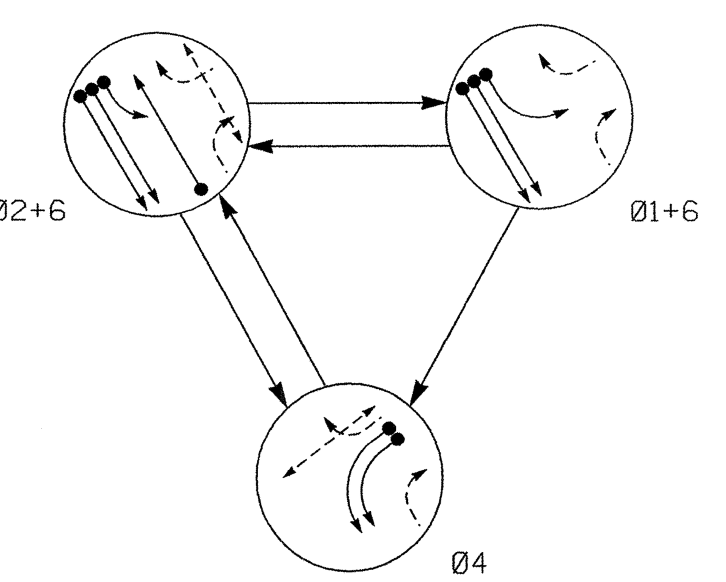
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

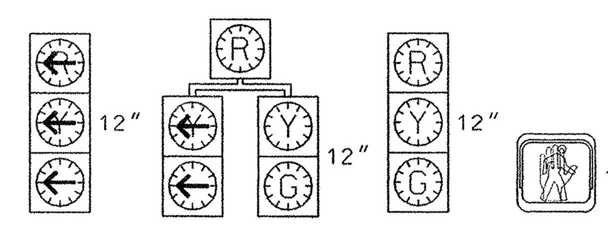
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+6	Ø2+6	Ø4	FLASH
21,22	R	G	R	Y
41,42	←R	←R	←	←R
61	←/G	G	R	Y
62	G	G	R	Y
P21,P22	DW	W	DW	DRK
P41,P42	DW	DW	W	DRK

SIGNAL FACE I.D.

◌ Denotes L.E.D.



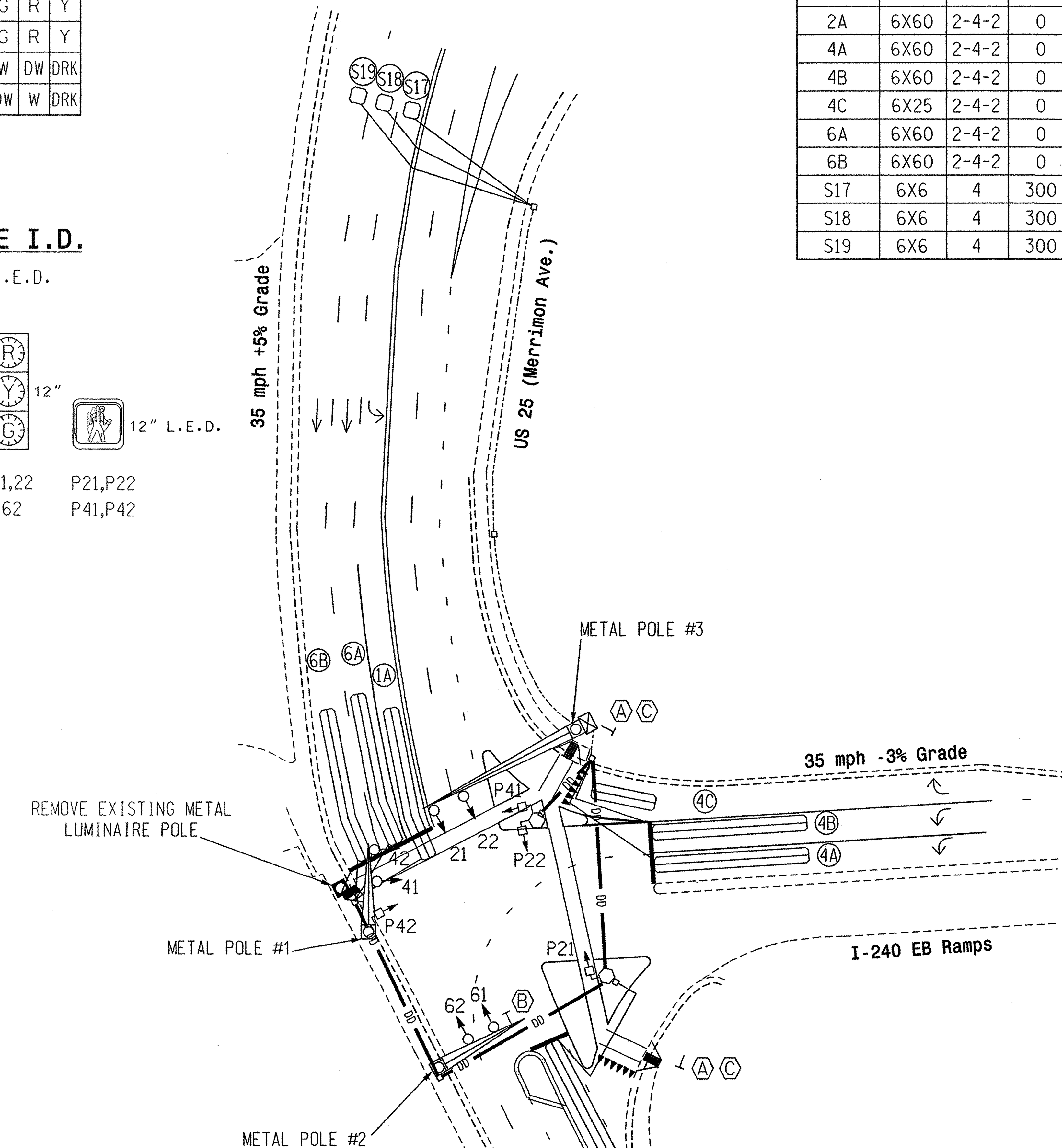
PLAN QUANTITIES

Pay Item	Feet
Signal Cable	1620
Messenger Cable	00
Lead-in Cable	1150

2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	SYSTEM LOOP	STRETCH TIME	DELAY TIME	NEW CARD
1A	6X60	2-4-2	+10	Y	1	Y	Y	-	-	-	15	Y
					6	Y	Y	-	-	-	-	Y
2A	6X60	2-4-2	0	Y	2	Y	Y	-	-	-	-	Y
4A	6X60	2-4-2	0	Y	4	Y	Y	-	-	-	-	Y
4B	6X60	2-4-2	0	Y	4	Y	Y	-	-	-	-	Y
4C	6X25	2-4-2	0	Y	4	Y	Y	Y	-	-	20	Y
6A	6X60	2-4-2	0	Y	6	Y	Y	-	-	-	-	Y
6B	6X60	2-4-2	0	Y	6	Y	Y	-	-	-	-	Y
S17	6X6	4	300	Y	NA	-	-	-	Y	-	-	Y
S18	6X6	4	300	Y	NA	-	-	-	Y	-	-	Y
S19	6X6	4	300	Y	NA	-	-	-	Y	-	-	Y

3 Phase
Fully Actuated
(Merrimon Avenue Closed
Loop Signal System)



NOTES

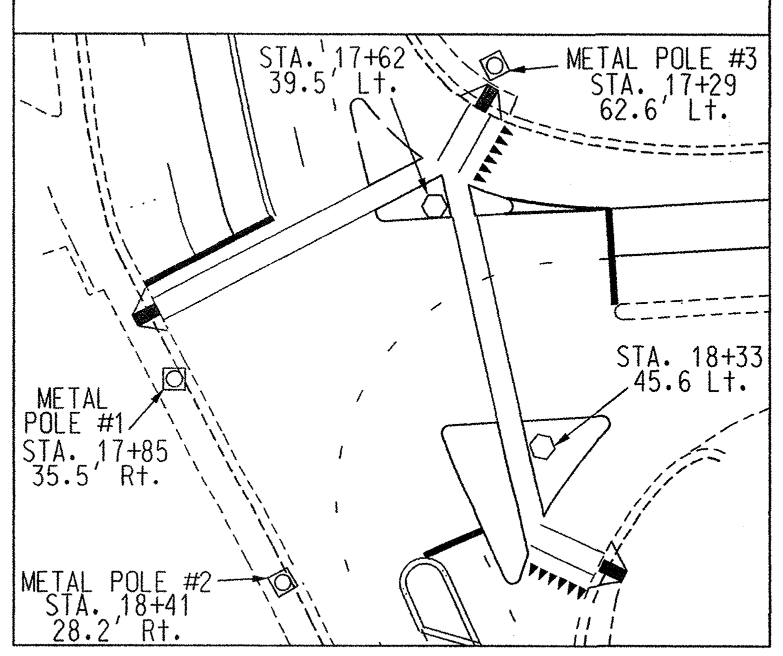
1. Refer to "Roadway Standard Drawings NCDOT," dated January 2002, and "Standard Specifications for Roads and Structures" dated January 2002.
2. Do not program signal for late night flashing operation unless otherwise directed by the engineer.
3. Set all detector units to presence mode.
4. Place cabinet so as not to obstruct sight distance of vehicles turning right on red.
5. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
6. Closed loop system data:
   Controller Asset #: 0970
7. Omit "Walk" and Flashing "Don't Walk" with no pedestrian calls.
8. During coordination, phase 1 may lead.
9. All vehicular and pedestrian signal heads shall be dark green in color.

2070L TIMING CHART

FEATURE	PHASE 1	2	4	6
Min Green 1 *	7	10	7	10
Extension 1 *	1.0	1.0	1.0	1.0
Max Green 1 *	15	30	30	30
Yellow Clearance	4.0	4.1	4.0	4.1
Red Clearance	2.0	2.4	3.0	2.4
Walk 1 *	-	4.0	4.0	-
Don't Walk 1	-	10.0	11.0	-
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

* 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.

POLE LOCATION DETAIL



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	
	Metal Pole with Mastarm	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Pavement Marking Arrow	
DD	Directional Drill	N/A
	Wheelchair Ramp	
	Pedestrian Signal Pedestal	
Ⓐ	Yield Sign (R1-2)	Ⓐ
Ⓑ	Left Turn Arrow "Only" Sign (R3-5L)	Ⓑ
Ⓒ	Pedestrian Crossing Symbol Sign (W11-2)	Ⓒ

New Installation

This Plan Shall Supersede The Plan Previously Signed and Sealed On 6/28/04

Mattern & Craig
CONSULTING ENGINEERS • SURVEYORS
12 BROAD STREET
ASHEVILLE, NORTH CAROLINA 28801
(828) 254-2201
FAX (828) 254-4562

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
State of North Carolina Department of Transportation
Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

SCALE 0 40 1"=40'

US 25 (Merrimon Avenue) at I-240 EB Ramps

Division 13	Buncombe County		Asheville
PLAN DATE: April 2004		REVIEWED BY: Voso	
PREPARED BY: Richardsen		REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022599 ENGINEER JAMES B. VOSO

SIGNATURE James B Voso DATE 12/17/04

SIG. INVENTORY NO. 13-0970

$$$$$$SYSTIME$$$$$
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