

## 16 GEOLOGY, LANDSCAPE AND VISUAL SETTING

### 16.1 EXISTING ENVIRONMENT

#### *Introduction*

- 16.1.1 This section examines the potential impact of the scheme on geology, landscape character and visual setting. It has been prepared by collating existing data on the resources of Poole Harbour and Poole Bay. Information sources include the Landscape Character Assessment for the Dorset Coast and the Dorset Area of Outstanding Natural Beauty (AONB) management plan.

#### *Geology*

- 16.1.2 The western part of Poole Bay lies within the Dorset and East Devon World Heritage Site. This site is designated for the outstanding range of geological and geomorphological interests along this coast. The eastern boundary of the World Heritage Site is Old Harry Rocks.
- 16.1.3 Several geological SSSIs are situated within the study area. The Poole Bay Cliffs SSSI was designated in 1989 due to its geological features. Other geological SSSIs include the Studland and Godlingston Heaths SSSI, the Arne SSSI and the Ham Common SSSI.

#### *Landscape*

- 16.1.4 The landscape of Poole Harbour is essentially maritime in character. The northern shore is mostly developed, with the majority of the shoreline being built-up between Hamworthy and Sandbanks. Much of the shore is backed by residential properties but between Poole Quay and the Port the uses are more industrial and commercial. Views of the Harbour from the northern shore are dominated by Brownsea Island, which is low-lying and largely wooded.
- 16.1.5 In contrast to the north and east, the southern and western shores of the Harbour are relatively undeveloped. They are also relatively inaccessible, meaning that fewer people visit these areas of the Harbour.
- 16.1.6 The southern half of Poole Harbour lies within the Dorset AONB. This site covers 44% of Dorset and is designated for the exceptional landscape that is present.
- 16.1.7 Two Countryside Character areas have been described by the Countryside Agency in the vicinity of Poole Harbour. The Dorset Heaths Countryside Character area lies to the south of the Dorset Downs and extends south-west of Poole Harbour to the prominent chalk ridge of the Isle of Purbeck. The area is described as an exposed, open, broad-scale landscape which forms a strong contact with the adjacent character areas. Key characteristics of the area include undulating lowland heath, blocks of conifers, mosaics of heathland, farmlands, woodland and scrub and flat bottomed open valleys.
- 16.1.8 The South Purbeck Countryside Character area is bounded in the north by the Dorset Heaths and is separated from them by the narrow chalk ridge. This area is defined by an exceptionally diverse landscape with sharp contrasts within a small area. The

landscape is strongly influenced by its underlying chalk, limestone, shale and clay rocks. It has an outstanding and diverse coastline encompassing chalk, limestone and shale cliffs and sheltered bays. In December 2001, the Dorset and East Devon coastline which forms part of this Character Area was awarded World Heritage Site status due to its significant geological interest. This site extends to the north-east of Swanage as far as Old Harry Rocks.

## 16.2 POTENTIAL IMPACTS ASSOCIATED WITH THE APPROACH CHANNEL DEEPENING

### Construction phase

*Potential for direct impact on sites designated for geological or landscape importance*

- 16.2.1 Given that the proposed channel deepening works would all take place below mean low water, and are not within the boundary of any site designated for geological importance, there is no potential for an effect on geological sites to occur. In addition, no potential exists for significant visual or landscape effects given that the proposed works involve the presence of a single dredger within the main navigation channel and all works are below the water level. Consequently, **no impacts** on sites designated for geological or landscape importance are predicted.

*Mitigation and residual impact*

No mitigation measures are required. There would be **no residual impact**.

### Operational phase

*Potential for impact on sites designated for geological importance due to effects on coastal processes*

- 16.2.2 The findings of the coastal process modelling demonstrates that there is no potential for an effect to occur on sites designated for geological interest, including the Dorset and East Devon World Heritage Site. Therefore **no impact** would arise as a result of the scheme.

*Mitigation and residual impact*

No mitigation measures are required. There would be **no residual impact**.

## 16.3 POTENTIAL IMPACTS ASSOCIATED WITH THE OFFSHORE DISPOSAL OF DREDGED MATERIAL

### Construction phase

*Potential for deposition of fine material within sites designated for their geological or landscape importance*

- 16.3.1 The numerical modelling of the dispersion and deposition of fine material resulting from the disposal of dredged material demonstrates that no deposition of material is predicted along the coastline of Poole Bay (see Section 3.6). As such, there would be **no impact** on geologically important sites or area designated for their landscape importance.

*Mitigation and residual impact*

No mitigation measures are required. There would be **no residual impact**.

### Operational phase

No significant impacts are envisaged during the operational phase.

## 16.4 POTENTIAL IMPACTS ASSOCIATED WITH BEACH NOURISHMENT

### Construction phase

*Effect on views due to presence of beach nourishment plant*

- 16.4.1 During the beach nourishment works, construction plant would be present on the beaches for up to 7 months. The construction plant is likely to comprise up to two bulldozers, two excavators and a pipeline running from the dredger to the shore at each site. The presence of the construction plant has the potential to result in a visual impact on users of the beach and local residents.

- 16.4.2 The nature of this potential impact is subjective, with the majority of the public tending to be interested in works of this nature rather than considering them to be a visual nuisance. Additionally, any effect would be temporary and reversible and it is therefore predicted that the effect on visual character due to the presence of plant would be of **negligible significance**.

*Mitigation and residual impact*

Any potential adverse impact on the visual character of the coastline is minimised by undertaking the works during the winter period when the least number of people would be affected. In addition, the site area should be kept tidy, in line with normal site practices. No further measures are possible and there would be **no residual impact**.

*Potential effect on geologically important sites*

- 16.4.3 The locations of the proposed beach nourishment works are currently recreational sandy beaches and, therefore, the schemes would not result in a significant change to the existing character of the shoreline at any location and would not result in the coverage of sites designated for their geological interest. Consequently, there would be **no impact** on geologically important sites due to the proposed beach nourishment works.

*Mitigation and residual impact*

No mitigation measures are required and there would be **no residual impact**.

**Operational phase**

*Effects on landscape due to a change in the appearance of the beaches*

- 16.4.4 The beach nourishment works have the potential to affect landscape character and views if they were to significantly change the appearance of the beach if, for example, the existing beach was fine sand and the nourishment material was coarse gravel. It should be noted that in the past complaints have been received from residents regarding the change in sediment characteristics following beach nourishment.
- 16.4.5 The coast protection authorities are proposing to minimise the risk of this impact occurring by only placing material on the beaches which is similar in appearance to material already present on the beaches. Assuming this procedure is followed, there would be a very little change in the visual appearance of the beach following nourishment and, therefore, it is predicted that the impact would be of **negligible significance**.

*Mitigation and residual impact*

No mitigation measures are required. The residual impact would be of **negligible significance**.