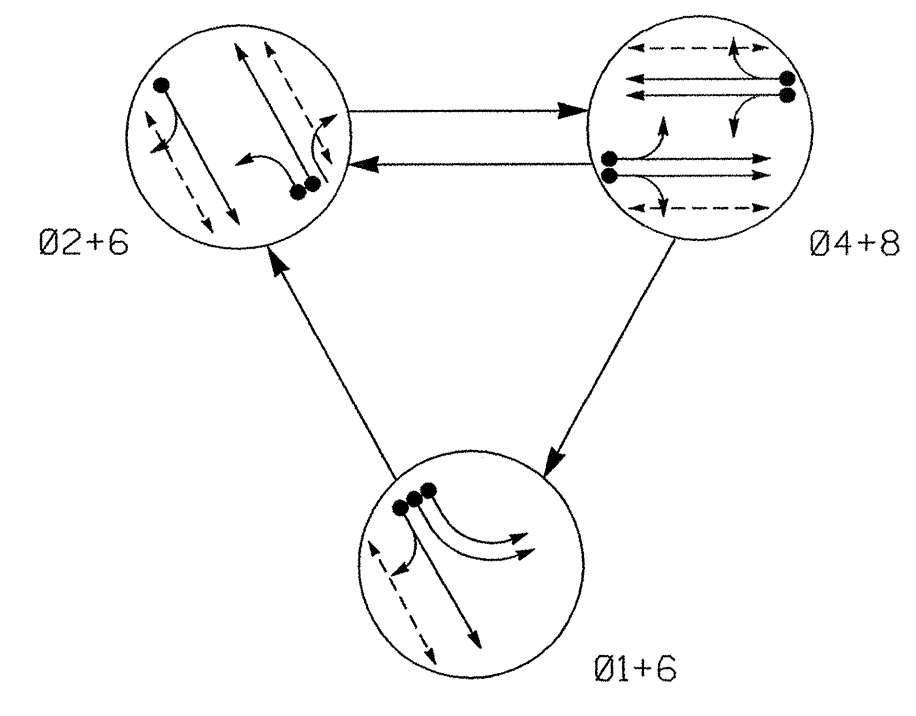


PHASING DIAGRAM

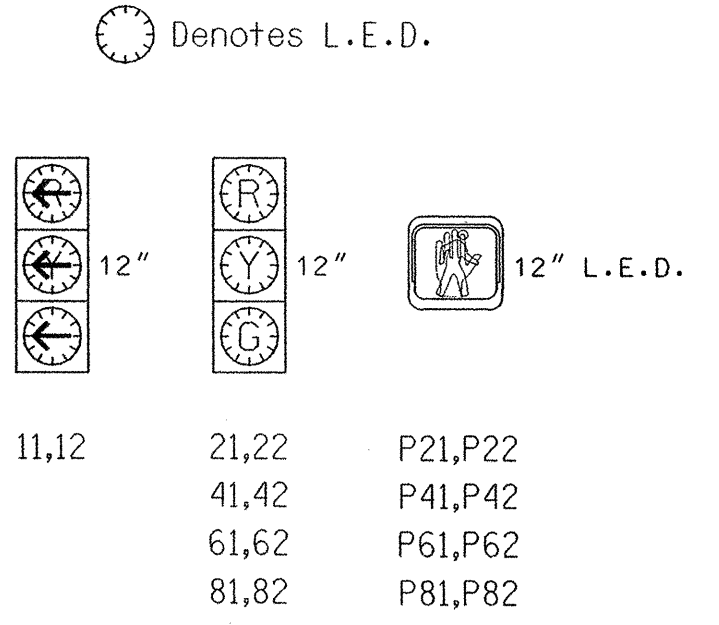


PHASING DIAGRAM DETECTION LEGEND  
 ● DETECTED MOVEMENT  
 ○ UNDETECTED MOVEMENT (OVERLAP)  
 - UNSIGNALIZED MOVEMENT  
 - PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE			
	Ø 1+6	Ø 2+6	Ø 4+8	F L K S H
11,12	←	←	←	←
21,22	R	G	R	Y
41,42	R	R	G	R
61,62	G	G	R	Y
81,82	R	R	G	R
P21,P22	DW	W	DW	DRK
P41,P42	DW	DW	W	DRK
P61,P62	W	W	DW	DRK
P81,P82	DW	DW	W	DRK

SIGNAL FACE I.D.



2070L LOOP & DETECTOR INSTALLATION

LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	DETECTOR PROGRAMMING			
				PHASE	CALLING EXTENSION	STRETCH TIME	DELAY TIME
1A	6X60	2-4-2	0	Y	1	Y	3
1B	6X60	2-4-2	0	-	1	Y	-
2A	6X60	2-4-2	0	-	2	Y	-
2B	6X60	2-4-2	0	Y	2	Y	-
4A	6X60	2-4-2	0	-	4	Y	3
4B	6X60	2-4-2	0	-	4	Y	10
6A	6X60	2-4-2	0	-	6	Y	-
8A	6X60	2-4-2	0	-	8	Y	-
8B	6X60	2-4-2	0	-	8	Y	10
S20	6X6	4	+140	Y	NA	-	-
S21	6X6	4	+140	Y	NA	-	-
S22	6X6	4	+140	Y	NA	-	-

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

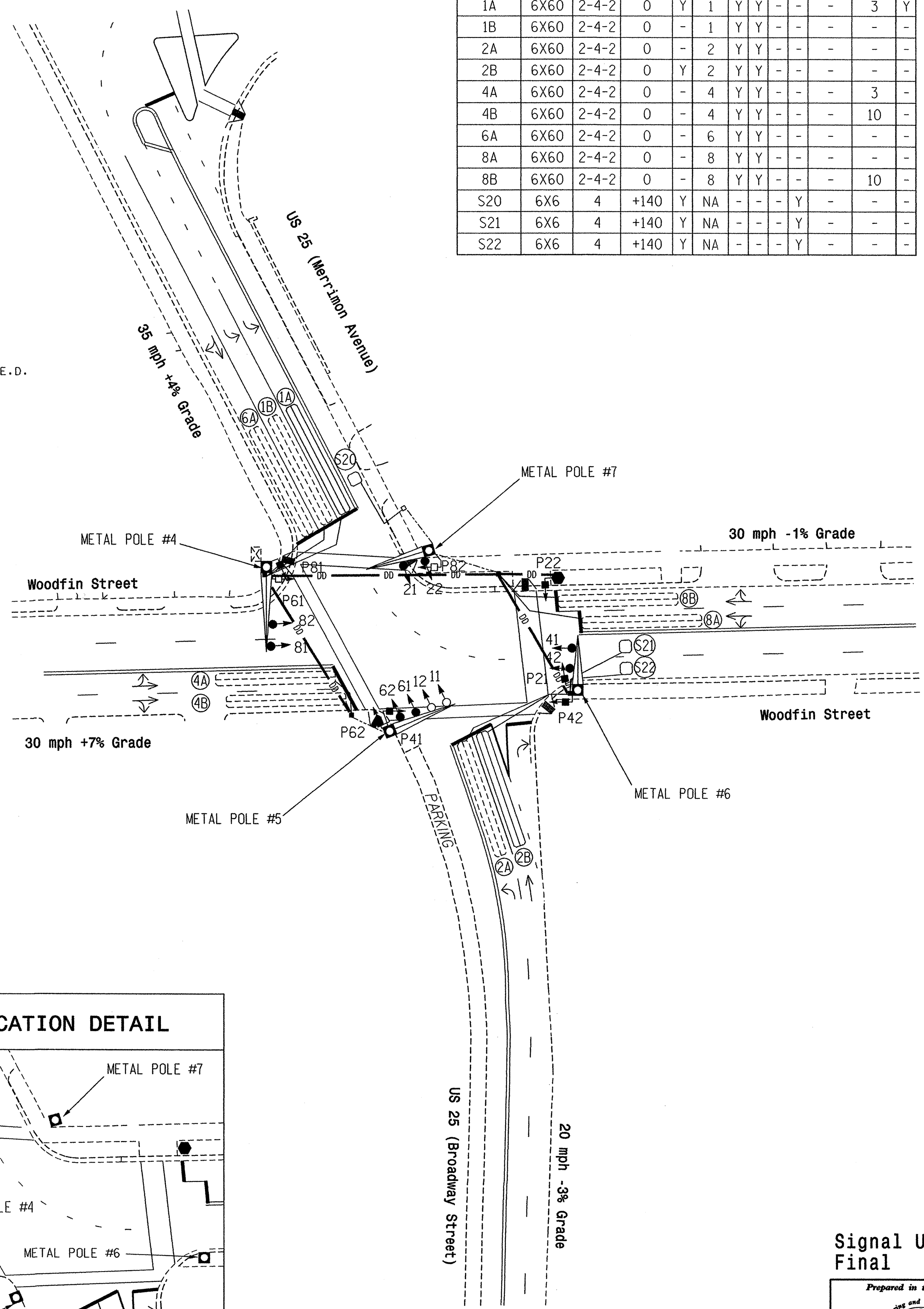
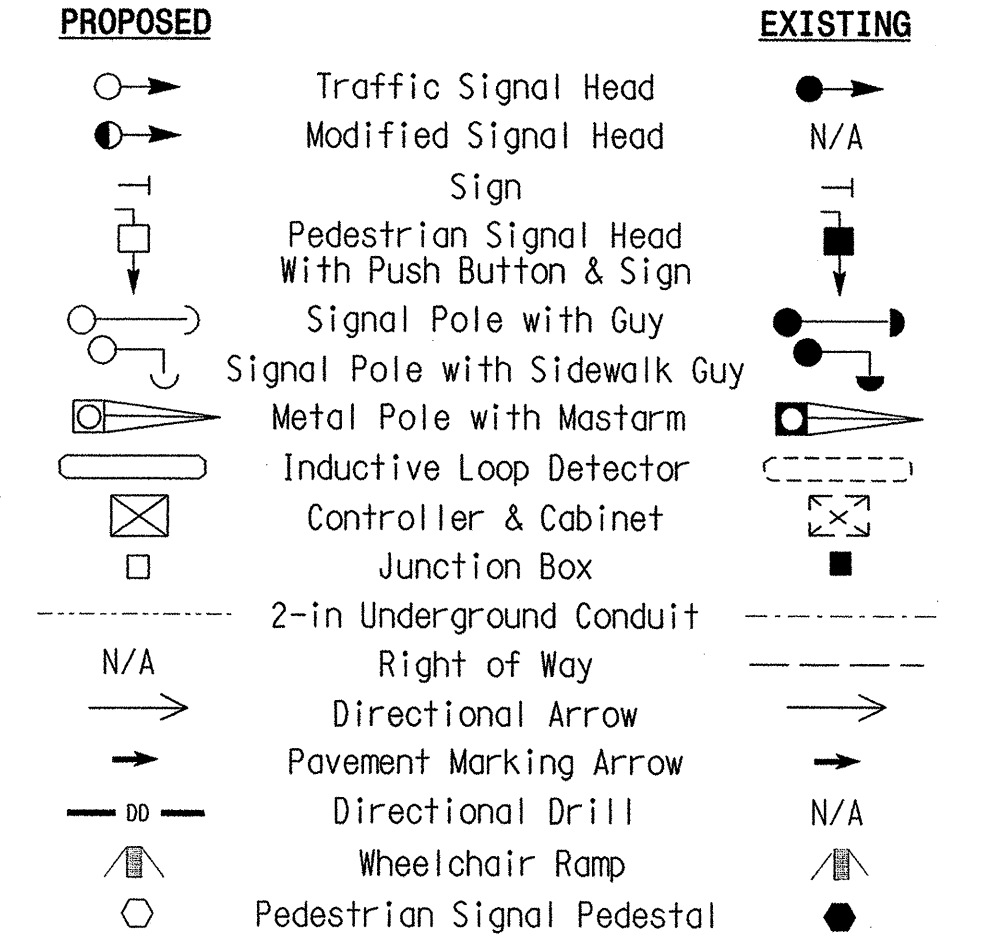
NOTES

- Refer to "Roadway Standard Drawings NCDOT," dated January 2002, and "Standard Specifications for Roads and Structures" dated January 2002.
- Do not program signal for late night flashing operation unless otherwise directed by the engineer.
- Set all detector units to presence mode.
- Place cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Closed loop system data: Controller Asset #: 0252
- Omit "Walk" and Flashing "Don't Walk" with no pedestrian calls.
- Omit phase 1 during phase 2 on.
- Program controller to clear from phase 2+6 to phase 1+6 by progressing through phase 4+8 (see electrical details).
- All vehicular and pedestrian signal heads shall be dark green in color.
- Reposition signal heads numbered 21, 22, 61, and 62.

PLAN QUANTITIES

Pay Item	Feet
Signal Cable	180
Messenger Cable	00
Lead-in Cable	380

LEGEND

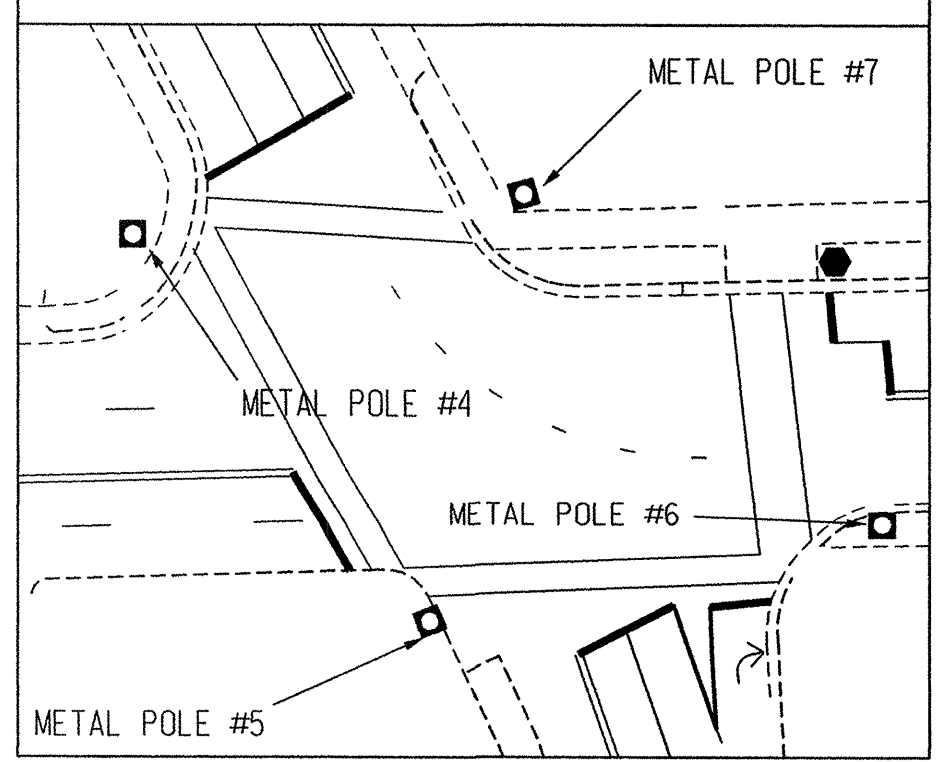


2070L TIMING CHART

FEATURE	PHASE				
	1	2	4	6	8
Min Green 1*	7	10	7	10	7
Extension 1*	1.0	1.0	1.0	1.0	1.0
Max Green 1*	15	30	30	30	30
Yellow Clearance	4.0	4.0	4.0	4.0	4.0
Red Clearance	3.0	2.5	2.5	2.5	2.5
Walk 1*	-	4.0	4.0	4.0	4.0
Don't Walk 1	-	10.0	15.0	16.0	15.0
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	-	-	ON	-	ON
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.

POLE LOCATION DETAIL



Signal Upgrade Final

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  
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Prepared in the Offices of:  
 NORTH CAROLINA PROFESSIONAL SURVEYORS  
 222 N. McDowell St., Raleigh, NC 27603

US 25 (Merrimon Ave. / Broadway St.) at Woodfin Street

Division 13 Buncombe County Asheville

PLAN DATE: April 2004 REVIEWED BY: Voso

PREPARED BY: Richardson REVIEWED BY:

REVISIONS: INIT. DATE

SCALE: 1" = 40'

SEAL: JAMES B. VOSO, ENGINEER, 022599, 12/17/04

SIG. INVENTORY NO. 13-0252 F