

VIRGINIA DEPARTMENT OF TRANSPORTATION

# LOCATION AND DESIGN DIVISION

## INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: ASPHALT PAVING UNDER GUARDRAIL, SHOULDER SLOT INLETS, FIXED OBJECT ATTACHMENT	NUMBER: IIM-LD-150.10
SPECIFIC SUBJECT:  CURB UNDER GUARDRAIL	DATE: APRIL 27, 2009
	SUPERSEDES: IIM-LD-150.9
DIVISION ADMINISTRATOR APPROVAL:	Mohammad Mirshahi, P.E. State Location and Design Engineer Approved April 27, 2009

Changes are shaded.

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### CURRENT REVISION

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- Updated for current insertable sheets.
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### EFFECTIVE DATE

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- This memorandum is effective upon receipt for all projects that have not been advertised.
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### ASPHALT PAVING

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- Asphalt paving is to be used under guardrail to control the growth of vegetation on projects which have asphalt concrete or portland cement concrete paved shoulders. Aggregate or soil stabilized shoulders do not require asphalt concrete paving under the guardrail. The additional paving is to begin and end without transition as detailed on "Asphalt Curb and Gutter and Asphalt Paving under Guardrail" and the station limits of each segment is to be shown on the plans.

- If more than one allowable type of asphalt concrete is called for on the project, the one with the lowest estimated unit cost is to be used. If the estimated unit costs are the same, the one with the smaller aggregate gradation is to be used.
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## ASPHALT CURBS

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- Standard MC-3B Asphalt curb is to be used, where necessary, in conjunction with paving under Standard GR-2 guardrail on high fills to provide a means of erosion control to preserve the slopes. Asphalt curb is not permitted in conjunction with paving under Standard GR-8 (weak post) guardrail. The need for the asphalt curb should be determined during the project Field Inspection. The necessity for asphalt curb may affect the type of guardrail specified.

A minimum 5' (1.5 m) length of asphalt curb is to be constructed past the end of an inlet and transitioned to grade level.

- Payment for Asphalt Concrete Curb and Asphalt Concrete Curb back-up material 11' (3.4 m) before and 5' (1.5 m) Min. past the inlet must be set up for separate payment.
  - For details, see Standard MC-4 (imperial) or Insertable Sheet No. msd2154a (metric).
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## SLOT INLETS

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### Shoulders

- Shoulder Slot Inlets for asphalt curb and bridges specify corrugated pipe. This requires a category for Shoulder Slot Inlets with 6 boxes checked in the "Allowable Pipe Types" table. (See IIM LD-121)
- "Shoulder Slot Inlet" and "Asphalt Curb and Gutter & Asphalt Paving under Guardrail" is to be used in conjunction with asphalt curb when the need for curb to prevent slope erosion is recommended by the District Engineer at Field Inspection.
- The project drainage designer will furnish the locations for the required Shoulder Slot Inlets.

Projects already having inlet locations furnished by the Hydraulics Section will need to be reviewed for additional inlets due to reduction in the allowable spread with 100 mm (4") mountable curb.

- "Shoulder Slot Inlets" are to be positioned at points along a run of Standard MC-3B asphalt curb and in sags to facilitate the removal of surface runoff. Two lengths are provided, Type I, L=10' (3.0 m) and Type II, L=20' (6.0 m). The water is collected in the chamber and piped down the slope using a corrugated pipe.

- If stone or other material for erosion control is needed at the outfall of the shoulder slot inlets, the quantity and type of material is to be included in the tabulation of quantities.

#### Bridges with Straight Terminal Walls

- “Shoulder Slot Inlets” and “Asphalt Curb and Gutter & Asphalt Paving under Guardrail” are to be used at bridges designed with straight terminal walls.

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#### FIXED OBJECT ATTACHMENT

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- GR-FOA-3 “W Beam Guardrail Installation Criteria/Fixed Object Attachment Methods” is to be used as a retrofit on existing flared bridge rail terminals and other situations determined by Structure and Bridge Division.

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#### PAY ITEMS

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- When any of the following items are determined necessary on a project, such items are to be set up as pay items in accordance with the following:

<u>PAY ITEM</u>	<u>PAY UNIT</u>	<u>ITEM CODE</u>
<b>Imperial:</b>		
*Special Design Shoulder Slot Inlet – Type I, 4” Curb	Each	08961
*Special Design Shoulder Slot Inlet – Type II, 4” Curb	Each	08964
<b>Metric:</b>		
*Shoulder Slot Inlet – Type I, 100 mm Curb	Each	08961
*Shoulder Slot Inlet – Type II, 100 mm Curb	Each	08964

**Metric & Imperial:**

Asphalt Concrete Curb MC-3B	L.F. (m)	12322
Asphalt Concrete, Curb Backup Material	Ton (Metric Ton)	12505
Fixed Object Attachment (GR-FOA-3)	Each	13387

\*Also to be used at bridges with straight terminal walls.

- The Special Design Asphalt Curb and Gutter pay item for Gutter is “Tons” (Metric Tons) of Asphalt Concrete Type \_\_\_\_\_ (for Gutter) and the quantity is to be included with the paved shoulder material on the estimate.

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**INSERTABLE SHEETS**

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Current insertable sheets are available on Falcon DMS, under the PPMS# eng-ser, Division of minsert or insert for insertion into applicable plan assemblies.

- GR-FOA-3 W Beam Guardrail Installation Criteria, Fixed Object Attachment Methods (imperial and metric) Drawing No. [A-47](#) and MA-47.
- Asphalt Curb and Gutter (Asphalt Paving under Guardrail) Drawing No. MSD2154-A (metric)