

# Master Specification

## Part RD-BF-D1

### Design of Roadside Safety Barriers

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**Government of South Australia**  
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## RD-BF-D1 Design of Roadside Safety Barriers

### 1 General

- a) This Master Specification Part sets out the requirements for the design of roadside safety barriers including:
  - i) the documentation requirements, as set out in section 2;
  - ii) the rigid barrier requirements, as set out in section 3;
  - iii) the semi-rigid (non-rigid) barrier requirements, as set out in section 4; and
  - iv) the flexible barrier requirements, as set out in section 5.
- b) The design of roadside safety barriers must comply with the Reference Documents, including:
  - i) AGRD Part 6: Roadside Design, Safety and Barriers;
  - ii) AS/NZS 3845.1 Road safety barrier systems and devices, Part 1: Road safety barrier systems;
  - iii) Department Standard Drawings (available from: [https://dit.sa.gov.au/standards/standards\\_and\\_guidelines](https://dit.sa.gov.au/standards/standards_and_guidelines)); and
  - iv) GD 300 Accepted Safety Barrier Products (available from: [https://dit.sa.gov.au/standards/standards\\_and\\_guidelines](https://dit.sa.gov.au/standards/standards_and_guidelines)).
- c) The design of roadside safety barriers must be developed in accordance with safe system principles, with evidence (including risk assessments) provided as part of the Design Documentation.
- d) Where roadside safety barriers are required, or investigations to eliminate a roadside hazard by other means have failed or are not feasible (so far as is reasonably practicable), the appropriate type of safety barrier and end treatments must be determined and detailed in the Design Documentation.
- e) Where roadside safety barriers are required, the minimum roadside safety barrier performance level must be the greater of:
  - i) TL2, where the posted speed limit is less than 60 km/h;
  - ii) TL4 where:
    - A. the roadside hazard represents a high risk as determined by a site-specific risk assessment carried out in accordance with AGRD Part 6 Roadside Design, Safety and Barriers; or
    - B. when the commercial vehicle traffic volumes exceeds 15%; and
  - iii) TL3 in all other circumstances.
- f) The Contractor must match an appropriate barrier terminal treatment to the selected barrier system.

### 2 Documentation

#### 2.1 Design Documentation

In addition to the requirements of PC-EDM1 “Design Management”, the Design Documentation must include:

- a) evidence that the design of roadside safety barriers have been developed in accordance with safe system principles in accordance with section 1c), including the outcomes of any site-

specific risk assessment carried out in accordance with AGRD Part 6 Roadside Design, Safety and Barriers; and

- b) as part of the Design Drawings, details of:
  - i) the selected type of safety barrier;
  - ii) end treatment; and
  - iii) test level,in accordance with sections 1d) to 1f).

### 3 Rigid barriers

- a) Rigid barriers must be provided over bridges and overpasses, with suitable transitions on the road approaches to the bridge.
- b) In addition to the requirements of this Master Specification Part, rigid barriers in Tunnels must meet the requirements of TUN-CIV-DC1 "Tunnel Civil Requirements".
- c) Transitions from semi-rigid barriers to rigid barriers must be in accordance with the Department Standard Drawings.

### 4 Semi-rigid (non-rigid) barriers

There are no supplementary requirements for semi-rigid (non-rigid) barriers.

### 5 Flexible barriers

Flexible barrier systems:

- a) must not directly transition to rigid systems;
- b) may transition to a semi-rigid barrier system with a suitable overlap; and
- c) may be used where:
  - i) the minimum length at full height is 24 m;
  - ii) vertical curves are greater than 3,000 m radius;
  - iii) horizontal curves are greater than 200 m radius;
  - iv) adequate room is available for anchorages; and
  - v) space does not constrain allowance for working width.