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Bromford Tunnel Extension Environmental Impact Assessment Screening Report | Executive Summary

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Department for Transport

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High Speed Two (HS2) Limited,
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

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Structure of the High Speed Rail (London – West Midlands) Bromford Tunnel Extension Environmental Impact Assessment Screening Report

This document is part of the suite of documents that make up the Bromford Tunnel Extension Environmental Impact Assessment (EIA) Screening Report, as described below:

- Executive Summary. This provides a summary, in non-technical language, of the report findings.
- Screening Report. This introduces the report, provides a description of Bromford Tunnel Extension and an overview of the area in which it is located, and sets out the corresponding EIA screening assessment.
- Appendices. These contain supporting environmental information.
- Map Book. This contains supporting maps, including a plan sufficient to identify the land relating to Bromford Tunnel Extension (Site Location Plan), and plans showing the Bromford Tunnel Extension proposals.

Executive Summary

This report has been prepared in support of an environmental impact assessment (EIA) Screening Decision for High Speed 2 (HS2) Phase One Bromford Tunnel Extension ("the Proposed Development"). The Proposed Development would extend from the Attleboro Lane area of Water Orton, North Warwickshire, to Castle Bromwich Business Park, Birmingham. The Proposed Development would entail part of the surface railway authorised under the High Speed Rail (London – West Midlands) Act 2017 ("the Phase One scheme"), to be placed underground, in tunnel, together with creation of a relocated tunnel portal, an intermediate ventilation shaft and other ancillary works. These proposals are in line with the recommendations made by the independent Oakervee Review[1] of HS2, published 11th February 2020, to achieve savings without delays normally associated with design changes.

For the railway to be placed in tunnel, it is necessary to amend the relevant works description under Schedule 1 of the High Speed Rail (London – West Midlands) Act 2017 the Phase One scheme by means of an order made under Section 1 of the Transport and Works Act 1992. In turn, this screening report accompanies a request to the Secretary of State for Transport for an EIA Screening Decision, under Rule 7 of the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006, as amended by The Environmental Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017 ("the EIA Regulations"). Under this rule, as amended by the EIA Regulations, the Proposed Development is considered subject to the screening process as it falls within the definition of relevant developments listed in Annex II of European Union (EU) Directive 2014/15/EU ("the EIA Directive"). Specifically, this definition encompasses changes to a development listed in Annex I of the EIA Directive, including long-distance railways such as HS2 Phase One, which may have significant effects on the environment.

In order to consider potential likely significant effects on the environment, this EIA screening report compares the scheme assessed in the HS2 Phase One Environmental Statement (2013) ("the 2013 ES[2],") with the Proposed Development. This report takes into account new environmental baseline information to determine whether the Proposed Development is likely to have new or different adverse significant effects on the environment, by virtue of factors such as its nature, size or location, to meet the requirements of the EIA Regulations[3]. The report finds that, following mitigation, there are no new or different likely adverse significant environmental effects caused by the Proposed

[1] Oakervee Review, chaired by Douglas Oakervee, to provide independent advice to government on whether and how to proceed with HS2, 2020
[2] Amended to take account of Supplementary Environmental Statements and Additional Provisions to the Hybrid Bill, prior to enactment
[3] Environmental Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017

Development, and it therefore should not be considered the subject of additional and separate environmental impact assessment. In addition, relative benefits are reported, primarily due to placing of the railway in tunnel, and the corresponding reduced influence of development proposals on areas of land, and associated environmental receptors, between Water Orton and Birmingham.

The Secretary of State requires design and construction to adhere to arrangements provided for in the 'Environmental Minimum Requirements' (EMRs), to ensure that impacts which have been assessed will not be exceeded; these are set out in a suite of documents that accompany the 2017 Act. Over and above meeting minimum requirements, the Proposed Development would include the following environmental improvements over the Phase One scheme:

- removing the requirement to realign approximately 600m of the River Tame;
- reducing carbon emissions due to the reduced overall extent of built infrastructure;
- relocating the portal out of an area of floodplain and placing the railway in tunnel beneath it, in turn reducing climate change effects due to reduced flood risk;
- reducing environmental impacts to Park Hall nature reserve;
- reducing the area of best and most versatile land affected, together with reducing effects on both soil resources and agricultural land holdings;
- removing some landscape and visual impacts and impacts on a number of heritage assets by placing railway infrastructure within extended tunnel rather than on the surface; and
- reducing operational airborne noise for a number of properties by placing exposed track in tunnel, in the vicinity of those properties.

Relevant environmental considerations are summarised below; consistent with the overview above, reference to 'new or different significant effects' concerns adverse effects:

With regard to agriculture, forestry and soils, in comparison to the Phase One scheme there would be a decrease in the area of best and most versatile land affected, together with reduced effects on both soil resources and on agricultural land holdings as a result of the Proposed Development. This is most notable for land holdings at Twisted Oak Stables and Park Hall nature reserve where, following site restoration of temporary construction sites, more land would be returned to agricultural use compared to the Phase One scheme. The Proposed Development would still require the total CFA25/2 (Land north of B4118 Birmingham Road) holding area during construction, however, it removes the requirement for any permanent ecological mitigation features in this area. Although there would be no reduction in the area of soil resources required for construction at Newlands Farm, the Proposed Development would only impact its most western land parcel (west of Attleboro Lane), which constitutes 3ha of the 93.1ha total land holding area. There would be no change to the area of land required within this holding and given that the effects of the

Proposed Development would be restricted to this land parcel, any impacts would not alter the effects reported within the 2013 ES, as amended, for the entire holding.

A review of the existing air quality baseline showed that at relevant representative receptors affected by the Proposed Development, air quality would be considered to meet the relevant air quality standards. Effects from proposed construction activities would be controlled and managed through route-wide implementation of the HS2 Code of Construction Practice (CoCP) and therefore can be considered negligible and not significant. Air quality effects arising from changes to traffic associated with the construction of the Proposed Development were not anticipated to be significant. Pollutant concentrations would be well below the relevant air quality standards at all relevant representative human health receptors and the impact would be negligible and not significant. At the three ancient woodland sites in the vicinity of the Proposed Development, the change in concentration of nitrogen oxides both without and with the Proposed Development would be imperceptible and therefore would be negligible and not significant. Operationally there were likely to be no new or different significant adverse effects resulting from the Proposed Development, compared with the Phase One scheme.

There would be a reduction in significant community effects as a result of the Proposed Development, compared with the Phase One scheme, as reported in the 2013 ES, as amended, because in-combination effects on the amenity of residents in some locations are no longer considered to be significant, due to reduced construction activity at Castle Bromwich Business Park. Additionally, the isolation effects on residents at Tameside Drive during construction are no longer considered to be significant, also due to reduced construction activity at Castle Bromwich Business Park.

The Proposed Development would reduce route wide carbon emissions by an estimated 20,500 tonnes (measured using the carbon dioxide equivalent), compared to the Phase One scheme. In terms of resilience to climate change, whilst there would be a risk to overheating within the tunnel this would be mitigated by the ventilation systems in the tunnel design. In addition, there is a likely benefit, compared with the Phase One scheme, due to the reduction in flood risk as a result of the Proposed Development.

The Proposed Development would represent an improvement compared with the Phase One scheme, in respect of cultural heritage. 26 heritage assets would no longer be affected and would remain undisturbed by the Proposed Development compared to the Phase One scheme. The impacts to a further 11 heritage assets would be reduced with these assets being only partially removed, whereas previously, in the case of the Phase One scheme, they would be fully removed.

The Proposed Development would avoid significant adverse effects in respect of habitats within and surrounding Park Hall Site of Importance for Nature Conservation (SINC), largely negating the significant effects which arose from habitat loss in this area as a result of the Phase One scheme. The proposed works would, however, have an adverse effect on the

Park Hall SINC, and habitats supported by the SINC, at a local/ parish level, during construction. By following the CoCP there would be no significant effects on protected and notable species supported by the SINC. The Phase One scheme removed 0.7ha of designated ancient woodland located within the SINC, and the remaining 2.3ha would be fragmented and predicted to decline in value, such that their biodiversity interest would be effectively lost. These effects would be avoided as a result of the Proposed Development, with no direct or indirect effects on ancient woodland anticipated. Ecological receptors to be affected within the Proposed Development site outside Park Hall SINC are of limited value to ecology, with the exception of a medium population of great crested newts that would be affected to the south of Water Orton (identified since the 2013 ES, as amended). The Proposed Development would result in an impact on this population at local/ parish level, and not considered significant. The 2013 ES, as amended, reported operational effects on populations of common pipistrelle bat, to be mitigated through additional woodland planting. No significant effects on ecological receptors, including common pipistrelle, would occur as a result of the Proposed Development during operation. The ecological effects of the Proposed Development, as described above, are of a much-reduced scale compared to those of the Phase One scheme. Once proposed habitat reinstatement has been undertaken there would be a few remaining ecological effects, resulting from the Proposed Development, which would be non-significant.

The health effects of the Proposed Development are, in most cases, similar to the effects reported for the Phase One scheme for the health determinants of access to green space, access to services, health and social care, recreation and physical activity and social capital. This screening assessment is more specific in its reporting on the neighbourhood quality health determinant; it identifies people in several communities are likely to experience features of the Proposed Development as changing the quality of their neighbourhood and to regard that change as adverse. The assessment of the Proposed Development is more specific than the Phase One Health Impact Assessment (HIA) report in identifying the locations of communities predicted to experience these effects, together with the nature, magnitude and sensitivity of the effects. However, the Proposed Development is not expected to result in new or different adverse health effects, as compared with those reported in the Phase One HIA report.

With regards to land quality no new or different significant adverse effects would result from the Proposed Development, as compared with the Phase One scheme. The number of contaminated sites in Castle Bromwich Industrial Estate and Park Hall SINC affected by the Proposed Development would be reduced compared with the Phase One scheme. These sites would not benefit from remediation provided by the Phase One scheme and considering that remediation would not be required, impacts relative to baseline are therefore likely to be negligible. The footprint of the intermediate shaft is not sufficient to require remediation of the full extent of the historical landfill; therefore, the beneficial effects of this remediation would only be minor and not significant for the adjacent properties. Disturbance of the historical landfill site underlying Castle Bromwich Industrial Estate would occur as a result of the Proposed Development, which would also be the case

in respect of the Phase One scheme; this may result in the temporary generation and migration of ground gases. However, mitigation measures would be put in place to ensure there are no significant effects. Where remediation is carried out on contaminated sites within the land required for construction of the Proposed Development, there would be residual land quality benefits associated with this remediation, as would be the case in respect of the Phase One scheme.

In terms of landscape and visual amenity, no new or different significant adverse effects would result from the Proposed Development, as compared with the Phase One scheme. The Proposed Development would result in alternative infrastructure, and construction thereof, near Water Orton, however with the corresponding mitigation in place (including appropriate landscape proposals) the significance of landscape and visual effects would be comparable with those reported in the 2013 ES, as amended. In the case of the Phase One scheme and the Proposed Development, although there would be significant effects during construction, during operation effects would diminish to not significant due to the establishment of landscape planting mitigation proposals. Between Water Orton and Castle Bromwich Business Park, the landscape and visual effects resulting from incorporation of the Proposed Development would generally be reduced, and in many cases removed, compared with the Phase One scheme (which included the River Tame viaduct in this area). This is because infrastructure would be primarily located underground, within the extended tunnel, such that it would not result in significant landscape and visual effects during operation and the Proposed Development would provide an improvement in these respects, compared with Phase One scheme. At Castle Bromwich Business Park, landscape and visual effects resulting from incorporation of the Proposed Development would be comparable with, or reduced, compared with the Phase One scheme; again, the Proposed Development would provide an improvement compared with the Phase One scheme.

Environmental risks in relation to major accidents and disasters would be managed in accordance with legal obligations and industry standards and would not result in significant environmental effects. The requirement to undertake an assessment of the environmental effects of major accidents and disasters has been introduced since the 2013 ES, and therefore was not included in the 2013 ES, but has been included as part of this screening report. The approach for this assessment includes consideration of risk events that are relevant to the Proposed Development, identifying whether those risk events constitute a major accident or disaster, defining the impact, and assessing the associated likelihood and risk. In accordance with the HS2 development agreement, the principle of reducing risks to a level that is as low as reasonably practicable (ALARP) would be applied, which is the approach accepted by the Office of Rail and Road. As a result, it is considered that that the Proposed Development would not result in significant environmental effects arising from the vulnerability of the Proposed Development to major accidents and disasters.

As in the case of the Phase One scheme, socio-economic effects during construction would be minimised through measures such as applying best practicable means (BPM) to reduce

noise and vibration at sensitive locations (including local businesses) and site-specific traffic management measures to limit traffic-related disruption. As less land occupied by businesses would be required for the Proposed Development, compared with the Phase One scheme, socio-economic effects would be reduced. The positive socio-economic effects of the Proposed Development, arising from increased employment opportunities during construction and operation, would be comparable with those arising from the Phase One scheme.

The area around the Proposed Development is already affected by noise sources including the M6 and M42 motorways, overflying aircraft and other highways and main line railways. Noise receptors in the area include dwellings, industrial and commercial buildings. Additional sources of noise and vibration, as a result of the Phase One scheme and Proposed Development, include temporary sources during construction and permanent sources during operation of the railway. These may be further subdivided into direct effects from the noise and vibration sources themselves, such as the tunnel boring machine during construction and from trains on the operational railway, and indirect effects such as noise changes due to road traffic diversions. The 2013 ES, as amended, considered all of these additional sources of noise and vibration and in some cases significant adverse effects were expected to arise. Some different construction activities would occur as a result of the Proposed Development, as compared with the Phase One scheme, but none of these are expected to produce new or different significant adverse sound, noise and vibration effects. The Proposed Development would reduce operational airborne noise for a number of receptors, as compared with the Phase One scheme, due to the placing of exposed track in tunnel, in the vicinity of those receptors. Levels of operational ground-borne noise and vibration would not materially change as a result of the Proposed Development, compared with the Phase One scheme.

In relation to traffic and transport, no new or different significant adverse effects would result from the Proposed Development, as compared with the Phase One scheme. The Proposed Development would remove five construction compounds and associated lorry and other vehicle movements that were needed for the Phase One Scheme. In addition, tunnel operations would be driven from the east portal instead of the west portal, with the main access and egress for heavy goods vehicles to the east portal taken directly from the M6-M42 Link Road. The combined impact of these changes would not result in any new or different significant adverse effects, as compared with the Phase One scheme. The most intensive peak periods of construction in relation to the Proposed Development would result in localised increases in traffic, however such increases would not be significant and would not result in new or different significant adverse effects compared with the Phase One Scheme. Operationally, the Proposed Development would provide the same increased capacity on train services and substantial reductions in journey times between Birmingham and London as reported in the 2013 ES, as amended. This would result in beneficial transport effects, as is consistent with the Phase One scheme.

The Proposed Development would not result in any waste and material resources effects that are greater than those reported in relation to the Phase One scheme, such that no new or different significant adverse effects would arise as a result of the Proposed Development. The key difference between the Proposed Development and the Phase One scheme is that the extension of the tunnel would result in an increase of excavated material quantities. However, these excavated materials would be diverted from off-site disposal, as proposed in the case of the Phase One scheme, and reused on-site for environmental mitigation earthworks purposes, where appropriate and suitable, in the case of the Proposed Development. Compared with the Phase One scheme, there would be an increase in hazardous material requiring off-site disposal for the Proposed Development, due to excavation for the Bromford tunnel intermediate shaft within a former landfill site, however the quantity of material would not result in a new or different significant adverse effect compared to the Phase One scheme as excavation for the Phase One scheme east tunnel portal would occur within the same former landfill site. The Proposed Development would result in a decrease in material arising from demolition, in turn reducing the requirement for off-site disposal of demolition waste to landfill.

No significant residual effects on surface water or groundwater resources were identified for the Phase One scheme, as all effects would be mitigated by standard design or construction practices. No new or different significant adverse effects are expected to arise in relation to the Proposed Development. Overall, construction effects on surface water receptors resulting from the Proposed Development would be reduced compared to the Phase One scheme, as there would be much less direct disturbance to watercourses. Fluvial flood risks would be reduced as a result of the Proposed Development because some embankment works and diversion of the River Tame would no longer be required. Minor pluvial flood risks arising due to new infrastructure, at the proposed intermediate shaft and Bromford tunnel east portal, would be mitigated through well-established and reasonably practicable measures integral to the Proposed Development, as appropriate and consistent with the approach for the Phase One scheme.

High Speed Two (HS2) Limited
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA

08081 434 434
HS2Enquiries@hs2.org.uk

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