Design and Access Statement

Seawall upgrade works at 9 Harbourside, Langstone, Havant PO9 1TJ

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October 2024

Introduction

As sea levels rise and existing structures age, it has become essential to upgrade the sea defences in our area.

Coastal Partners have developed a scheme to protect Langstone, but unfortunately the frontage to protect Mill Lane and Harbourside has not received funding
However, Coastal Partners have made available the design for this section.
This application deals with the frontage to 9 Harbourside, but the design closely follows the Coastal Partners design.

The Coastal Partners website contains much information about the background to the scheme, sea level rise etc. The plans for Langstone can be seen online.

The current situation

The sea defences are under increasing pressure due to

- Aging. Little maintenance work has been done for 30 years.

- Sea level rise and climate change are expected to bring higher tides and more frequent storms.

- The inundation of Southmoor is leading to erosion of the stream banks.
  This is expected to lead to increased wave action on the Mill Lane defences in the foreseeable future.

It is hoped that adjoining householders will make similar upgrades to the defences on their properties and we shall together enjoy the benefits of a comprehensive project similar to that proposed by Coastal Partners.

The following tide levels are relevant to the design.

Mean High Water Level	1.52m OD	or	4.25m in the tide tables
Mean High Water Springs	1.97m OD		4.70m
Highest tide recorded locally	3.15m OD		6.00m almost

We have chosen a crest level at 4.0m OD.
This is very slightly more than the existing seawall along Harbourside which has levels between 5 and 15cm below this.

Design

The frontage to 9 Harbourside is in two parts.
West of the concrete slipway there is an earth bank.
East of the slipway there is a concrete apron or revetment below a low wall.

9 Harbourside extends down to Mean High Water Mark.
To the south is Langstone Harbour.
As the high water mark moves, due to erosion or accretion, so the boundary moves.
All the work takes place above Mean High Water Mark

West
This is an earth bank with a crest level of 3.75m OD.
It is intended to raise the bank here by 25cm, a minor increase, and add clay-based fill behind the bank to increase the width to 4 meters. The additional width will increase the stability of the bank and allow future maintenance.
The surface of the bank will be allowed to regrow naturally and the appearance will soon be the same as now.
A row of steel sheet piles will be driven into the bank, so that they are not visible. The piles will provide a cut-off against water seeping underneath and through the bank. They will also provide erosion resistance if the existing beach changes.

The slipway
No changes proposed except that we intend to remove the timber baulks above the slipway and extend the earth slope up to the same level. This will create a permanent barrier and have a softer appearance.

East
The row of sheet piling continues following the Coastal Partners alignment. This is within the extent existing concrete apron.
The apron and low concrete wall will removed and replaced with a more resilient single structure connected to the piling.
The height of the walling is currently 3.90m OD approx. and we intend to raise this by 10cm to 4.0m OD.
The heads of the piles are hidden within the concrete apron.
The extent of the new apron will be smaller allowing us to reduce the footprint on the foreshore.
A significant area of concrete and rubble, as shown on the drawing, will be taken up, together with the scattered concrete debris. The foreshore vegetation will be allowed to naturally populate the area released.
It is hoped that this will help to compensate if it is necessary to encroach during repairs to neighbouring houses to the east.

Materials

Earth embankment
Clean clay based material will be imported to raise the bank.
Topsoil will be retained and replaced.

Concrete structures
C40 reinforced concrete cast in plywood formwork.
Steel reinforcement to engineers details.

Sheet piling
4.0 metre steel sheet piling to Arcelor PU12 section or equivalent.
The piles will not be visible once the works have completed.

Fence
The timber fence will be replaced in the same position, which is above the line of the piles.
The Jacksons fencing has proved to be durable and we shall renew this to the same pattern.

Access for the works

The southern end of 9 Harbourside can be approached from within 9 Harbourside around the north of the house, alongside the east of 8 Harbourside or across the fields to the west.
The access finally chosen will depend on whether adjoining householders will be undertaking similar works in conjunction.

The site has no requirement for pedestrian or other access.
There is no public access to any of the site.

Impact on Mill Lane Conservation Area.

The works have been designed to have an improved appearance in all respects.

Views from the footpath around Southmoor are the same.
There is no footpath along the south of 9 Harbourside.

There are no listed buildings in the vicinity of the works.

The is no loss of character.

There are no specific TPOs but it is not expected that any trees will be lost except for the tamarisk directly on the sea defence.
The tamarisk will be reduced, excavated and returned on completion. But they may not survive, in which case they will be replaced with similar species.

Impact on Langstone Harbour SSSI and Langstone Harbour Generally

The works will be carried out in the summer months to avoid disturbance to the wildlife on the foreshore during the critical winter months.

Pile driving is by a vibratory hammer. The piles are short at only 4.0m and the ground is soft. The noise levels should not cause a nuisance.

Mechanical plant will operate within the garden of 9 Harbourside.

The alterations to the existing structures are minor. In all respects we feel that they are an improvement to the current situation.

Unnecessary concrete slabs and the concrete debris currently scattered on the foreshore will be carefully removed to allow the foreshore to regenerate naturally.

West of frontage

The blackthorn along the south side of the bank will remain.
No disturbance to the vegetation south of the hedge.

Centre of frontage

The rough concreted areas to the left and right of the slipway will be tidied up and the foreshore vegetation allowed to spread into the space created.

Concrete debris currently on the foreshore to be tidied up.

East of frontage

The new concrete wall will be of a similar height, approx. 10cm taller, and in the same position.
The sloping apron will be taken up and replaced by a similar but shorter concrete apron, allowing the foreshore vegetation to extend.

The existing concrete debris on the foreshore will be collected and removed.

The post and rail fence will be replaced by similar on the same alignment.