FLEAT - SP

Revision Register

Issue & Revision	Description	Date
1	Issued for use.	23/2/2004.
1 A	Minor revisions and P-block added as a suitable replacement for timber blockout.	03/03/2005.
1 B	TL2 version length corrected and design flare rates amended.	12/06/2007.
1 C	Change in sticker requirements.	11/05/2009.
1 D	FLEAT – SP version approved. Design sheet revised.	6/10/2014
1 E	New MRWA Guideline Drawing for Terminals issued. More details please refer to Drg 201531-0096 and 201531-0097	23/12/2015

The FLEAT - SP is an extruding, gating end treatment for w-beam barrier that is accepted for use by Main Roads. The FLEAT – SP must be installed on a flare and when hit end on the impact head is forced along the w-beam, extruding the beam onto the same side as the traffic.

Note that the FLEAT – 350 end treatment was previously accepted by Main Roads. This end treatment is no longer accepted for new installations.

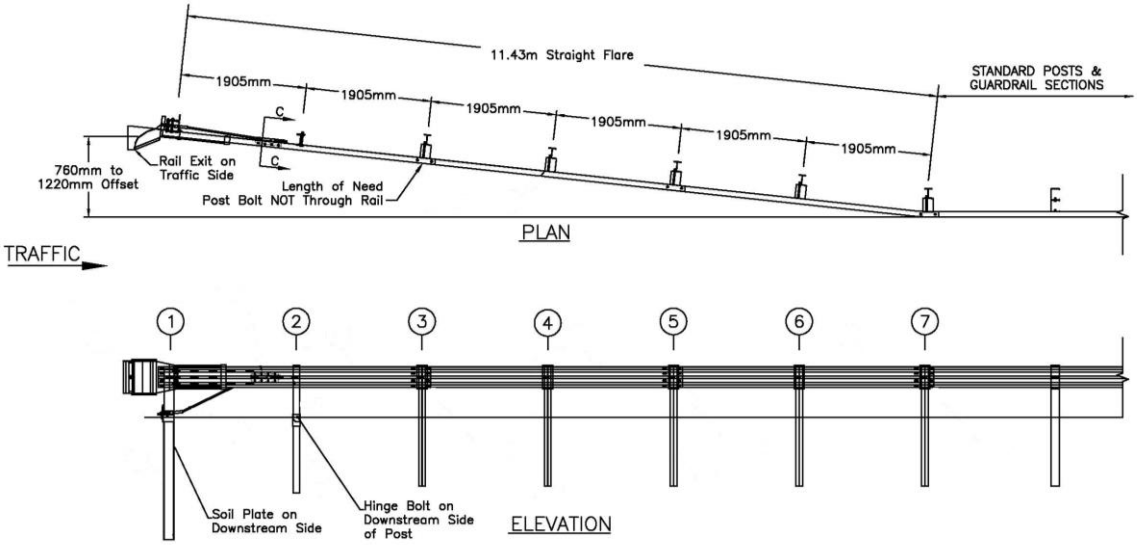
Images:

Photographs of FLEAT – SP installations

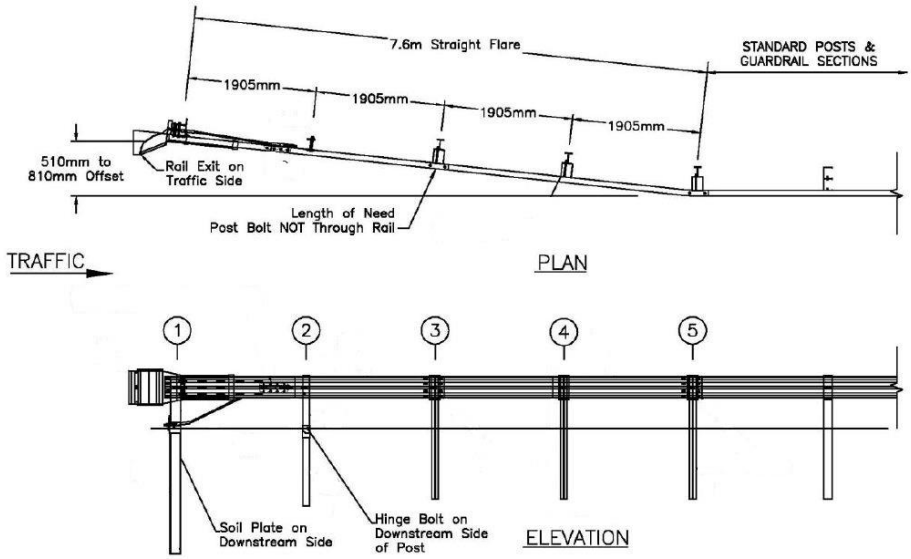
Crash test photograph showing w-beam extruded onto traffic side.

FLEAT - SP

Drawings:



FLEAT – SP TL3 Plan and Elevation



FLEAT – SP TL2 Plan and Elevation

Ownership: Road Systems Inc, Texas. USA
www.roadsystems.com

Supplier: Safe Direction
Unit 1, 35 Bluett Drive,
SMEATON GRANGE NSW 2567
Phone 1300 063 220
Website www.safedirection.com.au

FLEAT - SP

Configuration:

- The system is to be installed with bolted hinged posts at post locations 1 and 2. Steel line posts are installed at post location 3 and beyond.

- The sticker on the impact head is to be Black bands on White Class 1 reflective backgrounds with the width marker pattern as shown in Australian Standard 1742.2 Sign D4-3 (L,R).

- System shall be supplied with the MondoBlock recycled composite plastic block, instead of a timber blockout.

Test Level: Tested in accordance with NCHRP 350 to TL2 & TL3.

TL	Length (m)	Design Speed (km/h)	Point of Need	Allowable Flare (mm)	Suppliers Drawing Reference
2	7.6	70	Post location 3, being 3.81m downstream of post location 1	510-810	K-FLEAT SP TL2 Revision D
3	11.43	100	Post location 3, being 3.81m downstream of post location 1	760-1220	K-FLEAT SP TL3 Revision D

Design:

- Design to be in accordance with the FLEAT - SP Product Manual (Ref: PM 018/02) which can be found on the Safe Directions website.

- The FLEAT – SP must be installed on a flare within the range in the above table.

- The grading requirements around the FLEAT shall be as per the SKT requirements as shown on Main Roads Drawings **201531-0096** and **201531-0097** with modifications to take account of the different length of the systems.

- As part of the design, the Designer shall check to ensure that there are no site constraints such as rock, cover to services or pipes or other factors that would preclude the use of the normal post lengths. There are shorter posts lengths that can be used but this requires approval from Senior Engineer Structures.

- As the end treatment is gating a run-out area in accordance with the requirements of AS / NZS 3845 Figure F11 should be provided.

- When the FLEAT is installed on the departure end of a barrier system the system is to be oriented as per Sketch 1.

Limitations:

- Must be installed on a flare.

- Shall not be used in situation where there is less than 2.9 m between the impact head and the nearest edge of traffic lane.

Installation and Maintenance Requirements:

- The end treatment shall be installed and repaired after impact in accordance with the SKT – SP & FLEAT – SP Installation & Repair Manual (Ref: IM 002/02) which can be found on the Safe Directions website.

- If a FLEAT – 350 is impacted then the complete terminal should be replaced with a FLEAT – SP.

Parts to be Replaced after Impact:

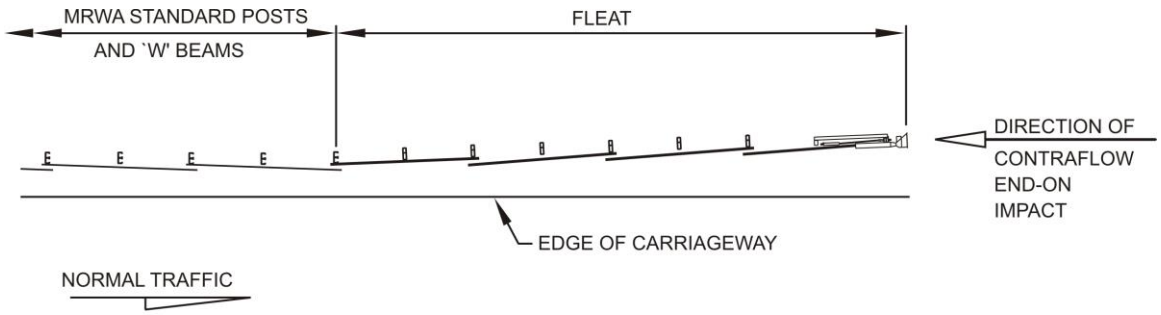
Rail and posts.

Parts Typically Re-Useable after Impact:

Impact head.

References:
Relevant FHWA Approval Letters
(Refer to website http://safety.fhwa.dot.gov/fourthlevel/hardware/term_cush.htm)

Code	Description
CC-61C	TL 3 approval for SKT and FLEAT using single bolt breakaway posts.
CC-88B	TL 3 approval for SKT – SP and FLEAT - SP.
B-39A	MondoBlock recycled composite plastic block approval.



- Departure end terminal guardrail to be lapped against the normal traffic flow as shown.
- Post associated with the end treatment are to be orientated for an end-on impact on the extruder head, that is, against the normal traffic flow.

Sketch 1: FLEAT Departure End Treatment Layout
(SES 01/03)