

New Coastal Defences

Protecting the Future of Anchorage Park



Introduction

This booklet provides an overview of the Anchorage Park Coastal Defence Scheme. It includes information about what the new defences will look like and how residents may be affected during construction.

For further information on the scheme please visit: www.escp.org.uk

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Typical 3D visualisation of the new defences

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- Aerial Map data © google 2014

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**EASTERN
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Policy and strategy

Shoreline Management Plan

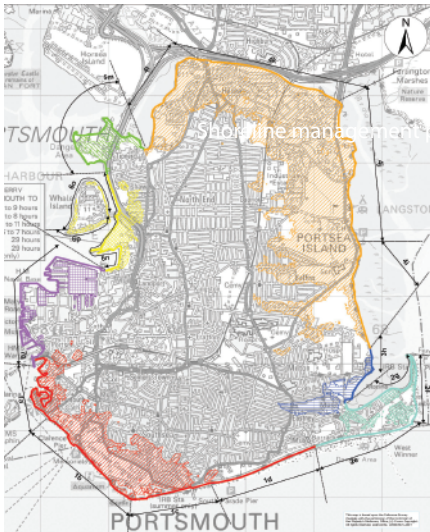
A Shoreline Management Plan (SMP) is a high level policy document setting out a framework for future management of the coastline.

The SMP aims to balance the management of coastal flooding and erosion risks with natural coastal processes and the effects of climate change.

The North Solent SMP covers the coastline from Hurst Spit in the west to Selsey Bill in the east and sets the policy for the whole of the Portsmouth coastline.

The SMP makes recommendations on how the coastline should be managed over the next 100 years

A 'Hold the line' policy to maintain or upgrade the level of protection provided by the existing defences was identified for the North Portsea Island coastline by the North Solent SMP.



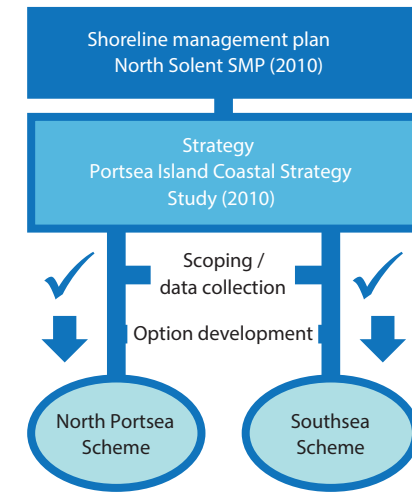
Portsea Island Coastal Strategy Study

A strategy looks at how the SMP policy can be implemented at a more local level and identify areas where work may be required.

The Portsea Island Coastal Strategy Study (PICSS) was concluded in 2010. The strategy supported the recommendations of the North Solent SMP and adopted a 'Hold the line' policy for Portsea Island.

The strategy looked at the likely risk of coastal flooding to Portsea Island, the condition of existing defences and the number of properties and assets at risk in the event of flooding over the next 100 years.

Seven distinct flood cells were identified, meaning that a flood in one cell will not impact any other, and of those seven cells, two were identified as priority areas – Flood Cell 1 (Southsea) and Flood Cell 4 (North Portsea Island). The strategy identified significant risk to properties, businesses and key infrastructure within these two priority areas and proposed that schemes should be developed for these frontages.



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Extent and risk of flooding

Present day



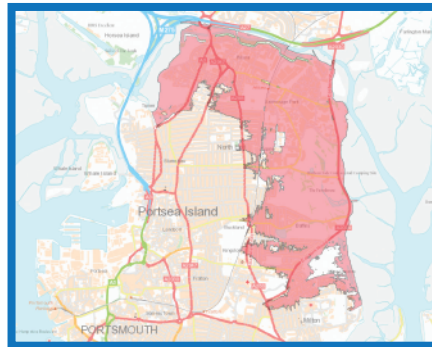
These Flood Risk maps indicates the extent of flooding from a 1 in 200 year event if the coastline was left undefended.

The value of property and infrastructure within North Portsea Island is estimated at £642m.

1,414 residential and 147 commercial properties are currently at risk from a 1 in 200 year tidal flood event. This increases to 4,234 residential and 490 commercial properties over the next 100 years.

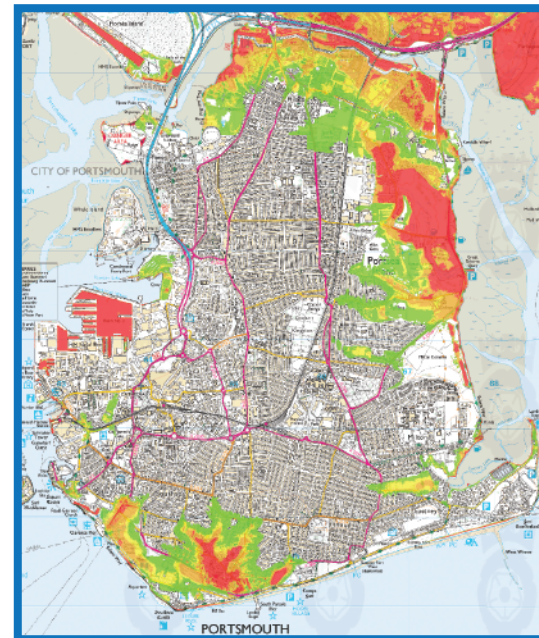
North Portsea Island contains the only rail link and two of the three road links onto Portsea Island. 89 electricity sub-stations are also located within North Portsea Island. All of these assets are at risk from flooding during a 1 in 200 year tidal flood event.

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Hazard map

This map indicates the level of risk from a present day 1 in 200 year flood event if the coastline was left undefended.



Definition of undefended flood hazard index as displayed on SFRA map set 1B

Classification	Description
Low	Caution Flood zone with shallow flowing water of deep standing water
Moderate	Dangerous for some people (i.e. children) Danger: Flood zone with deep or fast flowing water
High	Dangerous for most people Danger: Flood zone with deep fast flowing water
Very high	Dangerous for all people Extreme danger: Flood zone with deep fast flowing water

Anchorage Park Scheme

The coastline of Anchorage Park represents the first construction phase of new coastal defences designed as part of the North Portsea Island Coastal Flood and Erosion Risk Management (CFERM) Scheme.



The Anchorage Park scheme will cover 1.4km of coastline from the Ports Creek railway bridge in the west to Kendall's Wharf in the east. The scheme will cost approximately £5.5m and take about 7 months to complete.

The new defences are designed to significantly reduce the risk of coastal flooding over the next 100 years. On completion, the scheme will offer protection against a 1 in 500 year coastal flood event.



The design of the defences has been developed in collaboration with key stakeholders, including environmental and heritage advisors. It also incorporates many ideas and aspirations received from the public during the option selection consultation events earlier this year.

The desire to maintain the natural character of the area and to enhance the value of this important open space is at the forefront of the new coastal defence design.



The story so far...

Anchorage Park represents the first phase of construction of new coastal defences designed as part of the North Portsea Island Coastal Flood and Erosion Risk Management (CFERM) Scheme.

The full scheme extends from the Mountbatten Centre in the west, along Ports Creek in the north to Milton Common in the east and covers 8.4km of coastline.

Business case

The formal business case for the scheme has been prepared and submitted to the Environment Agency (EA). The business case supports our application to the EA for scheme funding. Members of the project team attended a series of meetings with the EA's Large Project Review Group who scrutinise the business case against economic, technical, environmental and social factors.

Site investigation and surveys

To support the detailed design process we have undertaken a range of site investigations and surveys. You may have seen us and our contractors carrying out structural investigations of the existing defences, undertaking topographical land surveys and drilling boreholes around the North Portsea Island coastline.



Licences and consents

Before we can start work onsite we must obtain the necessary licences and consents.

These include planning permission; a Marine Licence from the Marine Management Organisation; Scheduled Monument Consent from English Heritage in respect of the buried Pickett-Hamilton Fort; consent from Network Rail to carry out works near their bridge and consent from Natural England to work within Langstone Harbour, which is a designated Site of Special Scientific Interest (SSSI).

Part of our planning application included an Environmental Statement which covers many aspects of the potential impacts of the construction work, including noise, wildlife and visual impact.



Ecological surveys and investigations

In order to understand the potential impacts that our work may have on local species of flora and fauna, we have worked with specialists to carry out a series of surveys around the Anchorage Park area. These included a Phase 1 Habitat Survey which recorded important plant and animal species and habitats with the potential to support coastal wildlife. We have also carried out a more detailed habitat survey and a reptile survey following the discovery of lizards and slow worms on site.



Detailed design

The detailed design has been developed with assistance from our consultant, Royal Haskoning DHV. The design process has drawn upon the findings of site investigations, wave modelling and stakeholder engagement. We have also incorporated feedback received from the public exhibition events held in March 2014.

Archaeology and heritage

We recognise the archaeological significance of the Anchorage Park area, and during the ground investigation works we engaged an archaeologist to monitor the work. We have prepared an Archaeological Mitigation Strategy which will be a key document during construction to protect the known heritage assets and unknown archaeological remains.

Anchorage Park Scheme Design

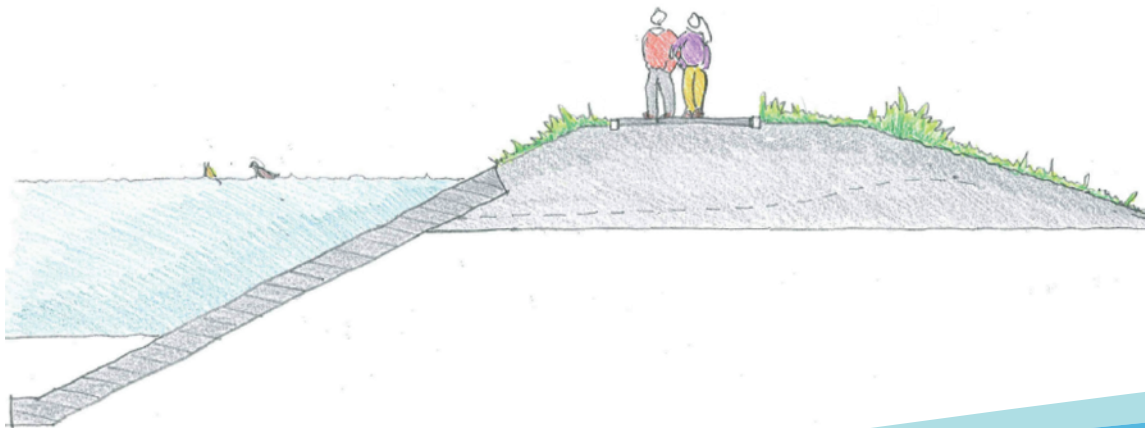
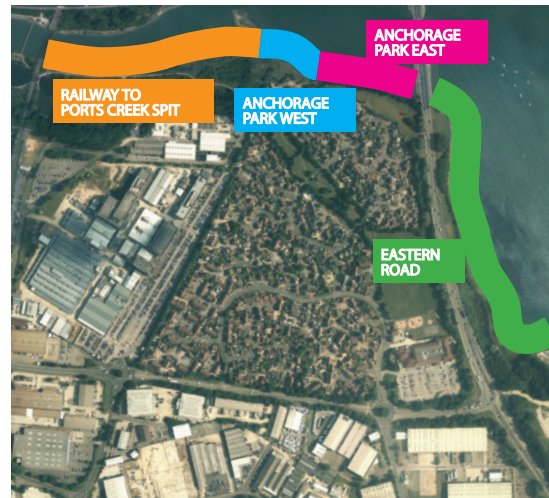
Railway to Ports Creek Spit

What will it look like?

A raised earth embankment will provide the primary flood defence along this frontage. Rocks will be placed on the lower seaward face of the embankment to provide protection against erosion.

A new path will run along the top of the earth embankment giving users an enjoyable view of both the coastal environment as well as the woodland and lake on the landward side.

The area will be planted with a mix of plant species specially selected to enhance the local habitat.



Anchorage Park Scheme Design

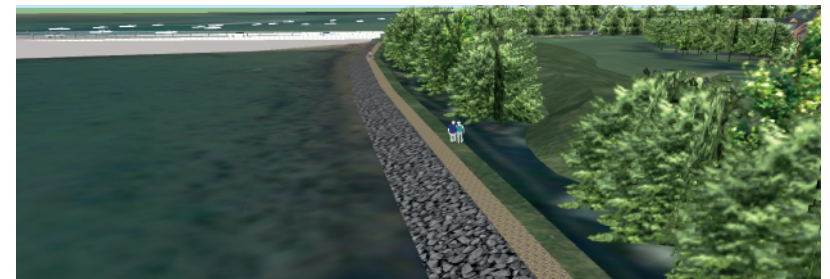
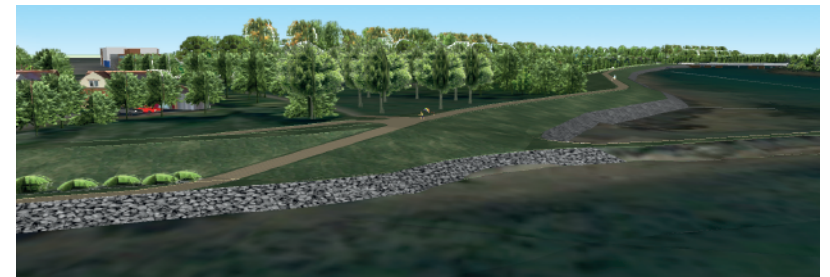
Anchorage Park West

What will it look like?

At this location the new defences will divide. An earth embankment will be locally set back from the coastline and a rock slope will be constructed in front of the path. This will provide erosion protection on the seaward side.

The path itself will also split, with one branch dropping to a lower level by the water and the other branches linking to the existing path network in Anchorage Park and the adjacent parkland.

The area will be planted with a mix of plant species specially selected to enhance the local habitat.



Anchorage Park Scheme Design

Anchorage Park East

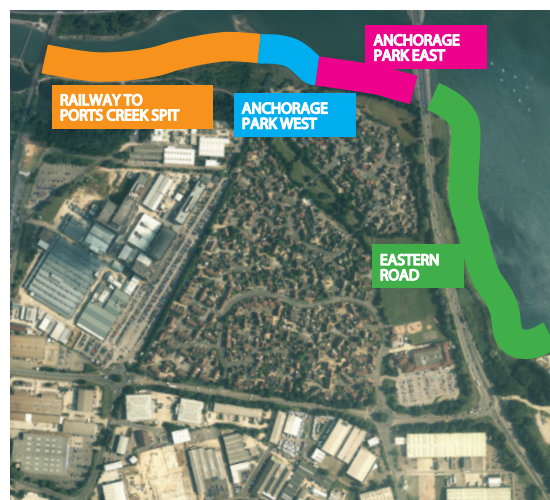
What will it look like?

The land within the current open space to the north of Anchorage Park will be locally raised and landscaped to form a set back earth embankment. A rock revetment will provide erosion protection on the seaward side.

The construction of a set back embankment allows much more of the existing vegetation to be retained.

The current coastal path will be upgraded along this section of coastline and will be diverted through the wooded area alongside the Eastern Road to join the main path network.

The area will be planted with a mix of plant species specially selected to enhance the local habitat.



Anchorage Park Scheme Design

Eastern Road

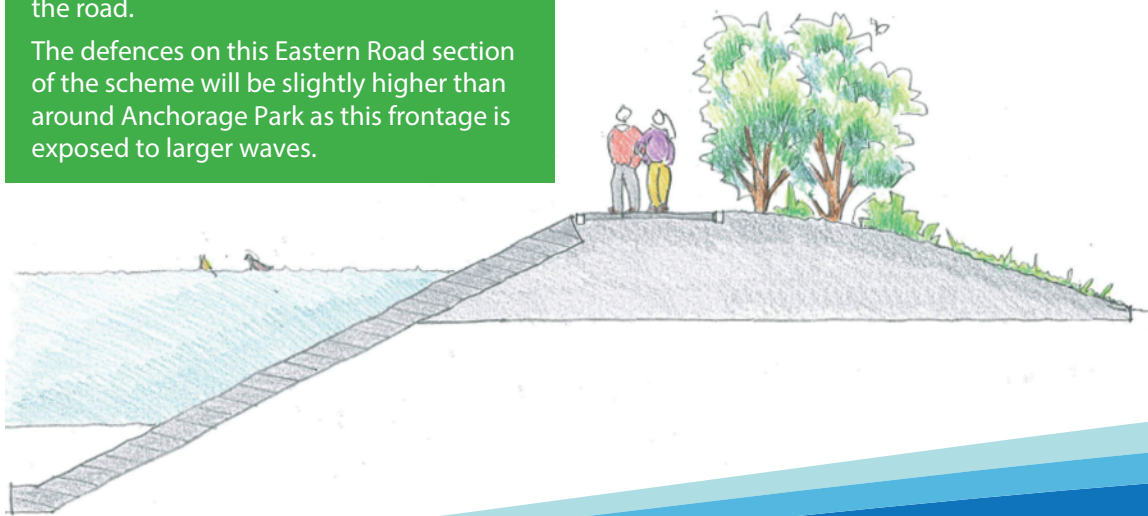
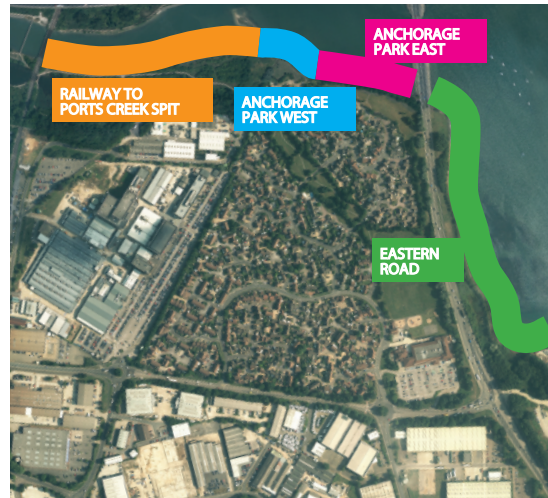
What will it look like?

Between the Eastern Road bridge and Kendall's Wharf, the new coastal defences will be formed of a raised earth embankment with a full height rock slope on the seaward face.

A new path will be provided along the top of the embankment forming part of the existing public right of way and offering spectacular views of the harbour.

On the Eastern Road bridge, the southern abutments will be refaced with a masonry slope. Concrete flood walls will also be constructed alongside the footpaths to tie into the embankments on both sides of the road.

The defences on this Eastern Road section of the scheme will be slightly higher than around Anchorage Park as this frontage is exposed to larger waves.



Example Structures

The photographs below are taken from similar coastal defence schemes and provide an indication of what the various aspects of the completed scheme may look like.



The Construction Site

During construction, in addition to the main working areas, various sites around Anchorage Park will be used as haul routes, materials compounds and site offices.

A small transfer compound will be used to store materials, plant and welfare facilities during the works.



The main site compound will be located on the playing fields at Anchorage Park. Construction machinery and materials will be delivered and stored here. The main site management offices will also be located at this site.



Materials will be brought from the main compound to the working areas via a specially constructed haul route.

Some temporary path closures will be required as a result, however, road access will remain open with controlled crossings.

The location of the haul route was selected as it is the only available route which allows construction traffic to be segregated from residents and property.



A second transfer compound will store the materials for the eastern working area. The compound will link to the working site via a haul route through the wooded area.

All site compounds and haul routes will be reinstated to their current condition on completion of the works.

Site operation

The construction works will be undertaken by a competent contractor with proven experience in the successful delivery of similar schemes. Through good site management, every care will be taken to minimise disruption from construction activities.



Noise, vibration and dust

Site working hours will be restricted in order to reduce disturbance to residents caused by noise and vibration from construction machinery and works.

Vibration will be actively monitored using specialist equipment throughout the scheme to ensure vibration is kept to a minimum.

Dust suppression will be used to reduce the amount of dust released into the air and regular road sweeping will be carried out during construction.



Site access

From the outset, the site compounds, haul routes and working areas will be securely fenced off to prevent public access into the site.

All entry points will be locked out of hours and measures will be in place during working hours to prevent unauthorised access.



Haul routes

Site traffic will be restricted to the haul routes. This means site traffic will not be using residential streets to reach the working areas.

The Anchorage Park haul route will cross two roads. New temporary junctions will be built to ensure the haul route is as safe as possible. Priority will be given to local traffic at these junctions.



Construction machinery

Large construction machinery will be used during the works. The types of machinery that you are likely to see on site will be excavators, articulated dump trucks, tractors and rollers.

Smaller road vehicles will be used to transport personnel around the working areas. These will include small all-terrain vehicles and 4x4 road vehicles.

Vegetation Clearance

Prior to the main construction works it is necessary to clear the existing vegetation within the footprint of the new coastal defence structures.

In preparation for the works, the vegetation occupying the site will be cleared.

It is important that vegetation is cleared before the end of February to allow birds and reptiles to find suitable nesting areas elsewhere. This is to protect wildlife, and prevent delays during construction.

The map (right) shows the proposed clearance areas.

Removal will be undertaken in two phases. During the first phase, the vegetation will be cut back to within 0.5m of ground level.

The second phase will take place during construction and will involve the grubbing out of root balls and stumps as the works progress.



Replanting on completion

Post construction, the area will be enhanced through an extensive replanting programme. This will increase the diversity of plants in the area, improving the current ecosystems and habitats for wildlife.

Example species to be planted include trees and hedgerow plants such as oak, pine, maple, willow, damson, wildflowers and meadow grasses.

The enhanced vegetation around Anchorage Park and the surrounding open spaces will create pleasant, spacious and welcoming areas.

Environment and Heritage



Sally Port entrance to Hilsea Lines



Pickett-Hamilton Fort, D-Day Museum

Picture courtesy D-Day Museum Portsmouth



Saltmarsh along Eastern coast



Brent Geese



Little Egret



Bee orchid

Portsea Island has a long military history, and evidence of this can be found at Anchorage Park.

The remains of a WWII Pickett-Hamilton Fort lie within the existing earth embankments and the imposing Hilsea Lines still dominate the area.

Both the Lines and the fort are scheduled ancient monuments and must be protected during the works.

An Archaeological Mitigation Strategy has been prepared to support the construction works and an archaeologist will be on site during works at sensitive areas.

Langstone Harbour, Ports Creek and the surrounding land support a large variety of wildlife and habitats, some of which are protected at the European level.

Important populations of wildfowl and waders overwinter here. Reptiles and rare species of butterfly are also present within the Hilsea Lines area.

We have completed specialist habitat surveys to confirm which species could be impacted by the works, and produced a mitigation plan that will guide the construction works and minimise impacts.

There may be some short-term impacts on the local wildlife, however a full recovery is expected. Longer term the environment is expected to become more interesting and diverse.

We have worked with experts to better understand the environmental and heritage features of the Anchorage Park frontage.

These organisations include English Heritage, Natural England, Wessex Archaeology and Hampshire County Council's Ecology Team.

Find out more

To monitor the progress of this scheme and to receive regular updates on our other projects and events, please follow us online via one of the links below.



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