

Balfour Beatty



Working in
partnership with

HS2

Balsall Common Viaduct Design May 2022



Artist impression of Balsall Common Viaduct from existing Network Rail line

www.hs2.org.uk

Introduction

High Speed Two (HS2) is the new high-speed railway critical for the UK's low carbon transport future. It will provide much needed rail capacity across the country and help to re-balance the UK economy.

As we undertake the next stage of design work on the railway we would like to make the community aware of our work and seek their views on certain structures. This includes Balsall Common Viaduct which is a Key Design Element (KDE).

This booklet explains how the viaduct has been designed and seeks your feedback on certain aspects of the plans.

If you'd like more information about our viaduct design proposals, please visit our local community website.

www.hs2insolihull.co.uk

Due to the Coronavirus (COVID 19) pandemic and in response to Government guidance on social distancing it will not be possible to engage directly with community groups in the usual way. We have therefore created this booklet, a questionnaire and space on the Community website for gathering your feedback and comments.

Website - www.hs2insolihull.co.uk

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What is a Key Design Element?

(KDE)

HS2 has classified certain structures or parts of the railway as “Key Design Elements” (KDEs), including Balsall Common. This means it is important for us to involve the local community in their design.

You can find a full list of the KDEs in Table 1 of HS2 Information Paper D1: Design policy, which is available online from GOV.UK.

The Balsall Common Viaduct is a significant piece of infrastructure that will connect back to the HS2 Design Vision of People, Place and Time. We want it to respect Balsall Common’s local context, environment and social setting.

We have designed the viaduct to do its job effectively, to last 120 years and offer taxpayers value for money in the long term.

Before we begin construction, we would like to understand your views on the following;

- We would be interested to hear your views on footpaths and cycleways and their connectivity in the vicinity of the Balsall Common Viaduct.
- Community opportunities for the area surrounding the viaduct

Please refer to the printed questionnaire enclosed or the online survey at www.hs2insolihull.co.uk

Key Principles of HS2 Design



Heritage and Culture

- Conservation and enhancement of historic landscape features at Berkswell House and Berkswell Hall.
- Conserve the setting of Lavender Hall (Listed Grade II*) through earthworks design and planting.
- Frame and conserve key views relating to historic features in the wider landscape including dispersed listed buildings.



Water

- Continuity and enhancement of wetland features on both sides of the viaduct, including realignment of Bayleys Brook and flood compensation areas to reflect the habitat found around the fishing lakes.
- Linking the viaduct structure to the landscape beneath through the reflective qualities of water and polished concrete forming a connection between the earth and sky.



Ecology

- Promote linkages for wildlife on either side of the viaduct using the natural features of the retained landscape and the realigned brook.



Landscape interface with buildings and structures

- Conservation and enhancement of field boundaries and protection of mature oaks will be combined with earthworks shaped to blend with the local landscape
- Consideration of the mass of the viaduct structure to minimise its impact on the surrounding landscape.

Approaches to Design & Construction

Our approach to the design and construction of the Balsall Common Viaduct aims to achieve:



Waste Reduction

We aim to reuse all excavated materials



Prefabricated Parts

Deck and parapets manufactured off-site which will reduce construction time and site activity



Alternatives to Cement

45-60% use of sustainable alternatives to cement



Minimise Noise

We will use best practice to minimise construction noise



Emissions Reduction

We will minimise construction traffic and energy use



Managing Dust

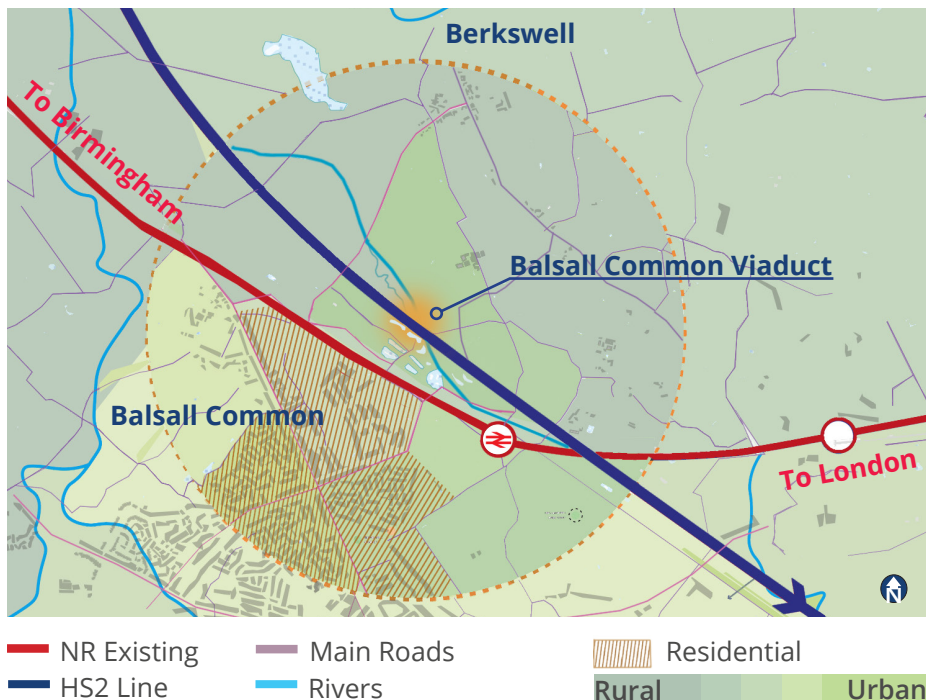
We will manage dust at source to reduce its impact

Context of Design

Landscape Integration

The HS2 route is elevated as it passes Balsall Common on the north eastern side of the existing Network Rail line. The landscape in this area has a rural character of well maintained hedgerows, enclosed fields and fishing lakes. A number of listed farmhouses are located in the wider landscape and views around the area are filtered by mature oak trees and the existing hedges.

The viaduct will be 425m long, approximately 10m above ground level and pass over Truggist Lane, Bayleys Brook, Heart of England Way Walk and the associated floodplain. The viaduct will cross an area of native species grassland with trees, and a wetland close to Bayleys Brook which includes a number of fishing lakes.



Plan Overview

Balsall Common



Legend



Balsall Common Viaduct Sections

Arrows indicate view direction

Refer to page: 9



View point

Refer to pages: 15-23



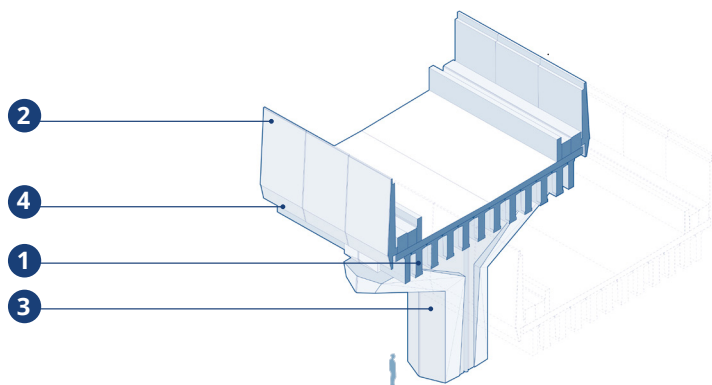
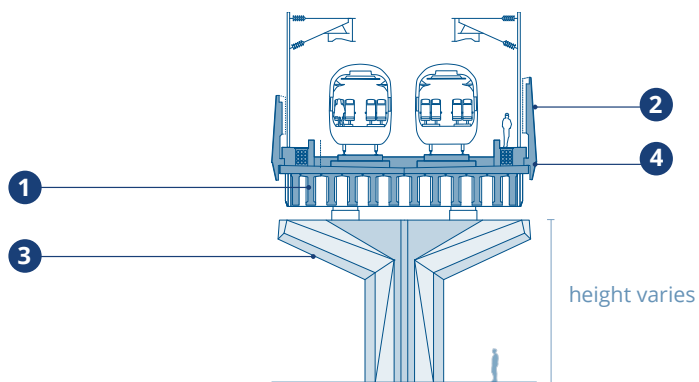
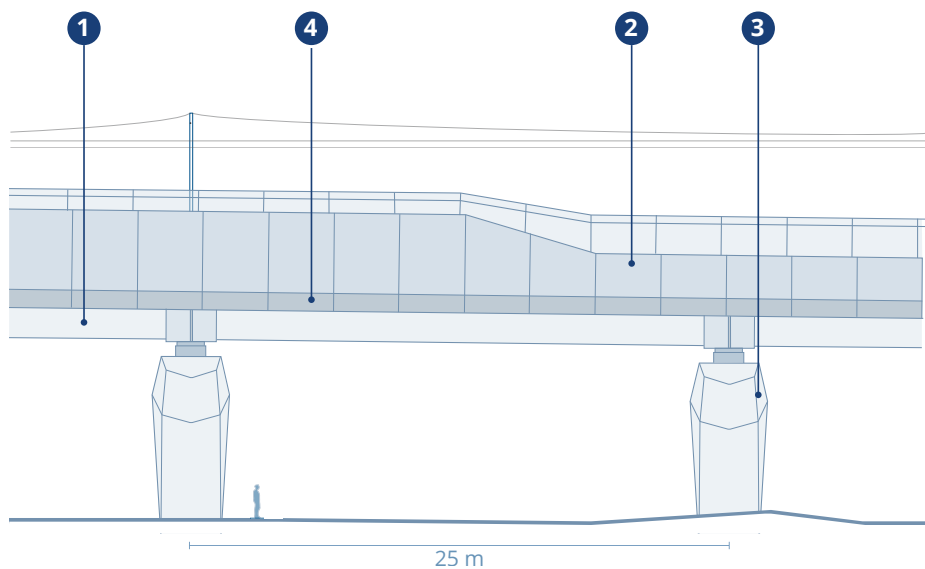
Balsall Common Viaduct

Viaduct Design

- 1 Viaduct structures will support the HS2 track where it passes over roads, railways, rivers and valleys. These structures comprise of the bridge deck with parapet walls along their outer edges and a series of support columns called piers.
- 2 Parapets forming the edges of the viaducts will prevent users of the maintenance/emergency walkway from falling. The design of the parapets has been carefully considered with surface treatments to reduce their visual impact.
- 3 Piers supporting the viaducts have been designed for the weights and dynamic loads of the railway systems that they support. The proportions and spacing of the piers have been designed to meet these technical requirements whilst appearing consistent and elegant.
- 4 The viaduct barrier parapets will be 1.2m, 3.1m or 4.1m from track level meeting specific technical requirements, to mitigate the noise effects from the train. The 3.1m and 4.1m parapet barriers will include an integrated acoustically absorptive surface.

Both parapets and piers will be made from concrete and are HS2 Common Design Elements that have previously been discussed and shared with communities.

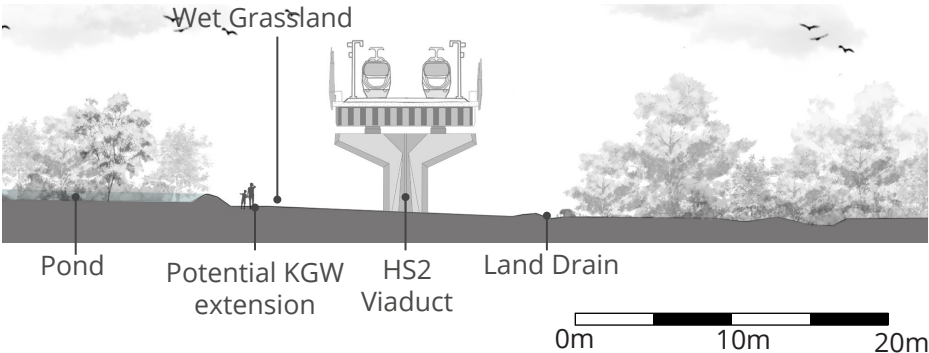
The piers and parapets will be designed, detailed and manufactured to be durable and low maintenance for HS2's 120 year design life.



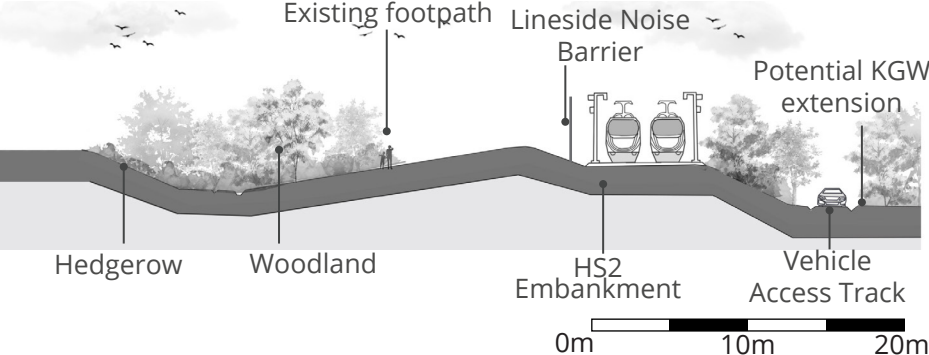
Balsall Common Viaduct

Sections

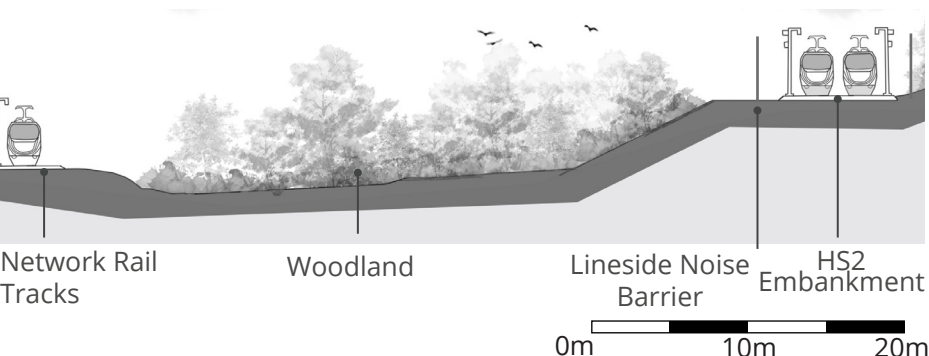
Section A



Section B



Section C



New planting accompanying the Balsall Common viaduct has been carefully designed to integrate the structure and its adjacent embankments into the local landscape. Strategically placed woodland planting and individual trees will be planted along the route of HS2, on one side of each embankment that will gradually screen the embankments and trains as they mature into the historic environment.

A block of woodland will be planted immediately north of Truggist Lane which will partially screen the viaduct from properties to the north-east.

The connection between the embankments and surrounding landscape will be formed with gentle slopes and a carefully designed transition. The areas of woodland and grassland will enhance the existing habitats in the area.

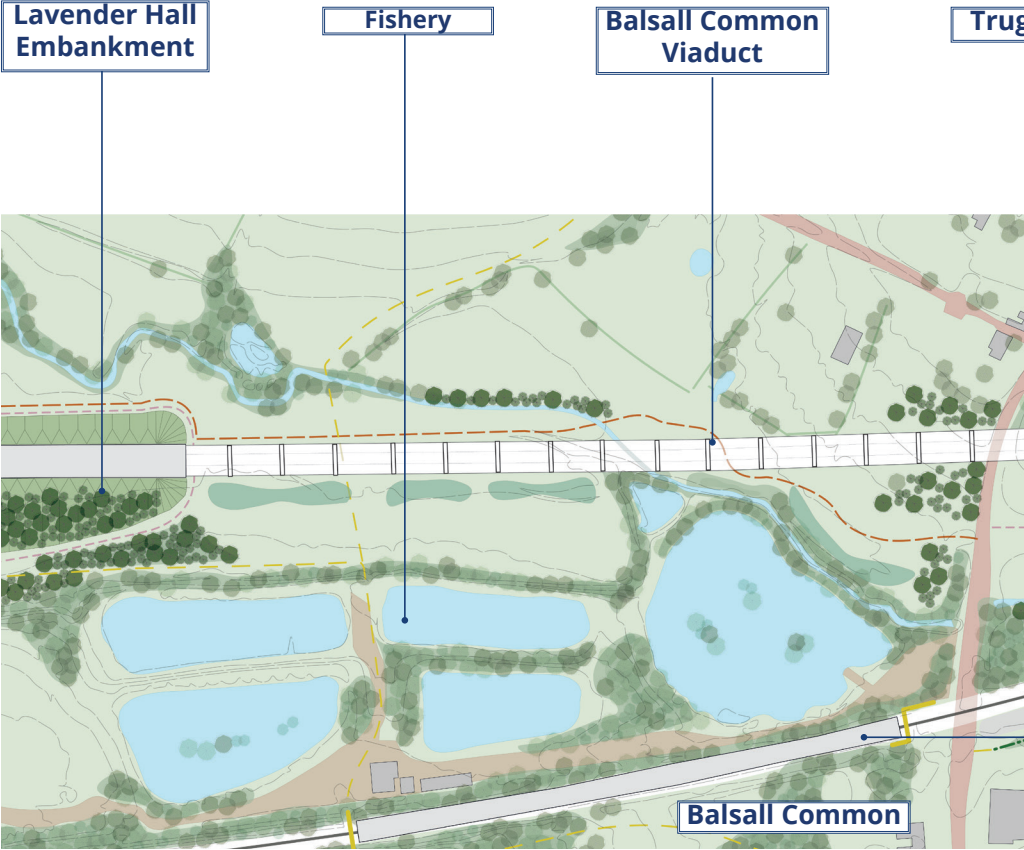
The hedgerows in this area serve as important linkages for wildlife. Any loss of hedgerow habitat will be replanted in the Berkswell and Balsall Common area and along Truggist Lane to maintain wildlife corridors.

The landscape design for the viaduct aims to:

- Minimise the impacts of HS2 on the landscape, on local ecology and on views of the countryside enjoyed by people.
- Maintain existing public rights of way and other local connectivity networks.
- Protect and enhance existing habitats close to the route.
- Respect the existing rural character of the landscape by specifying plant species found locally.

Landscape Proposal

Footpaths & Planting



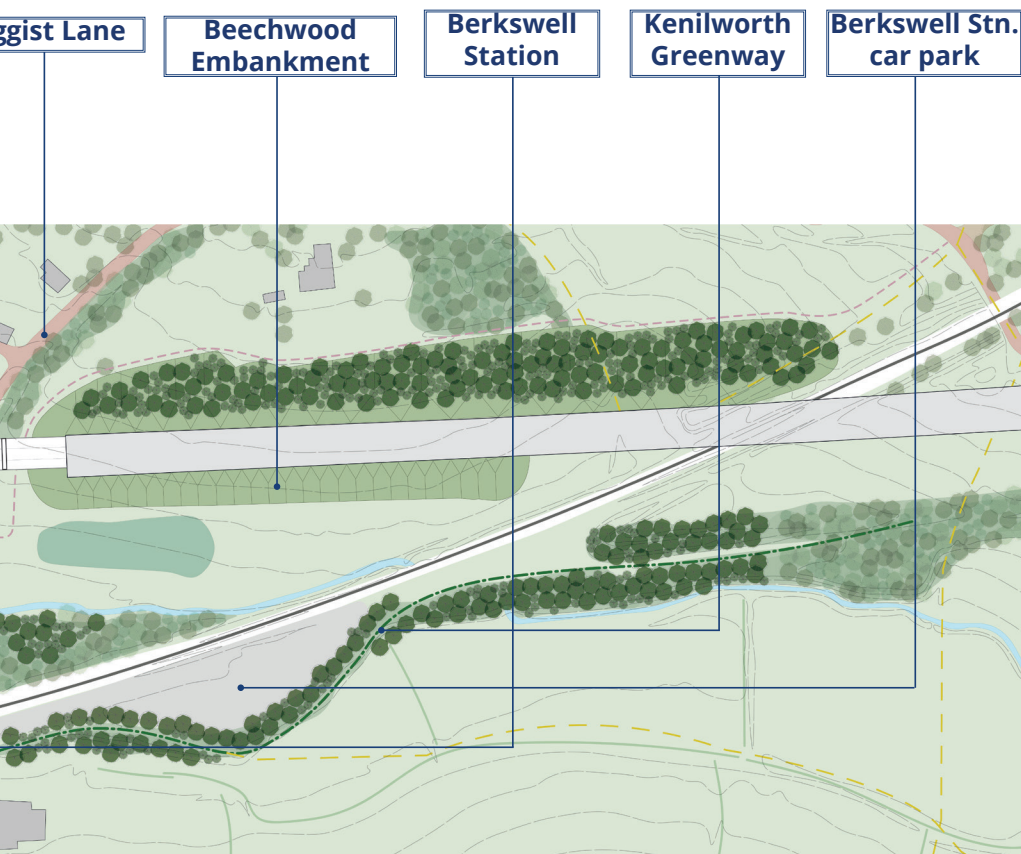
Legend

- Existing Footpath
- Vehicle Access Track
- Potential extension of the Kenilworth Greenway
- Existing Rail Line
- Proposed Landscape Planting
- Existing Landscape Planting
- Viaduct

0 m 50 m 100 m 150 m 200 m

Landscape Map

The landscape map shows the Balsall Common Viaduct, existing connectivity networks and open spaces within Balsall Common and Berkswell.



Trees and shrubs will be planted within the area of the viaduct, alongside the creation of new woodland habitats and ecological ponds. The Kenilworth Greenway will be extended to Station Road with the potential to extend it northwards along the viaduct to Lavender Hall Lane.

Community Amenities

Opportunity



Legend

- Existing Footpath
- Vehicle Access Track (HS2)
- Potential extension of the Kenilworth Greenway
- Existing Rail Line
- Proposed Landscape Planting
- Existing Landscape Planting
- Viaduct
- Highlighted area for feedback



Surrounding the viaduct, there is an area of approximately one hectare where there might be potential for community facilities. These could include natural play and exercise facilities or a park area focussed on ecological diversity or interpretation for local historic features in the area.



Would you like to see the creation of community facilities in the area (highlighted above) adjacent to the viaduct?

Please refer to the printed questionnaire enclosed or the online survey.

Website - www.hs2insolihull.co.uk

Balsall Common Viaduct

Planting maturity shown 10 years after construction



View 1 - from landscape footpath



Balsall Common Viaduct

Planting maturity shown 10 years after construction



View 2 - from farmhouse on Baulk Lane



Balsall Common Viaduct

Planting maturity shown 10 years after construction



View 3 - from Station Road



Balsall Common Viaduct

Planting maturity shown 10 years after construction



View 4 - from Baulk Lane



Balsall Common Viaduct

Planting maturity shown 10 years after construction



View 5 - from Berskwel Station (north side)



Landscape Proposal

Footpath links



The landscape map shows the Balsall Common Viaduct and existing connectivity networks, as well as proposed connectivity networks.

We would be interested to hear your views on footpaths and cycleways in the vicinity of the Balsall Common Viaduct so that we can ensure HS2 works facilitate wider connectivity.



- Existing Public Right of Way
- Existing Rail Line
- Kenilworth Greenway
- Potential links to Kenilworth Greenway
- Missing links
- Wetland Habitat Scrapes
- ↗

Construction Methodology

Responding to the challenge



Programme of work for the viaduct

(Anticipated timeline - this could be subject to change)

**Preparation works for
construction and brook diversion**

**Start of
construction**



2022

2024

Balfour Beatty VINCI's approach to building the Balsall Common Viaduct will help minimise the construction impacts.

This includes:

- Limiting the impact on the environment with both temporary or permanent diversions of the existing waterway.
- Construction of haul routes off Lavender Hall Lane and Park Lane compound.
- Using haul routes wherever possible to reduce the impact on local roads.
- Construction of the 425m long viaduct comprising precast concrete beams.
- A precast bridge parapet will be installed along with noise barrier.

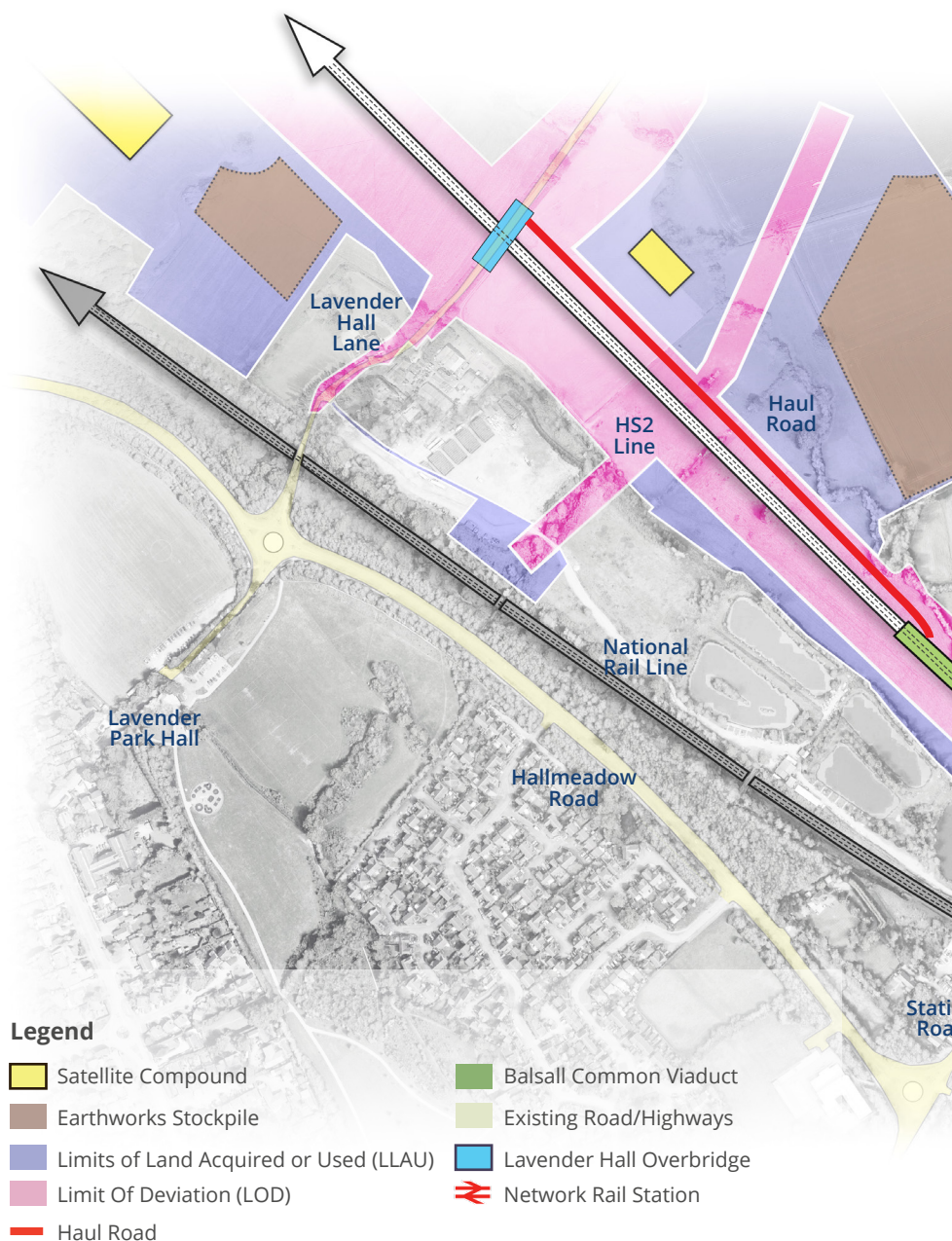
**End of
construction**



2026

Traffic Management

Plan Overview



To meet or exceed HS2's Environmental Minimum Requirements (EMRs) we will:

- Use the least disruptive access into the Balsall Common Viaduct, to minimise the impact on local highways.
- Use haul roads within the land allocated for HS2.
- Reinstall temporary earthworks stockpile to previous use and state after completion.

Requirements specific to Balsall Common:

- Truggist Lane must be kept open throughout construction.
- Access to work site gained from the north via Park Lane/Lavender Hall Lane



0 100 200 500m



Have your say

We would like to hear what you think about the Balsall Common Viaduct.

Please fill in the questionnaire that accompanied this booklet and send it to us using the address:

FREEPOST HS2 Community Engagement Hub

Alternatively, you can also fill in the questionnaire online – visit www.hs2insolihull.co.uk

The closing date for the questionnaire is May/June 2022.

What happens next?

We will carefully consider your views as part of our ongoing design process for the Balsall Common Viaduct.

Our feedback will be published on the HS2 community website. We will also share what we've learned with Solihull Metropolitan Borough Council, to help them assess our final designs once we have submitted them for their approval later this year.

Enquiries and alternative format:

If you have any other comments, or if you require this questionnaire in an alternative format, please contact us as follows:

- HS2enquiries@hs2.org.uk
- 24/7 freephone helpline: 08081 434 434

Keeping you informed

We are committed to keeping you informed about work on HS2. This includes ensuring you know what to expect and when to expect it, as well as how we can help.

The Residents' Commissioner

The independent Residents' Commissioner oversees and monitors our commitments to you. The commissioner's reports and our responses can be found at www.gov.uk/government/collections/hs2-ltd-residents-commissioner

The Residents' Commissioner can be contacted on: residentscommissioner@hs2.org.uk

Holding us to account

If you are unhappy for any reason, you can make a complaint by contacting our HS2 Helpdesk team. For more information visit: www.hs2.org.uk/how-to-complain

Property and compensation

You can find out all about HS2 and properties along the line of route by visiting our website. You can also find out if you're eligible for compensation.

For more information visit: www.hs2.org.uk/in-your-area/

Contact us

Our HS2 Helpdesk team are available all day, every day. You can contact them via:



Freephone
08081 434 434



Minicom
08081 456 472



Email
hs2enquiries@hs2.org.uk

Write to

FREEPOST

HS2 Community Engagement

Website www.hs2.org.uk

To keep up to date with what is happening in your area, visit: www.hs2inyourarea.co.uk

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