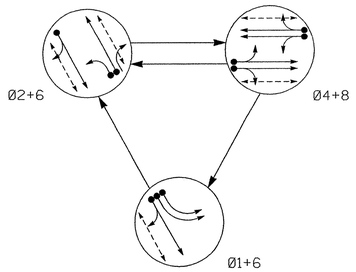
PROJECT REFERENCE NO.	SHEET NO.
U-3302	Sig.6

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

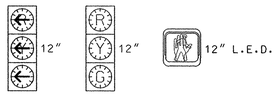
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+6	PHASE Ø2+6	PHASE Ø4+8	FLASH
11,12	←	~~R~~	~~R~~	~~R~~
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.

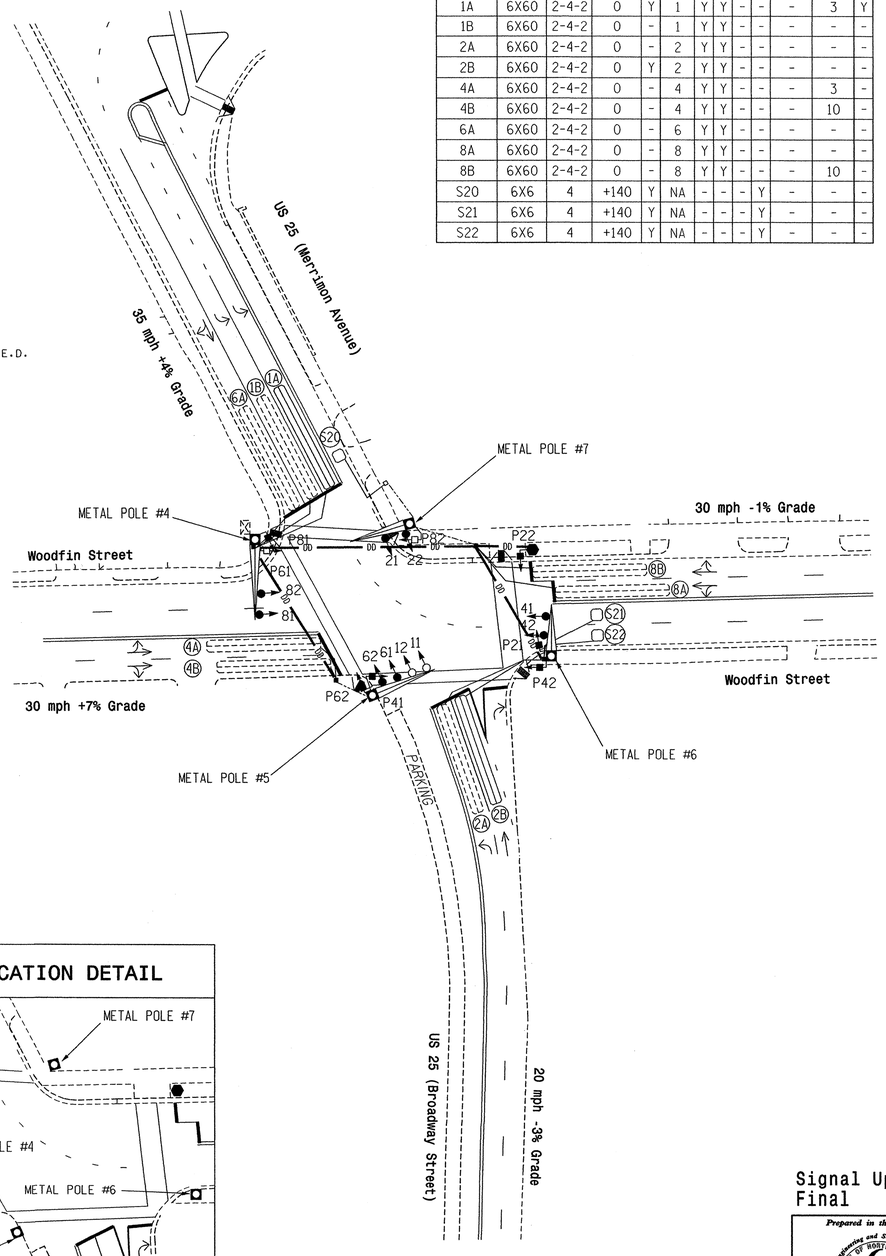
Denotes L.E.D.



11,12	21,22	P21,P22
	41,42	P41,P42
	61,62	P61,P62
	81,82	P81,P82

2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	TURNS	DISTANCE FROM STOPBAR (FT)	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	LOOP SYSTEM	STRETCH TIME	DELAY TIME	NEW CARD
1A	6X60	2-4-2	0	Y	1	Y	Y	-	-	-	3	Y
1B	6X60	2-4-2	0	-	1	Y	Y	-	-	-	-	-
2A	6X60	2-4-2	0	-	2	Y	Y	-	-	-	-	-
2B	6X60	2-4-2	0	Y	2	Y	Y	-	-	-	-	-
4A	6X60	2-4-2	0	-	4	Y	Y	-	-	-	3	-
4B	6X60	2-4-2	0	-	4	Y	Y	-	-	-	10	-
6A	6X60	2-4-2	0	-	6	Y	Y	-	-	-	-	-
8A	6X60	2-4-2	0	-	8	Y	Y	-	-	-	-	-
8B	6X60	2-4-2	0	-	8	Y	Y	-	-	-	10	-
S20	6X6	4	+140	Y	NA	-	-	-	Y	-	-	-
S21	6X6	4	+140	Y	NA	-	-	-	Y	-	-	-
S22	6X6	4	+140	Y	NA	-	-	-	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 #: 0252
7. Omit "Walk" and Flashing "Don't Walk" with no pedestrian calls.
8. Omit phase 1 during phase 2 on.
9. Program controller to clear from phase 2+6 to phase 1+6 by progressing through phase 4+8 (see electrical details).
10. All vehicular and pedestrian signal heads shall be dark green in color.
11. 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

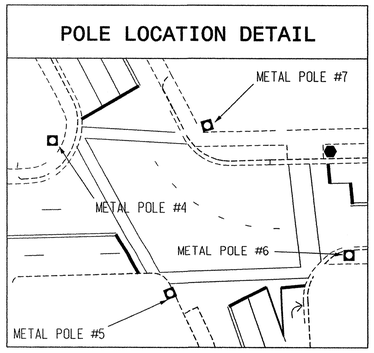
PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▭↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▭	Metal Pole with Mastarm	▭
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
N/A	Right of Way	————
→	Directional Arrow	→
→	Pavement Marking Arrow	→
DD	Directional Drill	N/A
▱	Wheelchair Ramp	▱
○	Pedestrian Signal Pedestal	●

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



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Signal Upgrade
Final

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

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
Signals and Geometrics Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
122 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:	Richardsen	REVIEWED BY:	

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022599 ENGINEER JAMES B. VOSO
James B. Voso 12/7/04
SIGNATURE DATE

SIG. INVENTORY NO. 13-0252 F

$$$$$$SYSTIME$$$$$$
$$$$$$SYSDATE$$$$$$
$$$$$$USERNAME$$$$$$