PARSON'S TUNNEL NORTH PORTAL

FREQUENTLY ASKED QUESTIONS

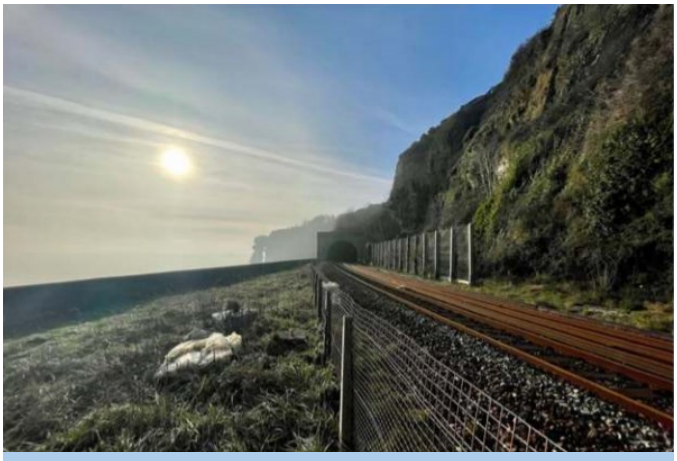
What work is going to be carried out?

Our proposalis to build a new 210m long rockfall shelter to the north end of Parson's Tunnel, to extend the previously installed tunnel extension from one hundred years ago. Alongside this, additional safety netting is going to be added to the cliff face directly above this stretch of the railway line.

Why does this work need to be done?

The railway is a vital artery, which connects communities, businesses and visitors in 50 towns and cities in the South West with the rest of the UK. The railway line between Exeter and Newton Abbot is under constant threat due to erosion and severe weather events and since 2014, with the support of funding from Government, we have been working to investigate what we need to do to protect this stretch of the railway for the long term.

Rocks falling from the cliffs in this area is not a new problem and was the reason for the construction of the original enclosed shelter a century ago. However, our recent studies, including drone flights over the cliffs, show that there are active falls from the rear cliff. An accumulation of material on the slope could trigger larger debris slides and this stretch of railway is not currently protected against rock falls from this active area of cliffs above.



The stretch of railway where the rockfall shelter will be built. The existing catch fencing in front of the cliff can only protect the line from small rock slips.

What is the design of the rockfall shelter?

The new rockfall shelter will be constructed out of pre-made concrete wall panels and beams on the roof. The roof will be covered with a cushioning material, likely to be sand, to absorb the impact of any rockfalls.

The new rockfall shelter will also be open-sided to allow rail passengers to enjoy the views of the beautiful south west coastline. This design also has an additional safety benefit, in that it allows passengers to safely evacuate the train and tunnel in an emergency.

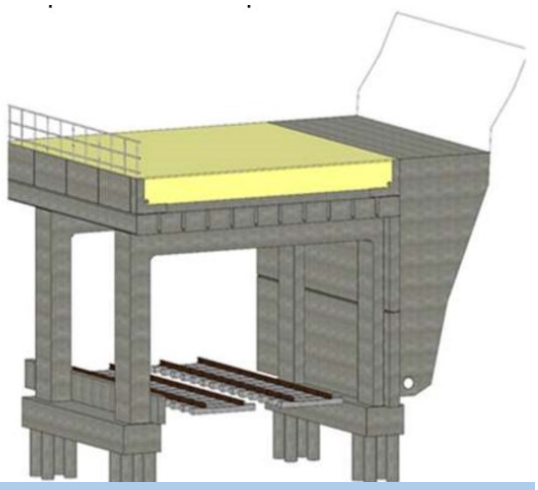
Why have you chosen to build the rockfall shelter using concrete?

The structure needs to be robust enough to protect the railway line from falling rocks and other cliff material as well as be resistant to the harsh coastal environment, so this new section of the rockfall shelter will be built out of 6.2m long pre-cast reinforced concrete sections, to form the 209m extension.

How will the rockfall shelter be built?

The proposed rockfall shelter will be made up of 'portal bays', each of which will be 6.2m in length. On the cliff-side, pre-cast concrete wall panels will be installed, with concrete beams installed on the left to keep the coastal view. These will then be stitched together with concrete slabs which will form the roof of the rockfall shelter, and the cushioning material will then be placed on top.

The exact construction methodology has not yet been determined as we are still in the process of appointing a contractor for the project. We will publish further details on this once the contractor has been appointed. The construction of the rockfall shelter at this location poses a number of engineering challenges, due to the limited access with the track between the cliffs and the sea, as well as ensuring this work doesn't result in lengthy closures of this critical rail artery to the south west.



A diagram of one of the portal bays of the shelter, with the cliff on the right hand side and the cushioning material on top in yellow.

Will train services be impacted by construction?

The design of the rockfall shelter has been chosen as the construction of it will minimise the impact on train services. We will be working around times when trains do not run, such as overnight and on weekends and public holidays. There may be occasions when the last service on a Saturday night will be cancelled to extend the amount of time available for construction, but we will provide plenty of notice if this is the case.

The rockfall shelter has also been designed to accommodate the use of machinery on the roof of the shelter. Once the first eight bays have been installed, it will be possible for the rest of the shelter to be built from the roof, reducing the impact on the railway line.

How do you know the rockfall shelter will work?

This general form of rockfall shelter design has been used extensively in mountainous areas such as in Switzerland and Japan. Scientific papers have been produced by organisations from both of these countries covering the design of such structures. This information was referred to and studied as part of the design process for this option.

When will you start construction and how long will it take?

If approved, we expect to start construction of the rockfall shelter in August 2021 and it will take around a year to complete.

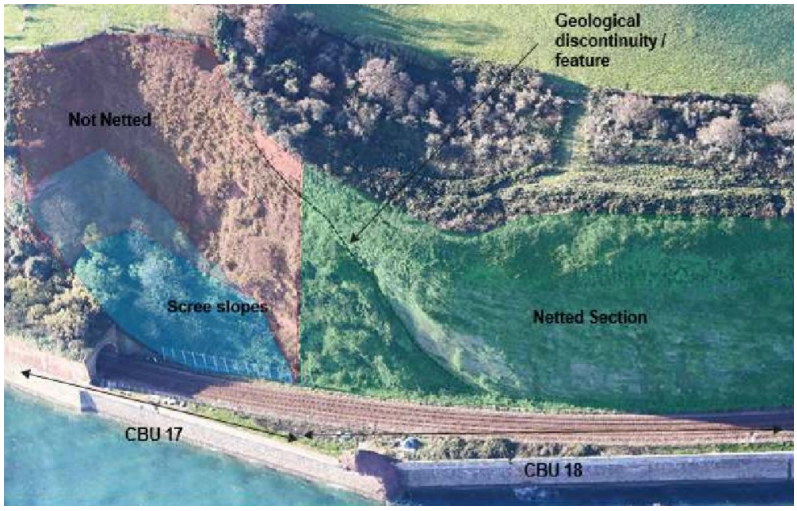
Preparatory work is due to begin at the top of the cliffs overlooking this stretch of railway in March, whereby Network Rail engineers will begin cutting back some of the vegetation and installing safety netting to secure the shrubbery on the cliffs and reduce any falling debris. This work will be closely monitored to ensure the least disruption for wildlife habitats and biodiversity.

FREQUENTLY ASKED QUESTIONS

Where will you be installing safety netting?

In addition to the rockfall shelter, we will also be installing additional safety netting on the cliff face directly above this stretch of railway. Network Rail refer to this section of the cliff as Cliff Behavioural Unit (CBU) 17.

The diagram to the right shows that part of the cliff face next to CBU17 has already been netted to reduce falling debris. Evidence shows that there are active falls on this section of the cliff and debris accumulating on the slope, hence why the netting is being installed to mitigate against larger debris slides.



How will the safety netting be installed?

The option that provides the best resilience in this situation involves a combination of soil nails and netting. Soil nails are relatively slender reinforcing elements that will help stabilise the cliffs and will be installed in a grid pattern in combination with the netting. This work is designed to encourage vegetation to grow back to give the cliff a more natural look.

How visible will the rockfall shelter and netting be from the surrounding area?

The only clear view of the new construction will be from out at sea. The north entrance to Parsons Tunnel will be partially visible from the South West coastal path, Shell Cove, a private beach with no public access, and parts of the public beach at Coryton Cove.

The closest residential properties are approximately 230m away and the new rockfall shelter will be not visible from these homes.

Artist's impression of the view from Coryton Cove, showing the new structure in the distance.

An artist's impression of the new rockfall shelter as viewed from the sea

FREQUENTLY ASKED QUESTIONS

Will the work impact the South West coastal path?

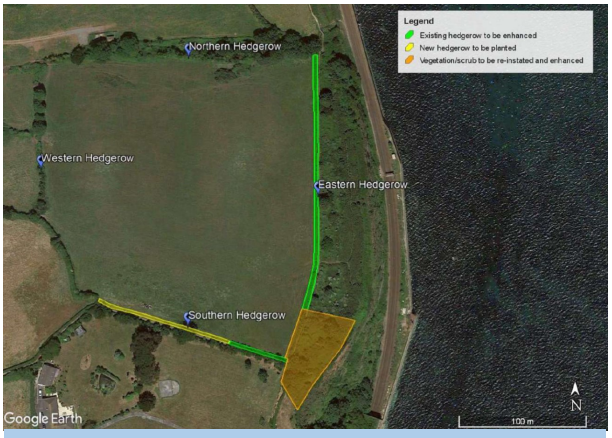
The South West coastal path runs along the top of the cliff where our work will be carried out. Due to the nature of the area and limited access to the track, a temporary construction compound will need to be built in a nearby field at the top of the cliff. This will be used as a base for the main offices, welfare facilities and car parking for construction staff, as well as the storage of construction materials. Where required, pre-mixed concrete will also be pumped down to site from this compound.

As a result of the location of the compound, part of the South West coastal path will need to be diverted while we carry out our work.

How will you protect the wildlife in the area?

We have previously conducted a Phase 1 Habitat Survey to help inform mitigation measures for habitats that may be directly affected by the scheme. The key risk identified in this was the potential for nesting cirl bunting within close proximity of the scheme and on areas on the top of the cliff where temporary access during construction is required.

As a result of this survey, a full mitigation strategy has been produced to help reduce the impact on the cirl bunting while construction is ongoing. As part of this, the scrub at the top of the cliff and the hedgerows around the field will be retained as far as possible and nesting bird checks will be carried out prior to the removal of any vegetation clearance work.



A map showing the habitat creation and enhancement areas.

Upon the completion of our work we will reinstate any hedgerow that was removed and enhance the existing vegetation. We will also plant additional hedgerow and we will also ensure that the habitats are continually managed in the long-term to provide a suitable nesting habitat for cirl bunting.

Will any plants be lost due to the work?

Both the construction of the rockfall shelter and the installation of the safety netting will result in some loss of vegetation in the area. Where required, we will safely move plants, such as tall sea lavender, away from the construction area and replant them further along the railway line.

All vegetation clearance works to be undertaken under an Ecological Method Statement in the presence of a suitably qualified Ecological Clerk of Works.

We expect some vegetation will grow back naturally, as nearby plants spread through seeding. We will also add materials that match the conditions of the existing cliff soils to encourage the growth of more plants on the new structure.

FREQUENTLY ASKED QUESTIONS

Will the project have an impact on the marine environment?

The potential to affect the marine environment will depend on whether the appointed contractor decides to carry out construction from the sea or from the cliffs. Unlike some of the other projects being delivered as part of SWRRP, none of the permanent works will be within a marine environment, so any effect on the marine environment would be temporary. We have carried out studies and surveys which show that any species affected by the works are predicted to recolonise post-construction.

What will happen to the existing sea wall and tunnel?

Both the existing sea wall and brick-built tunnel will remain in situ and will not be affected by this project.

Why can't you build a rockfall shelter like this on the stretch of railway between Parson's Tunnel and Teignmouth?

Unfortunately, our research has shown that this solution would not work on the other side of Parson's Tunnel, towards Teignmouth, because a rockfall shelter along this stretch of the railway line would not provide the strength and support required to prevent a land slip, which as was seen in 2014, is likely to involve hundreds or thousands of cubic metres of material.

This section of the railway line is a separate project, our plans for which are currently being refined following the results of the last round of consultation in 2020.

What permissions does Network Rail require to carry out the work?

The proposal requires 'prior approval' from the Local Planning Authority before works can commence. When undertaking prior approval the Local Planning Authority must be satisfied that the scheme will not 'injure the amenities of the neighbourhood' or that they cannot be implemented somewhere else on the land.

Why don't you need approval for the safety netting?

The installation of safety netting is a permitted development requiring no further approval from the planning authority (there is already safety netting on some of the cliffs next to the proposed rock fall shelter).

Where can I view the plans?

The plans are available to view on Teignbridge District Council's website.

Where can I get more information?

For news and updates follow the South West Rail Resilience Programme's dedicated social media pages:

Facebook - @SouthWestRRP Twitter - @SouthWestRRP

For more information visit: networkrail.co.uk/SouthWestRRP, email SouthWestRRP@networkrail.co.uk, or call our dedicated 24-hour national helpline on 03457 11 41 41