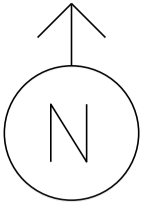


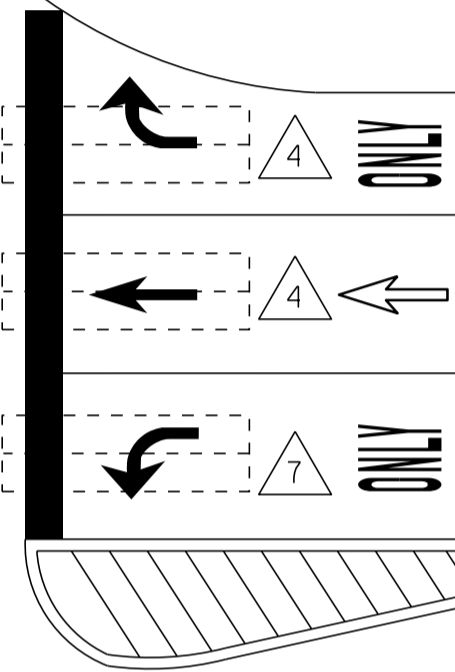
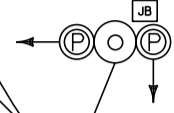
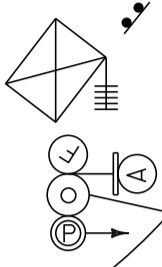
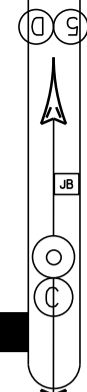
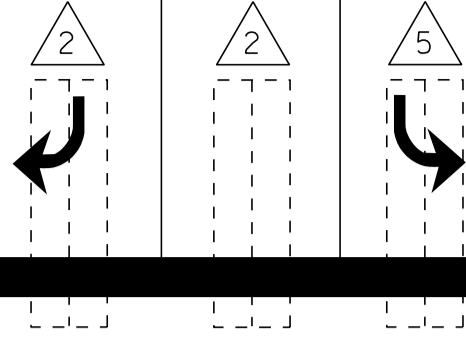
MS # 404



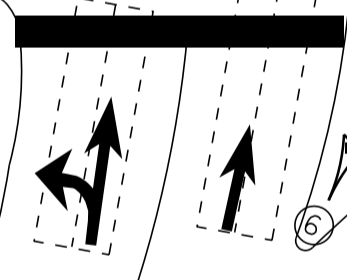
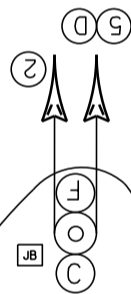
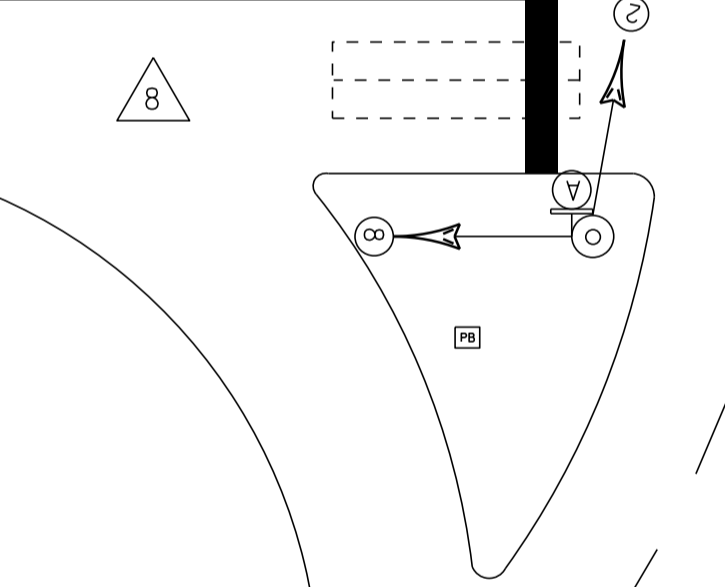
US 5 NORTH

VT 14 NORTH

ONLY



ONLY



YIELD

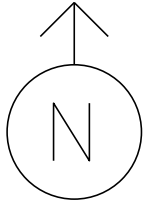
US 4 EAST

- ⊙ PEDESTAL POST
- Ⓟ PEDESTRIAN SIGNAL
- ⊥ L.E.D REGULATORY SIGN
- ⊠ CONTROL BOX
- MAST ARM
- ⊞ COORDINATION
- ⋯ LOOP DETECTION
- Ⓜ JUNCTION BOX
- Ⓟ PULL BOX
- ⦿ STANCHION
- Ⓐ =
- Ⓒ =
- Ⓓ =
- Ⓕ =

US 4 WEST  
US 5 SOUTH

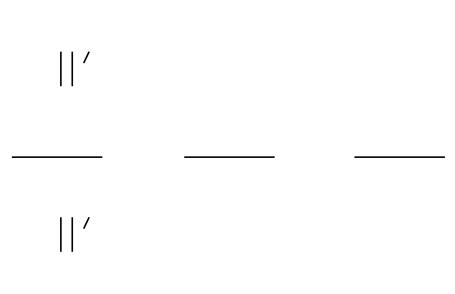
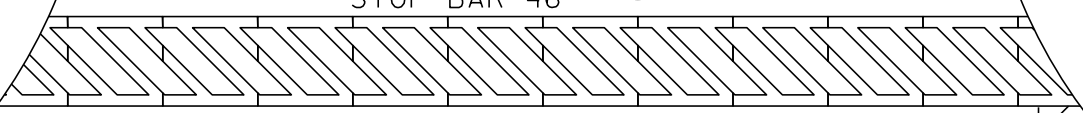
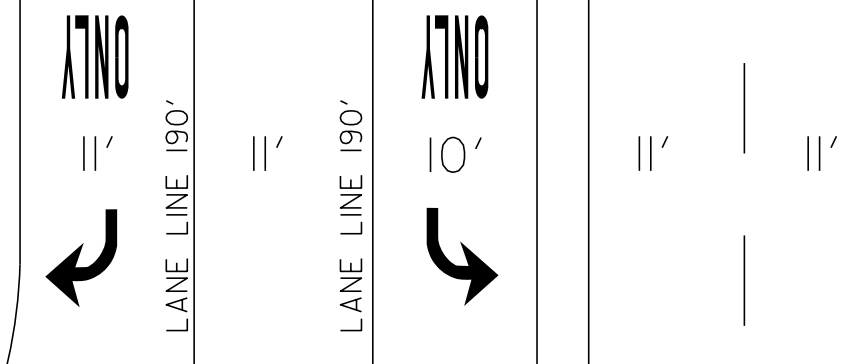
NOT TO SCALE

MS # 404

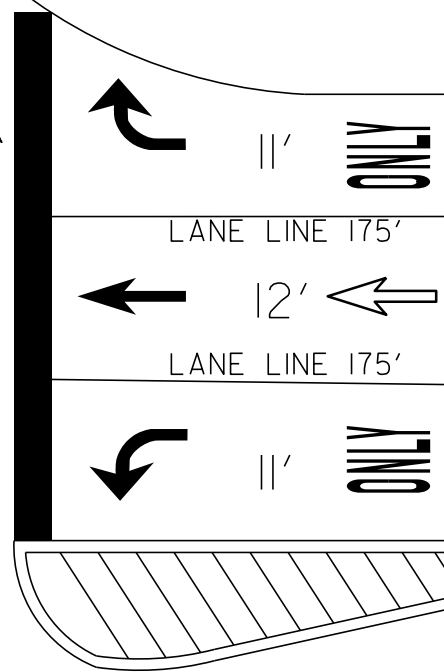


US 5 NORTH

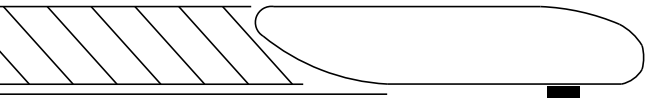
VT 14 NORTH



STOP BAR 40\'



CROSSWALK 78\'



STOP BAR 23\'

LANE LINE 240\'

12\'



STOP BAR 26\'

17\'

14\'

13\'

14\'

13\'

12\'

16\'

LANE LINE 320\'

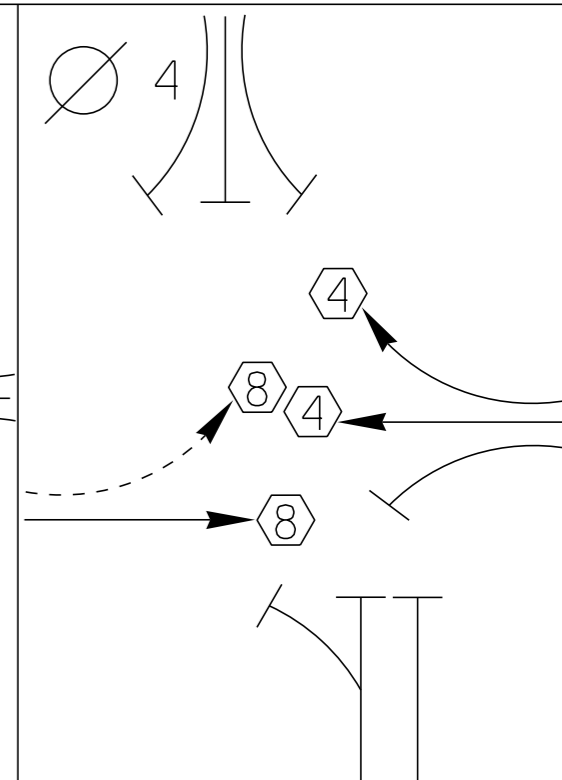
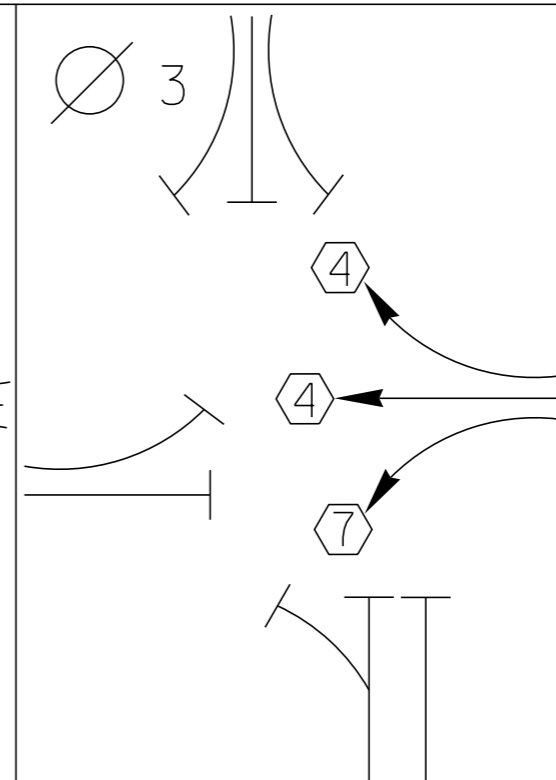
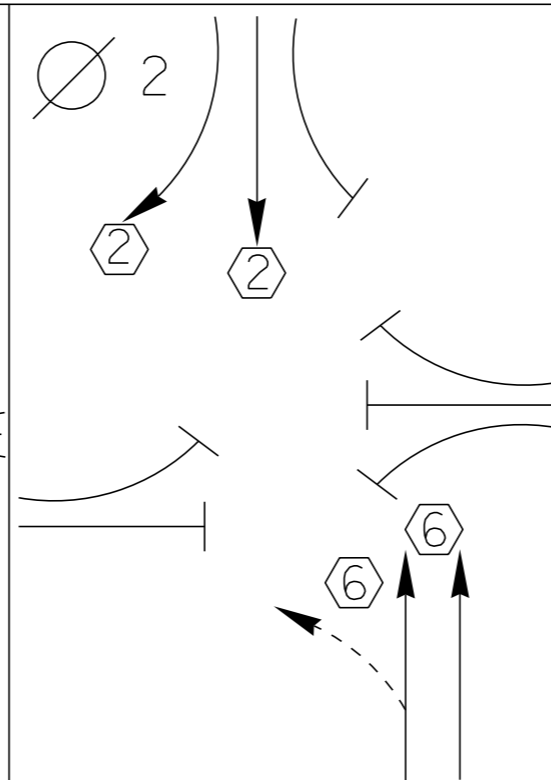
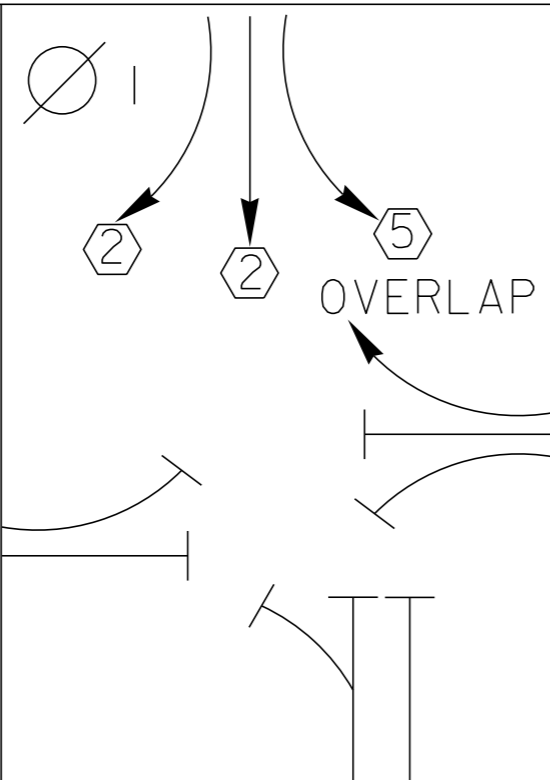
YIELD

US 4 EAST

US 4 WEST  
US 5 SOUTH

NOT TO SCALE

D I A G R A M



TIMING

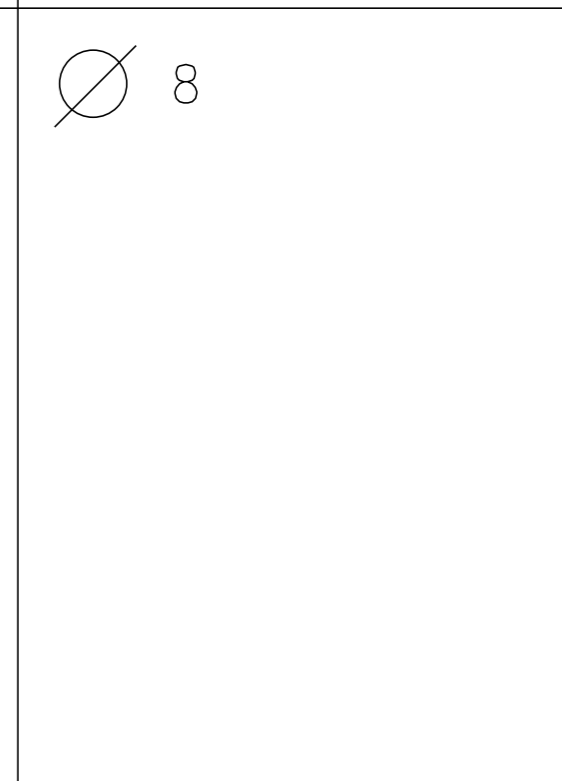
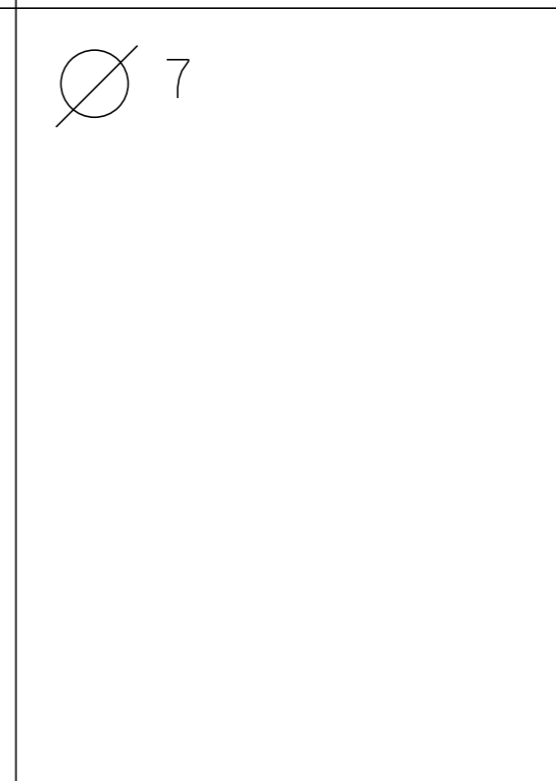
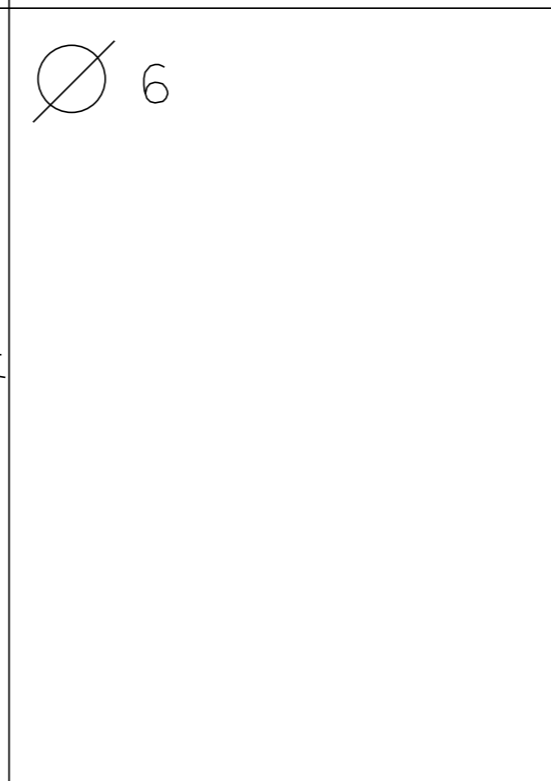
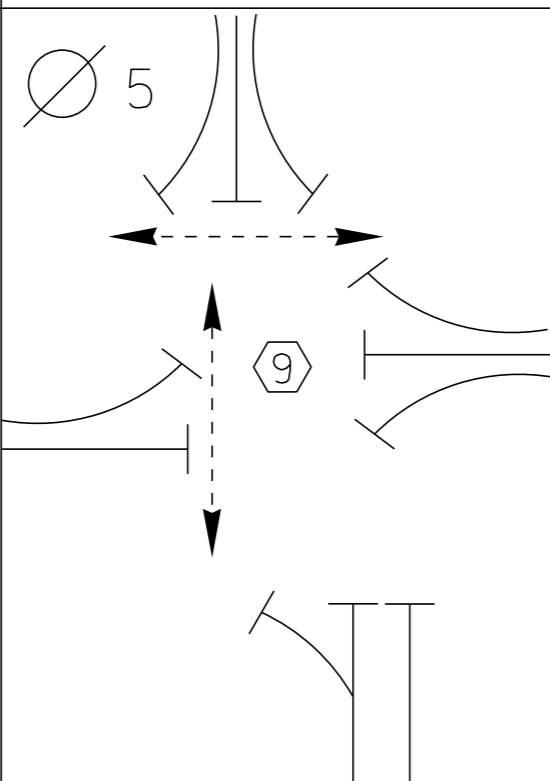
G =  
Y =

G =  
Y =

G =  
Y =

G =  
Y =

D I A G R A M



TIMING

G =  
Y =

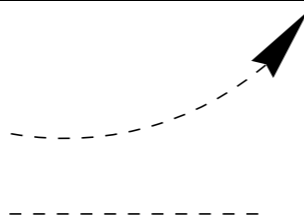
G =  
Y =

G =  
Y =

G =  
Y =



PROTECTED  
TURNS



PERMITTED  
TURNS  
PEDESTRIAN

CYCLE LENGTH, C = \_\_\_\_\_ S



PROPERTY OF  
VT AGENCY OF TRANS  
MAINTENANCE DIV  
100 BROADWAY, SUITE 100  
MONTPELIER, VT 05602  
PHONE: 802-241-3000  
FAX: 802-241-3001

PROPERTY OF :

VT. AGENCY OF TRANS.  
MAINTENANCE DIV.

IN EMERGENCY CALL :

DIST. TRANS. OFFICE

295-8888

NIGHTS & WEEKENDS : 250-0163

INTERSECTION NO. MS-404



SERIES 900 TS2

NAVTEC, INC.  
NEMA TRAFFIC CONTROLLER

OPERATION

FUNCTIONS

ALTERNATE MODES

NAVTEC

TX STATUS

BUS INTERFACE UNIT

LMD6221 C1 C2 C3 C4 C5 C6 C7 C8

POWER SUPPLY

12V

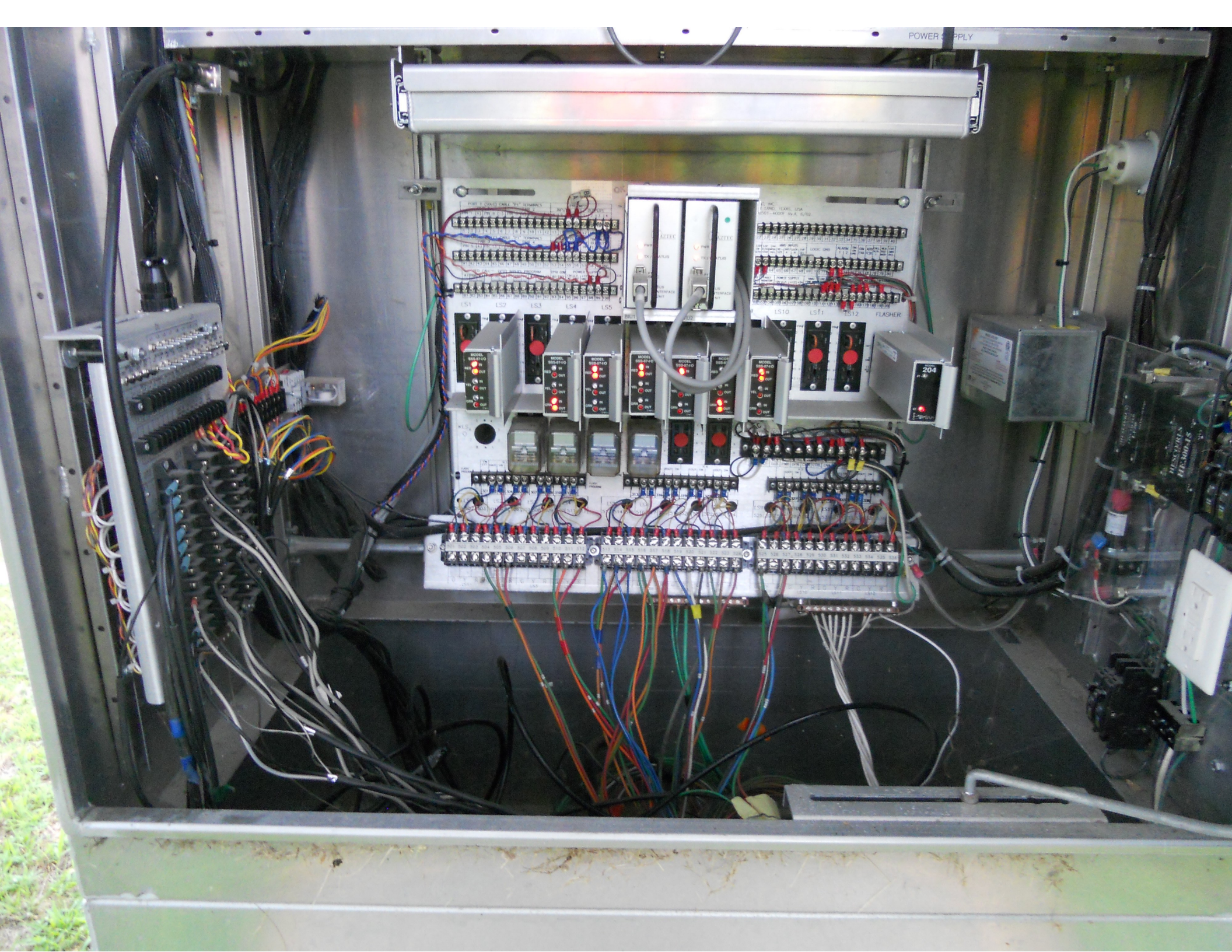
5V

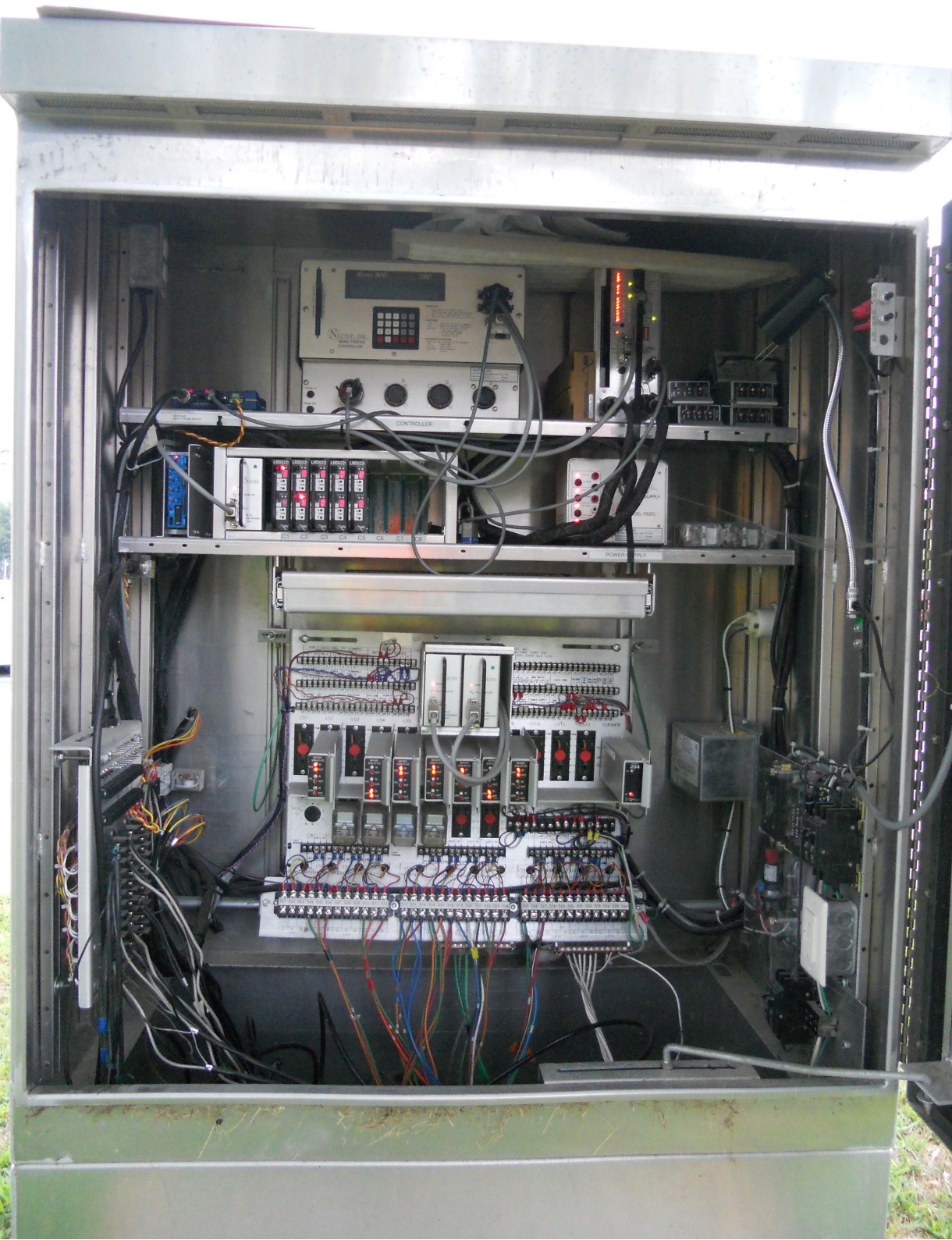
1.4 AMP

NAVTEC, INC. SUGAR LAND, TEXAS, USA

LS1 LS2 LS3 LS4 LS5

LS9 LS10 LS11 LS12 FLASHER





CONTROLLER

SPREAD SPECTRUM RADIO

**NAZTEC**  
PWR  
TX / STATUS  
P1 SDLC  
BUS INTERFACE UNIT

Module	Model	CH 1	CH 2	DET FLT
1	LMD622t	9	-	Red LED
2	LMD622t	0	5	Red LED
3	LMD622t	4	0	Red LED
4	LMD622t	4	6	Red LED
5	LMD622t	5	5	Red LED

BIU9 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8

PED CALL  
DTE1 INHIBIT PROGRAM  
EPID COM  
POWER SUPPLY



SPREAD  
SPECTRUM RADIO

115VAC 1A

24VDC-1/2A

LMD622t  
DET FLT

LMD622t  
DET FLT

LMD622t  
DET FLT

NAZTEC

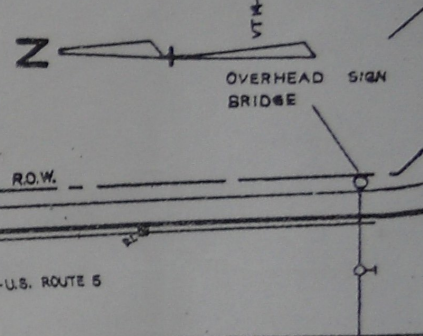
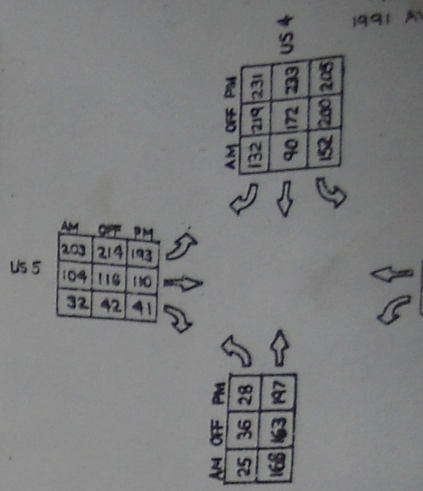
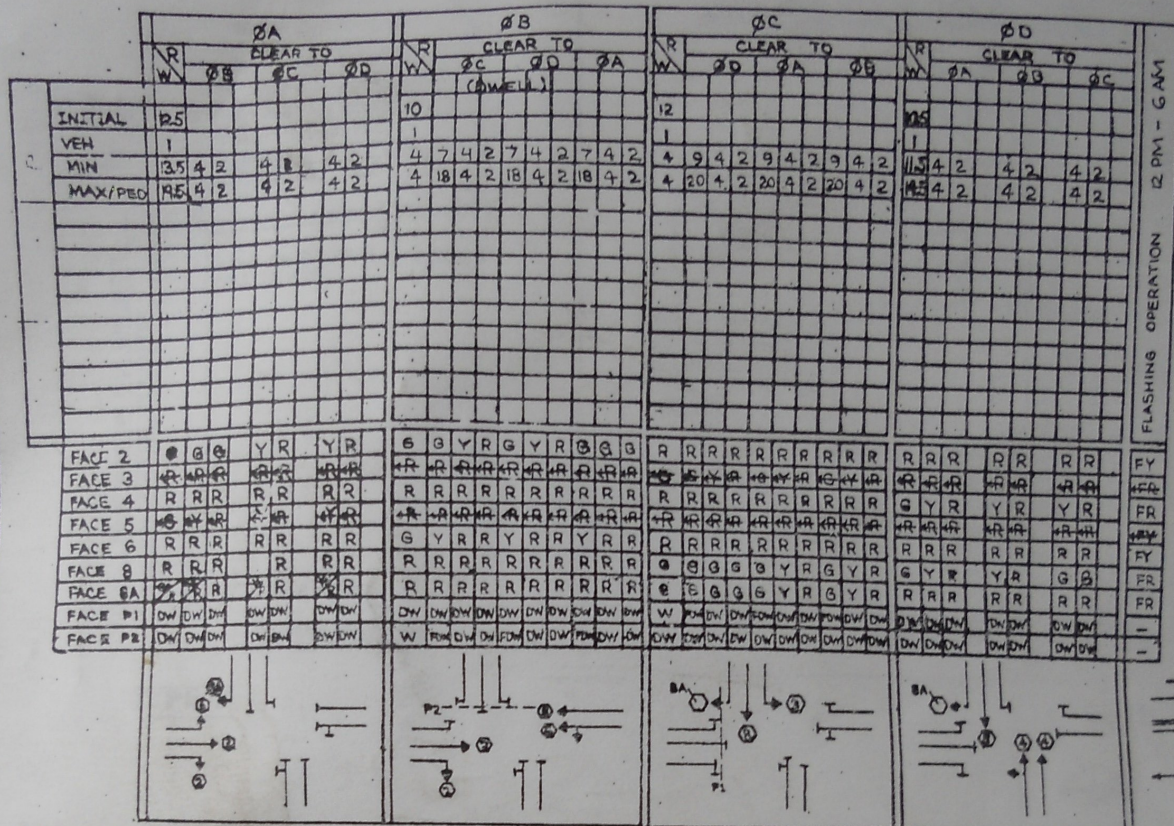
PW

MODE  
PREG

MODE  
PREG

MODE  
PREG





VEHICLE DETECTOR LOOPS

LOOP NO.	LANE	SIZE	TYPE & NO. TURNS	INDUCTANCE CALC	INDUCTANCE ACTUAL	RESISTANCE CALC	RESISTANCE ACTUAL
2	US 5 SB TH	8 x 55	QUAD-1	157		0.53	
2A	US 5 SB RT	8 x 50	QUAD-1	140		0.43	
3	US 4 WB LT	8 x 40	QUAD-1	151		0.94	
4A	VT 14 SB TH	8 x 40	QUAD-1	145		0.76	
4B	VT 14 SB LT	8 x 40	QUAD-1	142		0.72	
5	US 5 SB LT	8 x 55	QUAD-1	160		0.87	
6A	US 5 NB TH	8 x 40	QUAD-1	136		0.90	
6B	US 5 NB LT	8 x 40	QUAD-1	159		0.84	
8	US 4 WB TH	8 x 40	QUAD-1	146		0.90	
8A	US 4 WB RT	8 x 40	QUAD-1	142		0.74	

LOOP NOTES:

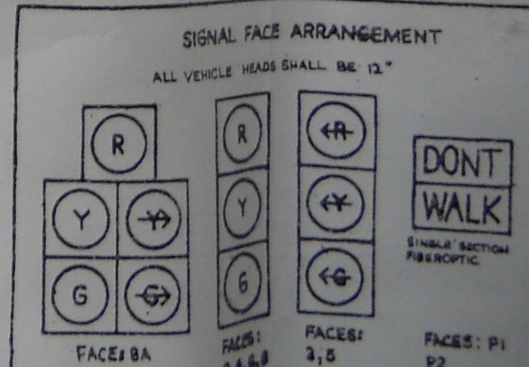
1. EACH LOOP SHALL HAVE ITS OWN AMPLIFIER.
2. ALL LOOPS AND LEADINS SHALL BE 12 AWG.
3. INDUCTANCE IS IN MICROHENRIES, RESISTANCE IN OHMS.
4. LOOP 2A AND LOOP 8A SHALL RUN ON A 3 SECOND DELAY.

ELECTRICAL CONDUIT AND ELECTRICAL CONDUIT SLEEVE

LOCATION	1 1/2"	2"	2 1/2"	3"
CONTROLLER TO JB1	-	18 LF	15 LF	
JB1 TO SP8	-	7 LF		
JB1 TO JB2	-	58 LF	58 LF	44 LF
JB2 TO SP8	-	9 LF		
JB2 TO JB3	-	48 LF	48 LF	34 LF
JB3 TO SP4	-	10 LF		
JB3 TO LOOPS	-	18 LF		
JB3 TO JB4	-	(2)114 LF		44 LF
JB4 TO SP3	-	5 LF		
JB4 TO LOOPS	-	17 LF		

TO POWER SOURCE  
CMP POLE # 2

POWER DROP STANCHION  
(SEE DETAIL STD E-175, OPTION 2)



IF MORE THAN ONE LENGTH OF CONDUIT IS REQUIRED, THE QUANTITY OF CONDUIT SHOWN HAS BEEN DETERMINED

GC				GD			
CLEAR TO		CLEAR TO		CLEAR TO		CLEAR TO	
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
2	3	4	5	6	7	8	9
3	4	5	6	7	8	9	10
4	5	6	7	8	9	10	11
5	6	7	8	9	10	11	12
6	7	8	9	10	11	12	13
7	8	9	10	11	12	13	14
8	9	10	11	12	13	14	15
9	10	11	12	13	14	15	16
10	11	12	13	14	15	16	17
11	12	13	14	15	16	17	18
12	13	14	15	16	17	18	19
13	14	15	16	17	18	19	20
14	15	16	17	18	19	20	21
15	16	17	18	19	20	21	22
16	17	18	19	20	21	22	23
17	18	19	20	21	22	23	24
18	19	20	21	22	23	24	25
19	20	21	22	23	24	25	26
20	21	22	23	24	25	26	27
21	22	23	24	25	26	27	28
22	23	24	25	26	27	28	29
23	24	25	26	27	28	29	30
24	25	26	27	28	29	30	31
25	26	27	28	29	30	31	32
26	27	28	29	30	31	32	33
27	28	29	30	31	32	33	34
28	29	30	31	32	33	34	35
29	30	31	32	33	34	35	36
30	31	32	33	34	35	36	37
31	32	33	34	35	36	37	38
32	33	34	35	36	37	38	39
33	34	35	36	37	38	39	40
34	35	36	37	38	39	40	41
35	36	37	38	39	40	41	42
36	37	38	39	40	41	42	43
37	38	39	40	41	42	43	44
38	39	40	41	42	43	44	45
39	40	41	42	43	44	45	46
40	41	42	43	44	45	46	47
41	42	43	44	45	46	47	48
42	43	44	45	46	47	48	49
43	44	45	46	47	48	49	50
44	45	46	47	48	49	50	51
45	46	47	48	49	50	51	52
46	47	48	49	50	51	52	53
47	48	49	50	51	52	53	54
48	49	50	51	52	53	54	55
49	50	51	52	53	54	55	56
50	51	52	53	54	55	56	57
51	52	53	54	55	56	57	58
52	53	54	55	56	57	58	59
53	54	55	56	57	58	59	60
54	55	56	57	58	59	60	61
55	56	57	58	59	60	61	62
56	57	58	59	60	61	62	63
57	58	59	60	61	62	63	64
58	59	60	61	62	63	64	65
59	60	61	62	63	64	65	66
60	61	62	63	64	65	66	67
61	62	63	64	65	66	67	68
62	63	64	65	66	67	68	69
63	64	65	66	67	68	69	70
64	65	66	67	68	69	70	71
65	66	67	68	69	70	71	72
66	67	68	69	70	71	72	73
67	68	69	70	71	72	73	74
68	69	70	71	72	73	74	75
69	70	71	72	73	74	75	76
70	71	72	73	74	75	76	77
71	72	73	74	75	76	77	78
72	73	74	75	76	77	78	79
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74	75	76	77	78	79	80	81
75	76	77	78	79	80	81	82
76	77	78	79	80	81	82	83
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82	83	84	85	86	87	88	89
83	84	85	86	87	88	89	90
84	85	86	87	88	89	90	91
85	86	87	88	89	90	91	92
86	87	88	89	90	91	92	93
87	88	89	90	91	92	93	94
88	89	90	91	92	93	94	95
89	90	91	92	93	94	95	96
90	91	92	93	94	95	96	97
91	92	93	94	95	96	97	98
92	93	94	95	96	97	98	99
93	94	95	96	97	98	99	100

TRAFFIC VOLUMES  
1991 AVERAGE WEEKDAY

US 4

AM	OFF	PM
132	219	231
90	172	233
152	200	205

US 5

AM	OFF	PM
203	214	193
104	116	110
32	42	41

US 5

AM	OFF	PM
82	134	109
39	52	84

AM OFF PM

25	36	28
168	163	147

CONVERT INTERSECTION (US 4 & BRIDGE ST.)  
SHALL BE COORDINATED WITH THIS INTERSECTION  
SEE SHEET 82 FOR DETAILS

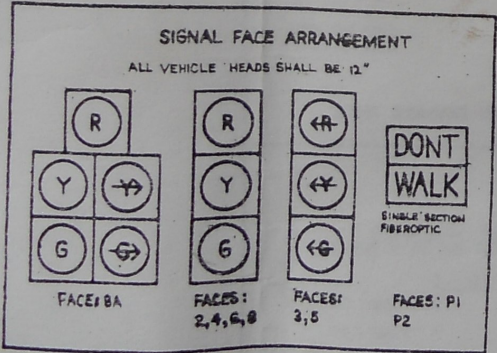
LEFT TURN  
YIELD  
ON GREEN

- LEGEND
- C- = NEW CONDUIT
  - + = EXISTING CONDUIT
  - = NEW PULL BOX
  - ← = EXISTING SIGNAL HEADS
  - ← = NEW SIGNAL HEADS
  - = EXISTING SIGNAL CONTROLLER
  - = NEW SIGNAL CONTROLLER
  - △ = NEW VEHICLE DETECTOR LOOP
  - = OVER HEAD SIGN
  - ⊕ = GROUND MOUNTED SIGN
  - ⊕ = NEW PEDESTRIAN SIGNALS
  - = NEW MAST ARM
  - W- = WATER LINE
  - T- = TELEPHONE LINE
  - S- = SEWER LINE
  - = NEW PEDESTAL POLE
- \* FOR SIGNAL NOTES SEE SHEET 80

RESISTANCE  
CALC ACTUAL

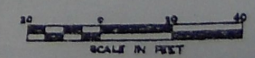
0.53
0.43
0.94
0.76
0.77
0.85
0.90
0.84
0.80
0.74

TO POWER SOURCE  
CONP POLE # 2



IF MORE THAN ONE LENGTH OF CONDUIT IS REQUIRED, THE QUANTITY OF CONDUIT HAS BEEN DOUBLED OR TRIPLED AS NOTED.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM THE LOCATION OF THE EXISTING TRAFFIC SIGNAL CONDUIT, PULLBOXES, LOOP LEADINS AND THE ROUTING OF THE ELECTRICAL WIRING (CIRCUITS) ASSOCIATED WITH THESE ITEMS. THE COST OF THIS WORK SHALL BE CONSIDERED A PART OF THE "TRAFFIC SIGNAL" ITEM 478.15.



PREPARED BY BTN DATE  
CHECKED BY DSP  
DESIGN SUPERVISOR  
PROJ.

**FIELD TERMINATION**  
 US Highway 5/US Highway 4 (Hartford Avenue) @ Vermont Route 14/US Highway 4 (Maple Street)  
 Hartford Vermont

STREET	PHASE	SIGNAL	GRN	YEL	RED	G→←	Y→←	WALK	DW
	ø1		501	502	503				
Hartford SB	ø2		504	505	506				
	ø3		507	508	509				
Maple WB	ø4		510	511	512				
Hartford SBLT	ø5		513	514	515				
Hartford NB	ø6		516	517	518				
Maple WBLT	ø7		519	520	521				
Maple EB	ø8		522	523	524				
Exclusive PED	ø9PED							525	527
	ø4PED							528	530
	ø6PED							531	533
	ø8PED							534	536

**LOOPS**

STREET	PHASE	LOOP LOCATION	PANEL TERMINATION	DELAY	EXT	NOTES
1 Hartford SB	ø2		DT2 1&2			
2 Hartford SB	ø2		DT2 3&4			
3 Hartford SBLT	ø5		DT2 5&6			
4 Hartford NB	ø6		DT2 7&8			
5 Maple WB	ø4		DT2 9&10			
6 Maple WBLT	ø7		DT2 11&12			
7 Maple EB	ø8		DT3 1&2			
8 ø			DT3 3&4			
9 ø			DT3 5&6			
10 ø			DT3 7&8			
11 ø			DT3 9&10			
12 ø			DT3 11&12			
13 ø			DT4 1&2			
14 ø			DT4 3&4			
15 ø			DT4 5&6			
16 ø			DT4 7&8			

**OVERLAPS**

OLA=  
 OLB=  
 OLC=  
 OLD=  
 OLE=  
 OLF=

**PREEMPTION**

CHANNEL 1 CALLS  
 CHANNEL 2 CALLS  
 CHANNEL 3 CALLS 1&6 CHAN A  
 CHANNEL 4 CALLS 2&5 CHAN B  
 CHANNEL 5 CALLS 3&8 CHAN C  
 CHANNEL 6 CALLS 4&7 CHAN D

Strobe Relay Terminal #3

**PED BUTTON HOOKUP**

CHANNEL	PHASE	TERMINAL
A	ø9	DT4-9.AC
B	ø	DT4-10.AC
C	ø	DT4-11.AC
D	ø	DT4-12.AC

CHRGD (P) 20 AWG --- C69587 --- 75C E11210-8 CM (UL) (UL) OR RHM STATE 247



elster

88888818

ORIGINAL FCC ID: R22SD SERIAL: 14 756 093  
elster  
TYPE R22SD  
GMP  
E14756093  
CL200, 240V, 3W, 50Hz, FM 2.5, Weather Meter, KH1.0 TA 30  
LAN ID: 076-0007355106  
ZSCHWARZ000-05  
K4.1-1207





Mascoma  
Savings Bank  
24 HOUR BANKING

ATM

91

91

ONLY



NORTH TO NORTH  
5

EAST 4 WEST 4 SOUTH 5  
TO SOUTH  
91



ONLY

solutions  
COOL-HOODS  
SOUL-INSPIRED  
COOL-LOCAL















CO-OP  
FOOD STORES

OPEN TO EVERYONE,  
EVERY DAY

First Citizens Bank

ONLY

EAST  
4  
↓

13-6  
↓

800 FT

Drive-Up ATM





10.75.215.8.635.  
50.7GA.50.3GA









LEFT TURN  
YIELD  
ON GREEN













TRAFFIC  
SIGNAL

SYNERTECH



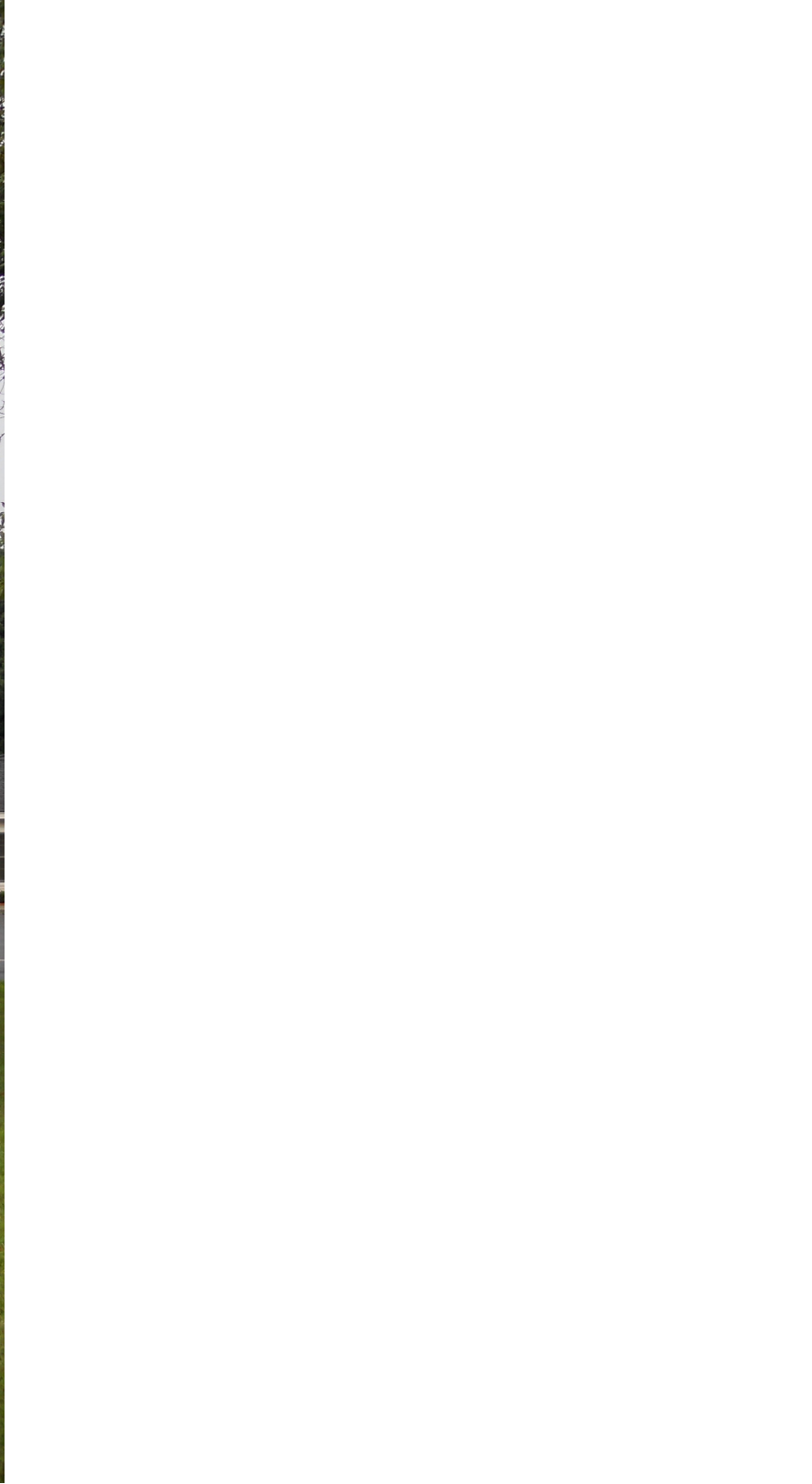
WEST SOUTH SOUTH  
4 5 TO 89 91  
←

NORTH  
VERMONT  
14  
↓

NORTH NORTH  
5 TO 91  
→











Mascoma  
Savings Bank

ATM

24 HOUR BANKING













ONLY ONLY ONLY



EAST  
4  
←

SOUTH WEST  
5 4  
↓

NORTH  
121  
→

77

ONLY





LEFT LANE  
MUST  
TURN LEFT



NO  
TURN  
ON  
RED





LEFT LANE  
MUST  
TURN LEFT





LEFT LANE  
MUST  
TURN LEFT



NO  
TURN  
ON  
RED













Date: 08/09/2012

Timing Data:

Phase	1	2	3	4	5	6	7	8	9
Phases in use	x	x		x	x	x	x	x	x
Min Green	5	5	5	5	5	5	5	5	0
Walk	0	0	0	0	0	0	0	0	0
Ped Clr	0	0	0	0	0	0	0	0	0
Veh Ext	0	2	0	2	2	2	2	3	0
MAX 1	0	32	0	31	17	19	14	13	0
MAX 2	0	0	0	0	0	0	0	0	0
MAX 3	0	0	0	0	0	0	0	0	0
Yellow	4	4	4	4	4	4	4	4	3
All Red	2	2	2	2	2	2	2	2	0
Recall to Max	0	0	0	0	0	0	0	0	0

Coordination Patterns: ACS3/Naztec

Pattern 1									
Cycle Length	75	Offset	6	COS	111				
Splits	Ph 1		Ph 2		Ph 3		Ph 4		
	Ph 5		Ph 6		Ph 7		Ph 8		
	Ph 9		Ph 10		Ph 11		Ph 12		
Pattern 2(21)									
Cycle Length	75	Offset	20	COS	211				
Splits	Ph 1		Ph 2		Ph 3		Ph 4		
	Ph 5		Ph 6		Ph 7		Ph 8		
	Ph 9		Ph 10		Ph 11		Ph 12		
Pattern 3									
Cycle Length	75	Offset	14	COS	311				
Splits	Ph 1		Ph 2		Ph 3		Ph 4		
	Ph 5		Ph 6		Ph 7		Ph 8		
	Ph 9		Ph 10		Ph 11		Ph 12		
Pattern 4									
Cycle Length	75	Offset	12	COS	411				
Splits	Ph 1		Ph 2		Ph 3		Ph 4		
	Ph 5		Ph 6		Ph 7		Ph 8		
	Ph 9		Ph 10		Ph 11		Ph 12		

Action Plan

Action Plan	Pattern
1	1
2	2
3	3
4	4
5 to 53	0
54	254-FREE

Day Plan [1]

Event	Action Plan	Step Begins
1	54	0000
2	2	0600
3	54	0900
4	3	1400
5	4	1600
6	54	1800