Rail Central Strategic Rail Freight Interchange

Northamptonshire

Site Waste Management Plan

Final Report for

Ashfield Land Management Limited and
Gazeley GLP Northampton s.à.r.l.

Hydrock Ref. RCL-HYD-XX_REM-RP-GE-3002-S2-P4

February 2018

DOCUMENT CONTROL SHEET

Issued by: Hydrock
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Client: Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project: Rail Central Strategic Rail Freight Interchange (SFRI), Northamptonshire

Title: Site Waste Management Plan

Status: Draft

Date: February 2018

Document Provision Record

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Document Revision Record

Issue number	Status	Date	Revision Details
P1	Draft	30th June 2017	First Issue for comment
P2	Draft	15th August 2017	Incorporate client comments
P3	Draft	08th February 2018	Incorporate client comments
P4	Draft	23rd February 2018	Incorporate client comments

CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Background

This Site Waste Management Plan (SWMP) has been prepared for the enablement and construction works to be undertaken for Ashfield Land Management Limited and Gazeley GLP Northampton S.à r.l Ashfield Land Management (the Applicant) at a site known as Rail Central, Northamptonshire. It has been produced in accordance with the Site Waste Management Plans Regulations (2008).

The SWMP Regulations have now been repealed but this document is based upon the principles of the regulations and upon the Waste and Resources Action Programme (WRAP) guidance that was available to SWMP authors during the time the regulations were in force.

The proposed development is to comprise a Strategic Rail Freight Interchange (SRFI) including warehousing, an intermodal facility, express freight platform, lorry park and associated infrastructure. Works to J15a of the M1 and minor highway works are also proposed.

A site location plan (Drawing 151171/D001), and a Site Extents Plan (151171/D002) are presented in Appendix A.

This SWMP is a draft document to accompany the S42 consultation, and eventually the proposed planning application for the scheme. It will be subject to variation as required.

At this stage a Principal Contractor has not been appointed. Consequently this document will be up updated taking into account the Principal Contractors construction methodology and any relevant implications arising from detailed design. Comments will also be incorporated from stakeholders, the Applicant and local regulators.

The Principal Contractor will update this SWMP as appropriate.

It is considered that adherence to the SWMP can be controlled through a requirement of the Development Consent Order (DCO).

1.2 Purpose & Objectives

The Site Waste Management Plans Regulations (2008) placed obligations on the Applicant and principal contractor for any construction project with an estimated cost of more than £300,000. More detail was required for projects with an estimated cost of more than £500,000.

Following a comprehensive government review of regulations on various themes, Site Waste Management Plans (SWMP) were amended by The Environmental Noise, Site Waste Management Plans and Spreadable Fats etc. (Revocations and Amendments) Regulations 2013, and are no longer compulsory for construction projects in England (from 1 December 2013).

They can however still be required to support Building Research Establishment Environmental Assessment Method (BREEAM) assessments and are considered to be an environmentally responsible initiative by the main contractor and Applicant

The SWMP describes how materials will be managed efficiently and disposed of legally during the construction of the works. It works to maximise the re-use and recycling of materials.

This involves estimating how much of each type of waste is likely to be produced and the proportion of this that will be re-used or recycled on site, or removed from the site for re-use, recycling, recovery or disposal.

The SWMP follows guidelines produced by The Department for Environment, Food and Rural Affairs (DEFRA) and WRAP associated with the original regulations.

1.3 Previous Reports

This draft SWMP is based on the following reports:

- Hydrock Consultants Limited. April 2015, Updated February 2018. 'Milton Malsor Northamptonshire - Desk Study Report', Ref R/151171/001 Issue 8
- Hydrock Consultants Limited. April 2015, Updated February 2018. 'Rail Central. Milton Malsor, Northamptonshire. Ground Investigation Report - Main SRFI Site', Ref R/151171/002 Issue 4.
- Hydrock Consultants Limited. July 2017, Updated February 2018. 'Rail Central, Milton Malsor. Ground Conditions Desk Study Report, M1 Junction 15A Improvements', Ref R/151171/003 Issue 2.
- Hydrock Consultants Limited. September 2017, Updated February 2018. 'Rail Central. Milton Malsor, Northamptonshire. Ground Investigation Report - Main Strategic Rail Freight Interchange - Conceptual Geotechnical Design', Ref R/151171/005 Issue 3.
- Hydrock Consultants Limited. September 2017, Updated February 2018. 'Rail Central. Milton Malsor, Northamptonshire. Ground Investigation Report - Main Strategic Rail Freight Interchange - Remediation Method Statement', Ref R/151171/006 Issue 3.
- Hydrock Consultants Limited. February 2018. 'Rail Central Strategic Rail Freight Interchange Northamptonshire. Pollution Prevention Method Statement, Ref. Hydrock Ref. RCL-HYD-XX_REM-RP-GE-3003-S2-P4.
- Hydrock Consultants Limited. February 2018. 'Rail Central Strategic Rail Freight Interchange, Northamptonshire. Materials Management Plan', Ref. RCL-HYD-XX_REM-RP-GE-3001-S2-P4.
- Hydrock Consultants Limited. February 2018. 'Rail Central Strategic Rail Freight Interchange, Northamptonshire. Construction Environmental Management Plan, Ref. RCL-HYD-XX_REM-RP-GE-5001-S2-P4.
- Hydrock Consultants Limited. February 2018. 'Rail Central Strategic Rail Freight Interchange, Northamptonshire. Code of Construction Practice, Ref. RCL-HYD-XX_REM-RP-GE-5002-S2-P2.

The assessment and conclusions of the reports above have not been replicated within this draft SWMP. The reader is directed to the original documents accompanying the planning application.

1.4 Limitations

This document will be updated as detailed design progresses and consultation with the appointed Principal Contractor is undertaken.

Hydrock has prepared the report based on available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, all potential environmental constraints or liabilities associated with the site may not have been revealed.

The report has been prepared for the exclusive benefit of the Applicant and those parties designated by them for the purpose of providing information on the environmental management of works to be undertaken during the enablement and construction phase of the

development. The report contents should only be used in that context. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

Hydrock has used reasonable skill, care and diligence in reporting. Information provided by third parties has been used in good faith and is taken at face value. However, Hydrock cannot guarantee the accuracy or completeness of any information provided by others.

The work has been undertaken out in general accordance with recognised best practice as detailed in this document.

Any site boundary line depicted on plans does not imply legal ownership of land.

2.0 SITE DETAILS

This section summarises the background and environmental site conditions.

2.1 Site Location

The site is located at:

Rail Central,
Main SFRI Site
Milton Malsor,
Northamptonshire

NGR: 473080, 254830.

A site location plan (Drawing 151171/D001), and a Site Extents Plan (151171/D002) are presented in Appendix A.

2.2 Site Description and Setting

A summary of site conditions within the full Order Limits and the immediate surroundings is detailed in Table 2.1 below.

Table 2.1: Site Description

Item	Brief Description
Site description	Predominantly agricultural, bound by the A43 to the west, the West Coast Main Line to the south and the Northampton Loop Railway Line to the east. There are two farms, a derelict filling station, two former sand pits, a horticultural nursery and a private dwelling present on site. Works to J15a of the M1 and minor highway works are also proposed.
Site area	Approximately 260 ha.
Elevation, topography and any geomorphic features	Generally the site is located within a shallow south to north orientated valley associated with the Milton Malsor Brook. Higher ground is present in the northwest, north and east reflecting variation in the geological conditions, specifically the occurrence of Glaciofluvial sands in the north and Glacial Till in the west and east. There are a number of small ponds or springs within the site. Earthworks are present in the southwest of the site in the form of embankments for the Grand Union Canal and former Great Central Railway, and in the southeast of the site, understood to be arisings deposited following excavation of Roade Cutting which is located to the southeast of the site along the West Coast Main Line.
Present land use	The site consists of predominately agricultural land. There are two farms, Lodge Farm and Manor Farm, in the east and centre of the site respectively. Lodge Farm is a fully operational farm, whereas Manor Farm is a private residence and stables. There is a horticultural nursery and a private dwelling within the centre and east of the site.
Vegetation	The majority of the site is used for agriculture, predominantly arable but with some grassland supporting livestock. Field boundaries are generally characterised by mature hedgerows and trees with occasional trees within fields. There is a small plantation in the west of the site immediately to the north of the former filling station.
Site boundaries and surrounding land	The site is generally in a rural setting and surrounded by the A43, Gayton Marina and farmland to the west, the village of Milton Malsor to the north, the Northampton Loop Line and farmland to the east, and the West Coast Main Line and village of Blisworth to the south. The M1 motorway is located approximately 1km to the east.

Item	Brief Description
Site boundaries and surrounding land	Between the southern boundary and the West Coast Main Line, there is a row of terraced houses and a small business park, known as JBJ Business Park, and a redundant small sewage treatment works. The business park includes a workshop, food recycling facility, garage, carpet and caravan sales. An abattoir was formerly located at the business park site. There is a transport yard immediately adjacent to the northwest corner of the site, in what appears to be a former sand pit.

2.3 Site History

A detailed summary of the site history derived from a review of historical mapping is provided in the desk study report. The site has remained mainly as farmland since the earliest map edition of the late 19th century with development essentially limited to:

- a filling station in the west adjacent to the A43 (now disused, the tanks were decommissioned and filled with foam in 2004);
- Lodge and Manor Farms in the centre and east of the site;
- two former sand and gravel pits in the northwest and north of the site, with the pit in the northwest later filled as an inert landfill; and
- embankments carrying the Grand Union Canal and former Great Central Railway in the southwest corner of the site.

In addition, numerous small farm buildings have been constructed across the site and demolished later in the 20th century. Adjacent development includes the existing highways and railways, the transport yard to the northwest and the Business Park and housing to the south.

2.4 Geology and Soils

The general geology of the site area is shown on the 1:50,000 geological map of Towcester (Sheet 202) and is summarised in Table 2.2.

Table 2.2: Geology

Location	Age	Stratigraphic Name	Description
Central valley	Recent	Alluvium	Normally consolidated sandy clay.
Northeast			
North	Pleistocene	Glaciofluvial Deposits	Sand and gravel.
Locally in the northwest		Glacial Till (Oadby Member)	Over consolidated gravelly clay with associated sand and gravel deposits.
Locally in the east			
Entire Site	Jurassic	Whitby Mudstone Formation	Dark grey, fossiliferous mudstone and siltstone with fine grained sandstone beds and fossiliferous limestones.
Centre and northwest		Marlstone Rock Formation	Sandy, ooidal, ferruginous limestone with shell fragments.
Centre and northwest of the area		Dyrham Formation	Pale to dark grey, silty, sandy mudstone weathering to a yellow clay.

Made Ground may be present associated with areas of former or current development and landfilling.

2.5 Hydrogeology

The aquifer designations given in Table 2.3 are based on the Environment Agency interactive aquifer designation map. Additional information on the hydraulic characteristics of the geological units has been abstracted from Allen et al (1997) and Jones et al (2000).

Table 2.3: Hydraulic Characteristics of Strata

Stratum	Aquifer Designation	Hydraulic Characteristics
Alluvium	Secondary Undifferentiated	May be a source of groundwater but vertical and lateral variability means these aquifers are locally changeable.
Oadby Member	Unproductive Strata	Maybe a source of localised groundwater but low permeability and porosity make these poor aquifers. Likely to behave as an aquiclude.
Glaciofluvial Deposits	Secondary A Aquifer	May be a localised source of groundwater.
Whitby Mudstone Formation	Unproductive Strata	Maybe a source of localised groundwater but low permeability and porosity make these poor aquifers. Likely to behave as an aquiclude.
Marlstone Rock Formation	Secondary A Aquifer	May be a localised source of groundwater.
Dyrham Formation	Secondary Undifferentiated	May be a source of groundwater but vertical and lateral variability means these aquifers are locally changeable.

The site is not within a Source Protection Zone (SPZ) and there are no SPZ in the vicinity of the site. There are no recorded groundwater abstraction licenses within 2km of the site.

2.6 Hydrology

The following surface waters are present at the site (Table 2.4).

Table 2.4: Surface Water Features

Feature	Location Relative to Site
Milton Malsor Brook	Crosses the western side of the site on a south to north course.
Ditches	The centre and west of the site is drained by open ditches which ultimately fall to the Milton Malsor brook. The ditches appear to originate at the railway, and may collect water from small ponds or springs present within the site at various places along the field boundaries.
Surface Water Springs	There are a number of small ponds and springs in the west and centre of the site which are drained via agricultural ditches to the Milton Malsor Brook
Abstraction Borehole	Anecdotal evidence water abstraction borehole at Lodge Farm.
Wootton Brook	The Wootton Brook rises in a marsh area to the northwest of Lodge Farm in the east of the site.
Grand Union Canal	The Grand Union Canal is carried on an embankment adjacent to the southwest corner of the site. There is a culvert underneath the canal carrying surface water, presumably originating from pre-existing land drainage constructed prior to the canal and railway. The canal appears to be leaking causing overland flow over the field in the southwest corner of the site.

2.7 Mining & Ground Stability

There are two former sand pits onsite. The first is in the northwest corner, and the second in the north immediately to the east of Northampton Road. There is a further pit immediately offsite to the north of Gayton Road beyond the northwest corner of the site. The transport yard located in the to the northwest of the site is at a reduced level which is anticipated to be a continuation of the former sand pit in the northwest of the site itself and subsequently landfilled.

An unrecorded pit is present in the northeast of the site.

Northamptonshire Minerals and Waste Local Plan (MWLP) defines a Minerals Safeguarding Area (MA2) for sand resources within the Milton Malsor area. The MA2 area does not include any of the proposed development site is separated from the site by the Northampton Loop Line and the village of Milton Malsor.

2.8 Pollution Incidents

A significant pollution incident occurred at Gayton Marina in June 2015 when kerosene leaked from the BPA pipeline into the Grand Union Canal. Whilst it is not anticipated that this event will have had a significant impact on land quality at the site, there is a small possibility of an impact in the southwest if the canal had been leaking at the time. Further details are provided in the Desk Study Report.

2.9 Radon

A British Geological Society (BGS) radon risk report (GR210997/1) has been obtained for the site and indicates that it is in a Radon Affected Area where recorded radon concentrations in 1-3% of homes are above the action level. The source of radon at this site is likely to be the Marlstone Rock Formation.

2.10 Ecology

Significant ecological assessment has been undertaken on the site. A summary of the ecological surveys completed to date is shown below in Table 2.5.

Table 2.5: Summary of Ecological Surveys Undertaken

Survey Type	Details of Survey	Main Site Month/ Year	Junction 15a Month/Year	Other Minor Junction Improvements Month/Year
Ecological Background Data Search	Data search of records from the local record centre, and freely available data. A 10km search area was used for internationally designated sites, 5km search area was used for statutory designated sites and 2km for non-statutory designated sites and protected species records.	October 2016, updated in January 2018.	May 2017, updated in January 2018.	July 2017, updated in January 2018.

Phase 1 Habitat Survey and assessment of habitat for protected animals	Identification of broad habitat types and habitat suitability for protected species following the JNCC methodology for Phase 1 Habitat Survey and CIEEM Preliminary Ecological Assessment methods.	March 2015 and 2016 (Additional areas surveyed in February 2017 where access has previously been denied).	February, April and May 2017.	No field surveys completed.
Phase 2 Botany – NVC and other surveys	Species listing throughout the site and NVC surveys in selected areas, mostly grassland, but also representative examples of other vegetation types.	April to July 2017.	May to July 2017	No field surveys completed.
Phase 2 Botany - Hedgerow surveys	Survey of all hedges to estimate their ecological value, principally by reference to ecological aspects of the Hedgerows Regulations 1997.	June 2016.	May to July 2017.	No field surveys completed.
Veteran Tree Survey	All trees were viewed from ground-level and from within the site boundary only. The trees were inspected and data recorded following guidance from 'Ancient and other veteran trees; further guidance on management' .	2016 [Development Tree Survey]	July 2017	No field surveys completed.
Amphibians - Habitat Suitability Index and presence / absence for great crested newt	Nineteen ponds where access was granted were assessed for their suitability for great crested newts using a Habitat Suitability Index. This was followed by eDNA surveys and presence / likely absence surveys. These involved undertaking four surveys between mid-April and mid-June. The surveys were undertaken by licensed ecologists and in accordance with English Nature survey guidelines.	May and June 2016 (Pond 13 surveyed in 2017 due to access restrictions in 2016)	March to June 2017	No field surveys completed.
Aquatic invertebrates	Surveys of a single baseline sample site in each of the watercourses (Milton Malsor Brook and Rothersthorpe Stream) were carried out on 5 October 2017 by RSK Ecologists This used a combination of the standard three minute hand-net sampling surveys with one minute visual search technique, developed for the National Pond Survey and the Natural England protocol for shallow waterbodies. Samples were collected in order to assess diversity and conservation importance of aquatic macro-invertebrates present within the	October 2017	Not required	No field surveys completed.

	watercourses on the site.			
Badger	Habitat assessment of the study area for its suitability for badgers. Locations of setts and foraging activity were recorded.	March 2016 (to be updated in August 2017)	To be completed in August 2017	No field surveys completed.
Bats (tree roost potential)	Ground-level Tree assessment – to establish which trees had potential roosting features for bats and to grade those trees as: Grade 1 – low potential, Grade 2 - medium potential or Grade 3 - high potential for roosting bats and to identify where more detailed surveys such as tree climbing assessments would be required (if individual trees were to be impacted during development).	January to May 2016	To be completed in May and June 2017	No field surveys completed.
Bats – tree climbing surveys	Trees with medium of high potential identified during the ground level tree assessment were subject to climbing surveys to inspect features that were identified to have potential for roosting bats.	May to September 2017	May and June 2017	No field surveys completed.
Bats – tree emergence and dawn surveys	Emergence surveys were completed for some trees that were identified as high or moderate following the climbing surveys.	May to August 2016	June to August 2017	No field surveys completed.
Bats (initial building assessment)	The buildings within the red line boundary of the main SRFI site and the J15a works were surveyed for roosting bats. Buildings surveyed included farm houses and associated barns at Manor Farm and Lodge Farm. This involved consideration of the age and condition of the structure, and identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat-entrance points or roost sites). Detailed searches were made for signs of bats using ladders, high powered torches, binoculars and an endoscope. All accessible cracks crevices and voids were searched. Where definite signs of bats or other evidence was found (such as actual sightings, droppings, urine stains, odour, scratch marks, grease stains and feeding remains), they were recorded.	May-August 2016 (further surveys undertaken in April 2017 for properties where access was unavailable in 2016).	April 2017	No field surveys completed.
Bats (emergence / dawn re-entry)	Following the initial building surveys, any buildings which were identified as Low, Moderate or High potential for roosting bats were subject to emergence and dawn re-entry surveys. Surveyors were positioned at pre-selected survey points so	May to July 2016	June, July and August 2017	No field surveys completed.

	that potential bat roosting features were visible. Surveyors used bat detectors and edirols to record bat calls to allow analysis at a later date.			
Bats (activity)	Three transect surveys were completed – to assess the level of activity of commuting and foraging bats. Each transect commenced 15 minutes before sunset and lasted for approximately 3 hours.	May to October 2016 (April surveys were called off due to unsuitable weather).	May to October 2017 (April surveys were called off due to unsuitable weather).	No field surveys completed.
Breeding birds and barn owls	Breeding bird survey, consisting of three surveys in March to June was undertaken using methods based on Common Bird Census (CBC) methodology **(Ref 16.x)** . A specific barn owl survey, involving an inspection of the buildings and trees on site for nests, was undertaken on 4 May 2016. Further activity surveys were conducted throughout 2017 were undertaken to assess the known barn owl breeding sites.	May and June 2016	April to June 2017	No field surveys completed.
Golden plover and lapwing surveys	Golden plover surveys were conducted by experienced ornithologists using pre-selected viewpoints to observe the site from pre-dawn or pre-dusk. Surveys were undertaken for 6 hours and all golden plover or lapwing observations marked on a map of the site. Habitat was assessed for suitability for golden plover within the Order Limits and for 500m outside the Order Limits.	February and March 2016. November, December and January 2017.	Not required.	Not required.
Reptiles	Protected species presence/absence survey using 200 felt tiles (artificial refuges) placed in three areas across the Main SRFI Site. These were checked on seven separate occasions in line with guidance by Froglife. Surveys on the Junction 15a site focused on the boundary of the canal and stream within the tall herb swamp to the west of the canal and involved 120 felt tiles. The surveys were conducted in September 2017.	May and September 2016	September 2017	No field surveys completed.
Otter and water vole	During the Phase 1 Habitat Survey the suitability of the site for otters and water voles was assessed. Specific surveys were subsequently carried out and signs were recorded, if present, including footprints	3 May and 27 July 2016	3 May and 27 July 2016	No field surveys completed.

	and slides, feeding remains, holts and couches (resting places) and spraint (droppings). Habitat was classified as suitable, suitable (sub-optimal), or unsuitable.			
White clawed crayfish	A walkover survey was undertaken at both watercourses in May 2017 to assess their suitability for white-clawed crayfish. Both watercourses were subsequently surveyed using day time hand searching / hand netting methods and night time torch surveys which are in accordance with standard survey methods for white-clawed crayfish.	May 2017	Not required.	No field surveys completed.
Fish	Two survey sites were electrofished, one on each of the two watercourses on the Main SRFI Site, and these were selected following the crayfish walkover survey. Electrofishing took place on 5 October 2017.	May 2017	Not required.	Not required.
Terrestrial invertebrates	An initial walkover survey of the Main SRFI Site was performed on 21 July 2016 and 23 June 2017 at J15a. Invertebrate species sampling was then undertaken on 22 July, on 7 August and 18 September 2016 at the Main SRFI Site and 5-7 July 2017 at J15a. This spread of dates recognises the seasonal appearance of most invertebrate species and was aimed at maximising the number of taxa available for listing and analysis. Sampling affected the whole area of the Main SRFI site. However, for practical reasons it was concentrated in a number of areas that were judged likely to generate samples that were representative of the whole area.	July 2016	July to September 2017.	Not required.

2.11 Archaeology & Heritage

The archaeological evaluation (including geophysical work and trial trenching) demonstrated that the Main SRFI Site contains archaeological remains of later pre-historical, Romano-British and medieval and later date, which could be divided into 15 discrete archaeological sites. Desk-based assessment indicated that the M1 J15a and the A43/A5 Tove Roundabout locations have some archaeological potential, with the possibility that archaeological remains of comparable date to those within the Main SRFI Site could be present. A programme of archaeological mitigation works will be carried out to offset the predicted direct impacts on archaeological assets.

2.12 Unexploded Ordnance

A non-specialist Unexploded Ordinance (UXO) screening exercise has been undertaken which indicates low bomb risk.

3.0 SITE ROLES AND RESPONSIBILITIES

The SWMP Regulations follow the Construction, Design and Management (CDM) Regulations in terms of the roles which are required to be specified.

The Applicant, and the Project Manager will establish roles, responsibilities, authorities and accountabilities in advance of the construction phase and these will be embedded within the construction contract performance requirements. All works will be carried out in accordance with the requirements of the DCO and general law.

A summary of the anticipated roles are detailed in Table 4.1 below.

Table 4.1: SWMP Summary of Anticipated Roles & Responsibilities

Role	Responsibilities
Applicant: Ashfield Land Management Limited and Gazeley GLP Northampton S.à r.l	
Project Manager (tbc)	Overall environmental management of the site on behalf of the owner.
Principal Contractor, to be appointed. Overall responsibility to ensure works are undertaken in accordance with all legislation, best practice and the SWMP Team will include:	
Construction Manager	Day-to-day management of the site.
Waste & Environmental Manager	Plan the works, and those of their sub-Contractors
Site Staff	Obligations under Duty of Care
Designer, Various	
Design out adverse effects on the environment as reasonably practicable, in accordance with legislation and best construction practice. Where effects cannot be designed out, advise Contractors on environmental hazard that a competent Contractor cannot reasonably anticipate.	
Other Stakeholders, Northampton Borough Council; South Northamptonshire Council, Environment Agency, Natural England, Highways England, HSE, Historic England.	
Environmental Officer	Enforce planning requirements and liaise with public enquiries received.

It is anticipated that the Applicant will nominate a Project Manager for the site.

The successful Principal Contractor will have overall responsibility to ensure works are undertaken in accordance with all legislation, best practice and the SWMP. The Contractor will appoint a suitably qualified and experienced:

- Site Manager, will monitor the day-to-day management of the site, including legal and environmental responsibilities, site health and safety, and to ensure adherence to the SWMP and all approved method statements and the DCO. The Site Manager will be responsible for ensuring that all site staff receive a briefing on the SWMP and other planning requirements as part of their site induction and are aware of their roles and responsibilities in fulfilling the requirements of the SWMP.
- The Principal Contractor's Waste & Environmental Manager (if necessary), shall carefully plan the works, and those of their sub-Contractors. The Principal Contractor will provide these details in a Health and Safety Plan (as required under the Construction (Design and Management) Regulations (CDM) 2015). The Principal Contractors and subcontractors will be required to adhere to the SWMP.

- Ecology Manager, will supervise the habitat clearance activities and licensable activities, including supervision of an Ecological Clerk of Works (ECoW). They will also plan and oversee implementation of ecology mitigation including habitat creation, protection of retained habitat, and the licensable activities. The Ecology Manager will be responsible for the implementation of the Habitat Management Plan for the site.
- Site Staff will have an obligation under Duty of Care to follow training, inductions, method statements, briefings and toolbox talks.

4.0 EXISITING WASTE DOCUMENTATION

Site Investigation data is available for the site and is referenced within section 1.3 - Previous Reports.

A number of potential sources of contamination have been encountered which could give rise to waste generation. These include:

- Landfill Made Ground in the northwest of the site extending to a proven depth of 7.50m (and possibly deeper based on topographic levels) and consisting of variable gravelly clay and gravelly sand, with cobbles and boulders and locally organic material;
- The removal of the former fuel tanks at Lodge Farm and the Filling Station together with any petroleum hydrocarbon impacted soils around and below the tanks. Whilst not expected, any free phase hydrocarbons will require removal from the surface of the groundwater and treated or disposed.
- Hotspot of petroleum hydrocarbons in the southwest of the site adjacent to the Grand Union Canal.

Whilst the scope of any remedial works will be further developed by the appointed contractor, it is anticipated that remediation can be undertaken by excavating the impacted soils which can then be stockpiled, screened or otherwise treated on site (e.g. bioremediation).

Suitable material can be reused where appropriate under the sites Materials Management Plan and the unsuitable material removed from site. Given the volume of earthworks, it is anticipated that all materials are likely to be suitable for use on the site, as unsuitable material from the perspective of human health is likely to be suitable for reuse in the platforms in areas external to the proposed buildings, e.g. in noise bunds.

5.0 WASTE MANAGEMENT AND TARGETS

5.1 Forecasting Waste Production

At Concept and Outline Design stage there is insufficient information to forecast the waste to be produced in any detail. Indicative figures, where available, are however summarised below. Preliminary targets have also been included for the reduction and management of waste, however these could be amended as design progresses.

The potential waste types that could arise during this phase of the development are summarised in Table 5.1 below.

Table 5.1 Summary of potential wastes generated

Construction Phase	Potential Wastes Produced	Classification of Waste
Site Clearance (Main SFRI Site and Highway Works)	Vegetation	Non-hazardous
Excavation (Main SFRI site and Highways Works)	Made ground, soil and subsoil	Inert; and/or Non-hazardous; and/or Potentially hazardous if it contains sufficiently high levels of contamination
Construction and Demolition (Main SFRI Site)	Construction materials: concrete, bricks, ceramics, plastics, metals, plasterboard, timber, paint, etc.	Inert; and/or Non-hazardous; and/or Hazardous.
Construction (J15a and Other Highway Works)	Carriageway planings, concrete, bricks etc. from existing structures and drainage, metal rebar and traditional construction waste (as per Main SFRI Site)	Inert; and/or Non-hazardous; and/or Hazardous.

Site clearance works are likely to include the removal of significant amounts of vegetation from the site, such as trees, shrubs, branch trimmings, grass, plants and tree cuttings etc. This waste is non-hazardous, and it is estimated that the total quantity of vegetation may exceed 100m^3.

Excavation waste is to be predominately retained on site and consequently it is considered likely that any potential surplus from the cut and fill balance for the overall development will be very low (<1000m^3). Excavation wastes will comprise of soil and stones, and may include some Made Ground. This material will largely be inert waste. It is proposed that this material will be retained on site for recycling or reuse in the proposed development, e.g. as low-grade backfill, where it is suitable for use; otherwise, the material will be sent for recycling off-site.

The vast majority of construction waste will be generated by the development of the Main SFRI Site. This can be defined as the construction of industrial buildings (Land Use Class B8). Using waste benchmarking data from BRE, the amount of construction waste for this development has been forecast as follows:

Table 5.1 Summary of potential wastes generated (Main SFRI Site)

Zone	Use	Total floor area (sq/m)	Average Waste (Tonnes /100m^2)	Forecast Waste Arisings (Tonnes)
1	B8	112,024	12.6	14,115
2	B8	91,890		11,578
3	B8	130,985		16,504
4	B8	118,358		14,913
5	B8 (Rail Connected)	125,179		15,773
5a	B8 (Rail Connected)	86,087		10,847
6	Maintenance Depot	10,960		1,381
6a	Terminal Control Building & Gantry Crane	585		74
			Total	85,185

Based on the proposed quantum of development and the construction waste benchmark standards, the estimation shows that approximately 85,185 tonnes of waste may arise over the entire period of the construction works associated with the Main SFRI element of the project.

The composition of the construction waste arisings will be dependent on the construction method employed but the broad categories of waste are anticipated to include the following.

- Contractor Waste
- Excess / out of specification materials
- Packaging
- Waste oil and empty drums
- Waste from spillages
- Miscellaneous Hazardous Waste

5.2 Minimising Waste

The appointed contractor will maximise the re-use of materials, on-site, wherever practicable. Works will follow the waste hierarchy as detailed below.

5.3 Managing Waste and Opportunities

A key opportunity on a project of this scale is to recycle waste from one component of the construction into another. An important decision taken at Concept and Outline Design stage is for space to be provided within the site for recovering and storing waste. The management of this process will be the responsibility of the Waste and Environmental Manager.

Each designer in the Detailed Design stage will be charged with designing the works and specifying materials and methods to optimise the opportunities to utilise recycled materials.

As contractors are appointed they will also be charged with the responsibility of utilising recycled materials and selecting methods of construction which create recyclable products, whenever possible.

Contractors will also be charged with the responsibility of segregating wastes to facilitate recycling onsite in the first instance and offsite for waste that cannot be recycled into the works

The contractor will be required to:

- undertake waste management activities in accordance with the principles of the waste hierarchy;
- undertake activities in accordance with the Environmental Policy;
- undertake activities in accordance with the Contaminated Land: Applications in Real Environments (CL:AIRE) Definition of Waste Code of Practice; and
- obtaining the waste metrics of waste management solutions providers where waste is removed from site.

6.0 IMPLIMENTATION AND MONITORING

The main purposes of the works are:

- to re-use site won arisings on site;
- the processing and re-use of on-site and other incorporable materials, including demolition arisings; and
- the disposal of non-compliant or non-incorporable materials to landfill or for off-site treatment or recycling.

All excavation processing, treatment and material reuse will be undertaken under the supervision of the Site Manager. The different types of material would be segregated for re-use as follows:

6.1 Existing Demolition Arisings

Chemical classification is required to determine if the stockpiles of demolition arisings are suitable for use on site.

6.2 Natural Ground

Site won natural material is suitable for reuse on site. Granular and cohesive materials should be stockpiled separately

The appointed contractor should recognise the need to be aware of the scale and environmental impact of all its activities and services, as well as its responsibility to do its part in safeguarding the environment for future generations.

The ground worker should strive in the execution of its operations to:

- contribute to the effective protection of the environment;
- use natural resources efficiently; and
- raise the level of environmental awareness of employees and other stakeholders.

The contractor should also:

- implement measures to achieve continual improvement and the prevention of pollution;
- ensure compliance with all relevant environmental legislation and regulations including the applicant's specified environmental standards;
- implement management systems for the setting and review of realistic environmental objectives and targets;
- undertake environmental impact assessments on its activities;
- consider the whole life cycle effect of each activity and promote the use of sustainable resources; and
- repeatedly train and raise the awareness of staff, their customers and the supply chain of their responsibilities in protecting the environment.

This policy document and its associated documentation shall be implemented, maintained and communicated to all employees and be available to interested parties and the public.

7.0 PROJECT CONTROL MEASURES

During the conception, design, development and specification stages of the project, all practicable efforts should be made to reduce the amount of waste that will be created. Site specific actions are detailed within Table 7.1.

Table 7.1: Project Control Measures

Decision	Status	Action
Development levels to be set to accommodate all suitable arisings from the Site Wide Development	On-going	Contractors & Designers
All topsoil to be accommodated within the design	On-going	Landscape Designer
Segregation of recyclable materials that can be re-used on site, especially concrete / brick. Reduction in import volumes and transport.	On-going	Contractors & Designers
Allocation for storage and treatment of materials within the programme and design	On-going	Contractors & Designers
Careful excavation and segregation of contaminated soil (if identified) to reduce cross-contamination, overseen by the site manager. Treat materials where possible to reduce disposal volumes and transport.	On-going	Contractors
Screening / riddling of brick / concrete from unsuitable soil to reduce the treatment / disposal volume. Reduction in disposal volumes and transport.	On-going	Contractors
Validation testing of remnant soil to minimise disposal volumes.	On-going	Contractors
Re-use natural reworked soils and other materials as general fill on site.	On-going	Contractors & Designers

During processing material will be segregated into three general categories, these are:

1. material suitable for reuse;
2. materials suitable for treatment and subsequent reuse; or
3. uncertain material to be disposed to landfill or for off-site treatment / recycling / recovery.

Any material falling within category 3 will be sent to a treatment facility where this is feasible to reduce the volumes sent to landfill.

The intention of the SWMP is that maximum volumes of materials are re-used on site, no unacceptable material shall be reused on site and as much of the unsuitable material as possible shall be treated off site in preference to landfilling.

8.0 WASTE TRACKING SYSTEM

Waste tracking and recording will be carried out using the Template form enclosed in Appendix B.

The appointed contractor will maintain the Template form, waste carriers and waste destination spreadsheets, and keep these with the SWMP, as a live document, along with all relevant waste documentation including waste carrier registrations and environmental permits.

Relevant forms and records will be available for inspection by the Applicant throughout the project.

9.0 WASTE RECORDS

The following legal records will be kept with the SWMP documentation on site:

1. waste carrier registrations;
2. environmental permit and exemptions;
3. waste transfer notes; and
4. hazardous waste consignment notes.

On completion of the site construction, these documents will be transferred, with all other SWMP documentation to the Project Manager for completion before issue to the Applicant.

Appendix A

Drawings

Appendix B

SWMP Tracking System

Appendix C

Waste Carrier Certificates and Environmental Permits (to be completed on site)

Appendix D

Waste Transfer Notes and Consignment Notes (to be completed on site)