

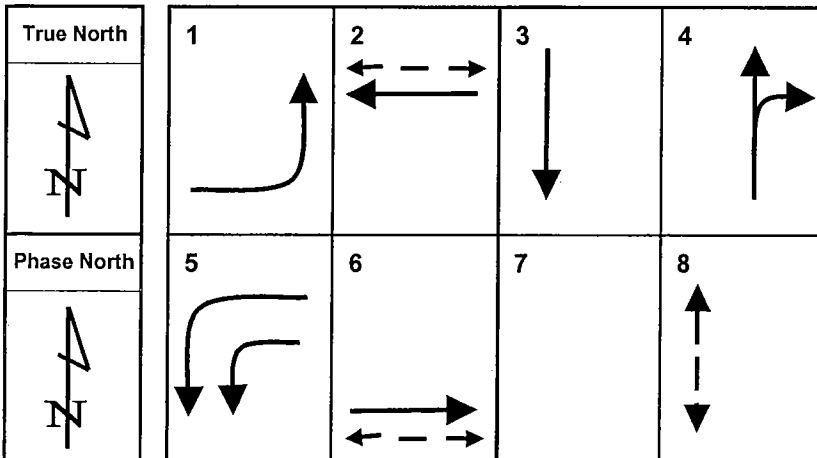
PHASE TIMING

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07 HCH By: AWL

T.S. No.: 1242 Date Implemented: 7-16-07 By: W/L

Keystroke: 1 + Phase + Interval

Interval		Phase							
		1	2	3	4	5	6	7	8
Walk	0	0	7	0	0	0	7		7
Flashing Don't Walk	1	0	8	0	0	0	21		30
Minimum Green	2	4	10	4	4	4	10		4
Queue Maximum	3	0	0	0	0	0	0		0
Added Green/Actuation	4	0.0	1.5	0.0	0.0	0.0	1.5		0.0
Vehicle Extension	5	1.5	4.5	3.0	3.0	1.5	4.5		0.0
Time Before Reduction	6	0	15	0	0	0	15		0
Minimum Gap	7	1.5	3.0	3.0	3.0	1.5	3.0		0.0
Max Green 1 (Free)	8	20	50	25	30	30	50		0
Max Green 2 (Coord.)	9	20	130	25	30	30	130		0
Max Added Green	A	0	25	0	0	0	25		0
Unused	B								
Unused	C								
Time to Reduce	D	0	15	0	0	0	15		0
Yellow Clearance	E	3.0	4.5	3.0	4.0	3.0	4.5		4.0
Red Clearance	F	0.0	0.0	0.0	0.0	0.0	0.0		0.0



MISCELLANEOUS TIMERS		
Timer	Location	
Red Rest Delay Time	106	0
Green Rest Delay Time	107	0
Stuck All Red Fail Delay Time	10E	30
Red Revert Time	10F	2.0

Comments: FIRE STATION PREEMPTION:  
FIRE STATION PUSH BUTTON WILL PLACE A CALL TO EV-C AT ISIS AVE. AND TO EV-A AT HINDRY AVE.

RECEIVED

275-30  
JUN 26 2007

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242

Connected to Comm. Ch. # 19

Date Implemented: JUL 16 07 WS By:

PHASE FUNCTION FLAGS									
Keystrokes: 1 + F + row		1	2	3	4	5	6	7	8
Permitted Phases	0	X	X	X	X	X	X		X
Red Lock	1								
Red & Yellow Lock	2		X				X		
Minimum Vehicle Recall	3		X				X		
Maximum Vehicle Recall	4								
Rest In Green	5								
Rest in Red	6								
Barrier Recall	7								
Double Entry	8				X				X
Exclusive Phases	9								
Restricted Phases	A								
Prot/Perm Left Turn	B								
Lag Phases (Free)	C		X		X		X		X
First Phases After Start-Up	D								
Yellow Start-Up Phases	E		X				X		
Yellow Start-Up Overlaps	F	A	B	C	D	E	F		

STREET CONFIGURATION FLAGS									
Keystrokes: 1 + E + row		1	2	3	4	5	6	7	8
Main Street Phases	0	X	X			X	X		
Side Street Phases	1			X	X			X	X
2 Ped Load Switch	2		X						
4 Ped Load Switch	3								
6 Ped Load Switch	4						X		
8 Ped Load Switch	5								X
Ped A Load Switch	6								
Ped B Load Switch	7								
Ped Recall - Rest in Walk	8								
STA Mode Phases	9								
Unused	A								
Unused	B								
Unused	C								
Driveway Flash	D								
2 Head Driveway Flash	E								
Overlap Driveway Flash	F	A	B	C	D	E	F		

MISCELLANEOUS FLAGS									
Keystrokes: 1 + D + row		1	2	3	4	5	6	7	8
Unused	0								
Assoc. Phase Recall - 1	1								
Assoc. Phase Recall - 2	2								
Assoc. Phase Recall - 3	3								
Assoc. Phase Recall - 4	4								
Assoc. Phase Recall - 5	5								
Assoc. Phase Recall - 6	6								
Assoc. Phase Recall - 7	7								
Assoc. Phase Recall - 8	8								
Yellow Calling Phases	9								
Yellow Phases Called	A								
User Flags (See Options Box)	B								
Green Offset Sync Pulse	C								
Yellow Offset Sync Pulse	D								
Yellow Ranging Phase	E								
Yellow Ranging Overlap	F	A	B	C	D	E	F		

COMMUNICATIONS OPTIONS			System ID = 1 to 255							
Systems ID	190	3	Port Mode Options							
Port 1 Mode	191	1	1 = W W V							
Port 2 Mode	192		2 = Transmit 7 Wire							
Port 3 Mode	193	8	3 = Receive 7 Wire							
Port 4 Mode	194		4 = Transmit Time/Date							
			5 = Receive Time/Date							
			6 = Transmit Plan							
			7 = AB3418 Master							
			8 = AB3418 Slave							
			9 = Bus Signal Priority							
			1	2	3	4	5	6	7	8
Port 1 Baud	1C0									X
Port 2 Baud	1C1									
Port 3 Baud	1C2				X					
Port 4 Baud	1C3									
Port 1 Parity	1C4									
Port 2 Parity	1C5									
Port 3 Parity	1C6									
Port 4 Parity	1C7									
<b>Baud Rate:</b>			<b>Parity:</b>							
1 - 115.2 K			5 - 9600				0 - No Parity			
2 - 57.6 K			6 - 4800				1 - Odd Parity			
3 - 38.4 K			7 - 2400				2 - Even Parity			
4 - 19.2 K			8 - 1200							

MANUAL CONTROL CONFIGURATIONS									
Option	Location	1	2	3	4	5	6	7	8
Omit Phases	3C1								
Lag Phases	3C2		X		X		X		X
Recall Type	309								
<b>Recall Type Options (309)</b>									
00 = Manual Control Disabled				02 = Vehicle Recall Only					
01 = Fully Actuated				03 = Ped and Vehicle Recall					

User Flag Options (1DB)								
1 = Enable Mid-Block Ped Crossing Logic.								
2 = Modify Main Street Phases at Location (1E0).								
3 = Delay RR/EV Clearance Until All Overlaps Finish Terminating.								
4 = Modified Barrier Crossing (Ignore True Max).								
5 = Disable Daylight Savings Time Update.								
6 = Disable Ped Recycle Logic For STA Mode & Ped Recall Phases.								
7 = Enable Freeway Off-Ramp Anti-Backup Logic.								
8 = Ignore Stuck-All-Red Failure.								



**LACO - 4E**  
**SYSTEM DETECTORS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242 Date Implemented: 5-16-07 By:

Parameter	Location	Data	Units
Struck ON Threshold <sup>1</sup>	21F	2	Minutes
Struck OFF Threshold <sup>1</sup>	22F	8	Minutes
Chatter Threshold <sup>1</sup>	23F	50	Actuations
Period <sup>2</sup>	24F	60	Seconds

- 1 - Set Data to "0" to disable Error Checking
- 2 - Default = 60 seconds

Approach	Lanes	Description	System Detector	C1 Pin	File/Slot/Channel
			Det 1	39	I2U
			Det 2	40	J2U
			Det 3	41	I6U
			Det 4	42	J6U
			Det 5	43	I2L
			Det 6	44	J2L
			Det 7	45	I6L
			Det 8	46	J6L
			Det 9	47	I4U/L
			Det 10	48	J4U/L
			Det 11	49	I8U/L
			Det 12	50	J8U/L
			Det 13	55	J1U/L
			Det 14	56	I1U/L
			Det 15	57	J5U/L
			Det 16	58	I5U/L
			Det 17	59	J9U
			Det 18	60	I9U
			Det 19	61	J9L
			Det 20	62	I9L
			Det 21	63	I3U
			Det 22	64	J3U
			Det 23	65	I7U
			Det 24	66	J7U
			Det 25	76	I3L
			Det 26	77	J3L
			Det 27	78	I7L
			Det 28	79	J7L

**Memory Locations of Interest**  
 (Press "8" key first)

1503 - Set to non-zero value to reset all System Detector Logic.  
 150F - Collection Period Timer  
 15FF - Data Collection Sequence Counter

**LACO - 4E**  
**OVERLAPS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

OVERLAP A									
Keystrokes: 3 + row + A		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP B									
Keystrokes: 3 + row + B		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP C									
Keystrokes: 3 + row + C		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP D									
Keystrokes: 3 + row + D		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP E									
Keystrokes: 3 + row + E		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP F									
Keystrokes: 3 + row + F		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

Comments:

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242

Date Implemented: Jul 16 07 WS By: \_\_\_\_\_

RAILROAD CONFIGURATION		
Railroad Select (1, 2 or 3)	360	
All Red Time After Railroad Flash	361	
Railroad Track Clearance Time	362	
Limited Service Max Time	363	
Railroad Link to EV (See EV Setup Note # 5)	364	
Free Time After Preemption	365	
Free Time After Preemption (Timer)	366	
Max Timer (Minutes)	367	
Max Timer (Seconds)	368	

Observation Only

RAILROAD PHASES		1	2	3	4	5	6	7	8
Track Clearance	3A0								
Railroad Exit	3A1								
Railroad Ped Only	3A2								
Limited Service	3A3								

Comments:

EV CONFIGURATION		1	2	3	4	5	6	7	8
EV Flags (See Notes to the Right)	390								
EV-A Clearance Phases	391	X				X			
EV-B Clearance Phases	392								
EV-C Clearance Phases	393								
EV-D Clearance Phases	394								

**EV FLAGS**

- 1 = EV-A Not Used
- 2 = EV-B Not Used
- 3 = EV-C Not Used
- 4 = EV-D Not Used
- 5 = EV-A Truncates Ped Flashing Don't Walk Interval
- 6 = EV-B Truncates Ped Flashing Don't Walk Interval
- 7 = EV-C Truncates Ped Flashing Don't Walk Interval
- 8 = EV-D Truncates Ped Flashing Don't Walk Interval

EV-A SETUP		
Delay (1)	310	0
Active (2)	311	0
Clearance (3)	312	35.0
Maximum (4)	313	120
Link to EV (5)	314	0
Minimum (6)	315	0

EV-B SETUP		
Delay (1)	320	
Active (2)	321	
Clearance (3)	322	
Maximum (4)	323	
Link to EV (5)	324	
Minimum (6)	325	

**EV SETUP NOTES**

- (1). The length of time before the controller responds to EV input. HOLD, CALL, ALLOW & Coordination Functions are not affected during this time.
- (2). The length of time that HOLD & CALL are set. Coordination functions are suspended during this time.
- (3). The length of Green Clearance time. HOLD, CALL & FORCE OFF are set by preemption logic during this time.
- (4). The maximum time (in seconds) that the preempt will remain in control of the intersection.
- (5). Causes the selected EV to time after the current EV times out.
- (6). Minimum time (in seconds) allowed from the end of one EV until the start of another EV.

EV-C SETUP		
Delay (1)	330	
Active (2)	331	
Clearance (3)	332	
Maximum (4)	333	
Link to EV (5)	334	
Minimum (6)	335	

EV-D SETUP		
Delay (1)	340	
Active (2)	341	
Clearance (3)	342	
Maximum (4)	343	
Link to EV (5)	344	
Minimum (6)	345	

**AUX 3 YELLOW OUTPUT CONTROL  
(Keystrokes: 3 + C + 0)**

	1	
	2	Railroad B
X	3	Emergency Vehicle A
	4	Emergency Vehicle B
	5	Emergency Vehicle C
	6	Emergency Vehicle D
	7	Manual Control
	8	Unused

**LACO - 4E**  
**BUS PRIORITY**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242 ( NOT USED ) Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**NOTE: All data is located in the Extended Memory and must be accessed with "8" followed by the 4 digit address.**

BUS PRIORITY CONTROL	
Manual Control	1E00
Primary Address	1E01
Secondary Address	1E02
City Code	1E03
Hardwired ETA	1E04
Trip Point	1E05

**Manual Control (1E00) Options**  
 0 = Auto  
 1 = Logic OFF  
 2 = Logic ON / No Communications  
 4 = Headway / No Communications  
 7 = Hardwire  
 14 = BSP OFF

BUS PHASES		1	2	3	4	5	6	7	8
Priority	1E08								
Demand	1E09								
Northbound	1E0A								
Southbound	1E0B								
Eastbound	1E0C								
Westbound	1E0D								

BSP OVERRIDE TABLE									
	Hour : Min	Dir	S	M	T	W	T	F	S
0	:								
1	:								
2	:								
3	:								
4	:								
5	:								
6	:								
7	:								
8	:								
9	:								
A	:								
B	:								
C	:								
D	:								
E	:								
F	:								

**Data Entry for BSP Override Table**

- "9" + "9" sets the controller to Table Entry mode pointing to the BSP Override Table, Event 0.
- Press "A" or "D" key to move to desired Event.
- Enter 4 digit Time of Day.
- Enter one digit Directional Override.  
 1 = N    3 = N+S    A = S+W    D = N+S+W  
 2 = S    5 = N+E    C = E+W    E = S+E+W  
 4 = E    6 = S+E    7 = N+S+E    F = ALL  
 8 = W    9 = N+W    B = N+E+W
- Then press "E" to select the Days of Week.
- Select Day(s) of Week.
- Press "A" or "D" to move to next Event.
- Repeat steps 3 through 6 for each event.
- Press "F" key to finish.

Comments:

**LACO - 4E**  
**ZIP COORDINATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07/HeH By: AHL

T.S. No.: 1242 (NOT USED) Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 4 + Plan # + Parameter**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1		PLAN 4		PLAN 7	
PLAN 2		PLAN 5		PLAN 8	
PLAN 3		PLAN 6		PLAN 9	
FREE					

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	
2	7-A-2	
3	7-A-3	
4	7-A-4	
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse				
7-A-B	Hour	7-A-C	Minute	

** ZIP Coordination Enable	7-A-D	000
----------------------------	-------	-----

\*\* Set to "000" to DISABLE Zip Coordination

Observation Only Location

	Parameters		Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
0			1	2	3	4	5	6	7	8	9
System Manual	Cycle Length	0									
Local Manual	Force Off Phase 1	1									
Master Plan	Force Off Phase 2	2									
Local Plan	Force Off Phase 3	3									
TMC Override	Force Off Phase 4	4									
Time Of Day Plan	Force Off Phase 5	5									
Special Function	Force Off Phase 6	6									
Current Table	Force Off Phase 7	7									
Min Cycle Length	Force Off Phase 8	8									
Max Cycle Length	Hold Release	9									

Master Cycle Timer	COMMENTS:
Local Cycle Timer	
New Offset	
Current Offset Time	
Last Master Cycle	
Last Local Cycle	





**LACO - 4E**  
**COORDINATION 2**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

KEYSTROKE: 5 + column + row

	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 4				PLAN 5				PLAN 6			
	Plan 4	Plan 5	Plan 6	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0															
1															
2															
3															
4															
5															
6															
7															
8															
9															
A															
B															
C															
D															
E															
F															

COMMENTS:

**LACO - 4E**  
**COORDINATION 3**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242 ( NOT USED ) Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 6 + column + row**

X X	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 7				PLAN 8				PLAN 9			
	Plan 7	Plan 8	Plan 9	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0															
1															
2															
3															
4															
5															
6															
7															
8															
9															
A															
B															
C															
D															
E															
F															

COMMENTS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COORDINATION ATTRIBUTES

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242

Date Implemented: JUL 16 7 18 By: \_\_\_\_\_

KEYSTROKE: 7 + Plan Number + Attribute

COORDINATION PHASE ATTRIBUTES (Plans 1 through 9)																										
ATTRIBUTES		PLAN 1								PLAN 2								PLAN 3								
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
Coordination Lag Phases	0		X		X	X			X		X		X	X			X		X		X	X				X
Minimum Vehicle Recall Phases	1																									
Pedestrian Recall Phases	2																									
Maximum Vehicle Recall Phases	3																									
Barrier Recall Phases	4																									
Green Calling Phases	5																									
Green "Call To" Phases	6																									
	7																									
Phases to use Max 1	8																									
Red Rest Phases	9																									
Omitted Phases	A																									
Phases to Omit System Detectors	B																									
STA Mode Phases	C																									
	D																									
	E																									
	F																									
ATTRIBUTES		PLAN 4								PLAN 5								PLAN 6								
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
Coordination Lag Phases	0		X		X		X		X		X		X		X		X		X		X		X		X	
Minimum Vehicle Recall Phases	1																									
Pedestrian Recall Phases	2																									
Maximum Vehicle Recall Phases	3																									
Barrier Recall Phases	4																									
Green Calling Phases	5																									
Green "Call To" Phases	6																									
	7																									
Phases to use Max 1	8																									
Red Rest Phases	9																									
Omitted Phases	A																									
Phases to Omit System Detectors	B																									
STA Mode Phases	C																									
	D																									
	E																									
	F																									
ATTRIBUTES		PLAN 7								PLAN 8								PLAN 9								
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
Coordination Lag Phases	0		X		X		X		X		X		X		X		X		X		X		X		X	
Minimum Vehicle Recall Phases	1																									
Pedestrian Recall Phases	2																									
Maximum Vehicle Recall Phases	3																									
Barrier Recall Phases	4																									
Green Calling Phases	5																									
Green "Call To" Phases	6																									
	7																									
Phases to use Max 1	8																									
Red Rest Phases	9																									
Omitted Phases	A																									
Phases to Omit System Detectors	B																									
STA Mode Phases	C																									
	D																									
	E																									
	F																									



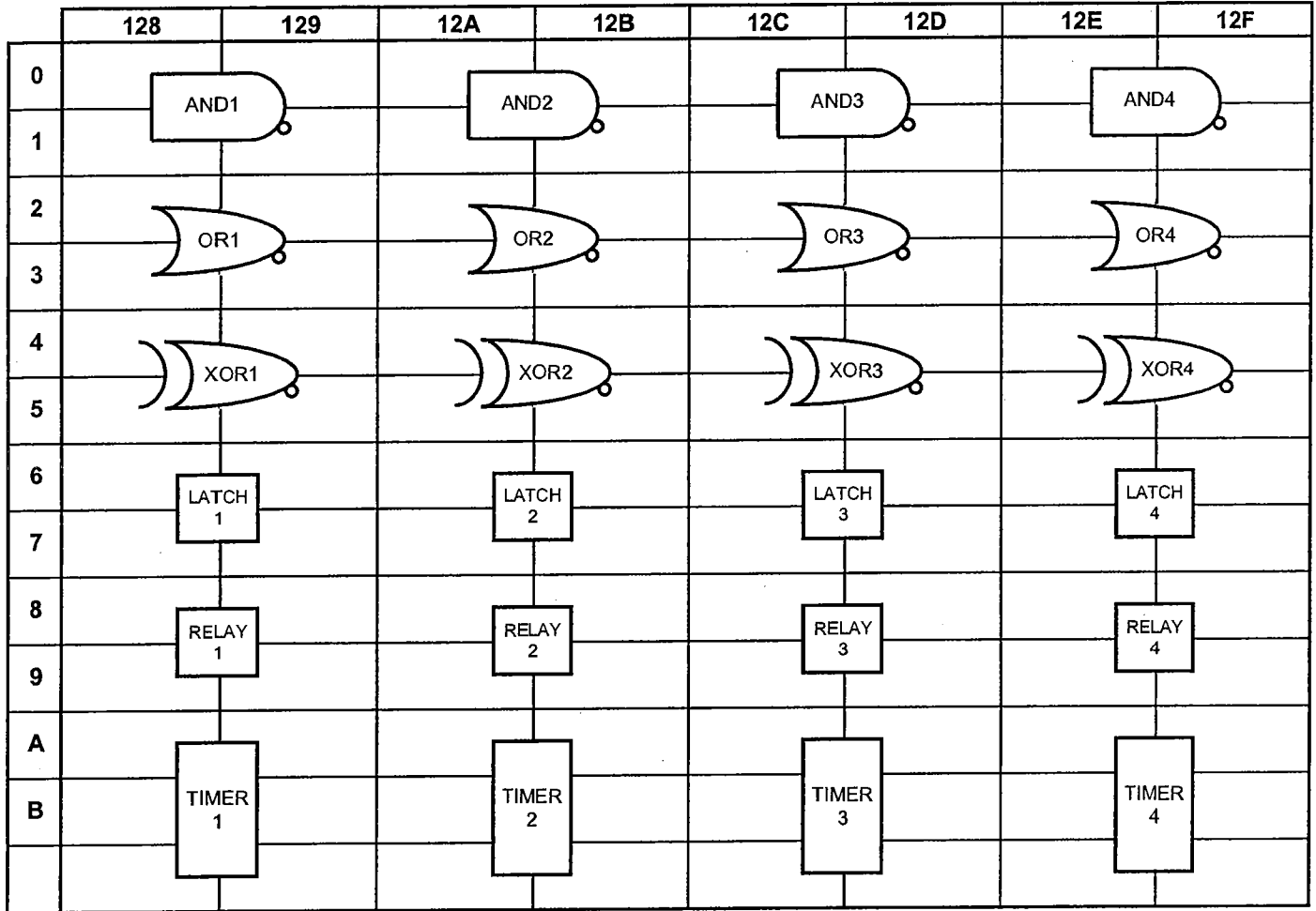
# LACO - 4E

## PROGRAMMABLE LOGIC

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: 5-9-07 HCH By: AHL

T.S. No.: 1242 ( NOT USED ) Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 8 + column + row**



**Comments:**

PHASE TIMING

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

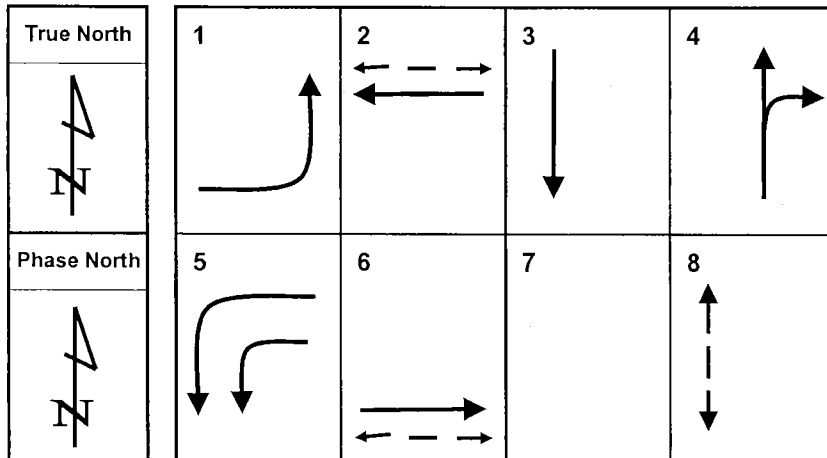
Date Prepared: AK 6-9-08 By: SMP

T.S. No.: 1242

Date Implemented: 07/15/08 By: AA

Keystroke: 1 + Phase + Interval

Interval		Phase							
		1	2	3	4	5	6	7	8
Walk	0	0	7	0	0	0	7		7
Flashing Don't Walk	1	0	8	0	0	0	21		30
Minimum Green	2	4	10	4	4	4	10		4
Queue Maximum	3	0	0	0	0	0	0		0
Added Green/Actuation	4	0.0	1.5	0.0	0.0	0.0	1.5		0.0
Vehicle Extension	5	1.5	4.5	3.0	3.0	1.5	4.5		0.0
Time Before Reduction	6	0	15	0	0	0	15		0
Minimum Gap	7	1.5	3.0	3.0	3.0	1.5	3.0		0.0
Max Green 1 (Free)	8	20	50	25	30	30	50		0
Max Green 2 (Coord.)	9	20	130	25	30	30	130		0
Max Added Green	A	0	25	0	0	0	25		0
Unused	B								
Unused	C								
Time to Reduce	D	0	15	0	0	0	15		0
Yellow Clearance	E	3.0	4.5	3.0	4.0	3.0	4.5		4.0
Red Clearance	F	0.0	0.0	0.0	0.0	0.0	0.0		0.0



MISCELLANEOUS TIMERS		
Timer	Location	
Red Rest Delay Time	106	0
Green Rest Delay Time	107	0
Stuck All Red Fail Delay Time	10E	30
Red Revert Time	10F	2.0

Comments: FIRE STATION PREEMPTION:  
FIRE STATION PUSH BUTTON WILL PLACE A CALL TO EV-C AT ISIS AVE. AND TO EV-A AT HINDRY AVE.

**LACO - 4E**  
**CONFIGURATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 6.9.08 By: SMP

T.S. No.: 1242 Connected to Comm. Ch. # 19

Date Implemented: 8/15/08 By: AA

PHASE FUNCTION FLAGS									
Keystrokes: 1 + F + row		1	2	3	4	5	6	7	8
Permitted Phases	0	X	X	X	X	X	X		X
Red Lock	1								
Red & Yellow Lock	2		X				X		
Minimum Vehicle Recall	3		X				X		
Maximum Vehicle Recall	4								
Rest In Green	5								
Rest in Red	6								
Barrier Recall	7								
Double Entry	8				X				X
Exclusive Phases	9								
Restricted Phases	A								
Prot/Perm Left Turn	B								
Lag Phases (Free)	C		X		X		X		X
First Phases After Start-Up	D								
Yellow Start-Up Phases	E		X				X		
Yellow Start-Up Overlaps	F	A	B	C	D	E	F		

STREET CONFIGURATION FLAGS									
Keystrokes: 1 + E + row		1	2	3	4	5	6	7	8
Main Street Phases	0	X	X			X	X		
Side Street Phases	1			X	X			X	X
2 Ped Load Switch	2		X						
4 Ped Load Switch	3								
6 Ped Load Switch	4						X		
8 Ped Load Switch	5								X
Ped A Load Switch	6								
Ped B Load Switch	7								
Ped Recall - Rest in Walk	8								
STA Mode Phases	9								
Unused	A								
Unused	B								
Unused	C								
Driveway Flash	D								
2 Head Driveway Flash	E								
Overlap Driveway Flash	F	A	B	C	D	E	F		

MISCELLANEOUS FLAGS									
Keystrokes: 1 + D + row		1	2	3	4	5	6	7	8
Unused	0								
Assoc. Phase Recall - 1	1								
Assoc. Phase Recall - 2	2								
Assoc. Phase Recall - 3	3								
Assoc. Phase Recall - 4	4								
Assoc. Phase Recall - 5	5								
Assoc. Phase Recall - 6	6								
Assoc. Phase Recall - 7	7								
Assoc. Phase Recall - 8	8								
Yellow Calling Phases	9								
Yellow Phases Called	A								
User Flags (See Options Box)	B								
Green Offset Sync Pulse	C								
Yellow Offset Sync Pulse	D								
Yellow Ranging Phase	E								
Yellow Ranging Overlap	F	A	B	C	D	E	F		

COMMUNICATIONS OPTIONS			System ID = 1 to 255							
Systems ID			1	2	3	4	5	6	7	8
Port 1 Mode	191	1								
Port 2 Mode	192									
Port 3 Mode	193	8								
Port 4 Mode	194									
Port 1 Baud	1C0									X
Port 2 Baud	1C1									
Port 3 Baud	1C2				X					
Port 4 Baud	1C3									
Port 1 Parity	1C4									
Port 2 Parity	1C5									
Port 3 Parity	1C6									
Port 4 Parity	1C7									
<b>Baud Rate:</b>			<b>Parity:</b>							
1 - 115.2 K			5 - 9600				0 - No Parity			
2 - 57.6 K			6 - 4800				1 - Odd Parity			
3 - 38.4 K			7 - 2400				2 - Even Parity			
4 - 19.2 K			8 - 1200							

MANUAL CONTROL CONFIGURATIONS									
Option	Location	1	2	3	4	5	6	7	8
Omit Phases	3C1								
Lag Phases	3C2		X		X		X		X
Recall Type	309	00							
<b>Recall Type Options (309)</b>									
00 = Manual Control Disabled			02 = Vehicle Recall Only			03 = Ped and Vehicle Recall			
01 = Fully Actuated									

User Flag Options (1DB)							
1 = Enable Mid-Block Ped Crossing Logic.							
2 = Modify Main Street Phases at Location (1E0).							
3 = Delay RR/EV Clearance Until All Overlaps Finish Terminating.							
4 = Modified Barrier Crossing (Ignore True Max).							
5 = Disable Daylight Savings Time Update.							
6 = Disable Ped Recycle Logic For STA Mode & Ped Recall Phases.							
7 = Enable Freeway Off-Ramp Anti-Backup Logic.							
8 = Ignore Stuck-All-Red Failure.							





**LACO - 4E**  
**SYSTEM DETECTORS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 6.9.08 By: SMP

T.S. No.: 1242

Date Implemented: 07/15/08 By: MA

Parameter	Location	Data	Units
Struck ON Threshold <sup>1</sup>	<b>21F</b>	2	Minutes
Struck OFF Threshold <sup>1</sup>	<b>22F</b>	8	Minutes
Chatter Threshold <sup>1</sup>	<b>23F</b>	50	Actuations
Period <sup>2</sup>	<b>24F</b>	60	Seconds

- 1 - Set Data to "0" to disable Error Checking
- 2 - Default = 60 seconds

Approach	Lanes	Description	System Detector	C1 Pin	File/Slot/Channel
			Det 1	39	I2U
			Det 2	40	J2U
			Det 3	41	I6U
			Det 4	42	J6U
			Det 5	43	I2L
			Det 6	44	J2L
			Det 7	45	I6L
			Det 8	46	J6L
			Det 9	47	I4U/L
			Det 10	48	J4U/L
			Det 11	49	I8U/L
			Det 12	50	J8U/L
			Det 13	55	J1U/L
			Det 14	56	I1U/L
			Det 15	57	J5U/L
			Det 16	58	I5U/L
			Det 17	59	J9U
			Det 18	60	I9U
			Det 19	61	J9L
			Det 20	62	I9L
			Det 21	63	I3U
			Det 22	64	J3U
			Det 23	65	I7U
			Det 24	66	J7U
			Det 25	76	I3L
			Det 26	77	J3L
			Det 27	78	I7L
			Det 28	79	J7L

**Memory Locations of Interest**

(Press "8" key first)

- 1503** - Set to non-zero value to reset all System Detector Logic.
- 150F** - Collection Period Timer
- 15FF** - Data Collection Sequence Counter

**LACO - 4E**  
**OVERLAPS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: JK 6.9.08 By: SMP

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

OVERLAP A									
Keystrokes: 3 + row + A		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP B									
Keystrokes: 3 + row + B		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP C									
Keystrokes: 3 + row + C		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP D									
Keystrokes: 3 + row + D		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP E									
Keystrokes: 3 + row + E		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP F									
Keystrokes: 3 + row + F		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

Comments:

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 12/6/08 By: SMP

T.S. No.: 1242

Date Implemented: 07/15/08 By: AAA

RAILROAD CONFIGURATION	
Railroad Select (1, 2 or 3)	360
All Red Time After Railroad Flash	361
Railroad Track Clearance Time	362
Limited Service Max Time	363
Railroad Link to EV (See EV Setup Note # 5)	364
Free Time After Preemption	365
Free Time After Preemption (Timer)	366
Max Timer (Minutes)	367
Max Timer (Seconds)	368

RAILROAD PHASES		1	2	3	4	5	6	7	8
Track Clearance	3A0								
Railroad Exit	3A1								
Railroad Ped Only	3A2								
Limited Service	3A3								

Comments:

Observation Only

EV CONFIGURATION		1	2	3	4	5	6	7	8
EV Flags (See Notes to the Right)	390								
EV-A Clearance Phases	391	X					X		
EV-B Clearance Phases	392								
EV-C Clearance Phases	393								
EV-D Clearance Phases	394								

**EV FLAGS**

- 1 = EV-A Not Used
- 2 = EV-B Not Used
- 3 = EV-C Not Used
- 4 = EV-D Not Used
- 5 = EV-A Truncates Ped Flashing Don't Walk Interval
- 6 = EV-B Truncates Ped Flashing Don't Walk Interval
- 7 = EV-C Truncates Ped Flashing Don't Walk Interval
- 8 = EV-D Truncates Ped Flashing Don't Walk Interval

EV-A SETUP		
Delay (1)	310	0
Active (2)	311	0
Clearance (3)	312	35.0
Maximum (4)	313	120
Link to EV (5)	314	0
Minimum (6)	315	0

EV-B SETUP		
Delay (1)	320	
Active (2)	321	
Clearance (3)	322	
Maximum (4)	323	
Link to EV (5)	324	
Minimum (6)	325	

**EV SETUP NOTES**

- (1). The length of time before the controller responds to EV input. HOLD, CALL, ALLOW & Coordination Functions are not affected during this time.
- (2). The length of time that HOLD & CALL are set. Coordination functions are suspended during this time.
- (3). The length of Green Clearance time. HOLD, CALL & FORCE OFF are set by preemption logic during this time.
- (4). The maximum time (in seconds) that the preempt will remain in control of the intersection.
- (5). Causes the selected EV to time after the current EV times out.
- (6). Minimum time (in seconds) allowed from the end of one EV until the start of another EV.

EV-C SETUP		
Delay (1)	330	
Active (2)	331	
Clearance (3)	332	
Maximum (4)	333	
Link to EV (5)	334	
Minimum (6)	335	

EV-D SETUP		
Delay (1)	340	
Active (2)	341	
Clearance (3)	342	
Maximum (4)	343	
Link to EV (5)	344	
Minimum (6)	345	

AUX 3 YELLOW OUTPUT CONTROL (Keystrokes: 3 + C + 0)		
	1	Railroad A
	2	Railroad B
X	3	Emergency Vehicle A
	4	Emergency Vehicle B
	5	Emergency Vehicle C
	6	Emergency Vehicle D
	7	Manual Control
	8	Unused

**LACO - 4E**  
**BUS PRIORITY**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: JK 6.9.08 By: SMP

T.S. No.: 1242 Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

( NOT USED )

**NOTE: All data is located in the Extended Memory and must be accessed with "8" followed by the 4 digit address.**

BUS PRIORITY CONTROL	
Manual Control	1E00
Primary Address	1E01
Secondary Address	1E02
City Code	1E03
Hardwired ETA	1E04
Trip Point	1E05

**Manual Control (1E00) Options**

- 0 = Auto
- 1 = Logic OFF
- 2 = Logic ON / No Communications
- 4 = Headway / No Communications
- 7 = Hardwire
- 14 = BSP OFF

BUS PHASES		1	2	3	4	5	6	7	8
Priority	1E08								
Demand	1E09								
Northbound	1E0A								
Southbound	1E0B								
Eastbound	1E0C								
Westbound	1E0D								

BSP OVERRIDE TABLE										
	Hour	Min	Dir	S	M	T	W	T	F	S
0	:									
1	:									
2	:									
3	:									
4	:									
5	:									
6	:									
7	:									
8	:									
9	:									
A	:									
B	:									
C	:									
D	:									
E	:									
F	:									

**Data Entry for BSP Override Table**

1. "9" + "9" sets the controller to Table Entry mode pointing to the BSP Override Table, Event 0.
2. Press "A" or "D" key to move to desired Event.
3. Enter 4 digit Time of Day.
4. Enter one digit Directional Override.
  - 1 = N    3 = N+S    A = S+W    D = N+S+W
  - 2 = S    5 = N+E    C = E+W    E = S+E+W
  - 4 = E    6 = S+E    7 = N+S+E    F = ALL
  - 8 = W    9 = N+W    B = N+E+W
- Then press "E" to select the Days of Week.
5. Select Day(s) of Week.
6. Press "A" or "D" to move to next Event.
7. Repeat steps 3 through 6 for each event.
8. Press "F" key to finish.

Comments:

**LACO - 4E**  
**ZIP COORDINATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 6.9.08 By: SMP

T.S. No.: 1242

( NOT USED)

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 4 + Plan # + Parameter**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1		PLAN 4		PLAN 7	
PLAN 2		PLAN 5		PLAN 8	
PLAN 3		PLAN 6		PLAN 9	
FREE					

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	
2	7-A-2	
3	7-A-3	
4	7-A-4	
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse					
7-A-B	Hour		7-A-C	Minute	

** ZIP Coordination Enable	7-A-D	000
----------------------------	-------	-----

\*\* Set to "000" to **DISABLE** Zip Coordination

Observation Only Location

	Parameters		Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
0			1	2	3	4	5	6	7	8	9
System Manual	Cycle Length	0									
Local Manual	Force Off Phase 1	1									
Master Plan	Force Off Phase 2	2									
Local Plan	Force Off Phase 3	3									
TMC Override	Force Off Phase 4	4									
Time Of Day Plan	Force Off Phase 5	5									
Special Function	Force Off Phase 6	6									
Current Table	Force Off Phase 7	7									
Min Cycle Length	Force Off Phase 8	8									
Max Cycle Length	Hold Release	9									

Master Cycle Timer	COMMENTS:
Local Cycle Timer	
New Offset	
Current Offset Time	
Last Master Cycle	
Last Local Cycle	

**LACO - 4E**  
**COORDINATION 1**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: AK 6-9-08 By: SMP

T.S. No.: 1242

Date Implemented: 07/15/08 By: DA

**KEYSTROKE: 4 + column + row**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1	0930 - 1500 M-F, 0600-2030 S-S	PLAN 4	1600-1830 M-F	PLAN 7	
PLAN 2	0600 - 0930 M-F	PLAN 5		PLAN 8	
PLAN 3	1500 - 1600 M-F, 1830-2030 M-F	PLAN 6		PLAN 9	
FREE	ALL OTHER TIMES				

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	102
2	7-A-2	68
3	7-A-3	119
4	7-A-4	117
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse					
7-A-B	Hour	00	7-A-C	Minute	00

COMMENTS:

Offset Timing Plan	7-A-A	0
Current Offset	7-A-0	

COORDINATION PARAMETERS	OBSERVATION ONLY	INTERVALS (In Seconds)		COORDINATION FUNCTION FLAGS												
		Plan 1	Plan 2	Plan 3	PLAN 1				PLAN 2				PLAN 3			
		1	2	3	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
0		1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
System Manual 0	0	120	120	120	2,5,6				2,5,6				2,5,6			
Local Manual 0	1	1	1	1	---				---				---			
Master Plan	2	9	6	9	2,5,6						8		2,5,6			
Local Plan	3	16	9	11	---		8		2,5,6		8		---		8	
TMC Override	4	20	20	20	3		8		---	3			3		8	
Time Of Day Plan	5	41	21	36	-	2,6	8		-		8		-	2,6	8	
Special Function	6	53	31	48	4,8	2,6	-			2,6	8		4,8	2,6	-	
Current Table	7	54	43	49	-,-	2,6			4,8	2,6	-		-,-	2,6		
Min Cycle Length 0	8	63	44	58		2,6	6		-,-	2,6				2,-		
Max Cycle Length 255	9	64	57	62		2,-	6		1	2,6			1	2		
Master Cycle Timer	A	70	58	63	1	2	6		-	2,6			-	2		
Local Cycle Timer	B	71	66	71	-	2	6			2,-				2	6	
New Offset Time	C	85	77	84		-	6			2	6			-	6	
Current Offset Time	D	91	82	99	6		6			-	6		6		6	
Last Master Cycle	E	105	105	105	6		2,6		6		2,6		6		2,6	
Last Local Cycle	F	120	120	120	-		---		-		---		-		---	

**LACO - 4E**  
**COORDINATION 2**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: AR 6.9.08 By: AMP

T.S. No.: 1242

Date Implemented: 07/15/08 By: AM

**KEYSTROKE: 5 + column + row**

	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 4				PLAN 5				PLAN 6			
	Plan 4	Plan 5	Plan 6	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	120			2,5,6											
1	1			-,-,-											
2	9			2,5,6											
3	11			-,-,-		8									
4	20			3		8									
5	36			-	2,6	8									
6	48			4,8	2,6	-									
7	49			-,-	2,6										
8	62			1	2,6										
9	63			-	2,6										
A	64				2,-										
B	71				2	6									
C	88				-	6									
D	99			6		6									
E	105			6		2,6									
F	120			-		-,-									

COMMENTS:



**LACO - 4E**  
**COORDINATION 3**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: JK 6.9.08 By: smp

T.S. No.: 1242 ( NOT USED ) Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 6 + column + row**

	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 7				PLAN 8				PLAN 9			
	Plan 7	Plan 8	Plan 9	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
X	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0															
1															
2															
3															
4															
5															
6															
7															
8															
9															
A															
B															
C															
D															
E															
F															

COMMENTS:

COORDINATION ATTRIBUTES

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: AK 6.9.08 By: SMP

T.S. No.: 1242

Date Implemented: 07/15/08 By: AN

KEYSTROKE: 7 + Plan Number + Attribute

COORDINATION PHASE ATTRIBUTES (Plans 1 through 9)																									
ATTRIBUTES		PLAN 1								PLAN 2								PLAN 3							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Coordination Lag Phases	0		X		X	X			X		X		X	X			X		X		X	X			X
Minimum Vehicle Recall Phases	1																								
Pedestrian Recall Phases	2																								
Maximum Vehicle Recall Phases	3																								
Barrier Recall Phases	4																								
Green Calling Phases	5																								
Green "Call To" Phases	6																								
	7																								
Phases to use Max 1	8																								
Red Rest Phases	9																								
Omitted Phases	A																								
Phases to Omit System Detectors	B																								
STA Mode Phases	C																								
	D																								
	E																								
	F																								
ATTRIBUTES		PLAN 4								PLAN 5								PLAN 6							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Coordination Lag Phases	0		X		X	X			X		X		X	X			X		X		X	X			X
Minimum Vehicle Recall Phases	1																								
Pedestrian Recall Phases	2																								
Maximum Vehicle Recall Phases	3																								
Barrier Recall Phases	4																								
Green Calling Phases	5																								
Green "Call To" Phases	6																								
	7																								
Phases to use Max 1	8																								
Red Rest Phases	9																								
Omitted Phases	A																								
Phases to Omit System Detectors	B																								
STA Mode Phases	C																								
	D																								
	E																								
	F																								
ATTRIBUTES		PLAN 7								PLAN 8								PLAN 9							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Coordination Lag Phases	0		X		X		X	X		X		X	X			X		X		X	X			X	
Minimum Vehicle Recall Phases	1																								
Pedestrian Recall Phases	2																								
Maximum Vehicle Recall Phases	3																								
Barrier Recall Phases	4																								
Green Calling Phases	5																								
Green "Call To" Phases	6																								
	7																								
Phases to use Max 1	8																								
Red Rest Phases	9																								
Omitted Phases	A																								
Phases to Omit System Detectors	B																								
STA Mode Phases	C																								
	D																								
	E																								
	F																								



**LACO - 4E**  
**PROGRAMMABLE LOGIC**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

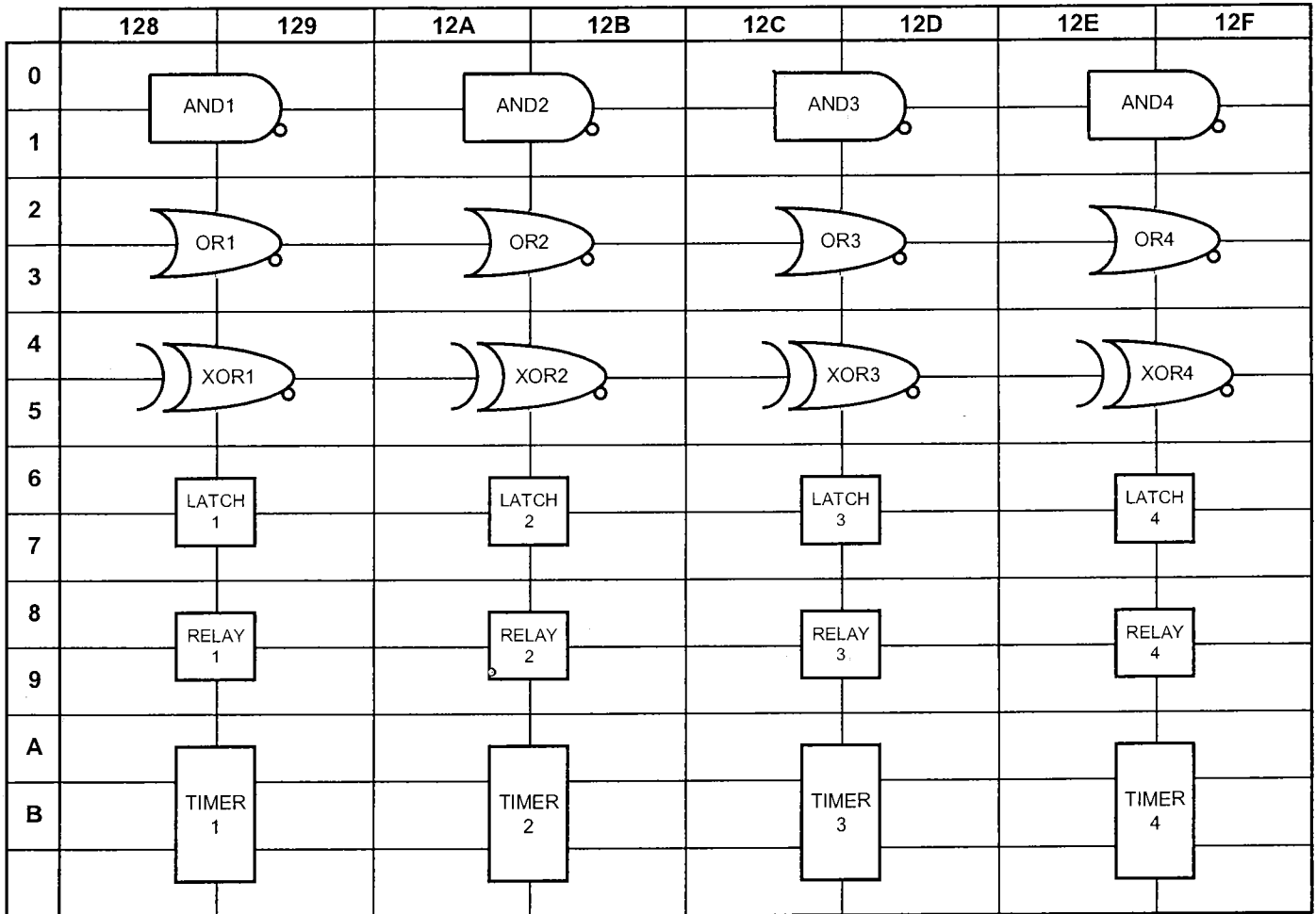
Date Prepared: JK 6.9.08 By: SME

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

KEYSTROKE: 8 + column + row



Comments:

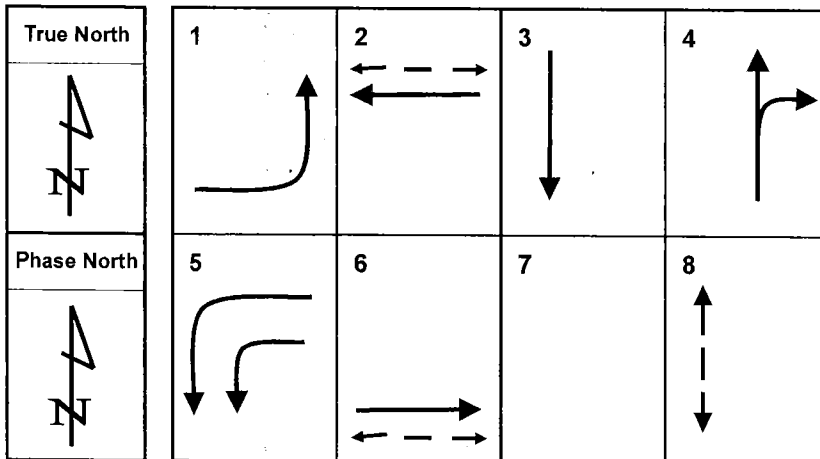
PHASE TIMING

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: JK 8.7.08 By: SMY

T.S. No.: 1242 Date Implemented: 9-10-08 By: WJS

Keystroke: 1 + Phase + Interval

Interval		Phase							
		1	2	3	4	5	6	7	8
Walk	0	0	7	0	0	0	7		7
Flashing Don't Walk	1	0	8	0	0	0	21		30
Minimum Green	2	4	10	4	4	4	10		4
Queue Maximum	3	0	0	0	0	0	0		0
Added Green/Actuation	4	0.0	1.5	0.0	0.0	0.0	1.5		0.0
Vehicle Extension	5	1.5	4.5	3.0	3.0	1.5	4.5		0.0
Time Before Reduction	6	0	15	0	0	0	15		0
Minimum Gap	7	1.5	3.0	3.0	3.0	1.5	3.0		0.0
Max Green 1 (Free)	8	20	50	25	30	30	50		0
Max Green 2 (Coord.)	9	20	130	25	30	30	130		0
Max Added Green	A	0	25	0	0	0	25		0
Unused	B								
Unused	C								
Time to Reduce	D	0	15	0	0	0	15		0
Yellow Clearance	E	3.0	4.5	3.0	4.0	3.0	4.5		4.0
Red Clearance	F	0.0	0.0	0.0	0.0	0.0	0.0		0.0



MISCELLANEOUS TIMERS		
Timer	Location	
Red Rest Delay Time	106	0
Green Rest Delay Time	107	0
Stuck All Red Fail Delay Time	10E	30
Red Revert Time	10F	2.0

Comments: FIRE STATION PREEMPTION:  
FIRE STATION PUSH BUTTON WILL PLACE A CALL TO EV-C AT ISIS AVE. AND TO EV-A AT HINDRY AVE.

**LACO - 4E**  
**CONFIGURATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: AK 8.7.08 By: SMP

T.S. No.: 1242

Connected to Comm. Ch. # 19

Date Implemented: 9-10-08 By: WD

PHASE FUNCTION FLAGS									
Keystrokes: 1 + F + row		1	2	3	4	5	6	7	8
Permitted Phases	0	X	X	X	X	X	X		X
Red Lock	1								
Red & Yellow Lock	2		X				X		
Minimum Vehicle Recall	3		X				X		
Maximum Vehicle Recall	4								
Rest In Green	5								
Rest in Red	6								
Barrier Recall	7								
Double Entry	8				X				X
Exclusive Phases	9								
Restricted Phases	A								
Prot/Perm Left Turn	B								
Lag Phases (Free)	C		X		X		X		X
First Phases After Start-Up	D								
Yellow Start-Up Phases	E		X				X		
Yellow Start-Up Overlaps	F	A	B	C	D	E	F		

STREET CONFIGURATION FLAGS									
Keystrokes: 1 + E + row		1	2	3	4	5	6	7	8
Main Street Phases	0	X	X			X	X		
Side Street Phases	1			X	X			X	X
2 Ped Load Switch	2		X						
4 Ped Load Switch	3								
6 Ped Load Switch	4						X		
8 Ped Load Switch	5								X
Ped A Load Switch	6								
Ped B Load Switch	7								
Ped Recall - Rest in Walk	8								
STA Mode Phases	9								
Unused	A								
Unused	B								
Unused	C								
Driveway Flash	D								
2 Head Driveway Flash	E								
Overlap Driveway Flash	F	A	B	C	D	E	F		

MISCELLANEOUS FLAGS									
Keystrokes: 1 + D + row		1	2	3	4	5	6	7	8
Unused	0								
Assoc. Phase Recall - 1	1								
Assoc. Phase Recall - 2	2								
Assoc. Phase Recall - 3	3								
Assoc. Phase Recall - 4	4								
Assoc. Phase Recall - 5	5								
Assoc. Phase Recall - 6	6								
Assoc. Phase Recall - 7	7								
Assoc. Phase Recall - 8	8								
Yellow Calling Phases	9								
Yellow Phases Called	A								
User Flags (See Options Box)	B								
Green Offset Sync Pulse	C								
Yellow Offset Sync Pulse	D								
Yellow Ranging Phase	E								
Yellow Ranging Overlap	F	A	B	C	D	E	F		

COMMUNICATIONS OPTIONS			System ID = 1 to 255							
Systems ID			1	2	3	4	5	6	7	8
Port 1 Mode	190	3								
Port 2 Mode	191	1								
Port 3 Mode	192									
Port 4 Mode	193	8								
Port 1 Baud	1C0									X
Port 2 Baud	1C1									
Port 3 Baud	1C2			X						
Port 4 Baud	1C3									
Port 1 Parity	1C4									
Port 2 Parity	1C5									
Port 3 Parity	1C6									
Port 4 Parity	1C7									
<b>Baud Rate:</b>			<b>Parity:</b>							
1 - 115.2 K			5 - 9600				0 - No Parity			
2 - 57.6 K			6 - 4800				1 - Odd Parity			
3 - 38.4 K			7 - 2400				2 - Even Parity			
4 - 19.2 K			8 - 1200							

MANUAL CONTROL CONFIGURATIONS									
Option	Location	1	2	3	4	5	6	7	8
Omit Phases	3C1								
Lag Phases	3C2		X		X		X		X
Recall Type	309	00							
<b>Recall Type Options (309)</b>									
00 = Manual Control Disabled			02 = Vehicle Recall Only						
01 = Fully Actuated			03 = Ped and Vehicle Recall						

User Flag Options (1DB)							
1	Enable Mid-Block Ped Crossing Logic.						
2	Modify Main Street Phases at Location (1E0).						
3	Delay RR/EV Clearance Until All Overlaps Finish Terminating.						
4	Modified Barrier Crossing (Ignore True Max).						
5	Disable Daylight Savings Time Update.						
6	Disable Ped Recycle Logic For STA Mode & Ped Recall Phases.						
7	Enable Freeway Off-Ramp Anti-Backup Logic.						
8	Ignore Stuck-All-Red Failure.						



**LACO - 4E**  
**SYSTEM DETECTORS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 8-7-08 By: SMP

T.S. No.: 1242

Date Implemented: 9-10-08 By: [Signature]

Parameter	Location	Data	Units
Struck ON Threshold <sup>1</sup>	21F	2	Minutes
Struck OFF Threshold <sup>1</sup>	22F	8	Minutes
Chatter Threshold <sup>1</sup>	23F	50	Actuations
Period <sup>2</sup>	24F	60	Seconds

- 1 - Set Data to "0" to disable Error Checking
- 2 - Default = 60 seconds

Approach	Lanes	Description	System Detector	C1 Pin	File/Slot/Channel
			Det 1	39	I2U
			Det 2	40	J2U
			Det 3	41	I6U
			Det 4	42	J6U
			Det 5	43	I2L
			Det 6	44	J2L
			Det 7	45	I6L
			Det 8	46	J6L
			Det 9	47	I4U/L
			Det 10	48	J4U/L
			Det 11	49	I8U/L
			Det 12	50	J8U/L
			Det 13	55	I1U/L
			Det 14	56	J1U/L
			Det 15	57	I5U/L
			Det 16	58	J5U/L
			Det 17	59	I9U
			Det 18	60	J9U
			Det 19	61	I9L
			Det 20	62	J9L
			Det 21	63	I3U
			Det 22	64	J3U
			Det 23	65	I7U
			Det 24	66	J7U
			Det 25	76	I3L
			Det 26	77	J3L
			Det 27	78	I7L
			Det 28	79	J7L

**Memory Locations of Interest**

(Press "8" key first)

- 1503** - Set to non-zero value to reset all System Detector Logic.
- 150F** - Collection Period Timer
- 15FF** - Data Collection Sequence Counter



OVERLAPS

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 8.7.08 By: smf

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

OVERLAP A		1	2	3	4	5	6	7	8
<b>Keystrokes: 3 + row + A</b>									
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP B		1	2	3	4	5	6	7	8
<b>Keystrokes: 3 + row + B</b>									
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP C		1	2	3	4	5	6	7	8
<b>Keystrokes: 3 + row + C</b>									
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP D		1	2	3	4	5	6	7	8
<b>Keystrokes: 3 + row + D</b>									
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP E		1	2	3	4	5	6	7	8
<b>Keystrokes: 3 + row + E</b>									
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP F		1	2	3	4	5	6	7	8
<b>Keystrokes: 3 + row + F</b>									
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

Comments:

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: AK 8-7-08 By: SMP

T.S. No.: 1242

Date Implemented: 9-10-08 By: W/S

RAILROAD CONFIGURATION	
Railroad Select (1, 2 or 3)	360
All Red Time After Railroad Flash	361
Railroad Track Clearance Time	362
Limited Service Max Time	363
Railroad Link to EV (See EV Setup Note # 5)	364
Free Time After Preemption	365
Free Time After Preemption (Timer)	366*
Max Timer (Minutes)	367
Max Timer (Seconds)	368

Observation Only

RAILROAD PHASES		1	2	3	4	5	6	7	8
Track Clearance	3A0								
Railroad Exit	3A1								
Railroad Ped Only	3A2								
Limited Service	3A3								

Comments:

EV CONFIGURATION		1	2	3	4	5	6	7	8
EV Flags (See Notes to the Right)	390								
EV-A Clearance Phases	391	X					X		
EV-B Clearance Phases	392								
EV-C Clearance Phases	393								
EV-D Clearance Phases	394								

**EV FLAGS**

- 1 = EV-A Not Used
- 2 = EV-B Not Used
- 3 = EV-C Not Used
- 4 = EV-D Not Used
- 5 = EV-A Truncates Ped Flashing Don't Walk Interval
- 6 = EV-B Truncates Ped Flashing Don't Walk Interval
- 7 = EV-C Truncates Ped Flashing Don't Walk Interval
- 8 = EV-D Truncates Ped Flashing Don't Walk Interval

EV-A SETUP		
Delay (1)	310	0
Active (2)	311	0
Clearance (3)	312	35.0
Maximum (4)	313	120
Link to EV (5)	314	0
Minimum (6)	315	0

EV-B SETUP		
Delay (1)	320	
Active (2)	321	
Clearance (3)	322	
Maximum (4)	323	
Link to EV (5)	324	
Minimum (6)	325	

**EV SETUP NOTES**

- (1). The length of time before the controller responds to EV input. HOLD, CALL, ALLOW & Coordination Functions are not affected during this time.
- (2). The length of time that HOLD & CALL are set. Coordination functions are suspended during this time.
- (3). The length of Green Clearance time. HOLD, CALL & FORCE OFF are set by preemption logic during this time.
- (4). The maximum time (in seconds) that the preempt will remain in control of the intersection.
- (5). Causes the selected EV to time after the current EV times out.
- (6). Minimum time (in seconds) allowed from the end of one EV until the start of another EV.

EV-C SETUP		
Delay (1)	330	
Active (2)	331	
Clearance (3)	332	
Maximum (4)	333	
Link to EV (5)	334	
Minimum (6)	335	

EV-D SETUP		
Delay (1)	340	
Active (2)	341	
Clearance (3)	342	
Maximum (4)	343	
Link to EV (5)	344	
Minimum (6)	345	

**AUX 3 YELLOW OUTPUT CONTROL**  
(Keystrokes: 3 + C + 0)

	1	Railroad A
	2	Railroad B
x	3	Emergency Vehicle A
	4	Emergency Vehicle B
	5	Emergency Vehicle C
	6	Emergency Vehicle D
	7	Manual Control
	8	Unused

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JR 8-7-08 By: SMP

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**NOTE: All data is located in the Extended Memory and must be accessed with "8" followed by the 4 digit address.**

BUS PRIORITY CONTROL		
Manual Control	1E00	
Primary Address	1E01	
Secondary Address	1E02	
City Code	1E03	
Hardwired ETA	1E04	
Trip Point	1E05	

**Manual Control (1E00) Options**

- 0 = Auto
- 1 = Logic OFF
- 2 = Logic ON / No Communications
- 4 = Headway / No Communications
- 7 = Hardwire
- 14 = BSP OFF

BUS PHASES		1	2	3	4	5	6	7	8
Priority	1E08								
Demand	1E09								
Northbound	1E0A								
Southbound	1E0B								
Eastbound	1E0C								
Westbound	1E0D								

BSP OVERRIDE TABLE										
	Hour : Min	Dir	S	M	T	W	T	F	S	
0	:									
1	:									
2	:									
3	:									
4	:									
5	:									
6	:									
7	:									
8	:									
9	:									
A	:									
B	:									
C	:									
D	:									
E	:									
F	:									

**Data Entry for BSP Override Table**

1. "9" + "9" sets the controller to Table Entry mode pointing to the BSP Override Table, Event 0.
2. Press "A" or "D" key to move to desired Event.
3. Enter 4 digit Time of Day.
4. Enter one digit Directional Override.
  - 1 = N    3 = N+S    A = S+W    D = N+S+W
  - 2 = S    5 = N+E    C = E+W    E = S+E+W
  - 4 = E    6 = S+E    7 = N+S+E    F = ALL
  - 8 = W    9 = N+W    B = N+E+W
- Then press "E" to select the Days of Week.
5. Select Day(s) of Week.
6. Press "A" or "D" to move to next Event.
7. Repeat steps 3 through 6 for each event.
8. Press "F" key to finish.

Comments:

**LACO - 4E**  
**ZIP COORDINATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 8-7-08 By: SMP

T.S. No.: 1242

( NOT USED)

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 4 + Plan # + Parameter**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1		PLAN 4		PLAN 7	
PLAN 2		PLAN 5		PLAN 8	
PLAN 3		PLAN 6		PLAN 9	
FREE					

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	
2	7-A-2	
3	7-A-3	
4	7-A-4	
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse					
7-A-B	Hour		7-A-C	Minute	

** ZIP Coordination Enable	7-A-D	000
----------------------------	-------	-----

\*\* Set to "000" to DISABLE Zip Coordination

Observation Only Location

	Parameters		Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
0			1	2	3	4	5	6	7	8	9
System Manual	Cycle Length	0									
Local Manual	Force Off Phase 1	1									
Master Plan	Force Off Phase 2	2									
Local Plan	Force Off Phase 3	3									
TMC Override	Force Off Phase 4	4									
Time Of Day Plan	Force Off Phase 5	5									
Special Function	Force Off Phase 6	6									
Current Table	Force Off Phase 7	7									
Min Cycle Length	Force Off Phase 8	8									
Max Cycle Length	Hold Release	9									

Master Cycle Timer	COMMENTS:
Local Cycle Timer	
New Offset	
Current Offset Time	
Last Master Cycle	
Last Local Cycle	

**LACO - 4E**  
**COORDINATION 1**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 8-7-08 By: SMP

T.S. No.: 1242

Date Implemented: 9-10-09 By: [Signature]

**KEYSTROKE: 4 + column + row**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1	0930 - 1500 M-F, 0600-2030 S-S	PLAN 4	1600-1830 M-F	PLAN 7	
PLAN 2	0600 - 0930 M-F	PLAN 5		PLAN 8	
PLAN 3	1500 - 1600 M-F, 1830-2030 M-F	PLAN 6		PLAN 9	
FREE	ALL OTHER TIMES				

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	102
2	7-A-2	68
3	7-A-3	119
4	7-A-4	117
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse					
7-A-B	Hour	00	7-A-C	Minute	00

COMMENTS:

Offset Timing Plan	7-A-A	0
Current Offset	7-A-0	

COORDINATION PARAMETERS	OBSERVATION ONLY	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
		Plan 1	Plan 2	Plan 3	PLAN 1				PLAN 2				PLAN 3			
					Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
0		1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
System Manual 0	0	120	120	120	2,5,6				2,5,6				2,5,6			
Local Manual 0	1	1	1	1	---				---				---			
Master Plan	2	9	6	9	2,5,6						8		2,5,6			
Local Plan	3	16	9	11	---		8		2,5,6		8		---		8	
TMC Override	4	20	20	20	3	2,6	8		---	2,6	8		3	2,6	8	
Time Of Day Plan	5	41	21	36	-	2,6	8		-	2,6	8		-	2,6	8	
Special Function	6	53	31	48	4,8	2,6	-			2,6	8		4,8	2,6	-	
Current Table	7	54	43	49	---	2,6			4,8	2,6	-		---	2,6		
Min Cycle Length 0	8	63	44	58		2,6	6		---	2,6				2,6		
Max Cycle Length 255	9	64	57	62		2,6	6		1	2,6			1	2,6		
Master Cycle Timer	A	70	58	63	1	2,6	6		-	2,6			-	2,6		
Local Cycle Timer	B	71	66	71	-	2,6	6			2,6				2,6	6	
New Offset Time	C	85	77	84	---	6				2,6	6			---	6	
Current Offset Time	D	91	82	99	6		6			---	6		6		6	
Last Master Cycle	E	105	105	105	6		2,6		6		2,6		6		2,6	
Last Local Cycle	F	120	120	120	-		---		-		---		-		---	

**LACO - 4E**  
**COORDINATION 2**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 8-7-08 By: SMP

T.S. No.: 1242

Date Implemented: 9-10-08 By: W/B

**KEYSTROKE: 5 + column + row**

X X	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 4				PLAN 5				PLAN 6			
	Plan 4	Plan 5	Plan 6	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	120			2,5,6											
1	1			-,-,-											
2	9			2,5,6											
3	11			-,-,-		8									
4	20			3	2,6	8									
5	36			-	2,6	8									
6	48			4,8	2,6	-									
7	49			-,-	2,6										
8	62			1	2,6										
9	63			-	2,6										
A	64				2,6										
B	71				2,6	6									
C	88				-,-	6									
D	99			6		6									
E	105			6		2,6									
F	120			-		-,-									

COMMENTS:

**LACO - 4E**  
**COORDINATION 3**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: JK 8.7.08 By: sme

T.S. No.: 1242 ( NOT USED ) Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 6 + column + row**

	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 7				PLAN 8				PLAN 9			
	Plan 7	Plan 8	Plan 9	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0															
1															
2															
3															
4															
5															
6															
7															
8															
9															
A															
B															
C															
D															
E															
F															

COMMENTS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_







**LACO - 4E**  
**PROGRAMMABLE LOGIC**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

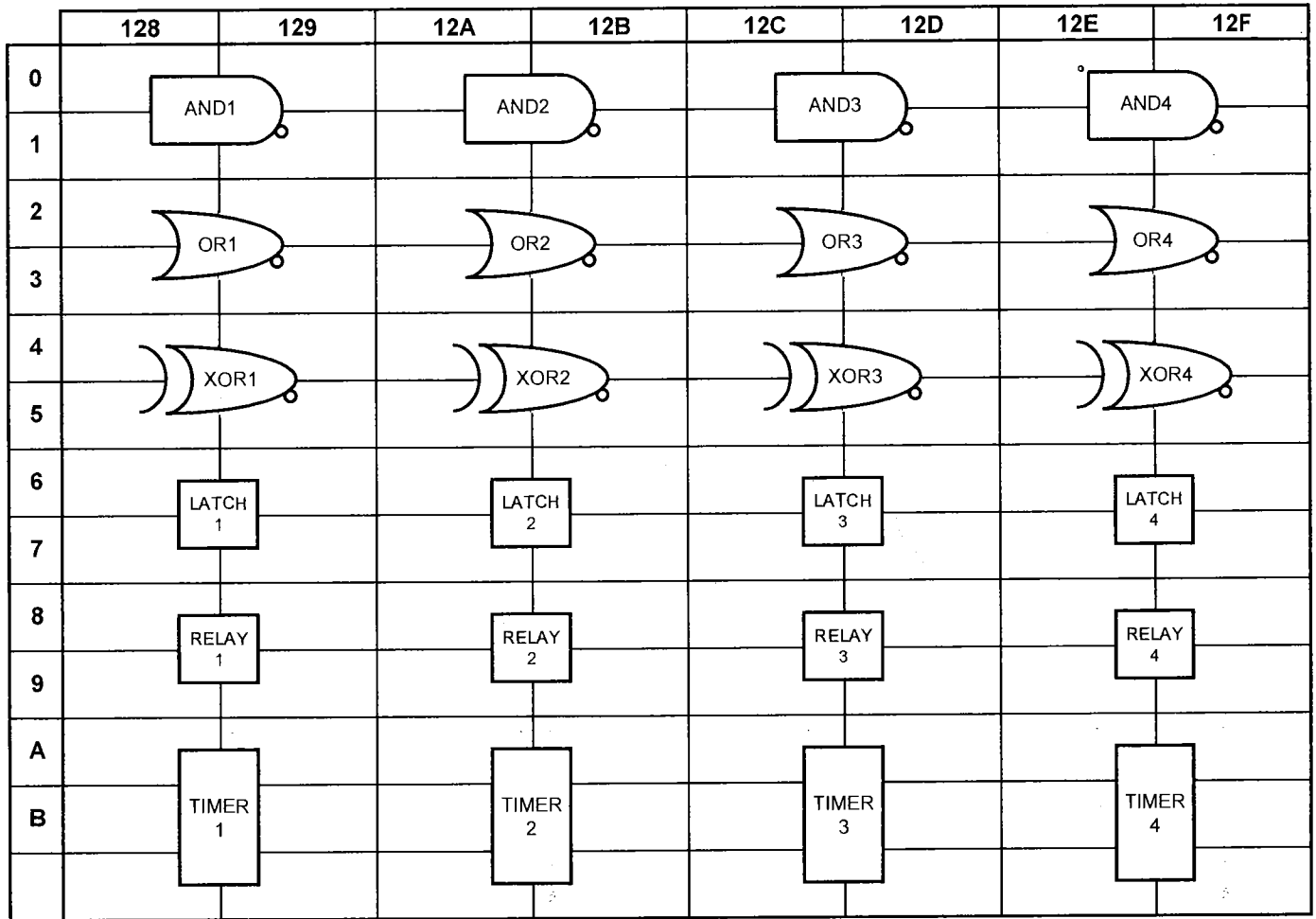
Date Prepared: JK 8.7.08 By: SMF

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

KEYSTROKE: 8 + column + row



Comments:

PHASE TIMING

LACO PUBLIC WORKS  
TRAFFIC SIGNAL LAB

Date Prepared: 3-9-09 By: SMP

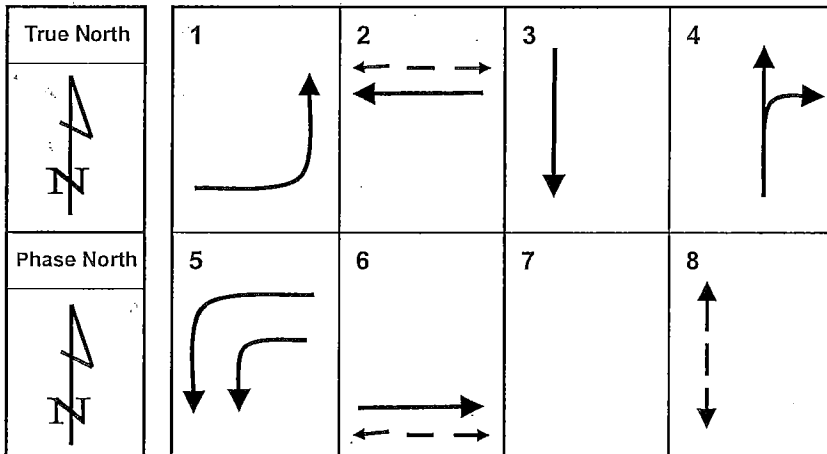
INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

T.S. No.: 1242

Date Implemented: 2-7-09 By: 2/1

Keystroke: 1 + Phase + Interval

Interval		Phase							
		1	2	3	4	5	6	7	8
Walk	0	0	7	0	0	0	7		7
Flashing Don't Walk	1	0	8	0	0	0	21		30
Minimum Green	2	4	10	4	4	4	10		4
Queue Maximum	3	0	0	0	0	0	0		0
Added Green/Actuation	4	0.0	1.5	0.0	0.0	0.0	1.5		0.0
Vehicle Extension	5	1.5	4.5	3.0	3.0	1.5	4.5		0.0
Time Before Reduction	6	0	15	0	0	0	15		0
Minimum Gap	7	1.5	3.0	3.0	3.0	1.5	3.0		0.0
Max Green 1 (Free)	8	20	50	25	30	30	50		0
Max Green 2 (Coord.)	9	20	130	25	30	30	130		0
Max Added Green	A	0	25	0	0	0	25		0
Unused	B								
Unused	C								
Time to Reduce	D	0	15	0	0	0	15		0
Yellow Clearance	E	3.0	4.5	3.0	4.0	3.0	4.5		4.0
Red Clearance	F	0.0	0.0	0.0	0.0	0.0	0.0		0.0



MISCELLANEOUS TIMERS		
Timer	Location	
Red Rest Delay Time	106	0
Green Rest Delay Time	107	0
Stuck All Red Fail Delay Time	10E	30
Red Revert Time	10F	2.0

Comments: FIRE STATION PREEMPTION:  
FIRE STATION PUSH BUTTON WILL PLACE A CALL TO EV-C AT ISIS AVE. AND TO EV-A AT HINDRY AVE.

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 12-3-09 By: SMP

T.S. No.: 1242

Connected to Comm. Ch. # 19

Date Implemented: 2-7-09 By: WJ

PHASE FUNCTION FLAGS									
Keystrokes: 1 + F + row		1	2	3	4	5	6	7	8
Permitted Phases	0	X	X	X	X	X	X		X
Red Lock	1								
Red & Yellow Lock	2	X	X			X	X		
Minimum Vehicle Recall	3		X				X		
Maximum Vehicle Recall	4								
Rest In Green	5								
Rest in Red	6								
Barrier Recall	7								
Double Entry	8				X				X
Exclusive Phases	9								
Restricted Phases	A								
Prot/Perm Left Turn	B								
Lag Phases (Free)	C		X		X		X		X
First Phases After Start-Up	D								
Yellow Start-Up Phases	E		X				X		
Yellow Start-Up Overlaps	F	A	B	C	D	E	F		

STREET CONFIGURATION FLAGS									
Keystrokes: 1 + E + row		1	2	3	4	5	6	7	8
Main Street Phases	0	X	X			X	X		
Side Street Phases	1			X	X			X	X
2 Ped Load Switch	2		X						
4 Ped Load Switch	3								
6 Ped Load Switch	4						X		
8 Ped Load Switch	5								X
Ped A Load Switch	6								
Ped B Load Switch	7								
Ped Recall - Rest in Walk	8								
STA Mode Phases	9								
Unused	A								
Unused	B								
Unused	C								
Driveway Flash	D								
2 Head Driveway Flash	E								
Overlap Driveway Flash	F	A	B	C	D	E	F		

MISCELLANEOUS FLAGS									
Keystrokes: 1 + D + row		1	2	3	4	5	6	7	8
Unused	0								
Assoc. Phase Recall - 1	1								
Assoc. Phase Recall - 2	2								
Assoc. Phase Recall - 3	3								
Assoc. Phase Recall - 4	4								
Assoc. Phase Recall - 5	5								
Assoc. Phase Recall - 6	6								
Assoc. Phase Recall - 7	7								
Assoc. Phase Recall - 8	8								
Yellow Calling Phases	9								
Yellow Phases Called	A								
User Flags (See Options Box)	B								
Green Offset Sync Pulse	C								
Yellow Offset Sync Pulse	D								
Yellow Ranging Phase	E								
Yellow Ranging Overlap	F	A	B	C	D	E	F		

COMMUNICATIONS OPTIONS			System ID = 1 to 255							
Systems ID	190	3	<b>Port Mode Options</b>							
Port 1 Mode	191	1	1 = W W V 2 = Transmit 7 Wire 3 = Receive 7 Wire 4 = Transmit Time/Date 5 = Receive Time/Date 6 = Transmit Plan 7 = AB3418 Master 8 = AB3418 Slave 9 = Bus Signal Priority							
Port 2 Mode	192									
Port 3 Mode	193	8								
Port 4 Mode	194									
			1	2	3	4	5	6	7	8
Port 1 Baud	1C0									X
Port 2 Baud	1C1									
Port 3 Baud	1C2				X					
Port 4 Baud	1C3									
Port 1 Parity	1C4									
Port 2 Parity	1C5									
Port 3 Parity	1C6									
Port 4 Parity	1C7									
<b>Baud Rate:</b>			<b>Parity:</b>							
1 - 115.2 K			5 - 9600				0 - No Parity			
2 - 57.6 K			6 - 4800				1 - Odd Parity			
3 - 38.4 K			7 - 2400				2 - Even Parity			
4 - 19.2 K			8 - 1200							

MANUAL CONTROL CONFIGURATIONS									
Option	Location	1	2	3	4	5	6	7	8
Omit Phases	3C1								
Lag Phases	3C2		X		X		X		X
Recall Type	309	00							
<b>Recall Type Options (309)</b>									
00 = Manual Control Disabled			02 = Vehicle Recall Only						
01 = Fully Actuated			03 = Ped and Vehicle Recall						

User Flag Options (1DB)								
1 = Enable Mid-Block Ped Crossing Logic.								
2 = Modify Main Street Phases at Location (1E0).								
3 = Delay RR/EV Clearance Until All Overlaps Finish Terminating.								
4 = Modified Barrier Crossing (Ignore True Max).								
5 = Disable Daylight Savings Time Update.								
6 = Disable Ped Recycle Logic For STA Mode & Ped Recall Phases.								
7 = Enable Freeway Off-Ramp Anti-Backup Logic.								
8 = Ignore Stuck-All-Red Failure.								



**LACO - 4E**  
**SYSTEM DETECTORS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3-9-09 By: SMP

T.S. No.: 1242

Date Implemented: 2-7-09 By: W

Parameter	Location	Data	Units
Struck ON Threshold <sup>1</sup>	21F	2	Minutes
Struck OFF Threshold <sup>1</sup>	22F	8	Minutes
Chatter Threshold <sup>1</sup>	23F	50	Actuations
Period <sup>2</sup>	24F	60	Seconds

- 1 - Set Data to "0" to disable Error Checking
- 2 - Default = 60 seconds

Approach	Lanes	Description	System Detector	C1 Pin	File/Slot/Channel
			Det 1	39	I2U
			Det 2	40	J2U
			Det 3	41	I6U
			Det 4	42	J6U
			Det 5	43	I2L
			Det 6	44	J2L
			Det 7	45	I6L
			Det 8	46	J6L
			Det 9	47	I4U/L
			Det 10	48	J4U/L
			Det 11	49	I8U/L
			Det 12	50	J8U/L
			Det 13	55	I1U/L
			Det 14	56	J1U/L
			Det 15	57	I5U/L
			Det 16	58	J5U/L
			Det 17	59	I9U
			Det 18	60	I9U
			Det 19	61	J9L
			Det 20	62	I9L
			Det 21	63	I3U
			Det 22	64	J3U
			Det 23	65	I7U
			Det 24	66	J7U
			Det 25	76	I3L
			Det 26	77	J3L
			Det 27	78	I7L
			Det 28	79	J7L

**Memory Locations of Interest**  
 (Press "8" key first)

1503 - Set to non-zero value to reset all System Detector Logic.  
 150F - Collection Period Timer  
 15FF - Data Collection Sequence Counter

**LACO - 4E**  
**OVERLAPS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3.9.09 By: SMP

T.S. No.: 1242

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

( NOT USED )

OVERLAP A									
Keystrokes: 3 + row + A	1	2	3	4	5	6	7	8	
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP B									
Keystrokes: 3 + row + B	1	2	3	4	5	6	7	8	
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP C									
Keystrokes: 3 + row + C	1	2	3	4	5	6	7	8	
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP D									
Keystrokes: 3 + row + D	1	2	3	4	5	6	7	8	
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP E									
Keystrokes: 3 + row + E	1	2	3	4	5	6	7	8	
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP F									
Keystrokes: 3 + row + F	1	2	3	4	5	6	7	8	
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

Comments:

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3.9.09 By: SMP

T.S. No.: 1242

Date Implemented: 4-7-09 By: WJ

RAILROAD CONFIGURATION		
Railroad Select (1, 2 or 3)	360	
All Red Time After Railroad Flash	361	
Railroad Track Clearance Time	362	
Limited Service Max Time	363	
Railroad Link to EV (See EV Setup Note #5)	364	
Free Time After Preemption	365	
Free Time After Preemption (Timer)	366	
Max Timer (Minutes)	367	
Max Timer (Seconds)	368	

Observation Only

RAILROAD PHASES		1	2	3	4	5	6	7	8
Track Clearance	3A0								
Railroad Exit	3A1								
Railroad Ped Only	3A2								
Limited Service	3A3								

Comments:

EV CONFIGURATION		1	2	3	4	5	6	7	8
EV Flags (See Notes to the Right)	390								
EV-A Clearance Phases	391	X					X		
EV-B Clearance Phases	392								
EV-C Clearance Phases	393								
EV-D Clearance Phases	394								

**EV FLAGS**

- 1 = EV-A Not Used
- 2 = EV-B Not Used
- 3 = EV-C Not Used
- 4 = EV-D Not Used
- 5 = EV-A Truncates Ped Flashing Don't Walk Interval
- 6 = EV-B Truncates Ped Flashing Don't Walk Interval
- 7 = EV-C Truncates Ped Flashing Don't Walk Interval
- 8 = EV-D Truncates Ped Flashing Don't Walk Interval

EV-A SETUP		
Delay (1)	310	0
Active (2)	311	0
Clearance (3)	312	35.0
Maximum (4)	313	120
Link to EV (5)	314	0
Minimum (6)	315	0

EV-B SETUP		
Delay (1)	320	
Active (2)	321	
Clearance (3)	322	
Maximum (4)	323	
Link to EV (5)	324	
Minimum (6)	325	

**EV SETUP NOTES**

- (1). The length of time before the controller responds to EV input. HOLD, CALL, ALLOW & Coordination Functions are not affected during this time.
- (2). The length of time that HOLD & CALL are set. Coordination functions are suspended during this time.
- (3). The length of Green Clearance time. HOLD, CALL & FORCE OFF are set by preemption logic during this time.
- (4). The maximum time (in seconds) that the preempt will remain in control of the intersection.
- (5). Causes the selected EV to time after the current EV times out.
- (6). Minimum time (in seconds) allowed from the end of one EV until the start of another EV.

EV-C SETUP		
Delay (1)	330	
Active (2)	331	
Clearance (3)	332	
Maximum (4)	333	
Link to EV (5)	334	
Minimum (6)	335	

EV-D SETUP		
Delay (1)	340	
Active (2)	341	
Clearance (3)	342	
Maximum (4)	343	
Link to EV (5)	344	
Minimum (6)	345	

**AUX 3 YELLOW OUTPUT CONTROL**  
(Keystrokes: 3 + C + 0)

	1	Railroad A
	2	Railroad B
X	3	Emergency Vehicle A
	4	Emergency Vehicle B
	5	Emergency Vehicle C
	6	Emergency Vehicle D
	7	Manual Control
	8	Unused



**LACO - 4E**  
**BUS PRIORITY**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JR 3.9.09 By: SMP

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**NOTE: All data is located in the Extended Memory and must be accessed with "8" followed by the 4 digit address.**

BUS PRIORITY CONTROL	
Manual Control	1E00
Primary Address	1E01
Secondary Address	1E02
City Code	1E03
Hardwired ETA	1E04
Trip Point	1E05

**Manual Control (1E00) Options**

- 0 = Auto
- 1 = Logic OFF
- 2 = Logic ON / No Communications
- 4 = Headway / No Communications
- 7 = Hardwire
- 14 = BSP OFF

BUS PHASES		1	2	3	4	5	6	7	8
Priority	1E08								
Demand	1E09								
Northbound	1E0A								
Southbound	1E0B								
Eastbound	1E0C								
Westbound	1E0D								

BSP OVERRIDE TABLE										
	Hour	Min	Dir	S	M	T	W	T	F	S
0	:									
1	:									
2	:									
3	:									
4	:									
5	:									
6	:									
7	:									
8	:									
9	:									
A	:									
B	:									
C	:									
D	:									
E	:									
F	:									

**Data Entry for BSP Override Table**

1. "9" + "9" sets the controller to Table Entry mode pointing to the BSP Override Table, Event 0.
2. Press "A" or "D" key to move to desired Event.
3. Enter 4 digit Time of Day.
4. Enter one digit Directional Override.  
 1 = N    3 = N+S    A = S+W    D = N+S+W  
 2 = S    5 = N+E    C = E+W    E = S+E+W  
 4 = E    6 = S+E    7 = N+S+E    F = ALL  
 8 = W    9 = N+W    B = N+E+W
- Then press "E" to select the Days of Week.
5. Select Day(s) of Week.
6. Press "A" or "D" to move to next Event.
7. Repeat steps 3 through 6 for each event.
8. Press "F" key to finish.

Comments:

**LACO - 4E**  
**ZIP COORDINATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JR 3.9.09 By: SMP

T.S. No.: 1242

( NOT USED)

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 4 + Plan # + Parameter**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1		PLAN 4		PLAN 7	
PLAN 2		PLAN 5		PLAN 8	
PLAN 3		PLAN 6		PLAN 9	
FREE					

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	
2	7-A-2	
3	7-A-3	
4	7-A-4	
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse				
7-A-B	Hour		7-A-C	Minute

** ZIP Coordination Enable	7-A-D	000
----------------------------	-------	-----

\*\* Set to "000" to DISABLE Zip Coordination

 Observation Only Location

	Parameters		Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
0			1	2	3	4	5	6	7	8	9
System Manual	Cycle Length	0									
Local Manual	Force Off Phase 1	1									
Master Plan	Force Off Phase 2	2									
Local Plan	Force Off Phase 3	3									
TMC Override	Force Off Phase 4	4									
Time Of Day Plan	Force Off Phase 5	5									
Special Function	Force Off Phase 6	6									
Current Table	Force Off Phase 7	7									
Min Cycle Length	Force Off Phase 8	8									
Max Cycle Length	Hold Release	9									

Master Cycle Timer	COMMENTS:
Local Cycle Timer	
New Offset	
Current Offset Time	
Last Master Cycle	
Last Local Cycle	

**LACO - 4E**  
**COORDINATION 1**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3.9.09 By: SMR

T.S. No.: 1242

Date Implemented: 4.7.09 By: WJ

**KEYSTROKE: 4 + column + row**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1	0930 - 1500 M-F, 0600-2030 S-S	PLAN 4	1600-1830 M-F		PLAN 7
PLAN 2	0600 - 0930 M-F	PLAN 5			PLAN 8
PLAN 3	1500 - 1600 M-F, 1830-2030 M-F	PLAN 6			PLAN 9
FREE	ALL OTHER TIMES				

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	102
2	7-A-2	68
3	7-A-3	119
4	7-A-4	117
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse				
7-A-B	Hour	7-A-C	Minute	00
	00			00

COMMENTS:

Offset Timing Plan	7-A-A	0
Current Offset	7-A-0	

COORDINATION PARAMETERS	OBSERVATION ONLY	INTERVALS (In Seconds)	COORDINATION FUNCTION FLAGS														
			PLAN 1				PLAN 2				PLAN 3						
			Plan 1	Plan 2	Plan 3	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
0			1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
System Manual 0	0	120	120	120	2,5,6					2,5,6				2,5,6			
Local Manual 0	1	1	1	1	---					---				---			
Master Plan	2	9	6	9	2,5,6						8			2,5,6			
Local Plan	3	16	9	11	---		8			2,5,6	8			---		8	
TMC Override	4	20	20	20	3	2,6	8			---	2,6	8		3	2,6	8	
Time Of Day Plan	5	41	21	36	-	2,6	8			-	2,6	8		-	2,6	8	
Special Function	6	53	31	48	4,8	2,6	-				2,6	8		4,8	2,6	-	
Current Table	7	54	43	49	---	2,6				4,8	2,6	-		---	2,6		
Min Cycle Length 0	8	63	44	58		2,6	6			---	2,6				2,6		
Max Cycle Length 255	9	64	57	62		2,6	6			1	2,6			1	2,6		
Master Cycle Timer	A	70	58	63	1	2,6	6			-	2,6			-	2,6		
Local Cycle Timer	B	71	66	71	-	2,6	6				2,6				2,6	6	
New Offset Time	C	85	77	84		---	6				2,6	6			---	6	
Current Offset Time	D	91	82	99	6		6				---	6		6		6	
Last Master Cycle	E	105	105	105	6		2,6			6		2,6		6		2,6	
Last Local Cycle	F	120	120	120	-		---			-		---		-		---	

**LACO - 4E**  
**COORDINATION 2**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3.9.09 By: SMP

T.S. No.: 1242

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 5 + column + row**

X	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 4				PLAN 5				PLAN 6			
	Plan 4	Plan 5	Plan 6	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
X	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	120			2,5,6											
1	1			-,-,-											
2	9			2,5,6											
3	11			-,-,-		8									
4	20			3	2,6	8									
5	36			-	2,6	8									
6	48			4,8	2,6	-									
7	49			-,-	2,6										
8	62			1	2,6										
9	63			-	2,6										
A	64				2,6										
B	71				2,6	6									
C	88				-,-	6									
D	99			6		6									
E	105			6		2,6									
F	120			-		-,-									

COMMENTS:

**LACO - 4E**  
**COORDINATION 3**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3.9.09 By: SMP

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

**KEYSTROKE: 6 + column + row**

X X	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 7				PLAN 8				PLAN 9			
	Plan 7	Plan 8	Plan 9	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0															
1															
2															
3															
4															
5															
6															
7															
8															
9															
A															
B															
C															
D															
E															
F															

COMMENTS:





**LACO - 4E**  
**PROGRAMMABLE LOGIC**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

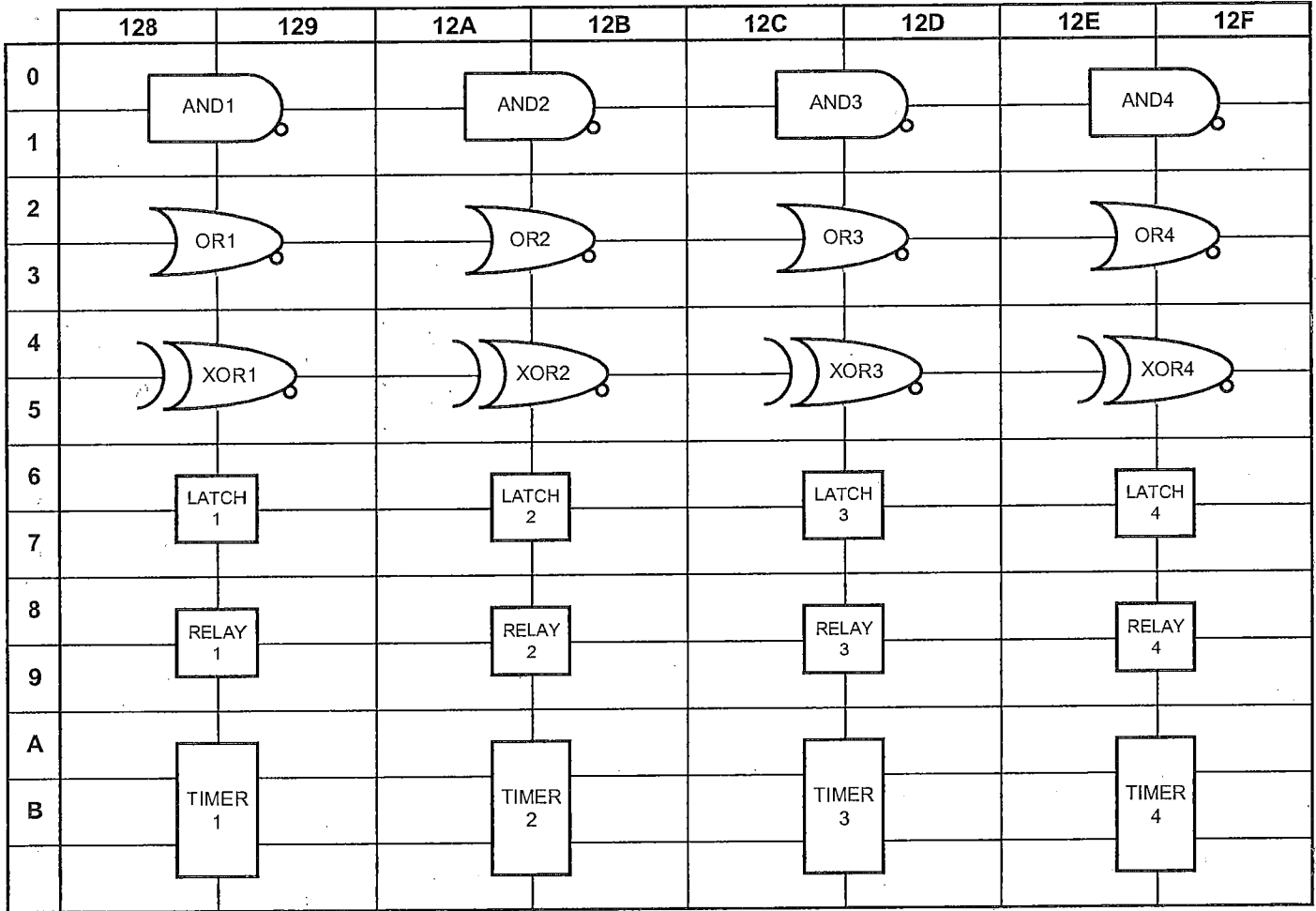
Date Prepared: JK 3.9.09 By: SMP

T.S. No.: 1242

( NOT USED )

Date Implemented: \_\_\_\_\_ By: \_\_\_\_\_

KEYSTROKE: 8 + column + row



Comments:

Blank area for comments.



PHASE TIMING

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

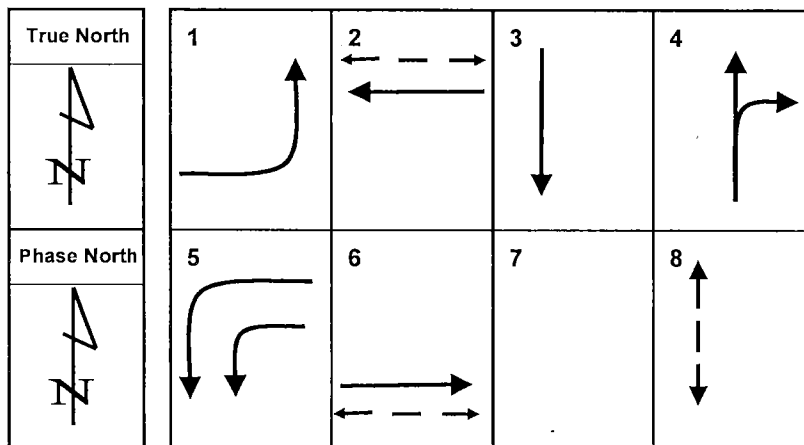
Date Prepared: JK 3-19-12 By: FMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

Keystroke: 1 + Phase + Interval

Interval		Phase							
		1	2	3	4	5	6	7	8
Walk	0	0	7	0	0	0	7		8
Flashing Don't Walk	1	0	11	0	0	0	25		33
Minimum Green	2	9	10	12	11	9	10		4
Queue Maximum	3	0	25	0	0	0	25		0
Added Green/Actuation	4	0.0	<del>2.2</del>	0.0	0.0	0.0	<del>2.2</del>		0.0
Vehicle Extension	5	1.5	4.5	3.0	3.0	1.5	4.5		0.0
Time Before Reduction	6	0	15	0	0	0	15		0
Minimum Gap	7	1.5	3.0	3.0	3.0	1.5	3.0		0.0
Max Green 1 (Free)	8	20	50	25	30	30	50		0
Max Green 2 (Coord.)	9	20	130	25	30	30	130		0
Max Added Green	A	0	0	0	0	0	0		0
Unused	B								
Unused	C								
Time to Reduce	D	0	15	0	0	0	15		0
Yellow Clearance	E	3.0	4.5	3.0	4.0	3.0	4.5		4.0
Red Clearance	F	1.0	1.0	1.0	1.0	1.0	1.0		0.0



MISCELLANEOUS TIMERS		
Timer	Location	
Red Rest Delay Time	106	0
Green Rest Delay Time	107	0
Stuck All Red Fail Delay Time	10E	30
Red Revert Time	10F	2.0

Comments:  
FIRE STATION PREEMPTION:  
FIRE STATION PUSH BUTTON WILL PLACE A CALL TO EV-C AT ISIS AVE. AND TO EV-A AT HINDRY AVE.

**LACO - 4E**  
**CONFIGURATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3-9-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

PHASE FUNCTION FLAGS									
Keystrokes: 1 + F + row		1	2	3	4	5	6	7	8
Permitted Phases	0	X	X	X	X	X	X		X
Red Lock	1								
Red & Yellow Lock	2	X	X			X	X		
Minimum Vehicle Recall	3		X				X		
Maximum Vehicle Recall	4								
Rest In Green	5								
Rest in Red	6								
Barrier Recall	7								
Double Entry	8				X				X
Exclusive Phases	9								
Restricted Phases	A								
Prot/Perm Left Turn	B								
Lag Phases (Free)	C		X		X		X		X
First Phases After Start-Up	D								
Yellow Start-Up Phases	E		X				X		
Yellow Start-Up Overlaps	F	A	B	C	D	E	F		

Controller (Card) IP Address : 10.240.4.182

Subnet Mask IP Address : 255.255.248.0

Default Gateway IP Address : 10.240.0.254

Local/Remote Port Number : 51242

Remote Host (Server) IP Address : 10.12.3.15

STREET CONFIGURATION FLAGS									
Keystrokes: 1 + E + row		1	2	3	4	5	6	7	8
Main Street Phases	0	X	X			X	X		
Side Street Phases	1			X	X			X	X
2 Ped Load Switch	2		X						
4 Ped Load Switch	3								
6 Ped Load Switch	4						X		
8 Ped Load Switch	5								X
Ped A Load Switch	6								
Ped B Load Switch	7								
Ped Recall - Rest in Walk	8								
STA Mode Phases	9								
Unused	A								
Unused	B								
Unused	C								
Driveway Flash	D								
2 Head Driveway Flash	E								
Overlap Driveway Flash	F	A	B	C	D	E	F		

COMMUNICATIONS OPTIONS										
Systems ID (1 to 63)		1	2	3	4	5	6	7	8	
Port 1 Mode	190	3								
Port 2 Mode	191	1								
Port 3 Mode	192									
Port 4 Mode	193	8								
Port 4 Mode	194									
Port 1 Baud	1C0								X	
Port 2 Baud	1C1									
Port 3 Baud	1C2			X						
Port 4 Baud	1C3									
			<b>Baud Rate:</b>							
			1 - 115.2 K	4 - 19.2 K	7 - 2400					
			2 - 57.6 K	5 - 9600	8 - 1200					
			3 - 38.4 K	6 - 4800						
Port 1 Parity	1C4									
Port 2 Parity	1C5									
Port 3 Parity	1C6									
Port 4 Parity	1C7									
			<b>Parity:</b>							
			0 - No Parity							
			1 - Odd Parity							
			2 - Even Parity							

MISCELLANEOUS FLAGS									
Keystrokes: 1 + D + row		1	2	3	4	5	6	7	8
Unused	0								
Assoc. Phase Recall - 1	1								
Assoc. Phase Recall - 2	2								
Assoc. Phase Recall - 3	3								
Assoc. Phase Recall - 4	4								
Assoc. Phase Recall - 5	5								
Assoc. Phase Recall - 6	6								
Assoc. Phase Recall - 7	7								
Assoc. Phase Recall - 8	8								
Yellow Calling Phases	9								
Yellow Phases Called	A								
User Flags (See Options Box)	B								
Green Offset Sync Pulse	C								
Yellow Offset Sync Pulse	D								
Yellow Ranging Phase	E								
Yellow Ranging Overlap	F	A	B	C	D	E	F		

MANUAL CONTROL CONFIGURATIONS									
Option	Location	1	2	3	4	5	6	7	8
Omit Phases	3C1								
Lag Phases	3C2		X		X		X		X
Recall Type	309	00							
			<b>Recall Type Options (309)</b>						
			00 = Manual Control Disabled		02 = Vehicle Recall Only				
			01 = Fully Actuated		03 = Ped and Vehicle Recall				

User Flag Options (1DB)								
1 = Enable Mid-Block Ped Crossing Logic.								
2 = Modify Main Street Phases at Location (1E0).								
3 = Delay RR/EV Clearance Until All Overlaps Finish Terminating.								
4 = Modified Barrier Crossing (Ignore True Max).								
5 = Disable Daylight Savings Time Update.								
6 = Disable Ped Recycle Logic For STA Mode & Ped Recall Phases.								
7 = Enable Freeway Off-Ramp Anti-Backup Logic.								
8 = Ignore Stuck-All-Red Failure.								



**LACO - 4E**  
**SYSTEM DETECTORS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3.19.12 By: SMF

T.S. No.: 1242

Date Implemented: 5-21-12 By: PA

Parameter	Location	Data	Units
Stuck ON Threshold <sup>1</sup>	21F	30	Minutes
Stuck OFF Threshold <sup>1</sup>	22F	120	Minutes
Chatter Threshold <sup>1</sup>	23F	50	Actuations
Period <sup>2</sup>	24F	60	Seconds

1 - Set Data to "0" to disable Error Checking

2 - Default = 60 seconds

Approach	Lanes	Description	System Detector	C1 Pin	File/Slot/Channel
			Det 1	39	I2U
			Det 2	40	J2U
			Det 3	41	I6U
			Det 4	42	J6U
			Det 5	43	I2L
			Det 6	44	J2L
			Det 7	45	I6L
			Det 8	46	J6L
			Det 9	47	I4U/L
			Det 10	48	J4U/L
			Det 11	49	I8U/L
			Det 12	50	J8U/L
			Det 13	55	J1U/L
			Det 14	56	I1U/L
			Det 15	57	J5U/L
			Det 16	58	I5U/L
			Det 17	59	J9U
			Det 18	60	I9U
			Det 19	61	J9L
			Det 20	62	I9L
			Det 21	63	I3U
			Det 22	64	J3U
			Det 23	65	I7U
			Det 24	66	J7U
			Det 25	76	I3L
			Det 26	77	J3L
			Det 27	78	I7L
			Det 28	79	J7L

**Memory Locations of Interest**

(Press "8" key first)

1503 - Set to non-zero value to reset all System Detector Logic.

150F - Collection Period Timer

15FF - Data Collection Sequence Counter

**LACO - 4E**  
**OVERLAPS**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 3-19-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

OVERLAP A									
Keystrokes: 3 + row + A		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP B									
Keystrokes: 3 + row + B		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP C									
Keystrokes: 3 + row + C		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP D									
Keystrokes: 3 + row + D		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP E									
Keystrokes: 3 + row + E		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

OVERLAP F									
Keystrokes: 3 + row + F		1	2	3	4	5	6	7	8
Normal Parents	A								
Green Omit Parents	B								
RR Preempt Parents	C								
EV Preempt Parents	D								
Load Switch Assignment	0								
Delay Time	1								
Green Extension Time	2								
Yellow Clearance Time	3								
Red Clearance Time	4								

Comments:

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JR 3-19-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

RAILROAD CONFIGURATION		
Railroad Select (1, 2 or 3)	360	
All Red Time After Railroad Flash	361	6.0
Railroad Track Clearance Time	362	
Limited Service Max Time	363	
Railroad Link to EV (See EV Setup Note # 5)	364	
Free Time After Preemption	365	
Free Time After Preemption (Timer)	366	
Max Timer (Minutes)	367	
Max Timer (Seconds)	368	

Observation Only

RAILROAD PHASES		1	2	3	4	5	6	7	8
Track Clearance	3A0								
Railroad Exit	3A1								
Railroad Ped Only	3A2								
Limited Service	3A3								

Comments:

EV CONFIGURATION		1	2	3	4	5	6	7	8
EV Flags (See Notes to the Right)	390								
EV-A Clearance Phases	391	X					X		
EV-B Clearance Phases	392								
EV-C Clearance Phases	393								
EV-D Clearance Phases	394								

**EV FLAGS**

- 1 = Not Used
- 2 = Not Used
- 3 = Not Used
- 4 = Not Used
- 5 = EV-A Truncates Ped Flashing Don't Walk Interval
- 6 = EV-B Truncates Ped Flashing Don't Walk Interval
- 7 = EV-C Truncates Ped Flashing Don't Walk Interval
- 8 = EV-D Truncates Ped Flashing Don't Walk Interval

EV-A SETUP		
Delay (1)	310	0
Active (2)	311	0
Clearance (3)	312	35.0
Maximum (4)	313	120
Link to EV (5)	314	0
Minimum (6)	315	0

EV-B SETUP		
Delay (1)	320	
Active (2)	321	
Clearance (3)	322	
Maximum (4)	323	
Link to EV (5)	324	
Minimum (6)	325	

**EV SETUP NOTES**

- (1). The length of time before the controller responds to EV input. HOLD, CALL, ALLOW & Coordination Functions are not affected during this time.
- (2). The length of time that HOLD & CALL are set. Coordination functions are suspended during this time.
- (3). The length of Green Clearance time. HOLD, CALL & FORCE OFF are set by preemption logic during this time.
- (4). The maximum time (in seconds) that the preempt will remain in control of the intersection.
- (5). Causes the selected EV to time after the current EV times out.
- (6). Minimum time (in seconds) allowed from the end of one EV until the start of another EV.

EV-C SETUP		
Delay (1)	330	
Active (2)	331	
Clearance (3)	332	
Maximum (4)	333	
Link to EV (5)	334	
Minimum (6)	335	

EV-D SETUP		
Delay (1)	340	
Active (2)	341	
Clearance (3)	342	
Maximum (4)	343	
Link to EV (5)	344	
Minimum (6)	345	

AUX 3 YELLOW OUTPUT CONTROL (Keystrokes: 3 + C + 0)	
1	Railroad A
2	Railroad B
3	Emergency Vehicle A
4	Emergency Vehicle B
5	Emergency Vehicle C
6	Emergency Vehicle D
7	Manual Control
8	Unused

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: 12-3-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

**NOTE: All data is located in the Extended Memory and must be accessed with "8" followed by the 4 digit address.**

BUS PRIORITY CONTROL	
Manual Control	1E00
Primary Address	1E01
Secondary Address	1E02
City Code	1E03
Hardwired ETA	1E04
Trip Point	1E05

**Manual Control (1E00) Options**

- 0 = Auto
- 1 = Logic OFF
- 2 = Logic ON / No Communications
- 4 = Headway / No Communications
- 7 = Hardwire
- 14 = BSP OFF

BUS PHASES		1	2	3	4	5	6	7	8
Priority	1E08								
Demand	1E09								
Northbound	1E0A								
Southbound	1E0B								
Eastbound	1E0C								
Westbound	1E0D								

BSP OVERRIDE TABLE										
	Hour	Min	Dir	S	M	T	W	T	F	S
0	:									
1	:									
2	:									
3	:									
4	:									
5	:									
6	:									
7	:									
8	:									
9	:									
A	:									
B	:									
C	:									
D	:									
E	:									
F	:									

**Data Entry for BSP Override Table**

1. "9" + "9" sets the controller to Table Entry mode pointing to the BSP Override Table, Event 0.
2. Press "A" or "D" key to move to desired Event.
3. Enter 4 digit Time of Day.
4. Enter one digit Directional Override.  
 1 = N    3 = N+S    A = S+W    D = N+S+W  
 2 = S    5 = N+E    C = E+W    E = S+E+W  
 4 = E    6 = S+E    7 = N+S+E    F = ALL  
 8 = W    9 = N+W    B = N+E+W  
 Then press "E" to select the Days of Week.
5. Select Day(s) of Week.
6. Press "A" or "D" to move to next Event.
7. Repeat steps 3 through 6 for each event.
8. Press "F" key to finish.

Comments:

**LACO - 4E**  
**ZIP COORDINATION**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: NR 3-19-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: OT

**KEYSTROKE: 4 + Plan # + Parameter**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1		PLAN 4		PLAN 7	
PLAN 2		PLAN 5		PLAN 8	
PLAN 3		PLAN 6		PLAN 9	
FREE					

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	
2	7-A-2	
3	7-A-3	
4	7-A-4	
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse					
7-A-B	Hour	00	7-A-C	Minute	00

** ZIP Coordination Enable	7-A-D	000
----------------------------	-------	-----

\*\* Set to "000" to DISABLE Zip Coordination

 Observation Only Location

	Parameters		Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
0			1	2	3	4	5	6	7	8	9
System Manual	Cycle Length	0									
Local Manual	Force Off Phase 1	1									
Master Plan	Force Off Phase 2	2									
Local Plan	Force Off Phase 3	3									
TMC Override	Force Off Phase 4	4									
Time Of Day Plan	Force Off Phase 5	5									
Special Function	Force Off Phase 6	6									
Current Table	Force Off Phase 7	7									
Min Cycle Length	Force Off Phase 8	8									
Max Cycle Length	Hold Release	9									

Master Cycle Timer	COMMENTS:
Local Cycle Timer	
New Offset	
Current Offset Time	
Last Master Cycle	
Last Local Cycle	



**LACO - 4E**  
**COORDINATION 1**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3-19-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: OT

**KEYSTROKE: 4 + column + row**

TIME OF DAY OPERATIONS SUMMARY					
PLAN 1	0930 - 1500 M-F, 0600-2030 S-S	PLAN 4	1600-1830 M-F	PLAN 7	
PLAN 2	0600 - 0930 M-F	PLAN 5		PLAN 8	
PLAN 3	1500 - 1600 M-F, 1830-2030 M-F	PLAN 6		PLAN 9	
FREE					

OFFSET TIMES		
PLAN	Location	Offset
1	7-A-1	106
2	7-A-2	73
3	7-A-3	4
4	7-A-4	5
5	7-A-5	
6	7-A-6	
7	7-A-7	
8	7-A-8	
9	7-A-9	

Midnight Sync Pulse					
7-A-B	Hour	00	7-A-C	Minute	00

COMMENTS:

Offset Timing Plan	7-A-A	0
Current Offset	7-A-0	

COORDINATION PARAMETERS	OBSERVATION ONLY	INTERVALS (In Seconds)		COORDINATION FUNCTION FLAGS												
				PLAN 1				PLAN 2				PLAN 3				
				Plan 1	Plan 2	Plan 3	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold
0		1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
System Manual 0	0	120	120	120	2,5,6				2,5,6				2,5,6			
Local Manual 0	1	1	1	1	-,-,-				-,-,-				-,-,-			
Master Plan	2	13	6	8			8				8				8	
Local Plan	3	20	20	20	3		8		3		8		3		8	
TMC Override	4	21	21	21	-		8		-		8		-		8	
Time Of Day Plan	5	37	30	32		2,6	8			2,6	8			2,6	8	
Special Function	6	54	47	49	4,8	2,6	-		4,8	2,6	-		4,8	2,6	-	
Current Table	7	55	48	50	-,-	2,6			-,-	2,6			-,-	2,6		
Min Cycle Length 0	8	62	63	65		2,6	6		1	2,6			1	2,6		
Max Cycle Length 255	9	69	64	66	1	2,6	6		-	2,6			-	2,6		
Master Cycle Timer	A	70	71	67	-	2,6	6			2,6	6			2,6	6	
Local Cycle Timer	B	91	91	91	-,-	6				-,-	6			-,-	6	
New Offset Time	C	94	102	99	6		6				2,6		6		6	
Current Offset Time	D	102	103	102	6		2,6		6		2,6		6		2,6	
Last Master Cycle	E	105	105	105	6		2,6	5	6		2,6	5	6		2,6	5
Last Local Cycle	F	120	120	120	-		-,-	-	-		-,-	-	-		-,-	-

**LACO - 4E**  
**COORDINATION 2**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3-19-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

**KEYSTROKE: 5 + column + row**

	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 4				PLAN 5				PLAN 6			
	Plan 4	Plan 5	Plan 6	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	120			2,5,6											
1	1			-,-											
2	8					8									
3	20			3		8									
4	21			-		8									
5	32				2,6	8									
6	49			4,8	2,6	-									
7	50			-,-	2,6										
8	65			1	2,6										
9	66			-	2,6										
A	67				2,6	6									
B	91				-,-	6									
C	99			6		6									
D	102			6		2,6									
E	105			6		2,6	5								
F	120			-		-,-	-								

COMMENTS:

**LACO - 4E**  
**COORDINATION 3**

INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE Date Prepared: JK 3-19-12 By: SMP

T.S. No.: 1242 Date Implemented: 5-21-12 By: DT

**KEYSTROKE: 6 + column + row**

	INTERVALS (In Seconds)			COORDINATION FUNCTION FLAGS											
				PLAN 7				PLAN 8				PLAN 9			
	Plan 7	Plan 8	Plan 9	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call	Force Off	Hold	Ped Restrict	Call
	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0															
1															
2															
3															
4															
5															
6															
7															
8															
9															
A															
B															
C															
D															
E															
F															

COMMENTS:





**LACO - 4E**  
**PROGRAMMABLE LOGIC**

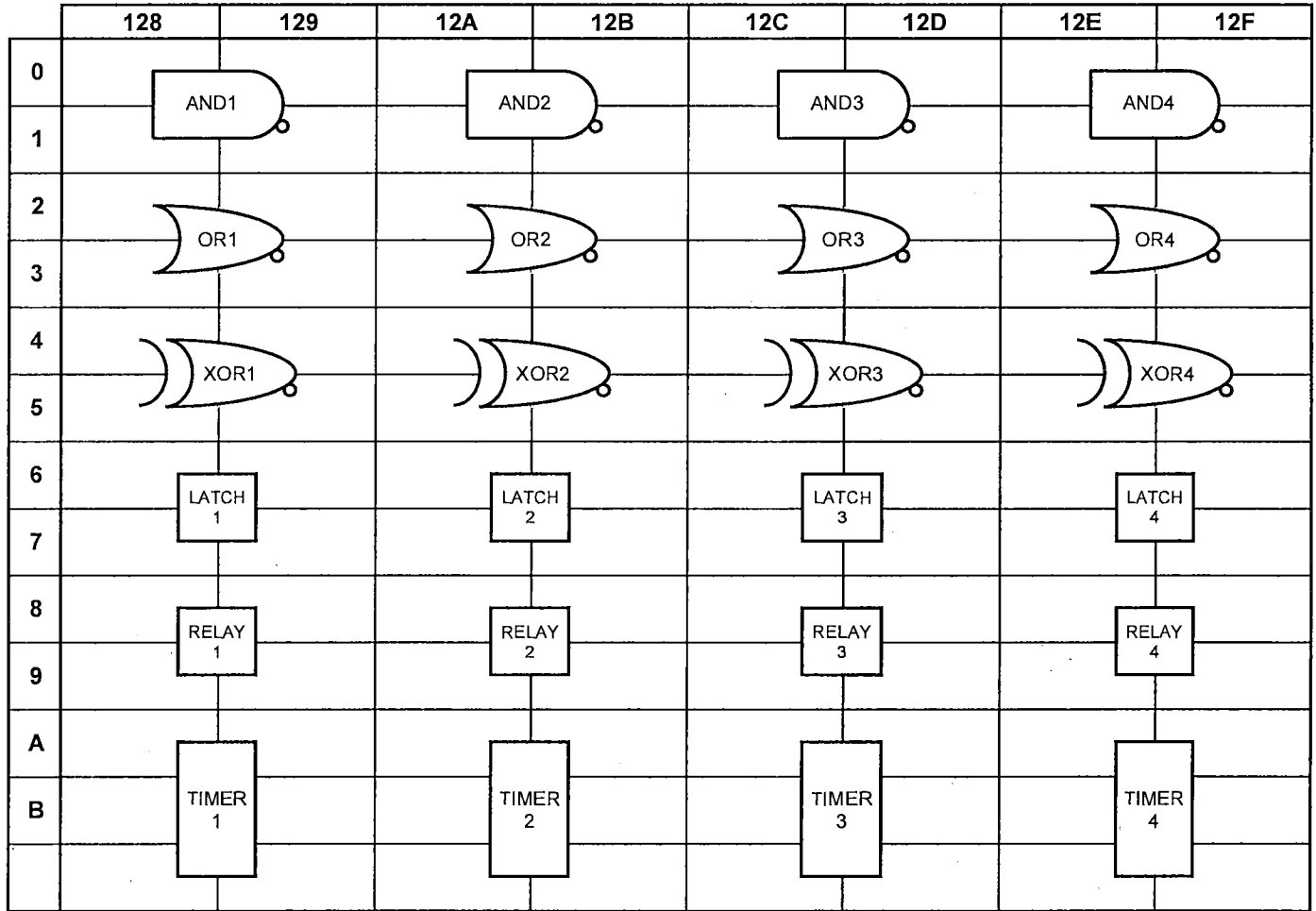
INTERSECTION: ROSECRANS AVENUE @ HINDRY AVENUE

Date Prepared: JK 3-19-12 By: SMP

T.S. No.: 1242

Date Implemented: 5-21-12 By: DT

KEYSTROKE: 8 + column + row



Comments: