HIGH SPEED TWO PHASE ONE INFORMATION PAPER

E8: ARCHAEOLOGY

This paper outlines HS2 Ltd's approach to assess and reduce as far as reasonably practicable the impact on archaeological remains that could result from construction works.

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the Bill (including shortly prior to the enactment of the Bill in February 2017) the contents are now historic and are no longer maintained.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 Bill[1] 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.

2. Archaeological assets

2.1. This information paper is about archaeological assets - the physical remains of past human activity, either above, but largely below ground. Archaeological

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

remains include evidence of our ancient environment and geological deposits which contain evidence of human activity. They are part of our cultural heritage.

2.2. It should be noted that archaeological remains are an element of heritage assets, which are addressed in Chapter 12 of the National Planning Policy Framework[2] (NPPF). Annex 2 of the NPPF sets out the Government's planning policies for England and defines a 'heritage asset' as:

> "A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. 'Heritage asset' includes designated heritage assets and assets identified by the local planning authority (including local listing)."

2.3. HS2 Ltd has sought to avoid direct impacts on all heritage assets, including archaeological remains, during the development of the route and its associated works through the initial alignment of the route and the design of the scheme. All heritage assets are addressed in the environmental impact assessment (EIA) process which resulted in which consists of the environmental statement that was deposited with the hybrid Bill in November 2013, the environmental statements for subsequent additional provisions and the supplementary environment statements.

2.4. The construction of Phase One will include works (such as ground breaking and excavation) that may affect archaeological remains. HS2 Ltd has sought to design the railway and to approach the task of construction in ways that reduce the impact on archaeological remains, as far as is reasonably practicable. Where such remains are affected, HS2 Ltd will seek to use the opportunities presented by archaeological investigation to deepen our understanding of the history of England. This information paper sets out how HS2 Ltd plans to achieve this.

3. Approach to assessment

3.1. Archaeological studies were undertaken as part of the EIA for the Proposed Scheme. The results are presented in the ES Volumes 2 and 5 reports and map books on cultural heritage.

3.2. The ES, particularly in Volume 5, sets out the archaeological assets identified through desk-based study – termed the 'baseline conditions'. More information was incorporated into this baseline, using the results of:

- walkovers and site reconnaissance carried out from public areas and areas where access was granted;
- remote sensing data (including LiDAR[3] and aerial photographs); and

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
[3] LiDAR: Light Detection And Ranging is a high resolution remote sensing technique to capture 3D data'. It is a form of aerial survey.

- non-intrusive surveys (fieldwalking and geophysical survey).

3.3. These non-intrusive techniques allow insight into what archaeological information lies beneath the ground.

3.4. The archaeological assessment in the ES evaluated:

- whether there were likely to be archaeological resources in land affected by the project;
- how important such resources might be; and
- how they would be physically affected by the construction and operation of HS2.

3.5. In determining the overall significance of the effect, we evaluate the significance of the asset and the magnitude of the impact; we also consider how the effect could be mitigated. The scope and methodology report[4] prepared for the EIA discusses this assessment methodology in more detail.

4. Framework for the control of impacts

4.1. The EMRs[5] are being developed in consultation with local authorities and other relevant stakeholders. Information Paper E1: Control of Environmental Impacts[6], provides further details. Two parts of the EMRs – the Heritage Memorandum and the Code of Construction Practice – are especially relevant to the archaeological works that will be required as part of the HS2 construction works.

4.2. The Heritage Memorandum sets out how the historic environment will be addressed during the design and construction of Phase One of HS2. It provides a framework for the nominated undertaker, Historic England, local authorities and other stakeholders to work together to ensure that the design and construction of Phase One of HS2 works is carried out with proper regard for the historic environment.

4.3. The Code of Construction Practice (notably the section entitled 'Cultural heritage')[7] will require the nominated undertaker to ensure that the works are carried out in such a way as to ensure that disturbance to all heritage assets is managed in accordance with accepted industry practice and, where disturbance cannot reasonably be avoided, is controlled and limited as far as reasonably practicable.

[4] https://www.gov.uk/government/publications/hs2-phase-one-environmental-statement-scope-and-methodology
[5] http://www.hs2.org.uk/hs2-phase-one-hybrid-bill/hybrid-bill/ajax/690/nojs
[6] http://www.hs2.org.uk/hs2-phase-one-hybrid-bill/hybrid-bill
[7] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259617/Vol5_draft_code_of_construction_practice_CT-003-000.pdf

5. Investigation and recording of archaeological assets

Sequence and programming of works

5.1. The nominated undertaker will develop an integrated investigation programme to deliver all archaeological works identified in the ES and as developed during the detailed design process. The programme will set out the key stages of investigation, for example:

- detailed desk-based assessment (where appropriate to inform location specific mitigation);
- field evaluation (where appropriate to inform location specific investigation, recording and mitigation); and
- location specific investigation, recording and mitigation (for example preservation in situ or archaeological excavation).

5.2. The investigation programme will be developed in light of, and in conjunction with, the overall construction programme and will be reviewed and updated, as necessary. The programme will aim to undertake as much of the work as possible in advance of any construction activities. Where field evaluation works are deemed necessary, HS2 Ltd will continue to seek access to land by agreement with the landowners.

Archaeological field investigation methods

5.3. Addressing the impact of the HS2 works on archaeological remains is likely to involve a range of investigation methods and these are summarised in Table 1.1, below. Several different techniques may be used at the same location dependant on the nature of the archaeological remains.

Table 1.1: Archaeological investigation methods

Method	**Description**
Non-intrusive investigation methods	
Topographic survey	Undertaken to record the surface topography and detail of any relevant features, including feature profiles and a photographic record where appropriate.
Walkover survey	Exploratory site reconnaissance to examine a location's configuration and its former or present uses. The aim is to: identify opportunities for (and constraints on) fieldwork; understand factors that affect archaeological preservation (e.g. developments, such as basements, that have truncated archaeological deposits); identify any access constraints; and create a photographic record.

Geophysical survey	A series of techniques such as magnetometer and resistance surveys and ground-penetrating radar. It is used to record the presence or absence of sub-surface archaeological features by: scanning the ground surface; identifying areas of local variation; and interpreting anomalies and fluctuations that indicate archaeological features.
Metal-detector survey	A non-intrusive archaeological survey technique used to record the position and distribution of metal objects recovered from a rapid survey of the topsoil with a metal detector.
Preservation in situ	
Archaeological preservation in situ	In some cases, it may be appropriate to leave archaeological remains where they are in the ground. The decision depends on a range of factors - for example, the nature and significance of the remains, and the type of construction activity and its ability to cover the remains effectively.
Intrusive investigation methods	
Trial trench survey	A survey to expose and investigate buried remains to understand the extent and/or character of previously identified archaeological deposits or areas of potential remains. Often used to evaluate a location following non-intrusive survey.
Archaeological excavation	The process of exposure, investigation, recording and recovery of archaeological remains. This may be targeted at specific locations or a sample range of locations (e.g. specific investigation trenches).
Geo-archaeological investigation	A programme of sample recovery and analysis undertaken to investigate past environmental conditions and soil sediment development that may be relevant to the research of archaeological remains recovered nearby. It involves trial pit excavations or other methods of taking geotechnical soil samples.
Investigation within construction	
Construction integrated recording	A programme of observation, investigation and recording of archaeological remains undertaken during construction where appropriate . It is used where the likely extent of the remains has been demonstrated, but it is not practical or appropriate to investigate in detail before the main construction programme (e.g. due to safety or logistical considerations or environmental or engineering constraints). The contractor's preferred method of working would be controlled as necessary to allow archaeological recording to take place to the required standard.
Archaeological watching brief	A programme of observation, investigation and recording during construction. It is used where remains have not been identified by a detailed desk based assessments or field evaluation, but where there is realistic potential for archaeological discoveries. The contractor's method of working would not be directly controlled for archaeological purposes, unless important archaeological

	discoveries are found (in which case the site method may change to construction integrated recording).

Route-wide generic written scheme of investigation: historic environment research and delivery strategy

5.4. To deliver the archaeological investigation works and as stated in the Heritage Memorandum, a route-wide, generic written scheme of investigation: historic environment research and delivery strategy (GWSI: HERDS) will be prepared. This GWSI: HERDS will be developed in consultation with Historic England and the local authorities. It will set out the research framework and general principles for design, evaluation, investigation, analysis, reporting and archive deposition to be adopted for the design, development and construction of Phase One of HS2. The GWSI: HERDS will be supported by strategies, technical standards and procedures that will provide the detailed mechanisms of the delivery of the works.

Location-specific investigation

5.5. The principles set out in the route-wide GWSI: HERDS will be applied in location-specific documents, which will be developed in consultation with Historic England and the relevant local authority.

5.6. The outcomes of the desk-based assessments, non-intrusive surveys and any field monitoring works will be used to inform the development of location specific investigation and recording works. The location-specific WSI, which will describe:

- the local archaeological conditions;
- the proposed construction works;
- interfaces; and
- the details of the evaluation and investigation measures required.

5.7. The location-specific WSI will include individual project plans for specific activities and a programme for the archaeological works within the overall construction programme, including details of how each stage of the archaeological programme interacts with other HS2 activities and the parties undertaking them.

5.8. Location-specific WSIs will address all works being carried out for Phase One. Therefore, location-specific WSIs will cover the whole of the design and construction process and the subsequent post-excavation phase of analysis and reporting.

5.9. Taking account of accepted industry practice and national guidelines, location-specific WSIs will:

- set out the scope of archaeological work in sufficient detail for it to be quantified, implemented and monitored;
- define the specification for the archaeological work, the recording required, and the collection and disposal strategy for artefacts;
- reflect the nature of archaeological remains that are likely to be found and the nature of the development impact, whilst allowing sufficient flexibility for variable site conditions; and
- comply with the controls set out in the EMRs for Phase One, including the requirement on the nominated undertaker to use reasonable endeavours to adopt mitigation measures that will further reduce any adverse environmental impacts caused by Phase One, insofar as these mitigation measures do not add unreasonable costs to the project or unreasonable delays to the construction programme.

Analysis and reporting

5.10. Once archaeological investigations are complete, the records generated and the artefacts and samples collected will be analysed. The results of that work will be published via a range of media, for example online and in specialist journals, popular publications and academic books. Approaches to post-excavation works will be developed with Historic England and the relevant local authority.

Archiving

5.11. The nominated undertaker recognises the need to deposit the HS2 archaeological archive and will deposit the HS2 historic environment archive in an appropriate repository or repositories. The nominated undertaker is committed to working with Historic England and local authorities to identify suitable museums and storage facilities for depositing artefacts and records generated by the HS2 archaeological investigation works.

6. Unexpected discoveries of national importance

6.1. The approach to investigating archaeological remains that are affected by the HS2 construction works has been designed to reduce the potential for making unexpected discoveries. However, such discoveries may be made. In some cases, these discoveries may be of national importance (as defined by the Department for Culture Media and Sport using criteria published in the document 'Scheduled Monuments & nationally important but non-scheduled monuments'[8]). The nominated undertaker will develop a procedure for unexpected discoveries of national importance. This will set out what will happen following such a discovery, and the roles and responsibilities for decision making and the

[8] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249695/SM_policy_statement_10-2013__2_.pdf

implementation of archaeological investigation. The Heritage Memorandum provides further details on this[9].

6.2. Other discoveries during construction will be addressed via the responses set out in Table 1.1 above.

Scheduled monuments

6.3. Schedule 19 of the hybrid Bill concerns changes to the legislation relating to ancient monuments, the Ancient Monuments and Archaeological Areas Act 1979 (nationally significant archaeological remains). The 1979 Act, has been modified to allow the construction of Phase One of HS2. The hybrid Bill removes the restrictions on activities which may injure or disfigure the scheduled monument in question and allows powers of access to the monument to undertake HS2 construction works authorised by the Act. Instead of the usual requirement to seek Scheduled Monument Consent from the Department of Cultural, Media and Sport, an alternative regime will apply.

6.4. This alternative regime requires that a Heritage Agreement be entered into between the nominated undertaker and Historic England. These agreements will provide a similar level of information as is required for Scheduled Monument Consent. They will set out what construction works are specifically required on or at the scheduled monument to construct HS2. It will detail the archaeological methods (for example, investigation and recording) that are required before and during construction, together with any necessary protection and monitoring measures. The nominated undertaker will engage constructively with Historic England during the preparation of the methodology for the works.

7. More information

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

[9] http://assets.hs2.org.uk/sites/default/files/hb_pdf/Draft%20Heritage%20Memorandum_0.pdf