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Inspection of the foreshore at Deviot

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An area along the River Tamar foreshore at Deviot, adjacent to 446 Deviot Road, was examined.

The area is underlain by sediments (mainly brown and grey clay and compacted clayey sand) of Tertiary age and these can be seen exposed along the foreshore. A little further inland there are small areas of basalt and a possible area of basalt occurs on the foreshore point just downstream from the property. In the small bay in front of the land very soft clay occurs in the bank and near the surface at the back of the beach, while upstream a fairly competent series of sandstone beds with a northerly dip are exposed on the foreshore. As a result of the dip, these beds extend up the bank.

The Deviot area in general has a history of instability, particularly the foreshore areas. There is a relatively recent large landslip which extends about 50 m inland near the access to the beach just below this property and similar and larger movements are known near the hall at Deviot. These occur as a result of the clay in the area becoming wet and soft and unable to support itself when on sloping land. The embankment along the foreshore is kept steep with the removal of material at high tide by wave action. If a small slump in the embankment occurs, the material involved is removed almost immediately and the embankment is returned to a steep condition and further slumping becomes a definite possibility.

Landslides are a natural erosional feature and measures taken to control them are often of a relatively temporary nature. For large slips, such as the one along the access track, drainage is most important. Water from the road should not be allowed to seep in the direction of the slip. Drainage in the road table drain is fairly good but could be improved so that the run-off escapes quickly and there is no stagnant water allowed to accumulate and possibly seep underground. Water from seepages runs through the slip material and this is obvious on the seaward end. It would be preferable if this water was piped to the shoreline to prevent water softening the clays in the toe of the slope.

Deep piling would be another aid to stabilising the larger slips (of the size in the Deviot area) but access to undertake this near the foreshore would be very difficult and would be expensive.

Various measures could be undertaken to protect the embankment along the shoreline to prevent wave erosion. Placement of large boulders along the embankment has been used in some parts while concrete or stone (with mortar) walls has been used in other parts. Shallow piles with log or small tree barriers behind them have been used in some parts but these may not last as long as the other measures. These structures should protect the embankment from erosion and give some support to it and will perhaps help to prevent small slumps on the face of the embankment. They will have only a minor influence on the larger slips that occur in the region.

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