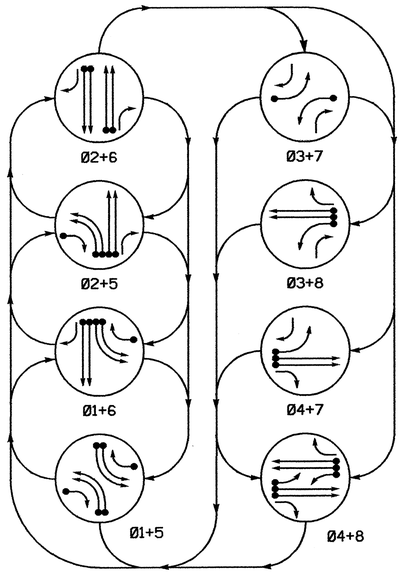
PROJECT REFERENCE NO.	SHEET NO.
U-0620	SIG. 1A

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE I.D.

Denotes L.E.D.

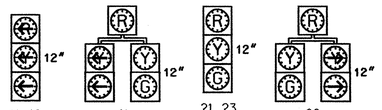
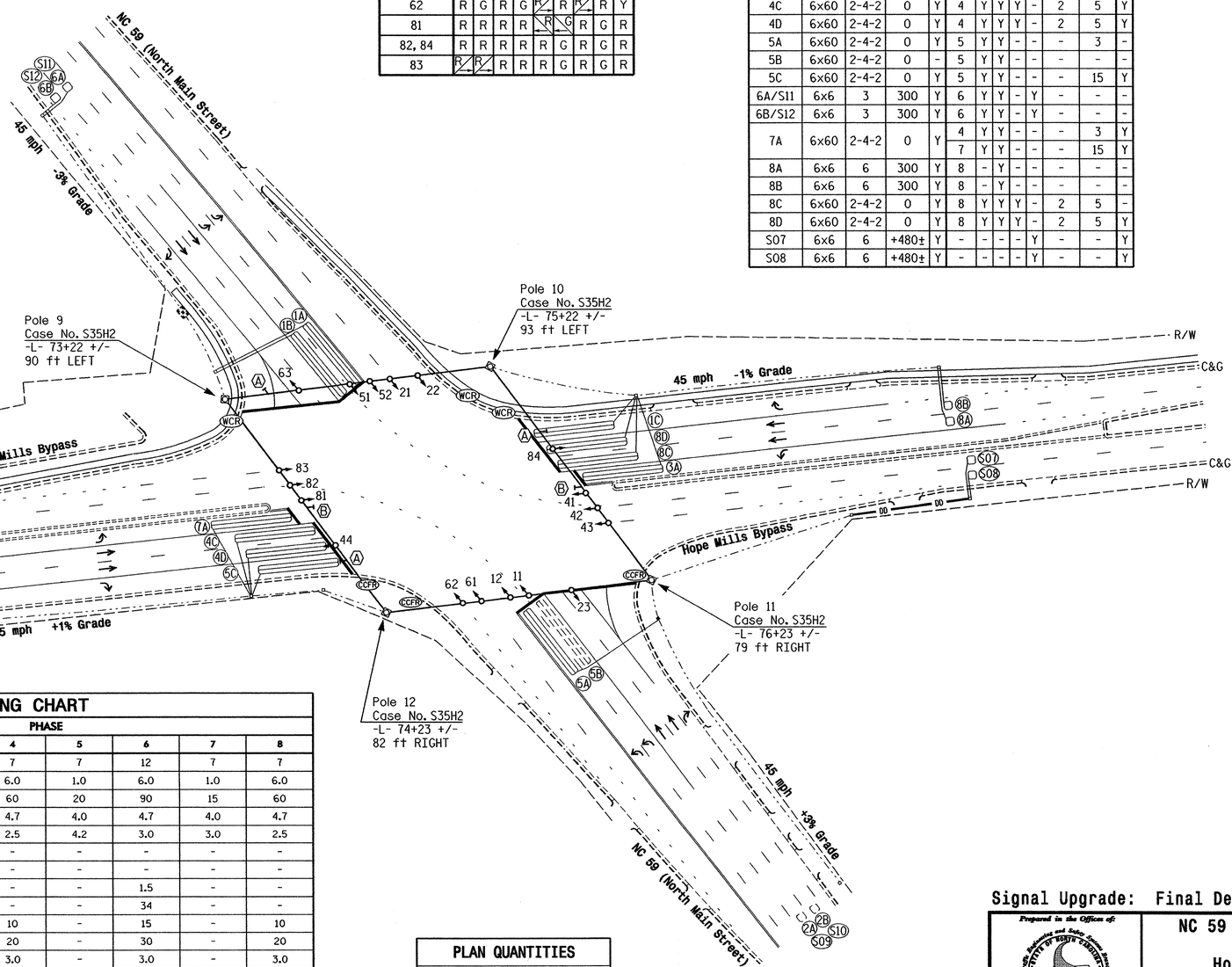


TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3+7	Ø3+8	Ø4+7	Ø4+8	FLASH
11, 12	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21, 23	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R→	R→	R	R	Y
41	R	R	R	R	R→	R	G→	G	R
42, 44	R	R	R	R	R	R	G	G	R
43	R→	R	R→	R	R	R	G	G	R
51, 52	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61, 63	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R→	R	R→	R	Y
81	R	R	R	R	←R	G→	R	G	R
82, 84	R	R	R	R	R	G	R	G	R
83	R→	R→	R	R	R	G	R	G	R

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	0	Y	1	Y	Y	-	-	-	3	-
1B	6x60	2-4-2	0	Y	1	Y	Y	-	-	-	-	Y
1C	6x60	2-4-2	0	Y	1	Y	Y	-	-	-	15	Y
2A/S09	6x6	6	300	-	2	Y	Y	-	Y	-	-	-
2B/S10	6x6	6	300	-	2	Y	Y	-	Y	-	-	-
3A	6x60	2-4-2	0	Y	8	Y	Y	-	-	-	3	Y
					3	Y	Y	-	-	-	15	Y
4A	6x6	6	300	Y	4	-	Y	-	-	-	-	-
4B	6x6	6	300	Y	4	-	Y	-	-	-	-	-
4C	6x60	2-4-2	0	Y	4	Y	Y	Y	-	2	5	Y
4D	6x60	2-4-2	0	Y	4	Y	Y	Y	-	2	5	Y
5A	6x60	2-4-2	0	Y	5	Y	Y	-	-	-	3	-
5B	6x60	2-4-2	0	-	5	Y	Y	-	-	-	-	-
5C	6x60	2-4-2	0	Y	5	Y	Y	-	-	-	15	Y
6A/S11	6x6	3	300	Y	6	Y	Y	-	Y	-	-	-
6B/S12	6x6	3	300	Y	6	Y	Y	-	Y	-	-	-
7A	6x60	2-4-2	0	Y	4	Y	Y	-	-	-	3	Y
					7	Y	Y	-	-	-	15	Y
8A	6x6	6	300	Y	8	-	Y	-	-	-	-	-
8B	6x6	6	300	Y	8	-	Y	-	-	-	-	-
8C	6x60	2-4-2	0	Y	8	Y	Y	Y	-	2	5	-
8D	6x60	2-4-2	0	Y	8	Y	Y	Y	-	2	5	Y
S07	6x6	6	+480±	Y	-	-	-	-	Y	-	-	Y
S08	6x6	6	+480±	Y	-	-	-	-	Y	-	-	Y



2070L TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	1.0	6.0	1.0	6.0	1.0	6.0	1.0	6.0
Max Green 1 *	20	90	15	60	20	90	15	60
Yellow Clearance	4.0	4.7	4.0	4.7	4.0	4.7	4.0	4.7
Red Clearance	4.4	3.0	3.0	2.5	4.2	3.0	3.0	2.5
Walk 1 *	-	-	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5	-	-
Max Variable Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	10	-	15	-	10
Time To Reduction *	-	30	-	20	-	30	-	20
Minimum Gap	-	3.0	-	3.0	-	3.0	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	ON	-	-	-	ON
Simultaneous Gap	ON	ON	ON	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.

PLAN QUANTITIES

Pay Item	Feet
Signal Cable	2690
Messenger Cable	840
Lead-in Cable	4720

8 Phase
Fully Actuated
(NC 59 and Hope Mills Bypass Closed Loop System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
2. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
3. During coordination, phase 1 or phase 5 may be lagged.
4. Omit phase 3 during phase 4 on.
5. Omit phase 7 during phase 8 on.
6. Set all detector units to presence mode.
7. Closed loop system data: Controller Asset #0610.

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	⊠
□	Junction Box	■
·-·-·	2-in Underground Conduit	·-·-·
N/A	Right of Way with Marker	△
→	Directional Arrow	→
→	Pavement Marking Arrow	→
◎	Metal Strain Pole	◘
N/A	Wheelchair Ramp	(WCR)
N/A	Curb Cut for Future Ramp	(CCFR)
(A)	Right Arrow "ONLY" Sign (R3-5R)	(A)
(B)	U-Turn "MUST YIELD" Sign (R3-27)	(B)

Signal Upgrade: Final Design

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

NC 59 (North Main Street) at Hope Mills Bypass

Division 6 | Cumberland County | Hope Mills

PLAN DATE: May 2003 | REVIEWED BY: L.A. Elliott
PREPARED BY: P.J. Porter | REVIEWED BY: STF/JPG

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 24393 ENGINEER TIMOTHY J. WILLIAMS
SIGNATURE 10/22/03 DATE

SIG. INVENTORY NO. 06-0610

22-OCT-2003 15:16
W:\People\Unit#\Workgroups#\TIP Projects#\U-0620#060610_2003xxxx.sig
DISPORTER