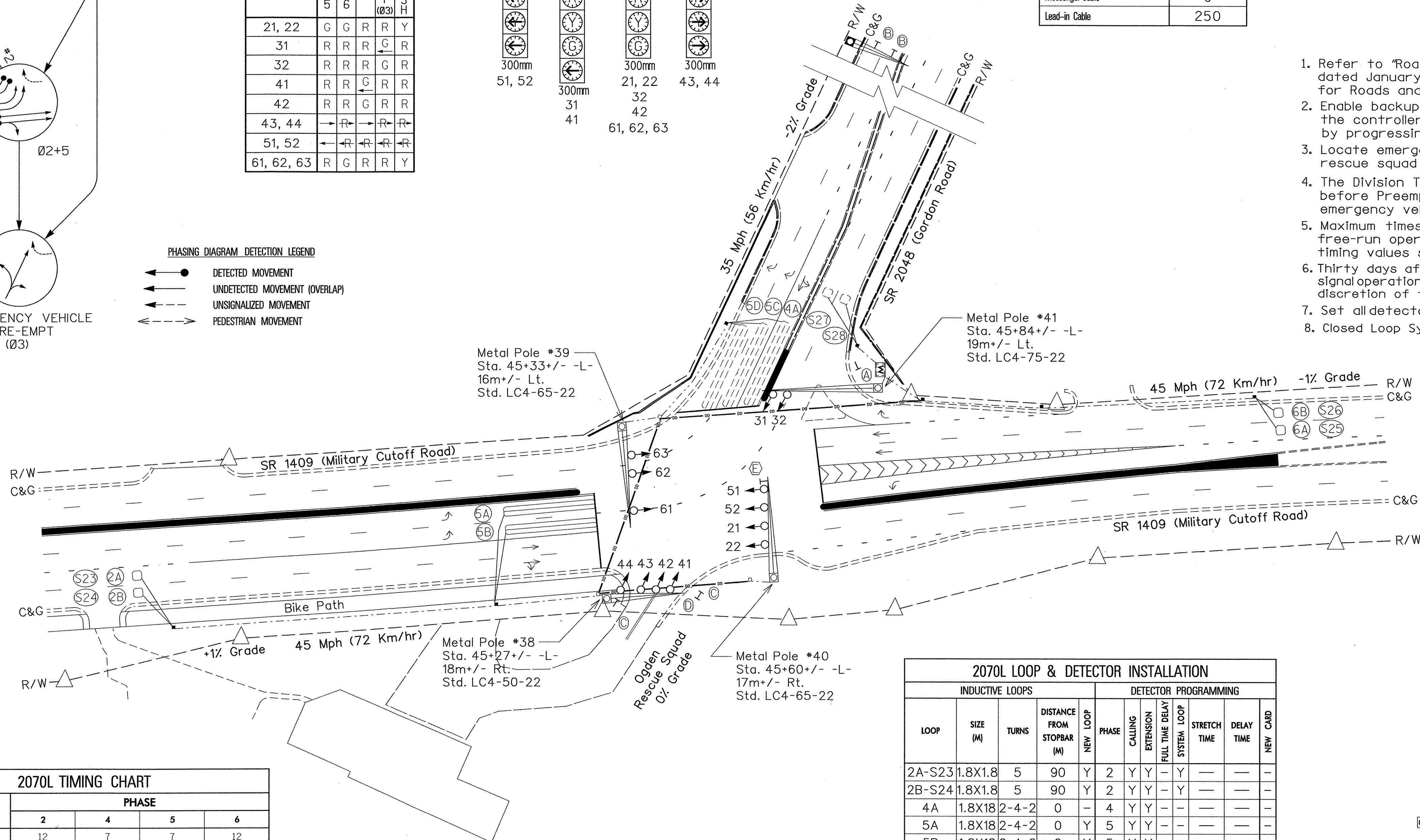
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Enable backup protect for phase 2 to allow the controller to clear from phase 2+6 to phase 2+5 by progressing through all red display.
- Locate emergency vehicle preemption switch in rescue building.
- The Division Traffic Engineer will determine the Delay before Preempt and Preempt Dwell Min Green time for emergency vehicle preemption timing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Thirty days after implementation of the revised signal operation, orange flags may be removed at the discretion of the Regional Traffic Engineer.
- Set all detector units to presence mode.
- Closed Loop System Data: Controller Asset #0884 Master Asset #10308

PHASING DIAGRAM DETECTION LEGEND

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

EMERGENCY VEHICLE PRE-EMPT (Ø3)



LEGEND

- | | |
|----------------------------------------------------------------|----------------------------------------------------------------|
| PROPOSED | EXISTING |
| ○ → Traffic Signal Head | ● → N/A |
| ○ → Modified Signal Head | ○ → Sign |
| ○ → Pedestrian Signal Head | ○ → Sign With Push Button & Sign |
| ○ → Signal Pole with Guy | ○ → Signal Pole with Sidewalk Guy |
| ○ → Inductive Loop Detector | ○ → Controller & Cabinet |
| ○ → Junction Box | ○ → 50mm Underground Conduit |
| ○ → N/A | ○ → Right of Way with Marker |
| ○ → Directional Arrow | ○ → Pavement Marking Arrow |
| ○ → Master Controller & Cabinet | ○ → Metal Pole with Mastarm |
| ○ → Directional Drill | ○ → N/A |
| ○ → "YIELD" Sign (R1-2) | ○ → "YIELD" Sign (R1-2) |
| ○ → Right Arrow "ONLY" Sign (R3-SR) With Orange Flags | ○ → Right Arrow "ONLY" Sign (R3-SR) With Orange Flags |
| ○ → "Emergency and Authorized Vehicles Only" Sign | ○ → "Emergency and Authorized Vehicles Only" Sign |
| ○ → Signal Remains Red Unless Activated by Emergency Personnel | ○ → Signal Remains Red Unless Activated by Emergency Personnel |
| ○ → "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | ○ → "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) |

FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	12	7	7	12
Extension 1 *	6.0	1.0	1.0	6.0
Max Green 1 *	100	25	15	100
Yellow Clearance	4.7	4.0	4.0	4.7
Red Clearance	2.0	2.5	3.0	2.0
Red Revert	5.0	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 *	15	-	-	15
Time To Reduce *	30	-	-	30
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

* 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.

2070 EV PREEMPTION	
Interval 1 - Dwell Green	255
Interval 1 - Dwell Yellow	4.0
Interval 1 - Dwell Red	3.0
Interval 5 - Exit Green	1
Interval 5 - Exit Yellow	0.0
Interval 5 - Exit Red	0.0
Delay Time	*
Min Green Before Pre	1
Ped Clear Before Pre	0
Yellow Clear Before Pre	4.7
Red Clear Before Pre	3.0
Dwell Min Time	*
Enable Backup Protection	N
Ped Clear Through Yellow	N

* See Note #4

2070L LOOP & DETECTOR INSTALLATION												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (M)	TURNS	DISTANCE FROM STOPBAR (M)	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	SYSTEM LOOP	STRETCH TIME	DELAY TIME	NEW CARD
2A-S23	1.8X1.8	5	90	Y	2	Y	Y	-	Y	-	-	-
2B-S24	1.8X1.8	5	90	Y	2	Y	Y	-	Y	-	-	-
4A	1.8X1.8	2-4-2	0	-	4	Y	Y	-	-	-	-	-
5A	1.8X1.8	2-4-2	0	Y	5	Y	Y	-	-	-	-	-
5B	1.8X1.8	2-4-2	0	Y	5	Y	Y	-	-	-	-	-
5C	1.8X1.8	2-4-2	0	-	5	Y	Y	-	-	-	15	-
5D	1.8X1.8	2-4-2	0	-	5	Y	Y	-	-	-	15	-
6A-S25	1.8X1.8	5	90	Y	6	Y	Y	-	Y	-	-	-
6B-S26	1.8X1.8	5	90	Y	6	Y	Y	-	Y	-	-	-
S27	1.8X1.8	4	+65	-	-	-	-	-	Y	-	-	-
S28	1.8X1.8	4	+65	-	-	-	-	-	Y	-	-	-

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Signal Upgrade Final Design

SR 1409 (Military Cutoff Road) at SR 2048 (Gordon Road) and (Ogden Rescue Squad)

Division 3 New Hanover County Wilmington

PLANNED BY: H. M. Sarti REVIEWED BY: L. M. Eddins

PREPARED BY: H. M. Sarti REVIEWED BY: S. S. Asefina

SCALE: 1:500

DATE: 1/7/09

SIGNATURE: _____ DATE: 1/7/09

SIG. INVENTORY NO. 03-0884