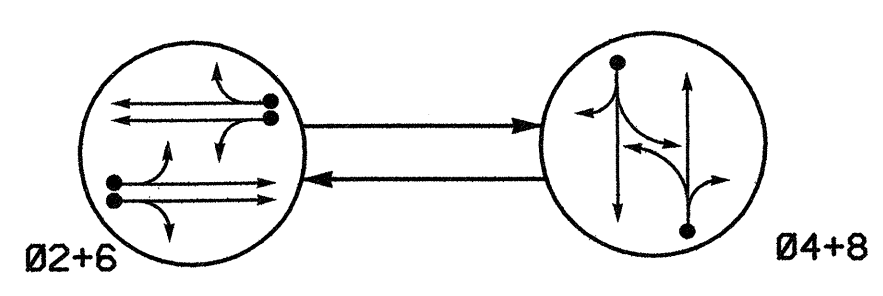


2 PHASE FULLY ACTUATED (DURHAM SIGNAL SYSTEM)

PHASING DIAGRAM

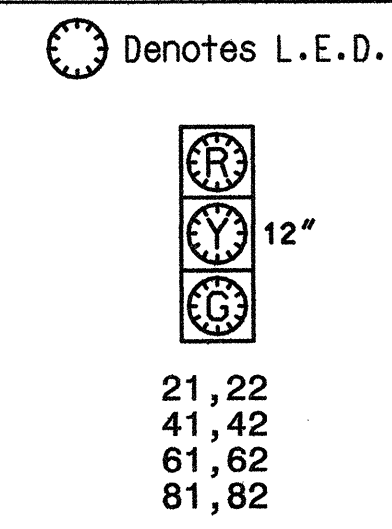


PHASING DIAGRAM DETECTION LEGEND
 ← ● DETECTED MOVEMENT
 ← ○ UNDETECTED MOVEMENT (OVERLAP)
 ← - - UNSIGNALIZED MOVEMENT
 ← - - - PEDESTRIAN MOVEMENT

TABLE OF OPERATION

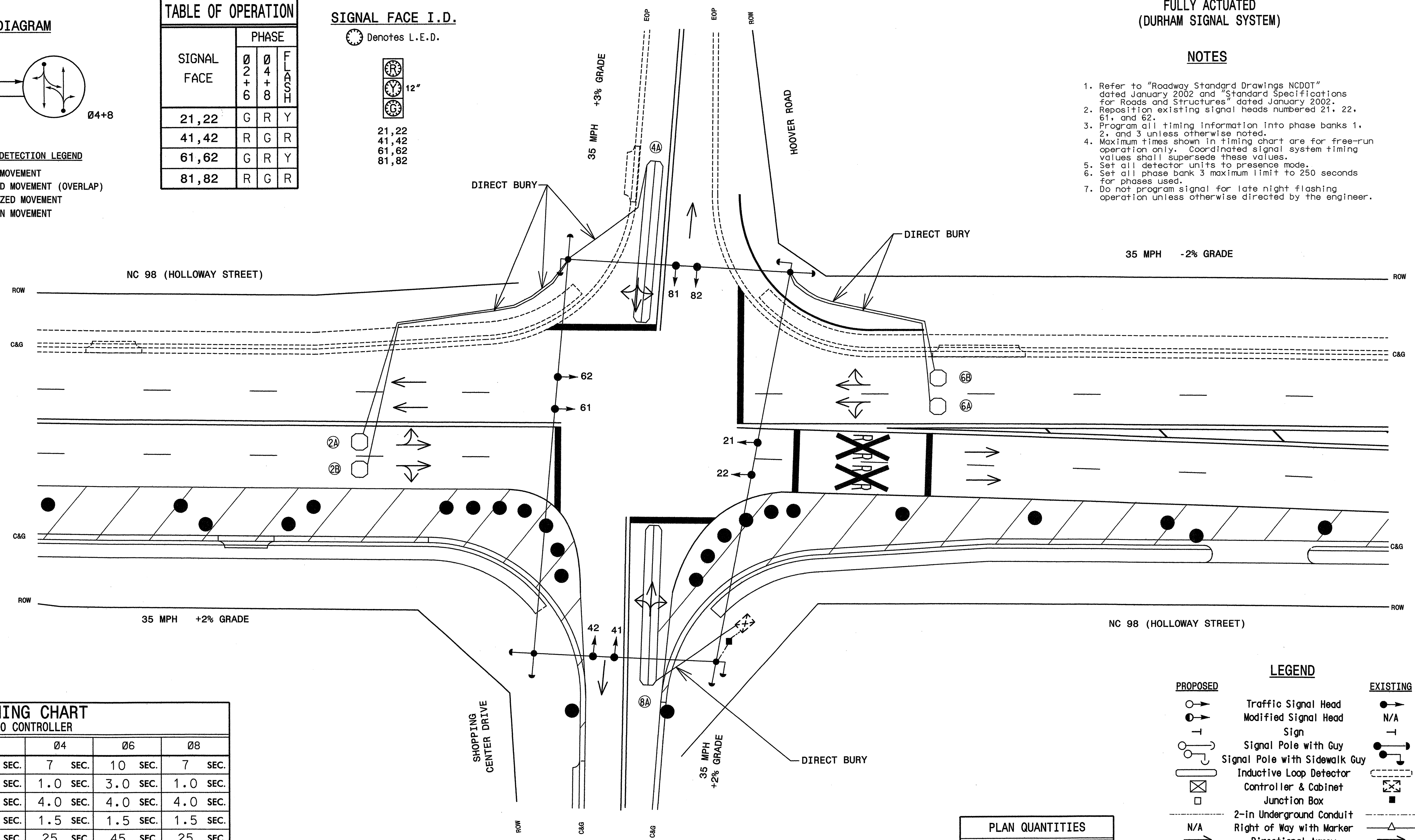
SIGNAL FACE	PHASE		
	Ø2+6	Ø4+8	F LASH
21, 22	G	R	Y
41, 42	R	G	R
61, 62	G	R	Y
81, 82	R	G	R

SIGNAL FACE I.D.



NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Reposition existing signal heads numbered 21, 22, 61, and 62.
- Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Set all detector units to presence mode.
- Set all phase bank 3 maximum limit to 250 seconds for phases used.
- Do not program signal for late night flashing operation unless otherwise directed by the engineer.



TIMING CHART
170 CONTROLLER

PHASE	Ø2	Ø4	Ø6	Ø8
MINIMUM INITIAL	10 SEC.	7 SEC.	10 SEC.	7 SEC.
VEHICLE EXTENSION	3.0 SEC.	1.0 SEC.	3.0 SEC.	1.0 SEC.
YELLOW CHANGE INT.	4.0 SEC.	4.0 SEC.	4.0 SEC.	4.0 SEC.
RED CLEARANCE	1.5 SEC.	1.5 SEC.	1.5 SEC.	1.5 SEC.
MAXIMUM LIMIT	45 SEC.	25 SEC.	45 SEC.	25 SEC.
RECALL POSITION	VEH. RECALL	NONE	VEH. RECALL	NONE
VEHICLE CALL MEMORY	YELLOW LOCK	NONE	YELLOW LOCK	NONE
DOUBLE ENTRY	OFF	ON	OFF	ON
WALK	- SEC.	- SEC.	- SEC.	- SEC.
FLASHING DON'T WALK	- SEC.	- SEC.	- SEC.	- SEC.
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	- SEC.
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	- SEC.
ADD PER VEHICLE	- SEC.	- SEC.	- SEC.	- SEC.
MAXIMUM INITIAL	- SEC.	- SEC.	- SEC.	- SEC.
MAXIMUM GAP	3.0 SEC.	1.0 SEC.	3.0 SEC.	1.0 SEC.
REDUCE 0.1 SEC EVERY	- SEC.	- SEC.	- SEC.	- SEC.
MINIMUM GAP	3.0 SEC.	1.0 SEC.	3.0 SEC.	1.0 SEC.

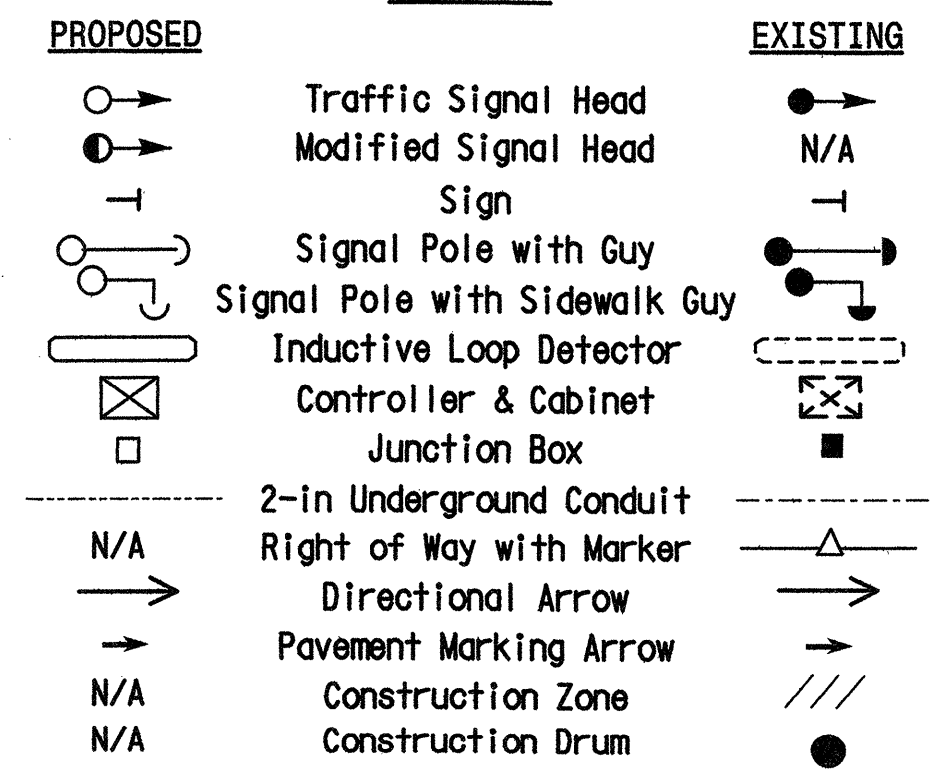
LOOP & DETECTOR UNIT INSTALLATION CHART
170 CONTROLLER AND CABINET

LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW EXISTING	NEMA PHASE	DETECTOR PROGRAMMING								STATUS				
						TIMING		ATTRIBUTES								NEW	EXISTING	
						DELAY	CARRY (STRETCH)	1	2	3	4	5	6	7	8			
2A, 2B	6X6	4	70	X	2	SEC.	SEC.											X
4A	6X60	2-4-2	0	X	4	5 SEC.	SEC.											X
6A, 6B	6X6	4	70	X	6	SEC.	SEC.											X
8A	6X60	2-4-2	0	X	8	5 SEC.	SEC.											X

PLAN QUANTITIES

Pay Item	Feet
Signal Cable	0
Messenger Cable	0
Lead-in Cable	520

LEGEND



TEMPORARY DESIGN 2 - CONSTRUCTION PHASE III

Prepared in the Offices of:
 THE UNIVERSITY OF NORTH CAROLINA
 SCHOOL OF TRANSPORTATION
 AND GEOMETRIC ENGINEERING

122 N. McDowell St., Raleigh, NC 27603
 SCALE: 1" = 20'

PLAN PREPARED IN THE OFFICE OF:
 Kubitlins
 TRANSPORTATION GROUP, INC.
 201 PRODUCTION DR., 2ND FLOOR
 YORKTOWN, VA 23693
 PH: (757) 594-1419 FAX: (757) 594-9000

NC 98 (HOLLOWAY STREET)
 AT
 HOOVER ROAD/
 SHOPPING CENTER DRIVE
 DURHAM CO., DURHAM

DIVISION 5
 PLAN DATE: JANUARY 2004 REVIEWED BY: MAK
 PREPARED BY: CED REVIEWED BY:

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 17464
 ANN KUBITLINS
 2/7/04
 SIGNATURE DATE
 SIG. INVENTORY NO. 05-1655 T2