Phase 2b Western Leg Information Paper

D12: Borrow pits

This information paper describes need for and controls on the excavation of material from borrow pits during construction of the Proposed Scheme.

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 High Speed Rail (Crewe - Manchester) Bill. Content will be maintained and updated as considered appropriate during the passage of the Bill.

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 scheme for a new, high speed north-south railway, which is being taken forward in a number of phases. Phase One will connect London with Birmingham and the West Midlands. Phase 2a will extend the route from the West Midlands to Crewe. The Phase 2b Western Leg will connect Crewe to Manchester. As set out in the Integrated Rail Plan, published in November 2021, HS2 East is proposed to deliver a new high speed line from the West Midlands to East Midlands Parkway.

1.2 HS2 Ltd is the non-departmental public body responsible for developing and promoting these proposals. The company works under the terms of a Development Agreement entered into with the Secretary of State for Transport.

1.3 The construction and operation of Phase One of HS2 is authorised by the High Speed Rail (London – West Midlands) Act 2017 and Phase 2a by the High Speed Rail (West Midlands – Crewe) Act 2021.

1.4 In January 2022, the Government introduced a hybrid Bill to Parliament (hereafter referred to as 'the Bill'), to seek powers for the construction and operation of the Phase 2b Western Leg (the Proposed Scheme), which is called the High Speed Rail (Crewe – Manchester) Bill. The Proposed Scheme comprises the Phase 2b Western Leg from Crewe to Manchester and several off-route works. It also facilitates the delivery of Northern Powerhouse Rail by providing the Crewe Northern Connection and junctions and other infrastructure to be used in future schemes.

1.5 The work to produce the Bill includes an Equalities Impact Assessment and an Environmental Impact Assessment (EIA), the results of which are 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. For more information on the EMRs please see Information Paper E1: Control of environmental impacts.

1.6 The Secretary of State for Transport is the Promoter of the Bill through Parliament. The Promoter will also appoint a body responsible for delivering the Proposed Scheme under the powers granted by the Bill. This body is known as the 'nominated undertaker'. There may be more than one nominated undertaker. However, any and all nominated undertakers will be bound by the obligations contained in the Bill, the policies established in the EMRs and any commitments provided in the information papers.

1.7 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 Proposed Scheme have been reached.

2 Overview

2.1 This information paper describes the case for borrow pits included within the Proposed Scheme, their location and use, controls on the excavation of material from borrow pits under the Bill, and their restoration.

2.2 A borrow pit is an area where acceptable engineering material, such as clay, sand and gravel, is excavated for use in the construction of a nearby infrastructure project. Each borrow pit site will be restored to their original level and use.

3 The case for borrow pits

3.1 The Proposed Scheme will require high quality engineering materials (usually comprising sand, gravel and clay) to construct railway embankments. Normally, this material will be won from the construction of railway cuttings.

3.2 A detailed assessment of the quantities and types of (site won) materials that are likely to be available and the quantities of materials required for construction of the Proposed Scheme has been undertaken. This has shown that there will be a substantial deficit of acceptable engineering material needed for the construction of the Proposed Scheme. The assessment of the site won materials has been revisited and has led to the revision of this Information Paper to reflect the changes reported in the Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement.

3.3 Availability of acceptable engineering materials from commercial quarries has been reviewed. Commercial quarries alone are unlikely to have the capacity to provide the required quantities of acceptable engineering materials and within the timescales for construction of the Proposed Scheme.

3.4 Excavating borrow pits will enable acceptable engineering material to be extracted and processed locally. This will generate fewer HGV movements than importing the material from commercial quarries, reducing impacts on the local road network and communities. Use of borrow pits would also provide certainty of supply at a reasonable cost and within the required timescales for the construction of the project.

3.5 Following their use, the borrow pits created during excavation can then be backfilled with materials generated from the construction of the Proposed Scheme. This presents a more sustainable option as it limits impacts on the local road network and communities.

3.6 For these reasons, borrow pits have been taken forward as the preferred option for the Proposed Scheme. The general process for excavating, backfilling and restoring borrow pits has not changed and is as set out in Volume 1 of the ES deposited with the Bill in January 2022 (‘the main ES’).

4 Borrow pits and the Proposed Scheme

4.1 A list of potential borrow pit locations with capacity to yield either cohesive (clay) or granular (sand, gravel or crushed rock) materials was

initially appraised against a set criteria and methodology. This was used to establish a shortlist of potential borrow pit locations that could provide the quantity, quality and blend of acceptable engineering materials.

4.2 The shortlist of potential cohesive and granular locations was further assessed against defined criteria including the potential material quantities (quality and type), construction logistics, traffic impacts and environmental constraints.

4.3 Three sites in close proximity to the route of the Proposed Scheme are predicted to contain sufficient cohesive material of an appropriate quality one site remote (4.5km) from the route of the Proposed Scheme is anticipated to contain sufficient granular material of an appropriate quality. These sites were therefore proposed for use as borrow pits within the Bill and were subject to environmental assessment set out in the main ES.

4.4 Further details regarding borrow pits and the depth of excavation are presented in the main ES within the relevant Volume 2, MA02 Community Area report, the Volume 5 Borrow pit report and map book of the main ES and other relevant Volume 5 topic reports of the main ES.

4.5 Since the deposit of the main ES, the Secretary of State has decided not to pursue the HS2 West Coast Main Line (WCML) connection (also referred to as the 'Golborne Link').

4.6 The removal of the Golborne Link, along with other changes to the Proposed Scheme, has resulted in the reassessment of the type and quantity of materials required for construction. As a result, the requirement for the volume of material that would have been excavated from the granular borrow pit is no longer required and this borrow pit has been removed from the Proposed Scheme. The demand for granular material will be met through the re-distribution of granular material generated through construction and the import of additional acceptable engineering materials from quarries.

4.7 Although the requirement for granular material can largely be met through excavations from the MA03, MA06, MA07 and MA08 areas, some material will need to be imported from quarries. Information on the traffic movements for importation of granular material for construction has been assessed on a route-wide basis and can be found in Volume 3 of the SES1 and AP1 ES.

4.8 Further details regarding the removal of the granular borrow pit is presented within Volume 2, MA03 Community Area report of the Supplementary Environmental Statement (SES) 1 and Additional Provision 1 Environmental Statement (AP1 ES), the Volume 5 Borrow pit report of SES1 and AP1 ES and the other relevant Volume 5 topic reports of SES1 and AP1 ES.

4.9 It is not proposed to remove the three cohesive borrow pits from the Proposed Scheme as to do so would substantially increase overall HGV vehicle distances travelled, with material needing to be imported from quarries located remote from the route, typically 60km. This would result in substantial increases in carbon emissions.

4.10 Additionally, there would also be a substantial increase in carbon generated as a result of having to export the materials generated by Crewe tunnel excavations that would otherwise have been used for the restoration of borrow pits.

4.11 The cohesive borrow pits will be excavated over a period of several years as shown in Table 1, Appendix A, and will be followed by a period of restoration activity.

5 Environmental controls

5.1 The nominated undertaker and its contractors will comply with the EMRs which set out commitments to mitigate the environmental impact of the Proposed Scheme. These sit alongside the environmental controls contained in the Bill, see Information Paper E1: Control of environmental impacts. These controls will form part of the Local Environment Management Plan (LEMP), which will be prepared in accordance with the

Code of Construction Practice (CoCP). The nominated undertaker and its contractors will also each prepare and operate an Environmental Management System in accordance with BS EN ISO 14001 appropriate to the scale and nature of the construction works.

5.2 Paragraph 7 of Schedule 17 (Planning Conditions) to the Bill requires the nominated undertaker to obtain approval from the relevant planning authority, where they are a qualifying authority, for plans or specifications for the excavation of bulk materials from borrow pits. Further information on the role of qualifying authorities and non-qualifying authorities can be found in Information Paper B2: Main provisions of the planning regime.

5.3 The grounds on which the relevant planning authority can refuse approval or impose conditions relate to the design or external appearance of the borrow pits, the methods by which they are worked and arrangements as to noise, dust, vibration or screening during their operation. In addition, where the site is not within the limits of deviation or specifically identified in Schedule 6 to the Bill, the grounds may relate to the location of the site.

5.4 Requests for approval under the Planning Conditions Schedule will address the matters relevant to the authority's decision.

5.5 For dust control the submission will have regard to the Institute of Air Quality Management mineral guidance.

5.6 Schedule 32 to the Bill sets out the requirement for approval from the relevant body (either the Environment Agency or Lead Local Flood Authority), for works such as water abstraction and discharges, which may affect the water environment. Such works, which could affect the water environment, cannot commence until the relevant body is satisfied that any impacts are properly understood, and that any necessary mitigation and monitoring has been adopted. For more information see Information Paper E15: Water resources, flood risk and authorisation of related works.

5.7 The nominated undertaker will require its contractors to apply, and to comply with, the requirements of the CoCP and will ensure the use of best practicable means to reduce the effect of the borrow pits on the local environment.

6 Design development

6.1 The depth and extent of excavation that was used to inform the ES, was based on assumptions set out within the relevant Volume 2 Community Area reports and map books and the Volume 5 Borrow pit report.

6.2 In order to inform both working arrangements and the development of the site specific restoration plans further surveys will be undertaken. They will typically include:

- Detailed topographic surveys;
- Ground investigations using boreholes and trial pits;
- Evaluation of the presence of soil contamination;
- Specific hydrological and hydrogeological investigations to ascertain the surface water and groundwater regime;
- Baseline monitoring of groundwater and surface water levels and quality.
- Where necessary further:
    - Agricultural Land Classification (ALC) surveys;
    - Soil surveys to determine soil types and properties;
    - Archaeological surveys;
    - Further ecology and landscape surveys.

6.3 As information becomes available from targeted ground investigations (GI), this assessment will be reviewed, and the volumes of material assessed to be acceptable engineering materials for the construction of the Proposed Scheme or unacceptable engineering materials. Any

adjustments that may be required as a result of the results of the targeted GI may have the potential to influence the extent of the land to be used for the extraction of material within the four areas proposed for borrow pits.

7 Restoration

7.1 The approach to the restoration of the three cohesive borrow pit sites can be found in Section 9 of the Volume 5 Borrow pit report of the main ES.

7.2 The three selected cohesive borrow pits will be made available to be returned to their original land use, which is agricultural.

7.3 Subject to agreement with landowners and the local planning authority, the restoration will, as a minimum, include:

- Backfilling with clean inert fill using excavated materials arising from Proposed Scheme earthworks such as cuttings and tunnel excavations;
- Reinstatement with subsoil and topsoil to the same levels as prior to commencement;
- Provision of site drainage within and surrounding the borrow pits as needed;
- Reinstatement of hedgerows, public rights of way (PRoW) removed during excavation;
- Restore the land to its former use as agricultural unless otherwise agreed.

7.4 In accordance with paragraph 8 of Schedule 17 to the Bill, if the relevant planning authority is a qualifying authority, the excavation of bulk materials from borrow pits cannot commence unless the authority has approved a scheme for the restoration of the borrow pit site.

7.5 The relevant planning authority can only refuse to approve or impose conditions on the approval of a restoration scheme on the ground that

the scheme ought to be modified and is reasonably capable of being modified.

7.6 Paragraph 8(4) of Schedule 17 to the Bill requires the nominated undertaker to carry out the approved scheme once it has completed its use of the land for the excavation of bulk materials from the borrow pit.

8 Aftercare and Monitoring

8.1 As described in Volume 1 and the Volume 5, Borrow pit report of the main ES, an aftercare plan will be set out in the site specific restoration plan for each borrow pit.

8.2 The preparation of aftercare plans will be undertaken by HS2 Ltd or the nominated undertaker in consultation with the local planning authority, the Environment Agency and affected landowners.

8.3 There will be a period of monitoring of the success of restoration and aftercare works. The exact nature and extent of monitoring will be agreed with the local planning authority.

9 More information

9.1 More detail on the Bill and related documents can be found at www.gov.uk/hs2-phase2b-crewe-manchester.

Appendix A:

Table 1: Proposed borrow pit locations

Borrow pit	Extracted material	Assumed working area*	Assumed thickness of recoverable material	Assumed maximum excavation depth (b.e.g.l**)	Duration
MA02 Borrow Pit A	Cohesive material	13.6ha	2m	5m	Two years and three months
MA02 Borrow Pit B	Cohesive material	10.5ha	2m	3m	Two years and nine months
MA02 Borrow Pit C	Cohesive material	11.2ha	2m	3m	Two years and nine months

*Note: *An estimate based on a desk based study of the thickness of recoverable material; the assumed maximum excavation depth.*

*** below existing ground level*