

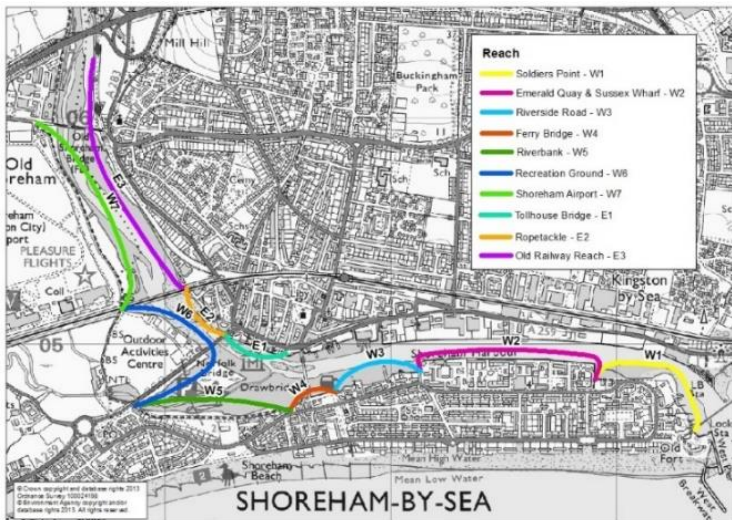
Shoreham Adur Tidal Walls

Flood Defence Scheme

Information Trail

The Shoreham Adur Tidal Walls Flood Defence Scheme reduces the risk of tidal flooding to residents and businesses within Shoreham-by-Sea. The Environment Agency employed the services of Team Van Oord to carry out construction of this project.

As illustrated by the figure below – the project was split into ten sections or ‘reaches’.



Construction phases ‘reaches’ map (not to scale)

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Foreword

It is a great pleasure to introduce this brochure which explains a little about the new flood defences at Shoreham and some aspects around the scheme.

Shoreham is a very special place with the town, beach, harbour, river and airport, surrounded by natural treasures.

We have built the new flood defences to protect all this into the future. We've tried to make the defences as sympathetic as possible to the varied communities and interests of Shoreham.

I love it, and hope you all do too.

James Humphrys
Area Director, Environment Agency
March 2019



Welcome to Shoreham Adur Tidal Walls!

Welcome to Shoreham Adur Tidal Walls Flood Defence Scheme. The Environment Agency is delighted to have you visit the scheme.

Please use this booklet as a guide on your tour of the information trail to learn more about the defences and the local area.

We hope you enjoy your visit!

Where can I find out more information?

You can find more information on the project website:

www.gov.uk/government/publications/shoreham-adur-tidal-walls-scheme



Project partners

The scheme was led and delivered by the Environment Agency



The Environment Agency was assisted by the project partners



Key facts

Prior to the scheme, over **2,300** residential and **150** commercial properties in Shoreham were at significant risk of flooding from overtopping or failure of the existing flood defences.

It was anticipated that due to sea level rise, the number of properties at significant risk of flooding from overtopping or failure of the existing flood defences would increase to over **4,400** residential and **330** commercial properties by **2110**.

The flood defences have therefore been improved to reduce the risk or 'likelihood' of tidal flooding in Shoreham and east Lancing.

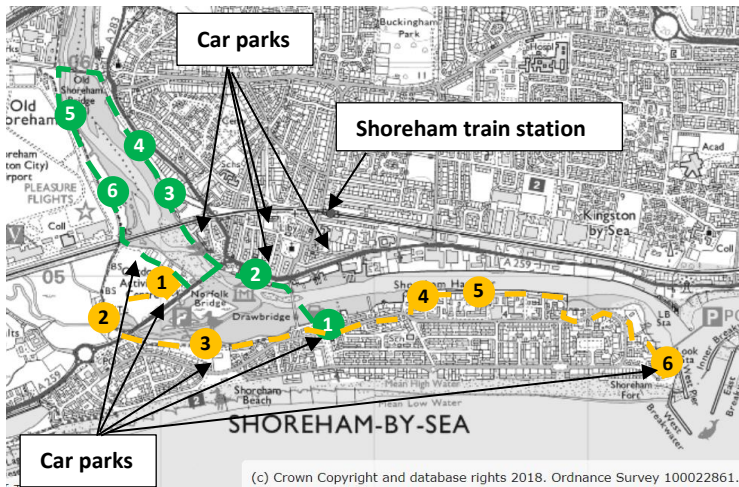
The likelihood is expressed as a percentage (e.g. 1%), or as a chance (e.g. 1 in 100 chance in any given year). It is important to remember that the risk of a flood occurring is there at all times - this year, next year and future years.

The scheme has been designed to provide better protection against surge tides with a **0.33%** probability of occurring in any one year (**1 in 300**). The height of the defences has been set to take into account 50 years of predicted sea level rise.

Introduction to the Information Trails

As a legacy for the scheme, the Environment Agency has provided two self-guided information trails to find more about the scheme:

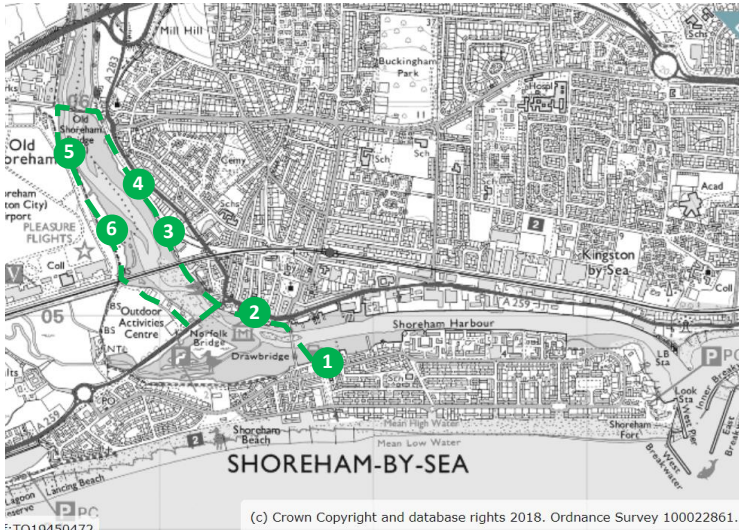
- **Rubbing Plaque Trail:** a trail of 6 rubbing plaques taking you from Adur Ferry Bridge (W4) to Shoreham High Street (E1), the Downs Link (E3), alongside Shoreham Airport (W7) and Adur Recreation Ground (W6). This is the **Green Route** on the map – duration approx. 1 hour 30 minutes. *Use the blank green outlined boxes in this booklet as spaces to rub the plaques on to.*
- **Information Trail:** for those who would like a longer walk, and to find out more about the scheme – this trail takes you around the rest of the scheme from Adur Recreations Ground (W6), Houseboats (W5), Adur Ferry Bridge (W4), Riverside (W3), Emerald Quay (W2) and Shoreham Fort (W1). This is the **Orange Route** on the map – duration approx. 1 hour 30 minutes.



Map not to scale

Rubbing Plaque Trail

1. Start at the Adur Ferry Bridge (Shoreham Beach side).



- 1 Flood wall
- 2 Jack-up barge
- 3 Reptile conservation
- 4 Flood embankment
- 5 Saltmarsh habitat
- 6 Heritage – pill boxes

2. Plaque 1 – Near the foot of the steps to the seating area looking out onto the Adur Ferry bridge (Shoreham Beach side). Use the box below to make a rubbing of the plaque



3. Head over the bridge towards Shoreham High Street. At the High Street turn left and turn left again to go down the lane alongside the Crown and Anchor Pub to access the riverside path.

4. Plaque 2 – On the wall on the riverside path. Use the box below to make a rubbing of the plaque.



5. Head back onto the High Street via Town Quay Hard. At the entrance to the hard, you will see a large metal gate. This is a flood gate (see photo right). It is closed during high tides to prevent water reaching the High Street.



6. Continue west along the High Street until you reach Ropetackle. Walk through Ropetackle to the slipway then turn right, you should see the railway bridge and a small seating area with sculptures including a clam shell. Continue towards the seating area and walk under the railway bridge to the Downs Link Path.
7. The Downs Link Path follows the route of an old railway line. From here you get a good view of the River Adur and the South Downs.
8. Three different flood defence techniques have been used at the Downs Link: a sheet pile wall with concrete and brick cladding (southern section), concrete wall (middle section) and an embankment (northern section). On your walk you will see how the defence changes!

9. Plaque 3 – On the wall alongside the Downs Link Path, after the railway bridge. Use the box below to make a rubbing of the plaque.



10. Continue along the Downs Link Path.

11. Plaque 4 – On the wall alongside the Downs Link Path, just before the wall bends further away from the river. Use the box below to make a rubbing of the plaque.



12. Continue along the Downs Link Path, until you reach the Tollbridge. Cross the river using the Tollbridge. After you cross the Tollbridge turn left onto the path – you will see a pill box.

13. Plaque 5 – On the wall alongside the pill box. Use the box below to make a rubbing of the plaque.



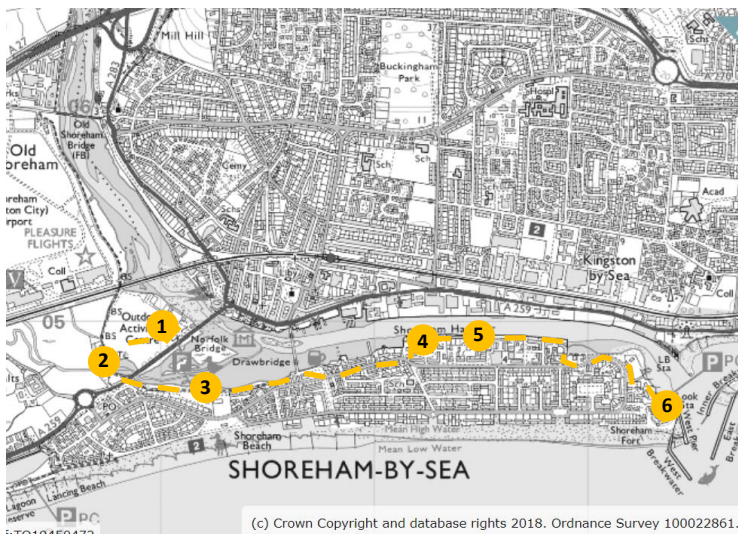
14. Continue along the path.

15. Plaque 6 – On a stand facing out towards the river and another pill box. Use the box below to make a rubbing of the plaque.



Continue along the path until you reach Adur Recreation Ground. From there you can return to the High Street, crossing the Norfolk Bridge.

Information Trail



- 1 Outdoor Activity Centre
- 2 Adur Recreation Ground – Tidal Pool
- 3 Riverbank footpath
- 4 Emerald Quay
- 5 South Wharf
- 6 Shoreham Fort

Point 1 – W6 concrete wall and flood gate

1. A concrete wall has been constructed from Adur Outdoor Activity Centre to the Sea Scouts boat shed with flood gates to allow continued river access via existing slipways.



The concrete wall has wide footings underground, which allow the height to be increased without having to disturb the footings. This is just one example of how the wall has been designed so that it can be adapted if future conditions require.

From the Sea Scouts boat shed, a grassed embankment runs to the railway bridge, below which there will be a concrete wall, protected from erosion by rock baskets.

2. Continue to the pavement alongside the A259 and turn right, heading towards the tidal pool.

Point 2 - W6 – Adur Recreation Ground – Tidal Pool

3. An embankment has been built around the tidal pool with a new footpath. The new bank has been seeded and vegetation has established.



Before



After

4. Head back to the A259 and cross the road to enter the Riverbank footpath.

Point 3 – Riverbank footpath

5. Sheet piling has been installed within the existing embankment to strengthen it. The piles have been covered with concrete and brick cladding on both sides and a handrail has been provided on top of the wall for safety. The footpath has been raised by 17cm (approx.). The wall includes box-outs to provide private access over the wall into the gardens.



Before



After

Construction of the flood defence was a challenge as there was very limited working space between the houses and the houseboats. A Giken train was used (see photo below). This sat on top of the piles, like a small train, placing new piles in front.



Computer illustration of a Giken Train

The Riverbank footpath is a habitat for native slow worms and lizards.

Reptile species, such as common lizards, slow worms (right) and grass snakes, were moved (translocated) away from the work to safe areas.



Once the move was complete, the vegetation along these areas was disturbed using an excavator. This was done under the supervision of an ecologist. This helped to capture any remaining reptiles and also make the habitat unsuitable for them to move back in.

Now the works are finished the population will naturally re-colonise as vegetation re-establishes.

The other main wildlife group living within the footprint of the scheme are nesting birds. It is not possible to disturb birds when nesting, as they are legally protected, so we had to remove any potential nesting habitat outside the nesting season.

6. At the end of the Riverbank footpath turn left to head down Lower Beach Road, then along Riverside (500m) until you reach Emerald Quay.

Point 4 and 5 - Emerald Quay and South Wharf

7. Flood glass panels have been installed along the central section at Emerald Quay with a solid concrete wall with brick cladding at either end.

The slipway has been raised and extended using concrete, supported by steel piling at the riverward extent.

A new ramp, steps, planting and seating has been built where South Wharf meets Sussex Wharf.



Before

After

Point 6 - Shoreham Fort

8. From Shoreham Fort car park to Shoreham Sailing Club, a steel sheet pile (SSP) wall has been installed along the rear of the beach. It has been capped with concrete with a brick facing on the landward side and rock revetment on the riverside.

Shoreham Fort car park has been re-designed with a boardwalk, a new parking layout and improved access to the beach.



Plants

Shoreham is home to some rare plants.

The first is Childing Pink (right).

It is very rare nationally and only known at two sites in Sussex, Shoreham-by-Sea and Pagham Harbour.

At Shoreham, the main colony is protected within a local nature reserve which was affected by the scheme.



The second plant is Starry Clover (right), which is only known in Britain at Shoreham, where it was first discovered in 1804. The red coloured sepals (protective outer parts of the flower) give it its name.



