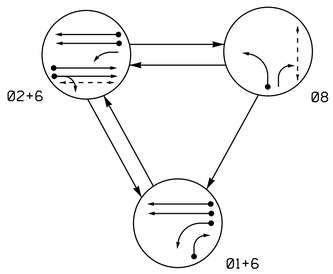
PROJECT REFERENCE NO.	SHEET NO.
W-5601AX	Sig. 1.0

3 Phase
Fully Actuated
w/ Emergency Vehicle Preemption
(Cary Signal System)

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

EV PREEMPT PHASES

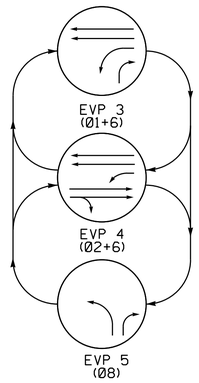


TABLE OF OPERATION

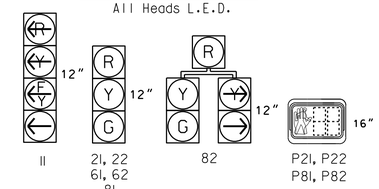
SIGNAL FACE	PHASE Ø1+6	Ø2+6	Ø8	EVP3	EVP4	EVP5	FLASH
11	←	F Y	R	←	F Y	R	Y
21, 22	R	G	R	R	G	R	Y
81	R	R	G	R	R	G	R
82	R	R	G	R	R	G	R
61, 62	G	G	R	G	G	R	Y
P21, P22	DW	W	DW	DW	DW	DW	DRK
P81, P82	DW	DW	W	DW	DW	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark

LOOP & DETECTOR INSTALLATION CHART
ASC/3-2070LN2 CONTROLLER w/ TS-2 CABINET

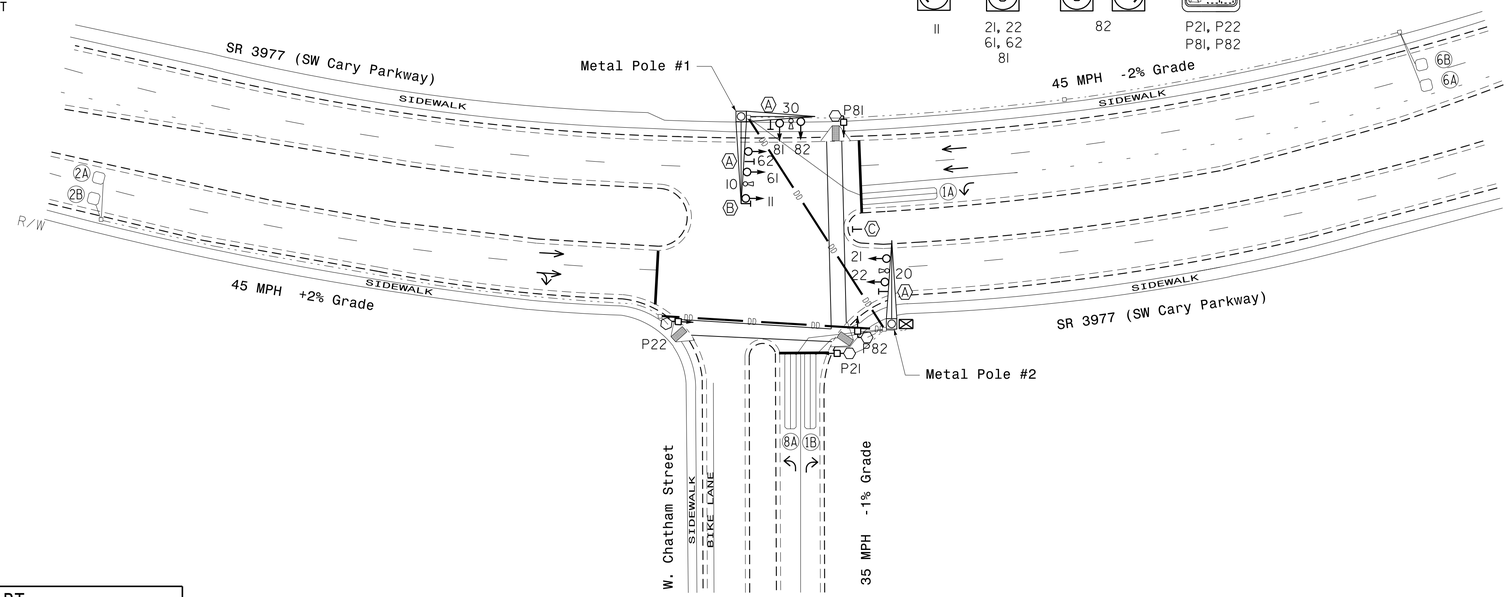
INDUCTIVE LOOPS						DETECTOR UNITS					
LOOP NO.	SIZE (ft)	DIST. FROM STOPBAR (ft)	TURNS	NEW	EXISTING	NEMA PHASE	NEW	EXISTING	TIMING FEATURE	TIMING TIME	DET. TYPE
1A	6X40	0	2-4-2	X	-	1	X	-	DELAY	15	S
						6	X	-	DELAY	3	G
1B	6X40	0	2-4-2	X	-	1	X	-	DELAY	15	S
2A	6X6	300	5	X	-	2	X	-	-	-	N
2B	6X6	300	5	X	-	2	X	-	-	-	N
6A	6X6	300	5	X	-	6	X	-	-	-	N
6B	6X6	300	5	X	-	6	X	-	-	-	N
8A	6X40	0	2-4-2	X	-	8	X	-	-	-	S

SIGNAL FACE I.D.
All Heads L.E.D.



NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
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. Phase 1 may be lagged.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
9. Pavement markings are existing unless otherwise shown.
10. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
11. Opticom detector 10 calls EVP 3; Opticom detector 20 calls EVP 4; Opticom detector 30 calls EVP 5.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



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	
	Directional Arrow	
	Out of Pavement Detector	
	Directional Drill	N/A
	Metal Pole with Mastarm	
	Type II Signal Pedestal	
Ⓐ	Street Name Sign (D3-1)	Ⓐ
Ⓑ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓑ
Ⓒ	No U-Turn Sign (R3-4)	Ⓒ

TIMING CHART
ASC/3-2070LN2 CONTROLLER

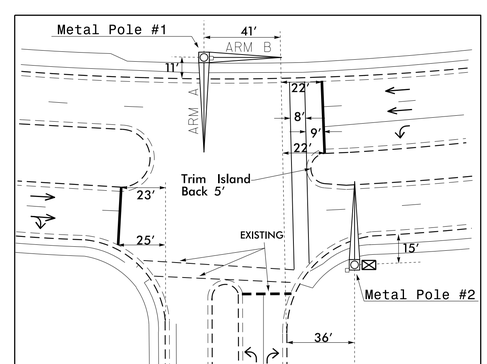
PHASE	Ø1	Ø2	Ø6	Ø8
MINIMUM GREEN *	7 SEC.	12 SEC.	12 SEC.	7 SEC.
VEHICLE EXT. *	2.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.
YELLOW CHANGE INT.	3.0 SEC.	4.7 SEC.	4.7 SEC.	3.0 SEC.
RED CLEARANCE	3.1 SEC.	1.5 SEC.	1.5 SEC.	3.3 SEC.
MAX. 1 *	15 SEC.	90 SEC.	90 SEC.	30 SEC.
RECALL POSITION	NONE	MIN. RECALL	MIN. RECALL	NONE
LOCK DET.	OFF	ON	ON	OFF
WALK *	– SEC.	7 SEC.	– SEC.	7 SEC.
PED. CLEAR	– SEC.	19 SEC.	– SEC.	28 SEC.
VOLUME DENSITY	OFF	ON	ON	OFF
ACTUATION B4 ADD *	– VEH.	0 VEH.	0 VEH.	– VEH.
SEC. PER ACTUATION *	– SEC.	1.5 SEC.	1.5 SEC.	– SEC.
MAX. INITIAL *	– SEC.	34 SEC.	34 SEC.	– SEC.
TIME B4 REDUCTION *	– SEC.	15 SEC.	15 SEC.	– SEC.
TIME TO REDUCE *	– SEC.	30 SEC.	30 SEC.	– SEC.
MINIMUM GAP	– SEC.	3.0 SEC.	3.0 SEC.	– SEC.
DUAL ENTRY	OFF	OFF	OFF	OFF
SIMULTANEOUS GAP	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.

EMERGENCY VEHICLE PREEMPTION

FUNCTION	EVP3	EVP4	EVP5
DELAY BEFORE PREEMPT	0	0	0
PMT OVERRIDE	OFF	OFF	OFF
PED CLEAR THROUGH YELLOW	Y	Y	Y
TERMINATE PHASES	Y	N	N
ENTRANCE WALK	1	1	1
ENTRANCE PED CLEAR	10	10	10
ENTRANCE MIN GREEN	1	1	1
ENTRANCE YELLOW CLEAR	25.5*	25.5*	25.5*
ENTRANCE RED CLEAR	25.5*	25.5*	25.5*
MIN DWELL GREEN	12	12	7
MAX CALL TIME	120	120	120
EXIT PHASE(S)	2,6	2,6	2,6
EXIT YELLOW CLEAR	25.5*	25.5*	25.5*
EXIT RED CLEAR	25.5*	25.5*	25.5*
OPTICOM EXTEND TIME	2	2	2

* Time defaults to time used for phase during normal operation.



Proposed Metal Pole & Stopbar Locations

New Installation

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 3977 (SW Cary Parkway)
at
W. Chatham Street

Division 5 Wake County Cary

PLAN DATE: July 2015 REVIEWED BY:
PREPARED BY: C.E. Carter REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036833 ENGINEER RYAN W. HOUGH
DocuSigned by: Ryan W. Hough 10/13/2015
A3030CFAA2054C3 DATE
SIG. INVENTORY NO. 05-0711

09-NOV-2015 09:59
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