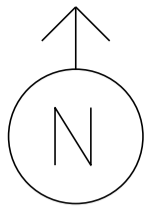


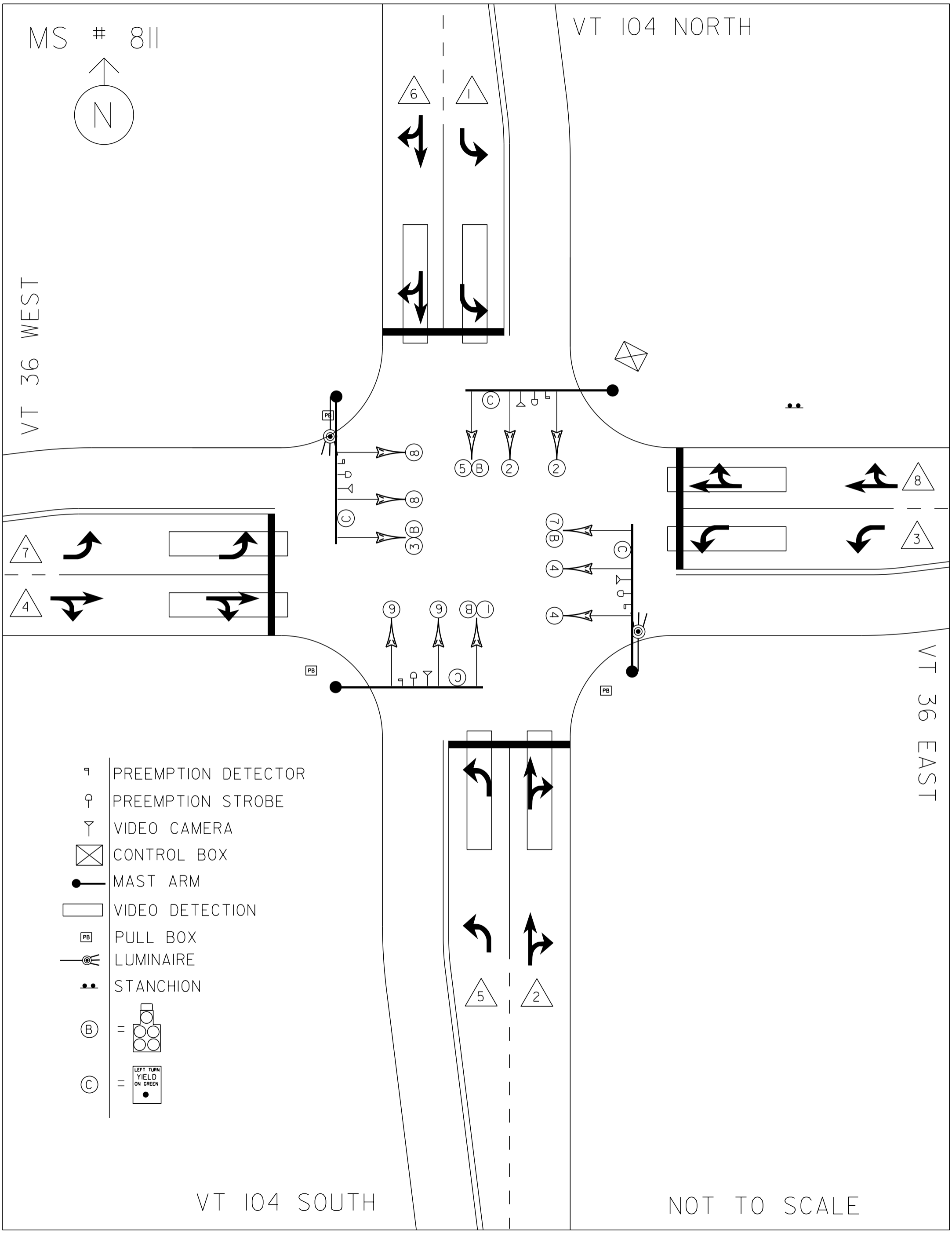
MS # 811



VT 104 NORTH

VT 36 WEST

VT 36 EAST

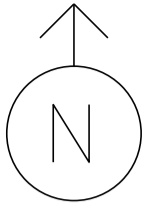


- ☐ PREEMPTION DETECTOR
- ♀ PREEMPTION STROBE
- ▽ VIDEO CAMERA
- ☒ CONTROL BOX
- MAST ARM
- ▭ VIDEO DETECTION
- ☐ PB PULL BOX
- ☉ LUMINAIRE
- ⋮ STANCHION
- ⊙ =
- ⊙ =

VT 104 SOUTH

NOT TO SCALE

MS # 811



VT 104 NORTH

VT 36 WEST

11'

10'

14'

LANE LINE 80'

STOP BAR 10'

STOP BAR 14'

12'

12'

STOP BAR 30'

LANE LINE 100'

11'

12'

LANE LINE 60'

STOP BAR 26'

12'

12'

VT 36 EAST

STOP BAR 20'

STOP BAR 12'

LANE LINE 100'

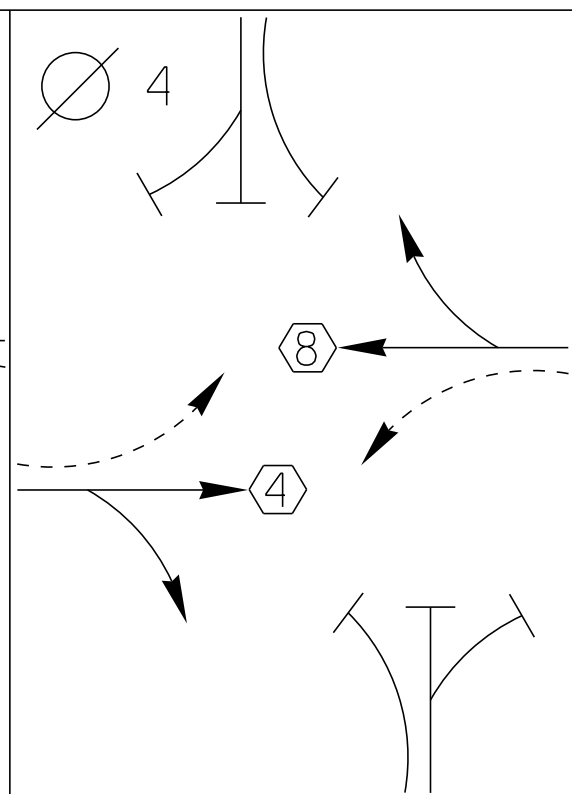
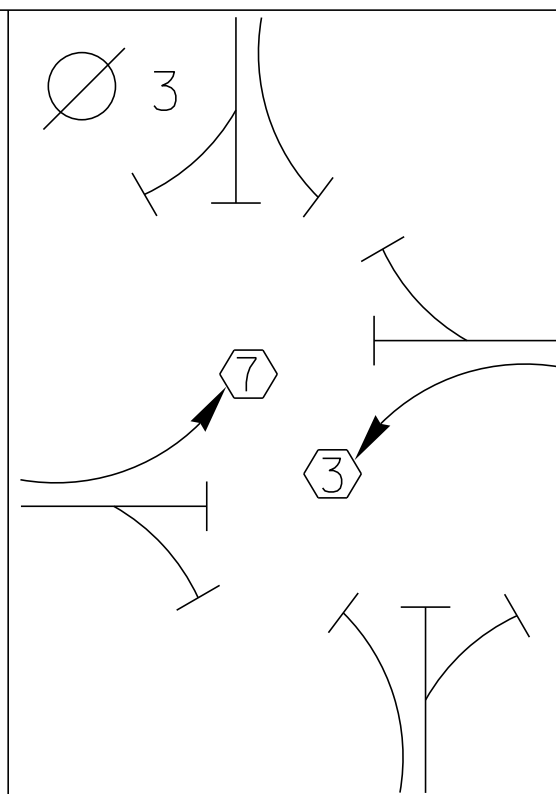
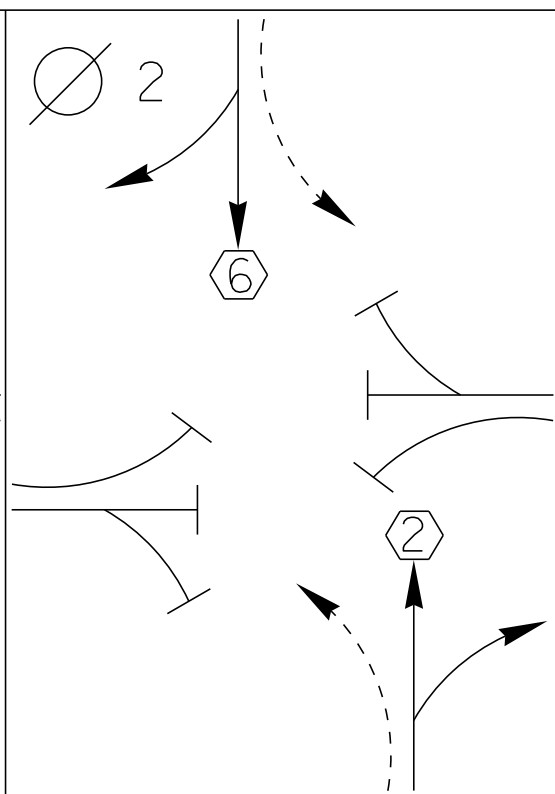
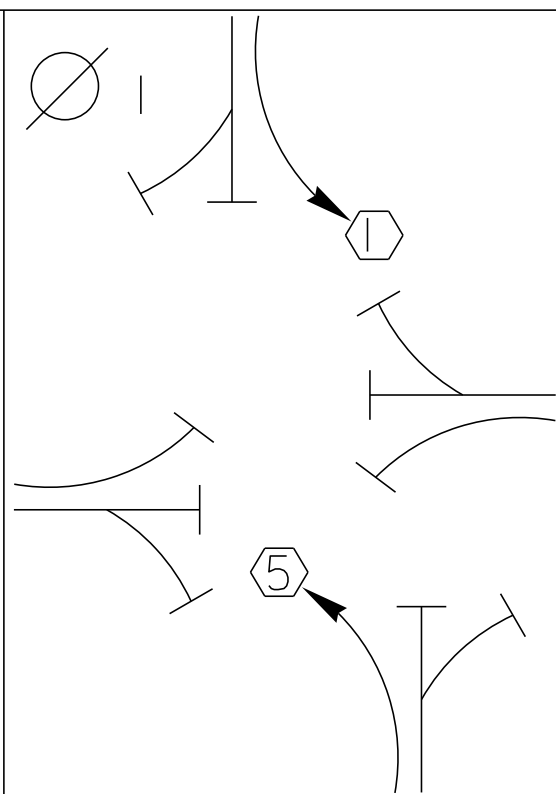
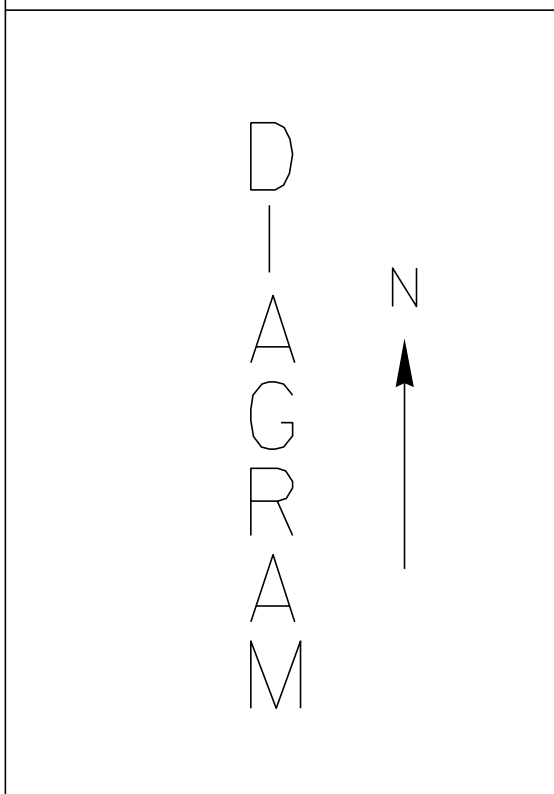
13'

12'

12'

VT 104 SOUTH

NOT TO SCALE



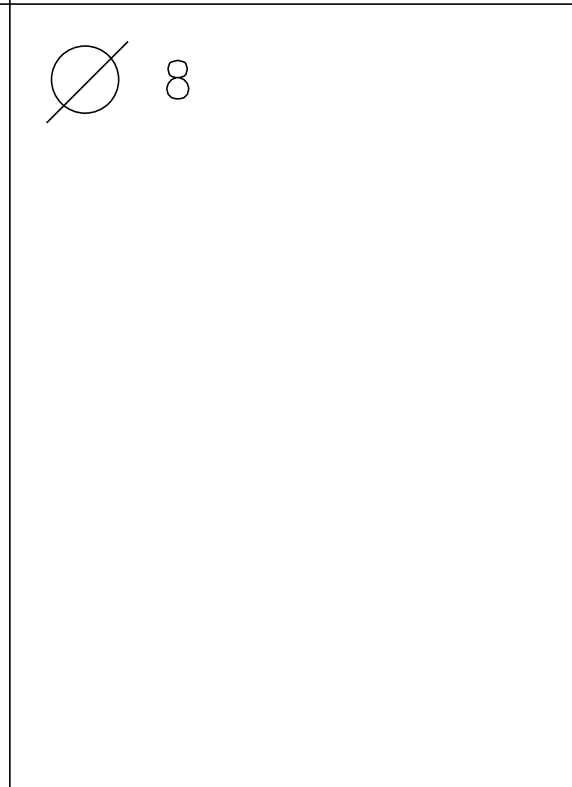
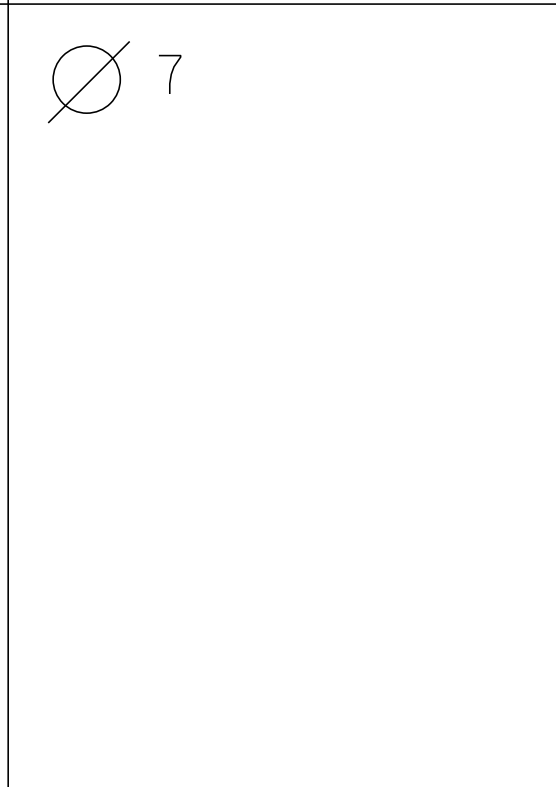
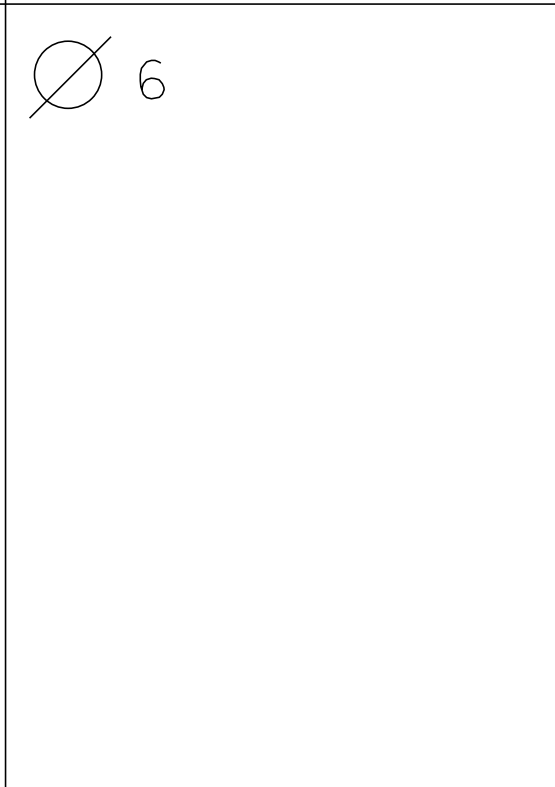
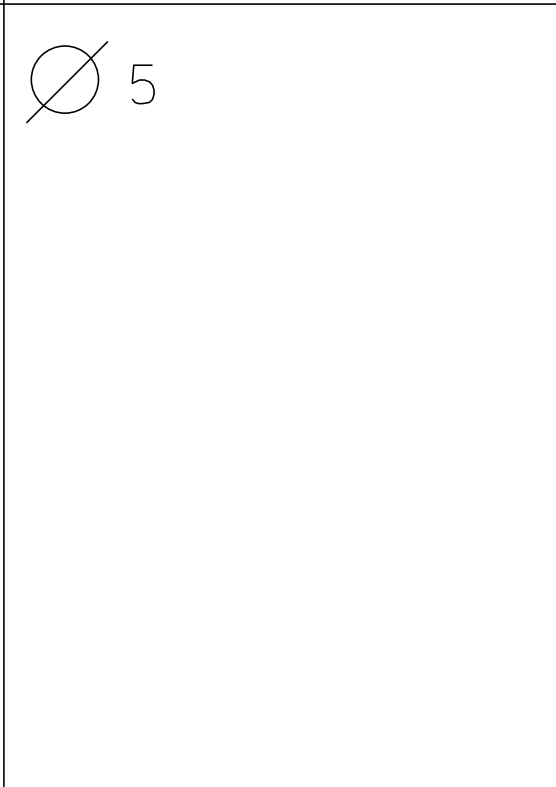
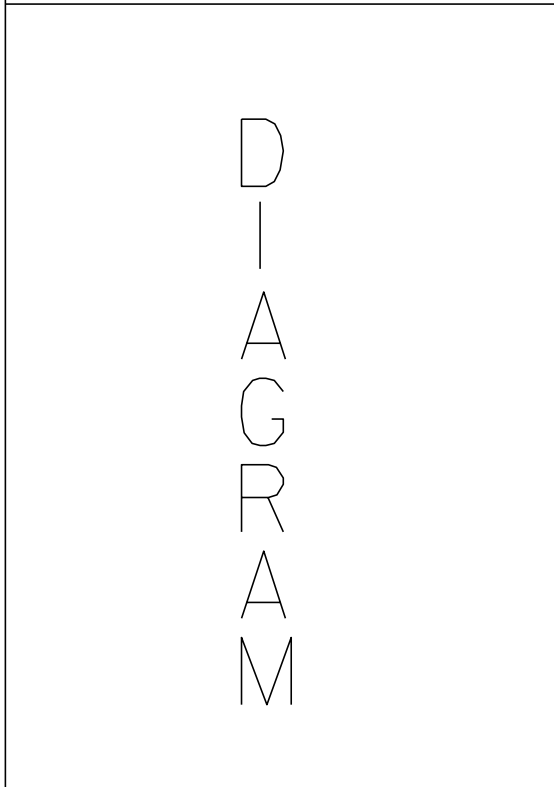
TIMING

G =
Y =

G =
Y =

G =
Y =

G =
Y =



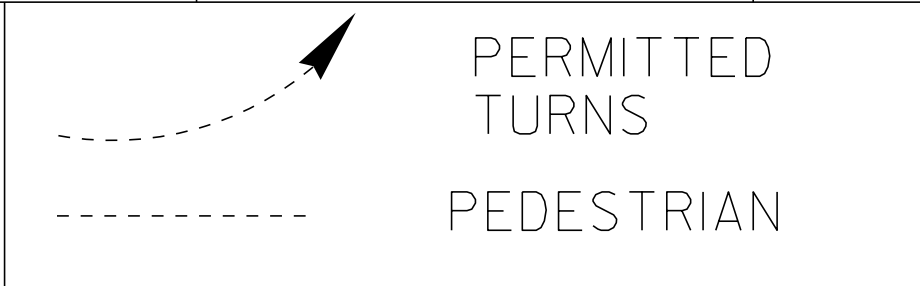
TIMING

G =
Y =

G =
Y =

G =
Y =

G =
Y =



CYCLE LENGTH, C = _____ S



PROPERTY OF :
VT. AGENCY OF TRANS.
MAINTENANCE DIV.

IN EMERGENCY CALL :
DIST. TRANS. OFFICE
524-5926 ST. ALBANS

NIGHTS & WEEKENDS : 555-6789

INTERSECTION NO. MS-811

DANGER

115 VOLTS A.C.

WARNING

DO NOT OPERATE
CABINET WITHOUT
CMU / MMU

TURN ON
10-16-08

344384

CONTROL EQUIP. ON

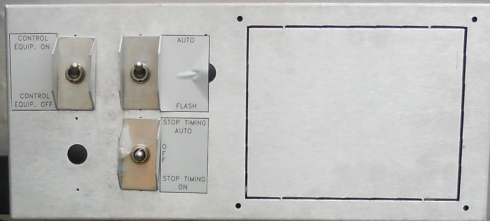
CONTROL EQUIP. OFF

AUTO

FLASH

STOP TUNING AUTO

STOP TUNING ON

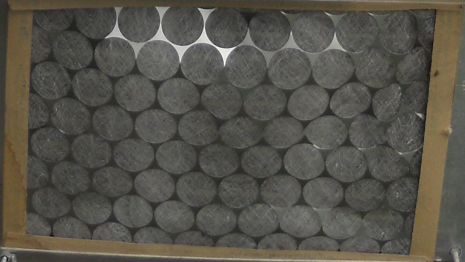
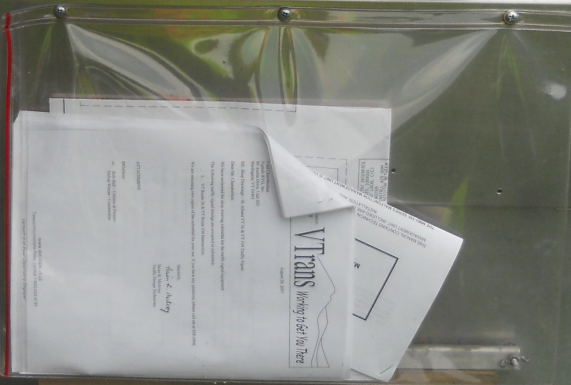


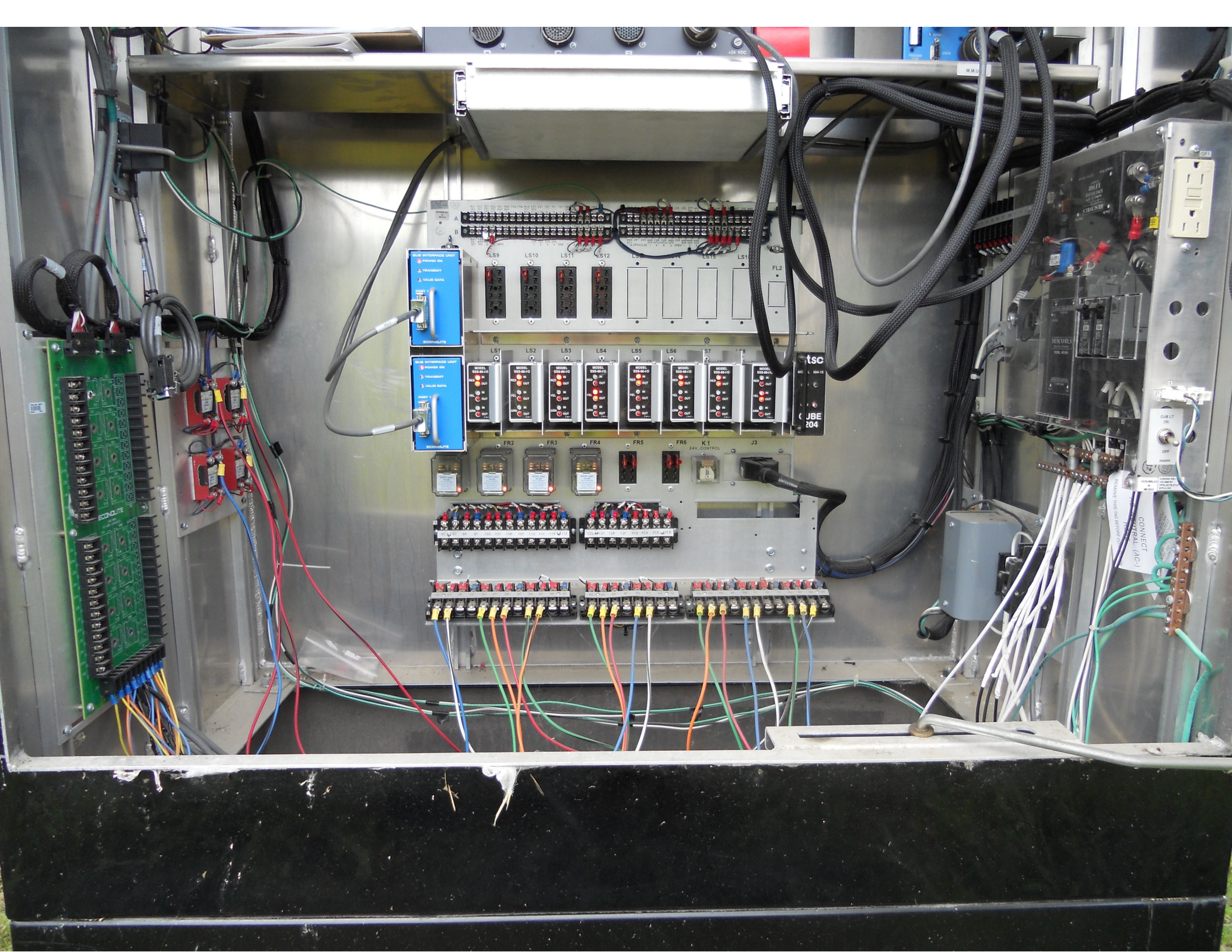
ECONOLITE

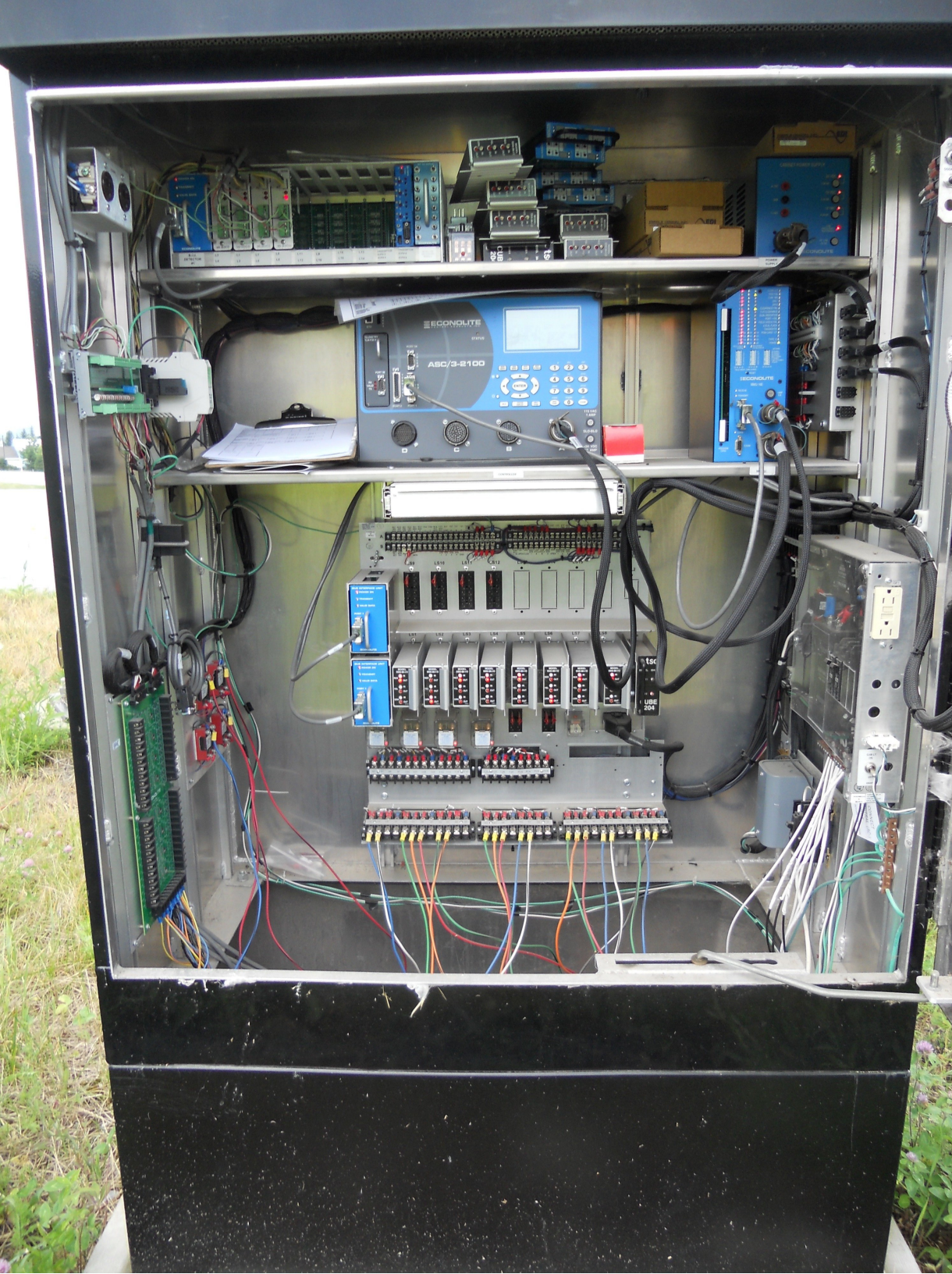
VT TRANS

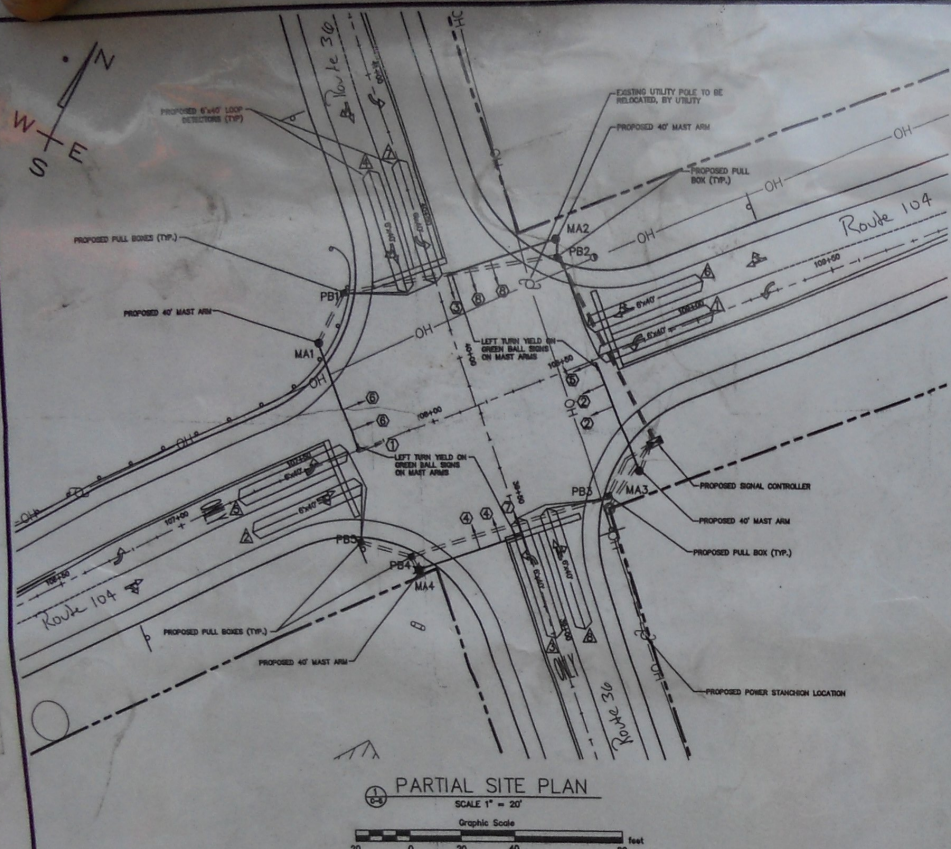
VT TRANS

VT TRANS









LEGEND

- IRON PIPE OR REBAR FOUND
- SANITARY SEWER MANHOLE
- CATCH BASIN
- BOLLARD
- ⊕ HYDRANT
- ⊕ LIGHT POLE
- ⊕ UTILITY POLE & GUY WIRE SIGN
- SS— SANITARY SEWER
- SD— STORM DRAIN
- W— WATER LINE
- OH— OVERHEAD POWER/TEL.
- P— PROPERTY LINE, R.O.W.
- S20— EXISTING CONTOUR
- N/O— NOW OR FORMERLY OWNED BY
- L— UNDER DRAIN
- G— GUARD RAIL
- ⊕ EXISTING TRAFFIC SIGNAL
- ⊕ SOIL BORING LOCATION
- ⊕ PROPOSED MAST ARM, STREET LIGHT & TRAFFIC SIGNALS
- ⊕ PROPOSED LOOP DETECTOR
- S20— PROPOSED CONTOUR

LOOP DETECTOR DATA

DETECTOR	LANE	# CALLED	# EXT.	MODE	SIZE	TYPE & NO. TURNS	IND. CALC.	RESIST. CALC.	STA. B. OFFSET
△	SB	1	1	B	8'x40'	QUAD / 2 TURNS LOOKING	355.4800	0.784	158'±3'
△	NB	2	2	B	8'x40'	QUAD / 2 TURNS LOOKING	368.4520	0.874	159'±3'
△	WB	3	3	B	8'x40'	QUAD / 2 TURNS LOOKING	344.0070	0.835	157'±1'
△	EB	4	4	B	8'x40'	QUAD / 2 TURNS LOOKING	374.5070	1.030	165'±2'
△	NB	5	5	B	8'x40'	QUAD / 2 TURNS LOOKING	382.4520	0.874	159'±3'
△	SB	6	6	B	8'x40'	QUAD / 2 TURNS LOOKING	355.4800	0.784	158'±3'
△	EB	7	7	B	8'x40'	QUAD / 2 TURNS LOOKING	374.5070	1.030	165'±2'
△	WB	8	8	B	8'x40'	QUAD / 2 TURNS LOOKING	344.0070	0.835	157'±1'

By Fax Ref 7-27-07 from Signals RyG
 AM 6am - 10am
 PM 3pm - 7pm

PROPOSED SIGNAL TIMING AND PHASING DIAGRAM
 ROUTE 104 AT ROUTE 36

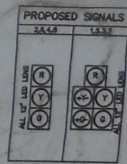
Street	Direction	PHASING																				FLASH OPER.					
		1	2	3	4	5	6	7	8	9	7	8	9	10	11	12	13	14	15	16	17		18	19	20	21	
ROUTE 104	NB	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 104	NB	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 104	SB	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 104	SB	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 36	EB	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 36	EB	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 36	WB	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
ROUTE 36	WB	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
MINIMUM INITIAL		5		5		5		5		5		5		5		5		5		5		5		5		5	
EXTENSION		2		2		2		2		2		2		2		2		2		2		2		2		2	
MAXIMUM AM		5		55		76		26		5		5		10		10		10		10		10		10		10	
MAXIMUM PM		7		9		44		42		7		7		38		38		38		38		38		38		38	
CHANGE		4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2

TRAFFIC SIGNAL NOTES

- NEW EQUIPMENT**
 - ALL SIGNAL HEADS SHALL BE POLYCARBONATE. BACK PLATES SHALL BE INSTALLED ON ALL SIGNAL HEADS.
 - ALL CONTROLLERS SHALL BE ECONOLITE BRAND, MODEL A82/25-300 (75-3 TYPE 3).
 - A DISCONNECT BREAKER FOR EACH CIRCUIT SHALL BE INSTALLED IN A RAINPROOF POLE NEXT TO OR BELOW THE METER SOCKET, COORDINATE THE STATIONING OFFICIAL, THE TELEPHONE POLE CO. SHALL BE INSTALLED ON THE STATIONING. THE BRONZE INSULATED NUMBER SHALL BE 300-844 WITH A GAGE EXTENSION.
- SIGNAL OPERATION**
 - SWITCH-OVER FROM EXISTING TO REPLACEMENT SIGNALS SHALL NOT BE DONE DURING PEAK TRAFFIC PERIODS. IMPROVED TRAFFIC OPERATIONS SHALL CONTROL TRAFFIC DURING SWITCH-OVER.
 - ALL SIGNALS SHALL OPERATE ON THE VT ROUTE 104 TORO MOMENTUM UNLESS OTHERWISE NOTED.
 - THE VT ROUTE 104 TORO PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASHING OPERATION UNLESS OTHERWISE NOTED. FOLLOWING THE FLASHING OPERATION ALL PHASES SHALL START ON ALL-RED INDICATION FOR 8 SECONDS.
- PULL BOXES AND JUNCTION BOXES**
 - PULL BOXES AND JUNCTION BOXES ARE DETAILED ON STANDARD E-173. MINIMUM JUNCTION BOX SIZE SHALL BE 18" X 12" X 12", OR LARGER AS REQUIRED BY THE ELECTRICAL CODE.
 - THE LOAD ON PULL BOXES/JUNCTION BOXES SHALL BE AS PER STANDARD E-173.
- TRAFFIC SIGNAL CONDUIT**
 - ALL TRAFFIC SIGNAL CONDUIT SHALL BE PVC.
 - MINIMUM CONDUIT SIZES SHALL BE:
 - 1" 1/2" FOR LOOP LEAD-IN
 - 1 1/2" FOR ALL OTHERS, OR AS SHOWN ON THE PLAN.
 - SEE CHART ON STANDARD E-172 FOR DESIGN VALUES.
- VEHICLE DETECTOR LOOP - SEE STANDARD E-172.**
- STREET LIGHTING**
 - STRAIN POLE-MOUNTED LUMINAIRES SHALL BE 350W HIGH PRESSURE SODIUM, AS SHOWN ON THE PLAN, INSTALLED WITH A 34" MOUNTING HEIGHT ABOVE THE EDGE OF PAVEMENT.
 - BRACKET ARM MOUNTED LUMINAIRES SHALL HAVE A MEDIUM CUT-OFF DISTRIBUTION; THE ARM ORIENTATION SHALL BE AS SHOWN ON THE PLAN.
 - THE INSTALLED LUMINAIRE LIGHT UTILIZATION AND MINIMUM FOOTCANDLES SHALL BE AT LEAST AS GREAT AS THAT FOR THE DESIGN PHOTOMETRIC DATA SHOWN ON THE PLAN.

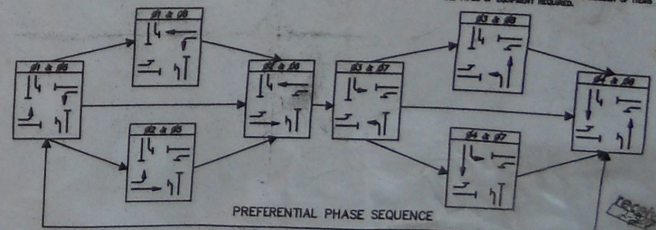
CONDUIT SCHEDULE

CONDUIT SCHEDULE	USED	DESCRIPTION
UTILITY POLE AT STATIONING TO CONTROLLER	70	1"
PRE TO LOOP	25	3/4"
PRE TO PB2	18	3/4"
PRE TO MA2	7	3/4"
PRE TO LOOP	70	1"
PRE TO CONTROLLER (DOUBLE CONDUIT RUN)	70 X 2	1"
PRE TO CONTROLLER	8	3/4"
CONTROLLER TO MA3	24	3/4"
PRE TO PB4	74	3/4"
PRE TO MA4	74	3/4"
PRE TO PB4	17	3/4"
PRE TO LOOP	8	1"



MAJOR ITEMS REQUIRED

QUANTITY	DESCRIPTION
4	40' MAST ARM ASSEMBLY, BASE & POLE
4	SIGNAL HEAD, 3 SECTION
4	SIGNAL HEAD, 2 SECTION
4	MONITORING LOOP DETECTOR (4'x4')
4	DUAL CHANNEL LOOP DETECTOR AMPLIFIER
1	PULL BOX
1	TRAFFIC SIGNAL CONTROLLER, CABINET & FOUNDATION



- NOTES:**
- PLANS AND SPECIFICATIONS CONFORM TO VERMONT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AND THE 2003 EDITION OF MUTCD.
 - ALL NEW SIGNAL BARRIS SHALL BE LED.

REVISION: 8/28/03 - REVISED SIGNAL PHASING, ADDED NEW GUARDRAIL LOCATION.
 REVISION: 8/28/03 - REVISED SIGNAL PHASING, LOOP DETECTOR AND MAST ARM LENGTH, DISTANCE AND RESISTANCE CALCULATIONS.

Traffic Signal Layout & Notes
 VT Route 36 & VT Route 104
 Intersection Improvements Partnership
 St. Albans, Vermont

RUIGIANO ENGINEERING, INC.
 4 MAPLEVILLE DEPOT
 ST. ALBANS, VERMONT 05478
 PHONE: (802) 524-8200
 FAX: (802) 524-8700

PROJECT NO. 2003
 DRAWN BY: JAC
 CHECKED BY: JAC
 SCALE: 1" = 20' (SHEET)

C-5

DANGER / PELIGRO
HAZARD OF ELECTRICAL SHOCK OR BURN
SERVICES BY QUALITY AUTHORIZED PERSONNEL ONLY
DO NOT REMOVE COVER OR REMOVE THIS LABEL
PELIGRO DE DESCARGA ELÉCTRICA O QUEMADURA
SERVICIOS POR PERSONAL AUTORIZADO DE CALIDAD
NO REMOVER LA CUBIERTA NI EL ETIQUETA
NO PONGA EN PELIGRO ESTA ETIQUETA

09682

CL200 240V 3W TYPE G1S 30TA 1.0KH
C.V.# 2131427 CA 0-5
56 069 427 80HZ

Itron
WATT-HOUR METER
USA 8128

MILBANK
TYPE 3R ENCLOSURE

MILBANK
C.V.# 2131427

CIRCUIT BREAKERS UNDER FLAP
NO FUSES IN BOX
DO NOT BREAK SEAL

DANGER / PELIGRO
HAZARD OF ELECTRICAL SHOCK OR BURN
SERVICES BY QUALITY AUTHORIZED PERSONNEL ONLY
DO NOT REMOVE COVER OR REMOVE THIS LABEL
PELIGRO DE DESCARGA ELÉCTRICA O QUEMADURA
SERVICIOS POR PERSONAL AUTORIZADO DE CALIDAD
NO REMOVER LA CUBIERTA NI EL ETIQUETA
NO PONGA EN PELIGRO ESTA ETIQUETA

FISHER POND RD
FAIRFIELD HILL RD



WEST
36 30





EAST SOUTH WEST

VERMONT VERMONT VERMONT
36 104 36

← ↑ →

TO

INTERSTATE

89

↑

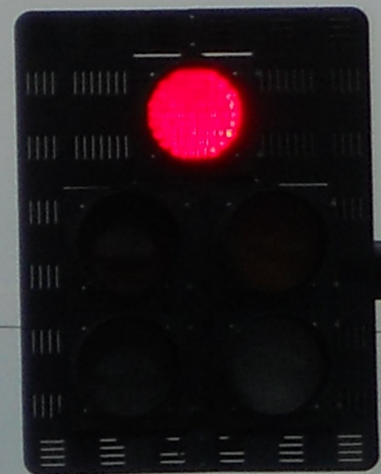


LEFT TURN MUST YIELD TO TRUCKS

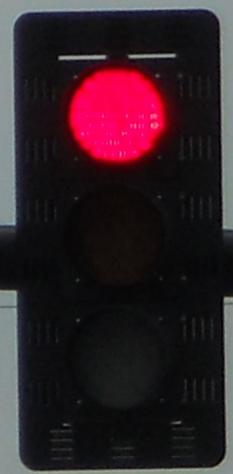


NO PARKING





LEFT TURN
YIELD
ON GREEN







1-800-685-RIDE

U.M.I.
POLE GA. 7E (K.1293)
DIA. 13.0"
POLE LGTH. 19'6"
55 K.S.I.
01/2008





NORTH	EAST	SOUTH
VERMONT	VERMONT	VERMONT
104	36	104
←	↑	→
TO		TO
VERMONT		INTERSTATE
105		89
←		→



LEFT LANE
MUST
TURN LEFT





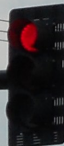


LEFT TURN
YIELD
ON GREEN





LEFT TURN
YIELD
ON GREEN



ROAD
WORK
EAST END
VERMONT
36

50



U.M.C.
POLE GA. 7E (.1793)
DIA. 15.0"
POLE LGTH. 30'0"
55 K.S.I.
01/2008



WEST NORTH EAST
VERMONT VERMONT VERMONT
36 104 36
← ↑ →

TO
VERMONT
105
↑





LEFT LANE
MUST
TURN LEFT





LEFT TURN
YIELD
ON GREEN





LEFT TURN
YIELD
ON GREEN



FAIRFIELD HILL RD

102 105

U.N.C. 1-69
POLE GA. 2E (.1783") 15" 19"E
ARM GA. 2E (.1793") 12" 48"
55 K.S.I.



U.M.C. 1/08
POLE GA 7E (.1793") 15" 19'6"
ARM GA. 7E (.1793") 12" 40"
55 K.S.I.





LEFT LANE MUST TURN LEFT



Valley Crossroads
Newport

VALENTINE
36 30



LEFT TURN
YIELD
ON GREEN





LEFT TURN
YIELD
ON GREEN

WEST
TURN
SPEED
LIMIT
36

SPEED
LIMIT
30



U.M.C. 1/08
POLE GA 7E (.1793") 15" 30'
ARM GA. 7E (.1793") 12" 40'
55 K.S.I.

Date: 08/10/2012

Timing Data:

Phase	1	2	3	4	5	6	7	8	9
Phases in use									
Min Green	5	8	5	5	5	8	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	2	2	2	2	2	2	2	2	0
MAX 1	7	44	7	38	9	42	7	38	0
MAX 2	5	76	5	10	55	26	5	10	0
MAX 3	7	44	7	38	9	42	7	38	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 Not Coordinated

Pattern 1										
Cycle Length	Offset		COS							
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	Offset		COS							
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	Offset		COS							
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	Offset		COS		141					
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	AUTO
2	AUTO
3	AUTO

Day Plan [1]

Event	Action Plan	Step Begins
1	1	0600
2	2	1000
3	3	1500
4	2	1900