



HIGH SPEED TWO PHASE ONE INFORMATION PAPER

E16: MAINTENANCE OF LANDSCAPED AREAS

This paper outlines the proposed approach to the maintenance of landscaped areas created for HS2 Phase One.

It will be of particular interest to those potentially affected by the Government's proposals for high speed rail.

This paper was prepared in relation to the promotion of the Bill for Phase One of the scheme which is now enacted. Although the contents were maintained and updated as considered appropriate during the passage of the Bill (including shortly prior to the enactment of the Bill in February 2017) the contents are now historic and are no longer maintained.

If you have any queries about this paper or about how it might apply to you, please contact the HS2 Helpdesk in the first instance.

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1. Introduction

- 1.1. High Speed Two (HS2) is the Government's proposal for a new, high speed north-south railway. The proposal is being taken forward in two phases: Phase One will connect London with Birmingham and the West Midlands and Phase Two will extend the route to Manchester, Leeds and beyond.
- 1.2. HS2 Ltd is the non-departmental public body responsible for developing and promoting these proposals. The company works to a Development Agreement made with the Secretary of State for Transport.
- 1.3. In November 2013, HS2 Ltd deposited a hybrid Bill¹ with Parliament to seek powers for the construction and operation of Phase One of HS2 (sometimes referred to as 'the Proposed Scheme'). The Bill is the culmination of nearly six years of work, including an Environmental Impact Assessment (EIA), the results of which were reported in an Environmental Statement (ES) submitted alongside the Bill. The Secretary of State has also published draft Environmental Minimum Requirements (EMRs), which set out the environmental and sustainability commitments that will be observed in the construction of the Proposed Scheme.
- 1.4. The Bill is being promoted through Parliament by the Secretary of State for Transport (the 'Promoter'). The Secretary of State will also appoint a body responsible for delivering the Proposed Scheme under the powers granted by the Bill.
- 1.5. This body is known as the 'nominated undertaker'. There may well be more than one nominated undertaker – for example, HS2 Ltd could become the nominated undertaker for the main railway works, while Network Rail could become the nominated undertaker for works to an existing station such as Euston. But whoever they are, all nominated undertakers will be bound by the obligations contained in the Bill and the policies established in the EMRs.
- 1.6. These information papers have been produced to explain the commitments made in the Bill and the EMRs and how they will be applied to the design and construction of the Proposed Scheme. They also provide information about the Proposed Scheme itself, the powers contained in the Bill and how particular decisions about the project have been reached.

¹The High Speed Rail (London – West Midlands) Bill, hereafter 'the Bill'.

2. Landscape design of HS2

- 2.1. This paper outlines how the new landscaped areas created along the Hs2 Phase One route will be maintained.
- 2.2. The Proposed Scheme has been developed to minimise its impacts on the surrounding environment and, where possible, make a positive contribution to it. This has been achieved by taking both environmental and engineering factors into account during the design stages.
- 2.3. Landscaping and the use of land near the railway have an important role in mitigating the effects of the railway: it can provide visual and noise screening and replace habitats that are lost as a result of the project. This will result in a number of different landscape types along the route of HS2. These can be broadly categorised as:
 - new urban public realm, primarily around the proposed stations;
 - woodland planting, including:
 - the creation of woodland to compensate for the loss of ancient woodland;
 - the creation of woodland to compensate for the loss of other woodland habitat; and
 - the creation of new areas of woodland to help integrate HS2 into the surrounding landscape;
 - tree and shrub screen planting along stretches of the Proposed Scheme, to reduce visual impacts;
 - new or replacement hedgerow planting;
 - grassland, including:
 - on cutting slopes and embankments within the railway corridor (i.e. the land permanently required by HS2 to operate the railway) ;
 - on cutting slopes and embankments outside the rail corridor, but within the land boundary of HS2;
 - on land outside the boundary of HS2 ownership; and
 - in areas where grassland habitat is created to compensate for loss of ecologically important grassland;
 - ponds and wetland habitat, including:
 - balancing ponds;
 - land drainage areas;

- ditches;
 - ecological mitigation ponds; and
 - wetland habitat creation.
- 2.4. During construction and for a period of time after, any new planting, grassland and habitat creation will be maintained by the nominated undertaker to ensure they become established and are properly maintained.
 - 2.5. This period of initial maintenance will vary depending on the habitat or feature and the complexity and objectives for the landscape type. Tree planting, for the purpose of screening will likely require up to 5 years maintenance.
 - 2.6. After an initial period of maintenance, the nominated undertaker will seek to return the majority of land to previous landowners or other interested parties (such as local wildlife trusts, woodland trust, local authorities), where agreement can be reached that will ensure the continued objectives of the landscaping are maintained into the future.
 - 2.7. Where agreement cannot be reached, the land will be retained and maintained by the nominated undertaker until agreement is put in place with a suitable owner or party. This could mean that such land will remain under the ownership of the railway.
 - 2.8. For the smaller percentage of land that is required to remain under railway ownership, the nominated undertaker will appoint a managing company (or companies) to ensure the adequate maintenance of landscapes - primarily, this will involve screen planting and grassland on railway earthworks within the security fence lines.
 - 2.9. Some areas of land that are required during the construction phases of the scheme may be temporarily landscaped to help mitigate construction-related effects. Such temporary areas will be returned to their previous use following the completion of the scheme.
 - 2.10. In addition to the earthworks and planting required along the length of the Proposed Scheme, there are a number of areas identified for Sustainable Placement. This is the on-site placement of surplus excavated material for disposal, in order to avoid causing environmental effects (e.g. transport) that would otherwise be associated with removing this material for off-site disposal. See Information Paper E3: Excavated material and waste strategy for more details.
 - 2.11. Sustainable Placement areas will be suitably restored in line with land use described in Section 5 and 6 of this paper. As part of the project's principles for the development of a 'green corridor'², the areas will be either returned to their

² See information paper E11 - Green infrastructure and the green corridor.

former use or re-designed to provide future multi-functional uses. An agreement will be reached for future upkeep and ownership with previous land owners or other interested parties. Where agreement cannot be reached, the land will be retained and maintained by the nominated undertaker until agreement is put in place. This could mean that such land would remain under the ownership of the railway.

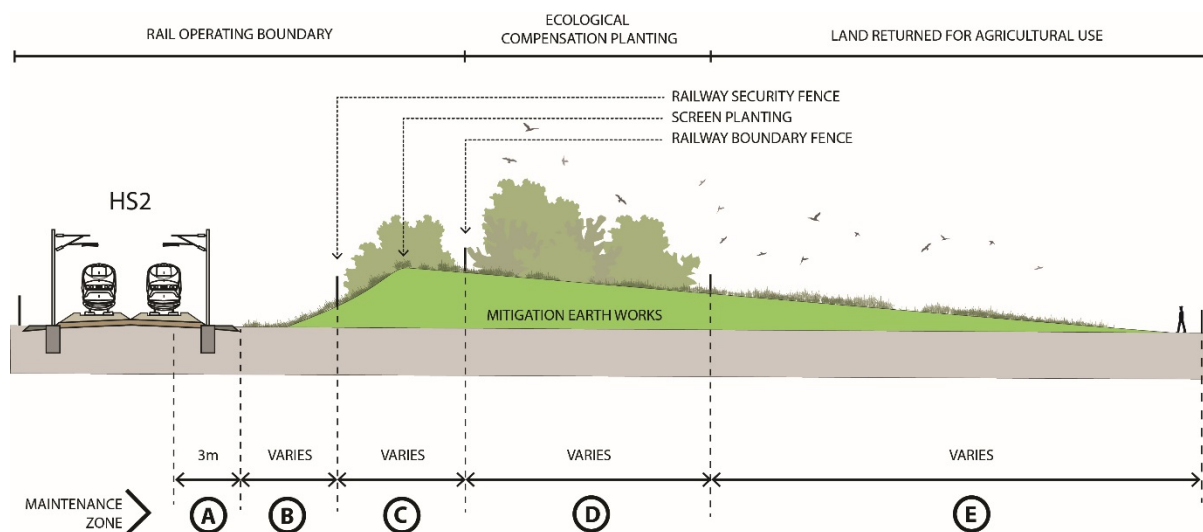
3. HS2 Ltd Sustainability Policy

- 3.1. The HS2 Ltd Sustainability Policy supports the Government's goal to encourage well-being and protect the environment. The policy contains a number of aims that relate to the subject matter of this paper:
- environmental change - seek to avoid significant adverse effects on communities, business and the natural, historic and built environment. Minimise impacts where they occur and deliver enhancements as far as practicable to ensure there is no net loss to the natural environment; and
 - resilience - build a network that is resilient for the long term and seek to minimise the combined effect of the project and climate change.
- 3.2. The Draft Environmental Memorandum describes HS2 Ltd's policy on the maintenance of landscape areas and/or the restoration of land to be returned following use. Please refer to the Draft Environmental Memorandum for further information.

4. Operation of the railway

- 4.1. HS2 is designed to operate a full train service during normal running hours. This means most maintenance activities will be carried out overnight. The design of the landscape within the rail corridor (i.e. within the HS2 security fence - zones A and B in Figure 1.1) has been developed to reduce maintenance requirements. Zone A will be kept free of vegetation at all times in order meet the railways operational requirements. There will be no tree planting within Zone B, unless this is deemed to be an important environmental requirement. The reasoning for this is explained in the paragraph below. Instead, grassed areas with low-nutrient soils will encourage slow-growing grassland species, reducing maintenance while promoting biodiversity.
- 4.2. Tree planting will be designed to minimise risks to the operation of the railway that may arise from falling leaves, root damage and high winds breaking branches or felling trees in the vicinity. In practice, this means a 'zone of influence' will be established along HS2, within which the height of vegetation will be limited. This zone - represented by Zone C in Figure 1.1 - may extend beyond the HS2 security fence, depending whether the railway is on embankment, at grade or in cutting.

Figure 1.1 - Indicative maintenance requirements for each zone. Note that areas for 'ecological compensation' are not required on all parts of the route.



5. Land to be returned to agricultural use

- 5.1. As described in Section 2, HS2 has been developed to minimise the amount of land that needs to be permanently owned and maintained by the railway operator. In practice, this means that earthworks in many locations along the route will have shallow slopes, allowing land (Zones D and E) to be returned to agriculture where it is not required for ecological compensation.
- 5.2. Where land is to be returned to agriculture, it will be HS2 Ltd's intention to agree its return to the former landowner(s). In the interim, we will ensure that land is maintained to appropriate farming standards, in line with the policy extract in Section 3.

6. Landscape types

- 6.1. Different landscape types are used for different purposes (e.g. to visually screen the railway, to reduce railway noise etc.). The maintenance approach will vary according to the landscape type described below to ensure that it continues to meet its objectives in perpetuity.

Urban public realm

- 6.2. New areas of public realm will be created, primarily around the four stations - Euston, Old Oak Common, Birmingham Interchange and Curzon Street. These spaces have not yet been designed, but are likely to comprise:
 - areas of hard surfacing;
 - new trees and other planting; and
 - seating and other furniture such as railings, signage and art.

- 6.3. Maintenance of these areas will be linked to the operation of the station buildings.

Woodland planting

- 6.4. Significant new areas of woodland will be created along the Proposed Scheme. This includes woodland to compensate for the loss of prior habitat and new planting to help integrate HS2 into the surrounding landscape.
- 6.5. The creation of woodland is likely to comprise young tree stock. These areas will take time to become established and mature into new woodlands, particularly as most species are likely native, deciduous trees that are relatively slow-growing. In the case of planting in ancient woodland, some faster-growing species are likely to be used to create the shaded conditions needed by the seed in soil brought in from donor sites. These trees would then be removed at an appropriate time to allow the native species to develop and mature.
- 6.6. Typically, the planting contractor would be expected to maintain the area of planting for five years after planting, while ecological woodland planting/compensation would be maintained for a minimum of ten years. This ensures good establishment and healthy growth before the responsibility for maintenance passes to another party. Where these landscape areas are outside the final land ownership boundary of the Proposed Scheme, HS2 Ltd will seek to make agreements with local landowners and/or other interested parties to ensure that the objective of the planting is maintained in perpetuity.

Screen planting

- 6.7. Screen planting is proposed along parts of the Proposed Scheme to help obscure new earthworks, structures, trains and overhead line equipment where a likely significant effect has been recognised.
- 6.8. This type of planting is typically linear and located close to the line of route, comprising trees and shrubs. Therefore, much of this planting is likely to be within the HS2 land ownership boundary and will become the responsibility of the HS2 maintenance contractor (or contractors), unless other bodies (e.g. local authority or local trusts) are interested in taking ownership.
- 6.9. The initial planting is likely to comprise a mix of small trees (transplants) with some larger trees (2-3m high, included to help the planting and screen the Proposed Scheme more effectively from the outset. Planting may initially include some fast-growing species to provide similar benefits. An initial planting of fast growing trees would typically be removed when the other trees have grown sufficiently towards the end of the establishment maintenance period.

Hedgerow planting

- 6.10. Hedgerows are proposed along various parts of HS2 to replace existing hedgerows removed during construction, to mitigate the impacts on hedgerow

wildlife, to enhance existing hedgerows, to create new visual screens and to improve local wildlife corridors.

- 6.11. Linear features close to the line of route would be likely to remain within the land ownership boundary, and therefore would be maintained in perpetuity by the appointed maintenance contractor(s). HS2 Ltd would seek to establish agreements to transfer other hedgerows along field boundaries to relevant land owners, or otherwise would look to make arrangements with other interested parties.

Grassland

- 6.12. Outside the HS2 security fence, areas of grassland will be initially maintained (typically for two to five years) by the planting contractor to ensure they become established. Subsequently, the maintenance will be carried out by HS2 maintenance contractor(s) or a separate landowner or managing agent, subject to an appropriate agreement. Certain areas of grassland will be created specifically to compensate for habitat loss resulting from the Proposed Scheme. In these instances, the grassland will be maintained to ensure that it functions well as an ecological habitat.

Ponds and wetland habitats

- 6.13. Ponds are required along the Proposed Scheme to provide land, railway and road drainage, and also as ecological habitats (particularly as compensation for the loss of existing ponds). Some of these features will permanently hold water, while others (particularly land drainage) are likely to be dry for much of the year. The water bodies will be maintained to maximise their ecological value wherever this does not restrict their function as drainage features for the Proposed Scheme.
- 6.14. As with other landscape types, the location of these features will determine who is responsible for maintaining them in the long term. In all instances, the planting contractor will have responsibility for maintaining these features during the establishment period while habitats develop (typically two years for wetland features). Where ponds are created to compensate for loss of ponds that support great crested newts, the maintenance period will be agreed with Natural England.

7. More information

- 7.1. More detail on the Bill and related documents can be found at: www.gov.uk/HS2