

VIRGINIA DEPARTMENT OF TRANSPORTATION

LOCATION AND DESIGN DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: CONSTRUCTION OF CONCRETE BARRIER AND RETAINING WALLS ON SUPERELEVATED CURVES	NUMBER: IIM-LD-147.2
SPECIFIC SUBJECT:	DATE: DECEMBER 1, 2005
	SUPERSEDES: IIM-LD-147.1
DIVISION ADMINISTRATOR APPROVAL: Mohammad Mirshahi, P.E. State L&D Engineer Approved: December 1, 2005	

Changes are shaded.

CURRENT REVISION

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- Updated for current Division Administrator Approval.
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POLICY

- Concrete Barriers on roadway approaches should be designed with the same shape (K type) and angle of inclination as the parapet face and concrete median barriers on the bridge.
- The Standard GS-11 has a 7% algebraic difference for the shoulder break on the outside of a superelevated section. The bridge deck has a straight super between parapet walls making it necessary to spline the shoulder grade of the roadway to match the bridge deck slope. Under normal conditions, this can be accomplished by a 200' transition.

The same principle would apply to the low side of the roadway. Should the superelevation of the bridge deck be less than the slope of the inside shoulder, then it would be necessary to spline the shoulder grade to match the bridge deck. The length of transition is to be obtained by using sound engineering practices.

PLANS

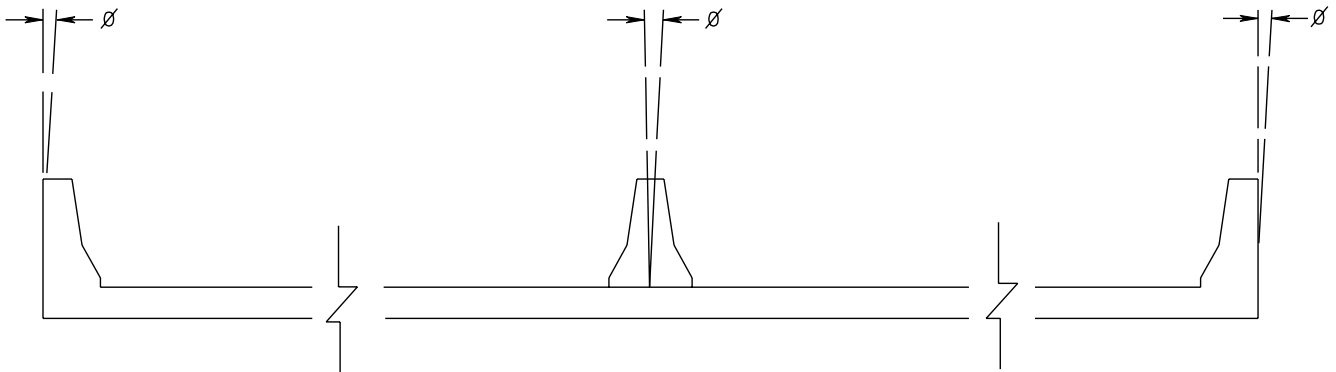
- When concrete barriers are tied into the bridge parapets and median, a general note will need to be included in the plans specifying:

“The Contractor is to transition the Concrete Barrier so that the face will align with the face of the bridge parapets and median.”

- The roadway development is to be closely coordinated with bridge design in the approach area.
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EXAMPLES

- Bridge geometrics for concrete median barrier and parapet of the same shape (K Type) may be constructed:
 - Vertically, or
 - Perpendicular to the superelevated pavement



- The barrier should be oriented vertically when the barrier is in front of a retaining wall, as illustrated below:

