



ENVIRONMENT AGENCY



B I D E F O R D

Tidal

Defences

Works to
Bideford Quay

← Timber fendering

← Natural
stone
facing

← -0.5m AOD

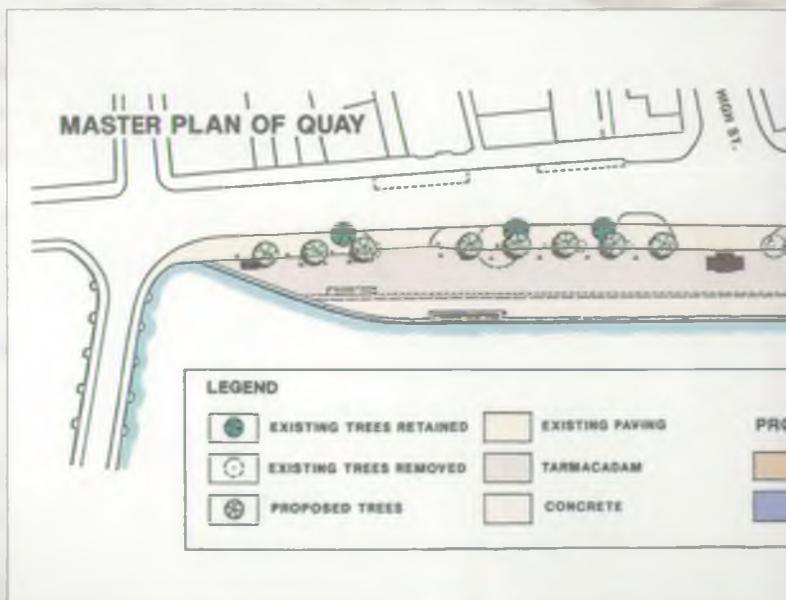
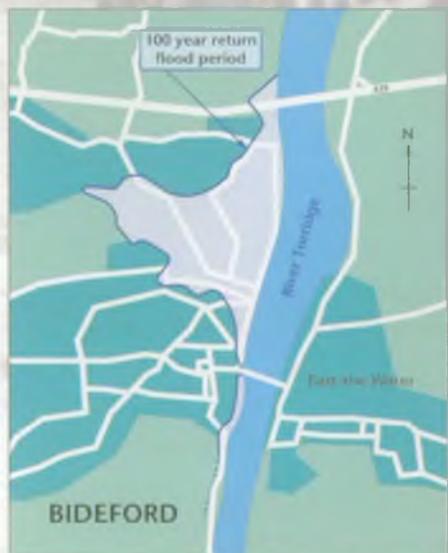
← -1.5m AOD

What is the risk of flooding?

Bideford has been subjected to tidal flooding at regular intervals for many years. In recent years the most severe event occurred on 23 November 1984 when a combination of a high spring tide, a strong southerly wind and flood flow in the river Torridge caused flooding on both sides of the river. On the west bank 63 commercial properties were flooded in the area of The Quay, King Street, Cooper Street, Queen Street, Bridgeland Street, Rope Walk and Pill Road together with four residential properties on The Strand.

Flooding of The Quay takes place, on average, 2 or 3 times a year generally without affecting property.

The highest tide levels experienced to date have a relatively short return period of between five and ten years and the area of flooding has been restricted as the ground rises within a short distance of the river. If, however, the tide level exceeds 5.8m AOD the area of flooding and the number of properties affected would increase dramatically. Tides above this level will overtop the higher ground towards Victoria Park and cause flooding to the low lying area to the west.



What about the predicted rise in sea level?

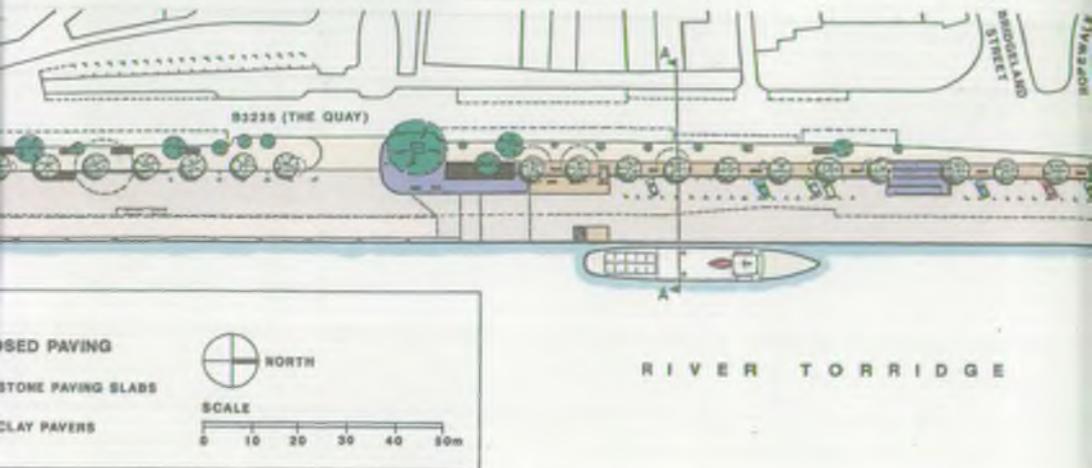
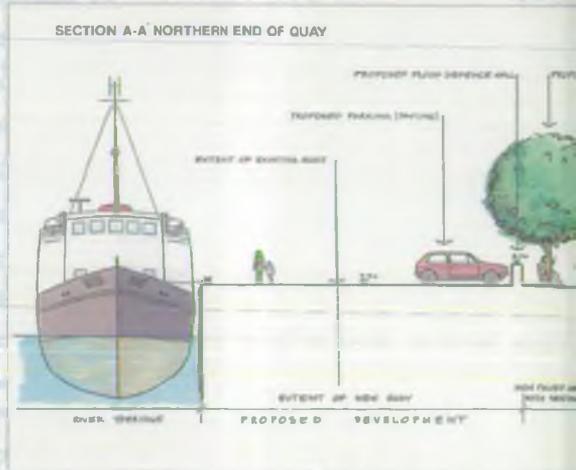
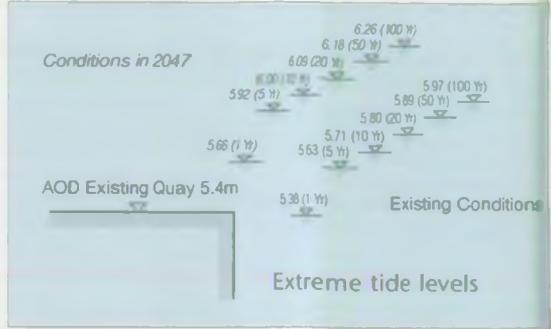
A drawing showing the tide level/return period relationship for Bideford is shown at right. This is based upon an analysis of the gauged tide levels for Yelland with a correction factor applied for Bideford. The influence of fluvial flows in the Torridge is insignificant at high water and the tide is the predominant factor causing flooding.

In the event that the predicted rise in sea level does occur, the situation in respect of flooding at the Quay and the lower lying areas behind would be very much worse. The frequency of flooding would increase and, in extreme events, both the flooding depth and the number of properties affected would increase.

By way of illustration the drawing showing extreme tide levels includes an allowance for sea level rise over the next 50 years. The levels indicated therefore represent the conditions that are predicted to occur in the year 2047. The assessment includes for a sea level rise of 5mm per year up to the year 2030 and 7.5mm per year thereafter.

It can be seen from the diagram that the level of the Quay will be exceeded by a significant amount every year.

The height of the proposed defence includes an allowance for the predicted sea level rise in order to ensure that it would not be compromised by such conditions during its design life.



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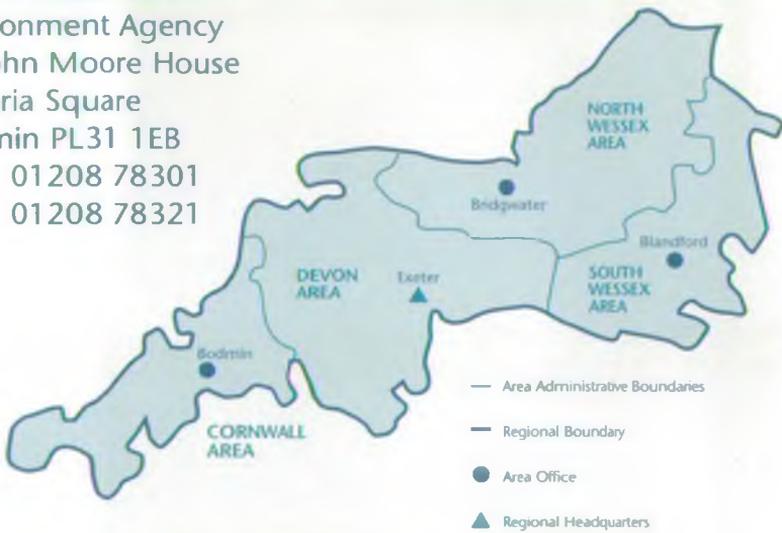
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The proposals

The Quay will be extended 5m into the river with the southern half of the Quay raised to 5.8m, as in the original NRA scheme. The northern half is to be constructed at a lower level of 5.4mAOD, with a further low level landing stage. The defence level of 6.4mAOD is achieved by a wall at the back of the Quay joined to a dwarf wall at the front of the southern half by a ramp. Access arrangements for the southern half remain unchanged whilst for the northern half entrance onto the quay is at the Kingsley Statue junction and exit at the centre of the Quay.

The use of natural stone facing with timber fenders would mean that the new quay wall would appear largely unchanged.

The flood defence wall would be constructed in local stone, in keeping with the character of the Conservation Area. In addition to the flood defence

works general improvements to the quayside and the adjoining promenade are proposed. These measures include the planting of new trees along the eastern edge of the promenade to establish a single species avenue. Along the northern end of the Quay, a new pedestrian area between the flood defence wall and promenade would comprise new paving with seating. The listed cast iron bollards would be repositioned along their existing alignment, providing an attractive feature. Parking and associated signage would also be rationalised to improve access to the quayside.

Pedestrian access to the northern end of the Quay would be maintained either end of the flood defence wall. In addition, there would be access across the wall, via steps positioned opposite the MS Oldenburg berth, and a ramp for disabled access, located centrally.

How has the scheme changed since the Public Inquiry?

The Public Inquiry on the original National Rivers Authority (NRA) scheme was held in Bideford in September 1993. The Inspector recommended that the scheme should be approved subject to a modification to provide a lower level landing stage to accommodate the requirements of the MV Oldenburg and the fishing trawlers, plus a number of minor planning conditions.

The Secretary of State for the Environment rejected this recommendation, taking the view that the proposed modifications represented a significant change in the original application, and should therefore be the subject of a further planning application.

The NRA, now the Environment Agency, commissioned further studies of options for a flood defence scheme for the Quay. Following consultation with the Landmark Trust and the trawlermen, the favoured scheme is based on the original NRA scheme with modifications to the northern end of the Quay to meet their requirements.

The proposed scheme satisfies the conditions recommended by the Public Inquiry Inspector, and will be the subject of a forthcoming planning application as required by the Secretary of State.

