Intermodal Logistics Park North Ltd

INTERMODAL LOGISTICS PARK NORTH (ILPN)

Intermodal Logistics Park North (ILPN) Strategic Rail Freight Interchange (SRFI)

Project reference TR510001

Preliminary Environmental Information Report (PEIR)

Chapter 16: Materials and waste

October 2025

Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

This document forms a part of a Preliminary Environmental Information Report (PEIR) for the Intermodal Logistics Park North (ILPN) project.

A PEIR presents environmental information to assist consultees to form an informed view of the likely significant environmental effects of a proposed development and provide feedback.

This PEIR has been prepared by the project promoter, Intermodal Logistics Park North Ltd. The Proposed Development is described in Chapter 3 of the PEIR and is the subject of a public consultation.

Details of how to respond to the public consultation are provided at the end of Chapter 1 of the PEIR and on the project website:

https://www.tritaxbigbox.co.uk/our-spaces/intermodal-logistics-park-north/

This feedback will be taken into account by Intermodal Logistics Park North Ltd in the preparation of its application for a Development Consent Order for the project.

Chapter 16 ◆ Materials and waste

INTRODUCTION

16.1 This chapter presents a preliminary assessment of the likely significant environmental effects associated with the use of materials and the management of solid waste arising during the demolition, construction and operation of the Proposed Development. This assessment follows the guidance laid out in the Institute of Environmental Management and Assessment (IEMA) Guide to Materials and Waste in Environmental Impact Assessment (EIA)[1].

16.2 Additionally, this chapter demonstrates how materials and waste have been considered in terms of the design of the Proposed Development and sets out measures for the use of materials and managing waste during construction and operation to meet legislative and policy requirements. It includes an assessment of the potential cumulative effect of the Proposed Development, on the waste environment, alone or in combination with other surrounding relevant development proposals.

16.3 This Chapter of the PEIR considers:

- national and local policy requirements in the context of material use and the management of waste;
- the key principles for sustainable waste management, i.e. the waste hierarchy principle and the self-sufficiency principle;
- identification of the receptors related to materials and waste, including existing waste management facilities and their predicted capacity in the future;
- a description of the baseline material and waste management measures is provided together with a summary of the proposed measures following completion of the Proposed Development; and
- a preliminary consideration of the material use and waste arisings during the construction and operational phase and the approach for managing wastes in accordance with the waste hierarchy. This also includes waste from the demolition of buildings and structures.

[1] Institute of Environmental Management and Assessment (IEMA) (2020) 'Guide to Materials and Waste in Environmental Impact Assessment'.

RELEVANT LAW, POLICY AND GUIDANCE

16.4 As the Proposed Development will produce waste, the EIA for the Proposed Development must be undertaken with reference to, and in accordance with, the relevant national, regional and local waste legislation, policy and guidance, including the following:

National Legislation

Environment Act 2021

16.5 Part 3, Section 57 of the Environment Act (2021)[2], sets out a number of provisions related to industrial/commercial waste including the following:

- *'Recyclable relevant waste must be collected separately from other relevant waste'; and*
- *'Recyclable relevant waste in each recyclable waste stream must be collected separately'* unless *'it is not technically or economically practicable to collect recyclable relevant waste in those recyclable waste streams separately, or collecting recyclable relevant waste in those recyclable waste streams separately has no significant environmental benefit'.*

16.6 Recyclable relevant waste is defined in the Act as any of the following materials: glass; metal; plastic; paper/card; and food waste.

The Waste (Circular Economy) (Amendment) Regulations 2020

16.7 The Waste (Circular Economy) (Amendment) Regulations 2020[3] implements the European Union Circular Economy Package into UK law.

16.8 The regulations introduce stricter requirements for the management of hazardous waste (restricts mixing of hazardous waste), new requirements for separately collected waste deemed for reuse or recycling to prevent it being incinerated or landfilled, and enhanced producer responsibility obligations for packaging, batteries, waste electronic equipment and end-of-life vehicles.

The Separation of Waste (England) Regulations 2025

16.9 The Separation of Waste (England) Regulations 2025[4] introduces new legal requirements for all businesses to have separate collections of:

- residual (non-recyclable) waste;
- food waste (mixed with garden waste if appropriate);
- paper and card; and

[2] HM Government (2021) 'Environment Act 2021'.
[3] HM Government (2020) 'The Waste (Circular Economy) (Amendment) Regulations 2020'.
[4] HM Government (2025) 'The Separation of Waste (England) Regulations 2025'.

- all other dry recyclable materials (plastic, metal and glass).

16.10 From March 2027, businesses will also be required to have a separate collection of plastic film.

The Environmental Permitting (England and Wales) Regulations (2016)

16.11 The Environmental Permitting Regulations[5] aim to ensure that waste activities are authorised and that their discharges do not harm human health or the environment. Environmental permits must be granted by the EA.

16.12 The Regulations combine the requirements for an integrated waste management approach and for hazardous waste management. This provides a framework for regulation that enables the EA to assess permitting and compliance.

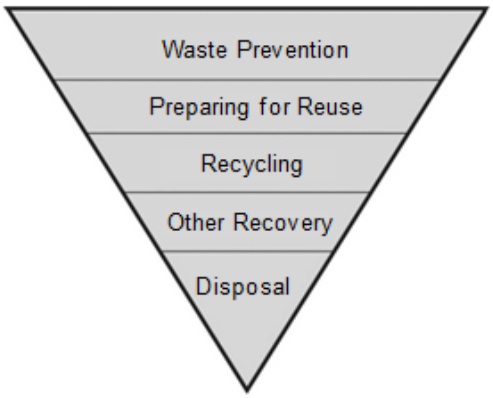
The Waste (England and Wales) Regulations 2011 (and amendments)

16.13 The Waste Regulations 2011[6] implements revisions to the Waste Framework Directive in England and Wales. They apply the waste hierarchy which details methods to reduce waste generation and the amount of waste sent to landfill. The stages of the waste hierarchy (as shown in **Figure 16.1**) and examples of each stage, which were provided by the Department of Environment, Food and Rural Affairs[7], are:

- Prevention: Using less material in design and manufacture. Keeping products for longer; re use. Using less hazardous materials.
- Preparing for re-use: Checking, cleaning, repairing, refurbishing, whole items or spare parts.
- Recycling: Turning waste into a new substance or product. Includes composting if it meets quality protocols.
- Other recovery: Includes anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste; some backfilling.
- Disposal: Landfill and incineration without energy recovery.

[5] HM Government (2016) 'The Environmental Permitting (England and Wales) Regulations 2016'.
[6] HM Government (2011) 'The Waste (England and Wales) Regulations 2011'.
[7] Department for Environment, Food and Rural Affairs (Defra) (2011) 'Guidance on applying the Waste Hierarchy'.

Figure 16.1. The Waste Hierarchy



Source: Waste Framework Directive

The Hazardous Waste (England and Wales) Regulations 2005

16.14 The Hazardous Waste Regulations[8] set out the regime for the control and tracking of hazardous waste in England and Wales. These regulations introduced a process of registration of hazardous waste producers and a new system for recording the movement of hazardous waste.

National Policy

National Networks National Policy Statement 2024

16.15 The National Policy Statement for National Networks (NPSNN)[9], produced by the Department for Transport, sets out the need for, and the Government's policies to, the management of waste when delivering a Nationally Significant Infrastructure Project (NSIP) on the national road and rail networks in England. Waste management is a crucial aspect of this policy, reflecting the need for sustainable development and environmental protection in infrastructure projects. Paragraph 5.71 states that waste should be managed in accordance with the Waste Hierarchy and consideration should be given to circular economy principles wherever practicable.

- Waste Management Principles: The NPSNN emphasises the importance of minimising waste and promoting sustainable waste management practices during the construction and operation of national networks. It highlights the need for developers to adopt waste hierarchy principles, prioritising waste prevention, reuse, and recycling over disposal (Paragraph 5.72 and 5.73). Consideration must be given to managing generated waste in accordance with regulatory waste regimes include the Environmental Permitting requirements (Paragraph 5.74).

- Construction and Demolition Waste: The NPSNN recognises the significant amounts of waste generated during construction and demolition activities and requirements for material. It calls for the implementation of modern methods of construction and other

[8] HM Government (2005) 'The Hazardous Waste Regulations 2005'.
[9] Department of Transport (2024) 'National Networks National Policy Statement'.

sustainable design practices including using sustainable timber and low carbon concrete reduce material consumption and construction waste (Paragraph 5.75).

- Available Waste Infrastructure: The policy requires developers to consider available waste infrastructure in order to ensure that infrastructure projects contribute positively to local waste management goals and do not overwhelm existing systems (Paragraph 5.76).

Waste Management Plan for England 2021

16.16 The Waste Management Plan for England[10] provides an analysis of the waste management situation in England, and evaluated how it would support implementation of the objectives and provisions of the European Union's revised Waste Framework Directive.

16.17 In relation to the management of waste during construction and demolition, this plan stated that: *'we are continuing to comfortably exceed the target to recover 70% of non-hazardous construction and demolition waste by 2020. The annual recovery rate for construction and demolition in England has remained at around 92% since 2010. In 2016, the recovery rate was 92.1%'* (p.17).

16.18 The waste management principles of the waste hierarchy are now fully incorporated in the Waste Management Plan for England as objectives to be delivered through waste local plans. These principles are outlined in Table 16.1.

[10] Defra (2021) 'Waste Management Plan for England'.

Table 16.1 Waste Management Principles

Principle	Description
Waste Hierarchy	A theoretical framework used as a guide to the waste management options that should be considered when assessing the most practicable management option.
Waste as a Resource	Certain wastes can be directly used or separated / processed for use as a replacement for raw materials, saving resources and potentially reducing energy use or other impacts associated with virgin resource extraction and transport.
Proximity Principle	Waste should be disposed of or recovered, in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health.
Circular Economy	An economic model aimed at minimising waste and maximising the use of resources. Unlike the traditional linear economy which follows a 'take, make, dispose' pattern, the circular economy is regenerative by design.

National Planning Policy for Waste 2014

16.19 The National Planning Policy for Waste[11] provides *'a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of…in line with the proximity principle'* (pg. 3).

16.20 It also aims to ensure that: *'the design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links) complements sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste'* (pg. 3).

Our Waste, Our Resources: A Strategy for England 2018

16.21 Our Waste, Our Resources: A Strategy for England[12] builds on the previous national waste strategies of 2000 and 2007.

16.22 The strategy sets out how England will preserve the stock of material resources by minimising

[11] Department for Communities and Local Government (DCLG) (2014) 'National Planning Policy for Waste'.
[12] HM Government (2018) 'Our Waste, Our Resources: A Strategy for England'.

waste, promoting resource efficiency and moving towards a circular economy. At the same time, the country will minimise the damage caused to the natural environment by reducing and managing waste safely and carefully, and by tackling waste crime.

National Planning Policy Framework 2024

16.23 The National Planning Policy Framework (NPPF) [13] (December 2024, as amended February 2025) sets out the Government's planning policies for England. The NPPF must be taken into account in preparing development plans and is a material consideration in planning decisions. The policy sets out objectives for sustainable development which includes protecting and enhancing our natural, built and historic environment through minimising waste and pollution.

16.24 In relation to the sustainable use of materials, paragraph 223 states that planning policies should: *'so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously'.*

Regional and Local Policies

Resources Merseyside 2011-2041

16.25 The Resources Merseyside 2011–2041 strategy[14] is a long-term waste management plan developed by the Merseyside Recycling and Waste Authority (MRWA) in partnership with the five Merseyside councils and Halton. It provides a strategic roadmap for managing waste sustainably across the region over a 30-year period.

16.26 The key objectives of the strategy are:

- Move waste up the hierarchy: Prioritise waste prevention, followed by reuse, recycling, and composting, with disposal as a last resort.
- Transform the waste agenda: Shift from waste disposal to resource efficiency and circular economy principles.
- Deliver environmental and economic value: Ensure waste services are cost-effective, affordable, and environmentally beneficial.

Merseyside and Halton Joint Waste Local Plan

16.27 The Merseyside and Halton Joint Waste Local Plan[15] is a strategic planning document adopted in July 2013 by six councils: Halton, Knowsley, Liverpool, Sefton, St Helens, and Wirral. It outlines a coordinated approach to sustainable waste management across the Liverpool City Region, covering the period up to 2027.

[13] Ministry of Housing, Communities and Local Government (MHCLG) (2024) 'National Planning Policy Framework'.
[14] Merseyside Recycling and Waste Authority (MRWA) (2011) 'Resources Merseyside 2011-2041'.
[15] Halton, Knowsley, Liverpool City, Sefton, St. Helens and Wirral Council (2013) 'Joint Waste Local Plan'.

16.28 The key objectives of the Plan are:

- Promote sustainable waste management by reducing waste generation and increasing recycling and recovery.
- Identify suitable sites for waste management facilities to meet current and future needs.
- Minimise environmental impacts of waste facilities through strict planning policies.
- Support the circular economy by encouraging waste as a resource.

Zero Waste 2040 Strategic Framework

16.29 The Zero Waste 2040 Strategic Framework[16] for the Liverpool City Region (LCR) is a long-term plan developed by the Merseyside Recycling and Waste Authority (MRWA) and its partners to achieve zero avoidable waste by 2040. It aligns with broader climate goals, including achieving net zero carbon emissions across the region.

Greater Manchester Joint Waste Development Plan Document

16.30 The Greater Manchester Joint Waste Development Plan Document (JWDPD)[17], adopted in April 2012, is a strategic planning framework developed by the ten Greater Manchester authorities (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, and Wigan). It guides waste development across the region up to 2027.

16.31 The key objectives of the Plan are:

- Provide a spatial strategy for waste management across Greater Manchester.
- Identify suitable sites and areas for new waste management facilities.
- Support the waste hierarchy: reduce, reuse, recycle, recover, and dispose.
- Ensure environmental protection and sustainable development.

St Helens Borough Local Plan up to 2037

16.32 The St Helens Borough Local Plan up to 2037[18], adopted in July 2022, outlines the borough's strategic vision for sustainable development.

16.33 The most relevant policy from the Plan is Policy LPC15: Waste which states that:

16.34 *'The Council will promote the sustainable management of waste in accordance with the waste hierarchy (as defined in national planning policy). In accordance with the Merseyside and Halton Joint Waste Local Plan 2013 (or any Plan that may supersede or supplement this) it will*

[16] Liverpool City Region (LCR) (2023) 'Zero Waste 2040 Strategic Framework'.
[17] Greater Manchester Geological Unit (GMGU) (2012) 'Greater Manchester Joint Waste Development Plan Document'.
[18] St Helens Borough Council (2022) 'Local Plan up to 2037: A Balanced Plan for a Better Future'.

work to:

- *a) identify and safeguard (where appropriate) waste management sites in appropriate locations;*
- *b) assist in the implementation of a resource-recovery led strategy for sustainable waste management;*
- *c) ensure that the Borough contributes to meeting the identified sub-regional needs for waste management facilities and sites;*
- *d) encourage good design in new development in order to minimise waste, promote the use of reclaimed and recycled materials and to facilitate the storage, collection and recycling of waste;*
- *e) encourage the sustainable transport of waste and promote the use of mechanisms such as waste audits and waste management plans to minimise the generation of waste; and*
- *f) ensure that waste management facilities are developed whilst minimising any negative impacts on the environment and communities of the Borough.'*

16.35 In addition, Policy LPD01: Ensuring Quality Development of the Plan states that development involving demolition and / or construction works should minimise the generation of waste and promote the use of recycled and / or locally sourced building materials.

Places for Everyone Joint Development Plan Document

16.36 The Places for Everyone Joint Development Plan Document (PfE)[19] is a long-term strategic plan adopted on 21 March 2024 by nine Greater Manchester districts: Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, and Wigan.

16.37 The most relevant policy from the Plan Policy JP-S6: Resource Efficiency states that:

16.38 *'The achievement of a circular economy and a zero-waste economy will play a key role in meeting Greater Manchester's ambition of becoming a leading green city region by 2038. The following measures will help achieve this:*

- *development and implementation of the Zero Waste Strategy for Greater Manchester which promotes overall reduction in the level of waste produced and supports resource efficiency within the Plan area in order to gain the maximum value from the things we produce;*
- *recognition of the role of existing infrastructure in managing our waste and protecting such facilities to ensure adequate waste management capacity is maintained; and*
- *using sustainable design and construction techniques to reduce carbon emissions, adapt and future proof to the impact of climate change, reduce and recycle waste and*

[19] Greater Manchester Combined Authority (GMCA) (2024) 'Places for Everyone Joint Development Plan Document'

minimise water use.'

Wigan Local Plan Core Strategy (2013–2026)

16.39 The Wigan Local Plan Core Strategy (2013–2026)[20] is the borough's main strategic planning document, adopted in September 2013. It sets out a long-term vision for development in Wigan up to 2026 and forms part of the borough's statutory development plan.

16.40 Policy CP14 Waste of the Plan has been superseded and replaced by relevant policies in the Places for Everyone Joint Development Plan Document.

Emerging Wigan Borough Local Plan (to 2040)

16.41 Wigan Council are currently consulting on an initial draft of the new Wigan Borough Local Plan until 24 June 2025. The Initial Draft of the Wigan Borough Local Plan (2025–2040)[21] sets out a long-term vision for development across the borough, aiming to shape how Wigan grows and evolves over the next 15 years.

16.42 Policy J7: The Green Economy states that the Council will encourage businesses to become greener by reducing waste in line with the waste hierarchy.

Warrington Local Plan 2021/22 – 2038/39

16.43 The Warrington Local Plan 2021/22 – 2038/39[22], adopted on 4 December 2023, is the borough's statutory development plan guiding growth and development over a 17-year period.

16.44 Policy ENV1 – Waste Management states that:

'The Council will promote sustainable waste management in accordance with the Waste Hierarchy. In working towards the prevention of waste, Warrington will seek to achieve a reduction in the amount of waste produced in the Borough and treat waste at as high a level of the waste hierarchy as practicable by; requiring waste reduction in all aspects of planning/development, including the construction, design (using recycled materials) and operation stages; and providing appropriate and sustainable sites and/or areas for the management of waste.'

Guidance

16.45 The following guidance documents have been used to develop this chapter:

- IEMA Guide to Materials and Waste in EIA; and
- Design Manual for Roads and Bridges (DMRB) LA 110 Material Assets and Waste guidance[23].

[20] Wigan Council (2024) 'Core Strategy Development Plan Document – Remaining Policies'.
[21] Wigan Council (2025) 'Wigan Borough Local Plan: Initial draft for consultation'.
[22] Warrington Borough Council (2023) 'Warrington Local Plan 2021/22 – 2038/39'.
[23] Highways England (2019) 'LA 110 Material Assets and Waste'.

CONSULTATION TO DATE

16.46 A request for an EIA Scoping Opinion was submitted to the Secretary of State in November 2024. A Scoping Opinion from the Planning Inspectorate, on behalf of the Secretary of State, was returned in December 2024.

16.47 Table 16.2 summarises the Planning Inspectorate's comments received in relation to materials and waste, and how these comments have been considered in this chapter.

Table 16.2 Scoping and informal consultation summary

Consultee	Consultee comment	Response
EIA Scoping Consultation		
Planning Inspectorate	**Paragraph 15.82 Assessment of effects from imported and exported material.** The Scoping Report states that a cut and fill earthworks strategy will aim to achieve a balance on the Proposed Development site, and if this is unachievable then receiver sites will be found with the reuse of soil facilitated under a Site Waste Management Plan and a MMP. The ES should clarify if significant amounts of material are to be imported or exported for the Proposed Development. Where significant effects would occur from the import and export of materials, this should be assessed in the ES. Appropriate cross reference should be made between other related assessments.	An assessment on the amounts of material required to imported and exported for the Proposed Development has been assessed in Section 'POTENTIAL EFFECTS PRIOR TO ADDITIONAL MITIGATION' of this Chapter.

16.48 In addition, targeted consultation has been held with key stakeholders involved in waste management in the region. Engagement with regional and local authorities, including Greater Manchester Combined Authority (GMCA) and Merseyside Environmental Advisory Service (MEAS), has provided information on local and regional waste arisings, current waste disposal practices, and future waste planning developments to support the desk-based research undertaken to determine baseline scenarios.

16.49 Consultation has also been undertaken with the Environment Agency to gather critical information on waste regulations and data on hazardous waste, waste permits, and the environmental impact of existing waste streams in the area.

16.50 A summary of the consultation held to date can be found in Table 16.3 below.

Table 16.3 Other consultation

Consultee	Date	Consultee comment	Response
St Helens Borough Council	30.05.2025	(Email Correspondence) The consultee has confirmed that they are not interested in waste matters and therefore are not required to be consulted with.	Consultation has been held with the relevant regional authority on waste matters.
Wigan Council	30.05.2025	(Email Correspondence) The consultee has confirmed that they are not interested in waste matters and therefore are not required to be consulted with.	Consultation has been held with the relevant regional authority on waste matters.
Liverpool City Region (LCR)	30.05.2025	(Email Correspondence) The consultee has confirmed that they are not interested in waste matters and therefore are not required to be consulted with.	Consultation has been held with the other relevant regional authorities on waste matters.

Consultee	Date	Consultee comment	Response
Merseyside Waste and Recycling Authority (MRWA)	30.05.2025	(Email Correspondence) The consultee has confirmed that MEAS are responsible for regional waste planning matters and therefore MRWA are not required to be consulted with.	Consultation has been held with the MEAS on waste matters.
Warrington Borough Council	30.05.2025	(Email Correspondence) Email sent to consultee to request consultation on waste matters.	No response received at this stage.
Greater Manchester Combined Authority (GMCA)	13.06.2025	The consultee attended a meeting on 13.06.2025 and was happy with the proposed EIA approach and had no further comments or concerns. There is a new Greater Manchester Joint Waste Plan due to be developed but it is unlikely to be in effect until 2028 at the earliest.	No further action required.
Merseyside Environmental Advisory Service (MEAS)	11.06.2025	The consultee attended a meeting on 11.06.2025 and was happy with the proposed EIA approach and had no further comments or concerns. The consultee did have some insight into the waste management facilities in the region which had not been identified through publicly available sources of information.	Baseline data on the regional waste management facilities has been reviewed using the new information.

Consultee	Date	Consultee comment	Response
Environment Agency	30.05.2025	(Email Correspondence) Email sent to consultee to request consultation on waste matters.	Response received on 14.08.2025 requesting further details ahead of a meeting. Additional details of the Proposed Development and the approach to Materials and Waste assessment was sent on 19.08.2025 – no further response has been received at this stage.

METHODOLOGY AND DATA SOURCES

16.51 This section describes the methodology of the assessment of materials and waste in relation to the Proposed Development. It also refers to the sources of data which have been used, as well as setting out the significance criteria to evaluate potential effects related to materials and waste.

Study Area

16.52 The spatial scope of materials and waste assessments is often not easily defined as issues associated with material use and waste management can be far reaching and extend beyond the application boundary. The Study Area for the assessment of materials and waste principally comprises the DCO Site, the aspects which extend beyond this limit have been described in the following paragraphs.

16.53 For the construction phase of the Proposed Development, this chapter has provided an assessment of the demolition waste from existing on-site structures, as well as construction waste associated with earthworks, and the construction of on-site and off-site structures and highways junction improvement works. Therefore, the assessment expands outside of the boundary of the DCO Site.

16.54 For the operational phase, an assessment of waste generated by units which will be located within the main part of the DCO Site only has been undertaken.

16.55 In addition, the relevant local waste infrastructure (i.e. waste management facilities up to 20km from the DCO Site) is referred to within the assessment as the 'Expansive Materials and Waste Study Area'. The radius used must be realistic around the practicalities of construction and operation. If this process identifies a supply problem in relation to waste management capacity, the Proposed Development will look at a wider catchment.

Establishing the Baseline

16.56 This chapter considers the material use and waste arisings generated during construction and operation of the Proposed Development but excludes wastewater which is covered in Chapter 14: Surface Water and Flood Risk.

16.57 The estimates of material and waste types / quantities are based on information available at the time of writing which includes preliminary construction information and high-level assumptions for occupancy. The management measures set out in this chapter are in accordance with legislative obligations, planning policy and best practice guidance.

16.58 The assessment of effects from material use and waste generated by the Proposed Development has carried out in accordance with the IEMA Guide to Materials and Waste in EIA. The assessment of effects on roads and junctions has considered Highways England's Design Manual for Roads and Bridges (DMRB) LA 110 Material Assets and Waste guidance.

16.59 The baseline shall describe the current and likely future state (in the absence of the Proposed Scheme) of the following:

- the types and quantity of material use associated with the operation of the existing land uses;
- the types and quantities of waste generated by the operation of the existing land uses;
- information on the availability of key construction materials required for the Proposed Development; and
- location and capacity of waste management facilities in relation to the Proposed Scheme.

16.60 The assessment of the baseline will be proportionate to the receptors within the Study Area. Evidence to inform the baseline will be obtained from publicly available data sources including data from regional authorities, the Environment Agency and other reputable web pages, journals and articles.

Identifying the Receptors

16.61 According to the IEMA Guide to Materials and Waste in EIA, *'For waste, the sensitive receptor is landfill capacity. Landfill is a finite resource, and hence – through the ongoing disposal of waste – there is a continued need to expand existing and develop new facilities. This requires the depletion of natural and other resources which, in turn, adversely impacts the environment'.*

16.62 Materials, however, are sensitive receptors in their own right: *'consuming materials impacts upon their immediate and (in the case of primary materials) long-term availability; this results in the depletion of natural resources and adversely impacts the environment'.*

16.63 Receptors have been identified by means of a desk study of Ordnance Survey (OS) map data, publicly available data, the EIA Scoping Report (November 2024), the Proposed Development's designs (including estimates of the cut and fill balance) and the use of waste management experience and judgement.

Assessing the Sensitivity of a Receptor

16.64 The significance of waste arisings is largely based on the nature of the waste, the location and capacity of local and regional waste management facilities and the sustainability of the disposal or processing method.

16.65 Overall, the purpose of a materials and waste assessment is to characterise material use and waste types and arisings, and identify the significance of change associated with a Proposed Development in comparison to the current and likely future situation without the Proposed Development.

16.66 This chapter utilises the standard EIA approach of assessing significance as a function of the magnitude of impact (and proximity) and sensitivity of receptors.

16.67 The sensitivity of materials can be determined by identifying where one or more of the criteria displayed in Table 16.4 is met.

Table 16.4 Assessment Criteria for the Sensitivity of Material Receptors

Sensitivity	Description
Negligible	Are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and/or Are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials.
Low	Are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and/or Are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials.
Medium	Are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and/or Are available comprising some sustainable features and benefits compared to industry-standard materials
High	Are forecast (through trend analysis and other information) to suffer from known issues regarding supply and stock; and/or Comprise little or no sustainable features and benefits compared to industry-standard materials.
Very High	Are known to be insufficient in terms of production, supply and/or stock; and/or Comprise no sustainable features and benefits compared to industry-standard materials.

16.68 The sensitivity of landfill void capacity can be determined using the criteria within Table 16.5 and Table 16.6.

Table 16.5 Assessment Criteria for the Sensitivity of Inert and Non-Hazardous Landfill Void Capacity

Sensitivity	Description
16.69 Across construction and/or operation phases, the baseline/future baseline (i.e. without development of regional (or where justified, national) inert and non-hazardous landfill void capacity is expected to…	
Negligible	16.70 ...remain unchanged or is expected to increase through a committed change in capacity.
Low	16.71 ...reduce minimally: by <1% as a result of wastes forecast.
Medium	16.72 ...reduce noticeably: by 1-5% as a result of wastes forecast.
High	16.73 ...reduce considerably: by 6-10% as a result of wastes forecast.
Very High	16.74 ...reduce very considerably (by >10%); end during construction or operation; is already known to be unavailable; or, would require new capacity or infrastructure to be put in place to meet forecast demand.

Table 16.6 Assessment Criteria for the Sensitivity of Hazardous Landfill Void Capacity

Sensitivity	Description
Across construction and/or operation phases, the baseline/future baseline (i.e. without development of regional (or where justified, national) hazardous landfill void capacity is expected to…	
Negligible	...remain unchanged, or is expected to increase through a committed change in capacity.
Low	...reduce minimally: by <0.1% as a result of wastes forecast.
Medium	...reduce noticeably: by 0.1-0.5% as a result of wastes forecast.
High	...reduce considerably: by 0.5-1% as a result of wastes forecast.
Very High	...reduce very considerably (by >1%); end during construction or operation; is already known to be unavailable; or, would require new capacity or infrastructure to be put in place to meet forecast demand.

16.75 The quantity of waste will be assessed by interrogating the designs for the Proposed Development, and by using professional judgement. An interpretation is then made as to whether it is likely to be hazardous.

Assessing the Magnitude of Impact

16.76 The IEMA Guide to Materials and Waste in EIA divides the assessment of the magnitude of impacts into the sensitivity of materials as a receptor and the sensitivity of landfill void capacity.

16.77 The magnitude of impact from materials can be determined using the criteria in Table 16.7.

Table 16.7 Assessment Criteria for the Magnitude of Impacts from Materials

Magnitude	Description
The assessment is made by determining whether, through a development, the consumption of:	
No change	…no material is required.
Negligible	...no individual material type is equal to or greater than 1% by volume of the regional baseline availability.
Minor	...one or more materials is between 1-5% by volume of the regional baseline availability; and/or the development has the potential to adversely and substantially impact access to one or more allocated mineral site (in their entirety), placing their future use at risk.
Moderate	...one or more materials is between 6-10% by volume of the regional baseline availability; and/or one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use.
Major	...one or more materials is >10% by volume of the regional baseline availability; and/or more than one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use.

16.78 The magnitude of impact from inert and non-hazardous waste can be determined using criteria within Table 16.8.

Table 16.8 Assessment Criteria for the Magnitude of Impacts from Inert and Non-Hazardous Waste

Magnitude	Description
No change	Zero waste generation and disposal from the development.
Negligible	Waste generated by the development will reduce regional landfill void capacity baseline by <1%.
Minor	Waste generated by the development will reduce regional landfill void capacity baseline by 1-5%.
Moderate	Waste generated by the development will reduce regional landfill void capacity baseline by 6-10%.
Major	Waste generated by the development will reduce regional landfill void capacity baseline by >10%.

16.79 The magnitude of impact from hazardous waste can be determined using criteria within Table 16.9.

Table 16.9 Assessment Criteria for the Magnitude of Impacts from Hazardous Waste

Magnitude	Description
No change	Zero waste generation and disposal from the development.
Negligible	Waste generated by the development will reduce national landfill void capacity baseline by <0.1%.
Minor	Waste generated by the development will reduce national landfill void capacity baseline by 0.1-0.5%.
Moderate	Waste generated by the development will reduce national landfill void capacity baseline by 0.5-1%.
Major	Waste generated by the development will reduce national landfill void capacity baseline by >1%.

Assessing the Significance of Effects

16.80 The significance of effects can be determined using the sensitivity of receptor and the magnitude of impact to identify thresholds as shown in Table 16.10.

Table 16.10 Significance of Effects

	Magnitude of Impact					
Sensitivity of Receptor		No Change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight or Moderate	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

16.81 Effects which reach a level of moderate or above are considered significant. Where a range of significance levels are presented, the final assessment for each effect is based upon expert judgement.

16.82 A description of the significance levels, assigned taking account of proposed mitigation, is as follows:

- Very Large: These beneficial or adverse effects are considered to be of such magnitude that they would cause irreversible impacts and are likely to be material in the decision-making process.
- Large: These beneficial or adverse effects are considered to be very important considerations (but still reversable) and are likely to be material in the decision-making process.
- Moderate: These beneficial or adverse effects are noticeable and may be important but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
- Slight: These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the

subsequent design of the Proposed Development.

- Neutral: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Assessing Cumulative Effects

16.83 The Study Area for the consideration of cumulative effects has been developed considering the predicted extent of impacts associated with materials and waste regarding the Proposed Development, and with the point at which the associated effects become insufficient to contribute in any meaningful way to those of another development.

16.84 A Zone of Influence (ZOI) of 20km was proposed and agreed for Materials and Waste through the Scoping Report. This is considered to be proportionate given the likely effects of the Proposed Development and has been defined to account for the DCO Site, Local Waste Facilities, Transport Routes and Regional Waste Facilities.

16.85 Where sufficient information exists, the Study Area includes all known proposed developments in the surrounding area that could potentially result in cumulative effects. The cumulative effects assessment can be undertaken by a review of projects in the pipeline for the region, by a review of local development plans (stating future housing and other development requirements), and waste policy.

Identifying Potential Mitigation Measures

16.86 Mitigation measures have been identified using engineering judgement based on IEMA Guidance, best practice and experience from previous projects.

Limitations and Assumptions

16.87 The impacts associated with the by-products and associated wastes from the extraction of raw materials and the manufacture of products outside of the Study Area are excluded from the scope. These stages of a product's or a material's life cycle will have been subjected to a separate environmental assessment and are therefore outside the scope of this assessment.

16.88 The effects associated with the transportation of materials (Greenhouse gas (GHG) emissions, air quality, noise, etc) are not covered within this methodology and will be addressed in the relevant environmental topics of the ES.

16.89 The assessment of waste during the operational phase relates to the production of waste from units located within the Main Site. It excludes waste associated with access roads as minimal waste is expected to be generated once the roads are operational.l.

16.90 Mitigation measures to reduce the impacts of material assets and waste from the Proposed Development will follow the principles of sustainable resource and waste management in accordance with the waste hierarchy.

BASELINE CONDITIONS

Existing Baseline

16.91 At present, the Main Site comprises agricultural land, residential dwellings/farmsteads and supporting infrastructure including but not limited to Kenyon Hall Farm Airstrip, commercial premises (including the 'Procon' ready-mix concrete supplier and Golden Orb Solutions), ponds and drainage ditches, hedgerow and field margins, small areas of woodland and associated highways. The Main Site is a source of agricultural and green waste and small quantities of commercial and household waste arising from current occupiers. The exact quantities of waste currently generated by the Main Site is unknown but waste from the agricultural activities that is sent off-site for processing is considered to be negligible.

16.92 Household waste generated by the Main Site is primarily the responsibility of St. Helens Borough Council ensuring regular waste disposal for residents, including the collection of general waste, recyclables, and garden waste. Other residential properties within the draft Order Limits fall under the jurisdiction of Wigan Council, which operates with the same responsibilities and obligations. Both St Helens Borough Council and Wigan Council provide a commercial waste collection and disposal services for dry waste to businesses throughout their respective borough boundaries.

16.93 In the UK, farm waste is managed according to strict regulations designed to protect the environment, human health and animal welfare. The management of farm waste is governed by UK law including the Waste Management (England and Wales) Regulations 2011, the Environmental Permitting (England and Wales) Regulations 2016, and other agricultural regulations. The Environment Agency (EA) and local authorities enforce waste management regulations. Farmers are allowed to burn certain types of waste, such as untreated wood or plant material, under controlled conditions. However, there are restrictions on burning plastics, hazardous materials or treated wood due to the potential for air pollution and risks to the environment.

16.94 It is expected that, given general agricultural practices, hazardous waste (such as pesticides, herbicides, chemicals, slurry and veterinary medicines) are generated and stored on-site. Farmers must store hazardous waste securely to prevent leaks or contamination. Hazardous farm waste must be disposed of by suitably licenced waste carriers who are authorised to handle and treat hazardous materials. Farmers must keep detailed records of hazardous waste disposal to ensure compliance with regulations.

Receptor – Existing Facilities for the Deposition of Waste

Landfill Capacity

16.95 The capacity and annual waste data received from active landfill sites within 20 kilometres (km) of the Main Site has been summarised in Table 16.11.

16.96 The data has been collated from the Environment Agency's '2023 Remaining Landfill

Capacity'[24] and '2023 Waste Data Interrogator'[25]. The nearest waste facilities to the DCO Site in the Cheshire, Greater Manchester and Merseyside regions have been included within the table.

Table 16.11 Key Details of Waste Facilities in Proximity to the Main Site

Facility Name	Address	Distance from Site	Local Authority	Site Type	Total Tonnes Received 2023	Remaining Capacity (m3) as of end 2023
Southworth Quarry Landfill PPC	Winwick Lane, Winwick, Warrington, Cheshire, WA3 7EW	1.5 km	Warrington (Cheshire)	Inert Landfill	17,995	747,473
Rixton Landfill	Moss Side and Fir Tree Farms, Rixton, Warrington, WA3 6EN	6 km	Warrington (Cheshire)	Non-Hazardous Landfill	7,989	Data not received
Morleys Quarry	Morelys Hall, Astley, Manchester, M29 7EW	6.5 km	Wigan (Greater Manchester)	Inert Landfill	37,532	321,855
Fiddlers Ferry Ash Lagoons	Widness Road, Cuerdley, Cheshire, WA5 2UT	10.5 km	Warrington (Cheshire)	Non-Hazardous Landfill	No available data	2,507,071
Cronton Quarry	Dacre's Bridge Lane, Tarbock, Prescot, Merseyside, L35 1QZ	12 km	Knowsley (Merseyside)	Inert Landfill	31,950	368,090

[24] Environment Agency (2024) 'Remaining Landfill Capacity' Available from: https://www.data.gov.uk/dataset/237825cb-dc10-4c53-8446-1bcd35614c12/remaining-landfill-capacity1
[25] Environment Agency (2024) '2023 Waste Data Interrogator' Available from: https://www.data.gov.uk/dataset/59ab8448-3905-49c6-9122-ae762f96f66b/2023-waste-data-interrogator

Facility Name	Address	Distance from Site	Local Authority	Site Type	Total Tonnes Received 2023	Remaining Capacity (m^3) as of end 2023
Pilkington Quarry	Makinson Lane, Horwich, Bolton, Lancashire, BL6 6RX	13.5 km	Bolton (Greater Manchester)	Inert Landfill	148,567	696,677
Harwood Quarry Landfill Site	Brookfold Lane, Harwood, Bolton, BL2 4LT	17.5 km	Bolton (Greater Manchester)	Non-Hazardous Landfill	142,209	729,282
Holford Brinefield Landfill Site	Holford Brinefield Offices, Lostock Gralam, CW9 7TD	20 km	Cheshire West/Chester (Cheshire)	Non-Hazardous Landfill	27,178	1,107,244
Pilsworth South Landfill	Pilsworth Quarry, Pilsworth Road, Bury, BL9 8QZ	20 km	Bury (Greater Manchester)	Non-Hazardous Landfill with SNRHW Cell*	562,030	5,624,597

**Stable Non-Reactive Hazardous Waste Cell*

16.97 By assessing the cumulative landfill void capacity set out in Table 16.11 above, the calculation below determines that the regional landfill void capacity forecasted for the start of construction in 2028 is 9.32 million tonnes based on a projection of the quantity of material received in 2023 over a 5-year period against the 2023 capacity. At the same rate of receiving material (0.98 million tonnes per year), based on the assessment criteria presented in Table 16.5 of the methodology section, the sensitivity is assessed as Very High.

- Total Capacity of 9 Sites in 2023 = 12.1 M m^3
- At 1.2 tonnes per m^3 = 14.22 M tonnes
- Total material received 2023 = 0.98 M tonnes
- 2023 sensitivity = 0.98/14.22 x 100% = 6.89% (High)
- 5-year projection to 2028 sensitivity (based on 0.98 M tonnes per year) = 0.98/9.32 capacity x 100% = 10.5% (Very High)

16.98 Based on the EA Waste Data Interrogator 2023, there are a limited number of hazardous waste landfill sites nationally. The management and disposal of hazardous waste is a specialist process and usually involves some interim treatment processes prior to disposal to landfill.

16.99 Three hazardous waste landfill sites were identified to include in a regional study. The key information for each is shown in Table 16.12.

Table 16.12 Hazardous Landfill Sites Considered for a Regional Assessment

Facility Name	Address	Distance from Site	Local Authority	Total Tonnes Received 2023	Remaining Capacity (m3) as of end 2023
Randle Landfill Site	Runcorn, Cheshire, WA7 4QF	17.5 km	Halton (Merseyside)	112,918	95,955
Winsford Rock Salt Mine Waste Disposal Facility	Jack Lane, Bostock, Middlewich, CW10 9JQ	27.5 km	Cheshire West/Chester (Cheshire)	No available data	1,352,224
Eardswick Hall Landfill Site	Eardswick Lane, Minshull Vernon, Crewe, CW1 4RQ	36 km	Cheshire East (Cheshire)	28,944	19,690

16.100 By assessing the cumulative hazardous landfill void capacity set out in Table 16.12 above, the calculation below determines that the regional hazardous landfill void capacity forecasted for the start of construction in 2028 is 16.94 million tonnes based on a projection of the quantity of material received in 2023 over a 5-year period against the 2023 capacity. At the same rate of receiving material (0.14 million tonnes per year), based on the assessment criteria presented in Table 16.6 of the methodology section, the sensitivity is assessed as High.

- Total Capacity of 3 Sites in 2023 = 14.7 M m^3
- At 1.2 tonnes per m^3 [26] = 17.64M tonnes
- Total material received 2023 = 0.14 M tonnes

[26]Sustainability Exchange (2025) 'Conversion factors' Available online at: https://www.sustainabilityexchange.ac.uk/conversion_factors_for_calculation_of_weight_to_vo (last accessed 14/07/2025)

- 2023 sensitivity = 0.14/17.64 x 100% = 0.8% (High)
- 5-year projection to 2028 sensitivity (based on 0.14 M tonnes per year) = 0.14/16.94 capacity x 100% = 0.8% (High)

16.101 Asbestos is considered a hazardous waste. Asbestos is however accepted at non-hazardous landfill sites with Stable Non-Reactive Hazardous Waste (SNRHW) Cells.

Waste Material and Management Facilities

16.102 A review of waste management facilities located in St Helens, Warrington and Wigan was conducted using the EA Waste Data Interrogator 2023. The sites presented in Table 16.13 accepted Construction and Demolition waste at quantities of over 1,000 tonnes in 2023.

Table 16.13 Facilities within 20km which accepted over 1,000 tonnes of Construction and Demolition waste in 2023

Facility Name	Facility Type	Local Authority	Total Tonnes Received 2023
ADS Recycling	Hazardous transfer and treatment	Warrington	18,963
Alexandra Warehouse	Physical treatment	St Helens	97,065
Bithells Waste Management Ltd	Hazardous transfer	Wigan	28,151
Boden and Davies Ltd	Non-hazardous transfer	Wigan	72,629
Bolds Skips, Recycling & Reclamation	Non-hazardous transfer	St Helens	7,320
Bryn Hall Inert Recycling Site	Physical treatment	Wigan	71,057
DML Recycling Ltd	Non-hazardous transfer and treatment	Warrington	8,323
Doherty Aggregates Ltd	Inert transfer and treatment	St Helens	7,020

Facility Name	Facility Type	Local Authority	Total Tonnes Received 2023
J. Fisher & Sons Ltd	Physical treatment	Wigan	14,365
Kirkless Materials Recycling Facility	Hazardous transfer and treatment	Wigan	2,533
Latchford Locks Works	Non-ferrous metal reprocessing	Warrington	14,299
Makerfield Way Waste Facility	Non-hazardous transfer	Wigan	1,328
NMS Civils Engineering Ltd	Inert transfer and treatment	St Helens	2,367
OPUS Aggregate Recycling Facility	Inert transfer and treatment	Warrington	26,314
Pocket Nook Resource Management Centre	Non-hazardous transfer	St Helens	1,161
The Recycling Centre	Non-hazardous transfer and treatment	St Helens	6,079
The Stone Yard	Inert transfer and treatment	Wigan	33,454
Toone Skips Company	Non-hazardous transfer	Wigan	17,270
Unit 18	Non-hazardous transfer and treatment	Wigan	2,940
West Quay Road	Hazardous transfer and treatment	Warrington	20,112

Facility Name	Facility Type	Local Authority	Total Tonnes Received 2023
YS Reclamation Ltd	Physical treatment	Warrington	7,834
Yew Tree Farm	Non-hazardous transfer and treatment	Wigan	2,216

16.103 As can be seen in Table 16.13 above, there were 22 waste transfer or treatment sites which accepted more than 1,000 tonnes of construction and demolition waste in 2023. The sensitivity of this receptor is therefore considered to be Low.

Future Baseline

16.104 The latest available information on material assets and waste infrastructure capacity has been used to inform the future baseline. Where information on likely trends is available, this has been utilised to define the potential future baseline.

16.105 From 2025 until 2035, commercial construction activity and demand for aggregates is projected to grow by 1.6% on average each year. For context, the compound annual growth rate for commercial construction activity and aggregate demand between 2014 and 2021 was also 1.6%. It is possible that construction activity and aggregate demand may increase above a 1.6% growth each year given the Government's plans for infrastructure investment to reach £650bn over the 10-years to 2030/31[27].

16.106 Annual aggregates demand is projected to increase from 253 million tonnes in 2021 to 323 million tonnes by 2035, a level not seen since the late 1980s[24].

16.107 The Department for Business Energy and Industrial Strategy published a research report called 'Future capacities and capabilities of the UK steel industry[28]. It estimated that UK demand for finished steel (across all industries) would grow to 11 million tonnes by 2030. However, demand did fall during the first coronavirus lockdowns of 2020/2021. Demand and consumption of steel in the UK will depend on the strength of the construction industry, including spending on nationally important infrastructure projects and manufacturing.

16.108 In the UK, as with aggregates and steel, the future demand for timber will be directly linked to investment in house building, infrastructure projects and the strength of the UK building industry as a whole.

16.109 The Proposed Development will consume large quantities of key materials such as aggregates, concrete, asphalt and mortar, increasing the demand on the existing UK supply chain.

16.110 It is anticipated that different types of waste infrastructure capacity will continue to be

[27] Mineral Products Association (MPA) (2022) 'Aggregates demand and supply in Great Britain: Scenarios for 2035'.
[28] Department for Business, Energy and Industrial Strategy (2017) 'Future capacities and capabilities of the UK steel Industry', BEIS Research Paper Number 26.

available during the construction and operation of the Proposed Development. Landfill will experience some use of available capacity as void space is taken. Government policy measures are also likely to divert waste from landfill.

16.111 Permitted capacity data published by the Environment Agency has been used to estimate the projected landfill capacity for the Expansive Materials and Waste Study Area for the future baseline. This relates to the total capacity of inert, non-hazardous and hazardous waste landfill that will be available within all of the regional areas in the Expansive Materials and Waste Study Area.

EMBEDDED MITIGATION MEASURES

16.112 Embedded mitigation measures have been included in the design of the Proposed Development to reduce the potential for environmental effects. It is the intent to minimise the generation of waste during construction and operation by implementing the principles of the Waste Hierarchy in line with the Waste Framework Directive and complying with industry best practice.

16.113 The Proposed Development will prioritise the use of sustainably sourced materials, with a high recycled content wherever possible. Materials will be chosen according to their durability and longevity in order to minimise the amount of maintenance required during the operational phase.

16.114 The earthworks design will incorporate a cut fill balance strategy for sub-soil in order to optimise the volume of excavated material, reducing the need for off-site disposal and/or importation of fill material. This will also reduce reliance on virgin aggregates for fill material.

16.115 The design of the Proposed Development will explore the use of modular construction and prefabricated components in order to minimise the on-site generation of waste from offcuts.

16.116 An outline Construction Environmental Management Plan (oCEMP) will be developed during the design phase (submitted alongside the PEIR and DCO application) and implemented during the construction phase. The oCEMP will include the following:

- good materials management methods, such as location of temporary haul routes and re-use of temporary works materials from haul routes, plant and piling mats etc.

16.117 Although not required by the regulations, a Site Waste and Materials Management Plan (SWMMP) is proposed to be developed during the design phase (submitted alongside the PEIR and DCO application) and would be regularly updated during the lifetime of the Proposed Development. The SWMMP identifies:

- the types and likely quantities of construction, demolition and excavation (CD&E) wastes that may be generated as a result of the Proposed Development;
- relevant reuse, recycling and landfill diversion targets applicable to the Proposed Development; and

- a review of the waste management measures and procedures to be implemented on site during construction in line with relevant legislation, guidance and best practice. These measures would set out how the CD&E wastes would be reduced, reused, managed and disposed of.

16.118 A clear Definition of Waste Code of Practice (DoW CoP) Materials Management Plan (MMP) will be developed at a later stage (pre-construction) by the Principal Contractor. An MMP will:

- demonstrate the quantity of material to be reused on site;
- identify the origin of the material to be used on site, and/or identify the receiver site for surplus material; and
- demonstrate that the material is suitable for reuse and there would be no risk to either human health or the environment by reusing the material either on site or on the receiver site.

16.119 Implementation of the SWMMP and MMP will help material reuse to be maximised by minimising waste at source (reducing the requirement for new construction materials) and during construction. This may require the material to be managed in accordance with the Definition of Waste: Development Industry Code of Practice[29]. For example, this could include screening, crushing, and recycling of demolition materials onsite, or the use of in-situ recycling of tar bound bituminous materials. Further, an MMP allows for imported material to come from donor sites as waste material or material for reuse.

Storage of Materials

16.120 Measures to control the management and temporary storage of materials and waste during construction will be detailed within the proposed oCEMP and are therefore not covered in this assessment.

16.121 Waste will be separated at source where practical, with storage areas laid out to facilitate the segregation of waste material to encourage reuse and recycling; for example, by using colour coded skips. Signage will be used to clearly identify the material to be stored in each area and the site set up will be continuously reviewed and modified where necessary to maximise the opportunity for reuse and recycling.

16.122 Temporary storage areas will be provided with the capacity to store excavated material required for reuse onsite. Best practice guidance recommends that topsoil should not be stored at heights greater than 3m.

[29] Contaminated Land: Applications in Real Environments (2011) The Definition of Waste: Development Industry Code of Practice

POTENTIAL EFFECTS PRIOR TO ADDITIONAL MITIGATION

Construction Phase

16.123 The Proposed Development will result in the production of waste arising from CD&E activities. The Proposed Development has the potential to generate large quantities of CD&E waste increasing the demand on existing waste infrastructure.

Demolition Waste

16.124 Demolition works expected to be required as part of the Proposed Development includes demolition of existing on-site structures (including existing residential properties / farmsteads and two commercial yards) at:

- Croft IGP Club, Winwick Lane;
- Dolly Bridge Stud, Winwick Lane;
- Golden Orb Solutions, Parkside Road;
- Highfield Farm farmhouse and associated buildings, Parkside Road;
- Parkside Farm farmhouse and associated buildings;
- The Stables, Parkside Road;
- Barrowcliffe Cottage, Parkside Road;
- Procon Ltd, Parkside Road;
- Approximately 725m of Parkside Road, between Parkside Road Bridge and Barrow Lane;
- Kenyon Hall Airfield, which is a small airfield used by the Lancashire Aero Club for recreational flying of small propeller planes; and
- Warrington Model Flying Club, which is a model club for radio controlled model aircraft.

16.125 The location of these buildings are shown on Figure 3.5 Demolition Plan. Demolition of these buildings will produce a variety of waste materials including concrete, masonry, aggregates, ferrous and non-ferrous metals, timber, glass, plasterboard and slate.

16.126 The total demolition waste has been calculated based on the footprint area of the buildings to be demolished and using the following assumptions:

- The quantity of demolition wastes resulting from industrial structures is estimated to be 2 tonnes/m^2 of the total demolished area[30].
- The quantity of demolition wastes resulting from residential buildings is estimated to

[30] El-Haggar, S. E. (2007) 'Chapter 8 – Sustainability of Construction and Demolition Waste Management', p261-292

be 1.2 tonnes/m^2 of the total demolished area[31].

16.127 The total demolition waste is calculated at 3,274 tonnes (as shown in Table 16.14).

Table 16.14 Building demolition waste

Building	Area (m2)	Demolition waste (tonnes)
Industrial		
Croft IGP Club, Winwick Lane	42 m2	84 tonnes
Dolly Bridge Stud, Winwick Lane	453 m2	906 tonnes
Golden Orb Solutions, Parkside Road	160 m2	320 tonnes
Procon Ltd, Parkside Road (minimal buildings on site)	80 m2	160 tonnes
Buildings/structures associated with Kenyon Hall Airstrip (including Warrington Model Flying Club)	95 m2	190 tonnes
Residential		
Highfield Farm farmhouse and associated buildings, Parkside Road	290 m2	348 tonnes
Parkside Farm farmhouse and associated buildings, Parkside Road The Stables, Parkside Road Barrowcliffe Cottage, Parkside Road	1,055 m2	1,266 tonnes
Total	**2,175 m2**	**3,274 tonnes**

[31] Congzhi, L., et al. (2003) 'Estimating Demolition Costs for Single Residential Buildings', Australasian Journal of Construction Economics and Building

16.128 Parts of existing roads and hardstanding will be demolished generating additional material. Material generated is anticipated to include crushed concrete, aggregate road base and road planings. It is anticipated that at least 95% of this material will be reused on site in construction works.

16.129 The quantity of waste expected to be generated as a result of the demolition of hardstanding has been calculated based on the area and the assumption that the hardstanding is 0.5m thick. An average density of 2 tonnes/m^3 has also been applied. The results are shown in Table 16.15.

Table 16.15 Demolition waste from roads and hardstanding

Location	Area (m2)	Demolition waste (tonnes)
Industrial		
Croft IGP Club, Winwick Lane	0 m2	0 tonnes
Dolly Bridge Stud, Winwick Lane	1,800 m2	1,800 tonnes
Golden Orb Solutions, Parkside Road	1,200 m2	1,200 tonnes
Procon Ltd, Parkside Road (minimal buildings on site)	4,300 m2	4,300 tonnes
Buildings/structures associated with Kenyon Hall Airstrip (including Warrington Model Flying Club)	0 m2	0 tonnes
Section of Parkside Road	4,350m2	4,350 tonnes
Residential		
Highfield Farm farmhouse and associated buildings, Parkside Road	0 m2	0 tonnes
Parkside Farm farmhouse and associated buildings, The Stables and Barrowcliffe Cottage, Parkside Road	500 m2	500 tonnes

Location	Area (m2)	Demolition waste (tonnes)
Total	**12,150 m2**	**12,150 tonnes**

16.130 A small quantity of further demolition waste will be generated through the clearance of existing infrastructure, including services and drains, as well as the clearance of any vegetation which will need to be removed prior to construction.

16.131 A high proportion of the demolition and site clearance material is expected to be suitable for reuse and recycling on site. This includes: reinforcement and structural steel work, masonry and brickwork, reinforced concrete and concrete, aggregate sub-base, and bituminous pavement material. Where necessary, these materials would be suitably processed to meet specification requirements.

16.132 The volumes of non-hazardous waste from demolition works are considered to be relatively low in comparison to the regional capacity (equivalent to 0.17% of the forecasted capacity). It is expected that a high proportion of the material generated will be recyclable and not go to landfill. Therefore, with a **Very High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

16.133 It is likely that the demolition will generate some asbestos hazardous waste. Asbestos will need to be surveyed prior to the commencement of demolition works so that all asbestos material can be separated and managed appropriately. The quantities are expected to be very low in comparison to the national capacity. Therefore, with a **High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

Earthworks

16.134 The Proposed Development will seek to utilise as much soil sourced from excavation activities within the Main Site in order to achieve a cut and fill balance for subsoil. This will depend on scheduling and timing of the construction of the component of the Proposed Development, and the nature of the materials and whether any unexpected contamination is found.

16.135 The subsoil cut and fill balance for the Proposed Development is shown in Table 16.16 below.

Table 16.16 Cut and fill balance for the Proposed Development

Location	Area (m2)	Cut (m3)	Fill (m3)	Net Balance (m3)
Rail West	28,000 m2	4,000 m3	36,000 m3	Fill required: 32,000 m3
Rail and Terminal	258,000 m2	382,000 m3	30,000 m3	Surplus: 352,000 m3
Phase 1A – Plot 1	390,000 m2	118,000 m3	443,000 m3	Fill required: 325,000 m3
Phase 1B – Plot 1	210,000 m2	580,000 m3	0 m3	Surplus: 580,000 m3
Phase 1C – Plot 1	20,000 m2	38,000 m3	0 m3	Surplus: 38,000 m3
Phase 2	192,000 m2	83,000 m3	78,000 m3	Surplus: 5,000 m3
Phase 3A	180,000 m2	0 m3	614,000 m3	Fill required: 614,000 m3
Phase 3B	220,000 m2	96,000 m3	98,000 m3	Fill required: 2,000 m3
Phase 4	140,000 m2	66,000 m3	67,000 m3	Fill required: 1,000 m3
Total	**1,638,000 m2**	**1,367,000 m3**	**1,366,000 m3**	**Surplus: 1,000 m3**

16.136 Overall, there is a small net material surplus for the Proposed Development.

16.137 The construction programme will generally commence with establishing access and construction compounds, followed by topsoil stripping, creating platforms and installing temporary drainage works. Other infrastructure will be constructed after each platform has been established.

16.138 The Rail Terminal will have a finished level between c32 – 34m AOD and will lead to a surplus of subsoil, which will be used for fill in parts of Phase 1A – Plot 1, which will have a finished floor level of c33.5m AOD. There will be a surplus of subsoil material from Phase 1B – Plot 1, which will be placed in Phase 3A, to the north of the Rail Terminal and will have a finished floor level of c33.45 - 34m. Phase 2 and Phase 4 will have a finished floor level of between

c33.15 - 33.35m AOD. Phases 2, 3B and 4 will achieve a cut and fill balance of subsoil within each plot.

16.139 There will be a surplus of topsoil of varying grades. Higher quality soil, suitable for best and most versatile agricultural land will be placed, where practicable, in the Soil Reuse Area on farmland to the immediate east, or may be used for landscaping schemes on other development sites in the wider area. Lower quality soils will be used in on site landscaping, screening bunds, on the area of land identified as a potential community park and in creating BNG land to the immediate north. Soils will be tested and segregated into the grade that is suitable for the end use.

16.140 Soil will be stripped, stored in temporary stockpiles and transported to the appropriate location in accordance with a CL:AIRE DoW CoP Materials Management Plan (to be prepared by the Principal Contractor), to preserve the quality of soil and to minimise its handling, compaction and degradation.

16.141 There is a potential that there may be an insignificant amount of unsuitable excavated material which cannot be reused on site in construction activities and is required to be disposed off-site.

16.142 The volumes of non-hazardous and inert material generated by the excavation works for disposal off-site are considered to be very low in comparison to the regional capacity providing that the cut and fill balance is met and the majority of the earthworks material is reused and recycled on-site. Therefore, with a **Very High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

16.143 In the unlikely instance that topsoil is unable to be reused in the Soil Reuse Area, there would be a requirement for excess topsoil to go off-site for reuse, recycling or disposal. In the first instance, the Principal Contractor would look to reuse the topsoil on other local schemes under a CL:AIRE DoW CoP Materials Management Plan. Alternatively, the excess topsoil would be transported to a suitable permitted waste facility for recycling, and the worst-case scenario is the disposal of the excess topsoil to landfill. In this scenario, the impact on the regional capacity is still likely to be very low and the outcome of the assessment on non-hazardous landfill capacity described above would not change.

16.144 The quantities of hazardous waste expected to be generated as part of the earthwork activities are expected to be very low (if any) in comparison to the national capacity. Therefore, with a **High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

Construction Waste

16.145 In terms of waste, potential environmental impacts are primarily related to the production, movement, transport, processing and disposal of waste from the construction of the Proposed Development. Most of the material resources required for construction of the Proposed Development, such as metals, aggregate, pavement, and concrete will originate off-site, purchased as construction products.

16.146 Waste produced from the construction of buildings within the Proposed Development is

shown in Table 16.17. This figure has been calculated using Smart Waste BRE Benchmark Data[32]; industrial buildings produce an average quantity of 12.6 tonnes of construction waste per 100 m^2.

Table 16.17 Waste produced during the construction of buildings within the Proposed Development

Building	Area (m2)	BRE Benchmark Type	Construction waste (tonnes)
Railport	2,230 m2	Industrial Buildings	281 tonnes
Units 1-17	578,680 m2	Industrial Buildings	72,914 tonnes
Site Hub	1,394 m2	Industrial Buildings	176 tonnes
Lorry Park	279 m2	Industrial Buildings	35 tonnes
Total	**582,583 m2**	-	**73,406 tonnes**

16.147 Potential impacts could include the temporary use of waste management facility capacity (during treatment) and a permanent decrease in landfill capacity (disposal). Landfill is a finite resource and the ongoing disposal of waste puts pressure on the existing facilities or requires new sites to be developed (although this is unlikely). Similarly, waste management and waste treatment facilities have limits on processing capacity, therefore there is the potential for the Proposed Development to utilise a proportion of the remaining available capacity temporarily for the duration of construction.

16.148 Assuming a worst case scenario where all waste is sent to landfill (this is an unrealistic scenario as the majority of the waste will be reused or recycled with a 95% landfill diversion target in place for the construction of the Proposed Development), the total calculated quantity of construction waste (73,406 tonnes) is 0.8% of the total forecasted landfill capacity. This waste is unlikely to be generated in one year, instead it will be generated over the whole construction period which is likely to span ten years. Therefore, with a **Very High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

16.149 The quantities of hazardous waste expected to be generated as part of the construction activities are expected to be very low (if any) in comparison to the national capacity. Therefore, with a **High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

[32] Smart Waste BRE Benchmark Data (2012) – no longer publicly available online.

Construction Material

16.150 Material assets used during construction of the Proposed Development will include primary raw materials, such as aggregates and minerals, and manufactured construction products which include recycled and secondary aggregates. The term 'aggregate' is an umbrella descriptor for bulk raw materials used in large development and infrastructure construction projects. These materials can be further defined as primary, secondary or recycled aggregate as follows:

- primary aggregate - is the term used for aggregate produced from naturally occurring mineral deposits which are used for the first time;
- secondary aggregates - are derived from a very wide range of materials that may be used as aggregates; and
- recycled aggregates - can be sourced from a variety of materials arising from construction and demolition (concrete, bricks, and tiles), highway maintenance (asphalt planings), excavation and utility operations.

16.151 The exact source of materials required for the construction of the Proposed Development cannot be defined at this stage. However, materials for construction would be sourced locally where practicable by the contractor.

16.152 Although the source of concrete and road surface cannot be defined at this stage, a significant quantity of minerals are expected to be required for use as a sub-base, production of concrete, and road surfaces.

16.153 A review of the available quarries has been undertaken using the BritPits database[33], and over 30 active quarries have been identified in close proximity (within 30km) to the Proposed Development. Mineral capacity data is not readily available as it is commercially sensitive information to operators and therefore not forthcoming. It is considered that given the number of quarries in close proximity to the Proposed Development that there is a substantial quantity of quarried material available to this site and recycled aggregate facilities located within close proximity to the Main Site.

16.154 Given the proximity of the Proposed Development to identified reserves of construction materials and expected construction waste types and volumes, with a **Medium** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Neutral** significance of effect which is **Not Significant**.

Operational Phase

16.155 An assessment of the likely waste impact during the operation of the Proposed Development is based on the typical weekly waste arisings quantities from BS 5906:2005[34]. This British

[33] British Geological Survey (BGS) (2025) 'GeoIndex Onshore'. Available online at: https://mapapps2.bgs.ac.uk/geoindex/home.html?layer=BGSMinAM&_ga=2.155220221.717640082.1752158697-1242044638.1752158697 (last accessed 10/07/2025)

[34] British Standards Institute (2005) 'Waste Management in Buildings – Code of Practice'. Available online at: https://shop.bsigroup.com/products/waste-management-in-buildings-code-of-practice/standard

Standard has typical quantities for a wide range of building types and is considered to provide a conservative figure for waste arisings. The proposed use that best fits with the Proposed Development is the industrial weekly arising metric of five litres per m^2 of floor area.

16.156 Based on the assumed total floor area of 582,583 m^2 (see Table 16.17), this equates to approximately 2,922 m^3 of waste generated per week, or an annual waste arising of 151,928 m^3 / 31,905 tonnes per annum of waste generated (using the WRAP conversion of 0.21 tonnes per m^3 for municipal waste).

16.157 On the assumption that the recycling rates once operational would meet national and regional targets of a 65% recycling rate, the annual amount of operational waste produced by the Proposed Development would amount to around 0.35% of the forecasted annual landfill capacity for the Study Area. Therefore, with a **Very High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

16.158 It is anticipated that the Proposed Development would only generate very small quantities of hazardous waste only when essential maintenance of the railway track is required. Therefore, with a **High** sensitivity of receptor and **Negligible** magnitude of impact, this results in a **Slight** significance of effect which is **Not Significant**.

16.159 The decommissioning of the new structures/buildings has not been assessed as the structures are all permanent structures.

PROPOSED ADDITIONAL MITIGATION MEASURES

16.160 Mitigation measures are proposed to reduce the volume of material disposed to landfill, with the potential for sites in the area to act as a receiver for the material. Mitigation measures are proposed with principles of the Waste Hierarchy to be applied, with disposal to landfill as the final option.

16.161 Measures will be implemented to collectively mitigate the impacts identified from both the use of materials and the management of waste in relation to the Proposed Development. There is significant synergy between material re-use and the avoidance of the generation of waste, and therefore there is a substantial overlap between the mitigation measures for materials and waste.

16.162 Waste minimisation measures would be implemented by the Principal Contractor and site manager during construction in order to achieve the waste allowance targets. At this preliminary stage the following measures will be considered:

- a logistics system which allows ‘just-in-time’ deliveries to minimise the length of time materials are stored on site and co-ordinate with other trades;
- providing suitable and secure storage for materials where ‘just-in-time’ deliveries cannot be set up;
- mechanical systems and machinery would be considered for moving materials to reduce the risk of damage; and

- programming and monitoring construction activities to avoid overlap of incompatible trades working in the same area and to reduce the potential for waste to be generated from replacing damaged work.

16.163 Waste would also be minimised by improving wastage rates when ordering materials. Waste allowances are generally included within material orders to take into account design waste and construction process waste. These waste allowances are often generic and not project specific and, therefore, run the risk of being inaccurate. This can lead to a surplus of materials, which typically ends up being discarded (i.e., waste).

16.164 On appointment of the construction team, the buyer would discuss the purchasing requirements with the site manager to identify priorities and review the quotations received. Materials would be checked against the material specifications as part of the quality control system. Where possible, hazardous materials would be substituted for less hazardous alternatives.

16.165 A pre-demolition audit would be undertaken for all buildings and structures to be demolished to identify the type, location and condition of hazardous materials. A similar record of all salvageable and recyclable materials will also be prepared.

16.166 Prior to demolition, any hazardous waste will be removed from the buildings and the fittings etc. would be stripped out and sorted for salvage/recycling. All movements of waste from the Main Site will be recorded using the SWMMP.

16.167 Waste storage areas will be provided at the temporary construction site. Each skip/container will be clearly marked to indicate the intended contents and would be suitable for the storage of the specified contents. All skips/containers will be covered to prevent the escape of waste by wind blow or vandalism. If liquid waste is being stored, an appropriate bund and drip pans will be in place.

16.168 Storage areas would be located away from potential contaminant pathways such as drains, and excavations and trenches. Any hazardous waste would be stored safely in a designated area away from non-hazardous and inert wastes and labelled accordingly.

16.169 Any waste that cannot be reused, recycled or recovered will be collected by the licensed waste management contractor and disposed of at a permitted site suitable for the type of waste. Burning of surplus material or material arising from construction will not be permitted.

RESIDUAL ENVIRONMENTAL EFFECTS

16.170 Receptors have been reassessed, at this preliminary stage, with the anticipated mitigation measures detailed above in place.

16.171 Careful management of material from the earthworks can avoid material that is not suitable to be reused onsite being sent to landfill. Material designated for an alternative use such as surplus topsoil can be sent to donor sites without classifying the material as waste through the use of a DoWCoP MMP. Material treated or processed and then reused onsite will reduce what is required for disposal. It is reasonable to assume, that if the material unsuitable for

reuse cannot be used onsite then as part of the mitigation in the oCEMP the material is more likely to be managed by a material recycling facilities than sent to landfill.

16.172 Based on the assumption that any waste disposed off-site will be sent to alternative treatment facilities before being sent to landfill as a last resort (in-line with the Waste Hierarchy), this can reduce the **Slight** significance of effects to a **Neutral** significance (**Not Significant**).

CUMULATIVE AND IN-COMBINATION EFFECTS

16.173 There is the potential for additional impacts with regards to material use and waste disposal when the Proposed Development is considered alongside other committed developments within the local vicinity.

16.174 Regional development will have an increased drawdown on the regional landfill capacity. At this stage, it is assumed that all consented schemes within the study area will be required to meet the requirements of relevant legislation and local policies. This will include adherence to the Waste Hierarchy and a target of at least 70% recovery of wastes generated (as per the Waste Framework Directive) with a view to achieve 2035 targets.

16.175 Additional development can also be considered to have a positive cumulative effect. The schemes assessed for this cumulative assessment can also provide opportunities to be donor or receiver sites for surplus excavated material (if generated).

16.176 A list of schemes considered within this cumulative assessment is presented in Chapter 20: Cumulative, in-combination and transboundary effects. Specifically, two of the assessed cumulative schemes have a requirement for the importation of materials to construct the scheme:

- Planning application reference: A/22/94192/MAJES – scheme comprises importation of inert materials, soils and clays to allow for capping and restoration of former landfill site.

- Planning application reference: DC/2023/01518 – scheme comprises re-development of golf course including; the importation of up to 475,000 cubic metres of inert soils, sands and aggregate (to be governed by CL:AIRE DoWCoP procedures / protocols), to remodel the existing golf course and create a new 9 hole par 3 golf course.

16.177 Four other planning applications of note are the construction of new waste management facilities within the cumulative study area. The development of these new waste management facilities will provide additional capacity to manage waste generated once the Proposed Development is operational:

- Planning application reference: LCC/2024/0023 - scheme comprises the construction of an anaerobic digester unit with associated infrastructure.

- Planning application reference: 23/01911/WAS - scheme comprises the construction of an anaerobic digestion plant with associated works including sustainable urban drainage system.

- Planning application reference: 10/22/1006 - scheme comprises a facility that would turn food waste into green energy, create jobs and reduce reliance on landfill in the North West.

- Planning application reference: PA/2024/1911 - scheme comprises of continued use of the site as a waste recycling and aggregate manufacturing and distribution centre, including changes to existing site layout, provision of a new wash and screen, silt press, construction and use of rail sidings and storage bays and provision of vehicle parking and ancillary infrastructure.

IMPLICATIONS OF CLIMATE CHANGE

16.178 It is not expected that the Proposed Development will be affected by or have an impact on climate change in relation to Materials and Waste.

16.179 The effects associated with the transportation of materials (Greenhouse gas (GHG) emissions, air quality, noise, etc) which may be affected by or have an impact on climate change are not covered within this Chapter and will be addressed in the relevant environmental topics of the ES.

SUMMARY AND CONCLUSIONS

16.180 As a nationally significant infrastructure project there is a significant quantity of earthworks required to develop a level development platform with connections to the highway and rail infrastructure. A large volume of material is expected to be managed within the DCO Site to create plateaus for the proposed units and surrounding infrastructure. The design of the earthworks will be optimised to balance requirements of excavation and infill, this will maximise the quantity of material reused onsite and minimises the material disposed off-site. As a result, the significance of effect to landfill capacity from the disposal of earthworks material can be assessed as Slight and Not Significant for non-hazardous landfill and Slight and Not Significant for hazardous landfill.

16.181 There is the requirement for the demolition of a number of industrial and residential properties in order to construct the Proposed Development. The material generated from these demolition works will be reused and recycled wherever possible, and this will be facilitated through the preparation of a Pre-Demolition Audit. The significance of effect to landfill capacity from the disposal of earthworks material can be assessed as Slight and Not Significant for non-hazardous landfill and Slight and Not Significant for hazardous landfill.

16.182 Although measures will be put in place to minimise waste generated from construction of the Proposed Development such as modular construction and pre-fabricated components to minimise wastage and off-cuts generated on-site, there will still be some construction waste generated through construction worker waste and other wastage from construction materials. Potential impacts include the temporary use of waste management facility capacity (during treatment) and a permanent decrease in landfill capacity (disposal). The significance of effect to landfill capacity from the disposal of earthworks material can be assessed as Slight

and Not Significant.

16.183 An outline Construction Environmental Management Plan (oCEMP) will include specific instruction on steps to be taken to manage and dispose of the varied waste that is anticipated to occur during the construction phase. A CL:AIRE DoW CoP Materials Management Plan (MMP) (to be prepared by the Principal Contractor) will minimise material classified as waste and maximise the potential to recover material and ultimately prevent the material from being disposed of in landfill.

16.184 The Proposed Development will have in place a Site Waste and Materials Management Plan (SWMMP) as a key document with which to measure and report on construction operations as they occur. It will include specific instruction on steps to be taken to manage and dispose of the varied waste that is anticipated to occur in line with the Waste Hierarchy. Waste generated by the Proposed Development which cannot be reused will be taken to one of a range of waste facilities in close proximity.

16.185 With adherence to a oCEMP and SWMMP and the associated reuse of material, the quantity of construction, demolition and excavation waste would not have a significant impact on the capacity of the landfill sites in the region with the residual impact assessed as Neutral and Not Significant.

16.186 There will be a requirement to import material, particularly where large quantities of engineering graded material are required and for the production of concrete. Reuse and recycling material will reduce the volume of material imported; the Proposed Development is well served with a number of quarries in the near vicinity. The importation of material is not expected to have a significant impact on the supply of aggregates with the significance of effect assessed as Slight and Not Significant. The design of the Proposed Development will consider the use of sustainably sourced and durable materials, therefore the residual effect has been assessed as Neutral and Not Significant.

16.187 Waste is expected to be generated from the use of the Proposed Development once it is operational, over and above the quantities of waste expected to be generated by the current baseline, i.e. the existing site. Waste is expected to be generated by workers and visitors to the site (including lorry drivers). On the assumption that the recycling rates once operational would meet national and regional targets of a 65% recycling rate, the significance of effect is assessed as Slight and Not Significant.

16.188 It is anticipated that the Proposed Development would generate very small quantities of hazardous waste only when essential maintenance of the railway track is required. Therefore, the significance of effect is assessed as Slight and Not Significant on the hazardous landfill capacity.

Table 16.18 Summary of effects

Receptor	Receptor sensitivity	Magnitude of impact	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Main Site and Western Rail Chord						
Construction Phase						
Landfill capacity (non-hazardous)	Very High	Negligible	Reduction of capacity due to disposal of demolition waste generated by the Proposed Development.	oCEMP/SWMMP & CL:AIRE DoW CoP MMP Waste Hierarchy Pre-demolition audit	Neutral	Not Significant
		Negligible	Reduction of capacity due to disposal of excavation waste generated by the Proposed Development.	Cut and fill balance oCEMP/SWMMP & CL:AIRE DoW CoP MMP	Neutral	Not Significant
		Negligible	Reduction of capacity due to disposal of construction waste generated by the Proposed Development.	Use of modular construction/prefabricated components oCEMP/SWMMP & CL:AIRE DoW CoP MMP	Neutral	Not Significant

Receptor	Receptor sensitivity	Magnitude of impact	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
				Designing out waste		
Landfill capacity (hazardous)	High	Negligible	Reduction of capacity due to disposal of demolition waste generated by the Proposed Development.	oCEMP/SWMMP & CL:AIRE DoW CoP MMP Waste Hierarchy Pre-demolition audit	Neutral	Not Significant
		Negligible	Reduction of capacity due to disposal of excavation waste generated by the Proposed Development.	Cut and fill balance oCEMP/SWMMP & CL:AIRE DoW CoP MMP	Neutral	Not Significant
		Negligible	Reduction of capacity due to disposal of construction waste generated by the Proposed Development.	Use of modular construction/prefabricated components oCEMP/SWMMP & CL:AIRE DoW CoP MMP	Neutral	Not Significant
Material availability	Medium	Negligible	Depletion of regional and national material resources and mineral reserves through use of materials in the construction of the Proposed	Use of sustainably sourced and durable materials Materials containing recycled content	Neutral	Not Significant

Receptor	Receptor sensitivity	Magnitude of impact	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
			Development.			
Operation Phase						
Landfill capacity (non-hazardous)	Very High	Negligible	Reduction of capacity due to disposal of operational waste generated by the Proposed Development.	Waste Hierarchy Set recycling rate target of 65%	Slight	Not Significant
Landfill capacity (hazardous)	High	Negligible	Reduction of capacity due to disposal of operational waste generated by the Proposed Development.	Waste Hierarchy	Slight	Not Significant