

Local Environmental Management Plan for London Borough of Camden

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1 Introduction

- 1.1.1 This This Local Environmental Management Plan (LEMP) sets out site specific control measures to be adopted by HS2 Contractors working within the London Borough of Camden (LBC). 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).
- 1.1.2 This LEMP contains control measures and standards to be implemented within LBC. The sections within this LEMP should not be read in isolation from other sections due to the interconnected nature of the measures between disciplines.
- 1.1.3 For ease of reference, the LEMP mirrors the topic headings in the CoCP.
- 1.1.4 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 accessed. 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 work streams that will provide additional information for the LEMPs.

- 1.1.5 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.
- 1.1.6 The Contractors 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.
- 1.1.7 The Nominated Undertaker (HS2 Ltd)¹ and/or its Contractors will continue to 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.
- 1.1.8 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

¹HS2 Ltd is the nominated undertaker. The two terms are used interchangeably throughout this LEMP.

the HS2 National Environment Forum² members) is generated in any of the environmental topics' as mentioned above. There are currently no such sites identified in Camden.

- 1.1.9 The controls within this LEMP, as with those in the CoCP, are in line with HS2's Safe at Heart health and safety 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.
- 1.1.10 HS2 documents referenced within this LEMP can be found on the www.gov.uk website.

1.2 Area and scope

- 1.2.1 An overview map for LBC and this LEMP is shown below. Plans showing more details of the Scheme, as revised in AP3 and covered by this LEMP, are presented in the Environmental Statement (ES) maps (CFA1 to CFA3 Volume 2 Map Books ES Ref 3.2.2.1, 3.2.2.2 and 3.2.2.3), CT-05-001 to CT-06-001.

²The 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

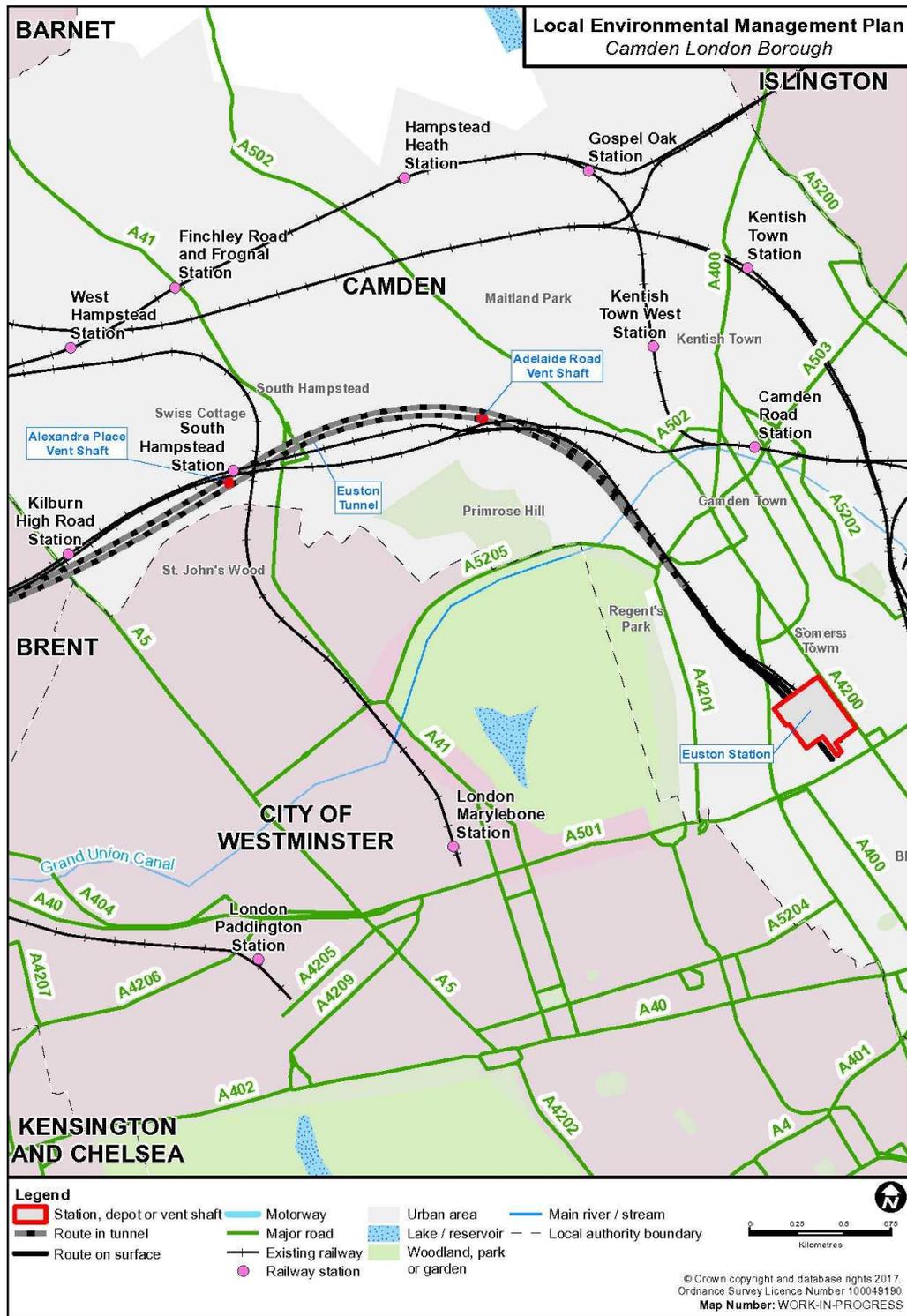


Figure 2: London Borough of Camden Area context map. NB Alexandra Place Vent Shaft has been de-scoped from the works.

1.2.2 Construction worksites and areas required for construction works are shown within the CT-05 maps. The following construction compound locations in LBC are:

- The Podium main construction compound;
- National Temperance Hospital main construction compound;
- Adelaide Road Shaft main construction compound;
- Gordon Street satellite construction compound;
- Euston Square Gardens east and west satellite construction
- Euston Forecourt satellite construction compound;
- Lancing Street satellite construction compound;
- Melton Street satellite construction compound;
- Cobourg Street satellite construction compound;
- Euston Station satellite construction compound;
- Royal Mail NW1 Delivery Office satellite construction compound;
- Regent's Park Estate LPA satellite construction compound;
- Granby terrace overbridge satellite construction compound;
- Hampstead Road Overbridge south and north satellite construction
- Carriage shed and Park Village East satellite construction compound;
- Mornington Street overbridge and Mornington Terrace (East Side) satellite
- Park Village East North satellite construction compound;
- Juniper Crescent satellite construction compound; and
- Camden Carriage Sidings satellite construction compound.

1.2.3 The Main Works Civils Contractors (MWCC), Skanska Costain STRABAG Joint Venture (SCSJV) Railways mobilised to site in November 2019 to undertake preparation works. MWCC were given full notice to proceed with the Main Works on 15th April 2020.

1.2.4 The Construction Partner (CP), Mace Dragados Joint Venture (MDJV) mobilised on the Euston station site (S3) in July 2020 to conduct site set up and early works. Main works started in 2021.

1.2.5 The following work activities in LBC include but are not limited to:

- Ground investigation and associated environmental surveys;
- Structural and environmental monitoring;
- Archaeological and built heritage works;
- Noise insulation works;
- Ground remediation activities;
- Building demolitions;
- Vegetation removal and temporary and permanent activities;
- Construction of the Euston station and approach works, including site preparation and enabling works, earthworks, structural works, building works and fit-out;
- High speed railway and conventional systems fit out;

- Demolition and building of bridges over the high speed and conventional railway including piling and ground engineering works;
- Works to the conventional railway track, signalling and other railway systems;
- Subsurface tunnelling, excavations and civil engineering works, including those associated with the underground stations;
- Excavation, construction and fit out of ventilation shafts;
- Highway and utility works; and Public realm and open space works.

1.2.6 The following assets to be delivered by MWCC in LBC include:

- Euston cavern including shaft and headhouse;
- Euston Crossover Tunnels;
- Euston Scissor Cut;
- Granby Terrace Bridge;
- Euston Throat Retaining Cut;
- Hampstead Road Bridge;
- Regents Park Vehicle Holding Area;
- Euston Tunnels including associated cross passages; and
- Adelaide Road Vent Shaft.

1.2.7 The following assets and activities to be delivered by the CP in LBC include:

- The HS2 Euston Station;
- The provision of a new and enhanced London Underground station with links thereto;
- Euston Square Station, Connections and Euston Road Subway;
- The provision of enabling and permanent works for future OSD;
- Traction Substation (TSS);
- Interim Taxi Rank;
- Replacement Bus Station;
- Enabling works Utilities corridor;
- Demolition of 1 Euston Square and Grant Thornton building basements; and Cardington Street Exhumations.

1.2.8 To support the delivery of these assets, there may be associated ground investigations works and utilities works across the borough which may require temporary site compounds.

1.2.9 Required ground investigation work is to inform detailed design and will include but is not limited to:

- Survey Control Network;
- Geospatial Monitoring;

- Topographical Surveys;
- Utility Surveys;
- Condition Surveys;
- Obstructions; and
- Temporary Works.

1.2.10 Utilities include water, gas, electricity and telecommunication. The utility work is required to facilitate the Main Works and will consist of but is not limited to:

- Diversions;
- Protection;
- Removals; and
- New Connections.

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 LBC 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 LBC 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.

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, including: Effective preventative pest and vermin control and prompt treatment of any pest and vermin infestation, including arrangements for disposing of food waste or other attractive material. If infestation occurs, the Contractor will take action to eliminate the infestation and prevent further occurrence.
- 5.1.3 General control measures are detailed in sections 5.2 to 5.16 below.

5.2 Community relations

- 5.2.1 As detailed within Section 5 of the CoCP, the Nominated Undertaker and its Contractors will implement the Community Engagement Framework. The framework will focus on engagement during construction with the local communities and on 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. A range of tools will be used to achieve this that will tailor engagement to local needs.
- 5.2.2 Successful management of the project will involve understanding communities and their needs, actively engaging, listening and responding. The arrangements for this are set out in the HS2 Community Engagement Framework. Liaison with the local community will take place to consistently provide timely, clear tailored information on the construction programme, updates on forthcoming works. It will also provide the opportunity for members of the public to respond, discuss issues and provide feedback that can be acted upon. This information will be included in the local area plan for community engagement.
- 5.2.3 The local area plan will take account both of distinct geographic distribution of the communities around Euston and elsewhere in LBC and will involve the Contractors and any relevant third parties³ and stakeholders, for which there will be co-ordination arrangements.

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 Thames Water and National Grid.

- 5.2.4 In addition, information on the construction of HS2 in LBC will be made available to the local community through the HS2 website (available online at: <https://www.hs2.org.uk/in-your-area/local-community-webpages/>).
- 5.2.5 Ongoing engagement with local interests and community groups will occur during construction, as listed in Appendix 1 of this LEMP. (NB: This list is indicative and will be subject to change as more information becomes available.)

Advanced notice of works

- 5.2.6 The Nominated Undertaker and its Contractors are committed to informing communities on matters of interest and relevance. Therefore, they 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.

5.3 Working hours

Consents

- 5.3.1 The framework for seeking consents from the LBC for working hours under section 61 of the *Control of Pollution Act 1974* is set out in the CoCP.

Core working hours

- 5.3.2 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.
- 5.3.3 A period of up to one hour before and up to one hour after core working hours will be required for start-up and shut-down activities as detailed within the CoCP. To maximise the productivity within the core working hours, the 1hr start up and shut-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. Working outside of these hours will be agreed through the section 61 consenting process with LBC. Emergencies (not repairs and maintenance) may be undertaken outside core hours.
- 5.3.4 Certain work activities at specific locations within the LBC 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 station, infrastructure works and rail works, including possessions) will be covered by the section 61 process and are likely to include:

- Ground investigation works;
- The majority of enabling works associated with the conventional railway;
- Demolition of bridges over the operational conventional railway;
- Works on the conventional railway, including the dive under, track, signalling and other railway systems;
- Subsurface tunnelling, excavations and civil engineering works, including that associated with the underground stations;
- Elements of the construction of the vent shafts;
- Elements of the construction of road and other bridges over the operational railway including piling and ground engineering;
- Construction of elements of the retaining structures at Park Village East and those in close proximity to the operational railway;
- Deliveries of large components, such as bridge beams, heavy plant and equipment;
- Elements of the utility diversions in Euston Road, Hampstead Road and elsewhere in order to avoid daytime traffic disruption;
- Conventional dive under reinstatement works and the northern section of the high-speed dive under and portal;
- Elements of the building fit-out of the high-speed station;
- Mechanical, electrical, public health and telecommunication systems relocations in the station; and
- Setting up temporary vehicle and pedestrian diversions.

5.3.5 To limit possessions, a protective barrier will be installed, where practicable, between the existing railway and HS2 sites to maximise the works to be carried out during core working hours where stipulated clearance can be met. In circumstances where this is not practicable, the work will typically be carried out during possessions either during midweek nights or extended weekend nights. Every effort will be made to reduce work outside of core hours so as to avoid excessive community disturbance.

5.3.6 Where Road Rail Vehicles (RRVs)⁴ are to be used, these will generally be delivered and operated outside normal working hours for works associated with the existing railway. Material delivery and removal for these works interfacing with conventional rail will be carried out during the same periods.

5.4 Construction site layout and good housekeeping

5.4.1 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.

⁴A vehicle which can operate both on rail tracks and road, often used for railway maintenance.

5.5 Site lighting

- 5.5.1 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.
- 5.5.2 Site lighting will be designed to avoid light pollution to surrounding buildings, ecological receptors, local residents, railway operations, passing motorists, pedestrians, cyclists and other sensitive land uses, where reasonably practicable.

5.6 Worksite security

- 5.6.1 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.
- 5.6.2 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.
- 5.6.3 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.
- 5.6.4 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.
- 5.6.5 Security provisions will be deployed at all HS2 sites and working areas on a 24/7 basis this may include CCTV cameras, alarms and security personnel. This approach will help protect assets with measures that deter, delay and detect intrusion.

5.7 Hoardings, fencing and screening

- 5.7.1 Site perimeters 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.
- 5.7.2 Hoardings up to 3.6m high will, on occasions, be used to control construction noise. At locations where existing fencing may need to be removed suitable alternatives will be used. Specific hoarding heights in LBC will be included in this LEMP as and when the hoarding designs are finalised.
- 5.7.3 Noise mitigation hoardings will be erected at various locations around the worksites in LBC, including along Park Village East, Mornington Terrace and the Adelaide Road vent shaft area. Utility works along the roads surrounding Euston Station, will utilise Heras fencing. Acoustic screening will be used on these, where noisy works are required (i.e., removal of road asphalt).
- 5.7.4 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.

5.8 Unexploded ordnance

- 5.8.1 Risk assessments for the possibility of unexploded ordnance being found within construction areas are carried out as required, as detailed within Section 5.7 of the CoCP.

5.9 Electromagnetic interference

- 5.9.1 The impacts of electromagnetic interference during design and construction will be managed and controlled, as detailed within Section 5.8 of the CoCP.

5.10 Temporary living accommodation

- 5.10.1 There will be no temporary living accommodation for construction workers in LBC.

5.11 Occupational healthcare

- 5.11.1 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.

5.12 Clearance and re-instatement of sites on completion

5.12.1 This will be carried out as detailed within Section 5.11 of the CoCP.

5.13 Pollution incident control and emergency preparedness

5.13.1 The Contractors' pollution incident control and emergency preparedness plan(s) need to have due regard to local receptors as detailed in Sections 6 to 16 of this LEMP.

5.13.2 The Contractors will also consider measures and processes to be implemented in the event of environmental non-conformances.

Local control measures

5.13.3 The Contractors' pollution incident control and emergency preparedness plan(s) will need to include the following pollution prevention and control measures:

- 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 to reduce the risk of pollution; and
- The use of oil interceptors at site offices and work compounds.

5.14 Fire prevention and control

5.14.1 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.

5.15 Extreme weather events

5.15.1 The Contractors' pollution incident control and emergency preparedness plan(s) 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.

5.16 Carbon management plans

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

5.17 Interface management between adjacent construction areas

- 5.17.1 The Nominated Undertaker oversees 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.

5.18 Agriculture, forestry and soils

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

5.19 Sensitive receptors

- 5.19.1 There is no agricultural land likely to be affected within Camden.

5.20 Local control measures

- 5.20.1 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.
- 5.20.2 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 biosecurity and reduce the risk that invasive non-native species and diseases are spread as a consequence of the project. Further details are provided in the CoCP.

6 Air quality

- 6.1.1 General control measures relating to air quality are provided in Section 7 of the CoCP.
- 6.1.2 Contractors are 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'⁵.

⁵ Guidance on the assessment of dust from construction and demolition: Institute of Air Quality Management (IAQM), February 2014
Air Quality Monitoring in the Vicinity of Demolition and Construction Sites: IAQM, November 2012
The Control of Dust and Emissions during Demolition and Construction: GLA Supplementary Planning Guidance Document, July 2014

6.2 Sensitive receptors

- 6.2.1 The Contractors' 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 onsite machinery and construction traffic vehicles travelling to and from construction areas.
- 6.2.2 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.
- 6.2.3 Within LBC the local sensitive receptors are mainly residential properties close to construction sites and along construction traffic routes. There are also a number of schools, including, Netley Primary School on Netley Street, Christ Church Primary School between Albany Street and Redhill Street and North Bridge House Prep School at the junction of Parkway and Delancey Street and the University College London Hospital on Euston Road.
- 6.2.4 The construction works within LBC have been assessed to determine the risk of impacts due to construction dust. The construction sites have been classified as 'low', 'medium' and 'high' risk using the Institute of Air Quality Management (IAQM) methodology⁶, in relation to emissions of dust from construction and demolition activities. In Camden, the Euston station and approaches construction sites have been assessed as medium risk for the current stage of work. It is recognised that the sites are all very near to a large number of high sensitivity residential receptors. In addition, the Adelaide Road vent shaft construction site has been assessed as 'medium risk' using IAQM methodology. Again, there are a large number of high sensitivity residential receptors very near to the site. The mitigation measures as set out in the CoCP will be employed, which includes indicative continuous monitoring of dust to allow active management of the construction works.
- 6.2.5 Construction traffic emissions will have an impact at receptors adjacent to routes used by construction vehicles and where traffic is diverted or rerouted. Sensitive

⁶ Institute of Air Quality Management (2011) *Guidance on the assessment of the impacts of construction on air quality and the determination of their significance*

receptors affected by changes in road traffic emissions during construction are mainly along:

- Grays Inn Road, Euston Road and Marylebone Road;
- To the south of Euston Road, at Gower Street, Hallam Street, Whitfield Street, Carlisle Street, Romilly Street, Hollen Street, Woburn Place, Hunter Street and Judd Street;
- To the west of Euston station, at Aberdeen Place, St John's Wood Road, Outer Circle, Albany Street, Park Road, Augustus Street, Hampstead Road, Robert Street, Varndell Street, Park Village West, Stanhope Street, North Gower Street and Park Square East;
- To the east and north-east of Euston station, at Eversholt Street, Polygon Street, Phoenix Road, Ossulston Street and Chalton Street;
- To the north of Euston station, at Mornington Crescent, Harrington Square, Barnby Street, Parkway, Delancey Street, Prince Albert Road, Bayham Street and Arlington Road;
- Dukes Road, Euston Road, Euston Square, Euston Street and Upper Woburn Place.
- A41 Finchley Road between Circus Road and Boundary Road;
- Junction of the A41 Finchley Road and A41 Hendon Way;
- England's Lane and on the A502 (Haverstock Hill) between the B509 (Adelaide Road) junction and England's Lane junction; and
- A502 Rosslyn Hill between its junction with Pond Street and Heath Street.

6.3 Local control measures

6.3.1 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 Sections 7.2.2 and 7.2.3. In LBC, the key measures will include:

- compliance with required construction vehicle and Non-road Mobile Machinery (NRMM) emission requirements;
- damping down of dust-generating equipment and vehicles within the site and the provision of dust suppression measures in all areas of the site that are likely to generate dust;
- measures to keep roads and accesses clean;
- covering materials, deliveries or loads entering and leaving the construction site;
- the use of diesel or petrol-powered generators will be reduced by using mains electricity or battery-powered equipment where reasonably practicable; and
- methods to clean vehicles and suppress dust in designated vehicle waiting areas.

- 6.3.2 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.
- 6.3.3 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.
- 6.3.4 For the LBC the relevant category of vehicle emission standard is the London Low Emission Zone. Within the London Low Emission Zone there are requirements for heavy road vehicles to be powered by EURO VI (or cleaner) engines and for cars and vans to be Euro 6 diesel and Euro 4 petrol⁷. There are also targets for the use of Ultra Low Emission Vehicles.
- 6.3.5 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 the LBC the relevant categories of NRMM emission standard include both the Central Activity Zone, which includes Euston Station and the area to the west between the station and Hampstead Road as well as the area bounded by Albany Street, Prince Albert Road and Park Road including all of Regents Park; and the Rest of Greater London, which covers the rest of the area of LBC. Within the Central Activity Zone, the requirement is for NRMM to be powered by Euro Stage V engines. For the rest of Greater London, the requirement is for NRMM to be powered by Euro Stage IV⁸.
- 6.3.6 The HS2 Information Paper E31: Air Quality gives further information on the HS2 emissions standards.

6.4 Monitoring Procedures

- 6.4.1 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 LBC, the monitoring procedures include monitoring of nitrogen dioxide around highways and continuous automatic monitoring of airborne dust, including the setting a relevant site action level for dust (defined as a dust measurement threshold above which investigation will be required). The

⁷ 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.

⁸ Roman numerals are also used within the NRMM EU regulations but are not directly comparable to the road vehicle Euro standards.

monitoring being undertaken by HS2 supplements existing air quality monitoring which is part of national and local authority surveys.

- 6.4.2 The HS2 monitoring of nitrogen dioxide around highways commenced in June 2016 and is being undertaken using diffusion tubes. There are currently 64 monitoring locations within LBC and includes locations where the environmental statement, as amended, identified significant effects, locations selected by the community, certain locations not expected to be affected by the Scheme for comparison purposes, and locations co-located with automatic monitoring sites which are part of national and local authority surveys for comparison purposes. Monthly reports of monitoring data from HS2 air quality surveys are being made publicly available throughout construction.
- 6.4.3 Details of the locations of NO_x tubes & dust monitoring equipment are included in the monthly air quality reports uploaded to the <https://www.gov.uk/government/organisations/high-speed-two-limited> website.

7 Cultural heritage

- 7.1.1 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.
- 7.1.2 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.
- 7.1.3 Archaeological and built heritage works will affect both designated and non-designated assets in Camden. 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, Location-Specific Written Scheme of Investigations (LS-WSI) and Heritage Agreement Method Statements (HAMS).
- 7.1.4 Works associated with the Scheme will impact both designated and non-designated archaeological and built heritage assets in LBC. 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, Location-Specific Written Scheme of Investigations (LS-WSI) and Heritage Agreement Method Statements (HAMS).

- 7.1.5 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.

7.2 Sensitive receptors

- 7.2.1 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).

- 7.2.2 Contractors will have due regard for the following designated heritage assets:

- 5 Grade II* listed buildings/structures:
 - The War Memorial, Euston Square;
 - The group asset: 2 - 16, 22 - 34, 36A and 36B and attached railings Park Village East;
 - Alexandra Road Estate;
 - Camden Incline Winding Engine House; and
 - 1-9 Melton Street and attached railings (the Royal College of General Practitioners).
- 19 Grade II listed buildings/structures:
 - Railings around Euston Square Gardens;
 - Two lodges in Euston Square Gardens;
 - Obelisk to Baron Southampton in southwest corner of St James's Gardens;
 - Monument to the Christie Family in St James's Gardens;
 - Drinking fountain (removed from St James's Gardens by LBC and currently in LBC storage in Waterlow Park);
 - 14 and 15 Melton Street and attached railings;
 - Pair of stone piers with lamp standards to west end of Mornington Street Railway Bridge;
 - Pair of stone piers with lamp standards to east end of Mornington Street Railway Bridge;
 - Statue of Robert Stephenson in Euston station forecourt;
 - Gloucester Gate bridge;
 - York and Albany public house, 127 and 129 Parkway;
 - 119, 121 and 123 Parkway and attached railings;
 - 125 Parkway and attached railings;

- 1-8 (odd and even), 10-14 (odd and even) and 17-19 (odd and even) and attached railings, Park Village West;
- Two lamp posts outside numbers 8 and 11 Park Village West;
- The Royal George Public House, 8-14 (even) Eversholt Street;
- Regents Park Barracks Officers' Mess, Regents Park Barracks, Block K;
- 58 Mornington Terrace and attached wall and gate piers;
- Edinboro Castle Public House;
- The Engineer Public House;
- Parkway Tunnel and cutting;
- 1 to 15 (odd and even) Prince Albert Road;
- 15 to 31 (odd) Gloucester Avenue;
- Swiss Cottage Library, 88 Avenue Road;
- The Hampstead Figure Sculpture at Swiss Cottage Library Avenue Road;
- Primrose Hill Tunnels, western entrance;
- Church of All Souls, 21 Loudon Road;
- Loudoun Road housing, shops and craft workshops, comprising north block (61-83 Loudoun Road, 1-8 Langtry Walk) and south block (49-59 Loudoun Road, 2-62 Alexandra Place) – listed February 2016;
- Regency Lodge, Adelaide Road;
- Garden railings to Gloucester Gate Lodge; and
- Statue and Drinking Fountain opposite Number 15, Gloucester Gate.
- 1 Grade I registered park and garden:
- Regent's Park.

Conservation areas:

- Camden Town; Primrose Hill;
- Regent's Canal;
- Eton;
- Belsize Park;
- Alexandra Road;
- Bloomsbury;
- and Regent's Park
- 3 London squares:
- Euston Square Gardens (EUS004);
- Amptill Square Gardens (EUS018); and
- Harrington Square (EUS016).

7.2.3 In addition, a number of properties that are listed buildings have been identified as eligible for noise insulation, including listed buildings on Mornington Crescent, Hampstead Road, North Gower Street, Euston Street, Eversholt Street, Drummond Street, Mornington Terrace, Park Village East and Delancey Street. Where noise insulation is required for listed properties, listed buildings consent will be sought

from LBC as required, and any works will be designed and installed in accordance with the listed building consent.

- 7.2.4 There are a number of non-designated heritage assets located wholly or partially within land required for construction of the Scheme that will require particular attention by the Contractors, including a number of historic structures associated with the development of the railway.
- 7.2.5 St James's Gardens to the west of Euston station is a non-designated heritage asset within the footprint of the new terminus of HS2 at Euston. The gardens once comprised the post-medieval St James's burial ground and a number of funerary monuments, including the grade II listed Monument to the Christie Family and Obelisk to Baron Southampton. The burial ground was subject to a programme of archaeological investigation and exhumation by the EWC contractor CSJV.

7.3 Local control measures

- 7.3.1 Where practicable, construction methodologies are 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 Contractors. Detailed provisions with regard to settlement and listed buildings are outlined in the Settlement Policy / HS2 Information Paper: C3 Ground Settlement.
- 7.3.2 At Euston, Grade II listed 14 and 15 Melton Street is to be demolished for the expansion and remodelling of Euston station. There are also number of listed assets, as identified in section 8.2.1, which are to be removed or relocated during the works and later reinstated at appropriate locations. These are the railings around Euston Square Gardens, the Statue of Robert Stephenson in the station forecourt, the War Memorial at Euston Square and the listed monuments in St James's Gardens.
- 7.3.3 Those listed buildings to be demolished, altered or relocated are named in table 1 of Schedule 18 of the Act and are the subject of Heritage Agreements with LBC and Historic England. These agreements require details of works concerning each of the listed buildings to be submitted to LBC for approval, and Historic England for consultation where applicable.
- 7.3.4 In addition, those listed buildings which may require works to maintain or restore their character, or for the affixing of monitoring apparatus are named in Table 2 of Schedule 18 of the Act. Listed buildings named in Table 2 are also covered by a

Heritage Agreement with LBC, which sets out arrangements for obtaining approvals for protective or monitoring works to these buildings.

- 7.3.5 Construction of Phase One of HS2 required a range of activities involving ground excavation. Such works had a direct physical impact on the disused burial ground at St James's Gardens, which required the removal of human remains and associated burial monuments. All human remains affected by HS2 works are treated with due dignity, respect and care. Any impact caused by Phase One works on human remains and associated monuments is an emotive and complex matter and HS2 Ltd recognise their duty to address the concerns of individuals and communities.
- 7.3.6 The programme of archaeological and built heritage works is being undertaken by specialist Contractors 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.
- 7.3.7 Schedule 20 'Burial Grounds' to the Act provides a regime for the removal of human remains and related funerary monuments. The Schedule disappplies existing legislation in relation to burial grounds, human remains and monuments to deceased persons to enable works authorised by the Act to be carried out. The disapplication is conditional on those remains being removed and dealt with in accordance with the requirements of Schedule 20. The programme of archaeological and built heritage works will be undertaken by specialist Contractors 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.

7.4 Monitoring

- 7.4.1 Appropriate monitoring of heritage assets is undertaken as necessary, as detailed within Section 8.4 of the CoCP.

8 Ecology

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

8.2 Sensitive receptors

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

- Regent's Park Site of Metropolitan Importance (SMI) – the northeast corner of the SMI at Gloucester Gate Bridge is within the land required for the construction of the Scheme;
- St James's Garden Site of Local Importance (SLI) - all of the SLI was removed as a consequence of the Scheme;
- Adelaide Local Nature Reserve (LNR) - adjacent to the land required for the construction of the Adelaide Road vent shaft;
- London Canals SMI - within the land that may be required for utilities works associated with the Scheme; and
- Chalk Farm Embankment and Adelaide Nature Reserve Site of Borough Grade I Importance (SBI.I) - within the land required for the construction of the Adelaide Road vent shaft.

8.2.2 In addition, there are sensitive habitat receptors outside of designated sites, which are identified in the Volume 5 map books of the main ES (CFA1 3.5.1.5.1, CFA2 3.5.1.5.2 and CFA3 3.5.1.5.3). These include:

- Urban trees, ornamental shrubbery, and flower beds are present at various locations in Euston. They are commonly found in city squares, urban parks, and amenity plantings around buildings. This habitat complex is of local/parish value;
- Buildings and structures may support very limited higher-plant vegetation, ferns, and mosses and lichens. Field survey shows railway brickwork in Camden does support around five common fern species, although few structures support more than a very small number of individual ferns, which limits their interest. Built environment is listed as a Camden Biodiversity Action Plan (BAP) habitat. The buildings and structures are of local/parish value;
- A small area of secondary woodland, dominated by sycamore, is present on the railway embankment adjacent to the Adelaide LNR and within the Chalk Farm Embankment and Adelaide Nature Reserve SBI.I. Woodland is a London BAP habitat and a Camden BAP habitat. The woodland is of district/borough value;

- Species-rich grassland is present in the Adelaide LNR⁹ and within the Chalk Farm Embankment and Adelaide Nature Reserve SBI.I. Grassland is a Camden BAP habitat. This grassland is considered likely to be of district/borough value; and
- Small ponds in the Adelaide LNR. Standing water is a London BAP habitat. They are likely to be of local/parish value.

8.2.3 All other habitats are of local/parish value or below. Full descriptions are provided in Volume 5 of the main ES (Appendices EC-001-001, EC-002-001, EC-003-001, and EC-004-001).

8.2.4 Key protected or important species known or assumed to occur in the vicinity of the works are:

- Bats;
- Breeding birds;
- Hedgehog;
- Common reptiles; and
- Terrestrial invertebrates.

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

8.2.6 Contractors will check whether any protected species licences are required prior to work commencing, or where such have been obtained, to ensure compliance with the requirements of the licence.

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

8.3 Local control measures

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

⁹ The outline design for the ecological enhancements at the Adelaide Road LNR include: creation of an amphibian and reptile hibernacula; creation of habitat/features for terrestrial invertebrates i.e. an insect hotel, stag beetle loggery and log piles; installation of bat boxes on trees; and selective scrub clearance on the southern boundary of the reserve.

Table 1: Standard ecological issues and control measures relevant to LBC

Species/species group	Issue	Standard control measure
Designated Sites	The Scheme affects LNR and non-statutory wildlife sites.	<p>Measures to minimise 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.</p> <p>Potentially hazardous materials should also be located away from designated sites and stored correctly.</p> <p>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.</p>
Bats	<p>All UK bat species and their roosts (even if bats are not present) are fully protected under both UK and European legislation.</p> <p>The Scheme will result in the loss of confirmed bat roosts in trees and buildings.</p>	Adhere to requirements of licences and, where relevant, Ecology Site Management Plans.
	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.	Adopt precautionary approach. Follow appropriate Working Method Statement for demolition of buildings and felling of trees.
	Retained bat roosts are present in close proximity	Where practicable, undertake activities causing disturbance

Species/species group	Issue	Standard control measure
	<p>to the Scheme. Caution is required to ensure that these roosts are not disturbed during works.</p>	<p>during seasonal periods when bats are likely to be absent.</p> <p>Ensure lighting is directed away from known roosts.</p> <p>Minimise night-time working in close proximity to retained roosts.</p> <p>Where practicable, temporary structures will be erected to screen the entrances/exits of retained roosts from construction areas.</p>
	<p>The Scheme will result in the loss of and disruption to bat foraging areas and commuting routes.</p>	<p>Where practicable, undertake activities causing loss or disruption during seasonal periods when bats are likely to be less active.</p> <p>Retain as much of the key habitat for as long as possible and establish new areas as quickly as possible to reduce the effects.</p> <p>Ensure lighting is directed away from foraging areas and commuting routes.</p> <p>Minimise night-time working in close proximity to foraging areas and commuting routes.</p>
<p>Breeding birds</p>	<p>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.</p> <p>The Scheme will result in the loss of nesting bird habitat, including</p>	<p>Habitat clearance should be conducted outside of the bird nesting season (March to August inclusive) where practicable.</p> <p>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.</p>

Species/species group	Issue	Standard control measure
	vegetation, buildings and structures.	
Hedgehogs	<p>The extension of the car park in Regent’s Park will result in a loss of approximately 0.25 ha of foraging habitat.</p> <p>There is an increased risk of hedgehogs being hit by vehicles during the construction period.</p>	<p>Ensure that there is no loss of habitat connectivity.</p> <p>Ensure that the lorry holding is securely hoarded.</p> <p>The majority of the construction work is to be carried out during the day when hedgehogs are less active.</p> <p>Details of mitigation and standard control measures will be contained within the ecological management plan for this area.</p>
Invasive plants	<p>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.</p> <p>INNS have been already recorded along some parts of the Scheme through previous survey work.</p>	<p>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.</p> <p>A Biosecurity Management Plan shall be produced in advance of works commencing, where required.</p>
Common reptiles	<p>Common species of reptile (grass snake, adder, common lizard and slow worm) are protected from intentional killing or injury.</p> <p>Common reptiles are widespread, and the Scheme will result in the</p>	<p>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</p>

Species/species group	Issue	Standard control measure
	loss of confirmed and potential reptile habitat.	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.
General	Unexpected discovery of legally protected species during works.	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.

8.3.2 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)).

8.4 Monitoring

8.4.1 Contractors are 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.

9 Ground settlement

- 9.1.1 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.
- 9.1.2 Requirements for monitoring are confirmed by the settlement reports prepared during the detailed design stage. Where determined as necessary, monitoring will be undertaken on selected adjacent buildings, structures and the conventional railway tracks. Baseline readings will be taken prior to the commencement of excavation.
- 9.1.3 The monitoring strategy, methodology and programme, including the choice and location of monitoring equipment, will be discussed and agreed with the local authorities and land/building owners prior to commencement of construction.
- 9.1.4 Where significant building movement is 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.
- 9.1.5 Monitoring may 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.
- 9.1.6 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.
- 9.1.7 Compensation grouting arrays will, where practicable, be installed and serviced from within the main worksite. However external shaft locations may also be required. At Euston, a specific compound has been identified at Lancing Street from which to undertake such grouting.

10 Land quality

- 10.1.1 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 that could be disturbed or encountered during construction of the Scheme. Contaminated sites beyond the Scheme will be considered only in terms of 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 II a 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.
- 10.1.2 General control measures relating to land quality are provided in Section 11 of the CoCP.

10.2 Potential contamination sources and sensitive receptors

- 10.2.1 The following land with potentially contaminative existing or historical uses have been identified as a prospective contaminative risk to HS2 works (and can be seen in Volume 5 map book of the main ES (LQ-01-001 – LQ-01-004):

On-site

- Existing on-site railway land overlying the London Clay Formation (Map LQ-01-001, C6 and D6);
- Former on-site printing works and fuel filling station, overlying London Clay Formation (Map LQ-01-001, B6, C6 and D6); Former on-site warehouse overlying a Secondary A (superficial) aquifer. (Map LQ-01-001, D7);
- On-site former building yard overlying the London Clay Formation (Map LQ-01-001, D5); and
- Existing on-site dry-cleaning business at the Alexandra Place vent shaft.

Off-site

- Former off-site printing works, wagon works, chemical works and other previous potentially contaminative land uses overlying a Secondary A (superficial) aquifer (Map LQ-01-001, D7); and
- Former off-site printing works, foundry works, chemical works and other previous potentially contaminative land uses overlying London Clay Formation (Map LQ-01-001, C7, D5 and D7).

10.2.2 With regard to the above identified sites, the Contractors will have due regard to the following sensitive receptors:

- People, including residents in existing properties, local employees, construction and/or maintenance workers;
- Surface water, including The Grand Union Canal (The Regent's Canal);
- Controlled groundwater, including, at Euston, the Thames Catchment Subgroup (Langley Silt Member and Lynch Hill Gravel) and in the lower aquifer (Lambeth Group, Thanet Sand Formation and White Chalk Subgroup), all of which are Secondary A aquifers, with the exception of the White Chalk Subgroup, which is a Principal aquifer (the lower aquifer is separated from the Thames Catchment Subgroup by the London Clay Formation);
- Built environment, including buildings, property and underground structures and services such as the Thames Water combined sewer network; and
- The natural environment.

10.3 Local control measures

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

10.3.2 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, appropriately permitted bioremediation to remove oil contaminants and disposal off site. For material from Camden, this will take place off-site at a soil treatment facility or an appropriately permitted landfill site.

10.3.3 Both tunnelling and excavation are required in Camden. Should the ground investigation discover contaminated materials within the area required to construct the works 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.

- 10.3.4 Similar measures will be undertaken as needed at any other sites where contaminated soils or groundwater are identified during the investigation and / or construction processes.

10.4 Minerals

- 10.4.1 There is no record of mining or quarrying activities or identified active mining or mineral sites or Preferred Areas (PA) within the area.

11 Landscape and visual

- 11.1.1 General control measures relating to landscape and visual are provided in Section 12 of the CoCP.

11.2 Sensitive receptors

- 11.2.1 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 landscape character areas (LCAs) listed below. The LCAs are detailed in Volume 5 of the ES (Appendices LV-001-001 and LV-001-003).

- Euston Road Commercial Area LCA;
- Euston West Post-war Residential LCA;
- Regent's Park Georgian Residential LCA;
- Eton and Primrose Hill residential LCA; and
- South Hampstead Station LCA.

- 11.2.2 The Contractors will also have due regard to limiting visual intrusion on the following visual receptors:

- Residents in the area, including those along Cobourg Street, North Gower Street, Robert Street, Hampstead Road, Mornington Terrace, Mornington Crescent, Park Village East and Eversholt Street;
- Businesses, visitors and residential users of Drummond Street;
- Residents located on Bridge Approach, Gloucester Avenue, Eton Road, Primrose Hill Road, Adelaide Road, King Henry's Road, Alexandra Place, Loudoun Road, Hilgrove Road and Belsize Road;
- Recreational users of open spaces, including the Friends House Garden and Euston Square Gardens;
- Recreational users of Primrose Hill;
- People travelling through the area, including along Gordon Street and Euston Road and to and from Euston Station;

- Employees in commercial units along Melton Street and in Euston Fire Station; and
- The 'protected views', including: the view from Primrose Hill looking south-east towards St Paul's Cathedral; view from Fitzroy Road looking north-east towards the Roundhouse; and the view from Rowley Way looking north-east is a protected view in the Alexandra Road Conservation Area Statement.

11.3 Local control measures

11.3.1 Measures that have been incorporated into the CoCP to avoid or reduce landscape and visual effects during construction include the following:

- Maximising the retention and protection of existing trees and vegetation where possible;
- Use of well-maintained hoardings and fencing;
- Use of high-quality hoardings and noise barriers;
- Designing lighting to avoid unnecessary intrusion onto adjacent buildings and other land uses;
- Replacement of any trees felled as a consequence of construction works;
- Replacement tree planting, to be carried out on sites that are not affected by construction works on a phased basis and to start, wherever possible, in the first planting season. Final resolution of replacement tree planting to incorporate sites affected by construction to be carried out in the first season after completion of construction works, e.g., along Park Village East and Mornington Terrace;
- Prevention of damage to the trees and landscape features adjacent to the construction sites due to movement of construction vehicles and machinery;
- Provision of active frontages in the phased development associated with the station;
- Appropriate design, implementation and maintenance of planting and seeding works and implementation of management measures, to continue through the construction period as landscape works are completed; and
- The design of construction compound layouts to prevent damage to the retained trees as well as reduce visual and other impacts where practicable.

11.4 Trees

11.4.1 In LBC, HS2 has committed to securing the provision of suitable trees to replace the number of trees lost through the construction and operation of HS2. Where it is not reasonably practicable to provide the same number of trees on land within HS2's control, HS2 will invite LBC to identify alternative locations for the replacement of trees. This is set out within a Tree Plan between HS2 and LBC. The Tree Plan sets out the number of trees anticipated to be felled and replanted by HS2 and LBC based on current design and survey information. As design

development continues and updated arboricultural data becomes available, it will be reflected in future revisions of this Tree Plan.

11.4.2 The HS2 Camden Tree Panel (comprising representatives from the Contractors, HS2 Ltd, community and local authority) has been established to help safeguard HS2's compliance with commitments made during the petitioning phase of the HS2 Bill process to avoid unnecessary tree removal. The Tree Panel's remit is to review and challenge, as necessary, the following works to any tree in the LBC area as provided by HS2 Ltd.'s Contractors:

- Removal of any tree;
- Removal of any limbs to any trees; and
- Removal of mature shrubs may also be reviewed on occasion where required, at the Panel's discretion.

11.4.3 Where practicable, the Contractors will determine the details of tree protection measures, in accordance with BS 5837:2012 Trees in relation to design, demolition and construction, with LBC, in advance of any works in the vicinity of trees.

11.5 Site Buildings for Office and Welfare

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

12 Noise and vibration

12.1.1 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.

12.2 Sensitive receptors

12.2.1 Noise and vibration construction assessment locations, at sensitive residential and non-residential properties, are identified within Noise and Vibration SES2 and AP3 Volume 5 map book (ref.: ES 3.5.4). These are reviewed regularly to identify any new sensitivities and updated accordingly.

12.2.2 Noise insulation has been offered for qualifying buildings as defined in the noise insulation and temporary rehousing policy within HS2 Information Paper E23. Noise insulation or temporary rehousing will mitigate residents being significantly affected by levels of construction noise inside their dwellings.

12.2.3 Qualifying buildings are identified in the Camden area as early as practicably possible through noise prediction so that the offer of noise insulation or temporary rehousing can be made in advance of the works occurring. Where accepted and all necessary approvals obtained, noise insulation will be installed or temporary rehousing instigated before the start of the works predicted to exceed noise insulation or temporary rehousing criteria.

12.2.4 Approximately 1250 residential properties qualified and were offered noise insulation (NI) in LBC. Work is ongoing to ensure noise insulation is installed within all eligible properties that accepted the offer of NI.

12.2.5 Additionally, there are approximately 10 residential buildings on the B509 Adelaide Road and London Road (containing in total approximately 30 dwellings).

12.2.6 Increases in local road traffic as a result of construction of the revised scheme is likely to cause significant adverse noise effects on residential receptors along the following local roads during construction Stage A10:

- Albert Street/Mornington Place (CSV01-C03);
- Bidborough Street and Cartwright Gardens (CSV01-C05);
- Mornington Crescent and Mornington Place (CSV01-C03);
- Robert Street, (CSV01-C06); and
- Varndell Street (CSV01-C06).

¹⁰ See Section 14.3.21 within Volume 2 of SES2 and AP3 ES for further details of the assessment years in which these effects occur.

- 12.2.7 Non-residential sensitive receptors for which the SES2 and ES AP3 has reported likely adverse impacts from construction noise are located at:
- Park Village Studio on Park Village East (CSV01-N01);
 - Offices in Cobourg Street (CSV01-N03);
 - The Exmouth Arms Public House in Starcross Street (CSV01-N04);
 - The Euston Mosque in Starcross Street (CSV01-N05), the NHS Centre and Maria Fidelis Convent School in North Gower Street (CSV01-N06 and CSV01-N07);
 - The Regent's Park Children's Centre nursery in Augustus Street (CSV01-N08) the School of Arts on Euston Road (CSV01-N09);
 - The Royal College of General Practitioners offices at 1-9 Melton Street (CSV01-N10);
 - The Surma Community Centre on Robert Street (CSV01-N11);
 - Offices facing onto Stephenson Way (CSV01-N12);
 - The Magic Circle, Royal Asiatic Society and offices in Stephenson Way facing onto Regnart Buildings (CSV01-N13);
 - The Wesley Hotel on Euston Street (CSV01-N14) shops and commercial properties in Drummond Street and Euston Street (CSV01-N15, CSV01-N16);
 - Commercial space on the ground floor of the proposed Rydal Water and Newlands replacement housing blocks on Hampstead Road (CSV01-N17 and CSV01-N18);
 - The York and Albany Hotel on Parkway (CSV01-N19);
 - James Town Mental Health Centre and Adelaide Road Medical Centre on Adelaide Road, London (CSV03-N02 and N03); and
 - Ready Steady Go Nursery and Loudoun Road Community Centre located on Loudoun Road (CSV03-N04 and N05).
- 12.2.8 Increases in local road traffic as a result of construction of the revised scheme is likely to cause significant indirect noise effects at non-residential receptors along the following local roads:
- Albert Street/Mornington Place;
 - Bidborough Street and Cartwright Gardens;
 - Granby Terrace;
 - Mornington Crescent and Mornington Place;
 - Robert Street; and
 - Varndell Street.
- 12.2.9 Although most of the buildings on these roads are residential, the following non-residential receptors have been identified and, on a reasonable worst-case basis, are forecast to be significantly indirectly affected:

- The conference centre (CSV01-N20), the Jewish Museum (CSV04-N21) and Friends of the Hebrew University (CSV04-N22) on Albert Street, in the 2017 and 2018 assessments; and
- The dental surgery (CSV04-N23) on Robert Street, in the 2018 and 2023 assessments.

12.3 Local control measures

12.3.1 Site specific best practicable means measures to control noise and vibration have been identified through the Parliamentary process and discussions with LBC and are reflected in this document. Furthermore, site specific measures will be identified by the Contractors on a site-by-site and activity-by-activity basis and agreed with the LBC through the Section 61 process. As identified in the CoCP, contractors have considered a range of mitigation measures to control noise and vibration during the works, these include:

- Controlling noise and vibration at source - for example the selection of quiet and low vibration equipment, altering construction programmes and methodology to consider quieter methods as well as avoiding working outside of core hours as far as reasonably practicable;
- Utilising electric plant, for example piling rigs and cranes, in preference to their diesel alternatives and securing electrical connection to sites to reduce the use of diesel generators;
- Arranging the layout of compounds to reduce noise impacts where works are in close proximity to noise sensitive receptors for example portacabins have been stacked to act as a noise barrier between noisy works and sensitive receptors;
- Utilising additional height hoardings to control construction noise;
- The use of localised screening around equipment and the construction of bespoke shrouds for high noise activities e.g., hydro-scabbling works, to reduce the noise impacts at nearby receptors; and
- The construction of an acoustic shed space allows and where works for engineering reasons are required to occur for extended period of time outside of core hours to shield the works occurring within to nearby receptors.

12.3.2 Local control measures will be periodically reviewed, including following any material changes in the proposed construction method and appointment of the Contractors.

12.4 Monitoring

12.4.1 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.

- 12.4.2 In LBC, pre-construction baseline monitoring was undertaken as required, and specific monitoring locations have been agreed with LBC. It should be noted that alternative locations may be identified as a result of ongoing discussions and assessment reviews.
- 12.4.3 Additional attended noise monitoring has been undertaken where necessary to verify compliance with Section 61s.
- 12.4.4 As set out in section 4.3.10 of the CoCP, LBC have requested for access to the data and this has now been provided. In addition, monthly noise monitoring reports and data are made publicly available throughout construction on the HS2 website <https://www.gov.uk/government/organisations/high-speed-two-limited> and <https://data.gov.uk/dataset/24542ae7-dd44-444f-b259-871c4cc43b5e/environmental-monitoring-data> respectively. The monthly reports will include information such as measurement methodology and monitoring locations.
- 12.4.5 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.
- 12.4.6 Monthly noise monitoring reports detailing monitor locations and results will be uploaded to <https://www.gov.uk/government/organisations/high-speed-two-limited>.

13 Traffic and transport

- 13.1.1 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 of the CoCP.
- 13.1.2 The CoCP sets out several 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) setting out generic traffic management measures to be implemented during the construction of the project;
 - The Local Traffic Management Plans (LTMP) will set out matters such as planned worksites, lorry routes and the programme of major traffic management measures expected to be necessary within particular areas along the route;

- 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 installed.

13.1.3 Information relating to construction traffic is also provided in the following Information Papers:

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

13.2 Local control measures

Sensitive Receptors

13.2.1 In relation to traffic and transport, key sensitive receptors need to be considered when the Contractors develop the overall programme within the LTMP and the site-specific traffic management schemes.

13.2.2 These key sensitive receptors and the requirements for considering how impacts can be mitigated, as far as reasonably practicable, have been established with LBC, local businesses, institutions and residents during the Parliamentary process as well as through the Protective Provisions Agreement provided to Transport for London concerning bus diversions and impacts on public transport infrastructure.

13.2.3 These requirements will be addressed appropriately through the development of the LTMPs or site-specific measures and discussed at the Local Traffic Liaison Group meeting, established in accordance with the CoCP and the Route-wide Traffic Management Plan.

Site access

- 13.2.4 A number of vehicle access points to the construction sites will be required so construction vehicle movements will be spread over a number of roads within the area of works in LBC. Highway access notifications and/or approvals will be undertaken in accordance with Schedule 4 of the Act.
- 13.2.5 Routes for construction traffic will be subject to approval by LBC in accordance with the Schedule 17 of the Act when large goods vehicle movements exceed 24 single movements (12 two-way movements) per day to and/or from a site.
- 13.2.6 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.

13.3 Works to the Highway and Access Measures

- 13.3.1 Temporary and permanent road closures and diversions will be required. The scope is assumed as follows:
- Cardington Street - Permanently closed for its entire length;
 - Melton Street (south of Cardington Street) - Permanently closed from the junction with Drummond Street to new bus station access.
 - Stephenson Way (northern end) - Northern end permanently closed at the junction with Euston Street. Connection will be maintained with realigned Cobourg Street;
 - Drummond Street (eastern end)¹¹ - Permanently closed between Cardington Street and Cobourg Street. Connection will be maintained with realigned Cobourg Street;
 - Euston Street (eastern end) - Permanently closed between Cardington Street and Cobourg Street;
 - Varndell Street (eastern end) - Permanently closed to vehicles at the junction with A400 Hampstead Road, because of level changes. Pedestrian and cycle access may be maintained;
 - Harrington Street (northern end) - Permanently closed at the junction with Granby Terrace;
 - Hampstead Road (not the A400 Hampstead Road) - A minor road called Hampstead Road, which is not the A400 Hampstead Road, permanently closed between junction with Cardington Street and A400 Hampstead Road;
 - Bus station access - Permanently closed from the junction with A501 Euston Road across Euston Square Gardens to the bus station;

¹¹ The revised Scheme will provide connections between Drummond Street, Euston Street and the realigned Cobourg Street.

- Gordon Street (northern end) - Permanently closed to vehicles between A501 Euston Road and Endsleigh Gardens. Pedestrian and cycle access will be maintained;
- Cobourg Street - Permanently closed for its entire length and rebuilt on an extended and widened alignment (2017-2026);
- A400 Hampstead Road - Existing bridge is to be demolished. Bridge to be rebuilt on an altered vertical and horizontal alignment (2019-2023);
- Granby Terrace Bridge - Existing bridge is to be demolished. Bridge to be rebuilt on a slightly altered vertical and horizontal alignment (2017-2023¹²);
- Mornington Street Bridge - To be demolished and rebuilt on its current alignment. A temporary shared utilities, pedestrian and cycle bridge will be available during construction (2017-2022);
- Park Village East - Closed to vehicles in sections between its junction with Parkway to about 30m south of Mornington Street Bridge (2017-2022);
- Drummond Street - Closed at the junction with Cobourg Street (2017-2026);
- Euston Street - Closed at the junction with Cobourg Street (2017-2026);
- Starcross Street - Closed at the junction with Cobourg Street (2017-2026);
- Mornington Crescent - Closed at the junction with Hampstead Road (2020-2022);
- Stephenson Way - Closed from the junction with Euston Street for part of its length (2017-2026);
- Prince Albert Road will be closed to vehicles at the junction with Parkway for approximately four months in 2017 for utility works; and
- Adelaide Road will be closed for four months in 2019 for works to the retaining wall.

13.3.2 Alternative routes will be required for Langtry Walk PRow between Rowley Way and Loudoun Road.

13.3.3 All temporary closures and diversions will be subject to appropriate consultation, submissions and notifications to the relevant highway authority.

13.4 Monitoring procedures

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

¹² The bridge will be completed in mid-2020 but will remain closed to the public until 2023. In the interim period it will be used for construction traffic.

14 Waste and materials

14.1.1 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.

14.2 Local control measures

Testing and classification of materials

14.2.1 The 'basic characterisation'¹³ of excavated material will be determined by the Contractors to ascertain the potential for reuse, recycling, recovery or disposal to inert, non-hazardous or hazardous landfill.

14.2.2 A Materials Management Plan will be developed in accordance with the Definition of Waste: Development Industry Code of Practice¹⁴ to set out the processes to be adopted in respect of the reuse of excavated materials either on the Scheme or transferred to another site for beneficial re-use.

14.2.3 In the event that excavated material is to be sent for disposal, which shall be the option of last resort, testing and classification will be undertaken by the Contractors in line with the Environment Agency's guidance. This includes:

- Waste Sampling and Testing for Disposal¹⁵; and
- WM3 – Guidance on the classification and assessment of waste (1st edition 2015)¹⁶.

Transport of waste and materials

14.2.4 Excavated material produced in Camden is likely to be surplus to the requirements of the Scheme. Surplus excavated material will be managed in accordance with the waste hierarchy as described above and the HS2 Excavated Materials Policy, which states:

¹³ 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.

¹⁴ CL:AIRE Definition of Waste: Development Industry Code of Practice, version 2, March 2011

¹⁵ Environment Agency (2013), *Waste Sampling and Testing for Disposal to Landfill, March 2013*.

¹⁶ Environment Agency (2015), Technical Guidance WM3 – Guidance on the classification and assessment of waste (1st edition 2015) (1st Edition 2015).

- 14.2.5 'Where it is not feasible or reasonably practicable to use excavated materials in the construction the Nominated Undertaker will minimise the quantity of excavated materials that are disposed of to landfill. This may include providing surplus materials for use in other local construction projects...'
- 14.2.6 Opportunities for the off-site re-use of surplus excavated material will therefore be identified and utilised where reasonably practicable. Surplus excavated material will only be sent to landfill as an option of last resort. Further detail on the approach to the management of all excavated material may be found in the HS2 Phase One Information Paper E3: Excavated Material and Waste Management.
- 14.2.7 Excavated material from Camden will be transported by rail where reasonably practicable to do so. If rail transport is not reasonably practicable material will be transported by road.

15 Water resources and flood risk

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

15.2 Sensitive receptors

- 15.2.1 The Contractors will have due regard to the following sensitive local water resource receptors:
- Local aquifers;
 - Thames Catchment Subgroup (Secondary A aquifer); Lambeth Group (Secondary A aquifer); Thanet Sand Formation (Secondary A aquifer); and White Chalk Subgroup (Principal aquifer).
 - Groundwater abstraction (private / public and licensed / unlicensed);
 - The Environment Agency reports that there is a Public Water Supply with a Source Protection Zone (SPZ) in study area within LBC, approximately 840m west of the Scheme (refer to Map WR-02-001, Main ES: Volume 5, Water Resources and Flood Risk Assessment Map Book for the location of the SPZ).
 - The Environment Agency reports that there are five private licensed groundwater abstractions from the underlying Chalk within the study area in LBC. Details are presented in Volume 5: SES2 and AP3 ES Appendix WR-002-001. The abstractions are classified as high value receptors.
 - Two licenced groundwater abstractions have been identified (main ES, Volume 5: Appendix WR-002-003).

- No unlicensed groundwater abstractions have been identified from the data available, however there is the potential for unlicensed abstractions to exist, as a licence is not required for abstraction volumes below 20m³ per day.
- Artificial surface water bodies;
- Grand Union Canal (Regent's Canal) - The route will pass in tunnel under the Grand Union Canal (Regent's Canal) near Fitzroy Bridge on Gloucester Avenue, Primrose Hill.
- Three small ornamental landscaped ponds located close to Fitzroy Road and Regent's Park Road near Primrose Hill.
- One Hampstead Theatre pond, 20m north of the Scheme, near Winchester Road.
- Permitted Discharges;
- There is one current consented surface water discharge within 500m of the Scheme, discharging cooling water into the Grand Union Canal (Regent's Canal) approximately 15m from the Scheme near Fitzroy Bridge.

15.2.2 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 and / or mitigation measures.

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

- The North London Strategic Flood Risk Assessment (SFRA) reports that a large area in the north of LBC was affected by surface water flooding in 1975 and again in August 2002 as a result of heavy rainfall inundating the public sewer system;
- The existing railway, immediately to the north of Euston station, is predicted to flood at a 1 in 30 years return period (3.3% annual probability) and to depths of over 900mm during the 1 in 1000-year return period rainfall event; and
- Close to the Adelaide Road vent shaft, to the south of B509 Adelaide Road, there is an area at risk of surface water flooding in the existing railway cutting on the West Coast Main Line and North London Line. The railway cutting at South Hampstead station, to the north of the Alexandra Place vent shaft, is also at risk of surface water flooding. At both of these locations, the ground level at the vent shafts is significantly higher than that in the adjacent railway cuttings where there is a risk of surface water flooding. There are no surface water flooding overland flow routes identified at the vent shaft sites.

15.3 Potential sources of contamination

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

15.4 Local control measures

- 15.4.1 Measures identified in Section 16 of the CoCP, including detailed method statements, will aim to mitigate and 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.
- 15.4.2 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, pollution incident control and emergency preparedness plan(s) will incorporate procedures for alerting relevant water supply companies and reducing impacts to public supply Source Protection Zones (SPZs) and local private abstractions in this area.
- 15.4.3 Where there is the possibility that work may materially affect groundwater, a groundwater monitoring plan will be implemented, as outlined in Section 16 of the CoCP.
- 15.4.4 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 and quantity.
- 15.4.5 Where required, appropriate guidance will be adhered to, including the Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention⁷. Groundwater and surface water monitoring plans will be prepared, where piling could affect water quality or flow.
- 15.4.6 Temporary excavated material stockpiles, construction compounds and site offices will be located outside of areas at risk of flooding where reasonably practicable, 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

⁷ Environment Agency (2001), Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution

produced for the ES and include any proposed risk management or mitigation measures, if required.

- 15.4.7 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 and, where appropriate, the drainage authority in accordance with Schedule 33 Part 5 of the Act.
- 15.4.8 In certain instances, the excavated retained cut is likely to be at a level below the natural groundwater table. Mitigation, where necessary with contiguous and secant 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 timescales for dewatering.
- 15.4.9 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

AP	Additional Provision
CFA	Community Forum Area
CoCP	Code of Construction Practice
Contractor	The Contractor on a construction site is responsible for planning, managing and co-ordinating themselves and/or the works and all other sub-Contractors working on their site, or any other Contractor directly employed by the Nominated Undertaker to undertake key construction works on site.
CoPA	Control of Pollution Act 1974
EMS	Environmental Management System
ES	Environmental Statement
HGVs	Heavy Goods Vehicles
HS2	High Speed Two
HS2 Ltd	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 proposed route connecting London - West Midlands.
IAQM	Institute of Air Quality Management
IP	Information Paper
LBC	London Borough of Camden
LCAs	Landscape Character Areas
LEMP	Local Environmental Management Plan
LTMP	Local Traffic Management Plan

MDJV	Mace Dragados Joint Venture
MWCC	Main Works Civils Contractor
Nominated Undertaker	The body or bodies appointed to implement the powers of the Act to construct and maintain the railway.
PRoW	Public rights of way
RRVs	Road Rail Vehicles. A vehicle which can operate both on rail tracks and road, often used for railway maintenance.
RTMP	Route-wide Traffic Management Plan
SBI.I	Site of Borough Grade I Importance
Scheme	The Scheme to which this CoCP relates is the proposed 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 Northwest and Scotland. It includes four high speed rail stations at London Euston, Old Oak Common (West London), Birmingham Airport (Birmingham Interchange) and Birmingham (Curzon Street).
SCSJV	Skanska Costain STRABAG Joint Venture
Section 61	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).
SES	Supplementary Environmental Statement
SFRA	Strategic Flood Risk Assessment
SLI	Site of Local Importance
SMI	Site of Metropolitan Importance
SPZ	Source Protection Zone

Appendix 2: Non-exhaustive list of Community Groups in Camden

- Adelaide Road Local Nature Reserve;
- Amptill Estate Tenants and Residents Association.
- Camden Cutting Group;
- Christ Church Primary School, Stanhope Street;
- Churchway Estate Tenants and Residents Association;
- Cobourg Street residents
- Conservation Area Advisory Committees;
- Drummond Street Residents Association;
- Drummond Street Traders Association;
- Drummond Street Traders;
- Eversholt Street Traders;
- Friends Meeting House;
- Hampstead Seventh-day Adventist Church;
- Haverstock School Business and Enterprise College;
- Maria Fidelis School, North Gower Street;
- NHS, Margarete Centre;
- Ossulston Street Residents Association;
- Park Village and Environs Residents Association; and
- Somers Town Community Association;
- St Mary's Church, Eversholt Street;
- St Pancras Church;
- Stephenson Way Community Group – GMB, Royal College of Ophthalmologists, Royal Asiatic Society, Directory of Social Change, the Magic Circle and the Royal College of General Practitioners;
- UCH;
- UCL;
- Urban Partners;
- Wellcome Trust; and
- West Euston Partnership.

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