

# Green light for HS2's ambitious Chiltern tunnel chalk grassland project

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HS2 has obtained approval for an ambitious scheme which will use material excavated from the Chiltern tunnels to create 127 hectares of new chalk grassland, woodland, wood pasture and wetland habitats around the tunnel's south portal.

The 'Colne Valley Western Slopes' project – which was approved under Schedule 17 of the HS2 Act by Three Rivers District Council and Buckinghamshire Council – will see the transformation of what is now an HS2 construction site into one of the largest areas of new chalk grassland in the Chiltern hills.

Chalk grassland – a type of calcareous grassland – is a habitat of international conservation importance mainly found on limestone and chalk valleys of south-east England and the Isle of Wight.

Lime-rich, but low in nutrients, the thin soil holds little water and heats up quickly. These conditions encourage a huge variety of smaller herbs and wildflowers and over 40 species can be found in one square metre of grassland, including some of the UK's rarest orchids and invertebrates. Only 700 hectares of chalk grassland exist across the whole of the Chilterns AONB.

As part of the ambitious scheme, 90 hectares of chalk grassland will be seeded into re-profiled soil layers using the nutrient poor subsoils on the site and mixing these soils with chalk from the tunnelling and recycled concrete and aggregates from construction works. The design of these soil profiles will be completed through collaboration with Cranfield University and Tim O'Hare Associates in an innovative research study that will use the results from both laboratory and on-site trialling of the soil layers.

This will sit alongside new areas of woodland, wood pasture and wetlands, including almost 65,000 trees and shrubs of 32 species and nearly 3.5km of new hedgerows. Around 4.5km of new footpath, cycling and horse-riding routes will give the public access to large parts of the site, which sits between the Colne Valley Regional Park and the Chilterns AONB.

Welcoming the news, HS2's Environment Director Peter Miller said: "The Western Valley Slopes project is one of the most important parts of our Green Corridor programme to establish better connected, sustainable and biodiverse landscapes along the route of the new railway and will contribute substantially to HS2's carbon reduction target.

"It demonstrates HS2's approach to addressing many of the complex issues surrounding climate change and which are central to protecting our environment, and is a great example of how good design and planning can mitigate the effects of climate change. A huge amount of work has gone into the planning for this ambitious project and it's great that that's been recognised in the schedule 17 approval."

Cllr Phil Williams, Lead Member for Environmental Services, Climate Change and Sustainability, at Three Rivers District Council, said: "We welcome the plans to transform this site which will significantly enhance local biodiversity as well as providing a great new visitor attraction and amenity for people in Three Rivers and further afield.

"The design has evolved from the original proposals thanks to the work of council officers and engagement with the Colne Valley Regional Park Panel, which includes a range of local groups, working collaboratively to achieve a more distinctive and sensitive outcome in the Colne Valley."

Eric Buckmaster, Cabinet Member for The Environment at Hertfordshire County Council, said: "We're delighted that these valuable new habitats will be created in Hertfordshire as part of the HS2 project. Protecting and increasing biodiversity is a major priority for us, and we've been working closely with HS2 for over a decade to try to ensure that the new railway is a net positive for the county's environment.

"It's great news that the construction of the tunnel portal in the south west of the county will mean such a significant improvement for habitats and biodiversity in the area, with new chalk grassland, woodland and wetlands all providing vital homes for some of Hertfordshire's rarest plants and animals."

The plans have been developed by HS2's main works contractor, Align – a joint venture formed of three international infrastructure companies: Bouygues Travaux Publics, Sir Robert McAlpine, and VolkerFitzpatrick – working with Jacobs and LDA Design.

Align is responsible for the Chiltern tunnel's south portal compound – where the giant tunnelling machines are being launched from. In total, around 3 million cubic meters of chalk will be excavated from the

tunnels and reused in the landscape restoration alongside crushed concrete and limestone aggregate used in construction – taking away the need to remove the material by road.

New planting and seeding will create an extensive mosaic of habitat that which would be a perfect home for hundreds of species of flora and fauna, including invertebrates, birds, mammals, reptiles and amphibians.

Daniel Altier, Project Director from Align said: “I am delighted that that this innovative, multi-discipline project to create a huge expanse of new grassland, connected woodland and wood pasture in the Colne Valley has been approved. It will help to preserve declining or rare flora and fauna in the area, and provide a lasting legacy for local people to enjoy for years to come.

“I would like thank Natural England, Hertfordshire and Middlesex Wildlife Trust, the Colne Valley Regional Park Panel, local authorities, and specialist soils experts for their contribution, enabling us to achieve this significant milestone.”

The plans were approved by Three Rivers District Council (which covers more than 99% of the site) and Buckinghamshire Council under Schedule 17 of the HS2 Act 2017. This followed extensive pre-application engagement and collaboration with the planning leads at Hertfordshire County Council, Three Rivers District Council and Buckinghamshire Council, as well as other key stakeholders.

As well as the landscaping, the approval also includes the design of the south portal itself and associated service buildings. Going forward, HS2 and its contractors will continue to work closely with the planning authorities to develop the final restoration of the site.

The first of two tunnel boring machines (TBMs) began excavating the 10 mile long Chiltern tunnel earlier this year, with the site now set to receive a continuous supply of chalk until tunnel completion in 2024. Field trials are in preparation ahead of final seeding, and planting of trees and shrubs in 2025.

*Photo credit: HS2 Ltd*