High Speed Rail (London-West Midlands)

Cherwell District Council

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High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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1 Introduction

1.1.1 This Local Environmental Management Plan (LEMP) sets out site specific control measures to be adopted by HS2 Contractors working within the Cherwell District Council (CDC).

1.1.2 This LEMP builds upon, but does not repeat, the HS2 general environmental requirements set out in the Control of Construction Practice (CoCP) (available online at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/593592/Code_of_Construction_Practice.pdf).

1.1.3 This LEMP contains control measures and standards to be implemented within CDC. The sections within this LEMP should not be read in isolation from other sections due to the interconnected nature of the measures between disciplines.

1.1.4 For ease of reference the LEMP mirrors the topic headings in the CoCP.

1.1.5 Information of relevance to the formation and development of this LEMP (as shown in figure 1) is contained within this document, or links are provided to where it can be assessed. This includes:

- Information from traffic, environmental surveys and ground investigation works. This could either be seasonal ecological surveys, tree surveys, air quality monitoring, noise monitoring, ground settlement or the results of ground investigations detailing levels of contamination (where present) and the nature of the ground;

- Feedback on pertinent information from on-going engagement; and

- Results of petitions of the Parliamentary process which have resulted in amendments to the mitigation measures contained within the CoCP.

Figure 1. Key workstreams that will provide additional information for the LEMPs

1.1.6 This LEMP has been prepared taking into account findings of the Environmental Statement (ES), Supplementary Environment Statement (SES) and Additional Provision 2 ES (AP2 ES) and the SES2 and AP3 ES where relevant. It has evolved during
the Parliamentary process and engagement with the Local Authority and other stakeholders, such as members of the National Environment Forum, which have informed its development. This LEMP may be subject to further refinement, amendment and expansion as necessary as the project design progresses.

1.1.7 The Contractors will implement the requirements of the LEMPs and the CoCP through their own Environmental Management System (EMS), which will be certified to BS EN ISO 14001.

1.1.8 The Nominated Undertaker (HS2 Ltd) and/or its Contractors (refer to Section 4 below) will engage with the local stakeholders. This will take the form of engagement events which will be carried out to introduce and brief the communities on local environmental information, management and mitigation as detailed within this document.

1.1.9 The HS2 Environmental Memorandum identifies key worksites along the route of HS2 Phase One that are environmentally sensitive in terms of nature conservation, terrestrial and aquatic ecology, water resources, geomorphology, recreation and amenity, landscape, public open space and agricultural land. The criteria for inclusion are ‘worksites where a key significant impact (that has been agreed with the HS2 National Environment Forum members) is generated in any of the environmental topics’ as mentioned above. There are currently no such sites identified in Cherwell District.

1.1.10 The controls within this LEMP, as with those in the CoCP, are in line with HS2’s Safe at Heart Health and Safety (H&S) brand. Safe at Heart seeks to ensure that health and safety are at the heart of everything that we do including in the design, construction and operation of the scheme. This aim stretches beyond the scheme itself, through instruments such as this LEMP, and into the communities along the scheme to ensure that we protect their health, safety and wellbeing.

1.1.11 HS2 documents referenced in this LEMP can be found on the www.gov.uk website.

1.2 Area and scope

- Plans showing details of the Scheme, as revised in AP5 and covered by this LEMP, are presented in the Environmental Statement (ES) maps (CFA14 Volume 2 Map Books ES Ref 3.2.2.14), CT-05-001 to CT-06-001; CFA13 - CT-05-054 (SES3 and AP4 ES), CT-05-054-L1 (SES3 and AP4 ES), CT-05-055 (SES3 and AP4 ES), CT-05-055-R1 (SES3 and AP4 ES), CT-05-055-R2 (SES and AP2 ES), CT-05-056 (SES3 and AP4 ES), CT-05-056-L1 (SES and AP2 ES), CT-05-056-R1 (SES3 and AP4 ES), CT-05-057 (SES3 and AP4 ES), CT-05-057-L1 (AP1 ES), CT-05-058 (SES and AP2 ES), CT-05-058-L1 (SES and AP2 ES), CT-05-059 (SES and AP2 ES), CT-05-060a (SES3 and AP4 ES); and

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1 HS2 Ltd is the Nominated Undertaker. The two terms are used interchangeably throughout this LEMP.
2 The National Environment Forum comprises Government departments and statutory bodies and was established to advise on environmental policy for HS2, including project-wide strategies for reducing the environmental impact of the line and principles for a Code of Construction Practice.
- CFA14 - CT-05-060b (SES3 and AP4 ES), CT-05-061 (SES3 and AP4 ES), CT-05-062 (SES and AP2 ES), CT-05-062-L1 (SES and AP2 ES), CT-05-063 (SES and AP2 ES), CT-05-063-L1 (SES and AP2 ES), CT-05-064 (AP1 ES), CT-05-064-L1 (Main ES), CT-05-065 (SES and AP2 ES), CT-05-066 (SES and AP2 ES), CT-05-066-L1 (SES and AP2 ES), CT-05-066-R1 (CT-05-067), CT-05-068a (Main ES).

1.2.1 Construction worksites and areas required for construction works are shown within the CT-05 maps.

1.2.2 The Enabling Works Contractors (EWC) are carrying out a range of survey and investigation works which commenced in early 2017. The EWC will also be carrying out some construction work including the provision of early ecological mitigation sites.

1.2.3 Between July 2017 and autumn 2018, the Main Works Civils Contractors (MWCC) will be developing the design for the scheme, with a target for construction starting from early 2019.

1.2.4 It is anticipated that the following work activities are to take place during core and non-core working hours during the construction period within CDC boundary:

- advance works, including: site investigations further to those already undertaken;
- enabling works, including: utilities works in the wider area including National Grid power line diversion at Turweston; highway and public right of way (PRoW) diversions; building demolitions; site clearance, habitat removal and creation; environmental mitigation measures;
- civil engineering works, including: establishment of construction compounds; site preparation and enabling works; main earthworks and structure works such as the tunnel portal, earthworks, retaining structures and erection of viaducts; site restoration; highways and utilities works; and, removal of construction compounds;
- works to conventional railway track, signalling and other railway systems;
- High speed railway installation works and systems fit-out, including: establishment of construction compounds; infrastructure installation, traction power supplies, overhead line equipment and communications features; connections to utilities; removal of construction compounds; and
- system testing and commissioning.
2 Purpose of the Local Environmental Management Plan

2.1.1 This LEMP focuses on the area specific control measures by topic as relevant to construction works within the CDC area. The measures described will be applied by the Nominated Undertaker and its Contractors throughout the construction period to reduce the potential environmental impacts within the CDC area during construction.

2.1.2 The Nominated Undertaker’s Contractors will develop detailed environmental site management mitigation through their EMS, taking into account this LEMP and the Environmental Minimum Requirements (EMRs).

3 Policy and environmental management principles

3.1.1 Information relating to the HS2 Ltd Sustainability Policy and environmental management principles is provided in Section 3 of the CoCP.

4 Implementation

4.1.1 Details relating to implementation, such as enforcement and site management measures, are provided in Section 4 of the CoCP.

4.1.2 On 16 November 2016 contracts were awarded for three Enabling Works Contractors (EWC) working on behalf of HS2 Ltd across Phase 1 of the project. The EWC covering the SNDC area is Fusion, a joint venture between Morgan Sindall Infrastructure Services, BAM Nuttall Ltd and Ferrovial Agroman.

4.1.3 On 17 July 2017 contracts were awarded for HS2’s Main Works Civils Contractors (MWCC). The MWCC for the SNDC area is CEK. CEK is a joint venture made of Carillion, Eiffage and Kier.

5 General requirements

5.1.1 General control measures relating to community relations, hours of work, pollution incident control and security etc. are identified in Section 5 of the CoCP.

5.1.2 To reduce the likelihood of an environmental incident or nuisance occurring, measures from Section 5 of the CoCP will be implemented, as detailed in sections 5.2 to 5.16 below.
5.1.3 HS2 and the Contractors will be running a series of engagement events and activities that will cover the upcoming programme of works and associated environmental controls where appropriate.

5.2 Community relations

5.2.1 As detailed within Section 5 of the CoCP, the Nominated Undertaker and Contractors will implement the Community Engagement Framework, which will be reviewed and updated regularly. The framework will focus on engagement during construction with the community including local residents, businesses, community groups, stakeholders, land owners, community resources and the specific needs of protected groups (as defined in the Equalities Act 2010) especially those who may be affected by construction impacts in the immediate vicinity of the works. See also HS2 Information Paper G2: Community Relations.

5.2.2 Successful management of the project will involve establishing and maintaining good relations with site neighbours. The arrangements for this will be set out in the HS2 Community Engagement Framework. Liaison with the local community and other stakeholders will take place to provide overviews of the construction programme, updates on forthcoming works, as well as the opportunity for members of the public and stakeholders to discuss issues and provide feedback. This will involve the Contractors and relevant third parties and stakeholders, for which there will be co-ordinated arrangements. Fusion has initiated engagement along the route via focussed engagement events.

5.2.3 For the purposes of this LEMP, a third party is an organisation with whom HS2 Ltd has entered into a legal agreement to undertake works on its behalf, to be delivered under the powers of the High Speed Rail (London – West Midlands) Act (the Act), or the third party’s own powers (e.g. permitted development). Such agreements require the third parties to comply with the requirements of the Act and the EMRs, including the CoCP. Third parties relevant to this LEMP include Network Rail, Highways England, and utility companies such as National Grid.

5.2.4 Ongoing engagement with local interests and community groups will occur during construction, as listed in Appendix 2 of this LEMP. (NB: This list is indicative and will be subject to change as more information becomes available).

Advanced notice of works

5.2.5 The Nominated Undertaker and its Contractors will ensure that stakeholders affected by the proposed construction works, as outlined in the ES, will be informed in advance of works by methods outlined in the Community Engagement Framework and as per Section 5.1.4 of the CoCP.

Working hours

Consent

5.2.6 The framework for seeking consents from CDC for working hours under section 61 of the Control of Pollution Act 1974 is set out in the CoCP.
Core working hours

5.2.7 Core working hours will be from 08:00 – 18:00 on weekdays (excluding bank holidays) and 08:00 – 13:00 on Saturdays. See also HS2 Information Paper D4: Working Hours.

5.2.8 A period of up to one hour before and up to one hour after core working hours will be required for start-up and close down activities as detailed within the CoCP. To maximise the productivity within the core working hours, the one hour start up and close down periods will include activities such as deliveries, workforce arrival/departure, unloading, maintenance and general preparation works etc. During this period plant and machinery that is likely to cause disturbance to local residents will not be allowed to operate. This period will not be an extension of the core working hours. Such an extension will be agreed through the Section 61 consenting process with CDC. Emergencies (not repairs and maintenance) may be undertaken outside core hours.

5.2.9 Certain work activities at specific locations within the local authority area will need to take place outside of the core working hours for safety and engineering purposes. These work activities (which may include construction associated with Infrastructure works and Rail works, including Possessions) will be covered by the Section 61 consenting process and are likely to include:

- Ground investigation works;
- Archaeological excavation and recording;
- Westbury Viaduct and Westbury Embankment;
- Barton to Mixbury Cutting;
- Mixbury Embankment and Cutting;
- Godington East Viaduct; and
- Godington West Viaduct and Godington West Embankment.

5.3 Construction site layout and good housekeeping

5.3.1 The measures set out in Section 5.3 of the CoCP will be used to reduce the likelihood of an environmental incident or nuisance occurring.

5.4 Site lighting

5.4.1 All construction sites will be lit in accordance with the requirements of the CoCP as detailed within Section 5.4 and approval of site lighting in Schedule 17 Part 1 of the Act.

5.4.2 Site lighting will be designed to avoid light pollution to surrounding buildings, ecological receptors, structures used by protected species, local residents, railway operations, passing motorists and other sensitive land uses, where reasonably practicable.
5.5  **Worksite security**

5.5.1  The intention is to achieve safe and secure worksites, with balanced and appropriate security measures that are commensurate with the risk, as detailed within Section 5.5 of the CoCP.

5.5.2  A security plan will be required for each site and where appropriate, security fencing and gates provided to perimeters of construction locations and site compounds. Fence type and construction will be appropriate to the level of security required and depend upon the likelihood of intruders, level of danger and visual impact to the environment.

5.5.3  Contractors will be responsible for ensuring that the site/working areas and plant and materials are secure from use by unauthorised persons at all times and plant machinery will be securely locked away and immobilised each night. Securing sites will involve the use of physical, electronic and human resources in a proportionate and cost effective manner.

5.5.4  In some situations, particularly in an urban setting, consideration will be given to extra visibility for the public and workforce at night, e.g. use of half-timber / half-infill (i.e. perspex) at hoarding corners together with convex mirror to prevent blind spots. All sites will have security lighting to ensure the safety of passing pedestrians and other traffic.

5.5.5  Security personnel may be deployed at all HS2 sites and working areas on a 24/7 basis to respond to CCTV alarms and other security incidents. This approach will protect assets with measures that deter or cause delay to an intrusion and enable detection.

5.6  **Hoardings, fencing and screening**

5.6.1  The site perimeter will generally be fenced with 2.4m high solid hoardings that will be appropriately decorated, in line with measures described within Section 5.6.1 of the CoCP, if appropriate.

5.6.2  Hoardings up to 3.6m high may, on occasions, be used to control construction noise. At locations where existing fencing may need to be removed, temporary wire mesh fencing or other suitable alternatives will be used. Specific hoarding heights in CDC will be included in this LEMP as and when the hoarding designs are finalised.

5.6.3  Where there are earthworks along the track, such as the embankment north-east of Godington or cuttings from Newton Purcell to Westbury embankment, temporary fencing will be erected along the site boundaries. The type of fence will be dependent upon the nature of use of the adjacent land, as well as environmental and safety considerations.

5.6.4  Opportunities to include temporary landscaping measures including but not limited to green hoardings, ivy screens, artificial ivy and instant hedging will be considered and where reasonably practicable implemented where there are clear benefits to local air quality, biodiversity and visual appearance of the area, taking into account costs, longevity and ease of maintenance.
5.7 Unexploded ordnance
5.7.1 A risk assessment for the possibility of unexploded ordnance being found within construction areas will be carried out, as detailed within Section 5.7 of the CoCP.

5.8 Electromagnetic interference
5.8.1 The impacts of electromagnetic interference during design and construction will be undertaken, as detailed within Section 5.8 of the CoCP.

5.9 Temporary living accommodation
5.9.1 The provision of on-site workers’ temporary living accommodation will be considered and approved in advance by the local authority, as detailed within Section 5.9 of the CoCP.

5.10 Occupational healthcare
5.10.1 The Nominated Undertaker will ensure there is provision for either access to on-site or near site occupational healthcare for site workers, as detailed within Section 5.10 of the CoCP.

5.11 Clearance and re-instatement of sites on completion
5.11.1 This will be carried out as detailed within Section 5.11 of the CoCP.

5.12 Pollution incident control and emergency preparedness
5.12.1 The Contractors’ Pollution Incident Control and Emergency Preparedness Plan(s) will need to have due regard to local receptors as detailed in Sections 6 to 16 of this LEMP.
5.12.2 The Contractor will also consider measures and processes to be implemented in the event of environmental non-conformances.
5.12.3 There are no Source Protection Zones (SPZs) associated with the public abstraction in Cherwell District Council area.
5.12.4 The Contractor will need to pay particular attention to pollution incident control during the following construction activities:
   - realignment and culvert of Padbury Brook and its tributaries;
   - diversion of two watercourses at Station House;
   - culvert of an unnamed stream at Mixbury; and
   - installation of pier footings and construction of balancing ponds with associated drainage at the River Great Ouse.

Local control measures
5.12.5 The Contractor’s Pollution Incident Control and Emergency Preparedness Plan(s) will need to include the following pollution prevention and control mechanisms:
• static plant will be used with secondary containment measures such as plant nappies to retain any leakage of fuel or oil to reduce the risk of pollution;

• spill kits will be provided where appropriate, such as at the four satellite compounds to reduce the risk of pollution.

• the use of oil interceptors at site offices and work compounds;

• appropriate measures such as use of bunds of non-erodible material or silt or sediment fences adjacent to watercourses, such as Padbury Brook and the River Great Ouse;

5.13 Fire prevention and control

5.13.1 The Contractors will ensure all construction sites and welfare facilities will have in place appropriate plans and management controls to prevent fires. See also Section 5.13 of the CoCP.

5.14 Extreme weather events

5.14.1 The Contractor's pollution incident control and emergency preparedness systems will need to have due regard to the potential of extreme weather events and key receptors and take into account any proposed risk management or mitigation measures. See also Section 5.14 of the CoCP. Where necessary, the statutory bodies will be consulted with regards to emergency planning.

5.15 Carbon management plans

5.15.1 The Contractor will produce carbon management plans, in accordance with the HS2 Carbon Minimisation Policy as detailed within Section 5.15 of the CoCP.

5.16 Interface management between adjacent construction areas

5.16.1 The Nominated Undertaker will oversee the interface between the contractors as detailed within Section 5.16 of the CoCP, which may be within the same or adjacent local authority boundaries.

6 Agriculture, forestry and soils

6.1.1 General control measures relating to agriculture, forestry and soils are provided in Section 6 of the CoCP.

6.2 Sensitive receptors

6.2.1 Approximately 92ha of agricultural land will lie within the construction boundary in CDC. Over 80% of this land is of the best and most versatile quality in Grades 2 and 3a, with the remainder being moderate quality land in Subgrade 3b.
6.2.2 Approximately 33ha will be required permanently for the Scheme, with 59ha restored to agriculture.

6.2.3 The generally high quality soils that will be permanently displaced and reused in the design of the Scheme for agriculture and other uses, represent a sensitive receptor.

6.2.4 Some land uses situated adjacent to the construction boundary may be considered sensitive receptors, particularly in respect of farm infrastructure and crops. This includes interruptions to drainage systems, livestock water supplies and irrigation systems, the potential for dust deposition on crops, particularly field vegetables; interruptions to farm and field accesses; and the maintenance of appropriate stockproof fencing. This also applies to approximately 59ha of land within the construction boundary in CDC that is to be restored to agriculture. Nitrate rich soil may need to be stored on an impervious membrane.

6.3 Local control measures

6.3.1 Where topsoil and subsoil will be stripped across the site, a Soil Resources Plan (SRP) will be prepared. The SRP will establish the type and volume of the topsoil and subsoil to be stripped, the designated location of the stockpiles and the proposed use of conserved soils for land restoration. There is a commitment in the ES for the reuse of soils on the scheme.

6.3.2 In the provision of early ecological mitigation areas, the topsoil and subsoil will be entirely reused within the boundaries of each site and therefore an SRP will not be produced for these sites.

6.3.3 In areas where compounds are to be created, it is envisaged that the area will be stripped of topsoil (and subsoil where required). Temporary material stockpiles will be clearly recorded and the topsoil and subsoil will be reinstated.

6.3.4 In respect of storage areas for soil and excavated materials, and within the wider construction site, the presence and spread of invasive, non-native species (plants and animals) and noxious weeds will be controlled through the adoption of an appropriate management regime.

6.3.5 Appropriate construction, handling, treatment and disposal procedures will be implemented in relation to invasive species and noxious weeds. Route-wide measures will also be implemented to promote bio-security and minimise the risk that invasive non-native species and diseases are spread as a consequence of the project. Further details are provided in Section 6 of the CoCP.

6.3.6 Measures for the protection of farm infrastructure and crops will be the subject of liaison with landowners, occupiers and land agents.

6.3.7 Following consultation with individual farmers, arrangements are being made with the farmer and documented in Farmers and Growers' packs. Details on the scope of these packs is included in the HS2 Guide for Farmers and Growers and can be found at this link:

Air quality

7.1.1 General control measures relating to air quality are provided in Section 7 of the CoCP.

7.1.2 Contractors will be required to manage dust, air pollution, odour and exhaust emissions during the construction works in accordance with Best Practicable Means (BPM) and refer to current publications on ‘best practice’.

7.2 Sensitive receptors

7.2.1 The Contractor’s working methods will have due regard to local sensitive receptors where there may be impacts due to dust emissions from construction works and exhaust emissions of air pollutants from construction traffic vehicles travelling to and from construction areas.

7.2.2 For air quality, relevant sensitive receptors include locations where there are residential properties, other types of property where there is human exposure over extended periods, for example hospitals and schools, and locations where there are designated ecological sites with sensitive vegetation. The potential impacts are considered in terms of dust soiling on people and property; human health effects of dust and air pollutant emissions; and effects of dust deposition on vegetation.

7.2.3 The locations of these receptors have been classified as ‘low’, ‘medium’ and ‘high’ risk using the Institute of Air Quality Management (IAQM) methodology, in relation to emissions of dust from construction and demolition activities. Sensitive receptors are located within 20m of the site boundary and of dust generating activities along certain sections of the route. In CDC, these include Tibbetts Farm.

7.2.4 Receptors affected by emissions from anticipated construction traffic include Oaks Farm.

7.3 Local control measures

7.3.1 All the relevant methods outlined within the CoCP will be applied to control and manage potential air quality effects. These methods are considered to be sufficiently effective within areas in and around those listed in Section 7.2.2, which can include; the provision of dust suppression measures to be carried out in all areas of the site that are likely to generate dust, measures to keep roads, accesses and vehicles clean and the enclosure, shielding or provision of filters on plant likely to generate excessive quantities of dust beyond the site boundaries.

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1 Guidance on the Assessment of the Impacts of dust from construction and demolition: Institute of Air Quality Management (IAQM), February 2014
2 Air Quality Monitoring in the Vicinity of Demolition and Construction Sites: IAQM, November 2012
4 Guidance on the assessment of the impacts of dust from construction and demolition: Institute of Air Quality Management (IAQM), February 2014
7.3.2 Dust suppression measures and works screening will be subject to approval in accordance with Schedule 17 of the Act. Further measures are detailed within Section 7 of the CoCP.

7.3.3 HS2 has set emission requirements and targets for the engines of contractor cars, vans, and heavy road vehicles. These have been developed for the whole route and are categorised as follows: London Low Emission Zone, Clean Air Zone and Rest of Route.

7.3.4 For CDC the relevant category of vehicle emission standard is the ‘Rest of Route’. Within the ‘Rest of Route’ category, there are requirements for heavy road vehicles to be powered by EURO VI (or cleaner) engines (as far as reasonably practicable; 100% from 2020) and for cars and vans to be Euro 6 diesel and Euro 4 petrol\(^5\). There are also targets for the use of Ultra Low Emission vehicles.

7.3.5 HS2 has also set requirements for Non-Road Mobile Machinery (NRMM) (i.e. stationary plant and off road vehicles). These have been developed for the whole route and are categorised as follows: Central Activity Zone, Rest of Greater London and Rest of Country. For CDC, the relevant category of NRMM emission standard is Rest of Country. Within the Rest of Country the requirement is for NRMM to be powered by EU stage IIIB engines from 2017 (and EU stage IV from 2020)\(^6\).

7.3.6 The HS2 Information Paper E31: Air Quality gives further information on the HS2 emissions standards.

7.4 Monitoring Procedures

7.4.1 An inspection and monitoring programme will be implemented by the Contractor to assess the effectiveness of the control measures as outlined in section 7.3 of the CoCP. In CDC, the monitoring procedures may include continuous automatic monitoring of airborne dust, including the setting of a relevant site action level for dust (defined as a dust measurement threshold above which investigation will be required). The monitoring being undertaken by HS2 supplements existing air quality monitoring which is part of national and local authority surveys. Monitoring of NO\(_x\) or nitrogen deposition is not necessary in this area as the relevant CFAs state that there are no impacts originating from the proposed works.

7.4.2 The monitoring programme, including locations for dust monitoring is in the process of being agreed. Monthly reports of monitoring data from HS2 air quality surveys will be made publicly available throughout construction on the HS2 website at this address: https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2

7.4.3 The HS2 Air Quality Strategy gives further information on monitoring, including the process to determine where monitoring would be required and the monitoring

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\(^5\) Euro standards for heavy vehicles are given in terms of roman numerals. Euro standards for light vehicles are given in terms of numerical values and different Euro standards apply for petrol and diesel vehicles.

\(^6\) Roman numerals are also used within the NRMM EU regulations but are not directly comparable to the road vehicle Euro standards.
8 **Cultural heritage**

8.1.1 General control measures relating to Cultural Heritage are provided in Section 8 of the CoCP. Further control measures for Cultural Heritage are provided in the HS2 Phase One Heritage Memorandum within the Environmental Minimum Requirements and the specific documents identified therein.

8.1.2 A route-wide Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI:HERDS) has been prepared which sets out the general principles for design, evaluation, mitigation, analysis, reporting and archive deposition to be adopted for the design development and construction of the Scheme.

8.1.3 Archaeological and built heritage works will affect both designated and non-designated assets in CDC. Full details of the works to be undertaken (i.e. archaeological investigations and built heritage recording) will be determined during the detailed design and will be set out in Project Plans and Location-Specific Written Scheme of Investigations (LS-WSI).

8.1.4 Schedule 18 and Schedule 19 of the Act concern how legislation in respect of listed buildings and scheduled monuments respectively apply to the Phase One works. Schedule 20 to the Act provides a regime for the removal of human remains and related funerary monuments.

8.2 **Sensitive receptors**

8.2.1 Details of all designated and non-designated heritage assets within 500m of the land required, temporarily or permanently, for the construction of the Scheme are listed in Volume 5 of the ES (Appendix CH-002-001 and CH-003-001 and map CH-01-002).

8.2.2 Under Schedule 18 of the Act, no sensitive receptor has been identified within the CDC.

8.3 **Local control measures**

8.3.1 Where practicable, construction methodologies will be required to reduce the impacts on heritage assets. The CoCP sets out the provisions that will be adopted to control those effects, including the use of appropriate equipment and methods to limit ground disturbance and settlement followed by monitoring, protection and remediation. A programme of settlement monitoring and the implementation of avoidance measures where appropriate will be undertaken by the Contractor. Detailed provisions with regard to settlement and listed buildings are outlined in the Settlement Policy / HS2 Information Paper: C3 Ground Settlement.

8.3.2 Suitable locations will be identified for advance planting, to reduce impacts on the setting of assets.
Where practicable, below ground assets will be preserved in situ beneath mitigation earthworks through the adoption of appropriate design measures.

Where practicable, construction methodologies will reduce the impacts on buried and above ground remains.

The programme of archaeological and built heritage works will be undertaken by a specialist contractor appointed by the Nominated Undertaker prior to and during, the construction period in accordance with the provisions of the Location-Specific Written Scheme of Investigation for archaeology and built heritage.

**Monitoring**

Appropriate monitoring of heritage assets will be undertaken as necessary as detailed within Section 8.4 of the CoCP.

**Ecology**

General control measures relating to ecology are provided in Section 9 of the CoCP.

**Sensitive receptors**

The following locations which lie within or are adjacent to the Scheme in CDC are designated for nature conservation. These locations are shown within the Volume 5 map books of the ES:

- the Old London and North Eastern Railway District Wildlife Site designated for nature conservation, which is partially located within the land required for the construction of the scheme.

Sensitive habitat receptors outside of designated sites are displayed within the Volume 5 map books of the ES (3.5.1.5.13 and 3.5.1.5.14). These include:

- small area of semi-improved neutral grassland to the north-east of Newton Purcell (Ch87+900);

- lowland mixed deciduous woodland immediately south of Grassy Plantation (88+300 and 88+750);

- open mosaic habitat on formerly developed land (minerals extraction) at Finmere Quarry (Ch88+600 to Ch89+600);

- Grassy Plantation, an area of lowland mixed deciduous woodland and a Habitat of Principal Importance (88+850 to 89+150);

- semi-natural broadleaved line-side woodland on the former railway near Finmere Quarry (Ch89+000);

- Mixbury Plantation, an area of lowland mixed deciduous woodland (Ch89+000 to 90+100);
• Mixbury Brook, crossed by the route north-east of Mixbury (Ch91+400);
• two semi-natural broadleaved woodland blocks at Mossycorner Spinney\(^7\) (east of Mixbury) (Ch91+500);
• River Great Ouse and its tributaries (Ch92+600);
• hedgerows occurring throughout the area; and
• ponds, many of which are near Finmere.

9.2.3 Key protected or important species known to occur in the vicinity of the works are:
• bat roost and assemblages;
• breeding and wintering birds;
• barn owls;
• great crested newts;
• common reptiles;
• fish assemblage;
• water voles;
• otters;
• badgers;
• hazel dormouse\(^8\);
• terrestrial invertebrate including nationally scarce beetles;
• aquatic macro-invertebrates;
• population of red hemp nettle; and
• notable plant species (including red hemp nettle, native black poplar, common whitebeam and squirreltail fescue).

Further information on designated sites and legally protected species occurring in this area can be found within Volumes 2 and 5 of the ES.

9.2.4 Contractors will be required to minimise the loss of sensitive habitat receptors wherever possible. Translocation of soils from ancient woodland sites will be undertaken following the design specifications set out in the relevant Ecology Site Management Plans.

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\(^7\) This area is now recognised as ancient woodland by Natural England, however this information was not reported in the ES as it was not known at the time of writing.

\(^8\) 2014 surveys indicate presence of hazel dormouse in this area. This was, therefore not reported in the ES.
9.2.5 Natural England has granted the HS2 organisational Great Crested Newt and badger licences across Phase 1 in April 2017. Contractors will be required to check whether any protected species licences are required prior to work commencing or where such licences have been obtained, to ensure compliance with the requirements of the licence.

9.2.6 All actions required to comply with licences will be undertaken by suitably qualified specialist ecologists licensed to undertake the work.

9.3 Local control measures

9.3.1 The standard ecological issues and associated control measures outlined in Table 1 are of particular relevance to CDC.

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Issue</th>
<th>Standard control measure/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated Sites</td>
<td>The Scheme affects LNR and non-statutory wildlife sites.</td>
<td>Measures to reduce habitat loss should be included in planning of construction works, such as avoiding siting temporary material stockpiles, construction materials and vehicle parking within designated sites. Potentially hazardous materials should also be located away from designated sites and stored correctly. Specific measures for control of surface water and for air and water-borne pollution should also take account of the proximity of these designated sites.</td>
</tr>
<tr>
<td>Ancient Woodland</td>
<td>The Scheme will result in the loss of ancient woodland.</td>
<td>Measures to reduce habitat loss should be included in planning of construction works. Translocation of ancient woodland soils and vegetation will be undertaken where appropriate, following the design specification set out in the relevant Ecology Site Management Plans.</td>
</tr>
<tr>
<td>Bats</td>
<td>All UK bat species and their roosts (even if bats are not present) are fully protected under both UK and European legislation.</td>
<td>Adhere to requirements of licences and, where relevant, Ecology Site Management Plans.</td>
</tr>
<tr>
<td>Receptor</td>
<td>Issue</td>
<td>Standard control measure/s</td>
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</tr>
<tr>
<td></td>
<td>The Scheme will result in the loss of confirmed bat roosts in trees and buildings.</td>
<td>Adopt precautionary approach. Follow appropriate Working Method Statement for demolition of buildings and felling of trees.</td>
</tr>
<tr>
<td></td>
<td>The Scheme will result in the loss of trees and buildings identified as having moderate or high potential to support roosting bats, but no evidence of their use has been recorded to date through survey work.</td>
<td>Where practicable, undertake activities causing disturbance during seasonal periods when bats are likely to be absent. Ensure lighting is directed away from known roosts. Reduce night time working in close proximity to retained roosts. Where practicable, temporary structures will be erected to screen the entrances/exits of retained roosts from construction areas.</td>
</tr>
<tr>
<td>Retained bat roosts are present in close proximity to the Scheme. Caution is required to ensure that these roosts are not disturbed during works.</td>
<td>Retained bat roosts are present in close proximity to the Scheme. Caution is required to ensure that these roosts are not disturbed during works.</td>
<td>Where practicable, undertake activities causing loss or disruption during seasonal periods when bats are likely to be less active. Retain as much of the key habitat for as long as possible and establish new areas as quickly as possible to reduce the effects. Ensure lighting is directed away from foraging areas and commuting routes. Minimise night time working in close proximity to foraging areas and commuting routes.</td>
</tr>
<tr>
<td></td>
<td>The Scheme will result in the loss of and disruption to bat foraging areas and commuting routes.</td>
<td>Where practicable, undertake activities causing loss or disruption during seasonal periods when bats are likely to be less active. Retain as much of the key habitat for as long as possible and establish new areas as quickly as possible to reduce the effects. Ensure lighting is directed away from foraging areas and commuting routes. Minimise night time working in close proximity to foraging areas and commuting routes.</td>
</tr>
<tr>
<td>Breeding birds</td>
<td>The nests and eggs of all bird species are legally protected against being damaged or taken. Some species are specially protected against disturbance whilst nesting. The Scheme will result in the loss of nesting bird habitat, including vegetation, buildings and structures.</td>
<td>Habitat clearance should be conducted outside of the bird nesting season (March to August inclusive) where practicable. If habitat clearance is carried out during the bird nesting season then an appropriate Working Method Statement shall be completed in advance of clearance works commencing.</td>
</tr>
<tr>
<td>Receptor</td>
<td>Issue</td>
<td>Standard control measure/s</td>
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<tr>
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</tr>
<tr>
<td>Great crested newt</td>
<td>Great crested newts and their habitats are fully protected under both UK and European legislation. The Scheme will result in the loss of water bodies and terrestrial habitat used by great crested newts.</td>
<td>Adhere to requirements of HS2 great crested newt organisational licence, method statements, and Ecology Site Management Plans.</td>
</tr>
<tr>
<td>Common amphibians</td>
<td>The Scheme will result in the loss of water bodies supporting common amphibians. Clearance during peak periods of occupation could result in the loss of these populations.</td>
<td>Drain down of ponds should be conducted outside of the main breeding period for amphibians (March to August) where practicable. If drain down of ponds is carried out during the main breeding period then an appropriate Working Method Statement shall be completed in advance of drain down works commencing.</td>
</tr>
<tr>
<td>Common reptiles</td>
<td>Common species of reptile (grass snake, adder, common lizard and slow worm) are protected from intentional killing or injury. Common reptiles are widespread, and the Scheme will result in the loss of confirmed and potential reptile habitat.</td>
<td>Where works have the potential to kill or injure reptiles, but there is suitable habitat immediately adjacent to the work site that could support a viable population (with enhancements where necessary) the Habitat Manipulation and Displacement approach should be followed. A Working Method Statement should be produced in advance of works commencing. Where there is no suitable habitat immediately adjacent to the work site, the Reptile Translocation approach should be followed. A Working Method Statement should be produced in advance of works commencing. This will include details of the approach, any exclusion fencing required, and details of the receptor site.</td>
</tr>
<tr>
<td>Badger</td>
<td>Badgers and their setts are protected under the Protection of Badger Act 1992. Badgers are widespread, and the Scheme will result in the loss of badger habitat, including setts.</td>
<td>Adhere to the requirements of the HS2 badger organisational licence, method statements, and Ecology Site Management Plans. Avoid badger setts to reduce disturbance where they do not need to be closed. Badgers are a mobile species and can create new setts in a short period of time. Contractors to be aware of the potential for badger setts to be present within or adjacent to work sites – works to be stopped if potential setts are identified and an ecologist contacted for advice.</td>
</tr>
<tr>
<td>Receptor</td>
<td>Issue</td>
<td>Standard control measure/s</td>
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</tr>
<tr>
<td>Hazel dormouse</td>
<td>Hazel dormice and their habitats are fully protected under both UK and European legislation. The Scheme will result in the loss of habitats that are suitable for hazel dormouse, although this species has not been recorded along the Scheme to date.</td>
<td>Where relevant adhere to requirements of licences and Ecology Site Management Plans.</td>
</tr>
<tr>
<td>Otter</td>
<td>Otters are fully protected under both UK and European legislation. All major watercourses crossed by the Scheme have otters present or are potentially suitable to support them. It is not expected that there will be any fragmentation of otter movement routes, however, there is the potential for disturbance during construction along some parts of the Scheme.</td>
<td>Adhere to requirements of licences and, where relevant, Ecology Site Management Plans. Ensure that route of safe passage for otters is maintained throughout construction at crossing points. Use fencing as required to prevent otters being forced over existing road crossings. Reduce light spill onto watercourses.</td>
</tr>
<tr>
<td>Water vole</td>
<td>Water voles are fully protected under UK legislation. The Scheme will result in the loss of confirmed and potential water vole habitat.</td>
<td>An appropriate Working Method Statement should be produced in advance of works commencing, where relevant. Adhere to requirements of translocation licence, where relevant. Contractors to be aware of the potential for water voles to be present within or adjacent to work sites – works to be stopped if water vole evidence is identified and an ecologist contacted for advice.</td>
</tr>
<tr>
<td>Aquatic wildlife (such as fish, eels, invertebrates)</td>
<td>There are watercourses within the vicinity of the works, some of which have been identified as supporting aquatic wildlife which could be at risk of direct impacts during channel works or indirectly from contamination.</td>
<td>Part of the monitoring strategy for watercourses, informed by work carried out for the Environmental Statements and for Water Framework Directive assessments, is to include a plan for monitoring pre, during and post construction where aquatic species are identified as sensitive receptors. These monitoring plans will be agreed by the Environment Agency. Local control measures will include protection of aquatic species, where necessary. Moving fish will be undertaken in accordance with the HS2 organisational fish permit.</td>
</tr>
<tr>
<td>Receptor</td>
<td>Issue</td>
<td>Standard control measure/s</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>Invasive plants</td>
<td>There is a risk of work sites and adjacent land supporting invasive non-native species (INNS), as defined in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), in particular Japanese knotweed. INNS have been already recorded along some parts of the Scheme through previous survey work.</td>
<td>All land required for the works and immediately adjacent land (where practicable) shall be surveyed for the presence of INNS, with a focus on high-risk species. A Biosecurity Management Plan shall be produced in advance of works commencing, where required.</td>
</tr>
<tr>
<td>General</td>
<td>Unexpected discovery of legally protected species during works.</td>
<td>There will be a procedure to follow in the unexpected event that protected species are identified during construction. This will include seeking appropriate licences and consulting with Natural England. Unexpected finds of great crested newts or badgers are covered by the organisational licences and works must be in accordance with those licences.</td>
</tr>
</tbody>
</table>

9.3.2 Further information on the control of ecological impacts is provided in HS2 Information Paper E2: Ecological Impact, Section 9 of the CoCP, in Technical Note: Ecological principles of mitigation are set out in Volume 5 of the SES2 and AP3 ES (Scope and methodology report addendum (CT-001-000/2)).

9.4 **Monitoring**

9.4.1 Contractors will be required to undertake appropriate monitoring of the consequences of construction works on ecological resources and of the effectiveness of the management measures designed to control ecological effects, as detailed within Section 9.3 of the CoCP.

10 **Ground settlement**

10.1.1 General control measures relating to ground settlement are provided in Section 10 of the CoCP. Specific measures to reduce and repair settlement and requirements with regard to assessment, surveys and monitoring are contained in the Settlement Policy / HS2 Information Paper C3: Ground Settlement.

10.1.2 Requirements for monitoring will be confirmed by the settlement report prepared during the detailed design stage. Where determined as necessary, monitoring equipment will be installed on selected adjacent conventional tracks and on selected adjacent buildings. The monitoring strategy, methodology and programme, including
the location of monitoring equipment, will be discussed with the local authorities and land/building owners prior to commencement of construction.

10.1.3 Monitoring arrangements may be installed by the Nominated Undertaker’s specialist Contractor under an advanced contract and monitoring initiated prior to commencement on site, at which point the ongoing responsibility for monitoring would be passed to the Contractor.

10.1.4 Baseline readings will be taken prior to the commencement of excavation or piling. All monitoring will be planned, commissioned and carried out in agreement with relevant land/building owners and other relevant parties. HS2 might also establish alternative contractual arrangements for the initial monitoring equipment installation and movement monitoring prior to site commencement by the Contractor.

10.1.5 Where significant buildings tensile are predicted to be caused by excavation induced ground movements, ground treatment/improvement techniques might be required to ensure that if ground movement occurs, it stays within agreed and acceptable limits thereby limiting the impacts on buildings.

10.1.6 Monitoring might be required where existing sensitive buildings/structures/utilities are in close proximity to the planned excavation works. An assessment of the sensitivity of each building/structure/utility in close proximity to the excavation works will be carried out at the detailed design stage. This will then inform the design/specification of the monitoring system for that building/structure/utility and will also inform the design of any movement mitigation works if these are deemed necessary by the designer.

10.1.7 Prior to the commencement of construction, structural surveys and condition/defect surveys will be commissioned where structures are at likely risk of potentially damaging settlements.

11 **Land quality**

11.1.1 Further land quality study work including intrusive ground investigation (where needed) and analysis will be conducted prior to construction in order to confirm areas of suspected land contamination within the Scheme for the area. Contaminated sites beyond the Scheme will be considered only in terms of its potential impact on the Scheme. For the purposes of this LEMP it is assumed that no new land quality constraints will be identified during these pre-construction surveys. If new constraints are identified then the LEMP would be updated accordingly. No contaminated sites (in accordance with the meaning defined in Part IIa of the Environmental Protection Act, 1990) have been formally identified by the Regulator (in accordance with and the Contaminated Land (England) Regulations 2000) within the Scheme.

11.1.2 General control measures relating to land quality are provided in Section 11 of the CoCP.
11.2 Potential contamination sources and sensitive receptors

11.2.1 The following land with potentially contaminative existing or historical uses has been identified as a possible contaminative risk to HS2 works (and can be seen in Volume 5 mapbook of the ES):

- Historical railway lines including Finmere station and dismantled railway;
- Land used historically for military purposes, then as an airfield, north of Barton Hartshorn;
- Historical clay, brick and tile manufacturer next to Widmore Plantation;
- Finmere Railway Cutting landfill;
- Finmere Railway Cutting historical landfills;
- Finmere Quarry and landfill;
- Mixbury Railway Cutting historical landfill; and
- various infilled pits.

11.2.2 With regard to the above identified contaminative risks, the Contractor will have due regard to the following sensitive receptors:

- people, including residents in existing properties, local employees, construction and/or maintenance workers;
- controlled waters, including groundwaters in the Great Oolite Group (Principal aquifer) and various Secondary A aquifers;
- Padbury Brook;
- River Great Ouse;
- the built environment, including buildings, property and underground structures and services; and
- the natural environment.

11.3 Local control measures

11.3.1 Ground investigations are being undertaken to assess areas of potential contamination within the Scheme. Following development of a conceptual site model and a risk assessment a remedial strategy will be prepared, as needed. Consultation with CDC and the Environment Agency will take place, as appropriate, during the formulation of the remedial strategy, which will include measures to be taken if unexpected contamination is encountered as outlined in Section 11 of the CoCP.

11.3.2 Contaminated soils excavated from the site are to be separated from other materials and treated, as necessary. Where reasonably practicable material will be reused within the Scheme, where it is suitable for use. Treatment techniques could include stabilisation methods, soil washing and appropriately permitted bio-remediation to
remove oil contaminants. Contaminated soil disposed off-site will be taken to a soil treatment facility, another construction site (for licensed treatment, as necessary, and reuse) or an appropriately permitted landfill site.

11.3.3 Excavation through Finmere Railway Cutting landfill, Finmere Railway Cutting historical landfills and Finmere Quarry and landfill in Cherwell District Council will be required. Should the ground investigation discover contaminated materials within the area required to construct the cutting in these locations, it will be excavated, then treated and re-used, or removed, as appropriate. In addition ground (landfill) gas and/or leachate control systems will be constructed where necessary to manage ingress to the Scheme or control migration pathways external to the works where pathways have been affected adversely by the construction.

11.3.4 Similar measures will be undertaken at other sites where contaminated soils or groundwater are identified during the investigation and/or construction processes.

11.4 Minerals

11.4.1 The Scheme crosses a number of Mineral Safeguarding Areas in the Cherwell District Council, including those for building stone, sand and gravel as well as Preferred Areas and an Area of Search for sand and gravel.

11.4.2 Mitigation of potential impact on these mineral resources can include prior extraction of the resource for use within the project or elsewhere. Extraction may be limited to areas of environmental mitigation earthworks within the Scheme adjacent to rather than beneath the trackbed, which will require good founding conditions. A plan will be discussed in advance of the construction works with the landowner and/or mineral owner, the mineral planning department at Oxfordshire County Council and any other interested parties to assist in achieving an effective management of minerals within the location of the affected Mineral Safeguarding Areas as well as Preferred Areas and Areas of Search.

12 Landscape and visual

12.1.1 General control measures relating to land quality are provided in Section 12 of the CoCP.

12.2 Sensitive receptors

12.2.1 With reference to the set-up and location of temporary works, the Contractors will have due regard to limiting impacts of the character of the following landscape character areas (LCAs) (ES 3.5.1.7.2):

- Shelswell and Turweston Wooded Estate lands and Farmland Plateau LCA;
- Upper Cherwell Basin LCA.
12.2.2 The Contractors will also have due regard to limiting visual intrusion on the following visual receptors:

- Residents in the area, particularly at the villages of Newton Purcell, Finmere, Goddington and Mixbury and as isolated groups of residences interspersed throughout the landscape;
- Recreational users on public rights of way (PRoW) throughout the study area including the Westbury Circular Ride; and
- People travelling through the area along ‘scenic’ rural roads within the study area and on main roads, including the A4421 at Newton Purcell and A421 at Finmere.

12.2.3 The Contractor shall also discuss the possibility of advance planting off-site with landowners and Cherwell District Council to further screen the locations listed above.

12.3 Local control measures

12.3.1 Measures that have been incorporated into the CoCP to avoid or reduce landscape and visual effects during construction include the following (see Volume 5):

- maximising the retention and protection of existing trees and vegetation where possible;
- use of well-maintained hoardings and fencing;
- designing lighting to avoid unnecessary intrusion onto adjacent buildings and other land uses;
- replacement of any trees intended to be retained which may be accidentally felled or die as a consequence of construction works;
- appropriate implementation, establishment and maintenance of planting and seeding works and implementation of landscape management measures, to continue through the construction period as landscape works are completed;
- temporary bunds to be positioned to screen views to the route during construction;
- consideration of the specific location of construction compound layouts and site access in relation to existing vegetation to reduce visual impacts where practicable; and
- the specific location of temporary material stockpiles to reduce visual impacts.

12.4 Trees

12.4.1 The Contractor will give consideration to where trees and other planting can be established early in the construction programme. For example, where trees require removal due to utility works early in the programme, replacement trees will be provided
at the earliest possible opportunity, where reasonably practicable. The Nominated Undertaker will ensure any early planting during construction is maintained to promote healthy growth.

12.4.2 Where practicable, the Contractor will carry out surveys and agree the details of tree retention and protection measures, in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations, with CDC, in advance of any works in the vicinity of trees.

12.5 Site Buildings for Office and Welfare

12.5.1 Buildings will generally be of a temporary modular type; they will typically be multi-storey to maximise construction space and limit land take.

13 Noise and vibration

13.1.1 General control measures relating to noise and vibration are provided in Section 13 of the CoCP and additional information is provided in Information Paper E23: Control of construction noise and vibration.

13.2 Sensitive receptors

13.2.1 Noise and vibration construction assessment locations, at sensitive residential and non-residential properties, are identified within Noise and Vibration Volume 5 ES map book (ES 3.5.4).

13.2.2 Residential and non-residential sensitive receptors at which the ES has reported likely adverse impacts from construction noise and/or vibration are mainly located at residential communities at Newton Purcell and Mixbury.

13.2.3 No residential properties are currently identified as qualifying for a noise insulation package as detailed within the noise insulation and temporary rehousing policy, however further detailed assessment would be required to confirm this.

13.3 Local control measures

13.3.1 Site specific best practicable means measures to control noise and vibration have been identified through the Parliamentary process and discussions with CDC, and reflected in this document. Furthermore, site specific measures will be identified by the Contractor on a site-by-site and activity-by-activity basis and agreed with CDC through the Section 61 process. As identified in the ES, examples of best practicable means measures that may be employed by the Contractor to control noise and vibration include:

- additional height hoardings which may, on occasion, be used to control construction noise. These will be subject to approval in accordance with the requirements of Schedule 17 Part 1 to the Act;
• arranging the layout of compounds to reduce noise impacts where construction compounds are in close proximity to noise sensitive receptors. This may include placing any stacked portacabins between noisy works and sensitive receptors;

• taller screening as described in the CoCP has been assumed along the edge of the construction site boundary adjacent to the residential communities at Newton Purcell; and

• controlling noise and vibration at source - for example the selection of quiet and low vibration equipment, review of construction programme and methodology to consider quieter methods.

13.3.2 No residential buildings are forecast to experience noise levels higher than the noise insulation trigger levels as defined in the CoCP (Section 13) or are identified in the ES as qualifying for a noise insulation package as detailed within the Noise Insulation and Temporary Rehousing Policy.

13.3.3 Local control measures will be periodically reviewed, including following any material changes in the proposed construction method.

13.4 Monitoring

13.4.1 The Nominated Undertaker requires its Contractors’ to undertake and report such monitoring as is necessary to ensure and demonstrate compliance with all noise and vibration commitments and the requirements of the CoCP. These can be found on the HS2 website at this address: https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2.

13.4.2 As set out in section 4.3.10 of the CoCP, where the Nominated Undertaker’s Contractors are monitoring noise, dust and air quality with equipment capable of streaming data in real time, this will be made available to CDC if a written request is received. In addition, monthly noise monitoring reports will be made publicly available throughout construction. The monthly reports will include information such as measurement methodology and monitoring locations. The reports will be available on the HS2 website: https://www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2

13.4.3 All noise and vibration monitoring equipment should hold a valid calibration certificate issued by either a United Kingdom Accreditation Service (UKAS) accredited calibration laboratory or equipment manufacturer.

14 Traffic and transport

14.1.1 Route-wide, local area and site specific traffic management measures will be implemented during the construction of the project on or adjacent to public roads, bridleways, footpaths and other Public rights of way (PRoW) affected by the Scheme as necessary. These measures are guided by Section 14 the CoCP.
14.1.2 The CoCP sets out a number of measures to ensure the impacts from construction traffic on the local community are reduced by its Contractors where reasonably practicable:

- A Route-wide Traffic Management Plan (RTMP) will set out the generic traffic management measures to be implemented during the construction of the project;
- Local Traffic Management Plans (LTMPs) will set out specific traffic management measures for each work site within particular areas along the route. Information on how the local impacts of construction will be mitigated, in particular those associated with materials delivery and redistribution, offices and workers’ accommodation will be included within the LTMP or on a site-specific basis;
- Contractors will prepare site specific traffic management measures, which will be subject to consultation and, as necessary, consent;
- Contractors will prepare construction workforce travel plans with the aim of encouraging the use of sustainable modes of transport to reduce the impact of workforce travel on local residents and businesses;
- For road cleanliness Contractors will be required to use all reasonably practicable measures to avoid/limit and mitigate the deposition of mud and other debris on the highway; and
- HS2 will require its Contractors to undertake such appropriate monitoring as is necessary to ensure compliance with the requirements of the CoCP, and this will include the maintenance of records of traffic management measures.

14.1.3 Information relating to construction traffic is also provided in Information papers:

- D11: Maintaining access to residential and commercial property during construction;
- E13: Management of traffic during construction; and
- E14: Highways and traffic during construction – legislative provisions.
- E30: Vehicle flow management and safety requirements during construction.

14.2 Local control measures

Sensitive Receptors

14.2.1 In relation to traffic and transport, key sensitive receptors will need to be considered when the Contractor develops the overall programme within the LTMP and the site specific traffic management schemes.

14.2.2 In CDC these include the: A4421 Buckingham Road, A421 London Road, Featherbed Lane (also known as Fulwell Lane), Fulwell Road, Valley Road (Finmere), Mere Road and Sandpit Hill and local roads that are affected by the Scheme.
Site access

14.2.3 A number of vehicle access points to the construction sites will be required and so the construction vehicle movements will be spread over a number of roads within the area of the works. Highway access notifications and/or approvals will be undertaken in accordance with Schedule 4 of the Act.

14.2.4 Routes for construction traffic will be subject to approval of the relevant planning authority in accordance with the Schedule 17 of the Act when large construction vehicle movements exceed 24 single movements (12 two way movements) per day to and/or from a site.

14.2.5 Any permanent highway works outside the limits of deviation as outlined in the Act will be subject to normal Highways legislation and Highway Authority powers.

14.3 Works to the Highway and Access Measures

14.3.1 Temporary and permanent road closures and diversions of the following roads will likely be required:

- the permanent realignment of A4421 Buckingham Road, approximately 50m to the west across the new overbridge;
- the temporary realignment of A421 London Road, for a period of approximately a year to one year and six months;
- the temporary realignment of A361 Byfield Road, for a period of approximately three years; and
- the permanent realignment of the A423 Banbury Road approximately 100m to the west across the new overbridge.

14.3.2 Alternative routes for the following PRoW will be required, namely:

- a temporary alternative route for Footpaths 308/2 and 308/3, to the west of the temporary stockpile for a period of approximately nine months to one year;
- a temporary alternative route for Bridleway 213/7, to the east of the Scheme for a period of approximately nine months to one year;
- whilst Bridleway 213/4 will remain open during construction, it will then be permanently diverted 200m to the west across Bridleway 213/4 accommodation overbridge;
- a temporary alternative route for Footpath 303/7, to the north for a period of approximately nine months to one year; and
- a temporary alternative route for, Bridleway 303/4, to the south for a period of approximately nine months to one year.

14.3.3 All temporary closures and diversions will be subject to submissions and notifications to the relevant highway authority.
14.4  Monitoring procedures

14.4.1  Each Contractor will be responsible for monitoring to ensure compliance with the RTMP, LTMP, the requirements of the provisions of the Act, assurances and undertakings, site specific drawings and site specific traffic requirements and conditions.

15  Waste and materials

15.1.1  All waste will be managed in accordance with the waste hierarchy which aims to reduce waste at source and to reduce the quantity that requires final disposal to landfill. This applies to excavated material arising on-site, which will be reused within the Scheme as far as reasonably practicable, as well as material from demolition and construction activities. This approach is described in greater detail in HS2 Phase One Information Paper E3: Excavated Material and Waste Management and in Section 15 of the CoCP.

15.2  Local control measures

Testing and classification of materials

15.2.1  The ‘basic characterisation’ of excavated material will be determined by the Contractor to ascertain the potential for reuse, recycling, recovery or disposal to inert, non-hazardous or hazardous landfill.

15.2.2  Testing and classification of excavated material will be undertaken by the Contractor in line with the Environment Agency’s guidance. This includes:

- Waste Sampling and Testing for Disposal;
- Technical Guidance WM2 – Hazardous Waste, Interpretation of the Definition and Classification of Hazardous Waste (3rd Edition 2013); and

Transport of waste and materials

15.2.3  Opportunities for the off-site re-use of surplus excavated material will be identified and utilised where reasonably practicable. Surplus excavated material will only be sent to landfill as an option of last resort. Further information on the management of material

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9 Basic characterisation’ refers to the characterisation of excavated material to help define the type of re-use for which it is suitable (e.g. DMRB soil classes). Characterisation of waste would include the allocation of an EWC code (in accordance with The List of Wastes (England) Regulations 2005 SI No. 895) and a detailed evaluation of the waste properties. The latter is based on a combination of the detailed knowledge of the source process and chemical testing.


and waste is provided in HS2 Information Paper E3: Excavated Material and Waste Management.

16 Water resources and flood risk

16.1.1 General control measures relating to water resources and flood risk are provided in Section 16 of the CoCP.

16.2 Sensitive receptors

16.2.1 The Contractor will have due regard to the following sensitive local water resource receptors:

- Local aquifers: Alluvium (Secondary A aquifer); Head (Secondary undifferentiated aquifer); Glaciofluvial deposits (Secondary A aquifer); and Great Oolite Group (composed of formations designated as Principal and Secondary aquifers);
- A single private unlicensed groundwater abstraction has been identified at Mixbury Hall. There are no Source Protection Zones (SPZs) in this study area; and
- Surface water features: Unnamed drains forming tributary of Padbury Brook, Five unnamed ponds near Barley Fields Barn Farm/Boundary Farm, Unnamed drain (stream at Mixbury), the River Great Ouse and numerous small ponds within 1km radius of the Scheme.

16.2.2 The Contractor’s Pollution Incident Control Plan will have due regard to the local flood risk sources (i.e. surface, artificial, groundwater and sewers) and key receptors and take into account any proposed risk management or mitigation measures.

16.2.3 The Contractor will have due regard to the following areas within Environment Agency Flood Zones 2 and 3, which is an area that is at risk of river flooding.

16.2.4 The Contractor will have due regard to the following local flood water receptors and their respective flood histories:

- River Great Ouse; and
- Stream at Mixbury.

16.3 Potential sources of contamination

16.3.1 Potential sources of contamination are detailed within Section 11 of this LEMP.

16.4 Local control measures

16.4.1 Measures identified in Section 16 of the CoCP, including detailed method statements, will aim to reduce potential adverse effects on surface water or groundwater quality or
flows associated with construction; this will include release to ground, groundwater, watercourses or surface water sewers in the surrounding receptors.

16.4.2 As outlined in the CoCP, best practice measures will be used (e.g. through the use of silt traps and appropriate attenuation, if required) prior to the discharge of water to watercourses, groundwater or surface water sewers, subject to obtaining the required permits or consents. This could apply to runoff from wheel washing facilities or from general construction activities. As noted in Section 5.12 of this document, a pollution incident control plan will be produced which will incorporate procedures for alerting relevant water supply companies and reducing impacts to public supply SPZ’s and local private abstractions in this area.

16.4.3 Where there is the possibility that work may affect aquifers, a groundwater monitoring plan will be implemented, as outlined in Section 16 of the CoCP.

16.4.4 A programme of groundwater and surface water monitoring will be undertaken prior to, during and following completion of the construction works. This will include at risk WFD elements as identified in the ES route wide WFD assessment. This is required to enable further scheme design and for the protection of public water supply and other abstractions with a legal right to abstract water. The monitoring programme scope and duration will be developed and agreed with the Environment Agency in consultation with other stakeholders. A management strategy will also be agreed with the Environment Agency in consultation with other stakeholders that will cover any physical mitigation required for the protection of public water supply.

16.4.5 If dewatering from excavations is required, it will be carried out in consultation with the Environment Agency and will take into consideration risks posed to water quality or quantity and not adversely affect those who have a protected right to abstract water.

16.4.6 If required, appropriate guidance will be adhered to, including the Piling and Preventative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention. Groundwater and surface water monitoring plans will be prepared, where piling could affect below ground contamination.

16.4.7 Temporary excavated material stockpiles, construction compounds and site offices will be located outside of areas at risk of flooding where reasonably practicable, including the floodplain of the River Great Ouse and the tributary of the Padbury Brook at Newton Purcell to avoid having an impact on the risk of flooding. Where construction compounds cannot be located outside flood risk areas, there will be a site specific flood risk management plan prepared prior to construction to manage the potential risks. These plans will take account of the flood risk assessments produced for the ES and include any proposed risk management or mitigation measures, if required.

16.4.8 Drainage from the works will be attenuated and discharged to watercourses or sewers, under agreement at a controlled rate and, where required, with approval of the Environment Agency (2001), Piling and Preventative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention.
Environment Agency and, where appropriate, the drainage authority in accordance with Schedule 3 Part 5 to the Act.

16.4.9 In certain instances, the excavated retained cut is at a level below the natural groundwater table. Mitigation, where necessary with continuous piles or grouting, will ensure that any changes to local groundwater levels and flow are minimised through the use of cut-offs and applying relatively short time-scales for dewatering.

16.4.10 Additional information, such as how the Scheme complies with the Water Framework Directive, as well as further provisions for engagement with stakeholders, monitoring and protection of local water resources are outlined in HS2 Information Paper E1: Control of Environmental Impacts and HS2 Information Paper E4: Water resources and flood risk.
### Appendix 1: Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>Additional Provision</td>
</tr>
<tr>
<td>CFA</td>
<td>Community Forum Area</td>
</tr>
<tr>
<td>CDC</td>
<td>Cherwell District Council</td>
</tr>
<tr>
<td>CoCP</td>
<td>Code of Construction Practice</td>
</tr>
<tr>
<td>Contractor</td>
<td>The Contractor on a construction site is responsible for planning, managing and co-ordinating themselves and/or the works and all other Subcontractors working on their site, or any other Contractor directly employed by the Nominated Undertaker to undertake key construction works on site.</td>
</tr>
<tr>
<td>CoPA</td>
<td>Control of Pollution Act 1974</td>
</tr>
<tr>
<td>ES</td>
<td>Environmental Statement</td>
</tr>
<tr>
<td>HGVs</td>
<td>Heavy Goods vehicles</td>
</tr>
<tr>
<td>HS2</td>
<td>High Speed 2</td>
</tr>
<tr>
<td>HS2 Ltd</td>
<td>High Speed Two Limited - is a company wholly owned by the Department for Transport, established in 2009 to develop plans for a new high speed network and present a route connecting London - West Midlands.</td>
</tr>
<tr>
<td>IAQM</td>
<td>Institute of Air Quality Management</td>
</tr>
<tr>
<td>IP</td>
<td>Information Paper</td>
</tr>
<tr>
<td>LCAs</td>
<td>Landscape character areas</td>
</tr>
<tr>
<td>LEMP</td>
<td>Local Environmental Management Plan</td>
</tr>
<tr>
<td>LTMP</td>
<td>Local Traffic Management Plan</td>
</tr>
<tr>
<td>Nominated Undertaker</td>
<td>The body or bodies appointed to implement the powers of the HS2 Act 2017 to construct and maintain the railway.</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>PRoW</td>
<td>Public rights of way</td>
</tr>
<tr>
<td>RRVs</td>
<td>Road Rail Vehicles. A vehicle which can operate both on rail tracks and road, often used for railway maintenance.</td>
</tr>
<tr>
<td>RTMP</td>
<td>Route-wide Traffic Management Plan</td>
</tr>
<tr>
<td>SBI</td>
<td>Site of Biological Importance</td>
</tr>
<tr>
<td>Scheme</td>
<td>The Scheme to which this CoCP relates is the high-speed railway between London - West Midlands. This is a high speed railway between London - West Midlands with a connection via the West Coast Main Line at conventional speeds to the North West and Scotland and to the Channel Tunnel via HS1. It includes four high speed rail stations at London Euston, Old Oak Common (West London), Birmingham Airport (Birmingham Interchange) and Birmingham (Curzon Street).</td>
</tr>
<tr>
<td>Section 61</td>
<td>Section 61 of the Control of Pollution Act 1974 (which sets out procedures seeking and obtaining local authority consent to measures for the control of noise and vibration on construction sites).</td>
</tr>
<tr>
<td>SES</td>
<td>Supplementary Environmental Statement</td>
</tr>
<tr>
<td>SFRA</td>
<td>Strategic Flood Risk Assessment</td>
</tr>
<tr>
<td>SLI</td>
<td>Site of Local Importance</td>
</tr>
<tr>
<td>SMI</td>
<td>Site of Metropolitan Importance</td>
</tr>
<tr>
<td>SPZ</td>
<td>Source Protection Zone</td>
</tr>
<tr>
<td>SRP</td>
<td>Soil Resources Plan</td>
</tr>
<tr>
<td>SSMP</td>
<td>Site Specific Management Plan</td>
</tr>
<tr>
<td>TMP</td>
<td>Traffic Management Plan</td>
</tr>
</tbody>
</table>
Appendix 2: Non-exhaustive list of Local Interest and Community Groups in Cherwell District

*(NB: This list is indicative and will be subject to change as more information becomes available).*

<table>
<thead>
<tr>
<th>Political / Councils</th>
<th>Delivery Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherwell District Council</td>
<td>Severn Trent Water</td>
</tr>
<tr>
<td>Oxfordshire County Council</td>
<td>Anglian Water</td>
</tr>
<tr>
<td>Finmere with Shelswell Parish Council</td>
<td>Veolia Water</td>
</tr>
<tr>
<td>Newton Purcell Parish C</td>
<td>Canal and Rivers Trust</td>
</tr>
<tr>
<td>Godington PC</td>
<td>Highways Agency</td>
</tr>
<tr>
<td>Mixbury PC</td>
<td>SES</td>
</tr>
<tr>
<td>Wardington PC</td>
<td>Thames Water</td>
</tr>
<tr>
<td>Finmere Quarry</td>
<td>National Grid</td>
</tr>
<tr>
<td>Places of Worship</td>
<td>UK Power Networks</td>
</tr>
<tr>
<td>Church of St Michael &amp; All Angels (Finmere)</td>
<td>Southern Gas</td>
</tr>
<tr>
<td>Church of Holy Trinity (Godington)</td>
<td>British Telecom</td>
</tr>
<tr>
<td>Church of All Saints (Mixbury)</td>
<td>Virgin Media</td>
</tr>
<tr>
<td>Church of St Michael &amp; All Angels (Newton Purcell)</td>
<td>Network Rail</td>
</tr>
<tr>
<td>Church of St Mary Magdalene (Wardington)</td>
<td>East West Rail</td>
</tr>
<tr>
<td>Other Sensitive Receptors</td>
<td>Chiltern Railways</td>
</tr>
<tr>
<td>Finmere CE Primary School</td>
<td></td>
</tr>
<tr>
<td>Environmental, Conservation and Charities</td>
<td></td>
</tr>
<tr>
<td>Ramblers Association (Oxon)</td>
<td>Berks Bucks &amp; Oxon Wildlife Trust</td>
</tr>
<tr>
<td>Bat Conservation Trust</td>
<td>Natural England</td>
</tr>
</tbody>
</table>