Hampshire Water Transfer and Water Recycling Project

Environmental Statement – Chapter 16 Resources and waste management

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16.1 Introduction

16.1.1 This chapter provides the assessment of the likely significant effects on resources and waste management from the construction, operation and decommissioning of the Hampshire Water Transfer and Water Recycling Project (hereafter referred to as the 'Proposed Development'), which is being progressed by Southern Water Services Limited ('the Applicant').

16.1.2 This chapter details the legislation, policy and guidance that is relevant to resources and waste management, summarises the engagement and consultation undertaken to date, sets out the scope and methodology of assessment, and describes the baseline environment. Following this, the likely significant effects of the Proposed Development on resources and waste management are assessed, taking account of embedded primary and tertiary mitigation within the design. The need for any secondary mitigation is then considered along with any proposals for monitoring and/or enhancement. The chapter concludes with a summary of residual effects.

16.1.3 Whilst this Environmental Statement (ES) presents an assessment of the effects that may occur from decommissioning activities of the Proposed Development, the Applicant is not seeking consent for decommissioning.

16.1.4 The definition of mineral resources, as defined by the Ministry of Housing, Communities and Local Government [1], is "*natural concentrations of minerals or, in the case of aggregates, bodies of rock that are, or may become, of potential economic interest due to their inherent properties. They make an essential contribution to the country's prosperity and quality of life*". Since minerals are a non-renewable resource, "*minerals safeguarding is the process of ensuring that non-minerals development does not needlessly prevent the future extraction of mineral resources, of local and national importance*".

16.1.5 Waste is defined in accordance with the European Union (EU) Waste Framework Directive (2008/98/EC) [2] as "*any substance or object which the holder discards or intends or is required to discard*". In relation to the Proposed Development, the waste generated is expected to include certain demolition, construction and excavation materials generated during the construction and decommissioning phases. The assessment considers these arisings in relation to the waste management infrastructure anticipated to be available within the relevant study areas as outlined in section 16.5 of this Environmental Statement (ES) chapter. The operation of the Proposed Development would not produce any significant quantities of solid waste materials (see section 16.3).

16.1.6 This chapter should be read in conjunction with ES Chapter 3 Description of the Proposed Development, Volume I, (Document reference 6.1, DCO Volume 6) which describes the development parameters against which the effects considered in this chapter have been assessed.

16.1.7 In addition, this chapter should be read alongside relevant parts of other chapters in Volume I, namely:

1. ES Chapter 6 Air quality and odour (Document reference 6.1, DCO Volume 6) – contains an assessment of effects on air quality from the transportation of waste that cannot be reused on site.
2. ES Chapter 7 Archaeology and cultural heritage (Document reference 6.1, DCO Volume 6) – outlines the baseline for archaeology and cultural heritage. Archaeological and cultural heritage features are considered to be existing constraints to mineral extraction. Their identification informs the baseline for the mineral safeguarding assessment. Where receptors identified in this chapter are identified as existing constraints to mineral extraction, then the underlying mineral resources are not considered further in the assessment.
3. ES Chapter 8 Terrestrial and freshwater biodiversity (Document reference 6.1, DCO Volume 6) – outlines the baseline for terrestrial ecology features. The baseline has informed the identification of constraints to mineral extraction which informs the baseline for minerals safeguarding. Where receptors identified in this chapter are identified as existing constraints to mineral extraction, then the underlying mineral resources are not considered further in the assessment.
4. ES Chapter 10 Carbon and climate change (Document reference 6.1, DCO Volume 6) – contains an assessment of carbon impacts associated with the management of waste.
5. ES Chapter 11 Land quality and ground conditions (Document reference 6.1, DCO Volume 6) – includes predictions of the levels of contamination of excavated material and defines the underlying geology. It also supports with classification of the excavated material expected to be sent for disposal as inert, non-hazardous or hazardous waste. The geological site setting has informed the baseline for the assessment on minerals safeguarding. This information has been used to confirm the presence of minerals within the study area.
6. ES Chapter 12 Land use and agriculture (Document reference 6.1, DCO Volume 6) – outlines the baseline in terms of land uses. The baseline has informed the identification of constraints to mineral extraction (such as identification of existing land uses) which form the current baseline for minerals safeguarding. Where receptors identified in this chapter are identified as existing constraints to mineral extraction, then the underlying mineral resources are not considered further in the assessment.
7. ES Chapter 18 Traffic and transport (Document reference 6.1, DCO Volume 6) – sets out the assessment of the impacts resulting from vehicle movements associated with the transport of waste materials off-site when required.
8. ES Chapter 19 Water environment (Document reference 6.1, DCO Volume 6) – outlines the hydrology and hydrogeology baseline. The baseline has informed the identification of constraints to mineral extraction which form the current baseline for minerals safeguarding. Where receptors identified in this chapter are identified as existing constraints to mineral extraction, then the underlying mineral resources are not considered further in the assessment.
9. ES Chapter 20 Cumulative and in-combination effects, Volume I (Document reference 6.1, DCO Volume 6) – an assessment of the cumulative effects i.e. effects from the interrelationship between the Proposed Development and other developments, and an assessment of the in-combination effects i.e.

effects from the interaction between the individual effects of the Proposed Development.

16.1.8 This chapter is supported by ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6) which identifies the impacts of the Proposed Development on mineral resources, the significance of which is assessed in this chapter.

16.2 Legislation, policy and guidance

16.2.1 This section identifies the legislation, policy, guidance and other documentation that has informed the assessment of likely significant effects on resources and waste management.

Legislation

16.2.2 There is no legislation relevant to the assessment of likely significant effects on resources. Table 16-1 lists the legislation relevant to the assessment of the likely significant effects on waste management.

Table 16-1 List of relevant legislation

Legislation	Relevance to assessment
Environmental Protection Act 1990 [3]	The Environmental Protection Act 1990 provides a framework for the prevention of pollution from emissions to air, land or water. It contains the primary legislation relating to statutory nuisances, and also places a duty of care on those involved in the management of waste. This act outlines the basic provisions for the management of all waste, which includes provisions on: • definition of waste • duty of care requirements • waste management licences (now known as environmental permits). The Proposed Development will generate waste, and the management of this waste will be subject to the requirements of the Environmental Protection Act 1990. This legislation governs the handling, treatment, and disposal of waste to ensure compliance with environmental and public health standards.
The Hazardous Waste (England and Wales) Regulations 2005 [4]	These Regulations apply to all wastes listed as hazardous in the European Waste Catalogue (2000/532/EC) and the CLP (Classification, Labelling and Packaging) Regulation (EC 1272/2008). Where hazardous waste is disposed of it must be accompanied by a hazardous waste consignment note. The Proposed Development will generate hazardous waste, which will be subject to the requirements of these Regulations.
The Waste (England and Wales) Regulations 2011 [5]	The 2011 Regulations transpose key elements of the Revised EU Waste Framework Directive (2008/98/EC) into law in England and Wales and requires organisations to manage their waste in alignment with the waste hierarchy in order to prevent waste going to landfill. Waste generated by the Proposed Development will be managed according to the principles of the waste hierarchy. The

Legislation	Relevance to assessment
	waste hierarchy identifies 'waste prevention' as the most favourable management option to reduce waste and retain materials at their highest value. 'Disposal' is the least favourable management option. The waste generated by the Proposed Development must be managed responsibly throughout the Proposed Development's lifecycle. This will require obtaining necessary permits, implementing waste prevention measures, and ensuring proper disposal and recycling practices. These regulations mandate the use of waste transfer notes for non-hazardous waste.
The Controlled Waste (England and Wales) Regulations 2012 [6]	These Regulations clearly categorise household, commercial, and industrial waste, with the purpose of determining whether the waste is subject to the Environmental Protection Act 1990. The classification of waste arising from the Proposed Development will be subject to the relevant regulatory requirements, which determine how different types of waste must be managed in accordance with their characteristics.
The Environmental Permitting (England and Wales) Regulations 2016 [7]	These Regulations provide a consolidated system of environmental permitting in England and Wales. They define the term 'regulated facility' and require every regulated facility to be operated under and in accordance with an environmental permit. They also set out the procedures in relation to applications for environmental permits and provide for enforcement. These Regulations mandate that all activities covered by the regulations, are undertaken with a valid Environmental Permit, or suitable exemption.
Environment Act 2021 [8]	The Act makes provisions for targets, plans and policies aimed at improving the natural environment, including waste and resource efficiency. The Proposed Development has considered the targets set by the Secretary of State (SoS) in the context of this assessment.
The Environmental Targets (Residual Waste) (England) Regulations 2023 [9]	The regulations set a long-term target that by the end of 2042 the total mass of residual waste does not exceed 287 kilograms per capita per year. Schedule 5 sets out the types of waste which are excluded waste for the purposes of the definition of residual waste, and includes most common wastes generated during construction. Whilst the excluded wastes are likely to mean that the targets are not directly relevant to the Proposed Development; it has been ensured that waste is reduced wherever possible, through resource efficient design, prioritising on-site re-use of construction materials, and effective construction management, and is segregated efficiently throughout construction.

National policy

16.2.3 The primary policy for determining the application for the Development Consent Order (DCO) for the Proposed Development is the National Policy Statement for water resources infrastructure (NPSWRI). This sets out policies to guide how DCO

applications for water resources infrastructure should be decided and how the effects of such infrastructure are considered.

16.2.4 Table 16-2 lists the paragraphs from the NPSWRI and other national policy that are relevant to the resources and waste management assessments. It also sets out where these policy requirements are addressed within the chapter.

Table 16-2 List of relevant national policy

Relevant paragraph reference	Summary of policy requirement	Where addressed in chapter
National Policy Statement for water resources infrastructure [2025] [10]		
4.10.16,4.10.28	The applicant should identify and assess any impacts a proposed project may have for mineral safeguarded areas (or other minerals supply aspects) with the relevant Mineral Planning Authority. Where the development has an impact on a mineral safeguarding area, the SoS must ensure that the applicant has put forward appropriate mitigation or compensation measures to safeguard mineral resources.	The assessment of the impacts that the Proposed Development may have on mineral safeguarded areas is set out in ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6). The assessment of the significance of the impacts identified in ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6) are presented in section 16.8 of this chapter. Section 16.8 focuses on the assessment of likely significant effects on minerals resulting from the construction and decommissioning of the Proposed Development. The mitigation is outlined in section 16.4 of this chapter.
4.12.2, 4.12.3	Sustainable waste management is implemented through the 'waste hierarchy', which sets out the priority order that must be applied when managing waste. These are (in order): • Prevention • Preparing for reuse • Recycling	This requirement has been incorporated into the tertiary mitigation which is outlined in section 16.4. Measures included in the Outline Construction Environmental Management Plan (CEMP) (Document reference 7.1, DCO Volume 7) set out how reuse and waste minimisation measures are incorporated into the Proposed

Relevant paragraph reference	Summary of policy requirement	Where addressed in chapter
	• Other recovery, including energy recovery • Disposal It is possible to deviate from the priority order of the waste hierarchy if a life-cycle analysis demonstrates that an alternative approach results in the best overall environmental outcome, considering the impacts of waste generation and management.	Development. Further sustainable waste management measures will be applied through development of a Site Waste Management Plan (SWMP), which will ensure that waste will be managed in line with good practice and the waste hierarchy.
4.12.7	The applicant must demonstrate that all waste produced by the facility will be managed in accordance with the waste hierarchy and that during construction, excavated soil, subsoil and rock will, where possible, be reused as per the Materials Management Plan and/or Soil Management Plan. The applicant must also the process to ensure compliance with duty of care as a waste producer. The applicant should seek to minimise the volume of waste produced and should seek to minimise the amount of waste sent for disposal, unless it can be demonstrated that this is the best overall environmental, social, and economic outcome when considered over the whole lifetime of the project.	The requirement has been incorporated into the tertiary mitigation which is outlined in section 16.4, and sets out that reuse and waste minimisation measures have been incorporated into the design. The Outline CEMP (Document reference 7.1, DCO Volume 7) requires that the Contractor will produce, implement and maintain a SWMP, which will, amongst other requirements, include measures to ensure that all waste management implemented on-site will be in accordance with the waste hierarchy, and will apply Designing out Waste principles, including design for re-use and recovery. The measures included in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management ensure waste will be managed in line with good practice and ensure compliance with the Waste Duty of Care obligations.
4.12.6	The applicant should set out the arrangements that are proposed for managing any waste produced in the application for development consent. The applicant should prepare a prepare a SWMP and Materials Management Plan (MMP) where relevant. This should include information on the proposed waste recovery and disposal system for all waste generated by the development and should also include details of the alternatives that have been considered.	The requirement has been incorporated into the tertiary mitigation which is outlined in section 16.4. The arrangements for site materials and waste management are secured within the Outline CEMP (Document reference 7.1, DCO Volume 7) with a MMP and SWMP to be prepared by the Contractor. To manage minerals that are encountered as part of the Outline CEMP, there is a requirement for the Contractor to

Relevant paragraph reference	Summary of policy requirement	Where addressed in chapter
		develop a Minerals Management Strategy (MMS).
4.12.8	The applicant should set out a comprehensive suite of mitigations to eliminate or significantly reduce the risk of adverse impacts associated with resource and waste management.	To adhere to this requirement, suitable mitigation measures have been implemented and are outlined in section 16.4 and section 16.9.
4.12.9	The SoS will consider the extent to which the applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from all stages of the lifetime of the development. The SoS should be satisfied that the process provides assurances that: • Waste produced will be appropriately managed, both on-site and off-site • The waste from the Proposed Development can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arising in the area • Adequate steps have been taken to minimise the volume of waste arising, and of the volume of waste arising sent to disposal, except where an alternative is the most sustainable outcome overall Where necessary, the SoS should use requirements or obligations to ensure that appropriate mitigations are applied.	The assessment of the significance of the impacts on waste management is presented in section 16.8 of this chapter. Section 16.8 focuses on the assessment of likely significant effects on waste management resulting from the construction of the Proposed Development. The mitigation is outlined in section 16.4 and section 16.9.
National Planning Policy Framework (England) [2025] [11]		
223 (b)	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.	The EIA Scoping Opinion, adopted by the Planning Inspectorate on behalf of the SoS, confirmed the consumption of recycled materials could be scoped out of the assessment in Section 3.10.1. However, the tertiary mitigation for the Proposed Development is to utilise the proposed groundworks and tunnelling activities to extract suitable materials encountered during the excavation of the

Relevant paragraph reference	Summary of policy requirement	Where addressed in chapter
		Proposed Development and incorporate them into the construction process. This mitigation is outlined in section 16.4.
223 (c)	Planning policies should safeguard mineral resources by defining MSA and Mineral Consultation Area (MCA).	This places a requirement on the Mineral Planning Authority to identify MSAs and MCAs. Parts of the Proposed Development are located within MCAs as defined by the Minerals Planning Authority. The Minerals Planning Authority sets out the requirements for consultation and assessment when the site is situated within an MCA. For the Proposed Development the Minerals Planning Authority has been consulted through stakeholder engagement sessions as outlined in section 16.3. An assessment has been undertaken as part of this ES and Table 16-16 outlines which sections of the Proposed Development are located within an MSA and MCA.
223 (d)	Encouraging prior extraction of minerals where practical and environmentally feasible, if it is necessary for non-mineral development to take place.	This encourages the Minerals Planning Authorities to set out policies to encourage prior extraction for non-mineral extraction developments. This has informed the mitigation outlined in section 16.4.
226 (f)	Maintaining landbanks of at least seven years for sand and gravel and at least ten years for crushed rock.	This requires the Minerals Planning Authority to maintain landbanks for minerals. This has informed the future baseline contained in section 16.7.
227 (c) Footnote 81	Maintaining a landbank of at least 25 years for brick clay.	This requires the Minerals Planning Authority to maintain landbanks for minerals. This has informed the future baseline contained in section 16.7.
National Planning Policy for Waste [2014] [12]		
8	The application should demonstrate that the likely impact of a Proposed Development on existing sites and areas allocated for waste management, is acceptable, does not prejudice the implementation of the waste hierarchy	Section 16.8 sets out the assessment of likely significant effects on waste management capacity from the construction and decommissioning of the Proposed Development.

Relevant paragraph reference	Summary of policy requirement	Where addressed in chapter
	and/or the efficient operation of such facilities.	
8	The application should demonstrate that a Proposed Development makes sufficient provision for waste management and promotes good design to secure the integration of waste management facilities with the rest of the development and, in less developed areas, with the local landscape.	The measures included in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management ensure that waste will be managed in line with good practice and the waste hierarchy. Negligible quantities of waste would be generated by the Proposed Development during operation.
8	The application should demonstrate that the handling of waste arising from the construction and operation of a Proposed Development maximises reuse/recovery opportunities, and reduces off-site disposal.	Section 16.4 sets out that reuse has been incorporated into the design. The measures included in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management ensure waste will be managed in line with good practice and the waste hierarchy. Negligible quantities of waste would be generated by the Proposed Development during operation.

Local policy

16.2.5 The local policies listed in Table 16-3 are considered relevant to the resources and waste management assessment of the Proposed Development. While the SoS is required to determine an application for development consent in accordance with the NPSWRI, it may be that the SoS considers aspects of local policy to be matters that are important and relevant to the determination. In the event that there is any conflict between the local policy and the NPSWRI, the NPSWRI would prevail for the purposes of decision making given the national significance of the infrastructure.

16.2.6 Hampshire County Council are the Minerals and Waste Planning Authority for Hampshire. Hampshire County Council (HCC), Portsmouth City Council (PCC), Southampton City Council (SCC), New Forest National Park Authority (NFNPA) and the South Downs National Park Authority (SDNPA), produced the adopted Hampshire Minerals and Waste Plan (HMWP), and these authorities are collectively defined as the 'Hampshire Authorities'.

16.2.7 Adopted and emerging development plan policy have been considered. Adopted and emerging planning policy that are relevant is included in Table 16-3.

Table 16-3 List of relevant local policy

Local planning authority	Relevant local policy	Relevance to assessment
East Hampshire District Council (EHDC)	Local Plan: Joint Core Strategy (adopted 2014) [13]: • CP28, Green infrastructure • CP29 Design • CSWB6, Sustainable Construction • CSWB7, Waste	The Green Infrastructure and sustainable construction policies within the EHDC Local Plan require that proposals for new development or refurbishment, including infrastructure, outline how sustainability will be delivered during construction and future maintenance including providing evidence of waste minimisation and the effective use of resources. In particular, the reduction of demolition or construction waste to landfill, the re-use of buildings, recycling of materials and reduction in water use. Policy CSWB 6 and CSWB7 is of particular relevance to the resources and waste management assessment as it states that planning applications should include a sustainable waste and resource plan for domestic and non-domestic waste. Measures are contained in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management for the Proposed Development, which will ensure that waste will be reduced, and unavoidable wastes will be managed in line with good practice and the waste hierarchy. The measures in the Outline CEMP are secured by a requirement in Schedule 2 to the draft DCO (Document reference 3.1, DCO Volume 3). The Contractor will be responsible for preparing a SWMP which will provide additional detail appropriate to the level of design.
Eastleigh Borough Council (EBC)	• Eastleigh Borough Local Plan 2016-2036 (adopted 2022) [14]: • Policy DM1, General criteria for new development • Strategic policy S1, Delivering sustainable development.	Policy DM1 states that all new development should incorporate provision for on-site waste management. The strategic policy S1, delivering sustainable development states that new developments in the borough should use resources wisely and reduce the generation of waste in the construction, occupation and use of buildings. The strategic policy S5 states that new developments in the borough should try

Local planning authority	Relevant local policy	Relevance to assessment
	• S5 New development in the countryside.	to avoid sterilisation of resources in accordance with the Hampshire Minerals and Waste Plan (HWMP). The relevant policies have been incorporated into the tertiary mitigation which is outlined in section 16.4, and the measures included in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management for the Proposed Development. These will ensure that waste generation will be reduced, and unavoidable wastes will be managed in line with good practice and the waste hierarchy. In addition, measures also include effective management of minerals.
Fareham Borough Council (FBC)	Fareham Local Plan 2037 (adopted 2023) [15] Policy D1: High Quality Design and Place Making	Policy D1 states that where proposals reduce the use of natural resources, developments should conserve, enhance and integrate habitats and ecosystems that are adaptable over time, minimising waste. The relevant policies have been incorporated into the tertiary mitigation which is outlined in section 16.4. Measures secured in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management for the Proposed Development will ensure that waste will be reduced.
Hampshire Authorities (HA)	Hampshire Minerals and Waste Plan (HMWP) (adopted 2013) [16]: • Policy 15 – Safeguarding Mineral Resources • Policy 16: Safeguarding – minerals infrastructure • Policy 20 Local Land-Won Aggregates • Policy 22 Brick-Making Clay • Policy 30 Construction,	The HMWP identifies the locations of strategic waste and mineral infrastructure and resources are defined in the Minerals and Waste Plan. Important issues for aggregates in Hampshire include maximising recycling and recovery of construction, demolition and excavation waste. The Local Plan also sets out the requirements for additional landfill capacity in Hampshire. Policy 15 outlines the framework for undertaking a Mineral Safeguarding Assessment. To satisfy this Policy a Mineral Safeguarding Assessment has been completed and is contained in ES Appendix 16.1 Mineral Safeguarding

Local planning authority	Relevant local policy	Relevance to assessment
	demolition and excavation waste development Hampshire Minerals and Waste Plan: Minerals and Waste Safeguarding in Hampshire Supplementary Planning Document 2016 [17]. Hampshire Minerals and Waste Plan: Partial Update – Submission Plan 2023 [18]	Assessment, Volume II (Document reference 6.2, DCO Volume 6). Policy 16 identifies mineral infrastructure sites which are safeguarded against development, these sites therefore form part of the baseline assessment that has been undertaken in this chapter for the Proposed Development (outlined in section 16.7). Where possible, to satisfy this Policy, the location of the Proposed Development has avoided these designated sites. Sites which cannot be avoided are considered to be receptors and an assessment of likely significant effects has been undertaken. Both Policy 20 and Policy 22 outline the landbanks for aggregate and brick clay for the region. The status of the landbank has influenced magnitude of the effect on the sensitive receptors as outlined in section 16.7. Policy 30 sets out that where there is a beneficial outcome from the use of inert construction, demolition and excavation waste in developments such as civil engineering and other infrastructure projects, the use will be supported. This policy has been considered as part of the mitigation for mineral safeguarding assessment presented in section 16.4. The Hampshire Authorities are working to produce a partial update to the HMWP (2013), building on the currently adopted HMWP. The Hampshire Minerals and Waste Plan – Partial Update has been submitted to the SoS for examination and is yet to be adopted. The updated policies listed in the partial update have been considered in this ES. Within the Hampshire Minerals and Waste Plan: Partial Update – Submission Plan the following policies have been considered: • Policy 15 outlines the framework for undertaking a Mineral Safeguarding Assessment. To satisfy this Policy a Mineral Safeguarding Assessment

Local planning authority	Relevant local policy	Relevance to assessment
		has been completed and is contained in ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6). • Policy 16 identifies mineral infrastructure sites which are safeguarded against development, these sites therefore form part of the baseline assessment that has been undertaken in this chapter for the Proposed Development (outlined in section 16.7). Where possible, to satisfy this Policy, the location of the Proposed Development has avoided these designated sites. Sites which cannot be avoided are considered to be receptors and an assessment of likely significant effects has been undertaken. • Policy 17 identifies the need to ensure there is sufficient aggregate supply provided for Hampshire and surrounding areas until 2023 from local sand and gravel site and outlines the requires supply rates. The sites identified under this policy are factored into future baseline presented in section 16.7. • Both Policy 20 and Policy 22 outline the landbanks for aggregate and brick clay for the region. The status of the landbank has influenced magnitude of the effect on the sensitive receptors as outlined in section 16.7. • Policy 30 sets out that where there is a beneficial outcome from the use of inert construction, demolition and excavation waste in developments such as civil engineering and other infrastructure projects, the use will be supported. This policy has been considered as part of the mitigation for mineral safeguarding.
Havant Borough Council (HBC)	Havant Borough Core Strategy (March 2011) [19]:	Policy CS14 states that developments should provide adequate land or funding for waste management infrastructure. Policy CS16 states that developments should demonstrate that the design of

Local planning authority	Relevant local policy	Relevance to assessment
	• Policy CS14 Efficient Use of Resources • Policy CS16 High Quality Design	the development mitigates negative environmental impacts through sustainable design and construction methods and resource efficiencies, particularly regarding water and the provision of facilities for waste recycling. This has been addressed through measures included in the Outline CEMP (Document reference 7.1, DCO Volume 7) for the Proposed Development, and effects will be further mitigated through additional measures proposed in a SWMP, which will be produced in accordance with the CEMP requirement in Schedule 2 to the draft DCO (Document reference 3.1, DCO Volume 3).
South Downs National Park Authority (SDNPA)	South Downs Local Plan (adopted 2019) (2014–33) [20]: • Core Policy SD3: Major Development • Strategic Policy SD5: Design • Strategic Policy SD48: Climate Change and Sustainable Use of Resources	Policy SD3 states that development proposals should be sustainable as measured against zero waste and sustainable materials factor. Waste generation should be reduced through good design, encouraging reuse, recycling and composting, and seeking to send zero waste to landfill. Where possible, developments should use local, reclaimed, renewable and recycled materials in construction and products, which reduce transport emissions, encourages investment in local natural resource stocks and boost the local economy. Policy SD5: encourages the adoption of design principles. This includes providing integrated storage for general and recycling waste. Policy SD48 encourages all new developments to incorporate sustainable design features, as appropriate to the scale and type of development. The Proposed Development has undergone an extensive scheme development process, which has included identifying and assessing options against environmental considerations relevant to waste and mineral safeguarding as part of the primary mitigation (as outlined in section 16.4). Preference has been given

Local planning authority	Relevant local policy	Relevance to assessment
		to design options which reduce the overall quantity of waste generation, and avoid known risk areas with respect to ground contamination as far as practicable.
Winchester City Council (WCC)	Your Place Your Plan Winchester District Local Plan' 2020 – 2040 [21], Policy SP2 – Spatial Strategy and Development Principles	Policy SP2 is relative to the resources and waste management assessment as it states that development proposals will be expected to demonstrate the efficient use of scarce natural resources including recycling of materials on site and the impact on recycling/waste. An assessment of likely significant effects on waste management has been undertaken in section 16.8.

Guidance, standards and advice

16.2.8 In addition, the resources and waste management assessment has been undertaken in accordance with relevant guidance and has been compiled in accordance with professional standards. The guidance and standards which relate to this assessment are detailed in Table 16-4.

Table 16-4 List of relevant guidance and standards

Guidance	Description	Relevance to assessment
Policy 15 of the Hampshire Materials and Waste Plan (HMWP) [16]	This guidance outlines an approach to be used for a Minerals Safeguarding Assessment.	This guidance outlines the approach to the methodology for the Minerals Safeguarding Assessment contained within ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6).
Mineral Safeguarding Practice Guidance produced by the Mineral Products Association and the Planning Officers' Society in April 2019 [22],	This guidance provides a methodology and conclusions for the Minerals Safeguarding Assessment.	This guidance informs the methodology and conclusions for the Minerals Safeguarding Assessment contained within ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6).
The Standard for Highways Design Manual for Roads and Bridges (DMRB) (LA 110 Material assets and waste) [23]	This standard provides significance of effects criteria.	This standard has been used to determine the significance of effects criteria for the mineral safeguarding assessment.
Somerset Minerals Plan Development Plan Document up to 2030 [24]	This guidance sets out the buffer widths in relation to a study area.	The buffer guidance was used to determine an appropriate buffer distance from the Order Limits for the mineral safeguarding assessment.

Guidance	Description	Relevance to assessment
Materials and Waste in Environmental Impact Assessment [25] (Institute of Sustainability and Environmental Professionals (ISEP) (formerly the Institute of Environmental Management and Assessment), 2020) (hereafter referred to as the 'Materials and Waste ISEP Guidance').	This guidance sets out a methodology for assessing effects on landfill void capacity.	This guidance is relevant to waste management as it assists in assessing the effect that the Proposed Development would have on landfill void capacity.

16.3 Consultation, scoping and engagement

Consultation

16.3.1 Feedback received from stakeholders for each consultation relevant to resources and waste management is summarised within the Consultation Report (Document reference 5.1, DCO Volume 5), including how the Proposed Development has had regard for feedback. These cover the consultation responses received for the following consultations:

1. Summer 2022 Consultation
2. Summer 2024 Consultation
3. Spring 2025 Consultation
4. Autumn 2025 Consultation
5. Spring 2026 Consultation

Environmental Impact Assessment scoping

16.3.2 An EIA Scoping Opinion was adopted by the Planning Inspectorate on behalf of the SoS on 31 August 2023. A full list of the EIA Scoping Opinion comments made by the Planning Inspectorate and a response to those comments is provided in ES Appendix 5.3 Response to EIA Scoping Opinion, Volume II (Document reference 6.2, DCO Volume 6).

16.3.3 Comments received in relation to resources and waste management are set out in Table 16-5, describing how and where these are addressed in the ES:

Table 16-5 EIA Scoping Opinion – Planning Inspectorate comments

Scoping Opinion ID	Summary of Scoping Opinion comment	How the ES addresses the Scoping Opinion comment	Where addressed in the ES
3.10.1	The EIA Scoping Opinion states that consumption of material resources associated with the Proposed Development during construction and operation can be scoped out. In the case of construction, it states	No additional information provided in the ES. The scope of the Proposed Development has not altered sufficiently between that the design considered in the development of the EIA	No additional information provided in the ES.

Scoping Opinion ID	Summary of Scoping Opinion comment	How the ES addresses the Scoping Opinion comment	Where addressed in the ES
	that consumption of material resources can be scoped out as long as the aggregate and manufactured material consumption does not exceed the quantities set out in Tables 15-6 and 15-7 of the EIA Scoping Report. In the case of operation, this was on the basis that the quantities of the materials required for the Proposed Development would be negligible in relation to the supply chain capacity.	Scoping Report, and the design considered in this ES to give rise to a meaningful likelihood of the thresholds set out in 15-6 and 15-7 of the Appendix 5.1 EIA Scoping Report, Volume II (Document reference 6.2, DCO Volume 6) being exceeded	
3.10.2	The EIA Scoping Opinion ID states that the impacts on MSAs and safeguarded mineral and waste infrastructure sites that are present in the vicinity of the Proposed Development, including the risk that they could be sterilised, has been scoped in to the construction phase assessment.	The mineral safeguarding assessment considers the temporary and permanent construction effects of the Proposed Development.	Section 16.8 of this chapter, and ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6)
3.10.2	The EIA Scoping confirmed that providing the construction phase assessment conclusions in the ES for areas that would be permanently sterilised clearly reflect the duration of impact, a separate assessment of these matters for the operational phase is not required. It was therefore agreed that impacts on MSAs and safeguarded minerals and waste infrastructure during operation can be scoped out.	An assessment of the temporary and permanent construction effects from the Proposed Development on mineral receptors has been completed. No additional information provided in the ES regarding impacts during the operational phase of the Proposed Development.	Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6) Assessment on the significance of mineral sterilisation is provided in section 16.8 of this chapter.
3.10.3	The EIA Scoping Opinion confirmed that an assessment of the impacts of waste generated during operation can be scoped out.	ES Chapter 3, Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6), provides the details on operational waste expected	Waste types and quantities are presented in ES Chapter 3, Description of the Proposed Development,

Scoping Opinion ID	Summary of Scoping Opinion comment	How the ES addresses the Scoping Opinion comment	Where addressed in the ES
		from the Proposed Development.	Volume I (Document reference 6.1, DCO Volume 6).
3.10.4	The EIA Scoping Opinion ID stated that the final study area selected as the basis for the assessment should be informed by accurate data, and effort should be made to agree the approach with relevant consultation bodies (referring to the comments of HCC Minerals and Waste Planning Authority in Appendix 2 of the EIA Scoping Opinion).	The baseline for the waste assessment has been developed using the latest Waste Data Interrogator dataset, published in September 2025, to define the baseline regions and the expansive study area, which is based on where Hampshire-originating landfilled waste is managed. Engagement was held in the Emissions and Transport EIA Working Groups which contributed to shaping the agreed assessment approach.	Section 16.7r.
3.10.5	The EIA Scoping Opinion requests that information from the Hampshire Local Aggregate Assessment (LAA) should be used to inform the baseline description.	Information from the Hampshire LAA has been used to define the baseline for the mineral safeguarding assessment.	This has been taken into account for the assessment presented in section 16.7.
3.10.6	The EIA Scoping Opinion referred to their earlier comment at ID 2.2.10, which stated that only mitigation measures which are a firm commitment and can be shown to be deliverable should be taken account in the assessment. It states that the DCO application should set out how measures proposed in the ES are secured, which could be through a summary table on mitigation.	The resources and waste management assessments have only referred to committed mitigation measures.	ES Appendix 5.5 Commitments Register, Volume II (Document reference 6.2, DCO Volume 6), provides the details for each proposed measure and how they are to be secured through the DCO application.

Engagement

16.3.4 This section provides details of the ongoing technical engagement that has been undertaken with stakeholders in relation to resources and waste management.

EIA Working Groups

16.3.5 Five EIA Working Groups have been established as forums for ongoing engagement with statutory bodies regarding the Proposed Development. These Working Groups when combined cover all of the assessment topics considered by the EIA. A full description of each of the EIA Working Groups, the key stakeholders, and an overview of the topics presented can be found in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6). This section presents a summary of the topics covered in the EIA Working Groups which are of relevance for the resources and waste management assessment.

16.3.6 The Emissions and Transport Environment EIA Working Group, which includes resources and waste management, traffic and transport, air quality and odour and climate change, has been the main forum for engagement for resources and waste management assessment. There have been 12 Emissions and Transport Environment EIA Working Group meetings between Summer 2022 and DCO application. Technical officers from EHDC, EBC, Environment Agency (EA), FBC, HCC, HBC, National Highways (NH), Natural England (NE), NFNPA, PCC, SDNPA, SCC and WCC attended the EIA Working Group meetings.

16.3.7 The following overarching themes were covered across the EIA Working Group meetings:

1. Introduction and background to the Proposed Development.
2. Overview of the baseline environment.
3. EIA scoping which included setting out the proposed approach to EIA scoping, providing an overview of the EIA Scoping Report and seeking feedback on the EIA Scoping Opinion.
4. An overview of the Preliminary Environmental Information (PEI) Report, including setting out the baseline and approach to mitigation, as well as providing an overview of the PEI Report findings.
5. Updates on the approach to design and the development of the design of the Proposed Development.
6. Briefings on the materials to be consulted on, including design and environmental assessment related matters, ahead of the Summer 2022, Summer 2024 and Spring 2025 Consultations.
7. Approach to mitigation, Commitments Register (ES Appendix 5.5 Commitments Register, Volume II (Document reference 6.2, DCO Volume 6)) and associated management plans provided with the DCO application.
8. Consultation feedback and updates on scheme development, and design principles following the Summer 2024 Consultation and PEI Report.
9. Updates on EIA progress and development of mitigation, including management plans and the Commitments Register.
10. An overview of the ES, including setting out the baseline and any updates from the PEI Report, as well as providing an overview of the findings of the EIA.

16.3.8 Comments received as part of the EIA Working Groups and matters resolved in relation to resources and waste management included:

1. An introduction to the proposed approach to the waste management assessment and the materials assessment which included mineral

safeguarding was provided at the meeting held on 14 June 2022. Following this meeting, data requests were submitted to and followed up by HCC.

2. A discussion regarding the scoping responses and how they would be addressed within the PEI Report assessments was held at the meeting held on 8 November 2022. Within this session the stakeholders agreed with the use of the latest available data published in the Waste Data Interrogator by the EA [26] to set the baseline region.
3. A discussion regarding the inclusion of the potential impact on Hampshire's landfill capacity from the Proposed Development was held at the meeting on 30 September 2024. Within this session it was agreed that the waste assessment would consider the potential occupation of Hampshire's landfill capacity, were all of the waste generated by the Proposed Development to remain within Hampshire. This has been presented in section 16.8.

16.4 Primary and tertiary mitigation

Primary measures

16.4.1 As described in ES Chapter 3 Description of the Proposed Development, Volume I, (Document reference 6.1, DCO Volume 6) a range of measures have been embedded into the Proposed Development design to avoid or reduce environmental effects.

16.4.2 Relevant for resources and waste management assessment, the Proposed Development has undergone an extensive scheme development process. This has included identifying and assessing options against environmental considerations relevant to waste and mineral safeguarding. The pipeline corridor route selection process included criteria relating to the length of the corridors, to reduce the overall quantity of waste generation, and to avoid known risk sites with respect to ground contamination as far as practicable, and these factors were taken into account along with other route selection criteria as explained in ES Chapter 4, Consideration of alternatives, Volume I (Document reference 6.1, DCO Volume 6). In addition, safeguarded sites for mineral extraction listed under the HWMP and the sites that have been identified in the latest versions of the LAA [27] have been avoided where possible.

Tertiary measures

16.4.3 Good construction practices are set out in the Outline CEMP (Document reference 7.1, DCO Volume 7) which is secured by a requirement in the DCO and will manage the effects of construction. The measures of particular relevance to resources and waste management assessment are:

1. The development would involve excavation through the trenchless and open-cut trench methods for the construction of the pipelines, foundations and levelling for Above Ground Plant (AGP). To ensure effective management of minerals encountered through these works, there is a requirement in the Outline CEMP (Document reference 7.1, DCO Volume 7) for a Minerals Management Strategy (MMS) to be developed by the Contractor as part of the detailed CEMP. This MMS will address the management of mineral resources

and will align with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites [28].

2. The MMS will include the following:
   a. Extraction and handling procedures: methodologies for the extraction, handling and temporary storage and stockpiling and beneficial use within the construction of the Proposed Development.
   b. Documentation and Records: method for documenting the quantities of minerals which have been excavated, stored/stockpiled and used in the construction of the Proposed Development.
   c. Where safeguarded minerals are encountered during excavation and are not required for the construction of the Proposed Development, the potential for offsite reuse will be considered, having regard to the reasonable practicability and commercial viability of doing so in a manner that would not give rise to environmental effects not assessed in the ES.
   d. There is a requirement in the Outline CEMP (Document reference 7.1, DCO Volume 7) for a SWMP to be developed by the Contractor as part of the detailed CEMP(s). The SWMP will record any decisions given to material resource efficiency when designing and planning the proposed works. Any measures incorporated into the design of the Proposed Development, and the construction method or materials employed, in order to reduce the quantity of waste produced; or maximise the amount of waste re-used, recycled or recovered, will be captured within the SWMP.
   e. The measures secured in the Outline CEMP (Document reference 7.1, DCO Volume 7) regarding site waste management ensure that waste will be managed in line with good practice and the waste hierarchy. This will reduce waste sent to landfill, and will direct an effective circular economy approach to the management of waste materials during the construction phase. This will promote waste management activities higher up the waste hierarchy, to ensure that as much material is reused and/or recycled as reasonably practicable to reduce the amount of construction waste requiring disposal.
3. It will be required that the SWMP includes the following:
   a. Forecast and record of waste generation by European Waste Catalogue (EWC) code, including quantities, management methods, and final destinations.
   b. Application of Designing out Waste principles across all construction stages.
   c. Provision of safe, secure, and clearly designated waste storage areas.
   d. Provision of sufficient space for the on-site segregation of recyclable materials.
   e. Minimisation of hazardous waste through design opportunities prior to excavation, construction and demolition.
   f. Ensuring regular training and compliance with waste duty of care obligations.
   g. Appropriate classification of waste in accordance with Technical Guidance WM3 [29].

h. Ensuring that all equipment, temporary structures, and waste associated with construction is removed upon construction completion.

i. Requirement for transfer of waste to a licensed waste carrier taking waste to a permitted (or registered exempt) waste facility.

j. Requirement for completion and retention of waste transfer notes and hazardous waste consignment notes.

16.4.4 Decommissioning will be subject to the appropriate permits, consents and regulatory environment at the relevant time. Decommissioning works are assumed to follow good industry practice in place at the time of the works and are expected to be similar in nature to those in the Outline CEMP (Document reference 7.1, DCO Volume 7).

16.5 Assessment methodology

Mineral safeguarding

16.5.1 Likely significant effects requiring assessment may be temporary or permanent, direct, indirect, secondary, cumulative, in-combination, beneficial or adverse and may occur during construction and decommissioning. Potential likely significant effects on mineral safeguarding receptors within the scope of the assessment are summarised in Table 16-6. The scope of the assessment has responded to feedback received as detailed in section 16.3.

16.5.2 Effects from decommissioning of the Proposed Development are considered to be no greater than those identified during the construction phase and are therefore assessed to be of the same significance as those assessed for construction. Refer to ES Chapter 3 Description of the Proposed Development, Volume I, (Document reference 6.1, DCO Volume 6) section 16.8 for additional information on decommissioning. .

16.5.3 Cumulative effects are those resulting from the interrelationship between the Proposed Development and other developments (inter-project). These are reported within ES Chapter 20 Cumulative and in-combination effects, Volume I (Document reference 6.1, DCO Volume 6).

16.5.4 In-combination effects are those that result from the interaction of individual effects combined together on a single receptor or resource at a single point in time. Where the in-combination effects on mineral safeguarding are inherently assessed, these are reported within section 16.8 of this chapter. However, where a receptor is affected by multiple topics and there is the potential for significant in-combination effects to occur, these aggregated effects are reported within ES Chapter 20 Cumulative and in-combination effects, Volume I (Document reference 6.1, DCO Volume 6).

16.5.5 Table 16-6 sets out the summary of the scope for the mineral safeguarding assessment in this chapter. All scoped out elements as agreed in the EIA Scoping Opinion are confirmed in ES Appendix 5.3 Response to EIA Scoping Opinion, Volume II (Document reference 6.2, DCO Volume 6).

Table 16-6 Summary of the scope for mineral safeguarding assessment

Receptor	Construction	Operation	Decommissioning
Brick clay MSA	Scoped in	Scoped out	Scoped in
Superficial sand and gravel MSA	Scoped in	Scoped out	Scoped in
Soft Sand MSA	Scoped in	Scoped out	Scoped in

16.5.6 A likely significant effect that could result from the construction of the Proposed Development is the sterilisation of mineral resources. HCC defines sterilisation in the HMWP [16] as:

"Non-minerals-or-waste development can 'sterilise' mineral resources (make them inaccessible for potential extraction) or prejudice the operation of existing or proposed minerals or waste management sites ('infrastructure'). This can be either:

- *directly, for example by building over land that contains minerals; or*
- *indirectly, through the introduction of sensitive land uses in proximity to these resources or sites".*

16.5.7 Policy 15 of the HMWP [16] states:

"Hampshire's sand and gravel (sharp sand and gravel and soft sand), silica sand and brick-making clay are safeguarded against the needless sterilisation by non-minerals development, unless 'prior extraction' takes place. Safeguarded mineral resources are defined by a Mineral Safeguarding Area"

16.5.8 The HMWP identifies MSAs as areas that include viable resources of aggregates and are defined so that proven resources of aggregates are not sterilised by non-mineral development. The MSA does not provide a presumption for these resources to be worked. The plan also identifies MCAs, which are areas identified to ensure consultation between the relevant district or borough planning authority, the minerals industry and the Minerals and Waste Planning Authorities before certain non-mineral planning applications made within the area are determined. The MCA comprises the following:

1. Mineral resources in the MSA that are considered to be economically viable (and thereafter any updates based on newly available information).
2. Minerals and waste sites allocated in the HMWP [16].
3. Minerals infrastructure identified for safeguarding through Policy 16 (Safeguarding - mineral infrastructure).
4. Waste infrastructure identified for safeguarding through Policy 26 (Safeguarding - waste infrastructure).
5. Potential sites and areas identified for safeguarding for wharf and rail depots safeguarding through Policy 34 (Safeguarding potential minerals and waste wharf and rail depot infrastructure).

16.5.9 Within paragraph 2.32 of the HCC Supplementary Planning Document (SPD) [17] on Safeguarding, it states that the MCA includes the following buffers:

1. 250m around safeguarded mineral resources.
2. 250m around minerals and waste infrastructure in rural areas.

3. 100m around minerals and waste infrastructure in urban areas (and including areas directly opposite sites where the sites are adjacent to a water body).

16.5.10 MSAs are considered to be the sensitive receptors regarding mineral resources. Within the Glossary of the HWMP [16] for MCA it states "*The Hampshire Mineral Consultation Area covers the same areas as the Mineral Safeguarding Area*". For the purpose of this assessment we have assumed that the MSAs cover the same area as the MCA.

16.5.11 Effects from the operational phase of the Proposed Development were scoped out of the assessment. This is because the impact to minerals is generated by the physical presence of the Proposed Development thereby preventing access to underlying minerals (where present) which is created through construction and decommissioning activities. The EIA Scoping Opinion confirmed this approach and stated in Scoping ID 3.10.2 that impacts on MSAs and safeguarded minerals during operation can be scoped out.

Study area

16.5.12 This section describes the spatial scope (the area which may be impacted) for the assessment as it applies to the minerals safeguarding assessment.

16.5.13 The study area is not limited to the Order Limits, as it is recognised that the Proposed Development could result in indirect sterilisation of areas beyond the Order Limits as described in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6) through the fragmentation of mineral resources. This assessment has therefore defined the study area as the land within the Order Limits and a distance of 400m on either side of the Order Limits.

16.5.14 The Hampshire Authorities Minerals Planning documentation does not specify a recommended buffer distance around mineral workings to reduce the risk of incompatible development occurring close to a viable resource. However, the Somerset Minerals Plan [24] recommends a buffer distance for higher output aggregate quarries of 400m. As such, a distance of 400m either side of the Order Limits has been assessed. This distance is considered to be suitable for capturing the potential indirect sterilisation of land either side of the Order Limits for instances where the Proposed Development passes in the vicinity of constraints and the boundary of mineral receptors. The study area is shown on ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6).

Assessment scenarios

16.5.15 ES Chapter 5 EIA approach and methodology, Volume I, (Document reference 6.1, DCO Volume 6) provides an overview of the Proposed Development's approach to the temporal scope (the timescales over which impacts may occur) of the EIA. This section describes the temporal scope for the assessment as it applies to the minerals safeguarding assessment.

16.5.16 The assessment scenarios to be considered within the assessment are as follows:

1. Baseline (without the Proposed Development) (present day)
2. Future baseline (without the Proposed Development) (up to 2030 in line with the HMWP period)

3. Construction phase (temporary and permanent construction effects)
4. Decommissioning phase

16.5.17 The existence effect which is the physical presence of the Proposed Development is being referred to as a permanent construction effect within this assessment.

16.5.18 The minerals assessment is assessing three scenarios; temporary construction effects, permanent construction effects and decommissioning effects.

16.5.19 For the purpose of this assessment, the temporary construction activities, which includes temporary infrastructure such as compounds and temporary access roads, are activities which would require temporary land use. The reason for the inclusion of these temporary activities is that they can temporarily prevent access to underlying mineral resources. It is currently envisaged that construction would commence in 2028 and last approximately five years. For additional details on construction programme see section 3.5 of ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6).

16.5.20 Once the Proposed Development has been constructed, the permanent construction effects are being assessed which would cover the period following temporary construction through to the commencement of the decommissioning phase of the Proposed Development.

16.5.21 A qualitative assessment approach has been undertaken to assess the likely significant effects from decommissioning. This assessment can be found in section 16.8.

16.5.22 The temporal scope for the assessment set out in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6) has been adopted for the minerals safeguarding assessment to ensure consistency of approach across the ES:

1. Short-term: Up to five years during construction
2. Medium term: five – 15 years post construction
3. Long-term: Greater than 15 years post construction

Baseline methodology

Desk study

16.5.23 Baseline data collection has been undertaken to obtain information across the study area. This section provides the approach to collecting baseline data.

16.5.24 The following data sources have been accessed to inform the baseline with respect to minerals safeguarding assessment (see Table 16-7). In addition to these data sources, the minerals safeguarding assessment draws on environmental baseline data collated for other topics, specifically, baseline data presented in ES Chapter 7 Archaeology and cultural heritage, Volume I; ES Chapter 8 Terrestrial and freshwater biodiversity, Volume I; ES Chapter 11 Land quality and ground conditions, Volume I; ES Chapter 12 Land use and agriculture, Volume I; and ES Chapter 19 Water environment, Volume I (Document reference 6.1, DCO Volume 6). The baseline information that has been gathered in these chapters have been used to inform the identification of mineral extraction constraints.

Table 16-7 Data sources used to inform the minerals safeguarding assessment

Source of data	Baseline data
Hampshire Authorities	Hampshire Minerals and Waste Plan 2013 [16]
Hampshire Authorities	The Hampshire Minerals and Waste Local Plan Policies Map 2013 [30]
Hampshire Authorities	The Hampshire Minerals and Waste Plan: Partial Update – Submission Plan (2024) [18]
Hampshire Authorities	Hampshire Minerals and Waste Plan: Minerals and Waste Safeguarding in Hampshire Supplementary Planning Document 2016 [17]
British Geological Survey	Online Geology of Britain Viewer [31]
British Geological Survey	GeoIndex (Onshore) [32]
Hampshire Authorities	Minerals and Waste in Hampshire Annual Monitoring Report 2023 (February 2025) [33]
Defra	Multi Agency Government Information for the Countryside (MAGIC) map application [34]
Hampshire Authorities	Local Aggregate Assessment 2023 (February 2025) [27]

Site surveys

16.5.25 The baseline for the geological site setting is informed by Ground Investigation Surveys, set out in ES Appendix 11.2 Geotechnical and geo-environmental reports (Document reference 6.2, DCO Volume 6).

16.5.26 Information has also been sourced from publicly available information on British Geological Survey (BGS) [32] [31].

Assessment methodology

16.5.27 The approach to assessment is set out in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6). This has informed the approach used in this mineral safeguarding assessment.

16.5.28 To inform the assessment within this chapter, a mineral safeguarding assessment has been undertaken (see ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6)). The mineral safeguarding assessment focuses on identifying the potential impact of the construction of the Proposed Development on the potential for extraction of future mineral resources. The methodology for the mineral safeguarding assessment has been informed by the requirements set out in Policy 15 from the HMWP [16] and the guidance contained within the Supplementary Planning Document for Safeguarding in Hampshire [17]. For additional details on the requirement for a mineral safeguarding assessment, see section 1 of ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6).

16.5.29 The findings of the mineral safeguarding assessment have been used to inform the assessment contained within this chapter. The findings of the Mineral Safeguarding Assessment informed the current baseline by assessing the presence of minerals and informed the assessment of likely significant effects

through assessing the likelihood of mineral sterilisation from the Proposed Development during construction. The findings of the Mineral Safeguarding Assessment also informed the tertiary mitigation approach.

16.5.30 The following sections outline the methodology of the Mineral Safeguarding Assessment.

Mineral Safeguarding Assessment methodology

16.5.31 The methodology for the mineral safeguarding assessment is detailed in ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6), and summarised in the sections below.

High level Mineral Safeguarding Area review

16.5.32 The assessment identified the parts of the MSAs that are located within the study area. The assessment also identified the locations of other safeguarded minerals and waste infrastructure.

Environmental and physical constraints review

16.5.33 Following the identification of the parts of the MSAs which are located within the study area, environmental and physical features that are considered to be constraints which may prevent future mineral extraction developments were defined.

16.5.34 The extraction of mineral resources faces various constraints that limit the potential for quarrying or mining activities. These constraints encompass a range of factors including ecological and landscape constraints, the built environment, physical features and heritage considerations. These factors not only hinder the ability to extract minerals but also affect the process of obtaining consent for extraction. Further description of these constraints is outlined in paragraph 16.5.35 below.

16.5.35 In order to assess the potential for future mineral extraction activities, a comprehensive review was conducted to identify any limitations or constraints that could impede such developments. The purpose of this part of the assessment is to identify areas where it is unlikely that a future mineral extraction activity would be permitted due to existing constraints being present. Any mineral resources beneath existing constraints are considered to be already sterilised without the presence of the Proposed Development. The following features are considered to be constraints:

1. Residential properties.
2. Ecological constraints – including Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites, Sites of Special Scientific Interest (SSSI), Sites of Importance for Nature Conservation (SINC), National Nature Reserves (NNR), ancient woodland, Local Nature Reserves (LNR), Priority Habitats, and Local Wildlife Sites (LWS).
3. Landscape constraints – including Natural Landscapes (previously termed Areas of Outstanding Natural Beauty) and National Parks.
4. Heritage constraints – including Listed Buildings, Scheduled Monuments, Conservation Areas, and Registered Parks and Gardens.

5. Public Rights of Way (PRoW).
6. Adopted highways.
7. Railways.
8. Utilities (specifically the Applicant's wastewater pipelines, the Applicant's clean water pipelines, Portsmouth Water pipelines and Grid Gas utilities, additional details can be found in section 4.9 of ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6)).
9. Watercourses.
10. Flood zone 2 and 3

16.5.36 For additional information on each constraint see section 4 of ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6) and see ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6).

16.5.37 Where the Havant Thicket Reservoir coincides with a mineral receptor, the underlying mineral resources are considered to be already sterilised.

Geological site setting

16.5.38 A high-level review of the underlying geology across the entire Proposed Development was conducted. This review was informed by a Geotechnical and geo-environmental desk study (see ES Appendix 11.2 Geotechnical and geo-environmental reports, Volume II) (Document reference 6.2, DCO Volume 6); publicly available resources from the BGS online Geology of Britain Viewer [31]; ES Chapter 11 Land quality and ground conditions, Volume I; and ES Chapter 19 Water environment, Volume I (Document reference 6.1, DCO Volume 6).

Minerals assessment

16.5.39 Following the identification of the environmental and physical constraints, a review of the geological data available for areas within the study area was conducted. The review considered the areas which are not assumed to be physically constrained and are located within an MSA (see ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6)).

16.5.40 The minerals assessment is informed by geological data. The geological data is sourced from publicly available borehole log data, from the BGS GeoIndex Onshore Viewer [32]; the Proposed Development ground investigations (for additional details see ES Chapter 11 Land quality and ground conditions, Volume I (Document reference 6.1, DCO Volume 6); and ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6).

16.5.41 All available information from interpretive reports produced following the completed ground investigation phases has been used to inform ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6). Exploratory borehole logs obtained from trial pitting and borehole drilling provided a description of materials underlying the Proposed Development and was used to assess the presence of the mineral resources. ES Figure 16.3 Mineral Safeguarded Assessment: Borehole logs, Volume III (Document reference 6.3, DCO Volume 6) shows the location of the ground investigation boreholes and trial pits.

16.5.42 The findings of the minerals assessment have then been used to determine where the Proposed Development may result in the sterilisation of underlying mineral resources as a result of permanent construction effects due to the location coinciding with all of the following:

1. A MSA
2. An area which is considered currently to not have any existing constraints to mineral extraction (unconstrained)
3. Geological data indicates there to be minerals present

Needs assessment

16.5.43 The next step is to complete a needs assessment, so as to fulfil the Policy 15 Condition, set out as follows;

"Development without prior extraction of mineral resources in the Mineral Safeguarding Area may be permitted if: -

…The merits of the development outweigh the safeguarding of the mineral."

16.5.44 The needs assessment compares the need for the Proposed Development with the need for mineral resources. To determine the need for mineral resources, a review of the Hampshire Authorities' monitoring documents [33] [27] was conducted to determine the mineral landbank supply.

Approach to mineral safeguarding

16.5.45 Using the information gathered in the above assessment phases, the most appropriate approach to mineral safeguarding for the Proposed Development has been determined in line with Policy 15 outlined in the HMWP [16]. Policy 15 outlines that prior extraction of mineral resources should be sought. The HMWP Supplementary Planning Document (SPD) of Mineral Safeguarding [17], outlines the different options for prior extraction. The SPD information and the information gathered using the previous steps of the assessment has been used to determine the most appropriate approach to managing mineral safeguarding.

Assessment of likely significant effects methodology

16.5.46 The mineral safeguarding assessment (see ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6)) identifies the locations where there is a risk the Proposed Development could result in an impact on a sensitive receptor through the sterilisation of the mineral resources. The following methodology determines the significance of the effects of those impacts.

16.5.47 The definition of sensitivity is set out in Table 16-8 and the magnitude in Table 16-9. These scales for the minerals safeguarding assessment have been developed using professional judgement and are informed by the definitions, where applicable, provided in the DMRB standard for assessment of effects on mineral resources from road schemes [23]. This standard sets out a well-established framework for EIA that is approved by regulators and is widely applied by the industry with respect to linear infrastructure projects (the guidance is also applicable to non-linear elements). As the Proposed Development is an

infrastructure project of similar nature to a road scheme comprising linear and non-linear elements, the type and scale of impacts with respect to construction activities and principles of assessments are similar. Therefore, the methodology contained within the DMRB is considered appropriate and has been shared with relevant stakeholders through EIA Working Groups.

16.5.48 The significance of effect matrix in Table 16-10 use the scales outlined in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6).

Sensitivity of receptors

16.5.49 Receptor sensitivity is outlined in Table 16-8. The sensitivity of the receptor is informed by HCC Supplementary Planning Document (SPD) on Minerals and Waste Safeguarding [17] and the DMRB [23].

Table 16-8 Criteria for assessing receptor/resource sensitivity for minerals safeguarding assessment

Resource sensitivity/value of resource	Receptor/resource
High	Major strategic mineral resource areas
Medium	Regionally or locally important mineral resource areas (Mineral Safeguarded Area/Sites) (MSA)
Low	MCA
Negligible	Non-designated land

Magnitude of impact

16.5.50 For the impacts on sensitive receptors the magnitude reflects the likely loss or isolation of mineral resource from the construction and decommissioning effects of the Proposed Development. The magnitude of an impact is assessed qualitatively according to the criteria set out in Table 16-9.

Table 16-9 Criteria for assessing magnitude of impact for minerals safeguarding assessment

Magnitude of impact		Examples
Major	Adverse	Loss of receptor or resource and/or quality and integrity of receptor or resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of receptor or resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.

Magnitude of impact		Examples
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

Assessment of significance

16.5.51 The assessment of significance of an effect is informed by the sensitivity of the receptor and the magnitude of the impact as outlined above, which aligns with the project-wide approach to the assessment methodology as set out in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6). The significance of effect matrix, outlined in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6), and summarised in Table 16-10, has been used to determine the significance of the effect on the Proposed Development on each receptor across each section of the Proposed Development. Any effect judged to be of moderate or major significance is considered to be a likely significant effect in EIA terms.

Table 16-10 Significance of effect matrix

		Magnitude of impact			
		Major	**Moderate**	**Minor**	**Negligible**
Sensitivity (Value) of receptor or resource	**High**	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Minor
	Low	Moderate	Minor	Minor	Neutral
	Negligible	Minor	Neutral	Neutral	Neutral

Waste management

16.5.52 Likely significant effects requiring assessment may be temporary or permanent, direct, indirect, secondary, cumulative, in-combination, beneficial or adverse and may occur during construction and decommissioning. Potential likely significant effects on waste management receptors within the scope of the assessment are summarised in Table 16-11. The scope of the assessment has responded to feedback received as detailed in section 16.3.

16.5.53 Effects from decommissioning of the Proposed Development are considered to be no greater than those identified during the construction phase and are therefore assessed to be of the same significance as those assessed for construction. Refer to ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6) section 16.8 for additional information on decommissioning.

16.5.54 Cumulative effects are those resulting from the interrelationship between the Proposed Development and other developments (inter-project). These are reported within ES Chapter 20 Cumulative and in-combination effects, Volume I (Document reference 6.1, DCO Volume 6).

16.5.55 In-combination effects are those that result from the interaction of individual effects combined together on a single receptor or resource at a single point in time. Where the in-combination effects for waste management are inherently assessed, these are reported within section 16.8 of this chapter. However, where a receptor is affected by multiple topics and there is the potential for significant in-combination effects to occur, these aggregated effects are reported within ES Chapter 20 Cumulative and in-combination effects, Volume I (Document reference 6.1, DCO Volume 6).

16.5.56 Table 16-11 sets out the summary of the scope for the assessment in this chapter. All scoped out elements as agreed in the EIA Scoping Opinion are confirmed in ES Appendix 5.3 Response to EIA Scoping Opinion, Volume II (Document reference 6.2, DCO Volume 6).

Table 16-11 Summary of the scope for waste management assessment

Receptor	Construction	Operation	Decommissioning
Inert waste landfill capacity	Scoped in	Scoped out	Scoped in
Non-hazardous waste landfill capacity	Scoped in	Scoped out	Scoped in
Hazardous waste landfill capacity	Scoped in	Scoped out	Scoped in
Materials resource availability	Scoped out	Scoped out	Scoped out

Study area

16.5.57 This section describes the spatial scope (the area which may be impacted) for the assessment as it applies to waste management, as per the Materials and Waste ISEP Guidance [25]. Two study areas are proposed for waste:

1. The 'Development Study Area' comprises the Order Limits, as described in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6) (including areas required for temporary access, site compounds, working platforms and other enabling activities). This is the area within which waste generated by the Proposed Development is included within the assessment. Waste generated indirectly by the Proposed Development, outside of the Development Study Area, has not been considered, as per the ISEP guidance. The ISEP guidance states that this will be addressed through the planning and permitting regimes for relevant sites.
2. The 'expansive study areas' comprise a defined region, within which the capacity of remaining landfill void is likely to be impacted by waste generated by the Proposed Development. In this case this region has been defined separately for inert, non-hazardous and hazardous landfill using available EA data, see section 16.7 for additional details.

16.5.58 Within the Development Study Area, construction waste would be generated associated with:

1. The Water Recycling Plant (WRP) located at a site north-west of Budds Farm Wastewater Treatment Works (WTW)

2. The pumping stations located at the WRP site and Budds Farm WTW
3. The Pipelines between the WRP site and Bedhampton Springs, connecting to pipelines being delivered by Portsmouth Water between Bedhampton Springs and Havant Thicket Reservoir
4. The Pipeline between the WRP site and Otterbourne Water Supply Works (WSW)
5. Above Ground Plant, including:
    a. The two Intermediate Pumping Stations (IPSs)
    b. The Break Pressure Tank (BPT)
    c. The combined IPS and BPT
    d. Invasive Non-Native Species (INNS) Treatment at Otterbourne WSW

16.5.59 The Proposed Development would use pipelines that have been consented and will be constructed separately by Portsmouth Water between Bedhampton Springs and Havant Thicket Reservoir and therefore there will be no associated waste generated from these elements by the Proposed Development.

16.5.60 Separate expansive study areas have been determined for each category of waste, using the latest available data at the time of drafting, published in the 2024 Waste Data Interrogator by the EA [26]. The regions in which waste generated in Hampshire is disposed of have been analysed, with regions accepting more than 10% of the total waste generated being selected to form the expansive study areas, see section 16.7 for additional details.

Assessment scenarios

16.5.61 ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6) provides an overview of the Proposed Development's approach to the temporal scope (the timescales over which impacts may occur) of the EIA. This section describes the temporal scope for the assessment as it applies to waste management.

16.5.62 The assessment of likely significant effects on waste management assesses the changes (effects) to the current and future baseline during the construction and decommissioning phases of the Proposed Development. For the purposes of the construction phase waste assessment, it is necessary to undertake a forecast of waste generated throughout the construction period, and the proportion likely to require off-site disposal. The construction waste forecast is broken down into the distinct construction phase works typically generating waste; these are demolition, excavation and construction. The assessment is then undertaken quantitatively based on the total estimated waste generation of these waste types over the construction period, compared against the available landfill capacity forecast to be available in the final year of construction for each waste type (non-hazardous, hazardous and inert). A qualitative approach has been taken to assess the likely significant environmental effects of the Proposed Development at eventual end of life decommissioning.

16.5.63 The assessment scenarios considered within the waste assessment are as follows:

1. Baseline (without the Proposed Development) (based on 2024 data)

2. Future baseline (without the Proposed Development) (up to 2034)
3. Construction phase (2028 to 2034)
4. Decommissioning phase

16.5.64 For the waste assessment, the sensitive receptor is considered to be landfill capacity (see paragraph 16.5.70). To ensure that the potential impact of waste generated by the Proposed Development is considered against the landfill capacity likely to be available in the years in which the waste is generated, forecasts have been made of the likely available landfill capacity up until the end of construction. It is currently envisaged that construction of the Proposed Development would take approximately five years, with the majority of construction taking place during a four year period, assumed to commence in 2028. It is envisaged that additional fit-out and commissioning works would continue to take place until 2034. Forecasts have been made of the likely available landfill capacity between 2024 and 2034.

Baseline methodology

Desk study

16.5.65 Baseline data collection has been undertaken to obtain information across the study area. This section provides the approach to collecting baseline data.

16.5.66 The following data sources have been accessed to inform the baseline with respect to waste management (see Table 16-12).

Table 16-12 Data sources used to inform the waste assessment

Source of data	Baseline data
Department of Environment, Food and Rural Affairs (Defra)	UK Statistics on waste – Recovery rate from non-hazardous construction and demolition waste, England, 2010-2022 [35]
Environment Agency (EA)	EA Remaining Landfill Capacity 2024 - Summary Tables [26]
Environment Agency (EA)	EA Waste Data Interrogator 2024 [26]
Hampshire Authorities (as defined in paragraph 16.2.6)	Hampshire Minerals and Waste Plan 2013 [16]
Hampshire Authorities	The Hampshire Minerals and Waste Local Plan Policies Map 2013 [30]
Hampshire Authorities	Hampshire Minerals and Waste Plan: Minerals and Waste Safeguarding in Hampshire Supplementary Planning Document 2016 [17]
Hampshire Authorities	Minerals and Waste in Hampshire Monitoring Report 2023 [33]
Hampshire Authorities	Project Integra; Joint Municipal Waste Management Strategy 2021 [36]

16.5.67 Baseline data collection for the waste assessment has been desk-based. No surveys specific to the waste assessment have informed the ES, as publicly available datasets provide sufficient baseline information.

Assessment methodology

16.5.68 The approach to assessment is set out in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6). This has informed the approach used in this waste management assessment.

16.5.69 This waste assessment aligns with the approach and methodology defined in the Materials and Waste ISEP Guidance [25]. This assessment is based on the quantification of solid waste forecast as likely to be generated as a result of construction of the Proposed Development. Likely significant effects have been identified based on the fraction of waste generated that would require off-site disposal to landfill, which is considered to be a finite resource and the least preferred waste management option. This assessment considers:

1. The types and quantities of waste that would be generated
2. The quantity of waste that would require off-site disposal to landfill
3. The availability of off-site landfill disposal capacity

Sensitivity of receptors

16.5.70 For the waste assessment, the sensitive receptor is considered to be landfill capacity. Landfill is considered a sensitive receptor, as due to the ongoing disposal of waste and occupation of the available landfill void space, there is a continued need to expand landfill capacity leading to the depletion of natural resources such as soils and mineral resources. The loss of natural resources from the disposal of waste, results in permanent adverse environmental impacts and degradation of the natural environment.

16.5.71 In the UK, landfill sites are permitted based on the type of waste that they are able to accept:

1. Inert waste
2. Non-hazardous waste
3. Hazardous waste

16.5.72 These categories of landfill are distinct, and capacity is not interchangeable between them. The likely significant effects are therefore considered independently for each category of landfill. Landfill sensitivity is defined by assessing how the future baseline of regional landfill void capacity is expected to change without any additional waste from the Proposed Development. The sensitivity of landfill void capacity is assessed by applying the following two-step process:

i. Forecast the landfill void capacity that is expected to be available within the defined expansive study areas in the absence of the Proposed Development for the period 2024 to 2034. This is undertaken using historical trends.

ii. Calculate the utilisation of landfill void capacity, which compares capacity in the final year of construction to the baseline year.

16.5.73 Table 16-13 sets out the thresholds for assessing sensitivity in inert, non-hazardous and hazardous landfill.

16.5.74 Waste transfer, treatment, recycling and recovery infrastructure that is employed to recover value from waste, and thus divert arisings from landfill, is not considered to comprise a sensitive receptor for the purposes of this waste management assessment. Such facilities are an influencing factor in the reduction of the magnitude of waste impacts on landfill void capacity, and have the ability to reduce adverse environmental impacts. Furthermore, the capacity of such infrastructure is defined by its annual throughput and it does not comprise a finite resource, as

is the case for landfill void space. Any waste managed at waste recovery infrastructure, does not generate a permanent residual impact on the future capacity of the facility. Impacts on waste transfer, treatment, recycling and recovery infrastructure are not considered to comprise an environmental effect and are expected to be managed by the respective waste planning authorities, as part of their responsibilities under the National Planning Policy for Waste [12]. Impacts on waste transfer, treatment, recycling and recovery infrastructure are therefore not considered further.

Table 16-13 Sensitivity thresholds for inert, non-hazardous, and hazardous landfill (adapted from Materials and Waste Institute of Sustainability and Environmental Professionals Guidance)

Waste types	Negligible	Low	Medium	High	Very high
Inert and non-hazardous	Landfill void capacity remains unchanged or is expected to increase through a committed change in capacity.	Landfill void capacity reduced minimally by <1%.	Landfill void capacity reduced noticeably by 1-5%.	Landfill void capacity reduced considerably by 6-10%.	Landfill void capacity reduced considerably by >10%; reach capacity during construction or operation; is already known to be unavailable within the expansive study area; or, would require new capacity or infrastructure to be put in place to meet forecast demand.
Hazardous	Landfill void capacity remains unchanged or is expected to increase through a committed change in capacity.	Landfill void capacity reduced minimally by <0.1%.	Landfill void capacity reduced noticeably by 0.1-0.5%.	Landfill void capacity reduced considerably by 0.5-1%.	Landfill void capacity reduced considerably by >1%; reach capacity during construction or operation; is already known to be unavailable within the expansive study area; or, would require new capacity or infrastructure to be put in place to meet forecast demand.

Magnitude of impact

16.5.75 Using future baseline and waste forecast data, the potential magnitude of impact from waste is assessed by determining the percentage of the remaining landfill void capacity that would be depleted by waste generated during the construction of the Proposed Development which is likely to require off-site disposal to landfill, see Table 16-14. The volume of forecast waste for disposal is compared to the remaining landfill void capacity (as forecasted based on historical trends), to identify expected utilisation over the construction phase of the Proposed Development. The magnitude of impact for inert and non-hazardous waste is calculated using the regional forecast landfill capacity for the appropriate defined expansive study areas for that waste type, as set out in the Materials and Waste ISEP Guidance. The magnitude of impact for hazardous waste is calculated using the national landfill void capacity, as per the Materials and Waste ISEP Guidance and trends in hazardous waste management, see Table 16-14.

Table 16-14 Magnitude of impacts thresholds for waste assessment (adapted from Materials and Waste Institute of Sustainability and Environmental Professionals Guidance)

Waste types	No change	Negligible	Minor	Moderate	Major
Inert and non-hazardous	Zero waste generation and disposal from the Proposed Development.	Waste generated by the Proposed Development would reduce regional landfill void capacity baseline by <1%.	Waste generated by the Proposed Development would reduce regional landfill void capacity baseline by 1-5%.	Waste generated by the Proposed Development would reduce regional landfill void capacity baseline by 6-10%.	Waste generated by the Proposed Development would reduce regional landfill void capacity baseline by >10%.
Hazardous	Zero waste generation and disposal from the Proposed Development.	Waste generated by the Proposed Development would reduce national landfill void capacity baseline by <0.1%.	Waste generated by the Proposed Development would reduce national landfill void capacity baseline by 0.1-0.5%.	Waste generated by the Proposed Development would reduce national landfill void capacity baseline by 0.5-1%.	Waste generated by the Proposed Development would reduce national landfill void capacity baseline by >1%.

Significance of effect

16.5.76 The significance of the effect is identified through comparison of the sensitivity of the relevant landfill type and the magnitude of impact resulting from the estimated waste arisings in accordance with the matrix set out in Table 16-15. Effects of moderate, large or very large significance, are considered to be significant in EIA terms. Where a threshold is 'slight or moderate' i.e. transcends the significant - or not - effect boundary, professional judgement has been used in-combination with documented justification, to determine an outcome.

Table 16-15 Significance thresholds for waste effects (Materials and Waste Institute of Sustainability and Environmental Professionals Guidance)

		Magnitude of impact				
Sensitivity (or value) 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 or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or slight	Slight	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

16.6 Assumptions and limitations

16.6.1 This section provides a description of the assumptions and limitations to the minerals safeguarding and waste management assessments.

Minerals safeguarding

16.6.2 The HMWP has defined MCAs which includes safeguarded mineral resources and safeguarded minerals extraction sites and is presented on ES Figure 16.1 Proposed Development and Mineral Safeguarded Areas and Safeguarded Minerals and Waste Sites, Volume III (Document reference 6.3, DCO Volume 6).

16.6.3 Within the Glossary of the HWMP for MCA it states *"The Hampshire Mineral Consultation Area covers the same areas as the Mineral Safeguarding Area".* For the purpose of this assessment we have assumed that the MSA cover the same area as the MCA. For consistency the assessment has referred to the mineral receptors as MSA.

16.6.4 This assessment has been conducted using the geological information that is available to date. Ground investigations have been undertaken but are limited to within the boundaries of the Order Limits. The study area for the assessment extends to 400m either side of the Order Limits. For areas located outside of the Order Limits but within the study area BGS publicly available information [32] [31] has been used.

16.6.5 The Proposed Development route alignment has been refined since the GI works were carried out, and several ground investigation locations completed during Phase 2 ground investigation works are now over 7km from the current Order Limits, in particular in Sections F and G. Geo-environmental and geotechnical data collected at these locations were not further considered as part of the Mineral Safeguarding Assessment (ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6)).

16.6.6 It has been assumed that any underlying mineral resource beneath the Proposed Development Order Limits would be considered sterilised for the duration of the construction and operation.

Waste

16.6.7 In order to reduce waste arisings and demand on resources, material required as fill material would be sourced from earthworks associated with the Proposed Development wherever possible. This assumes that processing of the site won materials would produce the necessary quality of materials resulting in a neutral cut and fill balance for uncontaminated excavated material for the pipeline construction associated with the Proposed Development laid using open-cut methodology.

16.6.8 It is assumed that any reused or recycled materials will be used in line with measures set out in the Outline CEMP (Document reference 7.1, DCO Volume 7).

16.6.9 Using data on the predominant destinations for waste generated in Hampshire, from the Waste Data Interrogator data in 2024 [26], it is assumed that waste would be disposed to landfill within the following regions, see section 16.7 for additional detail:

1. Inert – South East and Wiltshire
2. Non-hazardous – South East
3. Hazardous – South East and Wiltshire

16.6.10 The assessment conclusions represent a worst case assessment regardless of pipeline depth, on the basis that the assessment conclusions in section 16.8 would only change if there was a six-to eight-fold increase in hazardous waste generated during construction. No inert or non-hazardous waste is expected to be generated through excavation associated with the pipeline, and therefore these categories of waste would be unaffected by changes in pipeline depth. Such an increase in the volume of hazardous waste for the Proposed Development is not likely as it would require the pipeline and AGP foundations to be constructed approximately six to eight times deeper than set out in ES Chapter 3 Description for the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6).

16.7 Baseline conditions

16.7.1 To provide an assessment of the likely significant effects from the Proposed Development in terms of resources and waste management, it is necessary to identify and understand the baseline conditions in the study areas for each assessment. This provides a reference point against which potential changes in resources and waste management can be assessed.

Minerals safeguarding

Current baseline

16.7.2 For minerals safeguarding it is necessary to identify and understand the baseline conditions in the study area. A summary of the current baseline in the context of mineral safeguarding is outlined in Table 16-16. For more details see ES Appendix

16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6). The location of the areas at risk of sterilisation by the Proposed Development are shown on ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6).

16.7.3 As detailed in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6), the Havant Thicket Reservoir is to be constructed under a separate planning permission, and therefore it is considered to be existing infrastructure for the purpose of the future baseline. Therefore, the impact of Havant Thicket Reservoir on mineral receptors (MSAs) has not been assessed. Where the Havant Thicket Reservoir coincides with a mineral receptor, the underlying mineral resources are considered to be already sterilised.

Table 16-16 Summary of current baseline for mineral safeguarding

Proposed Development Section	Mineral Safeguarded Area	Constraints within study area	ES Figure 16.1 Sheet Reference
WRP site	Located within a Superficial Sand and Gravel MSA.	Landfill	ES Figure 16.1, Sheet 2
Pipelines between Budds Farm WTW and the WRP site	Located within a Superficial Sand and Gravel MSA.	Landfill, watercourse, HMWP safeguarded site for mineral processing, HWMP safeguarded waste site buffer zone (this site is operated by the Applicant).	ES Figure 16.1, Sheet 2
Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works			
Section D: The WRP site to Portsdown	Western extent located within a Brick Clay MSA.	Residential properties (100m buffer[1]), LWS, HMWP safeguarded waste processing site buffer zone.	ES Figure 16.1, Sheet 2
Section E: Portsdown to Boarhunt	Located within a Brick Clay MSA	Adopted highways, residential properties (100m buffer[1])	ES Figure 16.1, Sheet 3
Section F: Boarhunt to Crockerhill	Partially located within a Superficial Sand and Gravel MSA, a Soft Sand MSA and a Brick Clay MSA.	OS open roads, local roads, a Portsmouth water net water pipe, residential properties (100m buffer[1]), Priority Habitats, ancient woodland, HMWP safeguarded waste treatment site buffer zone.	ES Figure 16.1, Sheet 3

[1] Section 5.15 of HWMP states that operational mineral extraction sites to have a minimum buffer of 100m from nearest sensitive human receptors. As such a 100m buffer has been placed around all residential properties that are located within the study area.

Proposed Development Section	Mineral Safeguarded Area	Constraints within study area	ES Figure 16.1 Sheet Reference
Section G: Crockerhill to Wickham	Located within Soft Sand MSA and Superficial Sand and Gravel MSA.	Residential properties (100m buffer[1]) and Priority Habitats, HMWP safeguarded water treatment works site buffer zone (this site is operated by the Applicant).	ES Figure 16.1, Sheet 4
Section H: Wickham to Shedfield	Predominantly located within a Soft Sand MSA and partially located within a Superficial Sand and Gravel MSA.	Residential properties (100m buffer[1]) and adopted highways.	ES Figure 16.1, Sheet 4
Section J: Shedfield to the River Hamble	Predominantly located within a Soft Sand MSA and smaller sections located within a Superficial Sand and Gravel MSA.	Adopted highways, HMWP safeguarded mineral processing site buffer zone.	ES Figure 16.1, Sheet 4
Section K: The River Hamble to Lower Upham	Located within a Superficial Sand and Gravel MSA. Temporary access roads to the construction compounds are located within a Brick Clay MSA.	Residential properties (100m buffer[1]), PRoW, and Priority Habitats, HMWP safeguarded minerals processing site buffer zone.	ES Figure 16.1, Sheet 4 and 5
Section L: Lower Upham to Brambridge	Partially located within a Brick Clay MSA and Superficial Sand and Gravel MSA.	Residential properties (100m buffer[1]).	ES Figure 16.1, Sheet 5
Section M: Brambridge to Otterbourne WSW (including Invasive Non-Native Species Treatment (INNS) at Otterbourne WSW)	Located within a Superficial Sand and Gravel MSA and partially within a Brick Clay MSA.	Railways, local roads, watercourse, PRoW, Flood Zone 2 and 3, Priority Habitats, underground utilities, and ecologically designated sites.	ES Figure 16.1, Sheet 5

Future baseline

16.7.4 The Annual Monitoring Report for 2023 published by the Hampshire Authorities in 2025 [33], the latest LAA [27] and the HMWP Partial Update [18] detail the current and future situation in Hampshire with respect to all aspects of aggregate (sands and gravels) and brick-clay supply.

Future aggregate demand (including sand and gravel)

16.7.5 The latest LAA was published in February 2025 for year 2023 and reviewed the future demand for aggregate. The review identified infrastructure projects that at the time were planned for Hampshire, which are expected to significantly increase future aggregate demand in the region. These projects primarily focussed on housing and transport developments. The LAA stated that over the next 15 years, more than 120,000 new homes were planned to be built in Hampshire, including 6,000 in the Welborne development in Fareham, 4,000 in the Whitehill and Bordon development in East Hampshire, and 3,850 in the Aldershot Urban Extension in Rushmoor.

16.7.6 For housing projects, the completion of housing construction in Hampshire has been steadily increasing since 2013 however, the LAA recognises that there are now signs that the construction is slowing with a decrease in completions over three consecutive years. Completions decreased by approximately 4.47% between 2022 and 2023, and by approximately 30.37% in the three years since the peak year for housing completions in 2019.

16.7.7 Furthermore, the LAA identified several major highway projects in Hampshire, including the upgrade of Junction 10 of the M27 and Junction 9 of the M3. The LAA recognised that National Highways have a significant investment strategy for the strategic road network in Hampshire including the A27, M27 to M271 junction and upgrading the A34 to motorway standards.

16.7.8 The LAA states that Network North Funding has been received from the Government for £132.3 million in additional funding over an 11 year period for the resurfacing of carriageways, cycleways, and footways as well as wider maintenance. The Capital Programme for Hampshire [37] contains forecast investments of £163 million for structural maintenance and improvement of roads and bridges. There is also an estimated £73m Integrated Transport Plan scheme contained in the Capital Programme including £43m of schemes concerned with walking and/or cycling improvements. Aggregate will be required to undertake the future work that the funding has been allocated for.

16.7.9 The level of housebuilding, along with the planned infrastructure construction demonstrates there is a continuation in demand for aggregate supplies. The LAA recommends that in order to meet the future aggregate demand, Hampshire needs to have a sufficient aggregate landbank and capacity available to import aggregate at rail depots and wharves, and enable the production of high-quality recycled and secondary aggregate.

Aggregate landbank

16.7.10 The latest Annual Monitoring Report for 2023 (published by the Hampshire Authorities in February 2025) states that for sand and gravel the landbank is at 6.94 years based on the local requirement of 1.56 Mt per annum and the current permitted reserve.

16.7.11 Policy 20 (Local land-won aggregates) of the HMWP has identified specific sites for local land-won aggregates.

16.7.12 In reference to Policy 20, the latest LAA identifies two sites in Hampshire that are not located in the study area which have not been subject to any planning

applications, but if implemented could contribute to the land-won aggregate supply in Hampshire:

1. Bramshill Quarry Extension (1.0 Mt)
2. Cutty Brow (1.0 Mt)

16.7.13 The LAA identifies several current planning applications for sand and gravel sites in Hampshire, and if approved, are expected to contribute to the expansion of the landbank. These include planning applications for sites located in Hampshire all of which are located outside of the study area:

1. Purple Haze (4.0 Mt)
2. Ashley Manor Farm (1.7 Mt)
3. Hamble Airfield (1.5 Mt)

16.7.14 The application at Hamble Airfield was refused at planning committee in May 2024. However, as this LAA looks at applications valid and in the pipeline during the calendar year 2023, it has been included in Table 16-17. This refusal was appealed and the Planning Inspectorate granted approval for the Proposed Development on 16/10/2025.

16.7.15 The inclusion of current application sites in the reserves for Hampshire increases the landbank from 6.94 years to 11.56 years. The LAA notes that if the Bramhill Quarry extension and Cutty Brow come forward this would increase the landbank to 12.83 years. However, these figures are based on the requirement rates set out in the HMWP [16]. If the Annual Provision Rate (APR) set out in the LAA (based on HCCs judgement/default 10-year average sales) were applied, the landbank improves further to 22.49 years.

16.7.16 The LAA states that:

> *"Whilst the current reserves in Hampshire fall short of the 7-year minimum required landbank when calculated using the local requirement figure, an adequate landbank is provided when either including the reserves of the current applications or using the set APR (or average sales figures). This demonstrates that there is an adequate future supply planned for Hampshire in the short term. However, this is on the assumption that planning permission for all schemes will be granted, and it should be noted that any rapid increase in demand rise rapidly will deplete the landbanks more quickly".*

16.7.17 Table 16-17 details the adjusted landbank figures.

Table 16-17 Adjusted aggregate landbank figures with future applications and allocated sites (LAA, 2023 [27])

Scenario	Permitted Reserve (Mt)	Landbank based upon Local Requirement (years)[1]	Landbank based upon APR Rate[2]	Landbank based upon 10yr average sales between 2014-2023 (years)	Landbank based upon 3yr average sale between 2021-2022 (years)	Landbank based upon 2023 sales (years)
Current reserves	10.82	6.94	12.16	12.30	15.24	15.68

Scenario	Permitted Reserve (Mt)	Landbank based upon Local Requirement (years)[1]	Landbank based upon APR Rate[2]	Landbank based upon 10yr average sales between 2014-2023 (years)	Landbank based upon 3yr average sale between 2021-2022 (years)	Landbank based upon 2023 sales (years)
Current Applications[3]	7.2	4.62	8.09	8.18	10.14	10.43
Allocated Sites[4]	2.0	1.28	2.25	2.27	2.82	2.90
Total	20.02	12.83	22.49	22.75	28.20	29.01

[1] Local Requirement for Sharp sand and gravel – 1.28, Soft Sand – 0.28, Total – 1.56 (Mt per annum).
[2] APR Rate for Sharp sand and gravel – 0.74, Soft Sand – 0.15, Total – 0.89 (Mt per annum).
[3] Current Applications: Purple Haze, Ashley Manor Farm and Hamble Airfield.
[4] Not subject to current planning application.

16.7.18 The LAA also recognises recycled and secondary aggregate production will be encouraged to help increase the landbank figures. However, the LAA states:

"whilst the market share of recycled and secondary aggregates has increased overall, the Mineral Products Association view was that the use of these aggregates may be nearing their full potential in Britain. However, a recent study showed that recycled aggregates volumes hit a record high in 2022 and accounted for over 30% of the country's total demand for aggregates. That said, it is accepted that there will still be a reliance on land-won and marine won aggregates"

Brick clay

16.7.19 Footnote 81 of the National Planning Policy Framework (NPPF) [11] outlines the landbank requirement for mineral supply is of "*at least 25 years for brick clay".* Only one local operational brickworks, Michelmersh, near Romsey, has been identified in the HMWP Partial Update [18]. The HMWP Partial Update states:

"Further brick-making resources will be required once the permitted reserves at Michelmersh have been exhausted. This is likely to be from 2037".

16.7.20 The Annual Monitoring Report states that in 2023 the landbank for brick-making clay in 2023 breached the respective 25 year landbank threshold for more than five successive years. Policy 22 (Brick-making clay) in the HMWP Partial Update does not identify any other reserves.

16.7.21 Both data sources indicate that there are insufficient reserves identified to meet the landbank.

16.7.22 In the HMWP Partial Update, Policy 22 (Brick-making clay) states:

"A supply of locally extracted brick-making clay for use in Hampshire's remaining brickworks that will enable the maintenance of a landbank of at least 25 years of brick-making clay, will be provided from:…

2) Clay extraction outside the sites identified could take place where:

a) *the development is in line with the other policies in this Plan, the development would not pose significant adverse harm to the environment and local communities; and*

b) *there is a demonstrated need for the development; and/or*

c) *the extraction of brick-making clay is incidental to the extraction of local land-won aggregate at an existing sand and gravel quarry."*

16.7.23 The identification of further brick-making clay resources to support the brickworks at Michelmersh is required to ensure that the brickworks have a secure and long-term supply of brick-making clay. However, based on current extent of potential resource identified within the HMWP, the potential resource is present within the MSA, but HCC need to identify potential sites to enable the supply. Therefore, the sensitivity of the receptor is not vulnerable to future change.

Impacts from climate change

16.7.24 Climate change is causing more extreme weather in the UK resulting in increases in rainfall during parts of the year. The increase in rainfall could result in rising groundwater levels, which has the potential to affect the ability to extract mineral resources, due to a potential increase in inflow of groundwater to the extraction area. This would create operational risks as well an adverse environmental impact.

16.7.25 Climate change has the potential to impact on the hydrology of surface drainage networks, with higher winter flows, lower summer flows and a greater number of storm related flood flows. The risk of flooding would also be amplified as a result of the predicted increase in rainfall which may result in an increase in peak river flows and an increase in the magnitude of surface water flooding. The increase in flooding may result in a decrease in land available for the extraction of minerals. If there is less land available this could result in the receptor becoming more sensitive as a result.

Sensitivity and impact on receptors

16.7.26 Using the information detailed above, the HCC Supplementary Planning Document on Minerals and Waste Safeguarding [17] and the DMBR [23], the resource/receptor sensitivities for the minerals assessment have been defined and are presented in Table 16-8.

16.7.27 The review of the current available information on mineral supply has shown that Mineral Planning Authority has identified sites which have the opportunity to supply mineral resources and therefore contribute to the landbank figures. These sites are considered to have either a high or medium sensitivity. In addition, MSAs are considered to be regionally or locally important have a medium sensitivity. A MCA has been allocated a low sensitivity due to the expansive area included within each of the MCA resources identified within the HMWP [16].

Waste

Current baseline

16.7.28 To provide an assessment of waste management, it is necessary to identify and understand the landfill capacity baseline conditions in the expansive study areas.

This provides a reference state against which any potential changes in waste management can be assessed. For the purposes of setting the baseline with respect to existing waste generation on the Proposed Development, it is reasonable to assume that no waste is currently generated within the Development Study Area on an annual basis.

16.7.29 This section describes the relevant baseline conditions within the expansive study areas, which extends to all areas in which waste generated by the Proposed Development could be reasonably expected to be managed.

16.7.30 The Proposed Development extends across the following host authorities: HCC, EHDC, HBC, PCC, WCC, FBC and EBC. HCC, in conjunction with PCC and SCC, has entered into a partnership as a waste disposal authority with 11 waste collection authorities as part of Project Integra; the Joint Municipal Waste Management Strategy for Hampshire [36]. Whilst the local planning authority has an obligation to facilitate the development of sufficient waste infrastructure to manage waste generated in their area, 2024 Waste Data Interrogator data [26] published by the EA has been used to define baseline landfill capacity for inert, non-hazardous and hazardous waste for this assessment.

16.7.31 The Waste Data Interrogator data shows that inert waste generated in Hampshire is exported throughout the South East and the Wiltshire sub-region of the South West of England for management [26]. For non-hazardous waste generated in Hampshire, data shows that this is predominantly managed within the South East [26]. There are no restrictions on the inter-regional movement of waste within the UK, and this export trend is driven through market forces such as the cost and availability of waste infrastructure. The Materials and Waste ISEP Guidance [25] sets out that regional landfill capacity should be used for the calculation of the magnitude of impact for inert and non-hazardous waste. Therefore, these regions serve as the expansive study areas with respect to inert (South East and Wiltshire) and non-hazardous (South East) waste from the Proposed Development.

16.7.32 Waste Data Interrogator data in 2024 [26] indicates that hazardous waste generated in Hampshire is exported throughout the South East and the Wiltshire sub-region of the and South West of England for management. These regions therefore serve as the expansive study areas with respect to calculating the sensitivity of the receptor, as per the Materials and Waste ISEP Guidance [25]. However, national trends in hazardous waste management show that due to the high cost of disposal and the relatively low availability of capacity, hazardous waste is typically transported greater distances for treatment and disposal. Additionally, the Materials and Waste ISEP Guidance [25] sets out that national landfill capacity should be used for the calculation of the magnitude of impact for hazardous waste, and therefore, national capacity has also been forecasted to form the baseline for hazardous waste management capacity.

16.7.33 Based on data published by the EA [26], 2024 landfill capacity for the expansive study areas was as follows:

1. Inert waste (South East and Wiltshire) – 25,146,449 tonnes
2. Non-hazardous waste (South East) – 27,518,130 tonnes
3. Hazardous waste (South East and Wiltshire) – 631,716 tonnes
4. Hazardous waste (England) – 13,790,841 tonnes

Future baseline

16.7.34 It is currently envisaged that construction of the Proposed Development would last approximately five years, with the majority of construction taking place during a four year period, assumed to commence in 2028 It is envisaged additional fit-out and commissioning works would continue to take place until 2034. To ensure that the potential impact of waste generated by the Proposed Development is considered against the landfill capacity likely to be available in the years in which the waste is generated, forecasts have been made of the likely available landfill capacity between 2024 and 2034.

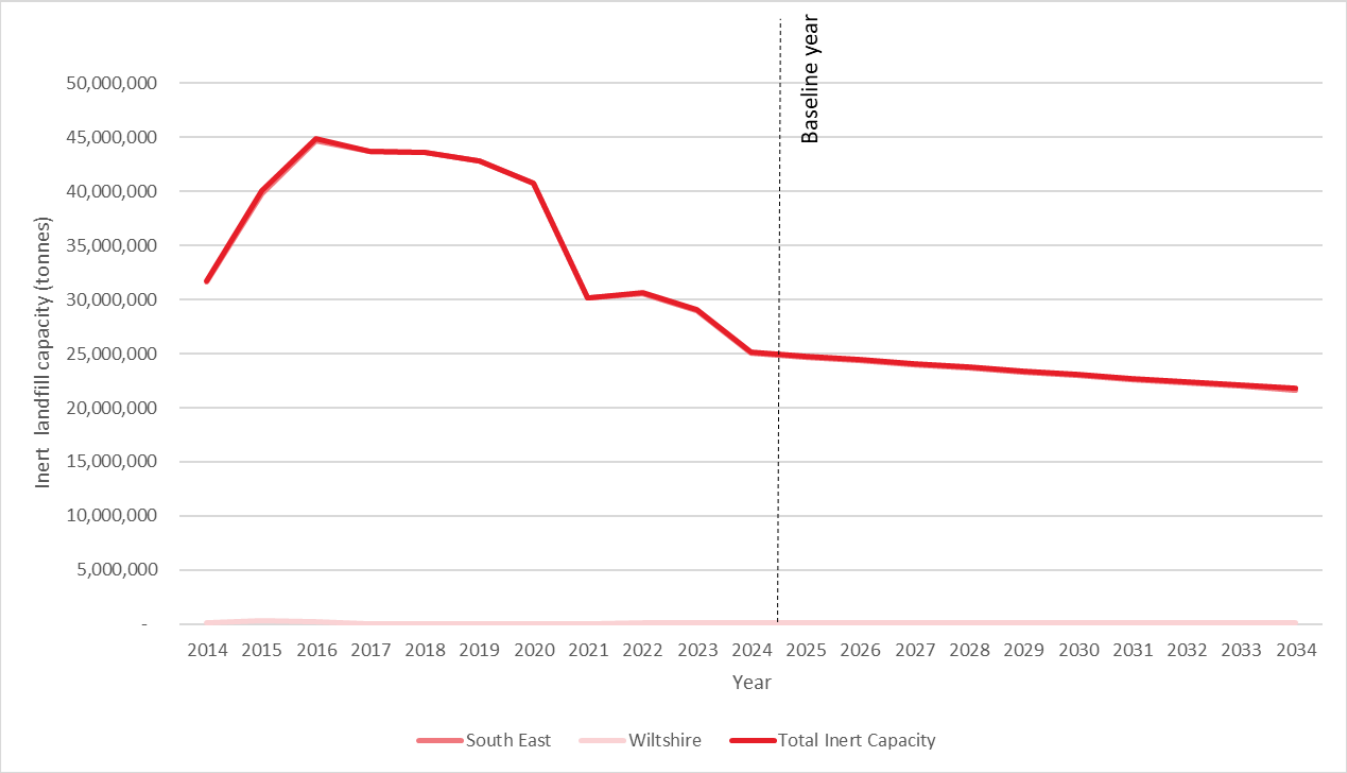
16.7.35 Trends in historic landfill capacity have been developed, by calculating average annual changes in inert, non-hazardous, and hazardous landfill capacity, based on data recording the last ten years of landfill capacity in the respective expansive study areas. This provides a robust basis for projecting future landfill capacity trends. The trend for inert, non-hazardous and hazardous landfill has been extrapolated from 2024 for the baseline period (2024-2034). Graphic 16-1, Graphic 16-2, Graphic 16-3 and Graphic 16-4 show the projected future baseline landfill capacity throughout the assessment period for inert, non-hazardous and hazardous waste respectively. These comprise the future baseline (without the Proposed Development) assessment scenario, and have been used to establish the sensitivity for inert, non-hazardous and hazardous waste. Additionally, Graphic 16-4 shows the forecast for national hazardous landfill capacity, which is used to establish the magnitude of impact, as per the Materials and Waste ISEP Guidance [25] and trends in hazardous waste management in England.

16.7.36 Available data show that the historic trend for inert waste landfill capacity in Wiltshire is for a slight increase in capacity. However, there are substantial fluctuations in capacity year on year, and as a worst case, it has been assumed that inert waste landfill capacity for Wiltshire remains unchanged from the capacity available in 2024 (the last year for which data is available). The historic data for inert landfill capacity indicates a slight decrease in capacity within the South East region. The result shows that inert waste is projected to decrease slightly throughout the baseline period across the two areas comprising the expansive study area.

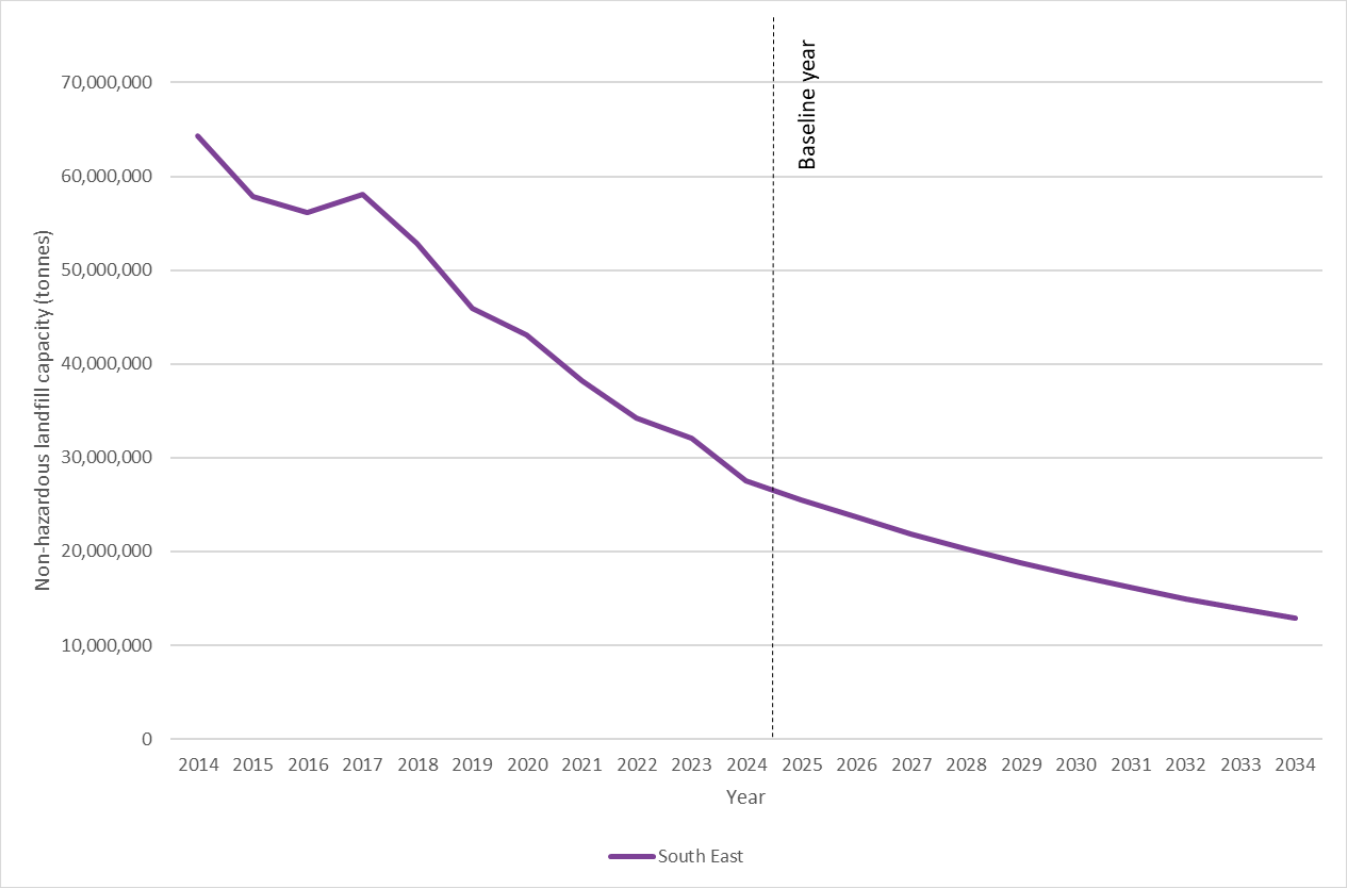
16.7.37 The historic data for non-hazardous landfill capacity indicates a steady decrease in capacity within the South East.

16.7.38 The calculated trend also shows a steady decrease in hazardous landfill capacity in the future both regionally and nationally.

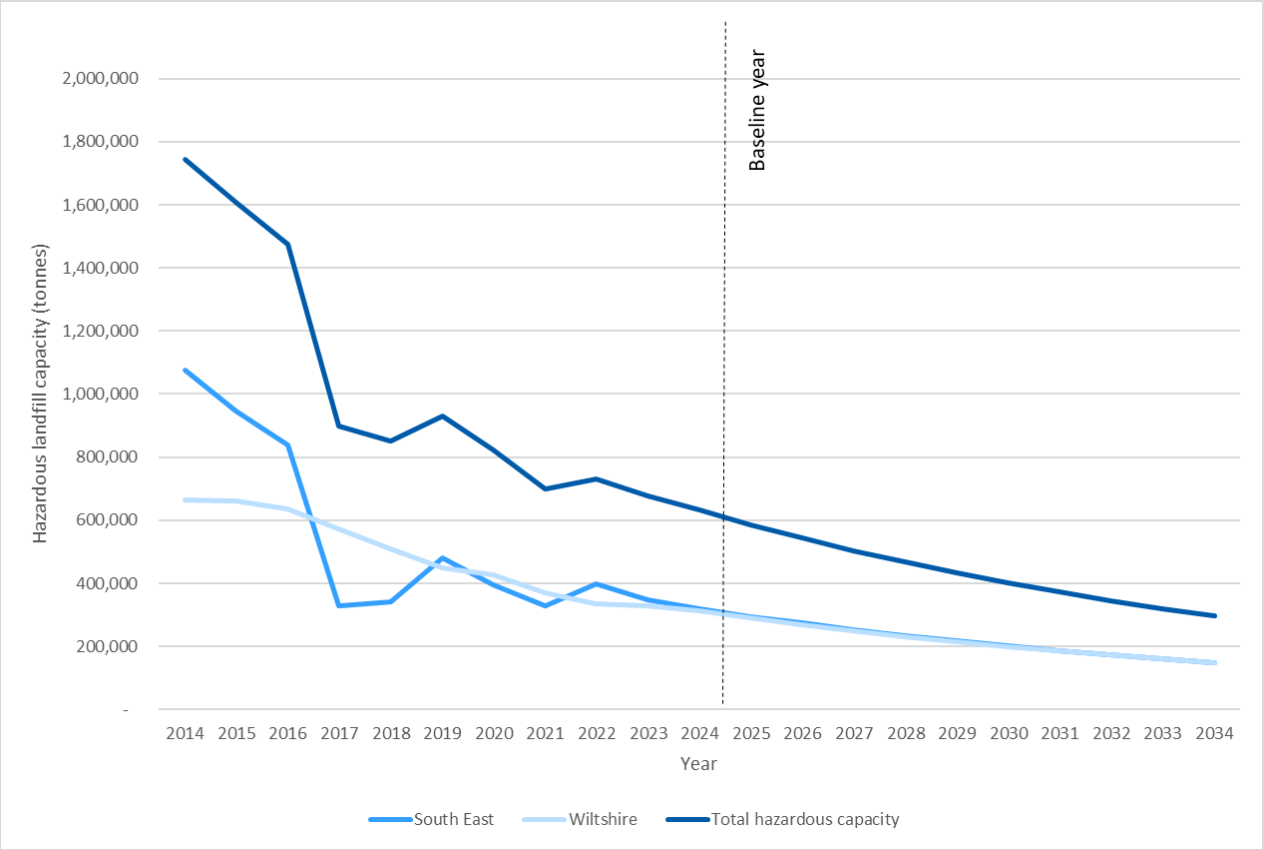
Graphic 16-1 Regional inert landfill capacity future baseline



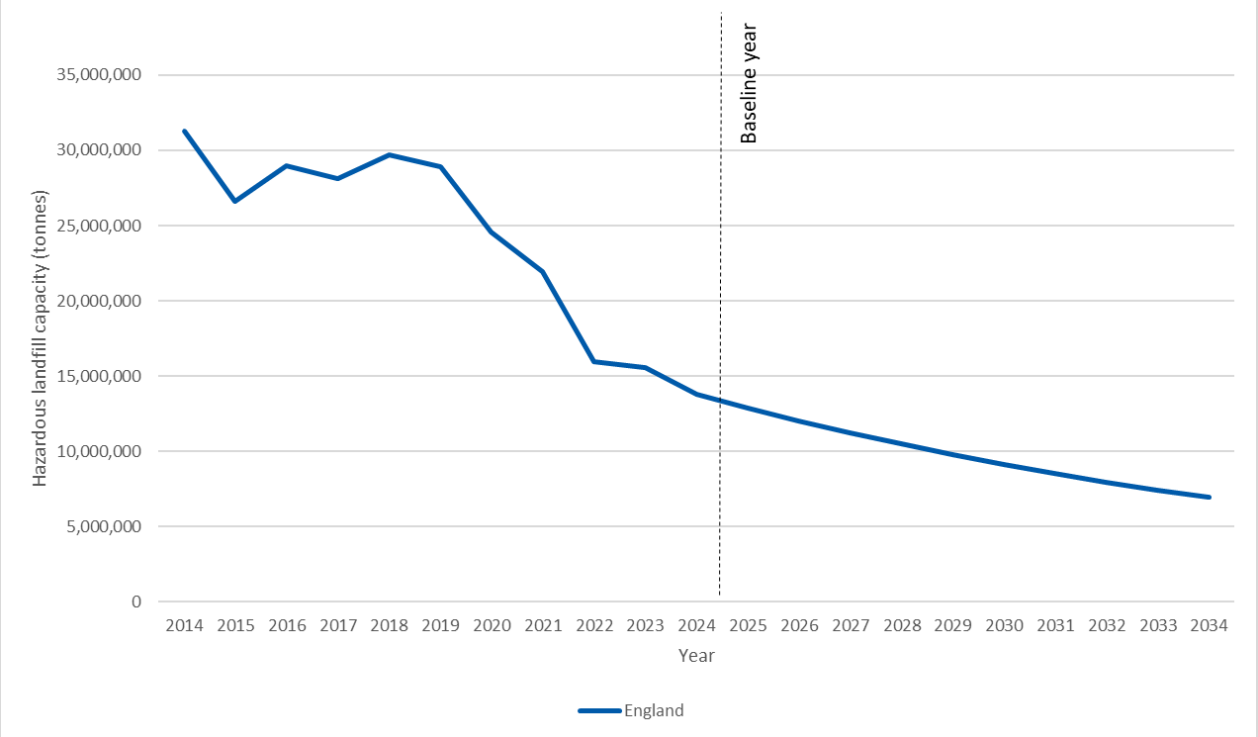
Graphic 16-2 Regional non-hazardous landfill capacity future baseline



Graphic 16-3 Regional hazardous landfill capacity future baseline



Graphic 16-4 National hazardous landfill capacity future baseline



16.7.39 Whilst it is acknowledged that there is a general trend in reducing landfill capacity nationally, waste planning authorities have a responsibility under the National Planning Policy for Waste to make provision for sufficient waste infrastructure

capacity. Trends in waste generation, the way in which waste is managed, and the timeline of landfill waste diversion policies (as set out in the Resources and waste strategy for England 2018 [38], the Waste Management Plan for England 2021 [39], the Environmental Improvement Plan 2025 [40], and other relevant strategies and policies), show that there is likely to be a continued demand for landfill capacity beyond 2034.

Sensitivity of receptors

16.7.40 As defined in the Materials and Waste ISEP Guidance [25], the sensitivity of landfill capacity as a receptor is defined by the projected proportional decline in capacity within the assessment period, without the Proposed Development. It is forecast that by the end of the construction assessment period, in the absence of the Proposed Development, landfill capacity would have declined by the following rates:

1. Inert waste – 13% utilisation of 2024 landfill capacity in the expansive study area (South East and Wiltshire)
2. Non-hazardous waste – 53% utilisation of 2024 landfill capacity in the expansive study area (South East)
3. Hazardous waste – 53% utilisation of 2024 landfill capacity in the expansive study area (South East and Wiltshire)

16.7.41 Based on the above, the sensitivity of the identified receptors, as defined in Table 16-14, is considered to be:

1. Inert waste landfill capacity – very high
2. Non-hazardous waste landfill capacity – very high
3. Hazardous waste landfill capacity – very high

16.8 Assessment of likely significant effects

16.8.1 This section presents the assessment of likely significant effects on resources and waste management resulting from the construction and decommissioning of the Proposed Development. The likely significant effects of the Proposed Development are identified taking into account primary and tertiary mitigation. Following assessment, the need for secondary mitigation is considered in section 16.9 and residual effects are explained in section 16.10.

Minerals safeguarding

Construction

16.8.2 A detailed assessment identifying the impacts of the permanent construction effects of Proposed Development on minerals safeguarding has been undertaken and is contained in section 6 of ES Appendix 16.1 Mineral Safeguarding Assessment, Volume II (Document reference 6.2, DCO Volume 6), which should be viewed in conjunction with the following ES Figures; ES Figure 16.1 Proposed Development and Mineral Safeguarded Areas and Safeguarded Minerals and Waste Sites, Volume III (Document reference 6.3, DCO Volume 6); ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6); and ES

Figure 16.3 Mineral Safeguarded Assessment: Borehole logs, Volume III (Document reference 6.3, DCO Volume 6).

16.8.3 A summary of the impacts of the Proposed Development on minerals safeguarding is outlined in Table 16-18. The Proposed Development has been separated out into the sections. Some of these sections contain Break Pressure Tanks, and Intermediate Pumping Stations. The location of these are shown on ES Figure 16.1 Proposed Development and Mineral Safeguarded Areas and Safeguarded Minerals and Waste Sites, Volume III (Document reference 6.3, DCO Volume 6).

Table 16-18 Summary of impacts from the permanent construction effects of the Proposed Development on mineral safeguarding

Proposed Development Section	Summary	Constraints within study area
WRP site (Sheet 2 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Part of the WRP site is located within a Superficial Sand and Gravel MSA which has a medium receptor sensitivity. The Proposed Development is situated on a historic landfill so any underlying mineral resources are already sterilised therefore the magnitude of the impact from the construction of the Proposed Development is considered to be negligible. Based on the presence of the existing constraints the addition of the Proposed Development will result in a very minor loss to the identified receptors.	Landfill
Pipelines between Budds Farm WTW and the WRP site (Sheet 2 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	These pipelines are located within an MSA for superficial sand and gravel which has a medium receptor sensitivity. These Pipelines are also located within an area which has been safeguarded for mineral processing in the HMWP [28]. The location of Budds Farm WTW is located within an area which has been safeguarded for wastewater treatment in the HMWP [28] which is operated by the Applicant. The land at Budds Farm WTW is constrained and therefore future mineral developments are unlikely to be permitted. These pipelines are also situated on a historic landfill, so any underlying mineral resources are likely to be already sterilised. As such the magnitude of the impact from the construction of the Proposed Development is considered to be negligible.	Landfill, watercourse, HMWP safeguarded site

Proposed Development Section	Summary	Constraints within study area
	Based on the presence of the existing constraints the addition of the Proposed Development will result in a very minor loss to the identified receptors.	
Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works		
Section D: The WRP site to Portsdown Hill (Sheet 2 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Parts of Section D are located within a Brick Clay MSA which has a medium receptor sensitivity. Parts of Section D pass within the buffer area of a site that has been safeguarded for mineral and waste processing in the HMWP [28]. The land is constrained predominantly from existing residential properties therefore future mineral developments are unlikely to be permitted. However there are sections of the route where the potential for mineral extraction cannot be ruled out. Parts of Section D could therefore impact the MSA in isolated areas by sterilising mineral resources without the implementation of mitigation. As per section 16.4, the Outline CEMP (Document reference 7.1, DCO Volume 7) requires a MMS to be produced by the Contractor. Minerals encountered during the excavation activities will be managed in accordance with the MMS and used within the construction of the Proposed Development where possible. However, due to the engineering properties of brick clay reuse may be limited compared to other mineral resources. The Outline CEMP (Document reference 7.1, DCO Volume 7) states, any minerals encountered during excavation that are not required for the construction of the Proposed Development will, where reasonably practicable, be diverted for re-use on other schemes in the area. Following the implementation of the proposed tertiary mitigation and taking into account the presence of existing constraints, the magnitude of the impact on mineral receptors is considered to be negligible. As such the overall significance of the effect is minor.	Residential properties (100m buffer); LWS; HMWP safeguarded site .
Section E: Portsdown Hill to Boarhunt (Sheet 3 of ES Figure 16.2 Mineral constraints, Volume III (Document	Majority of Section E is located within an MSA for Brick Clay which has a medium receptor sensitivity. Dispersed constraints are present, however large areas of land are not constrained. Due to lack of constraints present, it is possible that a future mineral extraction activity could be	Adopted highways; residential properties (100m buffer)

Proposed Development Section	Summary	Constraints within study area
reference 6.3, DCO Volume 6))	permitted. Parts of Section E could therefore impact the MSA by sterilising mineral resources without the implementation of tertiary mitigation. As per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS and used within the construction of the Proposed Development where possible. Due to the engineering properties of brick clay, reuse may be limited compared to other mineral resources. The Outline CEMP (Document reference 7.1, DCO Volume 7) states, any minerals encountered during excavation that are not required for the construction of the Proposed Development will, where reasonably practicable, be diverted for re-use on other schemes in the area. Following the implementation of the proposed tertiary mitigation, the magnitude of the impact on mineral receptors is considered to be minor. As such the overall significance of the effect is minor.	
Section F: Boarhunt to Crockerhill (Sheet 3 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Part of Section F transects through a Brick Clay MSA which has a medium receptor sensitivity. This Section of the Proposed Development passes through or within proximity to above and below-ground constraints. Though there are constraints present along Section F and within the vicinity, there are sections which pass through areas which contain no constraints for mineral extraction. Therefore, the granting of a mineral extraction development in this location cannot be ruled out. Parts of Section F could therefore impact the MSA by sterilising mineral resources without the implementation of tertiary mitigation. As per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in	Ordnance Survey (OS) open roads; local roads; a Portsmouth water net water pipe; residential properties (100m buffer), Priority Habitats, Ancient Woodland, safeguarded waste site.

Proposed Development Section	Summary	Constraints within study area
	accordance with the MMS and used within the construction of the Proposed Development where possible. Due to the engineering properties of brick clay, reuse may be limited compared to other mineral resources. The Outline CEMP (Document reference 7.1, DCO Volume 7) states, any minerals encountered during excavation that are not required for the construction of the Proposed Development will, where reasonably practicable, be diverted for re-use on other schemes in the area. Following the implementation of the proposed tertiary mitigation, the magnitude of the impact on mineral receptors is considered to be minor. As such the overall significance of the effect is minor.	
Section G: Crockerhill to Wickham (Sheet 4 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	There are parts of Section G located within Soft Sand MSA which has a medium receptor sensitivity. Within the MSA there are areas where Section G is located in areas which do not contain constraints to future mineral extraction. These parts of Section G could therefore impact the MSA by sterilising mineral resources without the implementation of tertiary mitigation. As per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS and used within the construction of the Proposed Development where possible. Following the implementation of the proposed tertiary mitigation, the magnitude of the impact on mineral receptors is considered to be minor. As such the overall significance of the effect is minor.	Residential properties (100m buffer) and Priority Habitats, HMWP safeguarded site
Section H: Wickham to Shedfield (Sheet 4 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Predominantly located within a Soft Sand MSA and partially located within a Superficial Sand and Gravel MSA which both have medium receptor sensitivity. The ground investigation works carried out indicated underlying geology to typically be consistent with the MSAs. However, Section H is	Residential properties (100m buffer) and adopted highways.

Proposed Development Section	Summary	Constraints within study area
	located within or in proximity to existing constraints to future mineral development and therefore underlying mineral resources are likely to be already sterilised. As per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS and used within the construction of the Proposed Development where possible. Following the implementation of the proposed tertiary mitigation and taking into account the presence of existing constraints the magnitude of the impact on mineral receptors is considered to be negligible. As such the overall significance of the effect is minor.	
Section J: Shedfield to the River Hamble (Sheet 4 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Majority of Section J passes within the edge of a Soft Sand MSA. Additionally, a small part of this Section passes within a Superficial Sand and Gravel MSA. Both MSAs have a medium receptor sensitivity. The northern part of Section J passes within the buffer area of site that has been safeguarded for mineral and waste processing. The parts of Section J located within the Superficial Sand and Gravel MSA areas are largely unconstrained. However, a previous quarry planning application on land within the Order Limits was refused in 2020. The submission of the planning application indicated the presence of mineral resources. Where minerals are present, to minimise the impact of sterilisation as per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS and used within the construction of the Proposed Development where possible.	Adopted highways.

Proposed Development Section	Summary	Constraints within study area
	Following the implementation of the proposed tertiary mitigation the magnitude of the impact on mineral receptors is considered to be minor. As such the overall significance of the effect is minor.	
Section K: The River Hamble to Lower Upham (Sheet 4 and 5 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	The southern part of Section K is located within a Superficial Sand and Gravel MSA which has a medium receptor sensitivity. Section K also passes within the buffer area of site that has been safeguarded for mineral and waste processing. Additionally, part of the section skims the boundary of a Brick Clay MSA (which has a medium receptor sensitivity) as confirmed by the ground investigation works carried out. Though there are constraints present, there are some areas which are not constrained. These parts of Section K could therefore impact the MSA by sterilising mineral resources without the implementation of tertiary mitigation. As per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS and used within the construction of the Proposed Development where possible. Due to the engineering properties of brick clay, reuse may be limited compared to other mineral resources. The Outline CEMP (Document reference 7.1, DCO Volume 7) states, any minerals encountered during excavation that are not required for the construction of the Proposed Development will, where reasonably practicable, be diverted for re-use on other schemes in the area. Following the implementation of the proposed tertiary mitigation and taking into account the presence of existing constraints the magnitude of the impact on mineral receptors is considered to be negligible. As such the overall significance of the effect is minor.	Residential properties (100m buffer); PRoW; and Priority Habitats, HMWP safeguarded mineral processing site.

Proposed Development Section	Summary	Constraints within study area
Section L: Lower Upham to Brambridge (Sheet 5 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Section L is partially located within a Superficial Sand and Gravel MSA. Only a small southern section passes within a Brick Clay MSA. Both MSAs have a medium receptor sensitivity. The ground investigation works carried out indicate the presence of clay with limited granular deposits. There are also only dispersed residential receptors which are considered to be constraints. As such there are parts of Section L that are located in the MSAs which could result in the sterilisation of underlying mineral resources without the implementation of tertiary mitigation. However, as per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS. Due to the engineering properties of brick clay, reuse may be limited compared to other mineral resources. Following the implementation of the proposed tertiary mitigation the magnitude of the impact on mineral receptors is considered to be minor. As such the overall significance of the effect is minor.	Residential properties (100m buffer).
Section M: Brambridge to Otterbourne WSW (including INNS Treatment) (Sheet 5 of ES Figure 16.2 Mineral constraints, Volume III (Document reference 6.3, DCO Volume 6))	Parts of Section M are located within an area where both the MSA for Brick Clay and Superficial Sand and Gravel overlap (both MSAs have a medium receptor sensitivity). However, these parts are located beneath the River Itchen and therefore already considered to be sterilised. The area where Section M passes through only the Brick Clay MSA contains a large number of existing environmental and physical constraints which would prejudice future mineral developments. However, there are parts of Section M located in areas which do not contain constraints to mineral extraction. Therefore, there are parts of Section M which could impact the MSA by sterilising mineral resources in this location without the implementation of mitigation. However, as per section 16.4, the tertiary mitigation is for a MMS to be produced and implemented by the Contractor. This requirement	Railways; local roads; watercourse; PRoW; Flood Zone 2 and 3; Priority Habitats; underground utilities; and ecologically designated sites.

Proposed Development Section	Summary	Constraints within study area
	is included in the Outline CEMP (Document reference 7.1, DCO Volume 7). Minerals encountered during the excavation activities will be managed in accordance with the MMS. Due to the engineering properties of brick clay, reuse may be limited compared to other mineral resources. The Outline CEMP (Document reference 7.1, DCO Volume 7) states, any minerals encountered during excavation that are not required for the construction of the Proposed Development will, where reasonably practicable, be diverted for re-use on other schemes in the area. Following the implementation of the proposed tertiary mitigation and taking into account the presence of existing constraints the magnitude of the impact on the combined MSA for Brick Clay and Superficial Sand and Gravel is considered to be minor and the impact on the Brick Clay MSA is considered to be negligible. As such the overall significance of the effect is minor.	

16.8.4 In addition, the Proposed Development would have temporary activities, which would result in temporary land use, specifically the construction compounds and temporary access roads. All temporary compounds and temporary access roads would only be preventing access to underlying mineral resources for the construction period. As outlined in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6) the construction programme is anticipated to last approximately five years. As this restriction would only last for the construction period the magnitude of the impact from the temporary construction activities is therefore considered to be negligible adverse.

16.8.5 A summary of the impact of construction on sensitive receptors and the significance of these effects is outlined in Table 16-19. The location of the construction compounds are shown in ES Figure 16.1 Proposed Development and Mineral Safeguarded Areas and Safeguarded Minerals and Waste Sites, Volume III (Document reference 6.3, DCO Volume 6).

Table 16-19 Summary of the assessment of likely significant effects regarding mineral safeguarding

Proposed Development Section	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect
WRP site	Superficial Sand and Gravel MSA	Medium	Negligible adverse	Minor (not significant)
Pipelines between Budds Farm WTW and the WRP site	Superficial Sand and Gravel MSA	Medium	Negligible adverse	Minor (not significant)

Proposed Development Section	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect
Temporary construction compounds and access roads associated with the WRP site and Pipelines between Budds Farm WTW and the WRP site	MSA for Brick Clay	Medium	Negligible adverse	Minor (not significant)
	MSA for superficial sand and gravel	Medium	Negligible adverse	Minor (not significant)
Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works				
Section D: The WRP site to Portsdown Hill	Brick Clay MSA	Medium	Negligible adverse	Minor (not significant)
	Superficial Sand and Gravel MSA	Medium	Negligible adverse	Minor (not significant)
Section E: Portsdown Hill to Boarhunt	Brick Clay MSA	Medium	Minor adverse	Minor (not significant)
Section F: Boarhunt to Crockerhill	Brick Clay MSA	Medium	Minor adverse	Minor (not significant)
Section G: Crockerhill to Wickham	Soft Sand MSA	Medium	Minor adverse	Minor (not significant)
Section H: Wickham to Shedfield	Soft Sand MSA	Medium	Negligible adverse	Minor (not significant)
Section J: Shedfield to the River Hamble	Soft Sand MSA	Medium	Minor adverse	Minor (not significant)
Section K: The River Hamble to Lower Upham	Brick Clay MSA	Medium	Negligible adverse	Minor (not significant)
Section L: Lower Upham to Brambridge	Brick Clay MSA	Medium	Minor adverse	Minor (not significant)
Section M: Brambridge to Otterbourne WSW (including INNS Treatment)	MSA for Brick Clay and Superficial Sand and Gravel.	Medium	Negligible adverse	Minor (not significant)
	MSA for Brick Clay	Medium	Minor adverse	Minor (not significant)
Temporary construction compounds and access roads Pipeline between the WRP site and Otterbourne WSW	MSA for Brick Clay	Medium	Negligible adverse	Minor (not significant)
	MSA for superficial sand and gravel	Medium	Negligible adverse	Minor (not significant)
	Soft Sand MSA	Medium	Negligible adverse	Minor (not significant)

Decommissioning

16.8.6 A description of the decommissioning of the Proposed Development is outlined in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6). This Applicant is not seeking consent for the

decommissioning of the Proposed Development. Any decommissioning works would take place in the context of the regulatory framework in place at that time. However reasonably foreseeable effects from decommissioning are assessed in this chapter.

16.8.7 The specific method of decommissioning of the Proposed Development at the end of its operational life is uncertain at present as the engineering approaches would evolve over this time. Any decommissioning works in connection with the Proposed Development will be undertaken following good industry practice and would comply with all relevant statutory requirements applicable at the time. Above-ground assets would be removed and the buried pipeline infrastructure would be left in-situ.

16.8.8 For the AGP, the decommissioning activities are expected to be less than or the same as those that have been predicted for the Proposed Development during construction. The temporary effects from decommissioning including decommissioning compounds and temporary access roads would not permanently prevent access to underlying safeguarding mineral resources beneath the AGP.

16.8.9 For the buried pipeline infrastructure, it is assumed that it would remain in-situ. The decommissioning activities would be limited to the capping of the pipeline. The temporary effects of this decommissioning activity would not permanently prevent access to safeguarding mineral resources.

16.8.10 Any land no longer needed for operational purposes would be restored in accordance with a scheme agreed with the relevant local planning authority.

16.8.11 The decommissioning activities would not prevent access to underlying minerals. As such, the magnitude of the impact of the decommissioning activities is negligible. The significance of the effect on each mineral receptor is neutral (not significant).

Waste

16.8.12 For purposes of the construction phase waste assessment, it is necessary to undertake a forecast of waste generated throughout the construction period (2028 to 2034). The construction waste forecast has been broken down into the distinct construction phase works typically generating waste; these are demolition, excavation and construction. The assessment is then undertaken on the portion of the total estimated waste generation for the construction period considered likely to require off-site disposal to landfill, compared to the landfill capacity forecast to be available in the final year of construction for each waste type (inert, non-hazardous, and hazardous). The likely significant effects of the Proposed Development are identified taking into account the primary and tertiary mitigation. Following assessment, further mitigation is identified as required, which is presented in section 16.9.

16.8.13 Preliminary waste forecasts have been undertaken based on the available design information and use of appropriate industry benchmarks.

Demolition

16.8.14 It has been estimated that up to 17 small structures, ranging in size from 5m^2 to 63m^2 will need to be removed in order to facilitate construction of the Proposed

Development. In many cases it has been found that the structures can be relocated or disassembled and retained for re-erection.

16.8.15 A forecast has been prepared of the potential quantities of waste generated during demolition required for the Proposed Development. The waste streams are expected to include, for example, brick, concrete, glass, plastic, timber, and steel, and may include asbestos containing materials such as asbestos cement board roofing sheets.

16.8.16 The waste forecast shows that approximately 144 tonnes of waste would be generated due to demolition activities. The quantity of demolition waste that will require off-site disposal to landfill during the construction period has been estimated at approximately 14 tonnes. The remaining 130 tonnes is expected to require management at suitable waste recycling and recovery infrastructure.

16.8.17 After application of assumptions on typical demolition waste compositions, and current diversion from landfill performance, it has been estimated that approximately 9 tonnes would require off-site disposal to non-hazardous landfill and 6 tonnes to hazardous landfill[2].

Excavation

16.8.18 Earthworks activities associated with the Proposed Development comprise tunnelling, shaft installation, trenchless pipe boring, open-cut pipe installation, structural foundations, preparation of working platforms, and enabling works for supporting infrastructure (for example site clearance). The excavation works include removal of material from historic landfill sites, both in preparation for the WRP site, and through open-cut pipe installation on the western end of the route.

16.8.19 Consideration has been given to the type and quality of excavated material generated and required, and an assessment has been undertaken of the suitability of cut for reuse as fill material. Material considered to be unsuitable due to its engineering properties, and/or physical or chemical contamination were identified, and have been excluded from the quantity of material assumed to be reused within the Proposed Development.

16.8.20 Based on the earthworks design information available, it is estimated that 575,742 tonnes of excavated material would be generated by excavation activities during construction of the Proposed Development.

16.8.21 Design information indicates opportunities for approximately 206,509 tonnes of excavated material to be reused on-site; this includes backfill of trenches and capping, and replacement of stripped topsoil. The remaining 369,233 tonnes is expected to comprise surplus excavated material, and would require management off-site through reuse, recovery and disposal.

16.8.22 Of the 575,742 tonnes of excavated material expected to be generated, approximately 460,818 tonnes is expected to comprise of inert material; the proportion anticipated to be inert has been established based on a variety of data sources including recent ground investigation data. Approximately 206,509 tonnes of the inert excavated material is forecast to be reused within the Proposed Development. The remaining 254,309 tonnes of inert excavated materials is forecast to be surplus to the needs of the design, and would require management

[2] Totals may differ due to rounding.

off-site. The inert surplus excavated material primarily originates from construction of tunnels and shafts. Assuming a diversion from landfill of 53% in line with current performance for inert waste soils originating in Hampshire [26], it is estimated that 119,601 tonnes of waste would require off-site disposal to inert landfill.

16.8.23 Of the 369,233 tonnes of surplus excavated material expected to require management off-site, approximately 91,265 tonnes is expected to comprise non-hazardous waste; this is expected to arise through excavation of contaminated soils and waste from the historic landfill site on which the WRP site would be constructed. Due to the technical and regulatory challenges with recovering material from landfill sites, it has been conservatively assumed that all non-hazardous waste excavated from the historic landfill would be sent for landfill disposal off-site. On this basis, approximately 91,265 tonnes of excavated material would require off-site disposal to non-hazardous landfill.

16.8.24 The waste forecast indicates that approximately 23,660 tonnes of the total surplus excavated material generated may comprise hazardous waste. It has been assumed that all hazardous waste excavated from historic landfills is sent for landfill disposal. Furthermore a landfill diversion rate of 65% has been applied to contaminated soils meeting hazardous Waste Acceptance Criteria, excavated from outside of historic landfills (in accordance with current performance for hazardous waste soils originating in the South East region [26]). It has therefore been estimated that 21,143 tonnes of excavated material would require off-site disposal to hazardous landfill.

16.8.25 A summary of expected waste generation during excavation and waste to be sent to landfill is presented in Table 16-20.

Table 16-20 Forecast excavated material quantities for the Proposed Development

Excavated material classification	Total quantity (tonnes)	Reused on-site (tonnes)	Surplus excavated material	
			Diverted from landfill off-site (tonnes)	Waste to landfill (tonnes)
Inert	460,818	206,509	134,707	119,601
Non-hazardous	91,265	0	0	91,265
Hazardous	23,660	0	2,517	21,143
Total	**575,742**	**206,509**	**137,224**	**232,009**

Construction

16.8.26 Based on the design information available, a forecast has been prepared of potential quantities of waste generated during construction of the Proposed Development. This waste stream may include damaged materials, packaging waste, waste from staff welfare facilities, removal of temporary works, etc.

16.8.27 The construction waste forecasts have been undertaken using industry benchmarks assuming business-as-usual approaches to waste management. The forecast considers a worst case and includes reasonable application of waste minimisation and landfill diversion measures as set out in the Outline CEMP (Document reference 7.1, DCO Volume 7).

16.8.28 The waste forecast shows approximately 130,873 tonnes of waste would be generated due to construction activities. Of this quantity, approximately 42,192 tonnes is expected to comprise of inert waste. Assuming a diversion from landfill of 94% in line with current performance for inert construction waste originating in Hampshire [26], 2,532 tonnes would require off-site disposal to inert landfill.

16.8.29 Of the 130,873 tonnes of waste expected to be generated due to construction activities, 87,898 tonnes is expected to comprise of non-hazardous waste. Assuming a landfill diversion rate of 94%, in line with current national performance [35] for non-hazardous construction waste, 5,274 tonnes of waste is expected to be sent for off-site disposal to non-hazardous landfill.

16.8.30 The waste forecast indicates that approximately 783 tonnes of the total construction waste generated may comprise of hazardous material. Assuming a landfill diversion of 67%, in line with current performance for hazardous construction waste originating in Hampshire [26], 258 tonnes would require off-site disposal to hazardous landfill.

Construction effects

16.8.31 The construction effect consists of the total estimated waste to inert, non-hazardous and hazardous landfill, arising from the demolition, excavation and construction phases.

16.8.32 The total quantity of inert waste forecast to require off-site disposal is 122,133 tonnes, see Table 16-21 for additional details. This quantity represents approximately 51% of the total waste generated during construction requiring off-site disposal to landfill. This would comprise a 0.56% reduction in the 21.8Mt of inert landfill capacity projected to be available in the South East and Wiltshire sub region at the end of construction. On the basis of the magnitude thresholds set out in the Materials and Waste ISEP Guidance [23], the magnitude of impact from inert waste during construction is considered to be negligible. Combined with a receptor sensitivity of very high, the Proposed Development is therefore considered likely to generate a slight (not significant) permanent effect on inert landfill capacity during construction.

16.8.33 The total quantity of non-hazardous waste forecast to require off-site disposal, is 96,547 tonnes, see Table 16-21 for additional details. This quantity represents approximately 40% of the total waste generated during construction requiring off-site disposal to landfill. This would comprise a 0.75% reduction in the 12.9Mt of non-hazardous landfill capacity projected to be available in the South East at the end of construction. On the basis of the magnitude thresholds set out in the Materials and Waste ISEP Guidance [23], the magnitude of the effect on non-hazardous landfill void capacity during the construction phase is negligible. Combined with a receptor sensitivity of very high, the Proposed Development is therefore considered likely to generate a slight (not significant) permanent effect on non-hazardous waste landfill void capacity during construction.

16.8.34 The total quantity of hazardous waste forecast to require off-site disposal, is 21,407 tonnes, see Table 16-21 for additional details. This quantity represents approximately 9% of the total waste generated during construction requiring off-site disposal to landfill. This would comprise a 0.31% reduction in the 6.9Mt of hazardous landfill capacity projected to be available in England at the end of

construction. On the basis of the magnitude thresholds set out in the Materials and Waste ISEP Guidance [23], the magnitude of impact from hazardous waste during construction is considered to be minor. As defined in the Materials and Waste ISEP Guidance [23], a minor impact on a very high sensitivity receptor, results in a moderate adverse (significant) permanent effect on hazardous landfill capacity during construction.

16.8.35 Whilst it is forecast that construction of the Proposed Development would generate a moderate adverse (significant) permanent effect on hazardous landfill capacity during construction, in accordance with the criteria set out in the ISEP Waste Guidance [23], forecasts show that sufficient hazardous waste landfill capacity is likely to remain regionally and nationally after completion of construction of the Proposed Development, such that the ability for other hazardous waste producers to manage their waste would be unaffected.

Table 16-21 Waste requiring off-site disposal to landfill

Landfill type	Demolition	Excavation	Construction	Total
Inert	0	119,601	2,532	122,133
Non-hazardous	6	91,265	5,274	96,547
Hazardous	9	21,143	258	21,407

Potential occupation of Hampshire's landfill capacity

16.8.36 Evidence suggests that waste generated by the Proposed Development is likely to be managed throughout the South East region, and in the case of inert and hazardous waste, in Wiltshire (which is in the South West region) as well [26]. Nevertheless, during ongoing technical engagement through the Emissions and Transport EIA Working Group, Hampshire County Council queried the potential impact on Hampshire's landfill capacity from the Proposed Development. This section considers the potential occupation of Hampshire's landfill capacity, were all of the waste generated by the Proposed Development to remain within Hampshire.

16.8.37 Available landfill capacity for Hampshire has been forecast for the construction period, using the same methodology used to establish the future baseline. Forecasts show that landfill capacity for Hampshire in 2034 may be as follows:

1. Inert waste – 1,207,145 tonnes
2. Non-hazardous waste– 47,461 tonnes
3. Hazardous waste – No available capacity

16.8.38 Inert landfill capacity in Hampshire historically goes through cycles of decreases and increases as new inert landfill sites are established to replace occupied capacity. Nevertheless, the long term trend is for a gradual decrease in capacity.

16.8.39 Non-hazardous landfill capacity in Hampshire has declined continually each year since the first year for which records are available, declining from 3.14Mt of capacity in 2008, to 246,516 tonnes of capacity in 2024. This substantial annual decrease in capacity is expected to continue, and a significant shortage of non-hazardous landfill capacity in Hampshire in the future is likely, regardless of the impact of the Proposed Development.

16.8.40 Hampshire has had no hazardous waste landfill capacity during the period for which records are available (2008 to 2024).

16.8.41 Table 16-22 sets out the potential impact on Hampshire's landfill capacity from the Proposed Development.

Table 16-22 Potential occupation of Hampshire landfill capacity, 2034

Waste classification	Total quantity of waste generated by the Proposed Development (tonnes)	Waste sent to landfill by the Proposed Development (tonnes)	Hampshire landfill capacity in 2034 (tonnes)	Potential occupation of Hampshire's landfill capacity (%)
Inert	296,630	122,133	1,207,145	10.12%
Non-hazardous	179,171	96,547	47,461	100%
Hazardous	24,448	21,407	0	N/A

16.8.42 As the Contractors working on the Proposed Development are able to freely choose where to manage waste from the Proposed Development, it is likely (and potentially necessary), given the limited non-hazardous landfill capacity forecast to be available, and absence of hazardous waste landfill capacity in Hampshire, that waste would be managed outside of the county, in accordance with previous regional trends.

Decommissioning

16.8.43 The materials and waste likely to be generated during decommissioning predominantly include typical construction materials, such as metals, plastics, concrete, masonry and other inert materials. It is not possible to quantify this waste at this point given the Proposed Development is assumed to have an operational life of a minimum 100 years. However, the majority of waste materials expected to be generated currently have high recycling and recovery rates. Data published in the 2024 Waste Data Interrogator by the Environment Agency [26] indicates that the materials likely to comprise the predominant waste streams generated during decommissioning, are typically diverted from landfill at the following rates:

1. Metals: 99.9% diversion from landfill [26]
2. Concrete, masonry and other inert materials: 95.5% diversion from landfill [26]
3. Plastics: 99.9% diversion from landfill [26]

16.8.44 Additionally, given the increasing uncertainty so far in the future, it is not possible to robustly forecast landfill capacity for the decommissioning period. Therefore, no future baseline can be set to quantitatively assess impacts from waste likely to arise from the decommissioning of the Proposed Development. As set out in the Waste (Circular Economy) (Amendment) Regulations 2020 [41], which transposes the Waste Framework Directive requirements, planning authorities must prepare a waste local plan which ensures sufficient waste management capacity is provided. Therefore, it is assumed that during decommissioning sufficient landfill capacity would be available.

16.8.45 Given recent trends in national policy with respect to waste management, waste management practices would have improved in the period prior to decommissioning of the Proposed Development. It is likely that reliance on landfill as a means of managing waste will decline considerably, and there are likely to be

opportunities to reuse, recycle and recover a greater proportion of the waste streams likely to be generated. Ambitions set out in the Local Plan and Government strategies reflect this, including:

1. 95% diversion from landfill by 2020 [16]
2. Overall target to eliminate avoidable waste and double resource productivity by 2050 [42]
3. Halving residual waste by 2042 [42]

16.8.46 As set out in section 16.4, decommissioning works are assumed to follow good industry practice in place at the time, are expected to be similar in nature to those in the Outline CEMP (Document reference 7.1, DCO Volume 7).

16.8.47 Based on the requirements for local planning authorities to provide sufficient waste management capacity and improved waste management practices, it is considered (for inert, non-hazardous and hazardous waste) that the Proposed Development would not result in a likely significant effect on landfill capacity during decommissioning.

16.9 Mitigation, monitoring and enhancement

16.9.1 Mitigation measures are defined in ES Chapter 5 EIA approach and methodology, Volume I (Document reference 6.1, DCO Volume 6) with primary mitigation and tertiary mitigation for resources and waste being presented in section 16.4 of this chapter.

Mineral safeguarding

Secondary mitigation

16.9.2 The assessment has not indicated that likely significant effects would result from the Proposed Development with regard to minerals safeguarding. As such no secondary mitigation is required.

Monitoring

16.9.3 A MMS will be developed by the Contractor as part of the detailed CEMP(s) in accordance with the corresponding requirement in Schedule 2 to the draft DCO (Document reference 3.1, DCO Volume 3). The Outline CEMP (Document reference 7.1, DCO Volume 7) includes a requirement for the MMS to outline the methodology for documenting the quantities of minerals which have been excavated, stored/stockpiled and used in the construction of the Proposed Development.

Waste

Secondary mitigation

16.9.4 No further mitigation is required for inert and non-hazardous waste. There are opportunities for design optimisation and additional mitigation that may be described in the SWMP to be produced by the Contractor; these may reduce the quantity of waste requiring off-site disposal to landfill. The identified magnitude of

impacts for inert and non-hazardous waste are in the lowest category possible for a project generating waste, and the potential opportunities that will be described in the SWMP will not reduce the significance of effects identified with respect to inert and non-hazardous landfill capacity.

16.9.5 With respect to hazardous construction waste management effects, appropriate mitigation has been set out in the Outline CEMP (Document reference 7.1, DCO Volume 7), and will be incorporated into the Proposed Development and described in the SWMP to be produced by the Contractor in accordance with the corresponding requirement in Schedule 2 to the draft DCO (Document reference 3.1, DCO Volume 3).

16.9.6 Based on available ground investigation data, it is likely that a large proportion of the hazardous waste excavated from the historic landfill site on which the WRP site would be constructed, would comprise asbestos containing materials. It may be possible for this material to be disposed of at non-hazardous landfill sites within a separate cell for Stable Non-Reactive Hazardous Waste (SNRHW) providing it meets SNRHW waste acceptance criteria. This would be evaluated by the Contractor and may reduce impacts on hazardous waste landfill capacity.

16.9.7 Further options have been evaluated for mitigating hazardous construction waste management effects, by diverting hazardous waste from landfill and managing it higher up the waste hierarchy. Opportunities considered have included:

1. Treatment and remediation[3] of hazardous soils off-site.
2. Treatment of hazardous waste excavated from historic landfills, with the aim of reducing contamination to the extent that a significant proportion of the material can be managed as a non-hazardous waste.

16.9.8 Based on reviews of permitted regional waste treatment facilities, and consultation with site operators, it has been established that there is significant potential for diverting a greater proportion of the hazardous wastes excavated from historic landfills, than has been assumed in this assessment.

16.9.9 The technical feasibility of treating hazardous wastes excavated from historic landfills, has been established, and the current availability of suitable permitted facilities within a reasonable distance of the site has been confirmed. However given the considerable time until these wastes are likely to be generated there is substantial uncertainty regarding whether use of these facilities in the future will be possible. Factors such as the status of the sites' environmental permits, and the proportion of the sites' throughput capacity available for use by the Contractor, mean that the proportion of the hazardous waste generated which could be diverted from landfill cannot be confidently estimated at this stage. The potential impact on landfill diversion has therefore not been taken into account in this assessment, which reflects a reasonable worst case approach.

16.9.10 The hazardous waste management measures secured in the Outline CEMP (Document reference 7.1, DCO Volume 7) will ensure that all suitable options for diverting hazardous waste from landfill will be considered by the Contractor during construction, and that wherever possible, no hazardous waste excavated from

[3] In this chapter remediation of soils is defined as the reduction, treatment and removal of soil contaminants, in order to reduce the subsequent impact on the environment and human health.

historic landfills will be sent directly off-site for disposal at landfill, without assessing the possibility for treatment, remediation, and/or recovery.

16.9.11 An additional 14,464 tonnes of hazardous waste would need to be diverted from landfill in order for the Proposed Development to generate a non-significant effect on hazardous waste landfill. If the additional 14,464 tonnes was sent to non-hazardous landfill, it would not result in a change of significance for non-hazardous landfill void capacity.

Monitoring

16.9.12 Further details on how waste generation and its management would be monitored, and reported, are set out in the Outline CEMP (Document reference 7.1, DCO Volume 7).

16.10 Summary of residual effects

16.10.1 Table 16-23 and Table 16-24 and provide a summary of the residual effects relating to the construction, operation and decommissioning of the Proposed Development with regard to resources and waste management receptors.

Table 16-23 Summary of residual effects for mineral safeguarding

Proposed Development Section	Receptor	Residual effects		
		Construction stage	Operational stage	Decommissioning stage
WRP site	Superficial Sand and Gravel MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Pipelines between Budds Farm WTW and the WRP site	Superficial Sand and Gravel MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Temporary Construction compounds and access roads associated with the WRP site and Pipelines between Budds Farm WTW and the WRP site	Brick Clay MSA	Minor (not significant)	Not applicable (N/A)	Neutral (not significant)
	MSA for superficial sand and gravel	Minor (not significant)	N/A	Neutral (not significant)
Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works				

Proposed Development Section	Receptor	Residual effects		
		Construction stage	Operational stage	Decommissioning stage
Section D: The WRP site to Portsdown Hill	Brick Clay MSA	Minor (not significant)	Scoped out	Neutral (not significant)
	Superficial Sand and Gravel MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section E: Portsdown Hill to Boarhunt	Brick Clay MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section F: Boarhunt to Crockerhill	Brick Clay MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section G: Crockerhill to Wickham	Soft Sand MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section H: Wickham to Shedfield	Soft Sand MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section J: Shedfield to the River Hamble	Soft Sand MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section K: The River Hamble to Lower Upham	Brick Clay MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section L: Lower Upham to Brambridge	Brick Clay MSA	Minor (not significant)	Scoped out	Neutral (not significant)
Section M: Brambridge to Otterbourne WSW (including INNS Treatment)	MSA for Brick Clay and Superficial Sand and Gravel	Minor (not significant)	Scoped out	Neutral (not significant)
	MSA for Brick Clay	Minor (not significant)	Scoped out	Neutral (not significant)
Temporary construction compounds and access roads Pipeline between the WRP site and Otterbourne WSW	MSA for Brick Clay	Minor (not significant)	N/A	Neutral (not significant)
	MSA for superficial sand and gravel	Minor (not significant)	N/A	Neutral (not significant)
	Soft Sand MSA	Minor (not significant)	N/A	Neutral (not significant)

Table 16-24 Summary of residual waste effects

Impact	Receptor	Residual effects		
		Construction	Operation	Decommissioning
Neutral permanent adverse	Inert landfill	Not significant	Scoped out	Not significant
Neutral permanent adverse	Non-hazardous landfill	Not significant	Scoped out	Not significant
Moderate permanent adverse	Hazardous landfill	Moderate (significant)	Scoped out	Not significant

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