M60/M62/M66 Simister Island Interchange

TR010064

6.5 FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX C: OUTLINE SITE WASTE MANAGEMENT PLAN

APFP Regulation 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

M60/M62/M66 Simister Island Interchange

Development Consent Order 202[ ]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN APPENDIX C: OUTLINE SITE WASTE MANAGEMENT PLAN

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P01	April 2024	DCO Application Issue

CONTENTS

Outline Site Waste Management Plan

C.1 Introduction

Overview

C.1.1 This Outline Site Waste Management Plan (Outline SWMP) sets out the measures that will be implemented by the Principal Contractor (PC) to manage waste generated by the construction of the M60/M62/M66 Simister Island Interchange (the "Scheme").

C.1.2 The Outline SWMP will be updated by the PC and included within the Second Iteration Environmental Management Plan (EMP), as appropriate and necessary, prior to commencement of works in accordance with the Requirements in Schedule 2 of the draft Development Consent Order (DCO) (TR010064/APP/3.1). The updated document within the Second Iteration EMP will be a SWMP.

C.1.3 The Outline SWMP is a live document that requires inputs to be completed at different stages throughout the design and construction of the Scheme. The Outline SWMP would therefore not be finalised until the end of the construction phase.

Context

C.1.4 Materials will be consumed, and wastes generated, throughout the Order Limits boundary during site preparation and temporary and permanent construction works.

C.1.5 The detailed assessment of the potential effects from materials and waste is discussed in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1).

C.1.6 Site Waste Management Plans (SWMP) are used as a good practice measure on construction Schemes and to support planning and consenting applications. This Outline SWMP has been developed to provide a management framework for waste in order to ensure materials on site are managed efficiently and legally, and that waste prevention, reuse, recycling and recovery is maximised wherever practicable.

C.1.7 The PC will take all reasonable steps to ensure that:

- Materials are handled efficiently, and waste managed appropriately in accordance with regulatory controls.
- Waste is dealt with in accordance with duty of care (defined in section 34 of the Environmental Protection Act 1990 (as amended).

Scope

C.1.8 The Outline SWMP shall consider wastes generated during the site preparation and construction phases only and it does not include any operational waste arising once the Scheme is constructed. This Outline SWMP includes:

- Scheme description, roles and responsibilities and key performance indicators (KPIs).
- Design decisions made in order to reduce materials consumption and/or waste generation during construction of the Scheme.
- An overview of applicable waste legislation and statutory and industry-regulated codes of practice and end of waste quality protocols.
- Waste management arrangements during construction of the Scheme, including training and good practice.
- Estimates of materials use and waste arisings and how they will be managed during the construction of the Scheme.
- Materials and waste management methods, and opportunities for waste prevention, reuse, recycling, and recovery in line with the requirements of the waste hierarchy.

C.2 Details of the Scheme

Details of the Scheme

C.2.1 The PC will complete Table C.1 below and include in the Second Iteration of the EMP prior to commencement of construction.

Table C.1 Scheme Details

Scheme Role	Contact Details	
Scheme location	Address	
	Town	
	Postcode	
Client	Name	
	Address	
	Email	
	Mobile	
PC	Name	
	Address	
	Email	

	Mobile					
Person responsible for SWMP	Name					
	Email					
	Mobile					
Site Waste Coordinator	Name					
	Email					
	Mobile					
Construction cost (estimated)						
Site area (gross area)						
Start date	Day		Month		Year	
Completion date	Day		Month		Year	
Location of SWMP						

Description of the Scheme

C.2.2 A detailed description of the Scheme and construction activities is set out in Chapter 2: The Scheme of the Environmental Statement (TR010064/APP/6.1).

Roles and responsibilities

C.2.3 The main contract personnel responsible for producing the SWMP are shown in Table C.2. The PC will complete Table C.2 prior to the commencement of construction.

Table C.2 Responsibilities for producing the SWMP

Position	Name	Contact details	SWMP responsibility
Main Contract personnel			
The Applicant Project Manager			Monitor the PC's performance against the contract including any environmental commitments and targets agreed for the Scheme.
PC Project Manager			Approval of the SWMP for the relevant phase of works. Ensure that all controls specified within the SWMP are implemented by employees and sub-contractors.

Position	Name	Contact details	SWMP responsibility
PC Environment Manager			Undertake site inspections to monitor compliance with the environmental licences/consents for the works and the measures within the SWMP. Ensure that the Scheme complies with all environmental legislation, consents, objectives, targets, and other environmental commitments, including those arising from the ES throughout the relevant Scheme phase.
PC Environment Manager or Site Materials and Waste Manager			Prepare the SWMP. Implement the SWMP throughout the construction of the Scheme and ensure that waste is disposed of legally, economically, and safely in line with the SWMP and all relevant legislation. Provide appropriate professional and practical advice to contractors, consultants and the Scheme team members associated with materials and waste issues.
Sub-contractor details			
Individual Sub-contractor(s), as appointed			Read through, familiarise, and understand the requirements of the SWMP. Produce waste documentation and a Management Plan. Comply with the requirements set out in the SWMP.

Key performance indicators

C.2.4 The environmental assessment of the Scheme is based on the Scheme achieving certain performance standards with respect to the use of recycled and secondary aggregates and the recovery of non-hazardous construction and demolition waste.

C.2.5 In order to achieve these performance standards, the PC will adopt the following KPIs for the Scheme and will record the necessary data to confirm compliance with these KPIs:

- At least 30% (by weight) of aggregates imported to site for use within the Scheme must comprise re-used, secondary or recycled content at levels in line with the North West England regional guideline for aggregates provision 2005-2020 where available for those applications where it is technically and economically feasible to

substitute these alternatives to primary aggregates. Where primary aggregate materials are mandated within Design Manual for Roads and Bridges (DMRB) they are excluded from the target. This target excludes site-won excavated material and demolition materials. The former is considered a primary material for the purposes of assessment, and the latter is not an imported material. Recovery of at least 70% (by weight) of non-hazardous construction and demolition waste with the aim to achieve recovery of 90% (by weight). Materials would either be recovered within the Order Limits boundary or within the wider North West region to offset the use of primary construction materials and support a circular economy. This target excludes naturally occurring soil and stone material falling within code 17 05 04 in the Hazardous Waste (Miscellaneous Amendments) Regulations 2015 (as amended). Legislative and Policy Framework.

C.2.6 It is envisaged that most of the waste arising from constructing the Scheme would be reused, recycled or otherwise recovered in accordance with legislative, policy and economic drivers. This assumption is validated by the available UK Statistics on Waste (Defra, 2022) with 93.2% of non-hazardous C&D waste currently being diverted from landfill in England. A high degree of waste recovery would also be required in order to demonstrate the Scheme's contribution to achieving the following mandatory and advisory targets in the Design Manual for Roads and Bridges (DMRB) LA 110 Material assets and waste standard:

- At least 70% (by weight) of non-hazardous C&D waste "shall" be subjected to material recovery/diverted from landfill (which constitutes a requirement of National Highways) (paragraph 3.17 of DMRB LA 110).
- At least 90% (by weight) of non-hazardous C&D waste "should" be subjected to material recovery/diverted from landfill (which constitutes advice expressed as a recommendation by National Highways) (paragraph E/2.1.1 of DMRB LA 110).

C.3 Legislative and Policy Framework

C.3.1 The key legislation influencing the management of construction and demolition waste is identified in the sub-sections below. A more detailed summary of applicable legislation, policy and guidance is provided in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1).

Definition of Waste

C.3.2 Waste is defined in line with Article 3(1) of the Waste Framework Directive (Council Directive 2008/98/EC[1]) as*: "any substance or object which the holder discards or intends or is required to discard"*. Waste is commonly split into the following classifications: Inert, Hazardous and Non-hazardous: waste that is classified neither as inert nor hazardous.

C.3.3 The legal definition of waste also covers substances or objects, which fall outside of the commercial cycle or out of the chain of utility. Most items that are sold or taken off-site for recycling are wastes, as they require treatment before they can be resold or reused.

C.3.4 In practical terms, wastes include surplus earthworks materials and soil, scrap, unwanted surplus materials, packaging, office waste, and damaged, worn-out, contaminated or otherwise spoiled plant, equipment, and materials.

Duty of Care

C.3.5 The duty of care for waste management is set out under section 34 of the Environmental Protection Act 1990 and The Waste (England and Wales) Regulations 2011 (SI 2011 No. 988) (as amended).

C.3.6 It requires anyone who produces, imports, keeps, stores, transports, treats, or disposes of waste to take all reasonable steps to ensure that the waste is managed properly. Anyone in possession of waste must take all reasonable steps to:

- Prevent unauthorised or harmful deposit, treatment, or disposal of waste. Examples of this would include operating unpermitted waste sites and misclassifying waste.
- Prevent a breach (failure) by any other person to meet the requirement to have an environmental permit, or a breach of a permit condition.
- Prevent the escape of waste from its control, or from its employees' or waste contractors' control by ensuring that wase handled and stored safely and securely, and it is assessed and classified correctly.
- Ensure that waste is only transferred to an authorised person who has a valid registration as a carrier, broker or dealer of waste, or a waste

[1] The UK left the EU on 31 January 2020. Under the European Union (Withdrawal) Act 2018 (as amended), EU-derived domestic legislation (such as existing environmental regulations that implement EU Directives) and direct EU legislation (such as EU regulations and decisions) which were in force immediately prior to the end of the transition period continue to form part of UK domestic law after 31 December 2020.

management operator who has an environmental permit or registered exemption to accept such waste.

- Provide an accurate description of the waste when it is transferred to another person, by using a compulsory system of Waste Transfer Notes (WTN) or Hazardous Waste Consignment Notes (HWCN) that control the transfer of waste between parties.

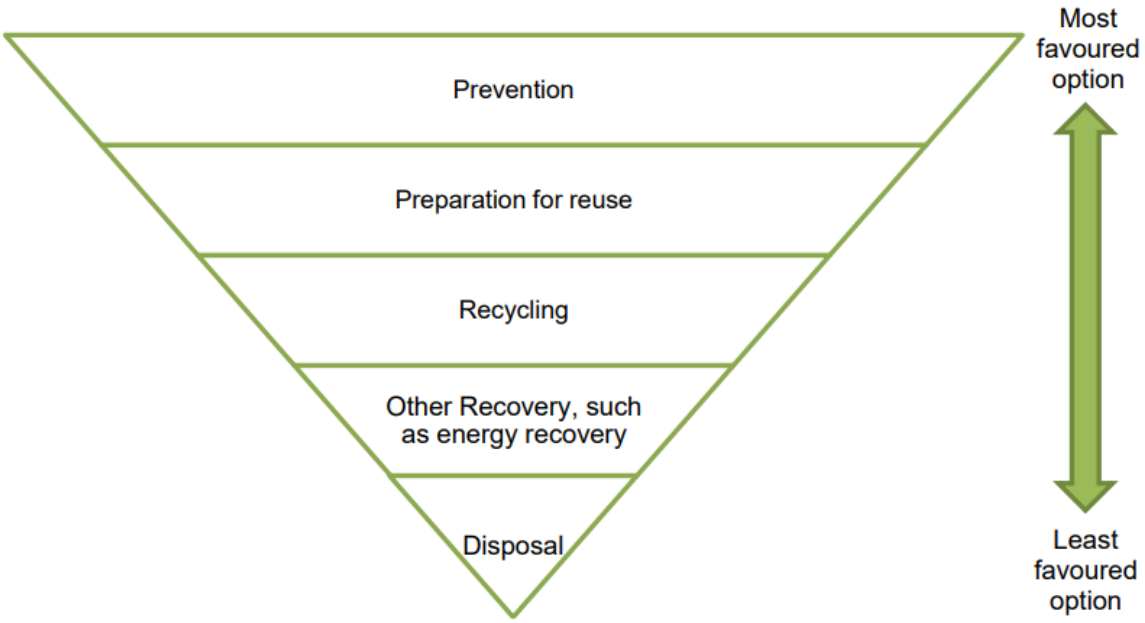
C.3.7 Failure to comply with the duty of care requirements is a criminal offence and could lead to prosecution.

Applying the Waste Hierarchy

C.3.8 The Waste (England and Wales) Regulations 2011 (as amended) transpose the requirements of the European Waste Framework Directive (2008/98/EC), and require those undertaking waste management activities, such as the import, production, collection, transportation, recovery and/or disposal of waste, to take all reasonable measures to apply the waste hierarchy.

C.3.9 The waste hierarchy shown in Plate C.1 prioritises prevention of waste, followed by reuse, recycling, recovery and as a last resort, disposal.

Plate C.1 The waste hierarchy



C.3.10 Those producing waste would need to confirm that they have applied the waste hierarchy when transferring waste and to include a declaration on their WTN or HWCN.

Hazardous Waste

C.3.11 The Hazardous Waste (England and Wales) Regulations 2005 (as amended) set out the regime for the control and tracking of the movement of hazardous waste by banning the mixing of hazardous wastes with non-hazardous waste and imposes a duty to separate different categories of hazardous waste where technically feasible. The Regulations also require that HWCNs be used to document the transfer and management of all hazardous waste.

Registration of Waste Carriers

C.3.12 Under the Control of Pollution (Amendment) Act 1989 (as amended) it is a criminal offence for anyone not registered as a waste carrier to transport controlled waste. The Waste (England and Wales) Regulations 2011 (as amended) updated the system for the registration of waste carriers, including brokers and dealers.

C.3.13 Anyone undertaking any of the following activities as part of their business would register as a waste carrier, broker, or dealer:

- Transporting their own waste
- Transporting waste for someone else
- Buying or selling waste
- Acting as a waste broker (arranging for someone to handle waste produced by someone else)

C.3.14 Details of all appointed waste carriers would be included in the SWMP. Copies of waste carrier licences/registrations would be obtained and verified by the PC. The register of waste carriers, brokers and dealers can be checked using the Environment Agency's Public Registers (at Public Registers Online (data.gov.uk)

Environmental Permits and Exemptions

C.3.15 The Environmental Permitting (England and Wales) Regulations 2016 (as amended) require sites where waste is processed, treated or disposed of to hold a valid Environmental Permit issued by the Environment Agency.

C.3.16 The Regulations also include a schedule of activities that are exempt from the requirements of permitting. However, to comply with these Regulations, an exempt activity would generally be registered with the Environment Agency before commencing.

C.3.17 A permit is not usually required where waste is temporarily stored on the site where it is produced prior to management or disposal. Depending

upon the types and quantities of waste to be stored, the duration and place of storage and compliance with other defined conditions:

- A non-waste framework directive exemption may apply, which does not need to be registered.
- An exemption may need to be registered with the Environment Agency.

C.3.18 The PC would be responsible for obtaining all necessary environmental permits, planning permissions, mobile plant deployments or waste exemptions in relation to the storage, sorting, treatment, use, disposal and transportation of waste during the construction of the Scheme.

C.4 Design Decisions Taken to Improve Resource Efficiency

Design for Resource Efficiency

C.4.1 Decisions made at the detailed design phase of the Scheme would impact on the quantity and types of materials used, the quantity and types of waste arising and the management of materials and waste.

C.4.2 The Scheme design development would implement Design for Resource Efficiency Principles in a systematic manner to suit the scale of the Scheme, to identify, prioritise and select appropriate opportunities to improve the Schemes resource efficiency and design out waste.

C.4.3 Most opportunities to design for resource efficiency are covered by the following five principles:

- Design for reuse and recovery: identifying, securing and using materials that already exist onsite, or can be sourced from other Schemes.
- Design for resource optimisation: simplifying layout and form to minimise material use, using standard design parameters, balancing cut and fill, maximising the use of renewable materials and materials with recycled content.
- Design for offsite construction: maximising the use of prefabricated structure and components, encouraging a process of assembly rather than construction.
- Design for resource efficient procurement: identifying and specifying materials that can be acquired responsibly, in accordance with a recognised industry standard.

- Design for the future: identify how materials can be designed to be more easily adapted over an asset lifetime and how de-construction and removal of elements can be maximised at end of first life.

C.4.4 In general, the following measures would be implemented during the design and construction phases of the Scheme, where technically, economically and environmentally practicable:

- Manage waste in accordance with the waste hierarchy.
- Design-out and prevent waste arising.
- Reuse excavated earthworks materials within the Scheme.
- Recycle demolition materials arising from Scheme within the construction of the Scheme.
- Divert waste from landfill through offsite recycling and recovery.
- Use recycled and secondary aggregates in the construction of the Scheme.

Design Decisions Taken

C.4.5 In the Second Iteration EMP, the PC would record, in the SWMP all actions implemented to reduce material consumption and use or waste production and disposal on the Scheme, and the resulting benefits.

C.4.6 Embedded design mitigation considered in the preliminary design in relation to material assets and waste is included in Chapter 10: Material assets and waste of the Environmental Statement (TR010064/APP/6.1).

C.4.7 Those design changes that are relevant to waste include consideration of the following:

- Optimising the cut-fill balance to reduce material requirements and waste.
- The location and extent of carriageway widening.
- The alignment of the new offline carriageway

C.4.8 The main design changes following the Preferred Route Announcement (PRA) made in January 2021, that are relevant to material assets and waste are as follows:

- Northern Loop – M60 westbound to M60 southbound – changed vertical alignment so that M66 southbound diverge link goes over (rather than under) the Northern Loop link. This results in a significant reduction of earthworks volumes compared to PRA design and also removes a retaining wall adjacent to the M66 southbound merge.

- M60 northbound to M60 westbound merge and link – removed offline link that was shown in the PRA design to maintain use of existing M60 northbound to M60 westbound link with a corresponding reduction in materials use and waste generation.

C.4.9 In addition, the following change has been made since the publication of the Preliminary Environmental Information Report (National Highways, 2023) which can be found in the Consultation Report (TR010064/APP/5.1):

- Reducing the Catchment 6 impermeable area by approximately 5.8ha and removing all works to the west of M60 J17 (including Pond 6) from the design of the Scheme, resulting in reduced materials use and waste generation.

C.4.10 Table C.3 would be populated by the PC in the detailed design of the Scheme and regularly updated throughout the construction phase.

Table C.3 Waste Reduction Actions

Material / waste	Estimated reduction in waste (for example what waste has been eliminated)		Approach by which reduction was achieved	Estimated cost saving (£)	Persons responsible for completing action
	Volume (m^3)	Tonnes			

C.5 Estimate of Material Use and Waste Arisings

C.5.1 This Outline SWMP provides estimates of:

- The types and quantities of aggregates required for the construction of the Scheme and the likely reused, recycled and secondary content.
- The types and quantities of earthworks materials arising during construction of the Scheme and the likely cut and fill balance and material management routes.

- The types and quantities of waste arising during the Scheme demolition and construction works and the likely management routes and resulting recovery rate.

C.5.2 The PC would review, update, and monitor these estimates throughout the design and construction of the Scheme, and incorporate these updates in the final SWMP to ensure delivery of the Scheme KPIs.

C.5.3 The PC must ensure that the final SWMP is updated to reflect current legal requirements and the waste management practices of the Scheme as necessary, both prior to and during the construction works. The PC must ensure all required authorisations are obtained.

Material Use

C.5.4 The main types and quantities of aggregate required for the construction of the Scheme have been estimated based on the preliminary design information for the Scheme, which was produced by the PC in June 2023. Indicative estimated quantities of the major materials required to construct the Scheme, including a 15% contingency to cover any unknown items, along with the recycled content that may potentially be achievable by adopting good practice approaches are provided in Table C.4.

Table C.4 Summary of estimated material assets consumption (2024 to 2027) to be used during the construction of the Scheme and potential alternative aggregate content.

Material assets	Approximate quantity (t)	Indicative reused and recycled content (%)	Estimated reused and recycled content (t)	Estimated primary content (t)
Temporary works				
Imported fill and	159,147	74	117,769	41,378
Imported asphalt*[2]	3,281	46	1,509	1,772
Imported concrete*[1]	588	22	129	458
Imported steel	15	60	9	6
Imported aluminium	4	73	3	1
Imported plastics	78	10	8	70
Imported timber / wood	1,492	20	298	1,194
Permanent works				
Site-won earthworks	238,807	100	238,807	0
Imported fil and	441,321	74	326,578	114,744
Imported asphalt*[2]	69,119	46	31,795	37,324

Material assets	Approximate quantity (t)	Indicative reused and recycled content (%)	Estimated reused and recycled content (t)	Estimated primary content (t)
Imported concrete*[1]	56,899	22	12,518	44,381
Imported steel	4,868	60	2,921	1,947
Imported aluminium	106	73	77.3	28.6
Imported plastics	577	10	58	519
Imported timber / wood	602	20	120	482
Total (t) of all construction materials	**976,904**	**N/A**	**732,599**	**244,305**
Total (t) of all construction materials containing aggregates	**730,354**	**N/A**	**490,298**	**240,057**
Total (t) of all construction materials containing sand and gravel	**57,486**	**N/A**	**12,647**	**44,839**
Total (t) of all construction materials containing crushed rock	**672,868**	**N/A**	**477,651**	**195,218**

* Denotes aggregate materials or aggregate-containing materials. The further addition of [1] or [2] has been used to denote whether sand and gravel or crushed rock is likely to be the constituent aggregate source based on a review of aggregate end uses in British Geological Survey (2019) and Ministry of Housing, Communities and Local Government (2021).

Excavated Material

C.5.5 The main types and quantities of excavated materials expected to be generated during construction of the Scheme have been estimated based on the preliminary design information for the Scheme, which was produced by the PC in June 2023.

C.5.6 The estimates are based on the Scheme preliminary design and mass haul and include the estimated cut and fill including material sourced from engineering earthworks. This is shown in Table C.5 along with the expected cut and fill balance.

C.5.7 Soils would be stripped and stored onsite in the designated soil storage areas, prior to reuse in the Scheme's landscaping and reinstatement works. Further detail on soils management is included within the Outline Soil Handling Management Plan included within Appendix F of the First Iteration EMP.

C.5.8 The use of uncontaminated excavated materials within the Scheme would be undertaken in accordance with a Materials Management Plan (MMP). This would be developed where necessary prior to the start of construction works following the principles of the Contaminated Land: Applications in Real Environments Definition of Waste: Code of Practice (CL:AIRE DoWCoP) 4 Version 2 (2011) and these materials would not be classified as waste. The MMP is included within Appendix G of the First Iteration EMP.

C.5.9 The PC would be responsible for the management of any surplus excavated materials and would apply the waste hierarchy in determining the most suitable options.

Waste

C.5.10 The main types and quantities of waste expected to arise during the demolition works and construction of the Scheme have been estimated based on the preliminary design information for the Scheme, which was produced by the PC in June 2023. Indicative quantities of construction and demolition (C&D) waste likely to be generated during the construction of the Scheme, including a 15% contingency are provided in Table C.6.

C.5.11 Indicative waste recovery rates have been established in Table C.6 to determine the potential for waste to be diverted from landfill. These benchmarks have been selected through review of the good practice performance benchmarks provided in Waste and Resources Action Programme (WRAP) (2007) Achieving Good Practice Waste Minimisation and Management.

C.5.12 Construction site operations would also generate waste streams from offices, welfare facilities, material packaging, construction plant maintenance and miscellaneous hazardous wastes. The quantities are anticipated to be small compared to the main C&D waste streams summarised in Table C.6.

C.5.13 Estimated types and quantities of construction site operational wastes and procedures for the storage and management of these wastes would be set out in the Second Iteration EMP.

C.5.14 The PC would undertake a pre-demolition assessment of all highway structures and assets and third-party buildings to be removed or demolished as part of the Scheme to determine the most suitable waste management route.

C.5.15 The PC would be responsible for the management of waste and would apply the waste hierarchy in determining the most suitable options. Where waste is reused, recycled, or recovered for use within the Scheme, the PC would ensure compliance with all relevant technical and regulatory requirements.

Table C.6 Estimated C&D waste generation, recovery and disposal (2026 to 2029)

Waste stream	Indicative waste classification	Material quantity (t)	Wastage rate (%)	Waste (t)	Waste recovery rate (%)	Disposal to landfill (t)
Demolition and excavation waste from temporary works (actual wastage)						
Unsuitable excavated material	Non-hazardous	103,277	N/A – actuals	103,277	95	5,164
Hard dig excavated material	Non-hazardous	15,424	N/A – actuals	15,424	95	771
Unsuitable soil strip	Non-hazardous	26,073	N/A – actuals	26,073	95	1,304
Peat / peaty strata	Non-hazardous	44,106	N/A – actuals	44,106	95	2,205
Piling arisings	Non-hazardous	9,257	N/A – actuals	9,257	95	463
Surplus topsoil	Non-hazardous	12,266	N/A – actuals	12,266	95	613
Drainage arisings	Non-hazardous	47,422	N/A – actuals	47,422	95	2,371
Mixed metals	Non-hazardous	537	N/A – actuals	537	100	0
Concrete	Inert	4,088	N/A – actuals	4,088	95	204
Plastic	Non-hazardous	5	N/A – actuals	5	80	1
Timber	Non-hazardous	66	N/A – actuals	66	90	7
Construction waste from temporary works (estimated wastage)						
Imported aggregates	Inert	159,147	5	167,104	95	8,355

Waste stream	Indicative waste classification	Material quantity (t)	Wastage rate (%)	Waste (t)	Waste recovery rate (%)	Disposal to landfill (t)
Imported asphalt	Non-hazardous	3,281	5	3,445	95	172
Imported concrete	Inert	588	2.5	602	95	30
Imported steel	Non-hazardous	15	2.5	15	100	0
Imported aluminium	Non-hazardous	4	0	0	100	0
Imported plastics	Non-hazardous	78	2	79	80	16
Imported timber	Non-hazardous	1,492	2.5	1,530	90	153
Construction waste from permanent works (estimated wastage)						
Imported fill/ aggregates	Inert	441,321	5	22,066	95	1,103
Imported asphalt	Non-hazardous	69,119	5	3,456	95	173
Imported concrete	Inert	56,899	2.5	1,422	95	71
Imported steel	Non-hazardous	4,868	2.5	122	100	0
Imported aluminium	Non-hazardous	106	0	0	100	0
Imported plastics	Non-hazardous	577	2	12	80	2
Imported timber	Non-hazardous	602	2.5	15	90	2
Total (t) C&D waste		**N/A**	**N/A**	**462,389**	**N/A**	**23,181**
Total (t) inert waste		**N/A**	**N/A**	**195,283**	**N/A**	**9,764**
Total (t) non-hazardous waste		**N/A**	**N/A**	**267,106**	**N/A**	**13,416**

C.6 Materials and Waste Management Arrangements

Best Practice Measures

C.6.1 To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Scheme as a whole, the PC would apply the principles of the waste hierarchy and adopt good practice measures.

C.6.2 The following approaches would be implemented, where practicable, to minimise the quantity of waste arising and requiring disposal:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme.
- Implementation of a 'just-in-time' material delivery system to avoid materials being stockpiled, which can increase the risk of damage and subsequent disposal as waste.
- Attention to material quantity requirements to avoid over-ordering and the generation of waste materials due to surplus.
- Reuse of materials onsite wherever feasible, for example reuse of excavated soil for landscaping, recycling of demolition materials into aggregates.
- Off-site prefabrication, where practical, including the use of prefabricated structural elements.
- Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling.
- Offsite reuse, recycling and recovery of materials and waste where reuse onsite is not practical, for example through use of an offsite waste segregation or treatment facility or for direct reuse or reprocessing offsite.

C.6.3 The PC would implement the following waste management measures in order to minimise the likelihood of any localised impacts from pollution or nuisance from waste on the surrounding environment:

- Damping down of surfaces during spells of dry weather and brushing/water spraying of heavily used hard surfaces/access points across the site as required.
- Burning of waste or unwanted materials would not be permitted onsite.
- All hazardous materials including fuels, chemicals, cleaning agents, solvents and solvent containing products to be properly sealed in

containers at the end of each day prior to storage in appropriately protected and bunded storage areas.

- Any waste effluent would be tested where necessary and disposed of at a correctly licensed facility by a licensed specialist contractor(s).
- Materials requiring removal from the site would be transported using licensed carriers and records would be kept detailing the types and quantities of waste moved, and the destinations of this waste, in accordance with the relevant regulations.

Waste Management Routes

C.6.4 The waste hierarchy sets out the priority order that should be considered when managing wastes. A basic representation of the waste hierarchy is provided in Plate C.1 and the PC would use the hierarchy as a guide to encourage the prevention of waste and to define waste management options with disposal being a last resort.

C.6.5 When considering waste management options for the Scheme, the PC would take account of the site's location, natural environment, and available infrastructure. The PC would consider the waste hierarchy when determining the preferred waste management option for each waste stream.

Materials and Waste Storage and Segregation

C.6.6 The PC would ensure that waste is stored, treated, reused, recycled, recovered, or disposed of as close as practicable to the point of origin during the construction of the Scheme, with consideration of the proximity principle, self-sufficiency principle and value for money principle.

C.6.7 The PC would store excavated soils and earthworks materials onsite in stockpiles until required for use.

C.6.8 Demolition materials that are to be recycled for use onsite would be separated at source and stored separately both before and after the treatment process.

C.6.9 Construction materials that are stored onsite would be in designated areas. Materials would be stored in appropriate conditions to avoid damage through, for example, water ingress or vermin. Materials would be protected from damage to avoid waste, for example retain materials in their packaging for as long as possible to protect them from damage prior to use.

C.6.10 The PC must ensure that the construction site compounds incorporate designated waste storage areas for skips or similar suitable waste

receptacles. Where practical, the PC would ensure that these areas are surfaced with an impermeable barrier, such as hardstanding/tarmac or using impermeable membranes.

C.6.11 The PC would implement the following waste management procedures:

- All waste containers would be secure and ensure that no waste is allowed to escape, for example covering skips where necessary.
- All waste containers would be clearly labelled with their content to maximise recycling and prevent cross contamination.
- Storage areas should be easily accessible for site staff and the removal of the waste.
- All waste containers would be sited away from areas of environmental sensitivity such as watercourses and ditches.
- Liquid wastes would be stored in enclosed/lidded containers and stored within a suitable bunded area, or otherwise provided with secondary containment.
- Separate containers would be provided for each type of hazardous waste.
- Each type of hazardous waste would not be mixed with any other hazardous or non-hazardous waste and where practical waste would be segregated.

Waste Carriers and Facilities

C.6.12 The PC would manage all waste generated on the Scheme in accordance with legal requirements. The PC would record details of the waste carrier and waste facility for each waste stream with Waste Carriers Licence and Environmental Permit or Exemption details appended to the final SWMP (Annex A).

Waste Documentation

C.6.13 The PC would ensure that all movements of waste from site are accompanied by a WTN or HWCN, which would detail specific information. The PC would implement a process to ensure waste duty of care compliance.

C.6.14 The PC must ensure that all movements of waste from site are accompanied by a WTN, which would detail specific information. Each WTN must contain the following:

- The name of the person receiving the waste and what they are authorised to do with that waste, as a Registered Waste Carrier can only transport waste.
- Type of waste.
- The Standard Industrial Classification (SIC) code.
- The six-digit List of Waste code.
- Address of the producing site and details of the waste producer.
- Waste carrier's details including registration number.
- Quantity of waste.
- How it is contained (e.g. 8 cubic yard skip).
- Address of the receiving site (e.g. Landfill) and the Environmental Permit or Exemption No. Associated with the receiving site.
- The date to which the WTN applies.
- If the material is non-hazardous waste and it is destined for disposal directly to landfill, pre-treatment must have been applied and a declaration detailing the treatment applied appended to the WTN.
- A declaration that the waste has been treated in line with the requirements of the waste hierarchy.

C.6.15 The PC must ensure that a HWCN is completed for every movement of hazardous waste. The HWCN must be prepared before the waste is moved. Each HWCN must contain the following:

- Consignment notes code.
- SIC Code.
- Name and address of the site from which the waste is being moved.
- Date of removal.
- Type of waste produced, including the quantity and the List of Waste code.
- The name of the person who is receiving the waste and what they are authorised to do with that waste, e.g. Registered waste carrier can only transport waste.
- The final disposal site that is authorised to accept the waste.
- Retention period for hazardous waste.

C.6.16 By signing a WTN/HWCN the site representative is confirming that all the details are correct and that the material is to be sent by a licensed waste carrier to a suitably licensed receiving site, permitted to receive that type of waste. The signature is binding of this fact and completes the WTN/HWCN as a legal document.

C.6.17 The PC would retain all waste documentation, for example electronically or filed in a hard copy, following completion of the Scheme. This includes:

- The final SWMP (two years after end of construction of the Scheme).
- Waste transfer documentation (two years for WTNs and three years for HWCNs).
- Copies of any exemptions or permits.
- Copies of waste carrier and treatment/disposal site licences or permit.

Fly-tipping

C.6.18 Fly-tipping of waste on or adjacent to the ongoing construction Schemes can be a significant issue.

C.6.19 A site assessment of pre-existing fly tipping hotspots would be undertaken prior to construction where practicable and, where appropriate, measures to prevent access to such areas would be implemented.

C.6.20 If waste is fly tipped on the site, the PC would have a duty of care to ensure it is dealt with safely and disposed of correctly, even though not the producer of the waste. The PC would report any instance of fly-tipping to the relevant authorities.

C.7 Key Responsibilities

Instruction and Training

C.7.1 The PC would incorporate the SWMP requirements into the site induction and training procedures and would provide onsite instruction of appropriate separation, handling, recycling, reuse and return methods to be used by all parties at all appropriate stages of the Scheme.

C.7.2 The PC would ensure that all personnel working on the site, including sub-contractors, are inducted, and appropriately trained. Responsibility for this training would be the responsibility of the PC Environment Manager or Site Materials and Waste Manager.

Reporting and Auditing

C.7.3 The effectiveness of the final SWMP would depend upon the enforcement of its requirements onsite by the PC. Responsibility for the formal

recording of waste movements lies with the PC Project Manager or Site Materials and Waste Manager.

C.7.4 The PC would maintain a record of all imported aggregates that come on to site. The quantity of reused, recycled and secondary aggregate would be recorded, alongside details of the supplier, the producing facility and records that demonstrate that the material meets all relevant technical and regulatory requirements. An example template is included in Annex B.

C.7.5 The PC would maintain a record of all wastes that are removed from the site and their management route. Each waste management contractor would provide details of the types and quantities of waste removed from the site, the receiving waste management facility and the associated recycling, recovery, and disposal rates for each waste stream. An example template is included in Annex C.

C.7.6 The PC would undertake regular audits and inspections of material waste management activities to ensure compliance with the requirements of this plan, statutory controls and other Scheme policies and procedures relevant to wastes.

C.7.7 National Highways or its representatives may carry out ‘spot checks’ in relation to the completeness of any WTNs and any HWCNs.

Review of Final Site Waste Management Plan

C.7.8 The PC would review the final SWMP at least once every six months during the construction phase of the Scheme to ensure that KPI targets are being achieved and that realistic solutions are provided for unplanned events or abnormal wastes.

C.7.9 These reviews would involve the completion and submission of a monitoring report to National Highways (or its representative) in an agreed format.

Closure Reporting

C.7.10 Within three months of the completion of works under a contract, the PC would submit a Waste Management Closure Report to the Applicant to demonstrate the effective implementation, management and monitoring of construction materials and waste during the construction lifetime of the Scheme.

C.8 References

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