A46 Coventry Junctions (Walsgrave)
Scheme number: TR010066

6.1 Environmental Statement
Chapter 10 - Material Assets and Waste

APFP Regulations 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT
Chapter 10 - Material Assets and Waste

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10. Material assets and waste

10.1. Introduction

10.1.1. This Chapter presents the information required by the Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (as amended) to be provided in the Environmental Statement (ES) to enable the identification and assessment of likely significant effects on materials assets and waste.

10.1.2. The material assets and waste aspect was scoped out in its entirety in the Environmental Scoping Report (**TR010066/APP/6.8**) in accordance with the question-based methodology in DMRB LA 110 Material assets and waste (DMRB LA 110). This scoping exercise determined there was no significant effect and thus no further assessments required for the following:

- consumption of materials and products (from primary, recycled or secondary, and renewable sources, the use of materials offering sustainable benefits, and the use of excavated and other arisings that fall within the scope of waste exemption criteria
- sterilisation of peat and mineral reserves
- production and disposal of waste

10.1.3. The Scoping Opinion (**TR010066/APP/6.9**) provided by the Planning Inspectorate on behalf of the Secretary of State agreed to scope out the following:

- mineral safeguarding areas due to the absence of any specific allocations for extraction within the area, and the geographic context of the Scheme (ID 3.6.1 in ES Appendix 4.1 Scoping Opinion Response (**TR010066/APP/6.3**))
- peat and the sterilisation of any peat resources based on the absence of any mapped peat deposits or geological strata which are known to contain peat (ID 3.6.2 in ES Appendix 4.1 Scoping Opinion Response (**TR010066/APP/6.3**))
- material disposal based on the anticipated disposal volumes and given landfill capacities; however, the ES should explain how the construction traffic movements have been predicted and how these account for material movements
- waste generation during operation as operational and maintenance activities will generate limited amounts of waste (ID 3.6.6 in ES Appendix 4.1 Scoping Opinion Response (**TR010066/APP/6.3**))

10.1.4. These matters scoped out have not been considered further in this assessment. Information regarding construction traffic movements and how these account for

material movements is presented in the Outline Traffic Management Plan (OTMP) (**TR010066/APP/7.5**).

10.1.5. Whilst no consultees commented on the material assets and waste aspect in their responses to the Environmental Scoping Report (**TR010066/APP/6.8**), subsequently the Planning Inspectorate suggested confirmation was obtained from the Environment Agency and local authorities to scope out this aspect in its entirety. The Planning Inspectorate also requested more robust quantitative data and justification for scoping out material assets and waste, given quantities used had been based upon an earlier design.

10.1.6. The Environment Agency confirmed that the material assets and waste aspect could be scoped out of further assessment however they raised concerns relating to construction works over two historical landfills. This is discussed further in section 10.4 of this Chapter. Efforts were made to contact Coventry City Council and Warwickshire County Council however a definitive response as to whether this aspect could be scoped out or not was not received. Rugby Borough Council was consulted and they agreed that material assets and waste could be scoped out of further assessment. Further details regarding the consultation undertaken is presented in the Consultation Report (**TR010066/APP/5.1**).

10.1.7. The Scheme's design has developed since the Scoping Report was prepared. This Chapter has been undertaken in compliance with the Planning Inspectorate's Scoping Opinion (**TR010066/APP/6.9**) and provides an assessment of:

- consumption of materials and products (from primary, recycled or secondary, and renewable sources), the use of materials offering sustainability benefits, and the use of excavated and other arisings that fall within the scope of waste exemption criteria (see ID 3.6.3 and 3.6.4 in Appendix 4.1 Scoping Opinion Response (**TR010066/APP/6.3**)).

10.1.8. This ES Chapter considers the use of material assets in accordance with requirements set out in the Design Manual for Roads and Bridges (DMRB) LA 110 Material assets and waste (DMRB LA 110) (Highways England 2019). It uses the most recent quantitative data provided in the Principal Contractor's bill of quantities.

10.1.9. This ES Chapter identifies, describes and assesses the potential impacts resulting from construction of the Scheme. It details mitigation measures incorporated into the design to avoid and reduce the environmental impacts of using material assets.

10.1.10. ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**) contains a detailed description of the Scheme. The following figures referenced in this Chapter can be found in the ES Volume 2 (**TR010066/APP/6.2**), and the following technical appendices referred to in this Chapter are presented in the ES Appendices (**TR010066/APP/6.3**):

- ES Figure 2.2 Order Limits
- ES Figure 2.3 Environmental Constraints
- ES Figure 10.1 Regional Plan
- ES Appendix 10.1 Management of Historical Landfill Wastes

10.1.11. ES Chapter 9 (Geology and Soils) (**TR010066/APP/6.1**) provides information on contamination sources and considers the potential significant effects on these aspects as a result of the Scheme.

10.1.12. A ground investigation was completed in 2023 and is presented in ES Appendix 9.3 (Ground Investigation Report) (**TR010066/APP/6.3**). This has been used to inform the assessment.

10.1.13. ES Appendix 10.1 (Management of Historical Landfill Wastes) (**TR010066/APP/6.3**) presents further information which supports this Chapter. This information was produced to support a request by the Environment Agency to address concerns of construction occurring over two historical landfill sites. This note was produced based upon the Order Limits at the time of writing. Further information on the consultation with the Environment Agency is presented in section 10.4 of this Chapter.

10.2. Competent expert evidence

10.2.1. The competent expert for this assessment is a materials and waste specialist (BSc, MSc, Chartered environmentalist and Contaminated Land: Application in Real Environments (CL:AIRE) Qualified Person) with over 20 years' experience in environmental consultancy including waste and materials management, geo-environmental risk assessment and EIA. Their specialism relates to sustainable materials management in line with the current waste regulatory framework.

10.2.2. The second competent person for this assessment is qualified to BSc and MSc level in related subjects and is recognised as a chartered environmentalist. They have undertaken the CL:AIRE Qualified Person training and possess nearly 30 years' experience in environmental consultancy including waste and materials management, geo-environmental risk assessment and EIA (also holding Practitioner status with IEMA). Their specialisms relate to construction, land

reclamation and materials management sectors. They have experience of sustainable materials management in line with the current waste regulatory framework.

10.2.3. Both experts have experience of several large-scale schemes for the Applicant on a number of Nationally Significant Infrastructure Projects (NSIP) and have used their EIA knowledge, experience of road infrastructure projects and professional judgement in identifying potential impacts associated with the Scheme and providing technical guidance through the assessment process.

10.3. Legislative and policy framework

10.3.1. The consumption and use of material assets and the production and disposal of waste are subject to a complex framework of legislative and policy instruments at the national, county and local level.

10.3.2. The overarching European Directives that are applicable to the assessment of material assets use and waste generation are also set out below. Whilst it is acknowledged that the UK has left the European Union (EU) it should be noted that existing legislation which transpose these Directives remains in force.

Legislation

10.3.3. Table 10.1 summarises the legislation that is relevant to this aspect and how these requirements have been addressed in the assessment.

10.3.4. There is considerable synergy between the material assets and waste matters of this aspect, and thus there is overlap between the mitigation measures detailed in section 10.9 of this Chapter.

10.3.5. Given that these measures complement and reinforce both the material assets and waste matters of this assessment, it has not been possible to assign specific mitigation measures to specific legislation in Table 10.1.

Table 10.1 Legislation relevant to the assessment of Material Assets and Waste

Legislation	Summary	How this is addressed in the assessment
European legislation		
EU Waste Framework Directive 2008/98/EC	This sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery and is implemented by the Waste (England and Wales) Regulations 2011 (as amended).	Refer to the Waste (England and Wales) Regulations 2011 (as amended).
EU Landfill Directive (1999/31/EC)	The Directive aims to prevent, or reduce as far as possible, negative effects on the environment from the landfilling of waste.	This assessment has considered disposal to landfill as the last option for waste management, prioritising the higher up options of the waste hierarchy detailed in the Waste (England and Wales) Regulations 2011 (as amended).
Hazardous Waste Directive (91/689/EEC)	This Directive lays down strict controls and requirements for controlling hazardous wastes. Hazardous waste is any waste with hazardous properties that may make it harmful to human health and the environment and is defined by the European Waste Catalogue (EWC).	This Directive has been considered in the event that hazardous waste arises from the Scheme's activities. In which case, the waste management will adhere to the requirements for controlling hazardous waste.
National legislation		
Environmental Protection Act 1990	The Act defines the meaning of 'waste' and household, commercial and industrial waste and hazardous waste for the purposes of UK waste legislation. The Act also requires anyone who produces, carries, keeps, disposes of, treats, imports or has control of waste to keep it safe and to make sure it is dealt with responsibly and only given to businesses authorised to take it. This is known as 'duty of care'.	The assessment has considered the Environmental Protection Act 1990 definition of waste and the Act's requirements relating to the duty of care for the waste arisings from the construction of the Scheme.
The Environment Act 2021	The Act makes provision about plans and policies for improving the natural environment; for statements and reports about environmental protection; for the Office for Environmental Protection; about waste and resource	Targets related to waste management as outlined in the Environment Act 2021 and implemented through the Environmental Targets (Residual Waste) (England) Regulations 2023/92 are unlikely to be

Legislation	Summary	How this is addressed in the assessment
	efficiency; about air quality; for the recall of products that fail to meet environmental standards; about water; about nature and biodiversity; for conservation covenants; about the regulation of chemicals; and for connected purposes. The Environment Act contains several provisions in Part 3 relating to waste which include: • producer responsibility obligations • producer responsibility for disposal cost • managing waste by separation of waste for domestic collection • managing hazardous waste • electronic waste tracking	applicable to the Scheme. The residual waste target is related to minimising waste generated per capita, and most of the construction and demolition waste (CDW) types are excluded under paragraph 3 of Schedule 1 of the regulation, while recyclable CDW such as wood, glass, plastic and metals are included. The long-term target related to waste refers to residual waste per capita being less than 287 kilograms per capita by the end of 2042. Mitigation plans in place for the Scheme will ensure that generation of residual waste is minimised throughout its construction period from 2025 to 2028. As operational waste has been scoped out, the residual waste is unlikely to be generated in 2042. The assessment has adhered to the plans and requirements of the Environment Act 2021, including separation of recyclable waste from residual waste, implementation of waste hierarchy and circular economy principles to manage waste as higher up in the waste hierarchy where technically and economically feasible, appropriate control and reporting of waste generated at the Scheme, and appropriate management of hazardous waste (if any arises).
EU (Withdrawal) Act 2018	The Act introduces the concept of retained EU law. The EU (Withdrawal) Act ensures that the whole body of existing EU environmental law continues to have effect in UK law. Essentially any EU regulation or decision addressed to the UK in operation before the date of exit from EU will remain a part of the UK law. This includes the Landfill Directive and the Hazardous Waste Directive.	The assessment includes measures to minimise waste arisings and manage waste appropriately and efficiently, therefore, the waste and environmental permitting regimes within this section are applicable to the Scheme.

Legislation	Summary	How this is addressed in the assessment
Waste and Environmental Permitting etc (Legislative Functions and Amendment etc) (EU Exit) Regulations 2020	These Regulations were laid before Parliament on 16 December 2020 and are made in exercise of powers in section 8(1) of the EU (Withdrawal) Act 2018 in order to ensure that the waste and environmental permitting regimes continue to operate effectively as of the 1 January 2021.	
The Waste (England and Wales) Regulations 2011 (as amended)	These Regulations implement the EU Waste Framework Directive (WFD) 2008 and require the Secretary of State to establish waste prevention programmes and waste management plans that apply to the waste hierarchy. These Regulations require businesses to apply the waste hierarchy when managing waste, in line with the EU WFD 2008. They also require that measures are taken to ensure at least 70% by weight of non-hazardous construction and demolition waste is subjected to material recovery by the year 2020 and beyond. This target specifically excludes naturally occurring materials with List of Waste (LoW) Code 17 05 04 (non-hazardous soil and stones) as defined by Waste classification technical guidance WM3 (Environment Agency et al, 2021).The foundation for waste management is the five-step waste hierarchy (depicted in Plate 1) which establishes an order of preference for managing and disposing of waste where preventing waste generation is the preferred option and sending waste to landfill is the last resort.	The principles of the waste hierarchy (plate 1) will be considered during the design to achieve mitigation of potential impacts within the design process. Recovery of at least 70% (by weight) of non-hazardous CDW (excluding naturally occurring soils and stones with LoW Code 17 05 04), with the aim to achieve recovery of 90% (by weight).

Legislation	Summary	How this is addressed in the assessment
	Plate 1. Waste hierarchy  Source: http://ec.europa.eu/environment/waste/framework/	
The Waste (Circular Economy) (Amendment) Regulations 2020	These Regulations specify details on waste prevention programmes, waste management plans and the duties of waste producers and operators in relation to waste management and improved use of waste as a resource. English and Welsh law was updated on 1 October 2020 to include changes to the WFD made in 2018. This was applied through the Waste (Circular Economy) (Amendment) Regulations 2020.	The assessment includes measures to minimise waste arisings and manage waste appropriately and efficiently, therefore, these Regulations are applicable to the Scheme.
Hazardous Waste (England and Wales) Regulations 2005 (as amended)	These provide for the control of hazardous wastes and their movements. A consignment note is required prior to the removal of any hazardous waste. Hazardous waste is waste that exhibits certain properties (for example, it is potentially flammable, toxic or carcinogenic) such that it is or may (at or above certain concentrations) be detrimental to human health or the environment.	These Regulations have been considered in this assessment in the event that hazardous waste arises from the Scheme's activities. In which case, the waste management would adhere to appropriate controls and requirements for hazardous waste management.
Hazardous Waste (Miscellaneous Amendments) Regulations 2015	These Regulations forms the current legal framework covering the appropriate assessment of waste. It amended a number of pieces of legislation in relation to	The assessment includes measures to ensure wastes are managed and classified appropriately in

Legislation	Summary	How this is addressed in the assessment
	changes made in December 2014 to the EU WFD 2008/98/EC and the EU List of Wastes (Commission Decision 2000/532/EC establishing a list of wastes) to reflect a revised classification system for hazardous waste.	accordance with the current waste regulatory framework where disposal is required.
Environmental Permitting (England and Wales) Regulations 2016 (as amended)	The Regulations introduce a streamlined system of environmental permitting in England and Wales for certain installations, waste operations and mobile plants. It is an offence to operate a regulated facility except under and in accordance with an environmental permit. Permits are required for certain activities involving the storage, treatment, use or disposal of waste.	Waste would be managed in appropriate and permitted facilities, and the Scheme's activities would adhere to these Regulations, if required, for waste storage, use or disposal.
Waste Electrical and Electronic Equipment (England and Wales) Regulations 2013	The Waste Electrical and Electronic Equipment (WEEE) Regulations apply to all electrical and electronic equipment placed on the market in the UK covered by the scope of the regulations. There are ten broad categories of WEEE currently outlined within the Regulations (see Schedules 1 and 2 of the Regulations). Relevant categories for the Scheme are: • lighting equipment, for example straight and compact fluorescent tubes and high intensity discharge lamps • electrical and electronic tools, for example drills, saws and electric lawnmowers • monitoring and control equipment, for example smoke detectors, thermostats and heating regulators	The Scheme shall adhere to these Regulations in the event WEEE arises from Scheme construction activities.
Controlled Waste (England and Wales) Regulations 2012 (SI 2012/811)	These Regulations replaced the Controlled Waste Regulations 1992. They define household, industrial and commercial waste for environmental permitting purposes. They replaced Schedule 1 of the 1992 regulations with an updated schedule defining household waste, still by	These Regulations are applicable to the Scheme to ensure wastes would be managed by appropriate permitted facilities and would be collected/transferred by permitted waste carriers.

Legislation	Summary	How this is addressed in the assessment
	reference to its origin, but introducing some exceptions. The Regulations also specify that waste from construction or demolition works, including preparatory works, should be *'treated as household waste for the purposes of section 34(2) and (2A) of the EPA 1990 only (disapplication of section 34(1) and duty on the occupier of domestic property to transfer household waste only to an authorised person or for authorised transport purposes)'*.	
The Landfill Tax Regulations 1996	The Landfill Tax Regulations and associated orders encourage businesses to produce less waste, to dispose of less waste in landfill sites, and to recover value from more of the waste produced, for example through recycling. Unless it is specifically exempt, or excepted, Landfill Tax applies to disposal of material at a landfill site that is covered by a permit under specific environmental legislation or at an unauthorised waste site.	

National planning policy

National Networks National Policy Statement 2024

10.3.6. The National Networks National Policy Statement (NPS NN) sets out the policy which the Scheme should comply with. It is also the basis for informing a judgement on the impacts of a Scheme, for example whether the Scheme is consistent with the requirements of the NPS NN. Compliance of the Scheme with the NPS NN is detailed within the NPS NN Accordance Tables (**TR010066/APP/7.2**).

10.3.7. This Government policy on resource and waste management aims to protect human health and the environment by reducing waste safely and carefully in accordance with the principles set out in the waste hierarchy of the EU WFD 2008 and to increase resource use by moving towards a more circular economy.

10.3.8. Table 10.2 summarises the policy requirements from the NPS NN relating to the Applicant's assessment and mitigation requirements for material assets and waste and how these have been addressed in the assessment.

Table 10.2 NPS NN requirements for Material Assets and Waste

NPS NN 2024 Paragraph reference	Summary	How this policy is addressed in the assessment
5.71	*"The applicant should demonstrate that they will adhere to the waste hierarchy, preventing and reducing waste produced in the first place and maximising preparation for re-use and recycling for waste that cannot be prevented. Where possible, applicants are encouraged to use existing materials first, then low carbon materials, sustainable sources, and local suppliers. Consideration should be given to circular economy principles wherever practicable, for example by using longer lasting materials efficiently, optimising the use of secondary materials and how the development will be maintained and decommissioned. Applicants should consider and take into account emerging government policy, including Maximising Resources, Minimising Waste, constituting the new Waste Prevention Programme for England and Department for Food and Rural Affairs (DEFRA) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, which provides practical guidance on how to improve*	The requirements within paragraphs 5.71 to 5.78 of the NPS NN have been taken into account within the following mitigation measures. These mitigation measures are detailed in full within section 10.10 of this Chapter and are secured in the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**): • MA1: waste hierarchy implementation The Scheme aims to prioritise waste prevention, followed by preparing for re-use, recycling and recovery and lastly disposal to landfill. • MA2: designing out waste Designing out waste is one of the key tenets of a circular economy. The Principal Contractor will implement the principles of designing out waste to reduce it and reduce the total material assets demand of the detailed design.

NPS NN 2024 Paragraph reference	Summary	How this policy is addressed in the assessment
	appropriate soil re-use on construction sites and reducing the volume that is sent to landfill."	• MA3: use of secondary or recycled materials The Principal Contractor will prioritise the use of secondary or recycled materials in accordance with the relevant legislation, standards and specification for these works with an aim to reduce the requirement to import materials for construction and reduce the need to remove surplus materials from site. • MA4: local and responsible sourcing of material assets The principles of local and responsible sourcing of key material assets will be adopted by the Principal Contractor in accordance with their policies on sustainable procurement. • MA5: soil handling management plan A soil handling management plan (SHMP) will be developed and form part of the Second Iteration EMP. In addition to ensuring soil sustainability during construction, it will detail how all construction phase material assets be managed and identify opportunities to substitute recycled or secondary materials and products for those using primary materials. The Scheme is known to intersect areas of historical landfill operations (see section 10.4: Environment Agency consultation). If historical wastes associated with the landfills are encountered during construction, they cannot be retained. They must be removed from the Scheme in a manner that will not cause a detrimental impact to the surrounding environment. Excavation arisings should be managed in accordance with Construction Industry Research and Information Association (CIRIA) publication C809: Sustainable Management of Surplus Soil and Aggregates from Construction (2023) and DEFRAs Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (September 2009)
5.72	*"A circular approach to waste management is encouraged from the offset, for example, green and sustainable procurement exercises or using sustainably sourced materials from local suppliers."*	
5.73	*"Sustainable waste management is implemented through the waste hierarchy:* • *prevention* • *preparing for re-use* • *recycling* • *other recovery, including energy recovery* • *disposal"*	
5.74	*"Large infrastructure projects may generate hazardous and non-hazardous waste during construction and operation. Projects need to comply with the relevant waste regimes.* *The Environmental Permitting regime, regulated by the Environment Agency in England, incorporates operational waste management requirements for certain activities.* *Applicants should therefore give consideration to how waste regulations apply to their development, including the Environmental Permitting requirements."*	
5.75	*"Infrastructure projects should look to use Modern Methods of Construction, such as legal and sustainable timber and low carbon concrete and other sustainable design practices, where possible."*	
5.76	*"The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure safe and effective management of waste arising from the construction and operation of the proposed development. It is advised that this is detailed in the dedicated plans summarising the sustainable use of resources and waste for both construction and operation as part of the application*	

NPS NN 2024 Paragraph reference	Summary	How this policy is addressed in the assessment
	documentation. The Secretary of State should be satisfied that the process sets out: • *'adequate steps have been taken to minimise the volume of waste arising and maximise opportunities for re-use and recycling* • *how waste will be managed, both on-site and off-site* • *that consideration has been given to available waste management infrastructure capacity to manage wastes arising from the development."*	provides practical guidance on how to improve appropriate soil re-use on construction sites and reducing the volume of soils that are sent to landfill. • MA6: site waste management plan An outline site waste management plan (SWMP) has been produced for the Scheme which forms part of the First Iteration EMP. This will be developed and the SWMP will form part of the Second Iteration EMP. It will identify the types and likely quantities of wastes that may be generated, and set out, in an auditable manner, how waste will be reduced, re-used, managed and disposed in accordance with the waste hierarchy and other legislative requirements. The Scheme is known to intersect areas of historical landfill operations (see section 10.4: Environment Agency consultation). If historical wastes associated with the landfills are encountered during construction, they will be segregated, tested for waste acceptance criteria and disposed of to the appropriately local licensed waste facility (landfill or incinerator). • MA7: materials management plan A materials management plan (MMP) would be prepared where applicable to provide lines of evidence covering the use of clean site won materials within the Scheme. If required, the MMP would be developed and form part of the Second Iteration EMP, as secured as Requirement 4 in Schedule 2 of the draft DCO (**TR010066/APP/3.1**).
5.77	*"Where the project will be subject to the Environmental Permitting regime, waste management arrangements during operations will be covered by the permit and the considerations set out in paragraphs 4.44 to 4.51 will apply."*	
5.78	*"Where possible, projects should include the re-use of materials and use of sustainable materials and recycled materials."*	

National Planning Policy Framework 2023

10.3.9. The National Planning Policy Framework (NPPF) sets out the Government's planning policy framework for the whole of England, including the Government's expectation for content and quality of planning applications and local plan policy. The overall strategic aims of the NPS NN and NPPF are consistent. The NPPF may be an important and relevant matter but does not form the basis for a decision on an NSIP.

10.3.10. The NPPF sets out policies for development and how these should be implemented but makes specific reference to the Government's policy for sustainable use of minerals and waste. Paragraphs 4, 8c) and 20b) are relevant to waste management whilst paragraphs 215 to 220 are relevant to minerals.

10.3.11. The NPPF includes relevant policies to material assets assessment, including the definition of Mineral Safeguarding Areas (MSA), the importance of the use of secondary and recycled materials and minerals, to maintain minerals landbanks and to minimise waste generation'.

10.3.12. Details of how the NPPF have been incorporated into local policy are presented in Table 10.4.

Planning practice guidance

10.3.13. The National Planning Practice Guidance (PPG) for Minerals (Department for Levelling Up, Housing and Communities (DLUHC) 2014) and Waste (DLUHC 2015a) provide more in-depth guidance beyond the NPPF.

10.3.14. Matters of relevance to the material assets and waste assessment include:

- PPG for Minerals (DLUHC 2014) provides context to the NPPF and advises on the safeguarding of mineral resources
- PPG for Waste (DLUHC, 2015a) provides guidance on waste planning and implementing the waste hierarchy

10.3.15. Both documents have been considered as part of the assessment of effects associated with material assets and waste.

Other relevant policy, strategies and plans

10.3.16. In addition to the national policy provided in the NPS NN other relevant policy, strategies and plans have been considered as part of the material assets and waste assessment and this is set out in Table 10.3.

10.3.17. There is considerable synergy between the material assets and waste matters of this aspect, and thus there is overlap between the mitigation measures detailed in section 10.9 of this Chapter. Given that these measures complement and reinforce both the material assets and waste matters of this assessment, it has not been possible to assign specific mitigation measures to specific policy.

Table 10.3 Other relevant policy, strategies and plans relevant to the assessment of Material Assets and Waste

Policy, strategies and plans	Summary	How this is addressed in the assessment
National policy strategies and plans		
A Green Future: Our 25-Year Plan to Improve the Environment	The Government's 25-Year Environment Plan sets out Government action to help the natural world regain and retain good health. The proposals aim to tackle a number of growing problems including waste. It aims to champion sustainable development, lead in environmental science, innovate to achieve clean growth and increase resource efficiency to provide benefits to both the environment and economy. In doing so, the 25-Year Environment Plan has identified six key areas on which to focus action. The policy area relevant to the assessment of waste and material assets is set out in Chapter 4 of the Plan on increasing resource efficiency and reducing pollution and waste. A number of goals and targets are set out in the Plan. These include the aim of minimising waste, reusing materials as much as possible, and managing materials at the end of their life to minimise the impact on the environment. This is intended to be done by: • working towards the ambition of zero avoidable waste by 2050 • working to a target of eliminating avoidable plastic waste by the end of 2042 • meeting all existing waste targets – including those on landfill, re-use and recycling – and developing ambitious new future targets and milestones • seeking to eliminate waste crime and illegal waste sites over the lifetime of the plan, prioritising those of highest risk. Delivering a substantial reduction in litter and littering behaviour • substantially reducing and, where possible, preventing all kinds of marine plastic pollution – in particular material that came originally from land	The approach of the Scheme aims to minimise waste and re-use materials as much as possible, and disposal of waste to landfill would be considered as the last resort for waste management.

Policy, strategies and plans	Summary	How this is addressed in the assessment
DEFRA Resource and Waste Strategy for England 2018	The Strategy sets out how the country will preserve material resources by minimising waste, promoting resource efficiency and moving towards a circular economy in line with the DEFRA's 25 year Environment Plan (2018) which sets out government action to help the natural world regain and retain good health.	The assessment considers the circular economy principles to be incorporated into the Scheme, when technically and economically feasible.
DEFRA Waste Prevention Programme for England: Maximising Resources, Minimising Waste 2023	The Programme will help embed the five principles outlined in the Resources and Waste Strategy by setting out steps towards: • transforming product design and supporting factors such as spare part provision • making it easier for consumers to make sustainable purchasing decisions • using extended producer responsibility and other financial incentives to ensure the polluter pays principle is embedded • aligning the regulatory framework with a circular economy approach • integrating the strategic principles into industrial policy and giving first movers the recognition they deserve	The assessment considers the circular economy principles to be incorporated into the Scheme, when technically and economically feasible.
Waste Management Plan for England 2021	The Plan provides an overview of waste management in England. It outlines the waste hierarchy as a guide to sustainable waste management and sets out the Government's ambition to work towards a more sustainable and efficient approach to resource use and management. Positive planning plays a pivotal role in delivering England's waste ambitions through ensuring the re-use, recovery or disposal of waste is undertaken without endangering human health or harming the environment and delivering sustainable development and resource efficiency through all Schemes.	The assessment considers the waste hierarchy and plans to re-use and or recover material within the Scheme, when technically and economically feasible.
National Planning Policy for Waste 2014	The Policy sets out detailed waste planning policies and maintains the core principles of the 'plan led' approach with a continued focus of moving waste up the waste hierarchy. It sets out detailed waste planning policies to facilitate a more sustainable and efficient approach to resource use and management. When determining	The Scheme includes measures to re-use and recover waste and, therefore, to minimise potential impacts on waste management facilities. Waste is anticipated to be managed as high up in the waste

Policy, strategies and plans	Summary	How this is addressed in the assessment
	planning applications for non-waste development, the policy requires that local planning authorities should, to the extent appropriate to their responsibilities, ensure that: • the likely impact of proposed, non-waste related development on existing waste management facilities, and on sites and areas allocated for waste management, is acceptable and does not prevent the implementation of the waste hierarchy and/or the efficient operation of such facilities • new, non-waste 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 handling of waste arising from the operation of developments maximises re-use/recovery opportunities and minimises off-site disposal	hierarchy as economically and technically feasible.
DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites 2009	The code of practice provides practical guidance on how to improve appropriate soil re-use on construction sites and reducing the volume of soils that are sent to landfill.	The Scheme includes measures to manage excavation arisings in accordance with the code of practice and publication.
CIRIA publication C809: Sustainable management of surplus soil and aggregates from construction 2023	CIRIA brings together and summarises existing guidance in a clear and accessible format. It provides guidance and examples of good practice to help construction professionals manage surplus soil as both a resource and waste.	
Our Waste, Our Resources: A Strategy for England 2018	The Strategy complements and helps deliver the Governments 25-Year Plan alongside the 2017 the Clean Growth Strategy and the Litter Strategy. It is guided by two overarching objectives, which have been taken into the account for this assessment:	The approach of the Scheme aims to minimise waste and re-use materials as much as possible, and disposal of waste to

Policy, strategies and plans	Summary	How this is addressed in the assessment
	• to maximise the value of resource use • to minimise waste and its impact on the environment The Strategy features the Government's approach to sustainable production, consumer participation, recovering resources, and managing waste, waste crime, food waste, international leadership, research and innovation, and monitoring and evaluation of the Strategy. The Strategy will be delivered through policies, actions and commitments, and it will contribute to the delivery of the following strategic ambitions: • working towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025 • eliminating food waste to landfill by 2030 • zero avoidable plastic waste by 2042 • doubling of resource productivity by 2050 • zero avoidable waste by 2050	landfill would be considered as the last resort for waste management.
Environmental Improvement Plan 2023	This sets out plans to achieve the goals specified in the 25 -Year Plan. To maximise our resources and minimise our waste, plans are in place to improve the use of resources.	The assessment takes into account these measures to ensure an efficient use of resources and to minimise waste arisings.
Net Zero Strategy: Build Back Greener 2021	The strategy sets out a plan for the decarbonisation path to be net zero by 2050. It highlights the reduction of waste sent to landfill for disposal, particularly biodegradable waste, as well as the importance of an efficient and sustainable use of resources.	The assessment assumes that green waste likely to arise from the Scheme would be re-used within the Scheme activities, where technically appropriate and economically feasible. Where it is not possible to re-use green waste arisings, these would be diverted from landfill (for example through composting). The assessment considers that

Policy, strategies and plans	Summary	How this is addressed in the assessment
		disposal of waste to landfill is the least preferred option for waste management.
The Clean Growth Strategy 2017	The Strategy 2017 highlights the relevance to work towards the zero avoidable waste by 2050, maximising the value we extract from our resources, and minimising the negative environmental and carbon impacts associated with their extraction, use and disposal.	The assessment takes into account measures for an efficient use of materials aiming to minimise waste arisings from the Scheme's activities. Waste management would be as high up in the waste hierarchy as technically and economically feasible.
Construction Leadership Council (Green Construction Board): Routemap for Zero Avoidable Waste in Construction 2021	The Routemap identifies actions across the construction industry and applies to new and existing buildings and structures. The overall target is for *'zero avoidable waste in the construction sector by 2050.'* There are several other targets included with the Routemap: • by 2030 costs are reduced by 10% through designing out waste and material optimisation • by 2040 eliminate all but hazardous CDW entering landfill • by 2040 reduce soil to landfill by 75% based on a 2020 level and by 2050 this should be zero unless required for landfill operation purposes	The approach of the Scheme aims to minimise waste and re-use materials as much as possible, and disposal of waste to landfill would be considered as the last resort for waste management.
National Infrastructure Strategy 2020	The Strategy sets out plans to transform UK infrastructure in order to achieve net zero carbon emissions by 2050. The Strategy states that the UK must go further in increasing its resource-use efficiency, to reduce the burden placed on the natural world through the supply of raw materials and absorbing waste.	The assessment takes into account measures to ensure an efficient and responsible sourcing and use of resources and to minimise waste arisings. The assessment considers the circular economy principles to be incorporated into the Scheme, when technically and economically feasible.

Policy, strategies and plans	Summary	How this is addressed in the assessment
National Highways policy		
National Highways Sustainable Development Strategy 2017	The Strategy sets out National Highways' approach and priorities for sustainable development to their key stakeholders. Of the ambitions outlined in the Strategy, the following are of relevance to this material assets and waste assessment: • to more actively manage carbon emissions: by examination and focus on business areas where efficiencies can be achieved through reducing fuel, energy and raw material consumption, and all waste generation • to increase knowledge of where our goods and materials are sourced from. Ensuring that responsibly sourced resources is essential, as their production and handling can have local, national and global impacts – on human and social health and also on the environment and climate change • to push towards a 'circular' approach to our management of resources: minimising demand for primary resources extracted from the ground and maximise the re-use of the resources already in use on the network. Reutilising them in as high a value function as possible	The assessment takes into account measures to ensure an efficient and responsible sourcing and use of resources and to minimise waste arisings. The assessment considers the circular economy principles to be incorporated into the Scheme, when technically and economically feasible.
National Highways Net Zero Highways 2021	The Plan sets out National Highway's programme for a net zero future. Those actions of relevance to this assessment include: *'net zero for our maintenance and construction activities by 2040'*. The plan reports that National Highways will focus on the asphalt, cement and steel sectors. It will use a carbon management system to embed approaches that minimise emissions, including lean construction practices and the principles of the circular economy. It will also use digital technologies to increase the capacity of its existing network minimising new construction where practicable.	The assessment in this Chapter, relating to the use of materials and generation of waste, considers the circular economy principles to be incorporated into the Scheme, when technically and economically feasible. The approach of the Scheme aims to minimise waste and re-use materials as much as possible, and disposal of waste to landfill would be considered as the last resort for waste management.

10.3.18. The local planning framework comprises a number of documents that form the statutory development plans for the local planning authority area in which the Scheme is located.

10.3.19. The relevant local planning policies relating to this Chapter are summarised in Table 10.4.

10.3.20. These policies have been considered in the assessment of likely significant effects for material assets and waste generation and management.

Table 10.4 Summary of current local policies

Policy	Policy Summary	How addressed in assessment
Warwickshire County Council		
Warwickshire Minerals Local Plan 2018 to 2032	The Plan serves to assist in making decisions on mineral planning applications for mineral extraction, processing and restoration and is intended to be a resource that provides assistance to Boroughs and Districts to ensure minerals resources and infrastructure are not sterilised by non-mineral development. Objectives of the adopted Plan include: • securing a steady and adequate supply of aggregates and other minerals required to support sustainable economic growth at the national, sub-regional and local level • help deliver sustainable mineral development by promoting the prudent use and safeguarding of Warwickshire's mineral resources and help prevent sterilisation of land from non-mineral development • encourage the use of recycled and/or secondary materials and promote waste minimisation to reduce the overall demand for primary mineral extraction for construction aggregates, by supporting proposals for the production of materials where they are consistent with the policies of the adopted Waste Local Plan. The Minerals Planning Authority (MPA) have focussed on the national planning policy requirement to maintain a 10-year landbank of permitted reserves.	This Plan and Policies therewithin have been used to inform the baseline in section 10.8. Mitigation measures in line with these policies have been included in section 10.10 that promotes the use of recycled and secondary materials to help reduce both the extraction of primary materials and generation of waste.
	Policy S0: Overarching Policy – Mineral sites to be allocated (page 55) To meet the demand for sand and gravel in the County during and up to the end of the plan period (2032), the Plan requires the delivery of 6.525 million tonnes which will be secured by seven allocations for mineral development.	
	Policy MCS 1: Supply of minerals and materials (page 81) *"The MPA will support the supply of materials from substitute or secondary and recycled materials and mineral waste and will take account of this when considering proposals to extract aggregate minerals in the County at sites other than those allocated in Policy SO.* *The MPA will ensure that during the plan period there is a sufficient supply of minerals through Warwickshire's contribution to local and national needs. The MPA will maintain landbanks of permitted reserves for aggregate minerals and for brick clay.*	

Policy	Policy Summary	How addressed in assessment
	The MPA will seek to supplement supplies by taking advantage of unplanned opportunities as they arise such as the extraction of known minerals of local, regional, or national importance prior to, or as part of, non-mineral development." The Policy notes that continuing to maintain a sufficient supply of materials during the plan period will be constrained by the need to protect the county's natural and built environment and its local communities. The contribution that alternative sources of materials would make to future supplies should be taken into account before considering the extraction of primary materials. By maximising the use of alternative sources of materials the supply of land won minerals can be managed more sustainably.	
	Policy MCS 2: Sand and Gravel (page 82) The MPA will ensure that there is a steady and adequate supply of sand and gravel, taking account of the Council's latest landbank figures and throughout the plan period, the MPA will maintain at least a 7-year landbank of permitted reserves.	
	Policy MCS 3: Crushed rock (page 84) The Policy states *"The MPA will ensure that there is a steady and adequate supply of crushed rock, taking account of the Council's latest landbank figures, based on the latest published annual monitoring and the latest Local Aggregates Assessment (LAA). The Council will maintain at least a 10-year landbank for crushed rock throughout the plan period."*	
	Policy MCS 4: Secondary and recycled aggregates (page 85) *"Proposals for the reception, processing, treatment and distribution of waste materials in order to produce recycled and secondary aggregates will be supported where the proposal will promote the sustainable management of waste in accordance with the principles of the waste hierarchy and will facilitate a reduction in the need for primary aggregates."*	
	Policy MCS 5: Safeguarding of minerals and mineral infrastructure (page 87) The Policy states that *"Warwickshire's sand and gravel, crushed rock, brick-making clay resources, cement raw materials, shallow coal and building stone and existing mineral sites or existing and future mineral infrastructure will be safeguarded against needless sterilisation by non-minerals development."*	Sterilisation of mineral sites has been scoped out of further assessment in agreement with the Planning Inspectorate's

Policy	Policy Summary	How addressed in assessment
	Policy DM10: Mineral safeguarding (page 124) This policy "*sets out how non-mineral development proposals will be assessed with regard to the safeguarding of existing and future mineral sites and mineral infrastructure in Warwickshire and where proposals for prior extraction of minerals will be supported.* *Other forms of development (new and/or redevelopment) may impact on minerals development, either through surface development sterilising mineral resources or encroachment of incompatible development affecting the operational viability of the minerals development. As such the existence of existing and future mineral sites, and minerals infrastructure, should be taken into consideration with regard to the determination of proposals for other forms of development.* *The NPPF states that the MPA should define MSA and Mineral Consultation Areas and adopt appropriate policies to ensure that known locations of specific mineral resources of local and national importance are not sterilised by non-mineral development (where this should be avoided). The key safeguarded mineral resources in Warwickshire are sand and gravel, crushed rock, brick-making clay resources, cement raw materials, shallow coal and building stone."*	Scoping Opinion (**TR010066/APP/6.9**).
Warwickshire Waste Core Strategy Adopted Local Plan 2013 to 2028	The Plan sets out the Spatial Strategy, Vision, Objectives and Policies for managing waste for a 15-year period up to 2028. It provides the framework for waste development management including implementation and monitoring. The Plan has eight objectives (Section 6.2, page 45), of which the following are considered applicable to this Chapter: • Objective 1: deliver sustainable waste management development by managing waste as a resource and by moving it up the waste hierarchy. • Objective 2: enable the provision of waste management infrastructure to meet an identified need and ensure that the county has equivalent self-sufficiency in waste management, recognising that specialisation and economies of scale within the waste management industry will require cross boundary movements of waste. • Objective 4: engage and empower communities in the waste planning process, ensuring that people recognise the contribution that the waste management industry makes to creating sustainable communities through waste reduction, re-use and recovering value from waste, whilst also contributing to the local economy.	This Plan and Policies therewithin have been used to inform the baseline in section 10.8. Mitigation measures in line with these policies have been included in section 10.10 to promote the management of waste as a resource and reduce the amount of waste going to landfill.

Policy	Policy Summary	How addressed in assessment
	Policy CS 1: Waste management capacity (page 50) The Policy states that "*The County Council will seek to ensure that there is sufficient waste management capacity provided to manage the equivalent of waste arisings in Warwickshire and, as a minimum, achieve the County's targets for recycling, composting, re-use and landfill diversion. The Council will seek to meet identified capacity gaps (and where applicable, treatment gaps to meet landfill diversion targets) for each waste stream where a shortfall is indicated through the Authority Monitoring Report process.*"	
	Policy CS 5: Proposals for re-use, recycling, waste transfer/storage and composting (page 58) Supporting text to this Policy describes how 'in line with the waste hierarchy and in seeking to reduce the amount of waste going to landfill, it is important that as much waste as possible is treated at the highest level of the hierarchy as possible. Proposals which manage or facilitate the management of waste at the higher levels of the waste hierarchy will be encouraged. In addition, the Council seeks to meet identified capacity gaps for each waste stream (and where applicable treatment gaps to meet landfill diversion targets) where a shortfall is indicated through the Authority's Annual Monitoring Report process.	
	Policy CS 6: Proposals for other types of recovery (page 61) *"Proposals for anaerobic digestion, mechanical-biological treatment and other energy or value recovery technologies will be encouraged."*	
	Policy CS 7: Proposals for disposal facilities (page 63) *"Disposal facilities (meaning facilities primarily consisting of disposal by landfill or incineration) will only be approved where the applicant can demonstrate that the proposed facility is needed and will not prejudice the management of waste further up the waste hierarchy."*	
Coventry City Council		
Coventry City Council Local Plan 2011 to	The plan ensures that all the waste management needs of the area are met and promotes the use of recycled and secondary materials to help reduce both primary extraction and waste. The plan also defines MSAs in order that proven mineral resources are not needlessly sterilised.	This Plan and Policies therewithin have been used to inform the baseline in section 10.8.

Policy	Policy Summary	How addressed in assessment
2031 Local Plan		Mitigation measures in line with these policies have been included in section 10.10 to promote the management of waste as a resource and reduce the amount of waste going to landfill. MSA have been scoped out of further assessment in agreement with the Planning Inspectorate's Scoping Opinion (**TR010066/APP/6.9**).
	Policy DS 3: Sustainable development Policy (page 18) When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF. It will work proactively with applicants to find solutions to enable proposals to be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area including sustainable waste management.	This Plan and Policies therewithin have been used to inform the baseline in section 10.8. Mitigation measures in line with these policies have been included in section 10.10 to promote the management of waste as a resource and reduce the amount of waste going to landfill.
	Policy DS 4 (Part A): General masterplan principles (page 20) General principles to be adhered to when master planning any major development proposal incorporate innovative and creative approaches waste management solutions to make new developments more sustainable and resistant to the impacts of climate change.	
	Policy DE1: Ensuring high quality design (page 97) All development will be expected to meet several key principles including being proactive in responding to climate change and adopt sustainable and low carbon construction principles and minimise adverse impact on important natural resources.	
	Policy EM8: Waste management (page 132) The Council's Waste Management Strategy will be supported through: • encouraging less consumption of raw materials through the reduction and re-use of waste products	

Policy	Policy Summary	How addressed in assessment
	• encouragement of new methods of processing and recycling at waste management sites • supporting recycling proposals for aggregate materials	
	Policy EM9: Safeguarding mineral resources (page 135) *"The Council's Mineral Safeguarding Areas are defined for mineral reserves that are considered to be of current or future economic importance. Where developments are proposed in these areas, the application needs to acknowledge the presence of these mineral reserves.""*	MSA have been scoped out of further assessment in agreement with the Planning Inspectorate's Scoping Opinion (**TR010066/APP/6.9**).
	Policy EM10: Non mineral development in mineral safeguarded areas (page 136) *"All non-mineral development proposals in the designated Mineral Safeguarding Areas should assess* *and evaluate the legacy of past mining heritage'. 'It should also ensure that development does not entirely sterilise any potential future mineral extraction should this become viable and desirable. This should be considered in partnership with the Coal Authority."*	
Leicestershire County Council		
Leicestershire County Council Minerals and Waste Local Plan 2015 to 2031	The Plan sets out the spatial vision and strategic objectives relating to the allocation and extraction of mineral resources within Leicestershire between the Plan period of 2015 to 2031. Objective 1 of the Plan (paragraph 2.24, page 10), relating specifically to the source of materials that may be required by the Scheme locally, is considered applicable to this Chapter: • Objective 1: make sufficient provision of minerals in the County of Leicestershire to meet national and local requirements	Consideration has been given to the proximity of the Leicestershire border (East Midlands region) when determining the likely amount and source of materials that may be required by the Scheme locally. This Plan and Policies therewithin have been used to inform the baseline in section 10.8. Mitigation measures in line with these policies have been included in section 10.10 that
	Policy M1: Supply of sand and gravel aggregate (page 15) *"The County Council will ensure a steady and adequate supply of sand and gravel for aggregate purposes by:* • *making provision over the plan period (2015 to 2031) for the extraction of some 19 million tonnes of sand and gravel* • *maintaining a landbank of at least 7 years based on the past 10 years average sales"*	
	Policy M2: Supply of sand and gravel aggregate from existing sites (page 18)	

Policy	Policy Summary	How addressed in assessment
	The Policy indicates that the County Council will make provision over the plan period (2015 to 2031) for the supply of sand and gravel for aggregate purposes from five existing sites, with extensions to four existing sites.	promotes the use of recycled and secondary materials to help reduce both the extraction of primary materials and generation of waste.
	Policy M3: Sand and gravel extraction (unallocated areas) (page 19) The Policy notes that planning permission will be granted for sand and gravel extraction for aggregate purposes outside allocated areas subject to conditions set in the Policy.	
	Policy M4: Crushed rock (page 23) *"The County Council will ensure a steady and adequate supply of crushed rock for aggregate purposes by:* • *making provision over the plan period (2015 to 2031) for the extraction of some 231 million tonnes of crushed rock* • *maintaining a landbank of at least 10 years based on the past 10 years average sales* • *giving priority to proposals for extraction to be worked as extensions to existing rail-linked site operations where they are required to ensure sustainable supply* • *allowing proposals for new extraction sites where it has been demonstrated that the landbank and production capacity cannot be maintained from existing permitted sites"*	

Local planning policy

10.4. Consultation

10.4.1. An Environmental Scoping Report was submitted to the Planning Inspectorate in June 2023 (**TR010066/APP/6.8**). A Scoping Opinion (**TR010066/APP/6.9**) was produced by the Planning Inspectorate on behalf of the Secretary of State received in response to the Environmental Scoping Report. The Applicant's responses to the Scoping Opinion are contained in the Scoping Opinion Response, ES Appendix 4.1 (**TR010066/APP/6.3**)**.**

10.4.2. Responses in relation to the statutory consultation undertaken are presented in the Consultation Report Annex M (**TR010066/APP/5.2**). Details of how the applicant has undertaken further engagement with statutory consultees is set out in the Consultation Report (**TR010066/APP/5.1**).

10.4.3. Ongoing engagement with the Environment Agency and local authorities has been undertaken and this is summarised in this section. Further details of ongoing engagement will be presented in the Statement of Common Ground with each statutory environmental body.

Environment Agency

10.4.4. The Environment Agency were contacted in writing on 26 October 2023 to explain the reason for our consultation (i.e., to scope out the material asset and waste aspect in its entirety) and to request a meeting with their waste team.

10.4.5. During the subsequent meeting with the Environment Agency's waste team on 17 November 2023 they noted that the northern and southern extents the Scheme (as shown in ES Figure 2.3 (Environmental Constraints) (**TR010066/APP/6.2**)) may encroach into areas of historical landfills. The historical landfills are described further in ES Chapter 9 (Geology and Soils) (**TR010066/APP/6.1**). At the Environment Agency's request, a technical note was produced and agreed with the Environment Agency describing how landfill wastes, if encountered during construction, will be managed and removed from the Scheme in a manner that will not cause a detrimental impact to the surrounding environment. A copy of the technical note is included within ES Appendix 10.1 (Management of Historical Landfill Wastes) (**TR010066/APP/6.3**).

10.4.6. In their letter dated 1 July 2024, the Environment Agency stated:

- *"Having reviewed the additional documents. At this stage there are no further comments regarding the project. We will take the opportunity to reiterate that excavated waste not deemed for re-use during the construction or*

considered surplus will need to be moved to an authorised site so it can be processed for disposal or recovery. The investigative works have concluded two EWC Codes to be used for this project, these being 17 05 04 or 17 06 05. Consideration should be made that other waste types may exist in areas/depths and the appropriate code must be used for the removal.

- *Visual inspections should be made by staff associated with the project for when unexamined areas within the landfill area are to be excavated, as to determine, in part, the classification of this waste. Consideration will need to be made as to whether the waste is hazardous or non-hazardous. Procedures listed in your environmental management system should be followed and referred to when necessary".*

10.4.7. These requirements are incorporated into the First Iteration EMP (**TR010066/APP/6.5**) which will be secured through Schedule 2 of the draft DCO (**TR010066/APP/3.1**). This is described further in section 10.10.

10.4.8. No further concerns were raised by the Environment Agency with regards to the topic/aspect of material assets and waste.

Rugby Borough Council

10.4.9. A meeting between relevant project specialists and Rugby Borough Council's Environmental Health Officer (EHO) (Commercial Regulation Team) took place on 19 January 2024. During the meeting and in subsequent communications the EHO confirmed that at this stage they have no objections to, or additional comments upon, the proposals for materials handling, re-use, waste management and materials controls based upon the documents supplied and discussions held to date.

Coventry City Council

10.4.10. Coventry City Council were contacted in writing on 9 and 23 November 2023. The Council responded on 11 December 2023 seeking clarification as to whether the consultation related to waste management or fly tipping. After responding to the Council on 21 December 2023 confirming it related to waste management the Council was contacted again in writing to request a meeting on the 1 February 2024, 5 March 2024, 17 April 2024, 23 April 2024, 23 May 2024 and 18 June 2024. No further response has been received to date.

Warwickshire County Council

10.4.11. Warwickshire County Council's Senior Planner was contacted and a meeting was held on the 15 April 2024 to discuss our approach and methodology regarding scoping out material assets and waste in line with DMRB LA 110. In order to secure Warwickshire County Council's agreement to our approach the

Senior Planner required further clarifications with regards to mineral safeguarding (already agreed to be scoped out), a cumulative assessment, availability and use of construction aggregates, and regional targets for the use of secondary aggregates. This clarification was provided to the Senior Planner on the 7 June 2024 and no further response has been received to date.

10.5. Assessment methodology

10.5.1. The following section describes the methodology used to determine any likely significant effects on material assets and waste as a result of the Scheme.

General

10.5.2. The assessment has been undertaken in accordance with the methodology presented in DMRB LA 110 Material assets and waste (Highways England, 2019).

10.5.3. DMRB LA 110 states that the assessment shall report on the construction phase and first year of operational activities (opening year). However, operation of the Scheme in its first year (or for a considerably longer period) is not anticipated to result in significant environmental effects due to limited materials use and waste generation from infrequent operation and maintenance activities that might be required on a newly constructed asset. Therefore, and as agreed in the Scoping Opinion (**TR010066/APP/6.9**) provided by the Planning Inspectorate on behalf of the Secretary of State, the use of material assets and generation of waste during operation has been scoped out and is not included in this assessment. DMRB LA 110 states that the assessment shall report on the construction phase and first year of operational activities (opening year). However, operation of the Scheme in its first year (or for a considerably longer period) is not anticipated to result in significant environmental effects due to limited materials use and waste generation from infrequent operation and maintenance activities that might be required on a newly constructed asset. Therefore, and as agreed in the Scoping Opinion (**TR010066/APP/6.9**) provided by the Planning Inspectorate on behalf of the Secretary of State, the use of material assets and generation of waste during operation has been scoped out and is not included in this assessment.

10.5.4. As detailed in ES Chapter 9 (Geology and Soils) (**TR010066/APP/6.1**), the suitability for re-using site-won excavation arisings, together with the quantities of key construction material assets and generated wastes (provided in the Principal Contractor's bill of quantities), have been collated to inform this assessment.

Assessment criteria

Assessing significance

10.5.5. Receptors for this assessment are material assets themselves. Their consumption impacts upon their immediate and (in the case of primary materials) long-term availability. This results in the depletion of natural resources and potential associated adverse environmental impacts.

10.5.6. Table 10.5 details the significance categories for assessing the impacts on material assets from the Scheme. The relevant significance categories are summarised from Table 3.13 of DMRB LA 110.

Table 10.5 Significance category descriptions for Material Assets

Significance category	Description
Large/Very Large	• The Scheme achieves less than 70% overall material recovery and or recycling (by weight) of non-hazardous CDW# to substitute use of primary materials; and • Aggregates required to be imported to the Scheme comprise less than 1% re-used and or recycled content.
Moderate	• The Scheme achieves less than 70% overall material recovery and or recycling (by weight) of non-hazardous CDW to substitute use of primary materials; and • Aggregates required to be imported to the Scheme comprise re-used and or recycled content below the target of 25%.
Slight	• The Scheme achieves 70% to 99% overall material recovery and or recycling (by weight) of non-hazardous CDW to substitute use of primary materials; and • Aggregates required to be imported to the Scheme comprise re-used and or recycled content in line with the target of 25%.
Neutral	• The Scheme achieves greater than 99% overall material recovery and or recycling (by weight) of non-hazardous CDW to substitute use of primary materials; and • Aggregates required to be imported to the Scheme compromise more than 99% re-used and or recycled content.
Note: **#** Whilst excavated soil materials would be generated during construction, where chemically and geotechnically suitable, the material would be re-used on or off the Scheme. Consequently, excavated soil materials are not considered to comprise CDW. The government's recovery target of 70% does not include hazardous waste and excavated materials relating to List of Waste 17 05 04. This approach is consistent with the waste hierarchy and the objectives of minimising waste generation and reusing materials. The significance category descriptions in this table use precise and deliberate language, specifically 'and' and 'or' after each descriptor of effect to denote which significance category should be applied. Descriptors for material assets are all additive and all descriptors need to be met in full to assign a relevant significance category.	

10.5.7. The significance of effects on material assets are reported in accordance with the following significance criteria provided in Table 3.14 of DMRB LA 110:

- **Significant (one or more criteria met)**: category description met for a moderate or large effect.
- **Not significant**: category description met for a neutral or slight effect.

10.6. Assessment assumptions and limitations

10.6.1. The assessment has been based on the Scheme description presented in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**) and the design presented on the Works Plans (**TR010066/APP/2.3**). It is assumed that in the instance of any changes to the design within the vertical and horizontal limits of deviation, mitigation measures would still be provided and would function as described in this Chapter and as such there would be no change to the assessment of significant effects.

10.6.2. The baseline information is extracted from a desk study of available information at the time of writing and the 2023 GIR. Reported baseline conditions in this report provided by third parties have been assumed to be accurate, however, owing to the dynamic nature of the environment and duration of the consenting and construction process, conditions may change during the construction and operational phases.

10.6.3. Key material assets and earthworks quantities used in this assessment were provided in the Principal Contractor's bill of quantities. These are included for reference in section 10.11 (Design information). As the design progresses, the anticipated magnitude of any changes to these quantities are not considered substantial enough to alter the assessment outcomes.

10.6.4. Mitigation measures identified in this assessment are secured in the First Iteration EMP (**TR010066/APP/6.5**). This is discussed further in section 10.10.

10.6.5. This assessment does not consider the environmental impacts associated with the extraction of raw materials and the manufacture of products. These impacts are subject to the applicable environmental assessment, permitting and planning approval requirements for the relevant facilities. The embodied carbon in these processes has been assessed as part of the consideration of the Scheme's carbon footprint and is presented in ES Chapter 14 (Climate) (**TR010066/APP/6.1**).

10.7. Study area

10.7.1. DMRB LA 110 requires the use of two different geographical study areas when examining the use of material assets. These are described in the following sections.

First study area

10.7.2. As detailed on ES Figure 2.2 (Order Limits) (**TR010066/APP/6.2**), the first study area covers land within the Order Limits and includes areas where site clearance, earthworks and construction are proposed and materials will be consumed (used, re-used and recycled).

10.7.3. As well as including the footprint of the Scheme, the first study area includes any temporary land requirements during the construction phase such as temporary offices, compounds and storage.

Second study area

10.7.4. The second study area covers feasible sources for and the availability of construction materials required to construct the Scheme's main elements.

10.7.5. The study area for the source of material assets and the processing, treatment and recovery of waste is the West Midlands region. This region comprises Herefordshire, Shropshire, Staffordshire, Warwickshire, and Worcestershire counties plus West Midlands metropolitan county. The Scheme lies within the West Midlands (Coventry) and Warwickshire counties.

10.7.6. Consideration has also been given to the proximity of the Leicestershire border (East Midlands region) when determining the likely amount and source of materials that may be required by the Scheme locally.

10.7.7. The regional and Council boundaries considered within the second study area are depicted in ES Figure 10.1 (Regional Plan) (**TR010066/APP/6.2**).

10.8. Baseline conditions

Mineral and other finite raw material resources

Primary (virgin) aggregates

10.8.1. The spatial strategy, vision, objectives and policies guiding minerals development in Warwickshire are set out in the adopted Warwickshire Minerals Local Plan 2018-2032 (section 4, page 28):

- nationally and locally the main "*use of sand and gravel is for concrete (67% of the total sand and gravel sold). Other uses for sand include mortar and asphalt while for gravel it includes drainage layers or construction fill*."

10.8.2. Based on calculations within the most recent 2017 Warwickshire Local Aggregates Assessment:

- Warwickshire's landbank for sand and gravel provisions currently stands at 13 years with a 6.69 million tonnes reserve as of December 2016 (Table 4, page 12).
- Warwickshire's landbank for crushed rock was 30.97 years with a 27.26 million tonnes reserve as of 2016 (2015 figures). It is mainly used as bulk minerals in the construction industry (un-labelled table, page 4).

10.8.3. The West Midlands Aggregates Working Party Annual Report 2023 presents primary and secondary aggregate data up to the end of 2022:

- overall figures for total primary aggregate reserves were estimated to be 304.62 million tonnes. This is an increase on the figure for the previous year (2021) which was 301.97 million tonnes (page 8)
- permitted aggregates reserves within the West Midlands (excluding Herefordshire) totalled 307.25 million tonnes (Table 3, page 21). As detailed on page 30 of the report, it was thought that production of aggregates within the West Midlands required increasing by 50% to compensate for the demand placed within the region by the HS2 project. However, as Phase 2 of the HS2 project has been withdrawn it was believed that there will be a lower demand for aggregates within the West Midlands

10.8.4. According to the Leicestershire Minerals and Waste Local Plan (adopted 2019):

- estimated permitted reserves of sand and gravel in Leicestershire as of the end of 2014 were around 8.09 million tonnes (equating to a land bank of 7 years). In 2015 planning permission was granted for the extension of an allocated extraction site which secured a further 1.42 million tonnes of reserves (paragraph 3.17, page 14).
- Policy M1: Supply of sand and gravel aggregate (page 15) notes that Leicestershire County Council will make provision for the extraction of approximately 19 million tonnes of sand and gravel across the plan period of 2015 to 2031 and a landbank of at least 7 years. This will be achieved through extensions to existing sand and gravel extraction operations and allocation of additional extraction sites.
- Policy M4: Crushed rock (page 23) notes that Leicestershire County Council will make provision for approximately 231 million tonnes of crushed rock and maintain a landbank of at least 10 years.

10.8.5. According to Leicestershire County Council's Authority Monitoring Report 2021 to 2022:

- section 5.4, page 22 notes "*in 2021, Leicestershire had a sand and gravel landbank of 2.2 years (2.53 million tonnes), below the seven-year requirement of the NPPF. Crushed rock was around 24 years (312 million tonnes)*"

- Leicestershire County Council aims to increase sand and gravel landbank by granting planning permission for allocated extraction sites under policy M2 of the Leicestershire Minerals and Waste Local Plan (section 5.4, page 23).

Alternative (secondary and recycled) aggregates

10.8.6. Alternative aggregates comprise secondary aggregates which are by-products from industrial and mining operations and recycled aggregates which are produced from CDW.

10.8.7. The adopted Warwickshire Minerals Local Plan 2018 to 2032 notes:

- recycling of aggregates is important in Warwickshire with nine operational sites providing materials to the local and regional construction industry. 830,250 tonnes of construction and demolition waste material was recycled in the County in 2015 (paragraph 8.32, pages 87 to 88).
- monitoring works for the adopted Warwickshire Minerals Local Plan 2018 to 2032 Policy MCS 4 looked at permitted capacity of such CDW recycling sites and when added to recent permissions gives a total of 830,250 tonnes of capacity per annum (Policy MCS 4, page 85).
- several of these facilities are time limited and due to expire within the 2018 to 2032 plan period. However, Policy MCS 4 (page 85) notes that proposals for the reception, processing, treatment and distribution of waste materials in order to produce recycled and secondary aggregates will be supported where the proposal will promote the sustainable management of waste in accordance with the principles of the waste hierarchy and will facilitate a reduction in the need for primary aggregates.

10.8.8. The Warwickshire Local Aggregates Assessment 2017 confirms (page 4) that permitted capacity for recycled aggregates within the county remains at 830,250 tonnes per annum and that planning permission for several of the production sites remains temporary. The actual production figure is likely to be around 600,000 tonnes per annum.

10.8.9. The West Midlands Aggregates Working Party Annual Report 2023 provides Environment Agency estimates on the amount of construction demolition and excavation arisings (CDEW) produced and managed within the West Midlands. Table 4, page 26 notes that the Environment Agency estimates that a total of 12.50 million tonnes of CDEW were produced in 2022, of which approximately 10.47 million tonnes were managed (recycled).

10.8.10. This approach to sustainable materials management is supported by Coventry City Council in their 2017 Local Plan whereby, as noted in Policy EM8: Waste

management, new methods of processing and recycling at waste management sites are encouraged (Policy EM8, page 132).

10.8.11. The Leicestershire Minerals and Waste Local Plan (adopted 2019) confirms the Council's support for proposals for the recycling and reprocessing of materials for use as secondary aggregates if they conform with the locational policies for waste facilities as outlined within the Local Plan (paragraphs 3.7 to 3.10, page 13).

10.8.12. Baseline recycled content targets for alternative aggregates are set out in DMRB LA110 (Table E/1.2, page 5 of England National Application Annex to LA 110 Material assets and waste). Whilst the guideline target set for the West Midlands is 27%, Warwickshire County Council's target of 28% will be set where available for those applications and where it is technically and economically feasible to substitute the use of primary aggregates.

Concrete

10.8.13. The Mineral Products Association (MPAsc) in their 2023 Profile of the UK Mineral products Industry reported 52.7 million tonnes of ready-mix concrete was produced in the UK's 1,062 concrete and mortar plants during 2021 (Table 1.1, page 5).

10.8.14. There are numerous regional concrete batching and coating plants with several local to the Scheme.

Steel

10.8.15. 2023 statistics from the World Steel Association reported approximately 5.62 million tonnes of crude steel were produced in the UK during 2022. British Steel unveiled its Low-Carbon Roadmap in October 2021, pledging to invest in a range of technologies to deliver net-zero steel by 2050.

Timber

10.8.16. According to Forestry Research statistics for 2023 (for the year 2022):

- 10.1 million m^3 green tonnes of roundwood was removed from UK woodlands in 2022 comprising 9.2 million green tonnes of softwood and 0.8 million green tonnes of hardwood- (section 2.1.1, page 7)
- production of 3.1 million m^3 of sawnwood comprising softwood and hardwood (section 2.3.1, page 23) and 3.5 million m^3 of wood-based panels (section 2.6.2, page 48)

- 5.5 million green tonnes of softwood and 60,000 tonnes of UK grown hardwood were consumed by UK sawmills (section 2.3.1, page 22)

10.8.17. As detailed in the 2023 Forestry Research statistics, the National Forest Inventory published a '25 year forecast of softwood availability' (July 2022) and the '50 year forecast of hardwood availability' (April 2014):

- UK wide softwood availability averages 16.5 million m^3 a year over the 25 year period from 2022 to 2046 (section 2.1.4, page 11). The forecast for 2022 to 2026 (15.1 million m^3) is lower than the average figure due to availability of softwood increasing up to 2041 (section 2.1.4, page 12)
- UK wide hardwood availability averages 1.6 million m^3 a year over the 50 year period. '*The majority (89%) of this hardwood is projected to come from private sector woodland. If these woodlands were managed to increase total production, the forecast would be much higher'* (section 2.1.5, page 13)

Site-won construction and demolition waste

10.8.18. The national target for the recovery of CDW either on or off the Scheme is 70% by weight as set out in the EU WFD 2008 and the Waste Management Plan for England (January 2021). This target specifically excludes naturally occurring materials with List of Waste (LoW) Code 17 05 04 (non-hazardous soil and stones) (as defined by Waste Classification Technical Guidance WM3 (Environment Agency et al, 2021).

10.8.19. DMRB LA 110 states that projects should aim to achieve at least 90% (by weight) material recovery of non-hazardous CDW.

10.8.20. A waste assessment using the available ground investigation data was undertaken to establish the likely classification of excavation arisings should disposal be required. The assessment of waste disposal is provided within ES Appendix 9.3 (Ground Investigation Report) (**TR010066/APP/6.3**)). In summary, the Scheme wide 'soils and stones' were generally classified as non-hazardous waste, with only a limited potential to generate hazardous waste associated with the historical landfills. If encountered these wastes should be managed and disposed from the Scheme as detailed in section 10.10 (mitigation MA5 and MA6).

Waste processing, treatment and recovery facilities

10.8.21. Estimates from the Environment Agency Waste data interrogator (for the year ending 2021) last updated in May 2024 indicates there are numerous operational waste processing, treatment and recovery facilities within the region.

10.8.22. Professional experience has shown that waste markets are flexible and adapt to regional demand changes. Whilst the actual waste processing, treatment and recovery facilities may change during the construction period, the overall capacity is likely to remain similar as the market responds. As a result, there would be opportunity for the re-use, recycling or recovery of appropriate wastes generated.

Future baseline

10.8.23. The future baseline scenario outlines the likely evolution of the current state of the environment without the Scheme. This allows for the identification of effects and impacts of the Scheme against a future baseline at both the commencement of construction and operation in the absence of the completed Scheme.

10.8.24. In consideration of the proposed construction period of 2026 to 2028 (opening year) and national planning policy requirement to maintain a 10-year landbank of permitted reserves, the future baseline is not anticipated to be different to current conditions nor to introduce new, sensitive receptors. In addition, local policies detailed in Table 10.4 include proposals for producing recycled and secondary aggregates to promote the sustainable management of waste in accordance with the principles of the waste hierarchy and facilitate a reduction in the need for primary aggregates.

10.9. Potential impacts

10.9.1. The likely potential impacts and significance of effects associated with construction of the Scheme are:

- depletion of natural resources through the use of primary aggregates and the use of recycled and or secondary aggregates below the 28% target for the use of alternate aggregates.
- depletion of natural resources through recycling and or recovery of CDW (excludes naturally occurring non-hazardous materials (LoW Code 17 05 04)) below the Government's 70% recovery target and DMRB LA 110 target to achieve at least 90% (by weight) material recovery of non-hazardous construction and demolition waste.

10.10. Design, mitigation and enhancement measures

Design

10.10.1. The development of the Scheme design has been an iterative process. The environment team has worked in close collaboration with the infrastructure design team to avoid or reduce environmental impacts through the Scheme

design. This is referred to as embedded (or design) mitigation. The principles of the design and mitigation hierarchy outlined in DMRB LA 104 Environmental Assessment and Monitoring have been followed. The first principle being to avoid potential adverse effects, if at all feasible, before seeking to minimise or mitigate for any unavoidable impacts. Embedded mitigation for the Scheme are reported in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).

10.10.2. Scheme design principles adopted to avoid or prevent adverse environmental effects are set out within the Scheme Design Report (**TR010066/APP/7.4**). This includes general principles and specific commitments that will inform the detailed design of the Scheme. ES Chapter 3 (Assessment of Alternatives) (**TR010066/APP/6.1**) details the design alternatives that have been considered, including the environmental factors which have influenced the decision-making.

Mitigation

10.10.3. Mitigation is included in the Register of Environmental Actions and Commitments (REAC) contained within the First Iteration EMP (**TR010066/APP/6.5**). The First Iteration EMP will be developed into the Second Iteration EMP for implementation during construction and is secured in Schedule 2 of the draft DCO (**TR010066/APP/3.1**) (Commitment G1 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)). Further information on the First Iteration EMP is provided within Section 4.8 of ES Chapter 4 (Environmental Assessment Methodology) (**TR010066/APP/6.1**).

10.10.4. The Scheme is designed to avoid and reduce the environmental impacts of material assets and waste throughout future design and construction stages (as far as reasonably practicable) through the process of exploring alternatives and 'embedded mitigation' as defined in DMRB LA 104 (Environmental assessment and monitoring) (Highways England 2020).

Construction

10.10.5. This section summarises the mitigation required during the construction of the Scheme. Unless stated all mitigation is considered to be embedded as it follows best practice measures and/or is required to achieve compliance with legislation.

10.10.6. The Scheme would be undertaken in consideration of best practice mitigation measures and DEFRA's Resources and Waste Strategy for England (December 2018). Given the relationship between the use of material assets and the minimisation of waste, there is a considerable overlap between the mitigation measures for material assets and waste.

10.10.7. The following sections detail mitigation measures to be secured in the First Iteration EMP (**TR010066/APP/6.5**) and implemented throughout the detailed design and construction stages.

MA1: waste hierarchy implementation

10.10.8. The foundation for waste management is the five-step waste hierarchy of the EU WFD 2008 which establishes an order of preference for managing and disposing of waste where preventing waste is the preferred option and sending waste to landfill is the last resort. The principles of the waste hierarchy will be considered during the design to achieve mitigation of potential impacts within the design process.

10.10.9. The Scheme aims to prioritise waste prevention, followed by preparing for re-use, recycling and recovery and lastly disposal to landfill (Commitment MA1 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)). This will include, but is not limited to:

- re-use of suitable fill generated by site excavation as fill material for the new dumbbell junction earthworks.
- re-use of site-won materials within the Scheme, for example in an area to the east of the A46 (immediately north of Coombe Pool Site of Special Scientific Interest (SSSI)), would be placed up to levels permitted by the Limits of Deviation discussed in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**) and pursuant to Article 7 (*Limits of deviation*) of the draft DCO (**TR010066/APP/3.1**).
- where CDW and excavation arisings cannot be used in the Scheme, opportunities will be sought where to re-use the materials on other construction projects.
- if encountered, suitable marketable timber and biomass from clearance of the Scheme will be fed into the markets for timber, chip board and biomass.
- green waste from the Scheme clearance works (vegetation other than timber and unusable waste wood such as dead trees, stumps and root balls) will be re-used or recycled through on-site landscaping or ecological improvement works, depending on its suitability. This will entail, for example, habitat creation or creation of compost from green waste that can be used as a soil ameliorator for certain types of planting. Off-site disposal through a green waste disposal contractor could also enable composting (recycling).
- the re-use of road surfacing, paving, concrete and rubble in temporary haul roads or as make-up for the new road layout.
- the Principal Contractor will also adopt the good practice in construction waste management principles outlined in Waste and Resources Action Programme (WRAP) guidance document Achieving Good Practice, Waste

Minimisation and Management, Guidance for Construction Clients, Design Teams and Contractors (2008) and WRAPs Net Waste Tool.[1]

MA2: designing out waste

10.10.10. Designing out waste is one of the key tenets of a circular economy. The Principal Contractor will implement the principles of designing out waste[2] to reduce it and reduce the total material assets demand of the detailed design (Commitment MA2 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)). This will be accomplished by designing for:

- waste efficient procurement: by setting resource and waste efficiency requirements into the procurement process; working throughout the design process to select resource efficient construction methods; and when waste does arise, making provision to select the waste contractor who can offer the best overall re-use and recycling performance.
- resource optimisation: by designing roads and road infrastructure that can be constructed and used with reduced consumption of material assets, selecting responsibly sourced material assets, and producing minimal waste.
- off-site construction: by designing prefabricated road structures and components, which offer reduced consumption of material assets and reduced waste; and thinking about how activities on the Scheme can become a process of assembly rather than construction.
- re-use and recovery: by salvaging and re-use of components and material assets from the Scheme or elsewhere locally; on-site or off-site recycling of materials, and ensuring new materials brought onto the Scheme have a high recycled content where technically appropriate and economically feasible.
- deconstruction and flexibility: by considering the potential future uses of the Scheme and incorporating flexibility and adaptability into the design; selecting materials and components to match the intended use and durability; designing the road assets to be easy to maintain and refurbish, and taking into account future needs to update, modernise and eventually deconstruction.

MA3: use of secondary or recycled materials

10.10.11. The Principal Contractor will prioritise the use of secondary or recycled materials (and consider alternatives to traditional construction materials) in accordance with the relevant legislation, standards and specification for these works (Commitment MA3 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)). This will include (but not be limited to) the following with

[1] WRAP Net Waste Tool. Tool no longer available on the WRAP website due to funding issues
[2] WRAP, Designing out waste: A design team guide for civil engineering (Part 1: Design guide)

an aim to reduce the requirement to import materials for construction and reduce the need to remove surplus materials from site:

- the use of suitable CDW and excavation arisings within the Scheme that meets the WRAP Quality Protocol: Aggregates from Inert Waste, End of Waste Criteria for the Production of Aggregates from Inert Waste, (October 2013).
- re-use of suitable fill generated by site excavation as fill material for the new dumb bell junction earthworks.
- re-use of site-won materials within the Scheme, for example in an area to the east of the A46 (immediately north of Coombe Pool SSSI), would be placed up to levels permitted by the Limits of Deviation discussed in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**) and pursuant to Article 7 (*Limits of deviation*) of the draft DCO (**TR010066/APP/3.1**).
- use of green waste from the Scheme clearance works (vegetation other than timber and unusable waste wood such as dead trees, stumps and root balls) through on-site landscaping or ecological improvement works, depending on its suitability. This will entail, for example, habitat creation or creation of compost from green waste that can be used as a soil ameliorator for certain types of planting.
- the re-use of road surfacing, paving, concrete and rubble in temporary haul roads or as make-up for the new road layout.
- Providing on site facilities to separate out waste to enable the recovery of material through recycling

10.10.12. Additional information, including Key Performance Indicators (KPIs) and performance targets relating to the use of such materials are included within mitigation MA5.

MA4: local and responsible sourcing of material assets

10.10.13. The principles of local and responsible sourcing of key material assets will be adopted by the Principal Contractor in accordance with their policies on sustainable procurement (Commitment MA4 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).

- where feasible, key materials, such as aggregates, asphalt, cement, concrete and steel used within the Scheme will be sourced from suppliers who have a minimum International Organization for Standardization (ISO) 14001 certification (or equivalent) and, if available, Buildings Research Establishment (BRE) developed BES 6001 (Framework Standard for the Responsible Sourcing of Construction Products) certification for the material

- in accordance with the UK government Timber Procurement Policy (TPP), only timber and wood-derived products originating from an independently verifiable legal and sustainable source (which can include from a licensed Forest Law Enforcement, Governance and Trade partner) will be used. Appropriate documentation will be required to prove it. The guidance details what 'legal' and 'sustainable' mean in the context of the TPP
- locally sourced materials and suppliers, ideally within 10 kilometres, would be identified and used, where possible.

MA5: soil handling management plan

10.10.14. A SHMP will be developed and form part of the Second Iteration EMP (Commitment MA5 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).

10.10.15. In addition to ensuring soil sustainability during construction, it will detail how all construction phase material assets be managed and identify opportunities to substitute recycled or secondary materials and products for those using primary materials. It will be updated regularly during the construction of the Scheme and include, but not be limited to:

- procurement and waste management protocols designed to reduce impacts on the environment and increase local procurement of materials and waste management options.
- setting out KPIs and the following performance targets for material assets and waste to be achieved by the Principal Contractor (in accordance with DMRB LA 110, the WFD 2008 and the Waste Management Plan for England (January 2021)):
  - at least 28% (by weight) of aggregates imported for use within the Scheme should comprise alternative (re-used, recycled or secondary) aggregates, for those applications where it is technically and economically feasible to substitute these alternatives to primary aggregates. Where primary aggregate materials are mandated within DMRB they would be excluded from the target.
  - recovery of at least 70% (by weight) of non-hazardous CDW (excluding naturally occurring soils and stones with LoW Code 17 05 04), with the aim to achieve recovery of 90% (by weight).
- where waste must be taken to a recycling or disposal site, the Principal Contractor would ensure that the site has the appropriate permits. In addition, the suitable facility would be located as close to the works as possible (ideally within 10km) to minimise the impacts of transportation, in particular the release of carbon emissions. The Principal Contractor would identify the closest and relevant treatment and disposal sites.

- best practice materials management methods, such as co-location of temporary haul routes on permanent capping and recovery and re-use of temporary works materials from haul routes, plant and piling mattresses, as well as use of 'just-in-time' delivery to reduce double-handling.
- material procurement, delivery, storage and handling will be managed to reduce the potential for damaged or surplus stock. Agreements with suppliers will be pursued to reduce packaging or to agree packaging 'take-back' schemes.

10.10.16. The SHMP will guide the re-use of excavated soils during construction and detail the procedures and measures to be implemented to classify, track, store, re-use and dispose of all excavated waste generated during the construction.

10.10.17. The Scheme is known to intersect areas of historical landfill operations (see section 10.4: Environment Agency consultation). If historical wastes associated with the landfills are encountered during construction, they cannot be retained. They must be removed from the Scheme in a manner that will not cause a detrimental impact to the surrounding environment. Further details are presented in the technical note included as ES Appendix 10.1 (Management of Historical Landfill Wastes) (**TR010066/APP/6.3**).

10.10.18. Certain wastes, including but not limited to concrete and brick structures, may require processing in line with permitted controls before they can be considered suitable for re-use as a non-waste.

10.10.19. Excavation arisings should be managed in accordance with CIRIA publication C809: Sustainable Management of Surplus Soil and Aggregates from Construction (2023) and DEFRAs Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (September 2009) provides practical guidance on how to improve appropriate soil re-use on construction sites and reducing the volume of soils that are sent to landfill.

MA6: site waste management plan

10.10.20. An outline SWMP has been produced for the Scheme which forms part of the First Iteration EMP. This will be developed and the SWMP will form part of the Second Iteration EMP (Commitment MA6 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)). It will identify the types and likely quantities of wastes that may be generated, and set out, in an auditable manner, how waste will be reduced, re-used, managed and disposed in accordance with the waste hierarchy and other legislative requirements.

10.10.21. It will include any appropriate waste minimisation and associated KPI targets and implementation of the SWMP will reduce waste at source, during detailed design and construction, by facilitating measures to increase re-use of materials on-site and reduce the need for new construction materials.

10.10.22. The Scheme is known to intersect areas of historical landfill operations (see section 10.4: Environment Agency consultation). If historical wastes associated with the landfills are encountered during construction, they will be segregated, tested for waste acceptance criteria and disposed of to the appropriately local licensed waste facility (landfill or incinerator).

10.10.23. Regular reviews of, and updates to, the SWMP will enable monitoring of the mitigation measures' effectiveness at minimising waste generation, especially reducing quantity of material disposal to landfill as far as practicable.

MA7: materials management plan

10.10.24. An MMP would be prepared where applicable to provide lines of evidence covering the use of clean site won materials within the Scheme (Commitment MA7 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)). If required, the MMP would be developed and form part of the Second Iteration EMP. The MMP would be based on an adequate risk assessment concluding that the objectives of preventing harm to human health and pollution of the environment will be met if materials are used in the proposed manner.

Operation

10.10.25. This section provides further details on the mitigation required for material assets and waste for the implementation of the Scheme. Unless stated all mitigation is considered to be embedded.

10.10.26. Design measures integrated into the Scheme for the purpose of minimising environmental effects are reported in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**). The following measures listed above in the construction section would also be relevant to the operational stage of the Scheme, as follows:

- MA1: waste hierarchy implementation
- MA2: designing out waste
- MA3: use of secondary or recycled materials
- MA4: local and responsible sourcing of material assets

Enhancement measures

10.10.27. In accordance with DMRB LA 110, enhancement opportunities will be identified as the Scheme progresses associated with the re-use of suitable excavation arisings on developments concurrent with the construction phase of the Scheme. For example, this may include:

- during the preliminary design stage, the potential for reducing waste has been included in workshops aimed at incorporating sustainability features within the design, including identifying opportunities to prevent, reduce, re-use or recycle waste materials and to improve resource efficiency early on in the design. The potential for further waste reduction and resource efficiencies needs to be taken forward during the detailed design stage by the design team, as an enhancement opportunity to incorporate any additional resource efficient opportunities into the detailed design of the Scheme.
- provision of materials to other major developments in the wider region e.g. road and rail improvement projects.
- use of suitable materials in construction of noise and landscape bunding on other schemes e.g. projects for the Applicant where improvements are planned.
- use of surplus recycled or recovered wastes in community projects e.g. use of recycled mulch from tree felling on local community facilities.

10.10.28. However, these enhancement measures have not been taken into account when determining significance of effects because they are over and above what is required to mitigate the adverse effects of the Scheme.

10.11. Assessment of likely significant effects

Design information

10.11.1. To inform the evaluation of predicted effects, the estimated main types and quantities of material assets anticipated to be used and waste generated (as a means to assess the recovery rate of generated CDW) have been assessed.

Consumption of material assets

10.11.1. The main types and estimated quantities of material assets anticipated to be used during construction are shown in Table 10.6.

10.11.2. To evaluate the potential recycled content of aggregate containing construction materials, indicative levels of recycled content have been established in Table 10.6. These have been selected using professional judgment through reference to material specific ‘good practice’ recycled content levels provided in the WRAP

documents; Designing Out Waste Tool for Civil Engineering and Net Waste Tool and in consideration of the likely local or regional availability of some of the key materials (for example bituminous products). The total recycled content is calculated as a percentage by weight.

10.11.3. Data on the bulk density of materials has been used to convert quantities between volume (m^3) and weight (tonnes). Information on the typical bulk density of materials was sourced from WRAP's Designing Out Waste Tool for Civil Engineering and Building Services Research and Information Association (BSRIA) guide Embodied Carbon: The Inventory of Carbon and Energy (ICE) (October 2011). Professional judgement and realistic worst-case assumptions have been used where data was not available.

Table 10.6 Estimated main categories and quantities of materials to be used during construction

Material assets category	Quantity requiring import		Potential recycled content of materials by weight (good practice)	
	m^3	Tonnes	%	Tonnes
Concrete (in-situ and pre-cast products)	3,961	9,507	22	2,092
Asphalt	14,609	33,600	25	8,400
Unbound aggregates (Type 1 Sub-base)	11,870	26,708	100	26,708
Steel (re-bar and lighting columns)	144	1,138	15	170
Aluminium traffic sign faces	4	11	44	5
Timber acoustic fence and post	300	150	0	0
Plastic products	284	276	10	28
Import general fill	190,000	323,000	100	323,000
Geogrid / textiles	141	42	10	4
Total of all construction materials	**221,313**	**394,432**	**91%**	**360,407**
Total of all construction materials containing aggregates	**30,440**	**69,815**	**53%**	**37,200**

Note:

- Grey shading denotes aggregate containing construction material assets.

10.11.4. By achieving 'good practice' during construction, the Scheme has the potential to incorporate in the region of 53% recycled aggregate content by weight (equating to approximately 37,200 tonnes) which is greater than the 28% recycled content target as set by DMRB LA 110, the WFD 2008 and the Waste Management Plan for England (January 2021)).

10.11.5. Construction works are predicted to generate approximately 68,760m^3 (116,892 tonnes) of excavation arisings (topsoil plus general soils and stones) of which 50,249m^3 (85,423 tonnes) are suitable for retention and use during construction of the Scheme (73%).

Construction and demolition waste generation

10.11.6. The estimated main categories and quantities of key CDW generated during construction are shown in Table 10.7. These wastes have been conservatively estimated through a number of methods, including reference to:

- estimated quantities of waste estimated to be generated during the Scheme's preparation, clearance, demolition and excavation works.
- the application of material specific wastage rates, at 'good practice' levels[3] applied to the key materials required for construction (see Table 10.6). These rates (ranging from 2% to 5%) serve as a means to capture the portion of waste that could be generated through the wastage of construction materials. For example, this may be waste generated through surplus, out of specification or damaged construction materials.

10.11.7. Resource recovery, as part of a circular economy, aims to reduce the amount of waste generated, effectively commodifying the waste. In the context of this assessment, it relates to the recovery, re-use and recycling (on or off the Scheme) of non-hazardous CDW to substitute the use of primary materials. To evaluate potential recovery rates of the main CDW, estimated recovery rates have been established in Table 10.7 based on the 'good practice quick win' recovery rates set out in WRAP Achieving Good Practice Waste Minimisation and Management, Guidance for Construction Clients, Design Teams and Contractors) and WRAP's Net Waste Tool.

[3] WRAP (2008) 'Net Waste Tool'

Table 10.7 Estimated main types and quantities of CDW generated during construction

Waste type	Assumed wastage rate (%)	Quantity		Potential recovery rate (% by weight)	
		m^3	Tonnes	%	Tonnes
Demolition and Scheme clearance					
Vegetation	100	200	100	100	100
Plastics	100	22	21	80	17
Asphalt	100	6,500	14,950	95	14,203
Concrete	100	320	768	95	730
Scheme construction					
Concrete (in-situ and pre-cast products)	3	119	285	95	271
Asphalt	5	730	1,680	95	1,596
Unbound aggregates (Type 1 Sub-base)	5	594	1,335	95	1,269
Steel (re-bar and lighting columns)	5	7	57	100	57
Aluminium traffic sign faces	5	0.2	0.6	100	1
Plastics	2	6	6	80	4
Timber acoustic fence and posts	5	15	7	90	7
	Total	**8,513**	**19,210**	**95%**	**18,255**

10.11.8. Achieving 'good practice' during construction, it has been estimated that the Scheme has the potential to incorporate a recovery rate of 95% for CDW which exceeds the Government's recovery target of 70% (DMRB target of 90%).

10.11.9. Approximately 27% of the excavated soils and stones[4] (18,511m^3 equivalent to 31,469 tonnes) require removal from the Scheme. These excavated materials are not included in Table 10.7 or the calculations for waste recovery as the Government's recovery target of 70% (DMRB target of 90%) does not include uncontaminated, excavated soils and stones.

[4] 100% of topsoil anticipated to be retained

Predicted effects

10.11.10. This section presents the key predicted permanent environmental effects of the Scheme on the use of material resources.

10.11.11. The preceding estimates of the anticipated main types and quantities of material assets to be used and estimated recovery rates for these wastes have been used to inform the prediction of effects.

10.11.12. The predicted effects are presented in Table 10.8. Predicted impacts have been assessed prior to mitigation (by drawing on those impacts considered potentially significant in section 10.9) and the predicted effects then evaluated taking account of relevant mitigation (see section 10.10).

Table 10.8 Predicted effects

Receptor	Predicted impact	Significance category (pre-mitigation)	Committed mitigation[5]	Predicted effect (and significance)
Material assets (Natural resources)	Depletion of natural resources through the predominant use of primary aggregates and the use of recycled and or secondary aggregates below the 28% target.	Moderate Adverse	• MA2: designing out waste • MA3: use of secondary or recycled materials • MA4: local and responsible sourcing of material assets • MA5: soil handling management plan	Description of potential effects from the Scheme • By achieving 'good practice' during construction, the Scheme has the potential to incorporate in the region of 53% recycled aggregate content by weight (equating to approximately 37,200 tonnes). • This percentage exceeds target of 28% relating to the use of secondary and recycled aggregates which would be adopted, where it was technically appropriate and economically feasible. • Given the local and regional availability of secondary and recycled aggregates it is considered feasible to achieve this target in practice. • Construction earthworks are anticipated to generate approximately 68,760m^3 (116,892 tonnes) of excavation arisings (topsoil, and soils and stones) which are suitable for retention and use during construction of the Scheme. This equates to 73% of the total amount of on-site generated excavation arisings. Likely significance of effect: **Slight adverse - not significant.**
	Depletion of natural resources through recycling and or	Moderate Adverse	• MA1: waste hierarchy implementation	Description of potential effects from the Scheme

[5] Secured in the first iteration EMP and Register of Environmental Actions and Commitments (REAC)

Receptor	Predicted impact	Significance category (pre-mitigation)	Committed mitigation[5]	Predicted effect (and significance)
	recovery of CDW below the Government's 70% and DMRB LA 110 target to achieve at least 90% (by weight) recovery.		• MA2: designing out waste • MA3: use of secondary or recycled materials • MA5: soil handling management plan • MA6: site waste management plan • MA7: materials management plan (where applicable)	• Achieving 'good practice' during construction, it is predicted that an overall CDW recovery or recycling rate of approximately 95% by weight could be achieved (potentially diverting approximately 18,571 tonnes of CDW from landfill). This exceeds the Government's 70% target for the recovery or recycling of construction waste (either on or off the Scheme or both) and the 90% target set within DMRB LA110 which would be adopted, where technically appropriate and economically feasible. • Whilst the 70% and 90% targets do not include uncontaminated, excavated soils and stones, approximately 27% of the excavated soils and stones (18,511m^3 (31,469 tonnes)) require removal from the Scheme for re-use, recycling or recovery. • Taking into account the committed mitigation and enhancement measures, there would be significant opportunity for the re-use, recycling or recovery of these residual wastes during the construction period either on or off the Scheme Likely significance of effect: **Slight adverse - not significant.**

10.12. Monitoring

10.12.1. In accordance with Schedule 2 Requirement 4 of the draft DCO (**TR010066/APP/3.1**) a Second Iteration EMP will secure the monitoring requirements and procedures to reduce or eliminate impacts on the environment during construction of the Scheme, as summarised below.

10.12.2. Monitoring of waste generation during the construction phase would be undertaken by the Principal Contractor in line with the SWMP developed from the Outline SWMP as part of the Second Iteration EMP.

10.12.3. The focus of the SWMP will be monitoring the quantities and types of waste generated, as well as the duty of care information for the contractors transferring the waste and the sites the waste is taken to for management.

10.12.4. The Outline SWMP as part of the First Iteration EMP (**TR010066/APP/6.5**) provides information on the requirements for duty of care documents, such as the waste transfer notes and consignment notes, as well as strategies to be implemented to reduce waste generation and increase re-use and recycling. Preliminary information included in the Outline SWMP will be updated and used by the Principal Contractor to develop the SWMP at the detailed design stage.

10.12.5. If an MMP is required then this will form part of the Second Iteration EMP which will monitor and track the movement, storage and placement of excavated materials within or outside of the Scheme.

10.13. Conclusions

10.13.1. The potential impacts of the Scheme from the use of material resources were assessed against the baseline information on construction material assets generated by the relevant authorities, based on predicted regional demand projections.

10.13.2. Design, mitigation and enhancement measures will be implemented during construction and controlled through the Second Iteration EMP in accordance with the requirements in the First Iteration EMP.

10.13.3. Overall, the recycled content of the materials used are predicted to be in excess of the regional target of 28%. If ‘good practice’ is achieved during construction, it is anticipated that an overall recycled content of 53% can be reached.

10.13.4. In addition, it has been estimated that the Scheme has the potential to incorporate a recovery rate of 95% for CDW which exceeds the Government’s recovery target of 70% (DMRB target of 90%).

10.13.5. The assessment has concluded that that the environmental effects on material assets of constructing the Scheme are likely to be **slight adverse** after the application of the design and mitigation measures outlined in Section 10.10 of this Chapter. Based on the DMRB LA 110 significance criteria provided in Table 10.5 of this Chapter, this would result in **no significant adverse effects**.

Acronyms

Acronym	Meaning
BRE	Buildings Research Establishment
BSc	Bachelor of Science Degree
BSRIA	Building Services Research and Information Association
CDW	Construction Demolition Waste
CIRIA	Construction Industry Research and Information Association
CDEW	Construction, Demolition and Excavation Waste
CL:AIRE	Contaminated Land: Applications in Real Environments
DLUHC	Department for Levelling Up, Housing and Communities
DEFRA	Department of Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
DCO	Development Consent Order
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ES	Environmental Statement
EU	European Union
EWC	European Waste Catalogue
GIR	Ground Investigation Report
IEMA	Institute of Environmental Management and Assessment
ISO	International Organization for Standardization
KPI	Key performance indicator
LoW	List of Waste
MSc	Master of Science Degree
MMP	Materials Management Plan
MPA	Minerals Planning Authority
MPAsc	Mineral Products Association
MSA	Mineral Safeguarded Area
NPPF	National Planning Policy Framework
NPS NN	National Policy Statement National Networks
NSIP	Nationally Significant Infrastructure Projects
PPG	Planning Practice Guidance
REAC	Register of Environmental Actions and Commitments
SHMP	Soil Management Plan

Acronym	Meaning
SSSI	Site of Special Scientific Interest
SWMP	Site Waste Management Plan
ICE	The Inventory of Carbon and Energy
TPP	Timber Procurement Policy
UK	United Kingdom
WM3	Environment Agency Technical Guidance WM3, Waste Classification, Guidance on the Classification and Assessment of Waste Version 1.2.GB: (October 2021)
WRAP	Waste and Resources Action Programme
WFD	Waste Framework Directive

Glossary

Glossary Term	Definition
Aggregates	Minerals which are used primarily to support the construction industry including soft sand, sand and gravel, and crushed rock.
Circular Economy	A circular economy is an alternative to a traditional linear economy (of make, use, dispose) in which we keep resources in use for as long as possible; extract the maximum value from resources while in use; recover and regenerate products and materials at the end of life; and keep products, components and materials at their highest utility and value at all times.
Construction Materials	Primary, recycled / secondary and renewable sources of materials required for constructing a project
Construction, Demolition and Excavation Waste	Arisings and waste from the demolition of buildings and structures, site preparation and clearance, remediation, excavation and construction activities.
Disposal	Any operation which is not recovery, even where the operation has as a secondary consequence the reclamation of substances or energy.
EIA	Environmental Impact Assessment: Process to examine the likely significant effects of a project whereby the applicant prepares an EIA Report, this and any other information is consulted upon and examined by the Competent Authority which then forms a reasoned conclusion (set out in Article 1(2)(g) of the EIA Directive).
EIA Report	Document prepared by the applicant that presents the output of the EIA.
Excavation Arisings	Construction, demolition, excavation and other arisings generated from within a project boundary, during both construction, and operation and maintenance phases.
First Study Area	The area within which construction materials will be consumed (used / deployed), and waste generated (including temporary compounds and storage areas etc.) NOTE 1: This typically comprises the project / construction footprint. NOTE 2: It is the activities associated with these elements that a project is directly responsible for, and over which it has immediate influence.
Hazardous Waste	Any waste that displays one or more of the hazardous properties listed in Annex III of the Waste Directive.
Inert Waste	Waste: 1) That does not undergo any significant physical, chemical or biological transformations. 2) That does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health. 3) Where its total leachability and pollutant content and the ecotoxicity of its leachate are insignificant and, in particular, do not endanger the quality of any surface water or groundwater.
Key Construction Material	Construction materials which, by weight, constitute the majority of material required to deliver the scheme. NOTE: Where there are key construction materials of equal quantity both are to be considered.

Glossary Term	Definition
Landbank	The stock land with planning permissions but where minerals development has yet to take place.
Landfill Capacity	The known, forecast or estimated remaining landfill void space, either regionally or nationally. NOTE: Landfill capacity is generally measured in cubic metres for England and Tonnes for Scotland.
LoW Code	List of Waste Code: The LoW is a catalogue of all wastes divided into 20 chapters (Scottish Environment Protection Agency et al. (2018), Technical Guidance WM3, Waste Classification, Guidance on the Classification and Assessment of Waste Version 1.2.GB: (October 2021).
Mineral Planning Authority	The mineral planning authority is the county council (in 2-tier parts of the country), the unitary authority, or the national park authority responsible for planning control of minerals development.
Mineral Resource	Natural concentrations of minerals in or on the Earth's crust that are or may become of economic interest because they are present in such form, quality and quantity that there is the potential for eventual economic extraction. Generally, a mineral resource is known to exist within the boundaries outlined by BGS geological mapping.
Mineral Safeguarding Area	An area designated by a Mineral Planning Authority which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
Mineral Sites	Operational sites or sites identified within strategic planning documents for the extraction of minerals.
Mitigation	Measures envisaged to avoid, prevent or reduce any identified significant adverse effects on the environment.
Non-hazardous Waste	Waste that is neither classified as inert nor hazardous.
Opening Year	The first year of operation.
Peat Resource	Existing or potential peat extraction sites.
Peat Resource	Existing or potential peat extraction sites
Preparing for Re-use	Checking, cleaning or repairing operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing
Prevention	Measures taken before a substance, material or product has become waste, that reduce: 1) The quantity of waste, including through the re-use of products or the extension of the life span of products. 2) The adverse impacts of the generated waste on the environment and human health. 3) The content of harmful substances in materials and products.
Primary Materials	Materials that are from a non-renewable source (also referred to as virgin materials).
Proximity Principle	The requirement to treat and/or dispose of wastes in reasonable proximity to their point of generation.

Glossary Term	Definition
Recovery	Any operation, the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.
Recycled Aggregates	Aggregates that are typically derived from reprocessing materials previously used in construction, such as road planings, railway ballast, crushed concrete or masonry from construction and demolition activities.
Recycling	Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. NOTE: Recycling includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for back filling operations.
Region	The planning authority / authorities covered by the projects second study area. NOTE: Where a project is located within the boundary of one authority, but close to suitable waste infrastructure located in another authority, it is recommended that the 'region' is extended and allocated appropriately.
Re-use	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.
Scheme Order Limits	Project footprint (including temporary land take) for which consent is being sought.
Scoping	Process of identifying the content and extent of the information to be submitted to the Competent Authority under the EIA process.
Screening	Process of determining whether a project listed in Annex II of the EIA Directive, or referred to in case law of the Court of Justice of the European Union, is likely to have significant environmental effects.
Second Study Area	1) Feasible sources and availability of construction materials required to construct the main elements of a project. 2) Suitable recovery and waste management infrastructure that could accept arisings and/or waste generated by a project.
Secondary (Alternative) Materials	Useful by-products from manufacturing or industrial processes. These can be subdivided into manufactured and natural aggregates, depending on their source and can include materials such as pulverised fuel ash, ground granulated blast furnace slag, furnace bottom ash, incinerator bottom ash, recycled glass etc. Both secondary and recycled aggregates offer appropriate engineering specifications to allow them to replace primary aggregates.
Significance	This relies on informed, expert judgement about what is important, desirable or acceptable for public health with regards to changes triggered by the proposed scheme. The use of ‘significance’ in this guide is distinct from ‘statistical significance’. Statistical significance is routinely used in scientific analysis to refer to whether the effects are real rather than chance occurrences, and is not necessarily a test of importance, desirability or acceptability.
Sterilise	Substantially constrain / prevent existing and potential future use and extraction of materials.
Waste (General)	Any substance or object which the holder disposes or intends / is required to dispose.

Glossary Term	Definition
Waste Classification	As part of waste duty of care, waste holders must classify their waste: before it is collected, disposed of or recovered; to identify the controls that apply to the movement of the waste; to complete waste documents and records; to identify suitably authorised waste management options; and to prevent harm to people and the environment.
Waste Infrastructure	Facilities that handle, treat/prepare for reuse, recycle and dispose (landfill) of waste.

References

British Steel. (2023) – Sustainability. [online]. Available at: https://britishsteel.co.uk/who-we-are/sustainability/#:~:text=British%20Steel%20unveiled%20its%20Low,intensity%20by%202030%20and%202035. Accessed July 2024.

Building Services Research and Information Association. (2011). Embodied Carbon: The Inventory of Carbon and Energy [online]. Available at: https://greenbuildingencyclopaedia.uk/wp-content/uploads/2014/07/Full-BSRIA-ICE-guide.pdf. Accessed July 2024.

Buildings Research Establishment. (Undated). BES 6001 Framework Standard for the Responsible Sourcing of Construction Products [online]. Available at: https://bregroup.com/services/standards/bes-6001-the-framework-standard-for-responsible-sourcing/. Accessed July 2024.

Construction Industry Research and Information Association. (2023). Publication C809: Sustainable Management of Surplus Soil and Aggregates from Construction [online]. Available at: https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductcode=C809&Category=BOOK. Accessed July 2024.

Construction Leadership Council (Green Construction Board). (2021). Routemap for Zero Avoidable Waste in Construction [online]. Available at: https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2021/07/ZAW-Interactive-Routemap-FINAL.pdf. Accessed September 2024.

Coventry City Council. (2017). Local Plan 2011 to 2031 [online]. Available at: https://www.coventry.gov.uk/downloads/file/25899/final_local_plan_december_2017. Accessed July 2024.

Department for Environment Food and Rural Affairs. (2009). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites [online]. Available at: https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites. Accessed July 2024.

Department for Environment Food and Rural Affairs. (2013). Timber Procurement Policy [online]. Available at: https://www.gov.uk/guidance/timber-procurement-policy-tpp-prove-legality-and-sustainablity. Accessed July 2024.

Department for Environment Food and Rural Affairs. (2017). Litter Strategy for England [online]. Available at: https://www.gov.uk/government/publications/litter-strategy-for-england/litter-strategy-for-england-at-a-glance. Accessed September 2024.

Department for Environment Food and Rural Affairs. (2018). 25 Year Environment Plan [online]. Available at: https://www.gov.uk/government/publications/25-year-environment-plan. Accessed July 2024.

Department for Environment Food and Rural Affairs. (2018). Resources and Waste Strategy for England [online]. Available at: https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england. Accessed July 2024.

Department for Environment Food and Rural Affairs. (2019). Resources and Waste Strategy: At a Glance [online]. Available at: https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england/resources-and-waste-strategy-at-a-glance. Accessed September 2024.

Department for Environment Food and Rural Affairs. (2021). Net Zero Strategy: Build Back Greener [online]. Available at: https://www.gov.uk/government/publications/net-zero-strategy. Accessed September 2024.

Department for Environment Food and Rural Affairs. (2021). Waste Management Plan for England [online]. Available at: https://www.gov.uk/government/publications/waste-management-plan-for-england-2021. Accessed July 2024.

Department for Environment Food and Rural Affairs. (2023). Environmental Improvement Plan 2023 [online]. Available at: https://www.gov.uk/government/publications/environmental-improvement-plan. September 2024.

Department for Environment Food and Rural Affairs. (2023). The Waste Prevention Programme for England: Maximising Resources, Minimising Waste [online]. Available at: https://www.gov.uk/government/publications/waste-prevention-programme-for-england-maximising-resources-minimising-waste/the-waste-prevention-programme-for-england-maximising-resources-minimising-waste. Accessed July 2024.

Department for Levelling Up, Housing and Communities. (2014 and 2015). National Planning Practice Guidance for Minerals (2014) and Waste (2015) [online]. Available at: https://www.gov.uk/government/collections/planning-practice-guidance. Accessed July 2024.

Department for Transport. (2024). National Policy Statement National Networks [online]. Available at: https://www.gov.uk/government/publications/national-networks-national-policy-statement#:~:text=The%20National%20Networks%20National%20Policy,strategic%20rail%20freight%20interchange%20projects. Accessed July 2024.

Environment Agency. (2018). Technical Guidance WM3, Waste Classification, Guidance on the Classification and Assessment of Waste Version 1.2.GB [online]. Available at: https://www.gov.uk/government/publications/waste-classification-technical-guidance. Accessed July 2024.

Environment Agency. (2022). Waste Data Interrogator [online]. Available at: https://www.data.gov.uk/dataset/aa53a313-f719-4e93-a98f-1b2572bd7189/2022-waste-data-interrogator. Accessed May 2024.

European Union (1999) Landfill Directive (1999/31/EC) [online]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31999L0031. Accessed July 2024.

European Union (2008) Waste Framework Directive 2008/98/EC [online]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098. Accessed July 2024.

European Union. (1991). Hazardous Waste Directive (91/689/EEC) [online]. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31991L0689. Accessed September 2024.

Forestry Research. (2023). Forestry Statistics 2023, Chapter 2: UK-Grown Timber Statistics for 2023 [online]. Available at: https://cdn.forestresearch.gov.uk/2023/09/Ch2_Timber.pdf. Accessed July 2024.

Her Majesty's Government (UK). (1990). Environmental Protection Act 1990 [online]. Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents. Accessed July 2024.

Her Majesty's Government (UK). (1996). The Landfill Tax Regulations 1996 [online]. Available at: https://www.legislation.gov.uk/uksi/1996/1527/contents/made. Accessed September 2024.

Her Majesty's Government (UK). (2005). Hazardous Waste (England and Wales) Regulations 2005 [online]. Available at: https://www.legislation.gov.uk/uksi/2005/894/contents/made. Accessed July 2024.

Her Majesty's Government (UK). (2011). The Waste (England and Wales) Regulations 2011 [online]. Available at: https://www.legislation.gov.uk/uksi/2011/988/contents/made. Accessed July 2024.

Her Majesty's Government (UK). (2012). Controlled Waste (England and Wales) Regulations 2012 [online]. Available at: https://www.legislation.gov.uk/uksi/2012/811/contents. Accessed September 2024.

Her Majesty's Government (UK). (2013). Waste Electrical and Electronic Equipment (England and Wales) Regulations 2013 [online]. Available at: https://www.legislation.gov.uk/uksi/2013/3113/contents. Accessed September 2024.

Her Majesty's Government (UK). (2015). Hazardous Waste (Miscellaneous Amendments) Regulations 2015 [online]. Available at: https://www.legislation.gov.uk/id/uksi/2015/1360. Accessed July 2024.

Her Majesty's Government (UK). (2016). Environmental Permitting (England and Wales) Regulations 2016 [online]. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents/made. Accessed July 2024.

Her Majesty's Government (UK). (2017). Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 [online]. Available at: https://www.legislation.gov.uk/uksi/2017/572/contents. Accessed September 2024.

Her Majesty's Government (UK). (2017). The Clean Growth Strategy: Leading the Way to a Low Carbon Future [online]. Available at:

https://assets.publishing.service.gov.uk/media/5ad5f11ded915d32a3a70c03/clean-growth-strategy-correction-april-2018.pdf. Accessed September 2024.

Her Majesty's Government (UK). (2018). European Union (Withdrawal) Act 2018 [online]. Available at: https://www.legislation.gov.uk/ukpga/2018/16/contents. Accessed September 2024.

Her Majesty's Government (UK). (2020). Waste and Environmental Permitting etc (Legislative Functions and Amendment etc) (EU Exit) Regulations 2020 [online]. Available at: https://www.legislation.gov.uk/ukdsi/2020/9780348213294/contents. Accessed July 2024.

Her Majesty's Government (UK). (2020). The Waste (Circular Economy) (Amendment) Regulations 2020 [online]. Available at: https://www.legislation.gov.uk/uksi/2020/904/contents/made. Accessed July 2024.

Her Majesty's Government (UK). (2021). The Environment Act 2021 [online]. Available at: https://www.legislation.gov.uk/ukpga/2021/30/enacted. Accessed July 2024.

Highways England. (2019). Design Manual for Roads and Bridges (DMRB) LA 110 Material Assets and Waste [online]. Available at: https://standardsforhighways.co.uk/search/6a19a7d4-2596-490d-b17b-4c9e570339e9. Accessed July 2024.

Highways England. (2020). Design Manual for Roads and Bridges (DMRB) LA 104 Environmental Assessment and Monitoring [online]. Available at: https://standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a. Accessed July 2024.

Highways England. (2020). Design Manual for Roads and Bridges (DMRB) LA 120 Environmental Management Plan [online]. Available at: https://standardsforhighways.co.uk/search/a3a99422-41d4-4ca1-bd9e-eb89063c7134. Accessed July 2024.

HM Treasury. (2020). National Infrastructure Strategy [online]. Available at: https://www.gov.uk/government/publications/national-infrastructure-strategy. Accessed September 2024.

International Organization for Standardization. (2015). ISO 14001: 2015 Environmental Management Systems – Requirements with Guidance for Use [online]. Available at: https://www.iso.org/standard/60857.html. Accessed July 2024.

Leicestershire County Council. (2019). Leicestershire Minerals and Waste Local Plan Up to 2031 [online]. Available at: https://www.leicestershire.gov.uk/environment-and-planning/planning/minerals-and-waste-local-plan/the-development-plan. Accessed July 2024.

Leicestershire County Council. (2023). Leicestershire County Council Authority Monitoring Report 2021-2022 [online]. Available at: https://www.leicestershire.gov.uk/sites/default/files/2023-03/LCC-Monitoring-Report-2021-2022.pdf. Accessed July 2024.

Mineral Products Association. (2023). Profile of the UK Mineral Products Industry 2023 Edition [online]. Available at:

https://www.mineralproducts.org/MPA/media/root/Publications/2023/Profile_of_the_UK_Mineral_Products_Industry_2023.pdf. Accessed July 2024.

Ministry of Housing, Communities and Local Government. (2014). National Planning Policy for Waste [online]. Available at: https://www.gov.uk/government/publications/national-planning-policy-for-waste. Accessed July 2024.

Ministry of Housing, Communities and Local Government. (2023). National Planning Policy Framework [online]. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2. Accessed July 2024.

National Highways. (2017). Sustainable Development Strategy Our Approach [online]. Available at: https://assets.publishing.service.gov.uk/media/5a8203a0ed915d74e340144a/Sustainable_Development_Strategy_6.pdf. Accessed September 2024.

National Highways. (2023). A46 Coventry Junctions (Walsgrave), Environmental Scoping Report (**TR010066/APP/6.8**).

Octavius Infrastructure. (2023). Ground Investigation Report. A46 Coventry Junctions (Walsgrave). GDMS 42880.

Warwickshire County Council. (2013). Warwickshire Waste Core Strategy Adopted Local Plan 2013 to 2028 [online]. Available at: https://www.warwickshire.gov.uk/wdf. Accessed July 2024.

Warwickshire County Council. (2017). Warwickshire Local Aggregates Assessment [online]. Available at: https://warwickshire-consult.objective.co.uk/portal/warwickshire_minerals_plan_submission. Accessed July 2024.

Warwickshire County Council. (2022). Warwickshire Minerals Local Plan 2018-2032 [online]. Available at: https://www.warwickshire.gov.uk/mwds#:~:text=Adoption%20of%20the%20Minerals%20Local,on%2019th%20July%202022. Accessed July 2024.

Waste and Resources Action Programme. (2013). Quality Protocol: Aggregates from Inert Waste, End of Waste Criteria for the Production of Aggregates from Inert Waste [online]. Available at: https://www.gov.uk/government/publications/quality-protocol-production-of-aggregates-from-inert-waste. Accessed July 2024.

Waste and Resources Action Programme. (Undated). Achieving Good Practice Waste Minimisation and Management, Guidance for Construction Clients, Design Teams and Contractor. [online]. Available at: https://www.ciria.org/Resources/REK/Guidance/Achieving_good_practice_waste.aspx. Accessed July 2024.

Waste and Resources Action Programme. (Undated). Designing Out Waste: A Design Team Guide for Civil Engineering (Part 1: Design Guide) [online]. Available at:

https://www.ciria.org/CIRIA/Resources/REK/Guidance/Designing%20out%20waste%20guidance%20a%20design%20team%20guide.aspx. Accessed July 2024.

Waste and Resources Action Programme. (Undated). Net Waste Tool. Tool no longer available on the WRAP website due to funding issues.

West Midlands Aggregates Working Party. (2023). Annual Report 2023 (2022 Data) [online]. Available at: https://assets.publishing.service.gov.uk/media/65c107e2704282000d752251/2022_-_WMAWP_Report.pdf. Accessed July 2024.

World Steel Association. (2023). Total Production of Crude Steel World Total 2023 [online]. Available at: https://worldsteel.org/steel-topics/statistics/annual-production-steel-data/?ind=P1_crude_steel_total_pub/CHN/IND. Accessed July 2024.