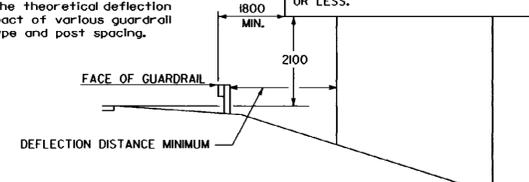


GUARDRAIL DEFLECTION CHART
(PER AASHTO - ROADSIDE DESIGN GUIDE)

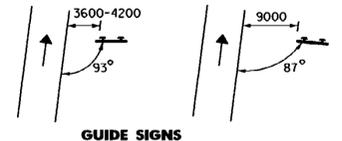
TYPE	SPACING	DEFLEC.
Three Cable w/Steel Posts	5.0 m	3.5 m
W-Beam w/WEAK Posts	3.8 m	2.0 m
w/Strong Posts	1.9 m	0.9 m
Box Beam	1.83 m	1.5 m
Thrie Beam w/Weak Posts	3.8 m	1.2 m
w/Strong Posts	1.9 m	0.6 m

WHERE PLACED BEHIND GUARDRAIL AND BEYOND THE DEFLECTION DISTANCE FOR THAT PARTICULAR RAIL, SIGN POSTS DO NOT HAVE TO BE PLACED ON YIELDING SUPPORTS. SIGN POSTS SHALL BE PLACED ON YIELDING SUPPORTS WHERE THEY CAN BE STRUCK BY AN ERRANT VEHICLE LEAVING THE ROADWAY AT AN ENCROACHMENT ANGLE OF APPROXIMATELY 15 DEGREES OR LESS.

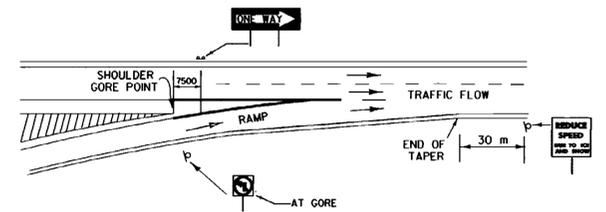
This chart lists the theoretical deflection distance upon impact of various guardrail with different type and post spacing.



INSTALLATION DETAILS
NORMALLY (i.e., 3600 mm - 4200 mm LATERAL OFFSET) SIGNS SHOULD BE ANGLED AWAY FROM THE ROADWAY TO AVOID GLARE REFLECTION. WHERE SIGNS ARE PLACED FARTHER FROM THE ROADSIDE EDGE (i.e., 9000 mm), THEY SHOULD BE ANGLED TOWARD THE ROADWAY (SEE FIGURES BELOW). ON CURVED ALIGNMENT, THE ANGLE OF PLACEMENT SHOULD BE DETERMINED BY THE PATH OF APPROACHING TRAFFIC RATHER THAN BY THE ROADSIDE EDGE AT THE POINT WHERE THE SIGN IS LOCATED. WHEN INSTALLING OVERHEAD SIGNS, CANTILEVER THE SIGN FROM THE TOP TOWARD APPROACHING TRAFFIC AT A THREE DEGREE TILT ANGLE.



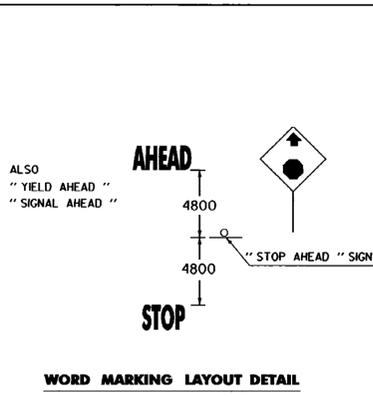
GUIDE SIGNS



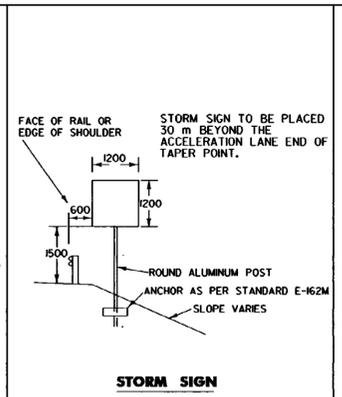
SIGN PLACEMENT AT END OF RAMP

REVISIONS AND CORRECTIONS
JUNE 13, 1997 - ORIGINAL APPROVAL DATE

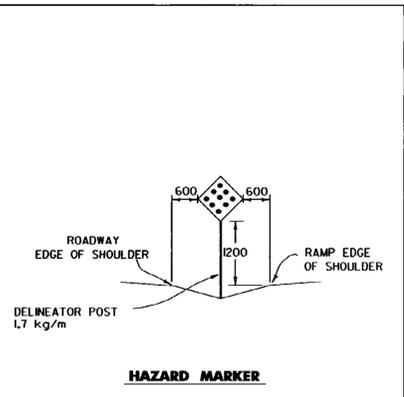
APPROVED
[Signature]
DIRECTOR OF ENGINEERING
[Signature]
DIRECTOR OF CONSTRUCTION AND MAINTENANCE



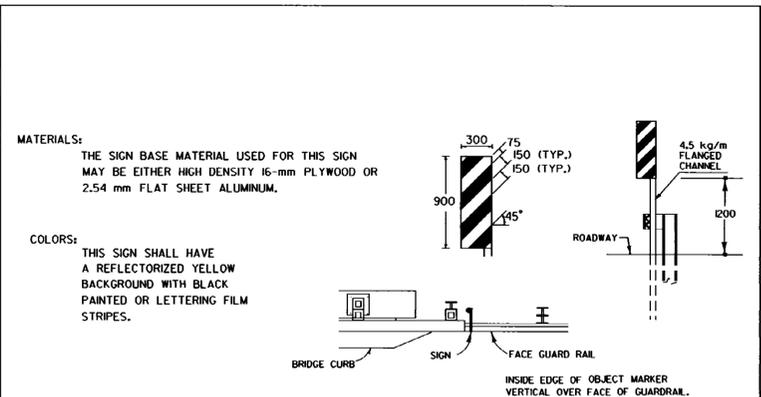
WORD MARKING LAYOUT DETAIL



STORM SIGN



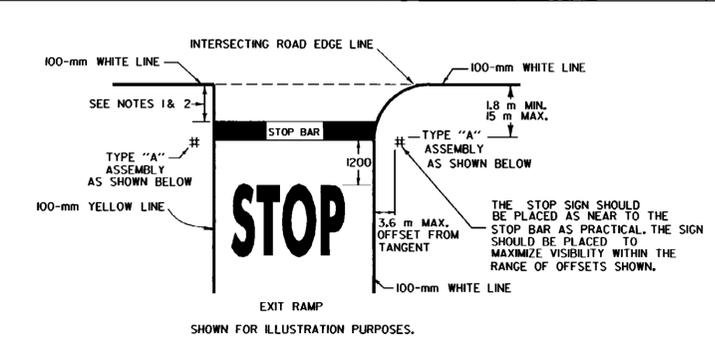
HAZARD MARKER



MATERIALS:
THE SIGN BASE MATERIAL USED FOR THIS SIGN MAY BE EITHER HIGH DENSITY 16-mm PLYWOOD OR 2.54 mm FLAT SHEET ALUMINUM.

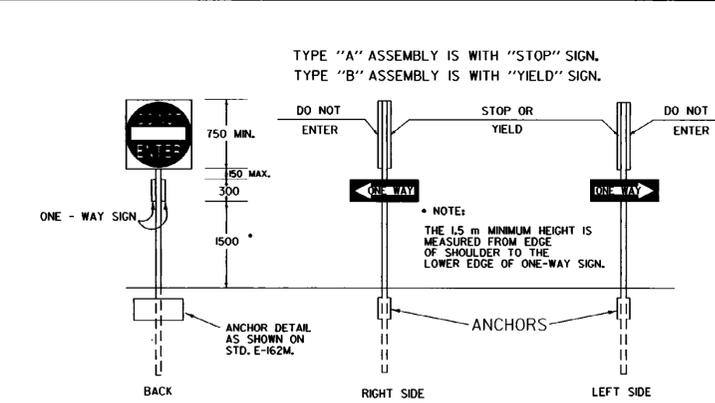
COLORS:
THIS SIGN SHALL HAVE A REFLECTORIZED YELLOW BACKGROUND WITH BLACK PAINTED OR LETTERING FILM STRIPES.

OBJECT MARKER
(TO BE USED WHERE FULL WIDTH SHOULDERS ARE NOT CARRIED ACROSS THE BRIDGE)
MARKERS MOUNTED ON THE LEFT SIDE SHALL HAVE THE DIAGONAL STRIPES SLOPING TOWARD CENTERLINE.

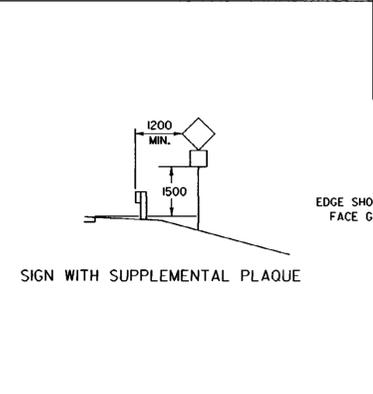


NOTES:
1. THE STOP BAR SHOULD BE PLACED AT THE DESIRED STOPPING POINT. IN NO CASE MORE THAN 9 m OR LESS THAN 1.2 m FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
2. AT A SIGNALIZED INTERSECTION, DELETE WORDING "STOP" AND THE STOP SIGN AND PLACE STOP BAR A MINIMUM OF 12 m FROM THE NEAREST SIGNAL HEAD FOR THE APPROACH.
3. EXCLUDE THE STOP BAR FOR A YIELD CONDITION.

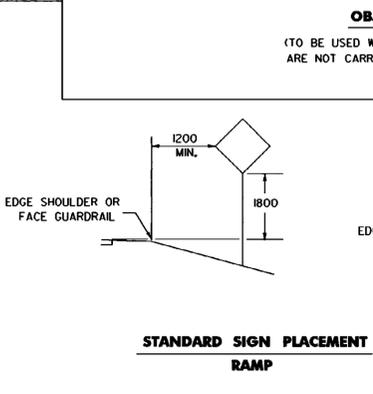
PAVEMENT MARKING & STOP SIGN LOCATION DETAILS FOR OFF RAMP



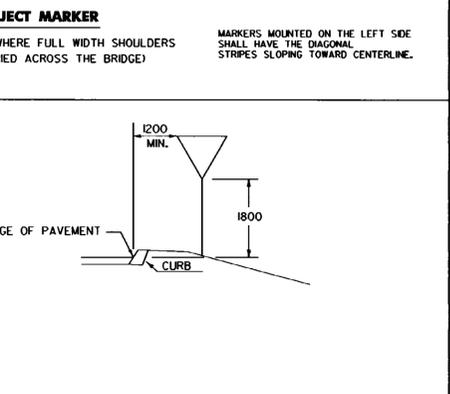
REGULATORY SIGN ASSEMBLY DETAIL FOR OFF RAMP



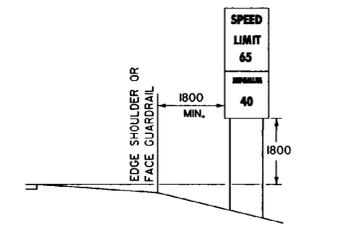
SIGN WITH SUPPLEMENTAL PLAQUE



STANDARD SIGN PLACEMENT RAMP

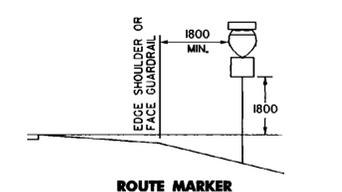


STANDARD SIGN PLACEMENT MAINLINE



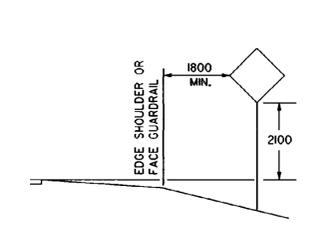
REGULATORY SIGN

SPEED LIMIT SIGN TO BE PLACED 480 m BEYOND THE END OF THE ACCELERATION LANE TAPER POINT.

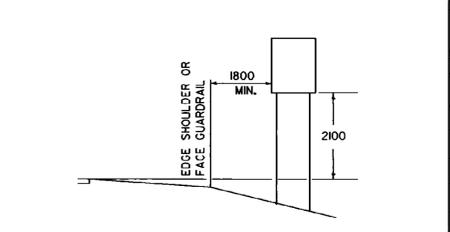


ROUTE MARKER

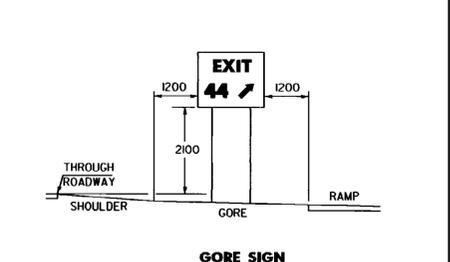
ROUTE REASSURANCE MARKER TO BE PLACED 180 m BEYOND THE END OF THE ACCELERATION LANE TAPER POINT.



WARNING SIGN



REGULATORY SIGN



GORE SIGN

OTHER STDS. E-160M E-162M REQUIRED: E-161M E-163M
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

STANDARD SIGN PLACEMENT EXPRESSWAY AND FREEWAY



Metric STANDARD E-120M