

PHASING DIAGRAM AND SPECIAL NOTES
FOR EACH LOCATION

PHASE	2	1	4	3
MINIMUM	10		10	90
EXTENSION	2		2	2
MAXIMUM	35 3 42 35 3 42 27 3 42 100 3 42			
HEAD 2	G Y R R R R R R R R R R			
HEAD 1	R R R R G Y R R R R R G Y R			
HEAD 4	R R R R R R R G Y R R R R			

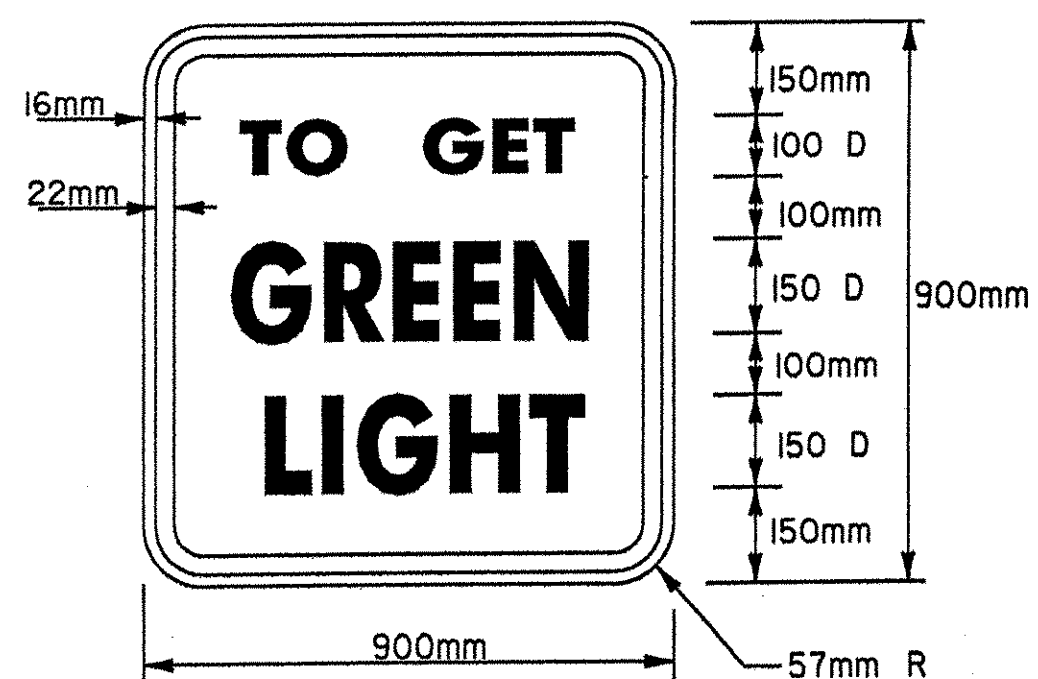
APPROACH 4 IS A SIDE DRIVE APPROACH

- NOTES:
1. SET RECALL TO PHASE 1.
2. PHASE 3 IS UTILIZED FOR FIRE PRE-EMPTION

SPECIAL REQUIREMENTS

APPROACH	TEMPORARY VEHICLE DETECTOR	DILEMMA ZONE LOOP	FLASHING BEACON OR ADVANCED WARNING SIGN
2	X		X
1			X
4	X		

ENTER CHECK MARK IN APPROPRIATE BOX WHEN REQUIRED ON THIS PROJECT



COLORS: BLACK TEXT AND BORDER
WHITE REFL. BACKGROUND
MATERIALS: PER STD. E-142M

STANDARD SHEETS REQUIRED FOR USE WITH TEMPORARY DETOUR SHEETS INCLUDE:

E-100M	E-171AM
E-101M	E-171BM
E-102M	E-171CM
E-102AM	E-172M
E-106M	E-173M
E-107M	E-175M
E-107AM	
E-121M	
E-140M	

ATTENUATOR NOTES

TO ALLOW THE CONTRACTOR ACCESS TO THE WORK AREA, NO BARRIER TAPER WILL BE INSTALLED. ENERGY ABSORPTION ATTENUATORS SHALL BE INSTALLED AT BOTH ENDS OF THE BARRIER AND A TRUCK-MOUNTED ATTENUATOR INSTALLED AT THE SOUTHERN END ONLY.

THE TRUCK-MOUNTED ATTENUATOR WILL BE PAID FOR UNDER ITEM 608.45, AND THE ENERGY ABSORPTION ATTENUATORS WILL BE PAID FOR UNDER ITEM 621.56. THE ATTENUATORS SHALL MEET THE REQUIREMENTS OF THE 2002 AASHTO "ROADSIDE DESIGN GUIDE", AND SHALL BE DESIGNED FOR A 4500 LB VEHICLE AT 30 MPH.

GENERAL NOTES

- DESIGN OF SIGNAL SUPPORT(S) AND ANY REQUIRED GUYING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE RESIDENT ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD AND PAYMENT SHALL BE SUBSIDIARY TO THE TRAFFIC SIGNAL ITEM. THE ALL-RED CLEARANCE INTERVAL IS BASED ON AN ASSUMED SPEED OF 10-20 MPH. THE RESIDENT ENGINEER SHALL MAKE SEVERAL TRIAL RUNS TO DETERMINE THE PROPER ALL-RED CLEARANCE INTERVAL.
- SIGNAL FACES SHALL CONSIST OF 305mm LENSES, (RED, YELLOW, AND GREEN).
- THE BOTTOM OF THE HOUSING OF THE SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 5.0m NOR MORE THAN 5.8m ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF THE SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN 2.4m NOR MORE THAN 4.6m ABOVE THE GROUND. CAUTION SHOULD BE USED TO INSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROAD GRADE.
- SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 2.4m APART MEASURED HORIZONTALLY BETWEEN CENTER OF FACES.
- SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE NO GREATER THAN 4.4m FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 12.2m FROM THE SIGNAL HEAD. CONSULT THE M.U.T.C.D. FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.
- SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.
- THE SIGNAL SYSTEM SHALL CONSIST OF POLES, SIGNS AND POSTS, WARNING SIGNS, LUMINAIRES, FLASHING BEACONS, FIRE PRE-EMPTION AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. IT ALSO INCLUDES PERMITS AND COST ASSOCIATED WITH PROVIDING ELECTRICAL POWER.
- THE CONTRACTOR SHALL PROVIDE AN ACTUATED CONTROLLER. THE APPROACHES NOTED SHALL HAVE A TEMPORARY VEHICLE DETECTOR. THE TYPE OF DETECTION SHALL BE INDUCTANCE. THE CONTROLLER, VEHICLE DETECTORS AND ALL OTHER SIGNAL EQUIPMENT SHALL MEET OR EXCEED ALL NEMA STANDARDS.
- VEHICLE DETECTOR LOOPS SHALL BE 1.2m X 12m FOR PRESENCE DETECTION ON U.S. ROUTE 5 AND 1.2m X 6m FOR SIDE APPROACH. THE NEAR PORTION OF THE LOOPS SHALL EXTEND 1.5m BEYOND THE STOP BAR.
- INTERVAL TIMING SHOWN IN SECONDS.
- INTERCONNECT BETWEEN SIGNAL POLES BY WHATEVER MEANS POSSIBLE OR CONVENIENT TO PROVIDE FOR A SAFE INSTALLATION.
- PLACE TEMPORARY POLES BEHIND GUARDRAIL WHERE POSSIBLE.
- POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED SO AS TO CREATE A HAZARD TO THE TRAVELING PUBLIC.
- ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND HE SHALL BE RESPONSIBLE FOR THEIR REMOVAL, INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.
- A 250 WATT MERCURY OR 150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 9.1m ABOVE ROADWAY CENTERLINE TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR VISIBILITY. THE RESIDENT ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT.
- STOP BARS SHALL BE LOCATED A MINIMUM OF 12.2m AND A MAXIMUM OF 36.6m FROM THE NEAREST SIGNAL HEAD.
- PAYMENT FOR TEMPORARY VEHICLE LOOP DETECTOR ITEM SHALL BE FOR EACH UNIT INSTALLED.
- SIGNS AND POSTS AS SHOWN ON THIS SHEET AND NOTED BELOW ARE SUBSIDIARY TO THE TRAFFIC CONTROL SIGNAL ITEM ("STOP HERE ON RED," "SIGNAL AHEAD," "NO PASSING ZONE," AND "TO GET GREEN LIGHT," ETC.) THE TEMPORARY STOP BARS SHOULD BE PAID UNDER THE TEMPORARY 600 mm STOP BAR ITEM.
- SEE STD. E-140M FOR "STOP HERE ON RED" SIGN DETAIL AND E-101M FOR "SIGNAL AHEAD" SYMBOL SIGN. SEE STD. E-121M FOR SIGN PLACEMENT, SEE STDS. E-171AM THROUGH E-172M FOR ADDITIONAL INFORMATION ON SIGNALS AND DETECTORS.
- A "SIGNAL AHEAD" SIGN SHALL BE PLACED AT LEAST 225m FROM THE SIGNAL OR AT A POSITION TO BE DETERMINED BY THE ENGINEER.
- THE "NO PASSING" SIGN SHALL BE USED TO PREVENT PASSING FOR 225m IN ADVANCE OF THE STOP BAR. THE SIGN SHALL BE PER STD. E-102M.
- ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND STATE INSPECTOR.
- APPROACH WIDTHS SHALL BE AS DETAILED IN SECTION 528.04(b)2 TO MINIMIZE VEHICLE DELAY.
- TRAFFIC CONTROL WARNING SIGNS SHALL BE PROVIDED ON EACH APPROACH PER STANDARD E-107M. ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED AS REQUIRED BY THE RESIDENT ENGINEER PER STANDARD E-100M, E-101M, E-102M & E-102AM. PAYMENT FOR THESE SIGNS, THE REFLECTORIZED PLASTIC DRUMS, ETC. SHALL BE PAID AS PART OF THE "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS" ITEM OR THE "TRAFFIC CONTROL" ITEM.
- THE "TO GET GREEN LIGHT" SIGN IS TO BE USED ONLY ON APPROACHES WITH VEHICLE DETECTOR LOOPS.
- TEMPORARY TRAFFIC BARRIER SHALL BE SUBSTITUTED FOR THE CHANNELIZING DEVICES SHOWN WHEN ANY OF THE FOLLOWING ARE MET:
A.) THE BRIDGE DECK IS REMOVED
B.) THE BRIDGE RAIL IS REMOVED, OR
C.) IN THE JUDGEMENT OF THE RESIDENT ENGINEER TEMPORARY BARRIER IS NEEDED.
- PAYMENT FOR THE TEMPORARY BARRIER USED SHALL BE MADE UNDER THE APPROPRIATE ITEM.
- INSTALL TEMPORARY FIRE PRE-EMPTION EQUIPMENT ON SIGNALS AT STA. 2+978, RT. AND STA. 3+181, LT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	HARTLAND	Bridge No.	60
Highway No.	U.S. ROUTE 5	Log Sta.	
		Surv. Sta.	
U.S. ROUTE 5 OVER LULLS BROOK			
TEMPORARY DETOUR NOTES			
Designed By	S.E. COSILMON	Drawn By	R. REMY / G.F. O'NEIL
Checked By	Date	Bridge Design Supervisor	
J. McDUFFEE	2/04	J. MIECZKOWSKI	Date 2/04
PROJECT	HARTLAND	PROJECT NO.	BRS No. 0113(22)
I.G.C. Info.	M:\1456201\VA0T Hartland\zF204frm.dgn		
Bridge Sheet No.	Sheet 23 of 86		