

HS2

Phase 2a - Landscape and Visual

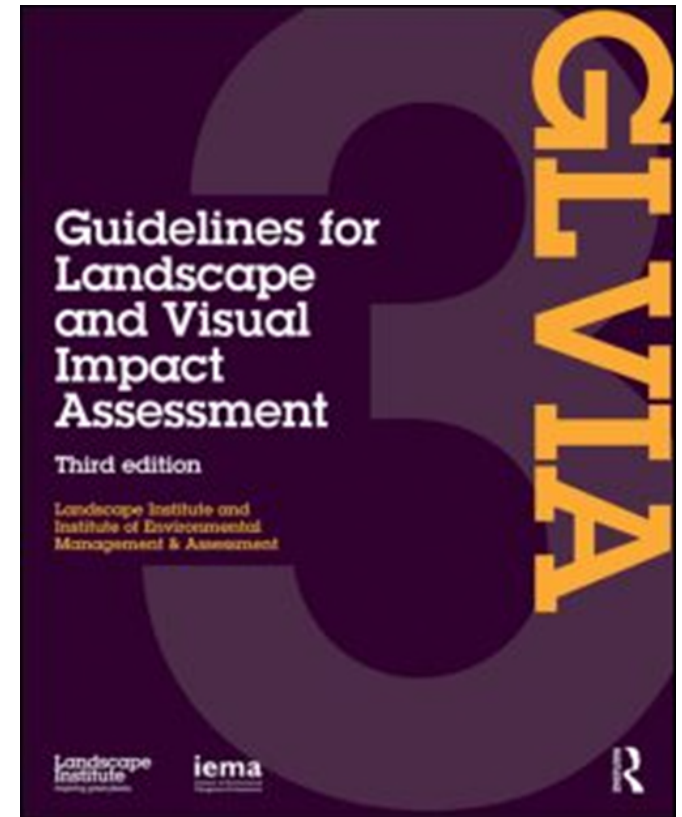
May 2018

Landscape & Visual – HS2 approach

No existing legislation.

HS2 assessment uses:

- *Guidelines for Landscape and Visual Impact Assessment Landscape (GLVIA3)* - Landscape Institute and IEMA (2012).
- *Design Manual for Roads and Bridges (DMRB)*, Volume 11 Section 3 Part 5: Landscape Effects (1993).



HS2 approach to landscape & visual assessment

Landscape Character Assessment

Assessment of landscape and of the impact of the Proposed Scheme in the landscape, taking account of the elements of the landscape which contribute to its character.

Visual Assessment

Assessment of visual effects, taking account of the effects of construction and operation of the Proposed Scheme on views and visual amenity.

Landscape Design

A design that seeks to integrate the Proposed Scheme into the landscape through which it passes.

Landscape Character – Assessment process

Baseline



Landscape near Swynnerton Old, Park Staffordshire.

Landscape character areas are areas which share similar landscape characteristics. They have been identified by county and local authorities as well as other bodies.

The identification of these areas takes into account:

- Landscape value: this includes the natural and historic landscapes, scenic quality, landscape condition.
- Landscape susceptibility: the ability of landscape to accommodate specific development without negative consequences.
- Landscape value and susceptibility combined gives the sensitivity of each area.

Landscape character areas have been considered in order to assess the effects of the Proposed Scheme on the local landscape character.

Landscape Character – Assessment process

Assessment of effects

Assessing sensitivity



Assessing magnitude



Assessing significance

Changes to the landscape as a result of the Proposed Scheme may give rise to effects on landscape character.

Sensitivity of the landscape is classified as: high, medium, low or negligible.

The magnitude of such effects can be classified as: high, medium, low or negligible.

Significant effects are identified through assessing the magnitude of change introduced by the Proposed Scheme and the sensitivity of the landscape.

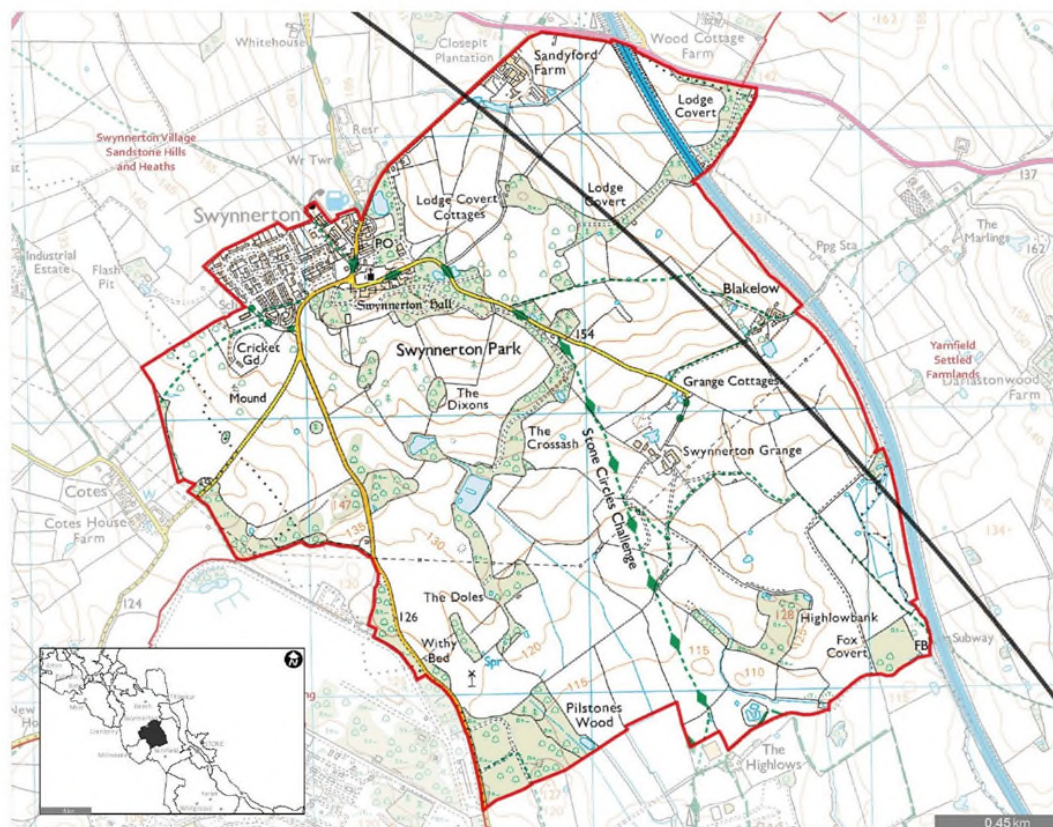
The significance of such changes is determined using professional judgement in accordance with the guidance.

Landscape Character Area Assessment - Example

Swynnerton Park Sandstone Hills and Heaths LCA

Landscape character baseline description

Swynnerton Park Sandstone Hills and Heaths LCA is defined by a planned estate landscape associated with the 18th century parkland of Swynnerton Park. The parkland forms the setting to the grade I listed 18th century Swynnerton Hall at the edge of the vernacular estate village of Swynnerton, and marks the northern extents of the LCA. The wider landscape of the LCA is defined by early small scale field enclosures, and woodland blocks overlaid upon a rolling topography. The landscape is largely intact albeit cut by the route of the M6 motorway and a pylon line through its centre. A network of footpaths including the Stone Circles Challenge long distance path cross the LCA, linking the villages of Swynnerton and Yamfield.



Principal vegetation



Parkland
Add species here



Tree belt
Add species here



Broadleaved woodland
Add species here



Hedgerow
Add species here



Key value characteristics: Historic landscape interest: The historic grade I listed Swynnerton Hall with associated park and pleasure garden designed by Capability Brown creates a landscape characterised by historic components, such as parkland woodland belts and specimen parkland trees.



Key value characteristics: Scenic qualities and perception of the landscape: The LCA is defined by a planned estate landscape and associated large specimen trees and deciduous woodland parkland belts. The landscape is perceived as having a strong sense of tranquillity, although the presence of the M6 motorway and pylon line detract from this character.

Landscape Character Area Assessment - Example

Swynnerton Park Sandstone Hills and Heaths LCA

Key susceptibility characteristics in relation to the Proposed Scheme

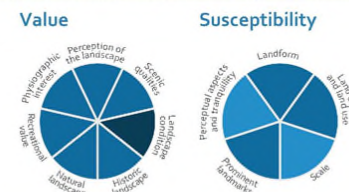


Landscape Character Assessment

Description of overall landscape value: The planned parkland estate and wider LCA defined by early, small scale field enclosures and woodland blocks overlaid upon a rolling topography formed primarily by the underlying sandstone geology creates an LCA with a high level of landscape condition and of significant scenic quality. The remnants of the Capability Brown designed parkland and the numerous historic buildings and features within the LCA create a highly valued landscape. Despite the perception of the LCA being slightly reduced by the presence of large infrastructure features such as the M6 motorway and line of pylons, there is a **high** overall landscape value.

Description of overall landscape susceptibility: The medium scale, relatively intact undulating landform with small scale intimate landcover and prominent landmarks create a predominantly tranquil landscape, which is susceptible to change. However the presence of the M6 motorway and line of pylons provides a degree of modern human influence through large scale infrastructure, which degrades some of the perceptual aspects of the LCA. Therefore the overall landscape susceptibility is considered to be **medium**.

Description of overall landscape sensitivity: Due to the scenic qualities and tranquillity of the historic parkland estate, the small scale undulating and largely intact landscape, allied with the strong sense of time depth. This LCA has a **high** sensitivity to change.



Magnitude of Change

Construction: The magnitude of change is considered to be **high** due to the construction of the M6 Meaford viaduct, Meaford North and Swynnerton embankments, Swynnerton South and Swynnerton North cuttings, a series of underbridges, underground utility works for new power lines and the Stone Railhead in the adjacent Yamfield Settled Farmland LCA. In addition the associated compounds, earthworks, erection of viaduct piers and spans, presence of equipment, haulage routes and the presence of stock piles would introduce a locally large degree of change to the character of the planned estate landscape.

Year 1 Winter: The magnitude of change is considered to be **high** due to the presence of M6 Meaford viaduct, Meaford North and Swynnerton embankment, Tittensor Road diversion and the impact from the Stone IMB-R (and lighting) in the adjacent LCA, which will change the character of the planned estate landscape.

Year 1 Summer: The magnitude of change is considered to remain **high** due to the reasons above and mitigation planting providing no significant additional mitigation due to its immaturity.

Year 15 Summer: The magnitude of change will remain **high** due to the reasons above. Although mitigation planting will provide some landscape integration of the Proposed Scheme in it's context, the change to the character of the planned estate landscape will remain due to the scale of the aforementioned elements.

Year 60: The magnitude of change will reduce to **medium** due to mitigation planting being sufficiently established to provide partial screening of the Proposed Scheme.

Effect	Significance
Major adverse	Significant
Major adverse	Significant
Major adverse	Significant
Major adverse	Significant
Moderate adverse	Significant

Visual assessment – Defining the Baseline

Assessment of visual effects

Baseline



The study area is defined by the Zone of Theoretical Visibility (ZTV) which is the area over which the proposed construction activities or the components of the Proposed Scheme (including trains) might be visible.

This accounts for local topography and existing vegetation.

Representative viewpoints are identified to assess the visual effects on sensitive receptors (e.g. residential properties, schools, farms and sports facilities) within the ZTV.

The locations of such viewpoints have been agreed with local planning authorities along the line of the route.

Sensitivity of receptors is determined based on people's level of interaction with the landscape (e.g. those areas with existing transport infrastructure rural; urban landscape).

Visual assessment – Assessing the Effects

Assessment of visual effects

Assessing magnitude



Assessing significance

Changes to views as a result of the Proposed Scheme may give rise to effects on sensitive receptors.

The magnitude of such effects can be classified as high, medium, low or negligible.

Significant effects are identified through assessing the magnitude of change introduced by the Proposed Scheme and the sensitivity of the viewpoint.

The significance of such changes is determined using professional judgement in accordance with the guidance.

Visual Assessment - Viewpoints

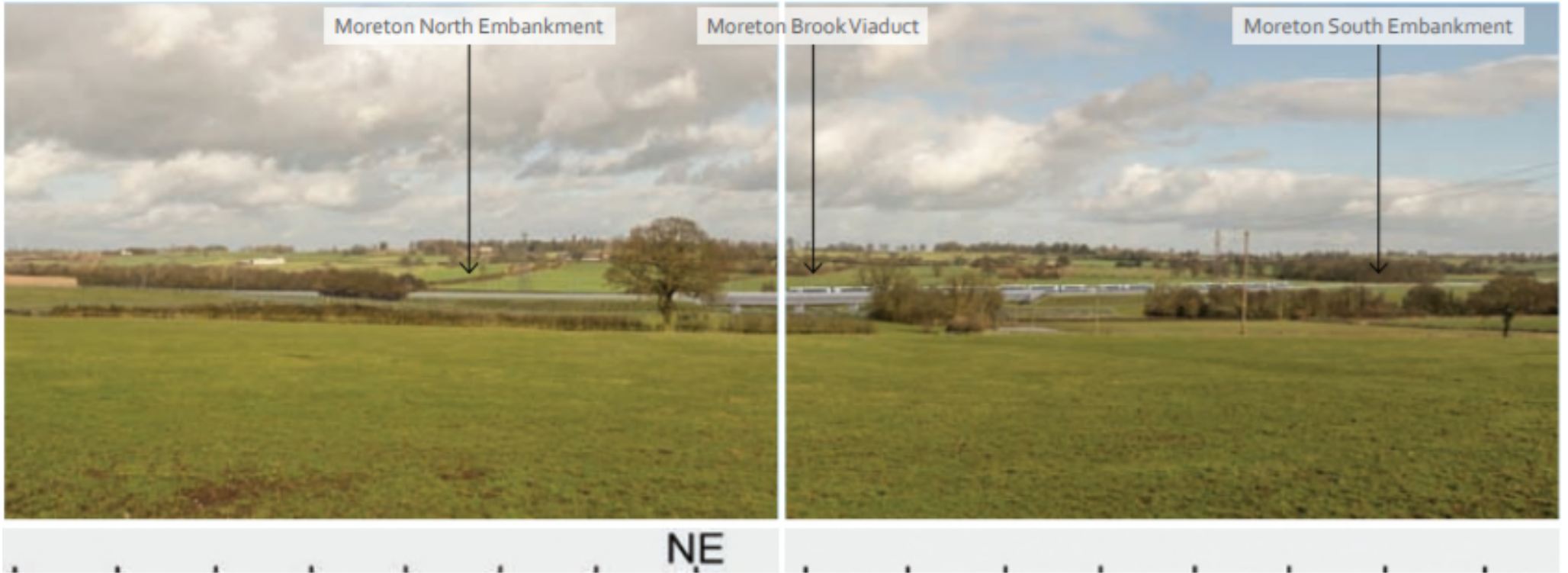


Viewpoints are selected to allow an assessment of visual effects on:

- Occupiers of residential premises;
- Users of recreational facilities (including public rights of way), hotels and healthcare facilities;
- Schools and colleges;
- Road and rail users;
- Places of work.

Viewpoints are taken from publically accessible land.

Visual Assessment - Photomontages



<p>007.03.015</p> <p>Key Plan</p> <p>1 km</p>	<p>Figure Number</p> <p>LV-01-680</p>
	<p>Figure Name</p> <p>Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 007.03.015</p>
	<p>Community Area 2: Colwich to Yarlet</p>

Visual Assessment - Photomontages

Why do we undertake photomontages?

- Help to understand the visual effects of the Proposed Scheme.
- Where the effect on views cannot be easily assessed using other documents or techniques (e.g. plans, sections, elevations and 3D visualisations).
- Stakeholder request e.g. local authority.

Photomontages are verifiable and produced to the established industry standard (Landscape Institute).

Photomontages are produced to show: construction, operation - year 1 (winter and summer), and operation - year 15 (summer).

The year 15 views account for the maturing of landscape mitigation planting.

Landscape Design

HS2 Design Vision - making HS2 a catalyst for growth

HS2's principal objective is to deliver an inspired design, the best in worldwide design.

The system will be delivered through all the designed elements coming together.

Every design task is critical.



People

Design for everyone to benefit and enjoy

- 1 Design for the needs of our diverse audiences
- 2 Engage with communities over the life of a project
- 3 Inspire excellence through creative talent



Place

Design for a sense of place

- 4 Design places and spaces that support quality of life
- 5 Celebrate the local within a coherent national narrative
- 6 Demonstrate commitment to the natural world



Time

Design to stand the test of time

- 7 Design to adapt for future generations
- 8 Place a premium on the personal time of the customers
- 9 Make the most of the time to design

Landscape Design - HS2 Landscape Design Approach

The Landscape Design Approach embraces the wider HS2 vision. It is based on principles set out within the HS2 Design Vision, reflecting the project's commitment to the role that good landscape design will play in making High Speed Two 'a catalyst for growth' across Britain.

It presents the design aspirations for HS2 to ensure the project can achieve its full potential.



Landscape Design - HS2 Landscape Design Approach

Understanding & responding to local context

Conserve



A sensitive high value landscape is likely to require a landscape design approach that creates significant screening and integration of HS2, but also develops measures that will conserve and enhance the overall landscape character.

Enhance



A landscape in which HS2 may be potentially highly visible is likely to require a bold landscape design approach to create effective screening and integration, but also gives the opportunity for enhancement of local landscape character.

Restore



HS2 may traverse a landscape that has lost or is losing original features and qualities that provided its intrinsic landscape character. The opportunity is to restore and significantly improve existing landscape character.

Transform



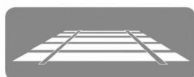
Some areas through which HS2 is planned may be in very poor landscape condition. The opportunity for HS2 bringing transformation and wide reaching positive landscape change may occur both in rural and urban locations.

Landscape Design – Integrated Design

Landscape mitigation forms part of an integrated design approach that considers both engineering requirements and environmental considerations alongside best practice design.

Mitigation has been considered firstly at a strategic scale with consideration given to the horizontal and vertical alignment to reduce landscape and visual effects (for example the Proposed Scheme has been kept as low in the landscape as possible).

HIGH SPEED 1 AT WESTWELL LEACON, KENT



ENGINEERING



NOISE



LANDSCAPE



HERITAGE



ECOLOGY

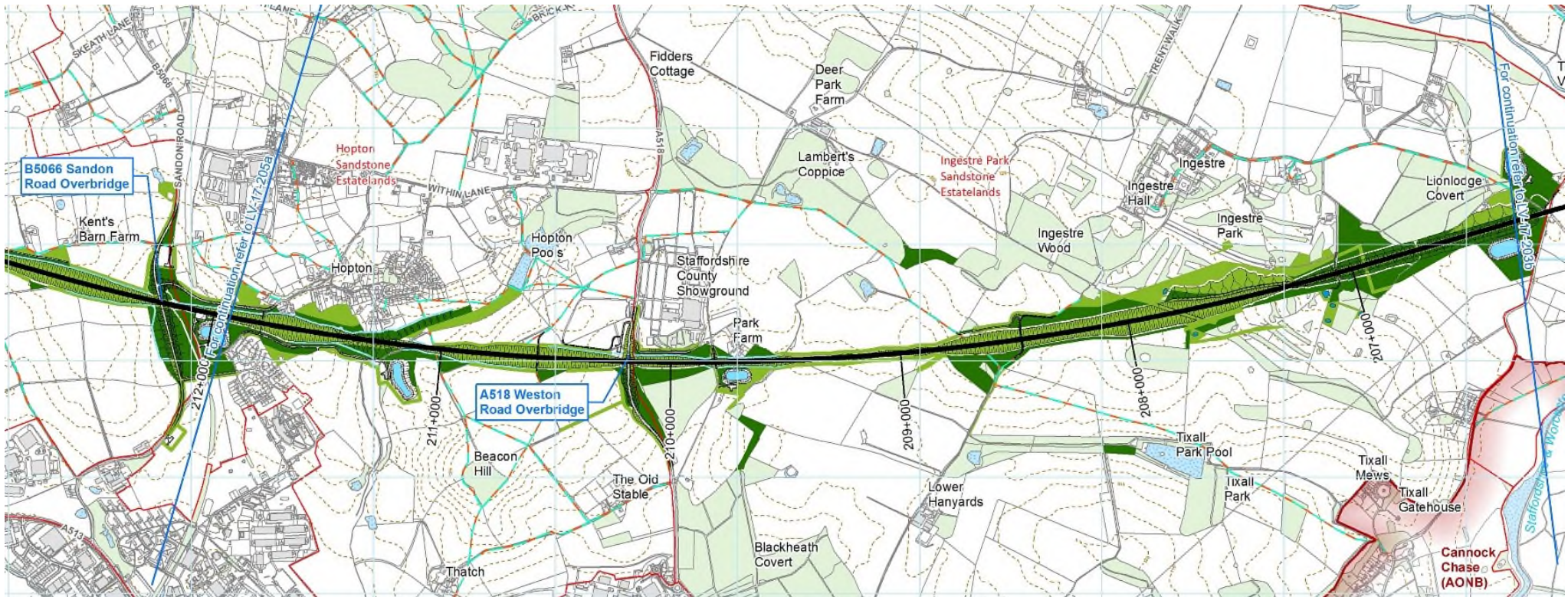


AGRICULTURE

Landscape Design – Mitigation Principles

Mitigation will:

- Respect the character of the existing landscape and seek to integrate the scheme into the wider landscape, taking into account agriculture, landscape management and historic elements.
- Create new and replacement habitat to enable connectivity and movement for wildlife across the landscape.



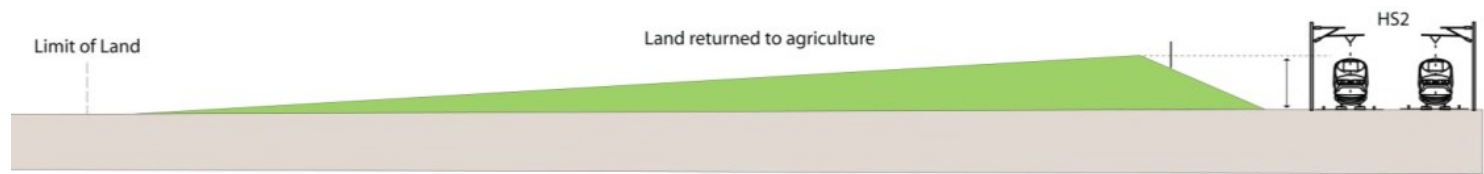
Landscape Design - Individual elements

Reducing visual impact - typical sections

Typical embankment



Typical section at grade



Typical section at cutting



Landscape Mitigation during Construction

Mitigation to reduce effects of construction:

- Advance planting, temporary screening or earthworks will be identified during detailed design at appropriate locations.
- Temporary or permanent mitigation will be installed at the earliest opportunity where appropriate.
- Planting away from the route will also be established to reduce adverse landscape and visual effects.

Landscape Mitigation – Maintenance

The nominated undertaker will maintain landscaped areas within the rail corridor to an appropriate standard.

The nominated undertaker will either maintain other landscaped areas or will secure their maintenance through maintenance agreements.

Areas of mitigation provided outside the limits of the operational railway may be transferred to third parties or retained by their current owner subject to agreements to ensure that the necessary management objectives continue to be met throughout the operational life of the railway.

The HS2 Design Panel

Set up by the Secretary of State for Transport (SoS).

Independent.

The Design Panel was established to guide HS2 to ensure the scheme meets the highest international design standards.

They include experts in design fields who are considering key elements of the overall design as well as more site specific issues.

The Design Panel helped to establish the landscape vision and to raise the bar on design quality and the definition of key landscape design principles.