

Environmental Information Consultation Document (EICD)

Chapter 16: Land quality

Contents

16. Land quality	16-2
16.1 Introduction	16-2
16.2 What is meant by land quality?	16-2
16.3 Why land quality might change	16-2
16.4 Legislation, policy and guidance	16-4
16.5 Assessment summary	16-5
16.6 Project-wide assessment results	16-9
16.7 Summary of likely significant land quality effects	16-15
16.8 Next steps and preparation of the Environmental Statement (ES)	16-15
16.9 Glossary of terms	16-17
16.10 References	16-22
Appendix 16A Figures	16-23

Tables

Table 16.1: Glossary of terms	16-17
-------------------------------------	-------

Figures

Figure 16.1: Illustration of a land contamination conceptual site model.....	16-7
Figure 16.2: Illustration of major excavations required to construct the Project.....	16-10
Figure 16.3: Illustration of current earthworks proposals	16-14

Appendix Figures

Figure 16A.1: Existing landfills surrounding Heathrow	16-23
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16. Land quality

16.1 Introduction

- 16.1.1 As indicated within **Chapter 1: Setting the scene for consultation – environmental information**, ‘land quality’ is an environmental aspect for which environmental information is presented for 2026 public consultation.
- 16.1.2 This chapter is supported by **Figure 16.1, Figure 16.2, Figure 16.3, Figure 16A.1**, and a glossary of terms.

16.2 What is meant by land quality?

- 16.2.1 Land quality is an umbrella term which is used to describe the following components:
- Land contamination
 - Ground stability
 - Agricultural land quality (including soils)
 - Minerals safeguarding
 - Geodiversity
- 16.2.2 Taken together, this chapter looks at the soils and materials that make up the ground beneath our feet and assesses how the expanded airport will interact with, manage and protect those soils and materials. That interaction is considered both from the perspective of the existing quality of the soils and materials and the quantity of soils and materials. For example, in terms of quality, this chapter considers contamination or ground instability that may be present naturally or as a result of historical activities such as landfilling of previously excavated quarries or the ability of the soils to support agriculture. With regard to quantity, consideration is given to, for example, the amount of agricultural land present or the availability of materials, such as sand and gravel, which could be extracted and used as construction materials.

16.3 Why land quality might change

- 16.3.1 The expanded airport may affect each of the individual components of land quality.

Land contamination and ground stability

- 16.3.2 Construction of the Project involves substantial excavation and movement of existing materials present within the ground. This excavation and movement have the potential to expose humans, ecological receptors, and water resources, such as a water course or a groundwater aquifer (all of which are types of ‘receptors’ in a land contamination assessment), to contamination already present within those materials.

- 16.3.3 While there are strict regulatory frameworks that ensure people are not put at risk, this chapter assesses the potential for exposure of people (for example, those living near Heathrow, construction workers, and future users of Heathrow) to contamination that may be present. In addition, while there are strict controls to ensure that the design and construction of new infrastructure is built to appropriate design codes and is built on ground which is suitable for that infrastructure without causing structural failure, this chapter also assesses these elements.
- 16.3.4 Effects in respect of ecological receptors (for example, on habitats or fish) and effects in respect of water resources (such as groundwater levels, river flows, and groundwater abstractions) and flood risk are considered separately in the relevant aspect chapters (**Chapter 12: Biodiversity** and **Chapter 13: Water environment**). Where materials are excavated and are not reused within the construction of the Project, they may need to be taken for offsite management (including potential offsite disposal). The potential effects on waste management capacity are explained within **Chapter 17: Waste and materials**.
- 16.3.5 Construction plant and equipment will require refuelling and maintenance during the construction of the Project. The proposed increased number of flights will require associated refuelling and maintenance activities as part of the expanded airport operations. These construction activities and operational changes could affect land quality through an increased potential for accidental spillages and pollution incidents. Environmental measures are embedded as part of the Project design to avoid or mitigate such effects, which build upon Heathrow's existing control measures that are currently used at the existing airport and best practice measures that will be employed during construction. As indicated in **Chapter 1**, further details on environmental measures are included in the environmental measures topic paper documents. Those relevant to land quality specifically include the Environmentally Managed Growth Topic Paper, Blue and Green Infrastructure Environmental Measures Topic Paper, and draft Code of Construction Practice.

Agricultural land quality

- 16.3.6 As outlined in **Chapter 2: Description of the Project**, within the draft Order Limits, development on land which is currently in agricultural use or is currently undeveloped is proposed. This includes high-quality agricultural land (referred to as the best and most versatile (BMV) land). While the design of the Project has considered the presence of agricultural land (and in particular the best and most versatile (BMV) land) as an environmental constraint in the options evaluation process (refer to **Chapter 3: The approach to environmental assessment**), there will be a loss of agricultural land and associated soil resources and this is assessed in this chapter. Disturbance or removal of soils can affect ecological receptors, and this is explained in **Chapter 12: Biodiversity**. Loss of agricultural land can also affect farming businesses and their viability, and this will be considered in **Chapter 5: Socio-economics and employment**.

Minerals safeguarding

- 16.3.7 Construction of the Project will require aggregate minerals (such as sand and gravel) to create a suitable platform upon which infrastructure, like the runway, can be built. These minerals could come either from land within the draft Order Limits or could be imported from quarrying sites outside the draft Order Limits. The Project may also interact with mineral resources designated for potential future extraction by local planning policy (known as minerals safeguarded sites).
- 16.3.8 This can affect the availability of aggregate minerals on the wider construction market or prevent materials from being extracted due to the presence of the Project (known as minerals sterilisation).

Geodiversity

- 16.3.9 While there are currently no designated geodiversity sites within the draft Order Limits, there are two sites (one on Sipson Lane which is within the draft Order Limits and one at Bedfont Lakes which is in proximity to the draft Order Limits) that have been proposed by the London Geodiversity Partnership as regionally important geodiversity sites (RIGS), or locally important geodiversity sites (LIGS). While the Project does not directly interact with the Bedfont Lakes proposed LIGS, the construction of the Project will interact with the Sipson Lane proposed RIGS, and will affect the physical geology in the study area and render the study area inaccessible in the future for access to view the geology.

16.4 Legislation, policy and guidance

- 16.4.1 In the UK, there is legislation, policy and guidance to manage land quality components and protect human health and environmental receptors (such as ecological receptors and the water environment), as summarised in this section.
- 16.4.2 At a national level, legislation and policy includes the Environmental Protection Act 1990 [1], the Environmental Permitting (England and Wales) Regulations 2016 [2], the Airports National Policy Statement (ANPS) [3], the National Networks National Policy Statement (NNNPS) [4] and the National Planning Policy Framework (NPPF) [5].
- 16.4.3 This legislation and policy seek to ensure that:
- Land for the development is suitable for the proposed uses and that risks from contamination which could cause harm to people, property and the environment are appropriately managed during design, construction and operation.
 - Developers seek to use lower quality agricultural land over that of higher quality (that is, best and most versatile (BMV) land).
 - Developments prevent unacceptable risks from land instability.
 - Developers safeguard mineral resources as far as possible.

- 16.4.4 Local and regional planning authorities are also required to have policies to manage land quality components within their administrative areas, including plans for the identification of contaminated land and plans for the sustainable use of mineral resources such as soils and minerals.
- 16.4.5 Guidance published by statutory and non-statutory bodies has been taken into account when preparing the land quality assessment and developing the environmental measures set out in the environmental measures documents. This includes:
- The assessment of risks from land contamination, known as Land contamination: risk management (LCRM) published by the Environment Agency [6].
 - The approach to grading the quality of agricultural land published by Department for Environment, Food and Rural Affairs [7].
 - The approach to assessing effects of developments on soils in environmental impact assessments published by the Institute of Environmental Management and Assessment (now known as the Institute of Sustainability and Environmental Professionals) [8].
 - The management of surplus soil and aggregates from construction including the incorporation of materials and waste management strategies at the design stage of a project, published by the Construction Industry Research and Information Association [9].

16.5 Assessment summary

- 16.5.1 This section explains the approach to the land quality assessment and how conclusions have been drawn in this chapter.

Baseline

- 16.5.2 The baseline for the land quality assessment is informed by a substantial desk-based review including:
- Historical mapping
 - Environmental data collected between 2017 and 2019 which has been checked and supplemented with updated online data accessed in 2026
 - Agricultural land and soil mapping
 - Detailed agricultural land classification (ALC) surveys available online in 2026 alongside surveys completed by Heathrow in 2018 and 2019
 - Predicted ALC data available online in 2026 for where a detailed ALC survey is not available
 - Local and regional planning authority minerals and waste plans which have been accessed in 2026

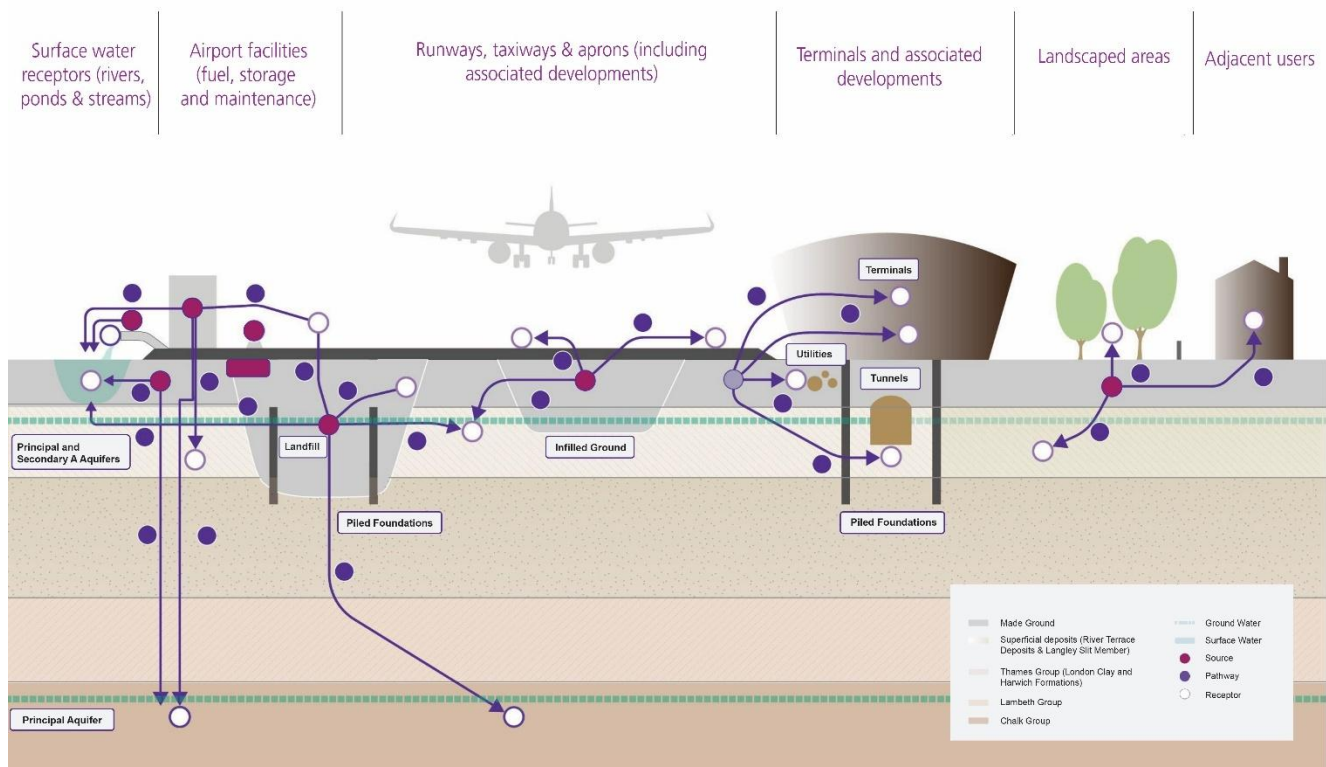
The baseline has also been informed by technical engagement with relevant stakeholders.

- 16.5.3 Of particular note from this review, to the north and west of Heathrow decades of gravel extraction have left a pattern of restored sand and gravel pits. More than 60 of these former extraction sites were backfilled with a variety of landfill waste, often mounded above the original ground levels and in places over 10 metres deep. The Project will be required to excavate into these landfill sites to create the ground surface onto which new infrastructure will be constructed. In addition, active quarries and minerals processing sites are present within the draft Development Consent Order (DCO) limits, a number of which are coming to the end of their working life and have permission to be restored with landfill waste under an environmental permit granted by the Environment Agency. A summary of the landfill sites around Heathrow is shown on **Figure 16A.1**. Further work supplementing the existing baseline is ongoing to inform the development of the Project and assessment (discussed within **Section 16.8**), and this will be included in the Environmental Statement (ES).

Assessment approach

- 16.5.4 The assessment approach for land contamination and land stability involves considering:
- The potential sources of contamination or land instability (including both their location and extent – for example, waste material in existing landfills).
 - The potential receptors that could be affected by that contamination or instability (such as the rivers around Heathrow or the groundwater bodies (known as aquifers) that are beneath Heathrow).
 - The mechanisms by which that interaction of the sources and receptors occur (for example, contamination in existing landfill material traveling through groundwater in the soils and entering the river), referred to as pathways.
- 16.5.5 In line with land contamination guidance, a conceptual site model (CSM) will be used to illustrate these potential sources, pathways and receptors. An illustrative example of a CSM is shown in **Figure 16.1** with potential sources shown as orange circles, potential receptors as purple circles and the pathways between them as purple lines.

Figure 16.1: Illustration of a land contamination conceptual site model



16.5.6 The assessment has considered the level of risk from each of these interactions using a combination of the likelihood of an interaction occurring and the magnitude of harm that could be caused to the receptor. The assessment then looks at how these interactions change from the baseline through construction and into operation as the basis for determining the effect as a result of the Project. In accordance with guidance, professional judgement will be used to determine whether the level of effect is significant, considering factors such as:

- The amount of existing material in unlined landfills which is moved into areas of engineered containment and therefore no longer acts as a source of contamination.
- The length of river channels which are removed from being in continuity with existing contaminated groundwater and for which a pathway for existing contamination to enter the river is therefore no longer present.
- The controls and designs in place to prevent the spread of existing contamination during and following construction (for example, the design of new landfills or where new river channels are designed to not be in continuity with contaminated ground).
- The controls in place, including environmental design and safeguards to prevent leaks and spillages, for new potential sources of contamination (such as new fuel storage facilities).

16.5.7 For agriculture and soils, as set out in **Section 16.4**, the methodology for assessing the effects to agricultural land and soils is set out in the Institute of Environmental

Management and Assessment's environmental impact assessment guidance. The assessment of effects considers the amount of best and most versatile (BMV) agricultural land that is lost to temporary or permanent development and considers the effects associated with the stripping, storage and handling of topsoil and subsoil, which takes place during construction of the Project.

- 16.5.8 The assessment uses quantitative metrics to determine the significance of the loss of BMV agricultural land, with significant effects occurring where more than 20 hectares of BMV land are permanently developed for non-agricultural uses. A semi-quantitative approach has been used to determine the significance of any effects on soil resources. Professional judgement has been used, taking into account the area over which the effects occur, the sensitivity of the soils to damage, or how reversible effects on soil structure are where temporary uses or movements have taken place. Significant effects will occur for example, where more than 20 hectares of soils with a high clay and silt fraction (and which are therefore highly sensitive to structural damage) are excavated, stockpiled and moved, resulting in loss of their soil function or volume.
- 16.5.9 For minerals safeguarding, the approach to the assessment involves identifying the existing mineral quarrying and processing sites within the draft Development Consent Order (DCO) limits, alongside areas of land within the draft Order Limits which the relevant minerals planning authority has either identified for possible future minerals extraction or safeguarded in case the minerals in that location are of value.
- 16.5.10 The assessment considers whether the Project directly sterilises mineral resources (for example, by building new infrastructure) or introduces infrastructure adjacent to a site which could make the extraction of the nearby mineral more difficult in the future. Professional judgement is then applied in accordance with the relevant guidance to determine the level of significance, taking into account factors such as the extent of mineral available for extraction (with all sites considered to be highly sensitive to change unless there are limited – less than 100,000 tonnes – reserves remaining), the proportion of the mineral reserves that will be subject to temporary or permanent sterilisation and the availability of other minerals in the local area using information from local minerals plans.
- 16.5.11 For geodiversity, the assessment approach considers whether the Project physically alters a geodiversity site (for example, by building new infrastructure) or introduces infrastructure which will prevent the geodiversity site from being accessible. Significant effects will occur where the Project permanently alters or prevents access to a designated geodiversity site (that is, a geological site of special scientific interest (SSSI), regionally important geodiversity sites (RIGS), or locally important geodiversity sites (LIGS).

Environmental measures

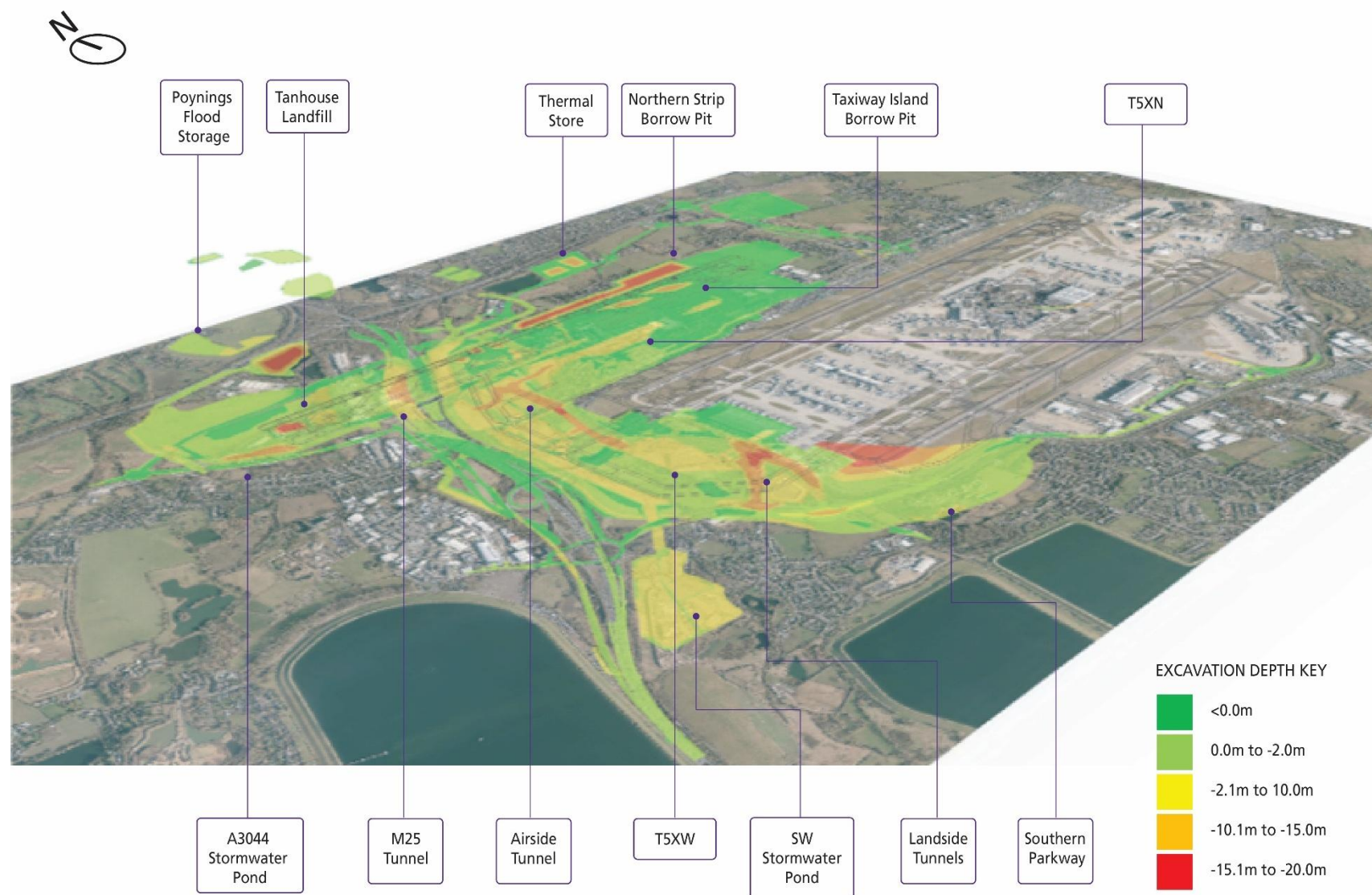
16.5.12 As indicated in **Chapter 1**, further details on environmental measures to offset or manage potential effects of the Project are included in the environmental measures topic paper documents, including the draft Code of Construction Practice (CoCP). Implementation of the environmental measures described in these documents are taken into account when assessing the potential land quality effects of the Project.

16.6 Project-wide assessment results

Land contamination and ground stability

- 16.6.1 The largest land quality changes will occur during construction, particularly in the early stages, when most of the infrastructure (for example, the Northwest Runway and associated taxiways, M25 realignment and southern road tunnel) will be built.
- 16.6.2 As noted in **Chapter 2**, approximately 27.5 million cubic metres (m³) of material needs to be moved during earthworks and ground preparation, including around 9.3 million m³ of existing landfill material from 63 existing landfills. Major excavations are illustrated in **Figure 16.2** and the location of landfills surrounding the existing airport are shown on **Figure 16A.1**.

Figure 16.2: Illustration of major excavations required to construct the Project



- 16.6.3 From a land contamination perspective, likely effects resulting from the Project are linked to the pathways between potential sources of contamination and environmental receptors (such as groundwater and surface water) or land-based receptors (for example, sand and gravel mineral resources and agricultural soils) and have been assessed by grouping together similar linkages that could occur at a number of locations within and/or outside the draft Order Limits.
- 16.6.4 Due to the scale of the earthworks and the extent of existing contamination in the landfills, there are potential effects which will result from the Project disturbing this material during Project construction activities (for example, the potential to mobilise existing contamination in the environment as excavations progress, where piling through existing landfill waste is undertaken, the potential to cause ground instability during excavations, or the potential to mobilise contamination during dewatering of excavations and discharge of that water).
- 16.6.5 In addition, as indicated in **Chapter 2**, there are multiple construction support sites (CSS) are required to facilitate the construction of the Project which temporarily introduces potential sources of contamination (for example, storage of fuel for machinery) and potential contaminant pathways (such as leaks and spillages during storage of fuel or refuelling of the machinery).
- 16.6.6 As detailed in the draft Code of Construction Practice (CoCP), a materials management strategy (MMS) will be submitted as part of the DCO application. The MMS sets out the framework for the management of the excavated earthworks and site clearance and demolition materials arising from construction of the Project, including the regulatory regimes which will be used to permit-monitor and control the earthworks. Good practice environmental measures to prevent likely negative land quality effects for people and environmental receptors during construction are also set out in the draft CoCP and will be implemented to control and monitor the construction activities associated with the Project, alongside measures for pollution control and environmental monitoring required as part of the environmental permitting processes. This includes, for example, appropriate storage of fuels in bunded containers away from watercourses, management of stockpiled materials and contingency plans in case of finding unexpected contamination.
- 16.6.7 Applying professional judgement to take into account implementation of these measures, it is considered that these effects are not at a level to be significant and therefore there will be **no significant** effect likely during construction.
- 16.6.8 Construction of the Project will result in the movement of a large volume of existing contamination, principally from excavation of historical landfill material (but also more recently landfilled material) that will be moved into new permitted landfills being created as part of the Project.
- 16.6.9 The creation of these new landfills introduces a new potential source of contamination. However, the new landfills will be designed, monitored and managed in line with best practice and the strict standards and controls set out by the Environment Agency under the environmental permitting regime to prevent pollution (for example, liners to isolate the material from the groundwater environment and treatment systems to collect and manage landfill leachate and gases where

required). Applying professional judgement, it is considered the strict controls in place for the permitting and monitoring of new landfills are sufficient for there to likely be **no significant** effect from creation of the new landfills as part of the Project.

- 16.6.10 As noted above, as part of the construction of the Project, existing waste material will be excavated and placed into the new landfills which will have liners to isolate the material from the groundwater environment (which is not currently the case for many of the historical landfills). In addition, where rivers are diverted over existing land affected by contamination, the design of the new river channels (which will include impermeably lined bases) will prevent existing contamination in groundwater from entering the watercourse (which is currently not the case as the existing river channels are in continuity with the groundwater). Both of these actions are considered to result in a beneficial effect following construction as they remove existing contamination pathways.
- 16.6.11 The degree to which this beneficial effect is 'significant' is largely dependent on the amount of historical landfill material that is moved into new landfills, and the length of new river channels which are lined. Applying professional judgement, it is considered that the quantum involved is of a sufficient scale for a **likely significant** effect to arise following the construction of the Project.
- 16.6.12 For ground stability, **no likely significant** effect will arise on account of the embedded measures associated with the use of appropriate infrastructure design and construction techniques (for example, through the application of appropriate geotechnical design codes and standards and monitoring of ground stability during excavations).

Agriculture and soils

- 16.6.13 The predicted loss of the best and most versatile (BMV) agricultural land is based on a combination of detailed agricultural land classification (ALC) surveys and predicted ALC data where no detailed ALC data is currently available. It is noted that in 2019, the assessment was based on the use of provisional ALC data which did not distinguish between Grade 3a agricultural land (BMV) and Grade 3b (non- BMV) and as a result, a worst-case assessment had to be used whereby agricultural land which was shown as provisional Grade 3 was assumed to be Grade 3a (and therefore BMV land). As the predicted ALC data now distinguishes between Grade 3a and Grade 3b, the assessment will use this predicted data over the provisional data.
- 16.6.14 The Project will result in a permanent loss of approximately 960 hectares of BMV agricultural land, comprising approximately 660 hectares of Grade 1, 105 hectares of Grade 2 and 195 hectares of Grade 3a land. A permanent loss of approximately 110 hectares of agricultural land that is not considered to be BMV (80 hectares of Grade 3b and 30 hectares of Grade 4) will also occur as a result of the Project.
- 16.6.15 Temporary loss of agricultural land will only occur where land currently in agricultural use is used as part of the construction of the Project (for example, as a temporary construction compound) and then returned to its original agricultural use post-construction. At present, all of the land in agricultural use required for the

construction of the Project is proposed to be developed either with permanent infrastructure or as part of the wider blue-green infrastructure strategy. Consequently, loss of this agricultural land is already considered as part of the assessment of permanent loss of agricultural land.

- 16.6.16 The Project will also require over approximately 2.3 million cubic metres of existing topsoil and subsoil to be stripped as part of the earthworks. Good practice environmental measures to prevent effects on soils during construction are set out in the draft CoCP (for example, around appropriate stripping and handling of soils). Subject to soils being suitable for the proposed use in line with the framework that will be set out in the MMS, they will, where possible, be reused as part of the wider green infrastructure strategy (for example, in landscaping, public open space and allotments).
- 16.6.17 Given the quantitative scale of permanent loss of agricultural land – and taking into account professional judgement in relation to the anticipated effects associated with the stripping of topsoil and subsoil and its handling and storage before reuse within the Project – there remains a substantial loss of BMV agricultural land and potential for damage to soil resources, therefore resulting in a likely **significant effect** for both BMV agricultural land and soil resources.

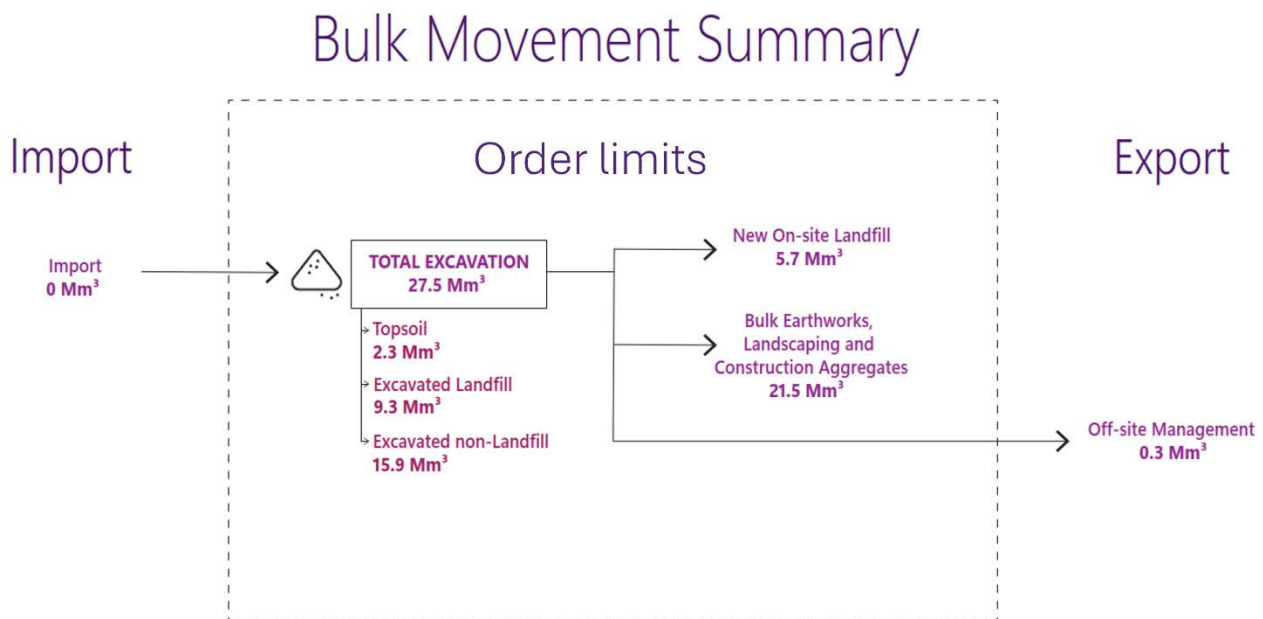
Minerals safeguarding

- 16.6.18 Sand and gravel minerals will be made directly inaccessible at a number of locations and/or those minerals will be extracted and used as part of the construction of the Project (as opposed to being available on the open market for other future developments). This includes undeveloped land to the west of Harmondsworth Quarry (which has an estimated yield of approximately 2.2 million tonnes of sand and gravel) and land beneath the current developments in Harmondsworth (where the Project proposes to extract approximately 2.9 million cubic metres of sand, gravel and clay).
- 16.6.19 Through the measures in the MMS, the design of the earthworks recognises that the best overall environmental solution for delivering the Project involves avoiding and/or limiting excavation into existing landfill, maximising re-use of excavated materials and minimising the requirement for offsite management of unusable or surplus material where possible.
- 16.6.20 From a minerals-safeguarding perspective, the earthworks construction proposals:
- Do not currently anticipate having to import sand and gravel aggregates to build the Project.
 - Move material so as to be 'self-reliant' as far as reasonably practicable within the draft Order Limits, excavating clean sand and gravel aggregates and reusing soils and excavated landfill material where appropriate and feasible (including consideration of treatment where necessary under appropriate environmental permits).

16.6.21 These proposals mean the Project will not negatively affect other local supplies of sand and gravel aggregates (which will result in greater minerals safeguarding effects).

16.6.22 This overall proposal for materials management is illustrated in **Figure 16.3**.

Figure 16.3: Illustration of current earthworks proposals



16.6.23 In addition, the assessment considers the loss of the current Hithermoor Quarry which is identified in Surrey County Council (SCC)'s minerals and waste plan as the preferred site to process approximately 3.4 million tonnes of sand proposed to be extracted from dredging of the King George VI Reservoir. The reservoir is a safeguarded minerals site in the SCC minerals and waste plan and while the reservoir itself is outside the draft Order Limits, loss of the preferred processing site at Hithermoor Quarry through the proposed development in the Project is a potential indirect minerals sterilisation effect.

16.6.24 Taking into account professional judgement as to the quantum of minerals which will either be directly sterilised by permanent infrastructure as part of the Project or extracted and used by the Project as part of the earthworks and the potential indirect effect from the loss of Hithermoor Quarry, there will be a likely **significant** effect in terms of mineral safeguarding.

Geodiversity

16.6.25 There are no nationally, regionally important geological sites (RIGS), and locally important geological sites (LIGS) which will be lost or damaged by the Project. Consequently, **no significant** effect is anticipated to geodiversity.

16.6.26 It is noted that this conclusion will not change if the proposed Bedfont Lakes LIGS was to be taken forward as a designated site in the future, as the whole of the LIGS is outside the draft Order Limits and therefore there will be no loss or damage to the LIGS through construction and operation of the Project.

16.6.27 However, this conclusion will change if the proposed Sipson Lane RIGS was to be taken forward as a designated site in the future, as the whole of the RIGS is proposed to be subject to permanent development as part of the Project. In this scenario, a designation of Sipson Lane as a RIGS before the DCO application being granted will result in a likely significant effect on geodiversity. However, at the time of writing this consultation document, Sipson Lane was not being proposed for inclusion in the updated London Plan, the draft of which is due to be published by the Greater London Authority in 2026.

16.7 Summary of likely significant land quality effects

16.7.1 In summary, the predicted land quality effects as a result of the Project are as follows:

- Land contamination (during construction) – **no likely significant effect.**
- Land contamination (following construction) – **likely (beneficial) significant effect.**
- Ground stability (both during and following construction) – **no likely significant effect.**
- Agriculture and soils (both during and following construction) – **likely significant effect.**
- Minerals safeguarding (both during and following construction) – **likely significant effect.**
- Geodiversity (both during and following construction) – **no likely significant effect.**

16.8 Next steps and preparation of the Environmental Statement (ES)

16.8.1 Further baseline data collection, design, and assessment work will be undertaken to support the land quality assessment that will be reported within the Environmental Statement (ES). This includes:

- Review of additional environmental data which becomes available before the ES, for example, updated information published by bodies such as the Environment Agency and information requests issued to landowners and local planning authorities.

- Agricultural land classification (ALC) surveys on land which is currently in agricultural use and is not covered by an existing detailed ALC surveys.

16.8.2 The ES produced for the Draft Consent Order (DCO) application will be accompanied by the following documents:

- Geo-environmental desk study – the desk study will be an appendix to the Land quality chapter of the ES, setting out the baseline conditions in line with land contamination guidance [1].
- Materials management strategy (MMS) – the MMS will set out the approach to reusing, recovering and disposing of materials (including landfill materials, natural soils and construction and demolition wastes), earthworks, minerals resources and landfill permitting.

16.8.3 Further technical engagement will be undertaken to inform the assessment and accompanying documents that will be presented within the ES. This will include engagement with the Environment Agency, local and regional planning authorities and Natural England on:

- The environmental measures embedded in the Project to ensure construction is managed appropriately to mitigate land contamination risks to people and prevent pollution of the environment.
- The land quality baseline to be used for assessment including the geo-environmental desk study.
- The MMS – including the approach to the earthworks construction, landfill permitting and sustainable reuse of materials (including how water containing existing contamination will be managed).

16.9 Glossary of terms

Table 16.1: Glossary of terms

Term	Definition
Aggregate	Granular or particulate mineral materials used in construction, either on their own or mixed with a binder such as cement, lime or bitumen.
Agricultural land classification (ALC)	The official system used in England and Wales to classify agricultural land according to its quality and versatility for agricultural use, based on the extent to which natural physical or chemical characteristics impose limitations on agricultural use.
Agricultural land quality	Agricultural land quality is a term to capture the value of soils as an asset that provides important ecosystem services, including land which has the widest range and versatility for use including its for growing agricultural and horticultural crops.
Airports National Policy Statement (ANPS)	The ANPS – which is currently being consulted on – sets out the Government’s policy on the need for new airport capacity in the South East of England, its preferred location and scheme to deliver new capacity and particular considerations relevant to a Development Consent Order application to which the ANPS relates.
Aquifer	A large body of underground rock, gravel, sand or silt that holds and allows the flow of groundwater through it.
Baseline	The existing environmental state against which future changes and impacts are assessed.
Best and most versatile (BMV) land	Land as classified by the Department for Environment Food & Rural Affairs (DEFRA, 2025) that is considered to be the highest quality under the agricultural land classification (ALC) system.
Biodiversity	All the habitats, plants, animals and associated ecosystems that could be affected by the construction and operation phases of development either negatively or positively.
Code of Construction Practice (CoCP)	Code which sets out the standards and procedures to which developers and contractors must adhere to when undertaking construction of major projects. This will assist with managing the environmental impacts and will identify the main responsibilities and requirements of developers and contractors in constructing their projects.
Construction plant	Construction plant includes all machinery, equipment and tools required to undertake demolition and construction works, such as excavators and cranes.
Construction support site	A temporary site used to accommodate construction activities, including compounds, storage, plant, welfare facilities and access routes.
Contamination	The presence of hazardous substances in or under the ground, or in water bodies. It occurs when human activities leave a legacy of pollution (for example, from old industrial sites, landfills, or chemical spills) that poses an unacceptable risk to health or the environment.

Term	Definition
Draft Consent Order (DCO) application	An application for consent to undertake a nationally significant infrastructure project made to the Planning Inspectorate, which will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the Project.
Dewatering	The removal or control of surface water or groundwater from a site, excavation, or soil to primarily enable construction activities to take place.
Draft Order Limits	The boundary for planning purposes showing the horizontal limits of the works for the Project.
Effect	Term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact to the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria. For example, land clearing during construction results in habitat loss (impact), the effect of which is the significance of the habitat loss on the ecological resource.
Engagement	Refers to targeted, continuous interactions with key stakeholders that are focused on specific environmental technical issues and can result in such stakeholders actively participating in directing Project outcomes.
Environment Agency	A public body with a remit to protect and improve the environment. It has broad statutory powers under the Environment Act 1995 to regulate industries, investigate offences and enforce environmental protections in England.
Environmental measures	Environmental measures proposed in an environmental impact assessment are designed to limit or remove any significant adverse environmental effects of a development.
Environmental Statement	The written output presenting the full findings of the environmental impact assessment.
Evaluation	A systematic review of environmental information, constraints, and alternatives used to guide how a project is designed and developed.
Flood risk	A combination of the probability and the potential consequences of flooding. Areas at risk of flooding are those at risk of flooding from any source, now or in the future. Sources include rivers and the sea, direct rainfall on the ground surface, rising groundwater, overwhelmed sewers and drainage systems, reservoirs, canals and lakes and other artificial sources.
Geodiversity	Geodiversity is the range of rocks, minerals, fossils, soils and landforms that underlie and determine the character of our natural landscape and environment. Locations in which important geodiversity is found are afforded protection against development and, outside of statutorily protected land such as sites of special scientific interest (SSSIs), are designated at a regional and local level (regionally important geological sites (RIGS), and locally important geological sites (LIGS)).

Term	Definition
Greater London Authority	The strategic regional authority for Greater London was established in 2000 and is responsible for setting city-wide policies and strategies across key areas including planning, transport, air quality, climate change, housing and the environment.
Ground stability	This refers to the ability of the materials beneath the ground to resist movement under the presence of an applied load (either directly on a piece of ground or next to it) or the impact of chemicals (naturally occurring or otherwise) within the ground to impact the foundations of infrastructure. Where ground is unstable, this is commonly associated with subsidence or weakening of concrete occurring which can damage newly-built or existing infrastructure.
Groundwater	Water that is stored beneath the ground surface in the pores and fractures of soil, sand and rock formations.
Groundwater abstractions	Water that has been abstracted from the ground.
Institute of Environmental Management and Assessment (IEMA)	The professional body for environmental and sustainability practitioners, historically responsible for setting professional standards, guidance and best practice in areas such as environmental management, environmental assessment, sustainability and climate change. In July 2025, IEMA rebranded as the Institute of Sustainability and Environmental Professionals (ISEP). References to IEMA in this consultation document relate to the organisation's name at the time of cited publications.
Land contamination	A general term to describe substances which may have affected land, such as metals, oils and asbestos (as a result of its current or past uses), waste disposal or accidental leaks and spills.
Land quality	A term used to cover several different components including land contamination, ground stability, agricultural land quality (including soils), minerals safeguarding and geodiversity.
Locally important geodiversity site (LIGS)	Non-statutory, locally designated sites that are recognised for their geological or geomorphological value at a local level.
Materials management strategy (MMS)	A document that sets out how excavated materials (such as soil and aggregates) will be managed, reused, treated or disposed of during construction, in a way that is environmentally sustainable and legally compliant. It includes an outline of the processes that will be used to classify material types and their suitability for reuse as part of a construction project and the regulatory frameworks under which that reuse would be controlled.
Minerals safeguarding	The process of protecting important non-renewable natural resources (such as sand and gravel, clay and building stones) from development which would prevent their current or future extraction and processing to be used in the construction industry.
Minerals safeguarded site	Mineral resources designated for potential future extraction in local planning documents.

Term	Definition
Minerals sterilisation	The permanent or long-term loss of availability of a mineral resource, where non-mineral development prevents the resource from being extracted now or in the future.
National planning policy framework (NPPF)	The NPPF sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework within which local plans can be developed which reflect the community's needs.
National policy statement (NPSs)	Produced by the Government, NPSs give reasons for the policy set out in the statement and must include an explanation of how the policy accounts for Government policy relating to the mitigation of, and adaptation to, climate change.
Natural England	The Government advisor for the natural environment in England.
Open space	All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.
Pathway	The route by which the source can reach the receptor (definition provided by ISEP guidance).
Per- and polyfluoroalkyl substances (PFAS)	A group of man-made substances that share a common chemical makeup and properties which make them useful in a wide range of products, from non-stick pans to firefighting foams. Their extensive use over many decades, along with their persistence, means they are widely detected in the environment and there are potential concerns from their impact on people and the environment.
Preferred scheme document	The document setting out the design of the Project that is being consulted on.
Receptor	A component of the environment or a group of people that may be affected by the Project.
Regionally important geodiversity site (RIGS)	Non-statutory regionally designated sites recognised for their geological or geomorphological importance at a regional level.
Reservoir	A man-made surface waterbody designed to store water, typically created by constructing a dam or embankment across a river or valley, or by excavating and lining a basin.
River flow	The movement of water within a river channel, typically expressed as a rate of discharge over time.
Scenario	An identified, unplanned event, which is considered relevant to the development and has the potential to result in a major accident and/or disaster, subject to assessment of its potential to result in a significant adverse effect on an environmental receptor (definition provided by ISEP guidance).
Sensitivity	The vulnerability or value of an environmental receptor, which in combination with magnitude, determines whether an environmental effect is significant.

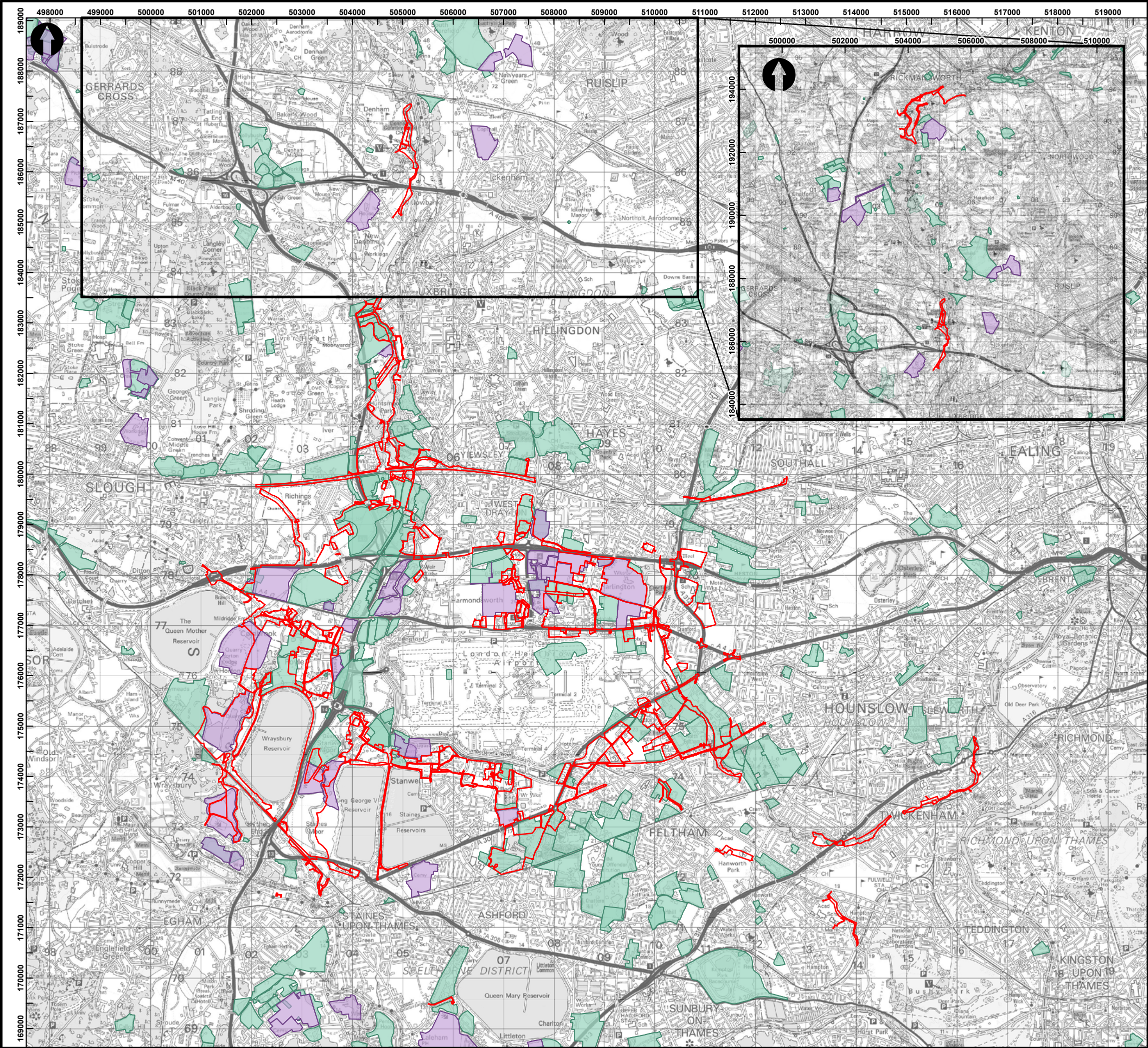
Term	Definition
Setting	Defined in the ANPS as 'the surroundings in which it is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral'.
Site of special scientific interest (SSSI)	A nationally designated site protected for its ecological or geological importance.
Source-pathway-receptor linkage	The mechanism by which a contaminant could cause harm, requiring a source of contamination, pathway by which the contaminant can move or be transmitted and a receptor that could be negatively affected. Only where all three elements are present and connected does a potential land contamination risk exist.
Surface water	Water that is present on the Earth's surface, either flowing or standing, and includes rivers, streams, ditches, lakes, ponds, reservoirs, canals and drainage systems.
The Project	The overarching Heathrow expansion. A structured, timebound programme of work designed to deliver specific planned improvements to Heathrow's capacity, infrastructure, and operational capability.
Watercourses	Natural and man-made channel through which water flows. It includes features such as rivers, streams, brooks, canals, ditches and similar channels, whether they are dry for part of the year or continuously flowing.

16.10 References

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Appendix 16A Figures

Figure 16A.1: Existing landfills surrounding Heathrow



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Draft DCO Order Limits
 Authorised Landfill Sites
 Historic Landfill Sites

0 500 1,000 2,000 3,000 4,000 5,000 Metres
Scale 1:75,000

Heathrow

© Heathrow Airport Limited				Scale 1:75,000
Project Name Heathrow Expansion Project				Heathrow Project No. 3R000
Title Figure 16A.1: Existing landfills surrounding Heathrow				
Company WSP	Drawn By LT	Chk/Approved BR	Drawn Date 06/05/2026	Status FINAL
Location-Level-Sub Series/System-Identifier 3R000-XX-GA-XXX-100026				Version 1.0