



## BRIDGE ABUTMENTS

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One of the more common applications of Foreshore Protection's revetment mattress is involved with the scour protection of bridge abutments. A bridge will rely on the stability of the abutment to maintain its structural safety and this is accomplished through the use of Foreshore's Filter Point Revetment mattress.

The mattress will prevent any land slippage of the abutment, and more importantly, protect the soil from erosion during flood periods.

### SITE PREPARATION

The slope of the abutment, being purely a designer's choice, does not inhibit the Foreshore method of protection. The slope may be cut from naturally compacted ground, however any fill introduced should be compacted to a degree of approximately 95%.

The smoothness of the batter slope is the responsibility of the client. The mattress will follow the contours of the slope and any deviations will be apparent in the final outlook of the job. This is purely an aesthetic problem, as the structural integrity of the mattress is not affected.

Anchor trenches must be dug around the perimeter of the abutment to ensure that the mattress is effectively sealed against any scouring occurring under the mattress. (see diagram 1).

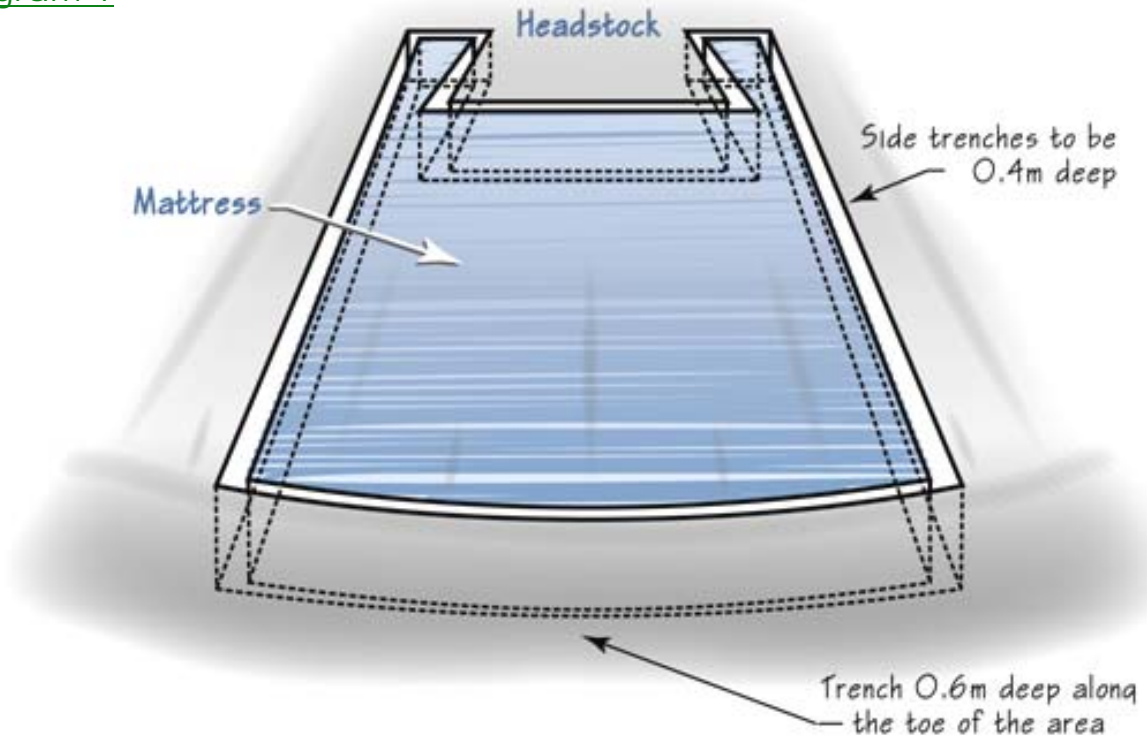
The trenches should be 0.7 metres deep, however this can vary with the size of the expected maximum flow.

If the abutment falls directly away from the headstock, a 300mm deep trench must be introduced along the edge of the headstock to effectively seal this area from scour erosion. If there is a flat area adjacent to the headstock, this trench will not be necessary. (see diagram 2).

### MATTRESS INSTALLATION

The fabric is tailored on site to fit the area to be protected, with allowance for shrinkage and creep. Seams will be introduced to carry out the concrete pumping in sections, so as to ensure initial stability and required pumping pressures. These seams are only temporary and the final product is a continuous mass concrete. The physical properties of the mattress as well as a typical concrete mix design are described in Technical Bulletin No. 1.

Diagram 1



TYPICAL LAYOUT AND TRENCHING DETAIL

Diagram 2

