

Folkestone Warren Cliff Stabilisation and Sea Defence Works July 2025 to late March 2026



History of Folkestone Warren

The line from Folkestone Warren to Dover consists of 8km of exposed coast with steep cliffs and is at risk of landslides. Since the construction of the railway in 1844 the area of Folkestone Warren has suffered from a number of landslides, both deep seated within the cliff and surface slips which have resulted in coastal protection and cliff stabilisation works.

The back of the Warren is defined by a high cliff which is over 100m high and is composed of layers of chalk at the lower and middle levels and sits over a layer of gault clay with the chalk from the “high cliff” being prone to slide down to form the sea cliff that is nearest the seas edge. The lower ground within the Warren, known as the Warren Under-cliff, comprises entirely of land slipped material which the railway passes over via cuttings and then through Abbot’s tunnel.

The sea defences consist of a combination of vertical concrete walls, rock revetments (toe weighting) and concrete buttresses. Beach protection was also undertaken during the installation of a groyne field in the 1920s and 1930s.

History of Folkestone Warren

- The Folkestone Warren to Dover railway spans 8km of exposed coastline with steep cliffs, prone to major landslides.
- Since 1844, the area has experienced both deep-seated and surface landslides, prompting coastal protection and cliff stabilization efforts.
- The high cliff at the back of the Warren exceeds 100m and consists of chalk over gault clay, making it susceptible to sliding.
- The Warren Under-cliff is made up of previously slipped material, with the railway running through cuttings and Abbot's tunnel.
- Sea defences include vertical concrete walls, rock revetments (toe weighting), and concrete buttresses.
- Additional beach protection was implemented with groyne fields installed in the 1920s and 1930s.

Why do we need to carry out these works

Why is the work needed?

- Prevent cliff slippages and waves overtopping onto the railway.
- Prevent erosion and undermining of defences due to beach lowering and wave action.
- Reduce risk to the railway and make sure safety for passengers and the public.

Planned Works

- Install 18,000 tonnes of rock armour (delivered by ship/barge) to protect against sea erosion and stabilise the railway and Warren.
- Repair the beach walkway footpath.
- Fix drainage systems that have subsided by a metre due to cliff movement.
- Install ~50 sheet piles behind the sea wall to block seawater from reaching the abutments.

The photo below shows the area of beach that will be closed and the public diversion route that will be in place from September 2025 to March 2026



The car parks and pedestrian diversion route

Site access will be via a private road off Wear Bay Road as shown in the photo below, which will lead to our site compound located on a hard standing on our land trackside. Beach access for our plant will be via a ramp to the hard standing on the beach due to the beach being 1m lower than the existing hard standing. The access road on Martello Tower No 1 will not be closed and the small car park will be accessible to the public. However, we will have traffic management in place on some occasion beyond the Martello Tower to safely deliver large plant and machinery which will require clear access on this road to allow the machinery to safely pass through the road. We kindly ask that when you park here to allow enough room for large plant to pass by on the road. There will also be a diversion route around the concrete walkway.

- Main site access will be via a private road off Wear Bay Road.
- This private road will lead to the site compound that will be situated in a Network Rail area of hardstanding trackside.
- There are two locked gates leading to site. The first one has a public car park to the right and the second is the NR gate leading to their area of hardstand.



Figure 5. Main Access Route



Beach Access

- The Western beach will be closed, and a public diversion route will be in place from September 2025 to March 2026.
- We will be using a 50t excavator, 40t moxy (a large dump truck as shown in the photo below), 9t dual dumpers, 16t excavator, and a 35t excavator.



- The existing beach level is approximately 1m lower than the existing concrete hardstand so we will need to installing a ramp outside of the tidal zone built using the existing beach material. We will reinstate the material and remove the ramp once the work has been completed.

The photos below show the beach access and hard standing



Our work schedule

July to September 2025

- Setting up our site compound area, delivering welfare cabinets and materials ready for our works.
- Clearing some vegetation along the main road, east coastal track and where our compound is going to be on our land.
- Installing a beach access ramp and haul road for the drainage works.
- Once the beach has been cleared the sea wall repairs, piling and buttress repairs can be undertaken working with the tide using the beach access and haul road.

September 2025 to late March 2026

- Removal of the steel groynes and timbers throughout the beach front area and excess timbers on the beach front.
- Walkway repairs to be completed for approximately 6 to 8 weeks. Cliff drainage works, repairs the flap valve, and tide valve works.
- Drainage works and walkway improvements to the top of the sea wall. Buttress works to the bays where they have fallen or failed towards the sea away from the existing wall and repairs to the existing wall.
- Sheet piling using a movax, which vibrates piles into the ground instead hammering, and repairs to two bays of the sea wall.

Please note that no work will be carried out throughout December 2025 due to sea and weather conditions.

September 2025 to late March 2026

- Drainage repairs to culvert no1 which is in danger of collapse. Creating a sea barrier of rock armour and repairing the two areas of the sea defences including sheet piling and concrete works.
- Installing the rock armour sea defence which will involve clearing the beach and sea of rocks, debris, and any protruding materials such as old groynes, debris, and timber to allow for the safe passage of rock by ships and barges before any rock shipments can be made. Any other materials in the sea will be levelled to beach level for the floating plant.
- During low tide excavators will lift and place the rock armour into position by the sea wall on the Western beach. The rock armour will involve 18,000 tonnes of rock being placed in front of the sea wall which will be delivered to the beach via approximately thirteen ships using barges and tugs to secure the barges and floating platforms in the sea with long reach excavators on them to remove the rocks from the barges.
- Walkway repairs between the sea defence and the cliff face.
- Beach re-opened.

The photos below show the sea defences where the work will be carried out and the working platform in the sea



The pictures below are an example of some of the methods we will be using.



The photos below show the sea wall where we will be working on the Western beach and what the rock armour will look like in front of the sea



Respect

R

Revving – keep engine noise to a minimum. No engines idling or make unnecessary revving, especially at night. Close vehicle doors quietly.

E

Empathy – ensure our neighbours know how seriously we take our role among local communities. If you receive a complaint, deal with it with understanding and courtesy

S

Shouting – loud conversations or shouting on site, especially at night is disturbing for neighbours, please keep to a minimum

P

Parking – obstructing private driveways, or parking on grass verges is not permitted – please think before you park

E

Eating – Eating and **smoking** should always be undertaken off site and during agreed meal breaks – not in public

C

Clean up – Clean up after yourself, and leave no litter on site, or in car parks.

T

Toilets – only use provided toilets or agreed welfare facilities, making use of neighbours trees, fences or hedges is not acceptable

What organisation have we working with

We are working closely with various authorities which include the

- Maritime Marine Life, Marine Management Organisation (MMO)
- Environment Agency and have carried out tidal assessments as the work can only be carried out during the time of the tides.
- Local councils and organisations.

Will the train services be affected by these works

These works will be completed without having to use railway line closures however if you are planning to travel during this time you can check before you travel at Southeastern Railway www.southeasternrailway.co.uk or contact National Rail Enquiries at www.nationalrail.co.uk

Questions?

If you do have any questions about this work, please call our 24-hour helpline on **03457 11 41 41** or email us at communityrelationsouthern@networkrail.co.uk quoting Folkestone Warren Cliff Stabilisation and Sea Defence Works.