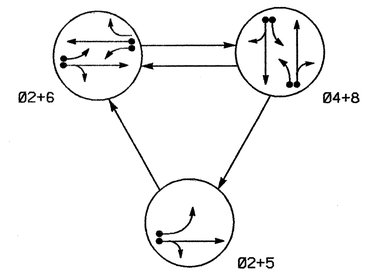
PROJECT REFERENCE NO.	SHEET NO.
37652	Sig. 4

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

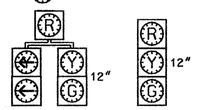
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	PHASE Ø2+6	PHASE Ø4+8	FLASH
21	G/Y	G	R	Y
22	G	G	R	Y
41, 42	R	R	G	R
61, 62	R	G	R	Y
81, 82	R	R	G	R

SIGNAL FACE I.D.

Denotes L.E.D.

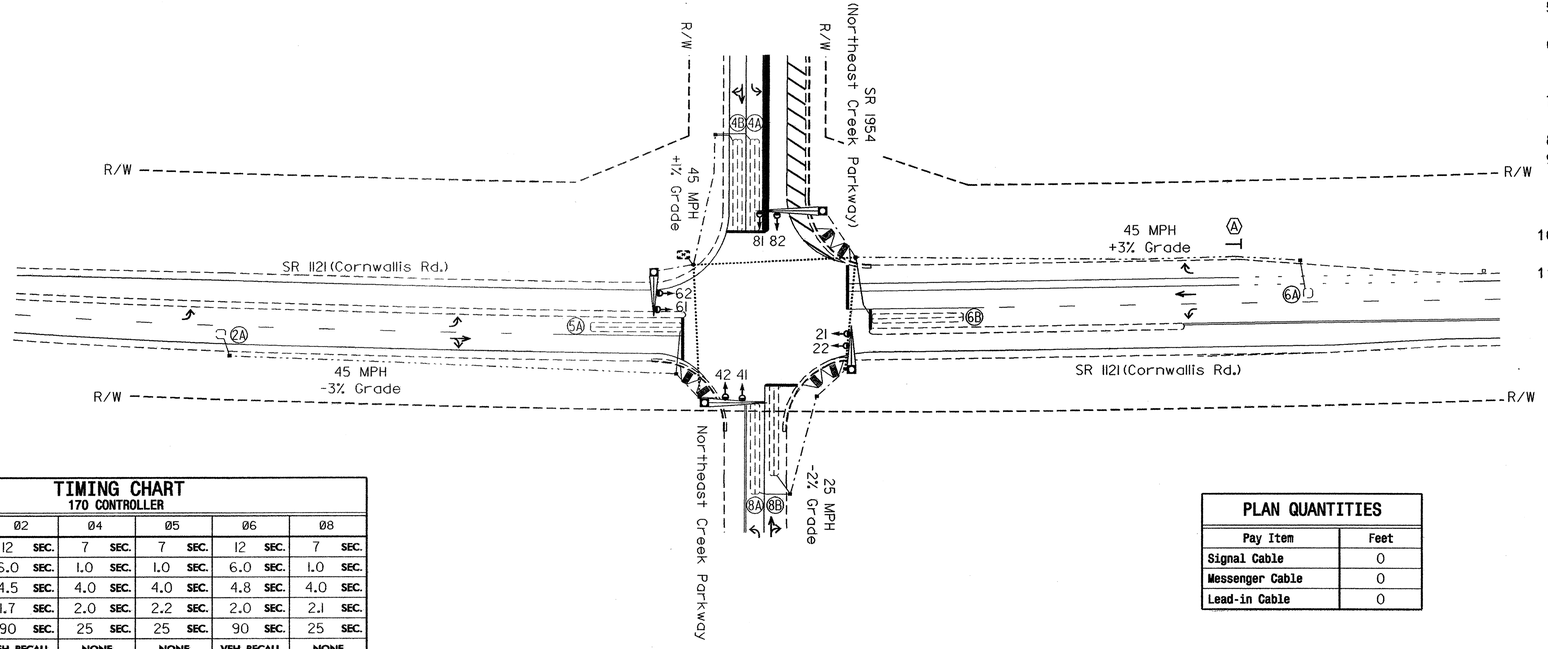


21

22
41, 42
61, 62
81, 82

LOOP & DETECTOR UNIT INSTALLATION CHART
170 CONTROLLER AND CABINET

INDUCTIVE LOOPS						DETECTOR PROGRAMMING														
							TIMING		ATTRIBUTES								LOOPS	STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DELAY	CARRY (STRETCH)	1 FULL TIME DELAY	2 PEDESTRIAN CALL	3 RESERVED	4 COUNT	5 EXTENSION	6 TYPE 3	7 CALLING	8 ALTERNATE	SYSTEM	NEW	EXISTING
2A	6X6	EXISTING	300		X	2	— SEC.	— SEC.	-	-	-	X	X	-	X	-	-	-	X
4A	6X60	2-4-2	0		X	4	— SEC.	— SEC.	-	-	-	-	X	-	X	-	-	-	X
4B	6X60	2-4-2	0		X	4	10 SEC.	— SEC.	-	-	-	-	X	-	X	-	-	-	X
5A	6X60	2-4-2	0		X	5	15 SEC.	— SEC.	-	-	-	-	X	-	X	-	-	-	X
						4	15 SEC.	— SEC.	-	-	-	-	-	-	X	-	-	-	X
						2	3 SEC.	— SEC.	X	-	-	-	X	-	X	-	-	-	X
6A	6X6	EXISTING	300		X	6	— SEC.	— SEC.	-	-	-	X	X	-	X	-	-	-	X
6B	6X60	2-4-2	0		X	6	3 SEC.	— SEC.	X	-	-	-	X	-	X	-	-	-	X
8A	6X60	2-4-2	0		X	8	3 SEC.	— SEC.	-	-	-	-	X	-	X	-	-	-	X
8B	6X60	2-4-2	0		X	8	10 SEC.	— SEC.	-	-	-	-	X	-	X	-	-	-	X



TIMING CHART
170 CONTROLLER

PHASE	02	04	05	06	08
MINIMUM INITIAL *	12 SEC.	7 SEC.	7 SEC.	12 SEC.	7 SEC.
VEHICLE EXTENSION *	6.0 SEC.	1.0 SEC.	1.0 SEC.	6.0 SEC.	1.0 SEC.
YELLOW CHANGE INT.	4.5 SEC.	4.0 SEC.	4.0 SEC.	4.8 SEC.	4.0 SEC.
RED CLEARANCE	1.7 SEC.	2.0 SEC.	2.2 SEC.	2.0 SEC.	2.1 SEC.
MAXIMUM LIMIT *	90 SEC.	25 SEC.	25 SEC.	90 SEC.	25 SEC.
RECALL POSITION	VEH. RECALL	NONE	NONE	VEH. RECALL	NONE
VEHICLE CALL MEMORY	YELLOW LOCK	NONE	NONE	YELLOW LOCK	NONE
DOUBLE ENTRY	OFF	ON	OFF	OFF	ON
WALK *	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.
FLASHING DON'T WALK	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.
TYPE 3 LIMIT	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.
ALTERNATE EXTENSION	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.
ADD PER VEHICLE *	2.5 SEC.	- SEC.	- SEC.	2.5 SEC.	- SEC.
MAXIMUM INITIAL *	34 SEC.	- SEC.	- SEC.	34 SEC.	- SEC.
MAXIMUM GAP *	7.0 SEC.	1.0 SEC.	1.0 SEC.	7.0 SEC.	1.0 SEC.
REDUCE 0.1 SEC EVERY *	1.5 SEC.	- SEC.	- SEC.	1.5 SEC.	- SEC.
MINIMUM GAP	3.0 SEC.	1.0 SEC.	1.0 SEC.	3.0 SEC.	1.0 SEC.

* 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.

PLAN QUANTITIES

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

3 Phase
Fully Actuated
(Durham 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. Program phase 5 as protected/permissive.
4. Program controller to clear from phase 2+6 to phase 2+5 by progressing through phase 4+8 (see Electrical Details).
5. Set all detector units to presence mode.
6. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
7. Set phase bank 3 maximum limit to 250 seconds for phases used.
8. Pavement markings are existing.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. Modify all existing signal heads to include yellow L.E.D. sections.
11. Rewire cabinet to establish phase operation as shown.

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	
	Inductive Loop Detector	
	Controller & Cabinet	
	Pull Box	
	2-in Underground Conduit	
	Right of Way with Marker	
	Directional Arrow	
	Metal Pole with Mastarm	
	Jack & Bore	
A	"BEGIN RIGHT TURN LANE - YIELD TO BIKES" Sign (R4-4)	A

Signal Upgrade

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
Systems and Geometrics Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
1722 N. McDowell St., Raleigh, NC 27603

SR 1121 (Cornwallis Rd.)
at
SR 1954 (Northeast Creek Pkwy.)

Division 5 | Durham County | Durham

PLAN DATE: Feb. 2005 | REVIEWED BY: R.J. Ziemba
PREPARED BY: Sterling | REVIEWED BY:

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
SIGNATURE 3/3/05 DATE

SIG. INVENTORY NO. 05-2115