Environmental Management System

Deposit for Recovery Bespoke Permit
EPR/VP3821SV/P001

The Wave London,
Meridian Way, Enfield, London

The Wave London Ltd
2309 R04: EMS Issue 1
July 2025

GEMCO
Green Earth Management Co Ltd

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ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations	
Acronym / Abbreviation	**Definition**
ACM or PACM	Asbestos or potential asbestos containing material
ADE	Average Daily Exposure
AST	Above ground Storage Tank
ASPT	Average Score Per Taxon
BOD	Biochemical Oxygen Demand
BGS	British Geological Survey
BH	Borehole
BS	British Standard
BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
CAT	Cable avoidance tool
CIRIA	Construction Industry Research and Information Association
CLEA	Contaminated Land Exposure Assessment
CLR	Contaminated Land Research reports
Defra	Department of the Environment, Food and Rural Affairs (formerly the DoE and DETR)
DETR	Department of the Environment, Transport and the Regions (formerly the DoE and now Defra)
DO	Dissolved oxygen
DoE	Department of the Environment (then DETR and later Defra)
DQRA	Detailed quantitative risk assessment (Tier 2)
EA	Environment Agency
EPH	Extractable Petroleum Hydrocarbons
EQI	Environmental Quality Index
EQS	Environmental Quality Standards
FID	Flame ionisation detector
GAC	Generic assessment criteria
GC	Gas chromatography
GEMCO	Green Earth Management Co Ltd
GQA	General quality assessment
GQRA	Generic quantitative risk assessment (Tier 1)
ha	Hectare
HCV	Health criteria value
HHRA	Human health risk assessment
ICRCL	Interdepartmental Committee on the Redevelopment of Contaminated Land
ID	Index dose
LEL	Lower explosive limit
LOD	Limit of detection
m	Metres
mAOD	Metres above ordnance datum
mbgl	Metres below ground level
MCERTS	Monitoring Certification Scheme
MDI	Mean daily intake
MTBE	Methyl tertiary butyl ether

Acronyms and Abbreviations	
Acronym / Abbreviation	**Definition**
NGR	National grid reference
NHBC	National House Building Council
NRA	National Rivers Authority (now the Environment Agency)
PACM	Potentially asbestos containing material
PAH	Polyaromatic hydrocarbon (a.k.a. polynuclear aromatic hydrocarbon)
pH	A measure of the acidity or basicity of an aqueous solution. Defined as the negative logarithm of the concentration of hydrogen ions in a substance
PID	Photo Ionisation Detector
PPE	Personal Protective Equipment
PPL	Potential Pollutant Linkage
RBCA	Risk-based contamination assessment
RMS	Remediation Method Statement
RQO	River Quality Objective
S4UL	Suitable for Use Level
SGV	Soil Guideline Value
SNIFFER	Scotland and Northern Ireland Forum for Environmental Research
SPT	Standard penetration test
SSTL	Site-specific target level
SVOC	Semi Volatile Organic Compounds
QRA	Quantitative risk assessment
TDI	Tolerable daily intake
TDSI	Tolerable daily soil intake
TP	Trial pit
TPH	Total petroleum hydrocarbon
TPHCWG	Total petroleum hydrocarbon criteria working group
TOX	CLR 9 Toxicological Reports
UKAS	United Kingdom Accreditation Service
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UXB	Unexploded Bomb
VOC (TVOC)	Volatile Organic Compounds (Total VOC)
WHO	World Health Organisation
WQS	Water Quality Standards
WS	Window sample

NON-TECHNICAL SUMMARY

I. Introduction

This document presents the Environmental Management System associated with a Deposit for Recovery (DfR) Bespoke Environmental Permit for a Waste Recovery Operation at a Site in Enfield, London. The Application Reference is EPR/VP3821SV and pre-application discussions have been ongoing with the Environment Agency.

A waste recovery plan was submitted and agreed with the Environment Agency 11th March 2025.

II. Project Details

The proposed development for the Site includes the surf lake, surf school and plaza, various activity areas (children's play areas, skate trail, bike track, sports courts etc) and associated infrastructure (parking, access roads etc).

The proposed works will involve earthworks and construction of a leisure and amenity facility on land forming part of the current Lee Valley Caravan Park and Lee Valley Golf Course.

The Site boundary is shown on Figure 1 and Figure 2 and the Application Site at Figure 2. The masterplan is included at Appendix 1, Development Proposals and Site Infrastructure Plan is presented in Appendix 2, GEMCO Drawings.

The proposed activities do not comply with a Standard Rules (No 39) due to the location being within an historic permitted landfill site and therefore are subject to a Bespoke Permit.

The waste recovery operation will involve the re-use of site-won chemically and geotechnically suitable soils as engineering fill. The excavated material will undergo a recovery process that will comprise screening, sorting and segregation of the waste. This process will be managed by a Mobile Treatment Licence (MTL; SR2008 No 27).

The earthworks will comprise a total cut of 35,631m³ and a total fill of 35,.25m³ to produce the finished ground level (FGL). Th FGL is not inclusive of the topsoil strip and clean cover system required in areas of soft standing. This results a deficit of ~6,617m³ of suitable subsoils that will require importation.

A list of relevant reports is provided at Table 1.1 below:

Table 1.1. List of Relevant Reports.

Ref	Report Title	Report Producer	Report Reference.	Date
R.1	Ground Investigation	Norwest Holst	F13229	May 2004
R.2	Desk Study Report	Hydrock	WAV-HYD-DS-RP-GE-1000-S0-P1	Sep 2018
R.3	Site Investigation Report (Phase 1 Area)	Hydrock	WAV-HYD-XX-XX-RP-GE-1000-S2-P02	Nov 2019
R.4	Waste Recovery Plan	GEMCO	2309 R01: Issue 2	10th March 2025
R.5	CSM & ESSD	GEMCO	2309 R02: Issue 1	April 2025
R.6	Hydrological Risk Assessment	GEMCO	2309 R03: Issue 1	Mar 2025

A. PERMIT HOLDER / OPERATOR

A.1. Contact Details

The Applicant / Operator	Agent
The Wave London Ltd	Green Earth Management Co Ltd (GEMCO)
Main Road Easter Compton Bristol BS35 5RE	Broomfield Park Coggeshall Road Earls Colne Essex CO6 2JX
Hazel Geary	Diane Robson-Jackson
hazel@twgltd.co	diane@gemcoltd.co.uk

A.2. Other Authorisations

At time of writing, the Client is in pre-application discussions with the local planning authority, the London Borough of Enfield and there is the presumption in favour of a successful planning application.

Lee Valley Regional Park Authority (LVRPA; the land owner) has confirmed that The Wave London have permission to use the land for the purpose of the proposed development.

GEMCO's Waste Recovery Plan for the Site has been approved by the EA…

Re-use of the recovered soils will be permitted under the auspices of the Waste Recovery Plan, included at R.4

B. PERMIT DETAILS

B.1. The Operating Site

B.1.1. Site Infrastructure Plan

The Site Infrastructure Plan referenced GEM-2309-001_P02_SIP, available at Appendix 2 shows the location of the site infrastructure detailed at section B.1.5 below.

B.1.2. Other environmental permits

An MTL and a waste recovery permit will be operating within the site boundary. No other permits will be operating within the site boundary.

B.1.3. Protected Sites

The below environmentally sensitive sites have been identified within 1 km of the Site:

- SSSI: Chingford Reservoirs 44m east and 507m north-east;
- Nitrate Vulnerable Zone: on-site; and
- Greenbelt: London Area Greenbelt on-site and 655m south-east of Site.

B.1.4. Site Infrastructure

The following items, required to support the operations will be present on Site:

- Welfare (comprising, toilet and washing facilities, break out and canteen area);
- Temporary offices and stores;
- Fuel Stores - diesel bowser (double-bunded and located within a secondary drip tray and Spill kit);
- Waste skips and storage bins;
- Treatment area and plant store;
- Stockpiling area;
- Temporary water supply;
- Generator for temporary electricity supply;
- Dust suppression (e.g., towed water bowser and broadcast spray, static broadcast spray at treatment area); and
- Emergency equipment, e.g., fire extinguishers, spill kit, first aid kit.

B.1.5. Sign Board

A sign board will be erected at the Site entrance for the duration of the works. The sign board will contain the following information.:

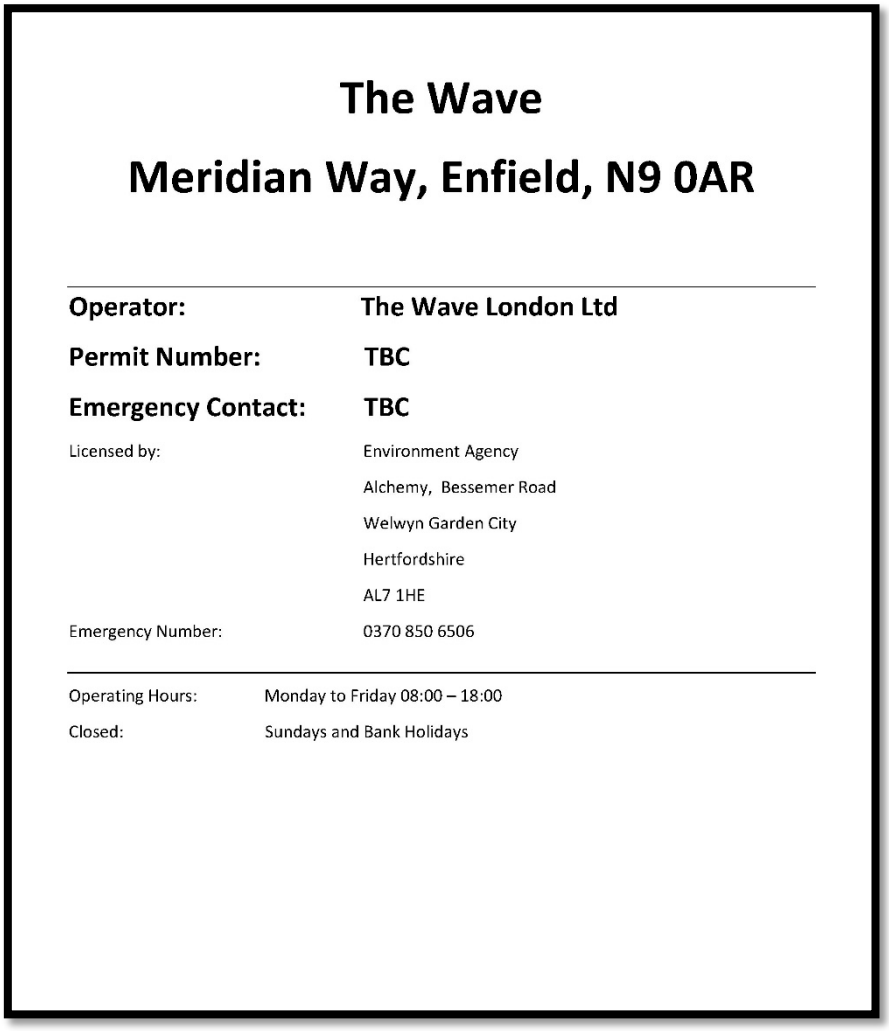

PLATE 1: SIGN BOARD LOCATED AT SITE ENTRANCE

B.1.6. Site Access and Egress

The Site access and egress point will be a double width entrance on the western boundary onto Meridian Way. The access/egress point is set back from the main road, providing a safe pull-off space for deliveries of plant and equipment and vehicles of site workers.

Deliveries of plant and equipment will be managed by a traffic marshal.

B.1.7. Existing Services

Operations on the Site will implement a safe system of work and take full account of The Health and Safety Executive Guidance HSG47, Avoiding Danger from underground Services, Avoiding danger from underground services HSG47 (hse.gov.uk).

The three basic elements of a safe system of works are:

- Planning the work
- Locating and identifying the buried services; and
- Safe excavation.

There are overhead services on the Site, present close the eastern site boundary. An easement of 30m applies in accordance with GS6: Avoiding danger from overhead power lines Guidance Note GS6 (Fourth edition). No works are proposed within the easement of the overhead powerlines.

Temporary water and electricity supplies will service the welfare and offices for the contractors.

B.1.8. Site Security

The Site will be fenced as required to maintain a secure site. Dense vegetation is present along the south boundary and the Lee Navigation to the east. It is proposed to use industry standard security anti-vandal anti-climb fencing (heras or similar) or timber hoarding. Secure entrance gates will be provided.

The Site boundaries will be inspected and photographed prior to commencement of the works and will be inspected daily during site operations.

B.2. Specified Activities

B.2.1. Waste Recovery Operation

The Waste Recovery Operation will be managed in accordance with the Permit Operating Techniques and this management system. The proposal for the material management is detailed within the Waste Recovery Plan, GEMCO 2309 R01, Issue 2 10th March 2025 (R.4).

The authorised operations to be carried out at the Site include:

- Placement and compaction of geotechnically and geochemically suitable soils/ engineered fill.

Permitted activities authorised by the Permit at Table 2.1 and applicable at the Site are:

- R5: Recycling/reclamation of other inorganic materials.

The activities that will involve the waste recovery operation will include the following mobile mechanical plant and equipment:

- 360^0 Tracked excavator(s) for placement of soils to be recovered;
- Dump truck(s) to transport treated soils to the areas of required fill;
- Loading shovel;

- Tandem roller for compaction of placed soils.

B.2.2. Mobilisation to Site

All plant and equipment will be delivered via the Site access off Meridian Way All vehicles will approach past the cinema and athletics centre

It is anticipated that mobilisation will take approximately 5no. working days.

Deliveries of plant and equipment will be phased so that not all equipment will arrive at the same time and / or same day.

Welfare, offices, stores and fencing will be mobilised and commissioned prior to the delivery of plant and equipment required for the treatment process.

Delivery of earthmoving plant to excavate the waste will follow establishment of Site compound / stores etc.

Waste skips will be delivered at an appropriate time prior to the start of treatment.

The treatment area will be set up including the engineering containment prior to delivery of the equipment for carrying out the treatment (i.e screener, picking station etc).

Periodic deliveries of ancillary plant and equipment may take place for the duration of the project.

The Contractor will notify nearby residents of any vehicle movements likely to cause disruption.

The Contractor will employ road sweepers to clean nearby road in the event of drag out of mud onto the road.

All vehicle movements will be managed by a Traffic Marshall who will guide vehicles in and out of the Site.

B.2.3. Waste Characterisation

The subject site is to be redeveloped to a sports and leisure end use. Site investigations (SI) undertaken at the Site have shown that there are made ground soils present as a result of the historical landfill and the golf course. Full characterisation of the waste is provided in the ESSD 2309 R02 and the HRA 2309 R03.

There are fragments of cement bonded asbestos fragments that require remediation to manage risks to human health in relation to end users and construction workers.

The ACM is present as fragments of cement bonded building materials (e.g. roof sheets, wall sheets). The fragments will be removed from the made ground soils through a process of sorting and segregation. There is no intention to reduce the size of the ACM fragments. ACM fragments removed as part of the process will be placed in a dedicated, covered, asbestos skip for subsequent disposal off-site.

There is no expected daughter products expected from the process. The process will be controlled to prevent dis-aggregation of asbestos containing materials (e.g. broadcast spray/dust suppression).

A Mobile Treatment Licence (SR2008 No27) (MTL) will be deployed to permit the treatment of waste, the authorised technologies, with respect to the MTL, to be carried out at the Site include the operation of:

- Treatment plant for sorting and separation; and
- Treatment plant for blending, mixing, bulking, screening, shredding, particle size reduction and / or particle separation in order to facilitate remedial action.

Permitted activities authorised by the MTL and DfR Permit at Table 2.1 and applicable at the Site are:

MTL - R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced);
DfR - R5: Recycling/reclamation of other inorganic materials.

The activities that will involve the mobilisation and operation of a Treatment plant will include the following mobile mechanical plant and equipment:

- Mechanical screener (3-way spilt) to facilitate the separation of the large, medium and fine particle sizes;
- 360^0 Tracked excavator(s) for excavation and loading of the made ground (waste) to the screener;
- Dump truck(s) to transport made ground soils to and from the treatment area;
- Mobile picking station (2 man or 4 man) (if appropriate);
- Loading shovel;
- Waste skips;
- Mechanical crusher; and
- Dust suppression equipment.

B.3. Duration of the Works

B.3.1. Site Address

The Wave, London
Lee Valley Golf Course and Campsite,
Meridian Way,
Enfield,
London,
N9 0AR
Grid Reference (BNG) TQ 36185 94216 (536185, 194216)

B.3.2. Specified Period

The intended project duration for the waste recovery activities is ~52 weeks.

B.4. Management Supervision

B.4.1. Technically Competent Manager (TCM)

The TCM for this permit will be Diane Robson-Jackson who holds WAMITAB Level 4 in Waste Management Operations – Managing Treatment of Hazardous Waste (Remediation 4TMHCL), accreditation number

10026587 dated 23rd March 2007. The TCM has completed the necessary Continuing Competence training and the current certificate, referenced 5195638, dated 17th April 2026 is provided at Appendix 3 for information.

Diane is also a Chartered Member of the Institution for Waste Management (CIWM) and Society for the Environment (CENV).

Contact Details
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B.4.2. Site Supervision Plan (TCM)

The TCM will visit the site on a weekly basis during site operations and spend a minimum of 4 hours per week at the operating Site. The treatment plant will be supervised on a full-time basis by the Contractor's Site Manager, with appropriate experience at running similar treatment technologies. Additional time will be spent on Site if the TCM deems it necessary.

The TCM will be in contact with the Contractor's Site Manager on a daily basis to stay abreast of progress and to trouble shoot and problem solve if required. Daily contact will also ensure that any issues are identified and addressed in the most efficient and timely manner.

B.4.3. Unsupervised Activities

No activities at the Site will be unsupervised.

B.5. Waste Types and Quantities

The total amount of waste subject to the Deposit for Recovery is 35,631m^3. The waste will undergo treatment permitted by the deployment of an MTL. The table below summarises the waste type and estimated quantities for treatment under the MTL.

Table B5.1. Waste Types.

Waste Types	EWC six-digit code	Quantity (Cubic metre)	Medium (solid, water, sludge, gas)
Soil and Stones containing dangerous substances	17:05:03*	3,000	Solid
Soil and Stones NOT containing dangerous substances	17.05.04	27,300	Solid
mixtures of concrete, brick etc	17.01.06	5,331	Solid

B.5.1. Waste Quantity Measuring Systems

Wastes will be measured onsite by means of survey, measurement and conversion. The areas of excavation will be measured and the solid volume determined. Stockpiles of treated material will be measured by survey.

Recovered wastes will be used as fill and the volume of re-used material will also be measured by survey once placed and compacted in the permanent works.

The conversion factor applied for conversion from tonnes to volume will be 1.5kg/m3.

The quantity of wastes excavated, treated and placed will be recorded on a daily basis.

B.5.2. Waste Storage Plan

The total volume of waste to be deposited is a maximum of ~36,000m^3. The made ground soils (waste) will be excavated in a phased manner and transported to the stockpiling area located in the northeast of the Site and adjacent to the treatment area (TA).

The maximum quantity of soil in the stockpiling area (awaiting treatment) is 2,500m^3. Of this volume a maximum of 200m^3 of hazardous waste (EWC. 17.05.03) will be stored at any one time. The remaining volume will comprise non-hazardous (EWC. 17.05.04).

The maximum storage height for stockpiles will be 2.5m.

It is anticipated that approximately 250 – 300 m^3 of made ground soils (waste) will be excavated from the source area on a daily basis and transferred to the stockpiling area.

The waste code for the majority of the waste encountered on-site is 17-05-04 (soil and stones; non-hazardous) with lesser quantities of 17-05-03 (soil and stones; hazardous), but other waste types may be present. The list of permitted wastes is presented in Table 5.1 below.

The waste material at the Application Site was described as made ground/ construction material, variable in composition (R7). It was estimated that 64% of made ground soils encountered were SHW Class 1 material and 36% Class 2 material (R12).

No waste will be accepted from off-site sources. This will ensure that only wastes authorised for treatment are accepted at the facility.

The maximum duration of storage of waste will be 12 weeks. This is considered sufficient time based on a likely throughput of ~ 250 - 300m^3 /day. This would convert to around 9 weeks with a further 3 weeks to address any unforeseen circumstances. The emission monitoring plans are based on a maximum duration of up to 26 weeks.

B.6. Waste Acceptance Procedures

B.6.1. General

Waste shall only be accepted from the Site area as defined by the Application Site boundary shown on the Site Infrastructure Plan. Specifically, the waste to be treated is limited to the Application Site made ground as described in the GEMCO Waste Recovery Plan R.4

No wastes will be accepted from off-site sources.

In summary, the made ground soils / HstW are contaminated with Asbestos fragments (ACM), lead, benzo(a)pyrene and asbestos fibres. Treatment is required with respect to ACM and geotechnically deleterious materials such as wood, textile, paper, plastic, metal. There are no contaminants of concern with respect to controlled waters.

Risks to human health from lead, benzo(a)pyrene and asbestos fibres will be managed by the provision of a clean cover system.

During excavation of the waste mass the following general procedure will be adopted to ensure that the waste is suitable for remediation and re-use.

Table B6.1. Waste Acceptance Procedure.	
Stage of Waste Handling	**Specified Standards**
A. WASTE INSPECTION	All wastes treated at the operating site will be inspected to ensure they comply with waste characteristics identified in the site investigation information. Wastes transported to the treatment zone will be stockpiled separately from wastes already accepted into the treatment process.
B. QUARANTINE AND STORAGE AND REJECTION OF WASTES	Any waste that appears not to comply with the identified characteristics from the site investigations will be quarantined until further analysis to determine acceptance has been undertaken. All waste in quarantine will be segregated from all other materials. Untreatable wastes will be removed from site. A record of all rejected wastes will be kept in the site diary.
C. IDENTIFICATION OF WASTES	Throughout the treatment process, each stockpile of waste will be clearly marked in accordance with the current phase of treatment. The stages of treatment will vary on a site-specific basis but will be in general accordance with the following sequence: Untreated; Pre-treated screened waste; Pre-treated unmixed waste; Treated waste for storage, testing and re-use.
D. INSPECTION OF WASTES AND REMEDIATED MATERIALS FOR DESPATCH OR WASTE RECOVERY	All treated materials; whether for despatch or waste recovery on site will be inspected and tested to confirm their composition and compliance.
E. INCOMPATIBLE WASTES	Incompatible wastes will be removed off site to a suitable disposal facility.

B.6.1.1. Waste Control

All contaminated material, substances or products to be treated at the operating Site, by ex-situ treatment comprising sorting screening and segregation.

Waste will be inspected during excavation and on receipt at the stockpiling area to confirm their description and composition against the relevant accompanying documentation.

Wastes types will be kept separate from and will not be covered by or mixed with other contaminated material, substances or products until they have been confirmed and recorded for acceptance at the operating Site.

B.6.1.2. Waste Dispatch

Soil will be dispatched from the treatment area and re-used on site in the earthworks. The suitability for re-use will be confirmed following a robust sampling and laboratory testing protocol.

Conversion to tonnage will be based on data bulk density data available from the SI. In the absence of this, all volumes will be increased by a factor of 1.5 to give a tonnage.

In the event that samples are required they will be forwarded to a suitable laboratory accredited to the Environment Agency's Monitoring Certification Scheme (MCERTS).

B.6.1.3. Plant Maintenance Procedures

All mobile plant used for the treatment processes will be subject to routine maintenance in accordance with the Contractor PUWER requirements. The plant operator will be responsible for undertaking the maintenance or activities and for record making. The site manager will be responsible for ensuring the plant operators undertake the works and record keeping, and also for ensuring that the records are sent on a weekly basis to the Contractor head office. Records of all maintenance activities will be kept at the head office.

B.6.1.4. Waste Treatment Procedures

Prior to treatment, soil will be visually screened to determine suitability for the treatment plant. Large boulders and waste materials will be removed. The remainder of the soils will be screened to remove unsuitable waste material.

The waste will be treated by a process of screening sorting and segregation. ACM will be hand-picked by suitably qualified / trained operatives in accordance with CAR 2012 and relevant HSE Guidance L143 and (R.15 & R.16) and transferred to a dedicated asbestos skip for subsequent removal off-site.

Soils for screening will be handled in accordance with the following general procedure: -

- Either a 360^0 tracked excavator or wheeled loading shovel will be used for the loading of contaminated material into the screening plant;
- Loading of the screening plant must be carried out in a manner that minimises spillages; and
- Once all contaminated material has been screened the screening area will be decontaminated under the supervision of The Contractor and all contaminated materials arising from the operation will be treated appropriately.

Once the operation has been completed then all machinery is to be cleaned under the supervision of The Contractor and then inspected.

B.6.2. Untreatable, Unacceptable and Residual Wastes

Untreatable and unacceptable wastes will be transferred to an appropriate (dedicated) skip for subsequent disposal off-site to an appropriately licensed facility in accordance with the Duty of Care Regulations.

B.6.3. Quarantine Area

A quarantine area will be provided adjacent to the main stockpiling area.

This area will be clearly marked on-site and is provided for the storage of wastes that are considered unsuitable for the treatment process, or requiring reprocessing and /or testing.

The quarantine area will be constructed with an impermeable membrane with soil bunds around as shown in GEM-2309-001_P02_SIP, presented in Appendix 2 of the application documents.

The area will accommodate 250m^3 of soil. The location of the Quarantine area is shown on drawing Site infrastructure Plan and will be adjacent to but kept separate from the remainder of the soil stockpiles awaiting treatment.

The volume of 250m^3 is considered appropriate as it represents around 0.5 day of excavation, during which time appropriate measures will have been taken to cease operations and divert out of spec or untreatable wastes.

B.7. Conceptual Site Model (CSM) And Risk Assessment

B.7.1. Conceptual Site Model and Risk Screening

Refer to the ESSD report and Appendix 5 for the Environmental Risk Assessment for the Site.

B.7.2. Proposed Additional Control Measures

Due to the identification of an on-site Secondary A Aquifer and the proximity of the River Lee Navigation, the results of the risk screening have highlighted specific risk to groundwater and surface water. In response, detailed plans and risk assessments have been prepared with regard to groundwater and surface water. See GEMCO's Hydrological Risk Assessment (HRA) (R03).

B.8. Pollution Control

B.8.1. Introduction

The treatment processes will involve a treatment plant for the sorting, screening, mixing, particle size reduction, separation. The treatment plant will include a mobile screener, a picking station, and 360 excavators with rake buckets, specifically designed to screen, sort and separate material to facilitate the recovery of soil, soil substitute or aggregate for reuse.

B.8.2. Process Additives – Spillages and Leakages

There is no process additives involved in the treatment process.

B.8.3. Contaminated Leachates

The risk of encountering leachates is considered low as the process does not include any liquids and excavations are not likely to encounter groundwater. However, in the unlikely event that any leachates arise as a result of the process they will be directed through a series of catch pits and possibly oil/water

separator as required, to remove contaminants before disposal or re-use. If disposal is required this will be with the consent of the appropriate statutory authority.

B.8.4. Fuel and Other Hydrocarbon Storage

Fuel will be stored within the plant and equipment storage area shown on The Site Infrastructure Plan. Storage will comply with the Oil Storage Regulations 2001 and include a double-bunded fuel tank with a secondary containment of no less than 110% of the maximum contents. The tank will be placed on a secondary drip tray.

B.8.4.1. Prevention, Monitoring and Reporting

Bulk storage of diesel will occur in bunded tanks, in accordance with the Oil Storage Regulations. The bunds being sized to 110% of the tank, with lockable delivery points. All hoses will be kept within the bund walls.

The fuel storage tank will only be operated by staff that has had training in its use. Refuelling will always be supervised (i.e., plant will not be left unattended whilst fuel is dispensed).

Barrels of other hydrocarbon products used for plant maintenance activities will be kept in a bunded area which may comprise a drip tray able to contain 25% of the maximum volume of the drums stored within or 110% of the largest drum, whichever is largest. Where possible, the storage area will be in a secure compound.

The bund / drip tray will be checked for rainwater and defects on a weekly basis (or following heavy rainfall). Rainfall will be removed for offsite disposal. Defects will be repaired as soon as practicable.

A supply of spill kit will be retained on site (usually within the site office) in close proximity to the fuel and other hydrocarbon storage and use areas for use in the event of a spill. Minor spillages will be cleaned up by site staff with the used spill kit being removed from site.

Records of bund and drip tray monitoring and removals / repairs will be made in the site diary.

B.8.5. Vapours, Gases and Aerosols

The system does not include aerosols and waste aerosols. It is considered unlikely that the sorting and screening process would cause significant vapour and gas release. Significant vapour and gas release is unlikely based on factors such as the degree of the contamination, the nature of the geology and the type of anthropogenic material in the waste.

In the event of an unexpected release of vapours or gases from soils additional measures to be taken to reduce risks to within acceptable limits for the duration of the works. e.g. covering offending materials, cessation of activities, damping down.

Acceptable limits for vapour or gas release are given in Section B9.4.5 below. The monitoring (olfactory with portable PID meter) will be undertaken in the vicinity of the treatment area, at the area of excavation, and at the site boundaries.

Where additional measures are required as a result of a potential for vapour or gas release, when required and in extreme cases proprietary odour suppression equipment with deodorisers or suppressants will be used. In extreme cases the works will be suspended to allow the odours to dissipate.

B.8.6. Operating Site Engineered Containment and Drainage Systems

B.8.6.1. Treatment Area

The area to be used for the treatment of the soils will be located in the area shown on the Site Infrastructure Plan (SIP), Figure 5.

The treatment area will be located as shown on the SIP. Excavations are not proposed, at or below, the water table and leachate production is considered to be a low risk. Taking account of these factors, it is considered unnecessary to install a full specification engineered containment or drainage system. However, the waste will be treated and stored in an engineered containment system as detailed in Figure 3. Any run-off from the stockpile will be collected in the base of the system and re-circulated through the soils within the treatment area. The treatment zone has been located as far as practically possible from sensitive receptors to minimise nuisance of noise and dust.

B.8.6.2. Fuel and Other Hydrocarbon Storage

Within the site boundary a designated area will be provided for fuel storage. The fuel store is likely to be a storage bowser incorporating a double bunded storage tank in accordance with the Control of Pollution (Oil Storage) (England) Regulations. When dispensing a drip tray will be used to prevent any spillage to the underlying ground. When not in use the tanks will be stored within the fuel storage area as shown on Site Infrastructure Plan, Figure 5. Waste oils will be stored within a bunded area.

B.8.6.3. Waste Storage Area

The waste storage area will be located adjacent to the treatment area.

B.9. Emission Monitoring Plan

Detailed below are the actions to be taken to prevent, monitor and make records relating to potential emissions from the treatment process and the waste recovery operation. These actions will be reviewed on an operating site-specific basis, based upon the hazard assessment of the waste to be treated/ recovered and the presence of particular human and environmental receptors. Details are of the site-specific monitoring plan are presented in the sections below.

B.9.1. Monitoring Plan

A copy of the monitoring plan in accordance with Section 9 of the Deployment Form is provided in tabular form in Table B9.1 below.

Table B9.1. Monitoring Plan.					
Parameter	**Baseline Monitoring**	**Routine Monitoring During Site Work**	**Trigger Level and Units**	**Remedial Action**	**Comments**
Air Emissions Dust and Particulate	To be carried out prior to start of site activities	Visual daily assessment and directional dust gauges.	200mg/m2/day	Stop activities, dampen stockpiles and cover.	Location of monitoring: 1. Site boundaries with residential properties. 2.Vicinity of treatment area Plant operations can be suspended during periods of windy weather.
Noise	To be carried out prior to start of site activities	Daily Auditory monitoring. More frequent if working close to site boundaries	5 dB(A) above background at site monitoring points	Reduce use of plant at appropriate times of day to minimise nuisance. Use of silenced machinery. Change method of working to less noisy equipment if possible.	Location of monitoring: 1. Site boundaries with residential properties. 2.Vicinity of treatment area
Air Emissions Carbon Dioxide, Methane and VOC	Results of the SI have classified the in-situ waste as CS2.	Olfactory monitoring will be carried out on a daily basis. Additional monitoring will be undertaken with gas monitor when on-site.	1.5 % v/v of methane, 5% v/v of carbon dioxide and 10 ppm of VOCs at the site boundaries	Stop activities, dampen stockpiles and cover.	Location of monitoring: 1. Vicinity of treatment area. 2. Site boundaries with residential properties.
Groundwater Emissions Leachable Contaminants	Results of the SI identified determinand exceedances of Drinking Water Standards (DWS) and Environmental Quality Standards (EQS).	Groundwater monitoring will be undertaken on a weekly basis. Water samples will be collected and	Any worsening of the groundwater quality (with reference to baseline monitoring)	Stop activities, further investigation into source of contamination.	Location of monitoring: 1. Existing monitoring wells.

B.9.2. Control of Dust and Particulate Matter

The activities of treating stockpiled waste and excavation, movement and stockpiling of treated wastes have the potential to generate dust and particulate matter. All efforts will be made to minimise dust and where necessary dust suppression measures will be implemented to mitigate the risks of fugitive dust and particulate.

The nearby potential receptors are shown on the Site Infrastructure Plan (2309 GEM 001 P02- Appendix 2). All efforts have been made to locate the treatment area to minimise dust and nuisance during operation. The only vulnerable receptor to dust and particulate matter is the residential area located off-site to south-west.

B.9.2.1. Prevention

The wind direction will be noted in relation to any nearby receptors. Should the wind be blowing towards vulnerable receptors, an assessment of the strength of the wind and the likelihood of dust and particulate matter leaving the Site and reaching the potential receptor will be made. Should it be assessed that impact to the receptor may occur, mitigating measures will be employed. In extreme circumstances Site operations / treatment will not be carried out until conditions improve.

The sides and top of stockpiles containing the waste material will be appropriately profiled and the sides battered by an excavator bucket to seal the surface and hence reduce windblow. In general, dust suppression using misting systems will only be used as a last resort. The misting of stockpiles leads to heterogeneous moisture content: very wet on the outside compared to the inside.

B.9.2.2. Monitoring

Records of wind direction and a qualitative assessment of wind strength prior to the commencement of treatment works will be made in the daily log.

Visual monitoring of emissions will be undertaken throughout the waste treatment processes. The details of the control and trigger levels of dust and particulate matter are described in Table B9.2.1 below and Appendix 5 of this EMS document.

Typical monitoring could involve a control ("warning") point of dust or particulate matter being visible at the boundary of the treatment area, with the trigger point being dust or particulate matter visible at the boundary of the overall operating site.

Monitoring will be conducted each operational day following startup of the treatment plant and then once more throughout the day. Records of this monitoring will be made in the site diary. Monitoring will be undertaken by the Site Manager.

B.9.2.3. Asbestos Air Monitoring and Trigger Value

Monitoring of asbestos in the air will be carried out, prior to and at least once per week during treatment operations. The monitoring locations will coincide with the location of the static dust monitors given in Section B9.2.10 below. The results will be recorded in the Site diary.

The fibre counts from such monitoring would then be compared with the 'normal clearance indicator threshold of less than <0.1 fibres/cm^3 air over a 4-hour period. This is the control limit specified in regulation 2 of CAR 2012 (R.16 & R.17).

In the event that the fibre count is exceeded, works will be suspended until the cause of elevated fibre count is understood and necessary control measures in place.
Please note: the control limit is not a 'safe' level and exposure from work activities involving asbestos must be reduced to as far below the control limit as possible.

The asbestos air monitoring will be carried out by an UKAS accredited laboratory complying with ISO/IEC 17025:2005

B.9.2.4. Remedial Actions

Trigger levels are set for the site and given in Table B9.2.1 below. The actions to be taken at the time of non-compliance of a control or trigger point may include increased monitoring frequency at control point failure and an assessment as to why visible dust is present such as whether or not the plant is operating correctly or the wind speed or direction has changed since start up. Following a trigger point failure, it is likely that activities will cease whilst an assessment as to the reasons for failure and appropriate actions are undertaken. Records of such remedial actions will be made in the site diary.

Any complaints received regarding dust and particulate matter will be investigated and recorded using the complaints procedure outlined in Section F below.

B.9.2.5. Monitoring and Reporting of Meteorological Conditions

The management of the potential amenity impacts of litter, odour and dust and other particulates necessitates the monitoring and reporting of the meteorological conditions of wind speed and direction. At the start of daily operations and on at least one other occasion during the operational day, the qualitative monitoring of wind speed and direction will be undertaken and the findings recorded in the daily diary.

B.9.2.6. Monitoring Provision

The vulnerable receptors are neighbouring residential dwellings / properties and the surrounding plant life (as dust particles block out the rays of the sun which will essentially slow down activities such as photosynthesis) and the harmful effects to human health.

From a generic point of view, dust may arise in particular during excavation, screening and moving of stockpiles. To allow an assessment of these operations a dust hazard monitoring system will be in place for the duration of the treatment and will comprise the installation of directional dust gauges (DustScan Frisbee Gauge and Sticky Pad system).

The potential to generate dust & particulate will be dependant generally upon the weather conditions at the time. Risk mitigation measures will include dust suppression by water spray and bowser and covering of soils with suitable membrane.

If the generation of dust was perceived to be a potential risk to off-site receptors, mitigating measures would include 'damping down' the surface dust, essentially changing site conditions so that they are no longer optimum conditions for the production of dust. In extreme conditions site operations would cease until sufficient abatement measures are implemented.

B.9.2.7. Construction of the Dust Monitoring Point

DustScan will be used to provide directional nuisance dust monitoring data. The DustScan monitoring system (refer to www.dustscan.co.uk) uses a specially made adhesive collection slide mounted on a cylinder to monitor dust in flux at quarries, landfill and collection sites, and is considered to be a considerably more sensitive system than most deposit monitoring techniques. It has been tested against other methods, such as deposition gauges and found to be superior in defining dust composition and source direction.

The analytical process is reliable, non-subjective and repeatable. The Frisbee / sticky pad gauge is designed to be placed on the boundary of the site (potential source) and passively collect fugitive dust emissions. The plate below shows the typical construction of the monitor.

Plate 2: Example of Static Dust Monitor

B.9.2.8. Trigger Levels for Indicator Parameters (Dust)

The table below outlines the suggested trigger levels for depositional dust.

Table B9.2. Suspended Particulate Matter Suggested Trigger Value.	
Trigger Level - Dust Concentration	**Dust Assessment**
<100 mg/m^2/day	No problems
100-200 mg/m^2/day	Borderline
200-500 mg/m^2/day	Significant problem, complaints likely, dust suppression required
500 mg/m^2/day +	Gross dust problem, significant dust suppression likely

B.9.2.9. Dust Compliance Action Plans

Samples from the directional sticky pads are assessed for directional Absolute Area Coverage (AAC%) and directional Effective Area Coverage (EAC%), and for an indicative mass deposition rate. The tables below indicate an advisory nuisance threshold and the trigger levels.

Table B9.3. Dust Nuisance Thresholds.	
Determinant / method	**Nuisance Threshold**
Absolute Area Coverage	100 % over >45 consecutive degree radius for a 7-day period
Directional Effective Area Coverage	EAC to AAC ratio is >25%
Nuisance dust monitoring weekly average as specified by Dustscan	

On receipt of the analysis results a review of the mass deposition for the deposited /nuisance dust will be conducted. With respect to compliance of the suspended particulates the following table outlines the trigger levels.

In accordance with the Environment Agency technical guidance document M17 on 'Monitoring of particulate matter in ambient air around waste facilities' the dust limit will be set at 200mg/m^2/day. Action will be taken in the event that 'dust concentrations are assessed as being significant from visual observations or test results from dust monitoring, these actions will include suspension of activities.

Results from the DustScan monitors can also be converted to provide the data expressed as mass depositional value in accordance with the EA guidance. The following table provides trigger values as a mass deposition value for comparison with the EA guidance in Table B9.2.1 above.

In addition to the installed dust monitors, visual monitoring of dust will be undertaken by site management staff. Where windy conditions exist and there is a risk of fugitive dust migrating off-site dust suppression measures will be utilised

B.9.2.10. Location of Monitoring Points

Locations of the moveable dust deposit gauges are shown on the Site Infrastructure Plan (GEMCO 2309 001 P02, Appendix 2) as these are the closest receptors of potential dust. The dry foam Frisbee gauge is used as the part 1 method of BS1747. It was designed by Dr David Hall of Warren Springs and CIRIA and is proven to be 36% more accurate than the previous British Standard deposit gauge. It is an accumulative method, which is based on a monthly monitoring schedule for adequate sample collection.

The directional dust gauges will be located at the following approximate locations:

Table B9.4. Location of Monitoring Points.

Location of Monitors	Quantity	Reason
North-Eastern Site Boundary	1	Monitoring of dusts to golf course to the north
North-western Site Boundary	1	Monitoring of dusts to athletics centre
Eastern boundary of treatment area with adjacent housing area	2	Monitoring of dusts to adjacent to treatment area.
Western boundary. Of treatment Area	1	Monitoring of dusts at edge of treatment area to monitor impact on site boundary

B.9.2.11. Monitoring Protocol

Records of the location above monitors and the results will be kept in the site records maintained by the site foreman and will be made available to the Environment Agency for inspection.

The records of all monitoring and corrective actions taken will be available in the site office for inspection. On completion of site operations, the records will be retained at the offices of The Contractor. The records will be made available to the Environment Agency in accordance with the licence conditions.

B.9.2.12. Frequency of Monitoring

The DustScan gauges will be analysed every 14-20 days. Visual monitoring will be done as necessary but daily as a minimum.

B.9.2.13. Remedial Action Plan

In the event that:

- dust concentrations are assessed as being significant from visual observations and test results from dust monitoring i.e. over 250mg/m2/day

Dust suppression measures will be implemented and would involve dampening of stockpiles of materials stored on site and haul roads. If dust is still a persistent problem, due to adverse weather dust suppression measures employed and soil turning will cease. If the dust arises due to operational circumstances an alternative method will be utilised to minimise dust.

The Remedial Action Plan would be designed and operated to:

- prevent hazard/harm to human life, property or the environment; and
- Control and minimise any immediate risks of pollution of the environment ensure the immediate initiation of necessary investigations and management actions to identify, mitigate and remediate the causes of the exceedance.

Assessment of the dust produced will be done on a daily basis during active site works and records will be kept in the site diary. A copy of the records will be made available to the Environment Agency on a quarterly basis in line with the EA reporting periods.

The action plan will include cessation of operations and application of dust suppression at the operational site in the form of a jet wash; tractor towed water bowser or a water tanker for roadways and associated areas. Water for dust suppression is intended to be acquired from the site supply for the welfare facilities.

B.9.3. Control of Noise

B.9.3.1. Measures to Prevent and Minimise Noise arising from Mobile Plant Operations

The permitted works at the site form part of a construction scheme at The Wave, Meridian Way, London involving the construction of a sports and leisure facility. Other activities on site, being undertaken on the behalf of the developer, are as follows:

- • Enabling Works involving re-profiling of the site; and
- • Groundworks, involving construction of foundations, roads and infrastructure.

The level of noise arising from the permitted activities represents a minor contribution to the total noise that may be generated as a consequence of the construction activities.

The use of conventional plant and equipment for application of the treatment process means the risk posed to the local community is perceived to be similar to any operational construction site, provided site hours are adhered to. The treatment technology is generally applied in an outside environment and as such the risk posed to site operatives applying the process is also low. However, approved ear protection will be available for the comfort of site personnel.

The location of the waste on site and the treatment area is such that the effects of noise on the surrounding localities are judged to be low. Nevertheless, all measures to mitigate the effects of noise will be adhered to.

The sources of noise on the site are plant used for the excavation and screening of soil, which all meet UK & European dB Noise levels.

The equipment/ machinery used on site will be regularly checked/ maintained as described in Section C.1.3 of this report to assist in ensuring that the noise levels are within the parameters identified in Section 9.3.2 below.

Should The Contractor receive notification of noise pollution outside of the site from the Environment Agency, a noise and vibration management plan shall be produced and implemented upon approval by the EA. Should it be required, a noise impact assessment may be undertaken.

Should complaints be received an investigation would take place into the source of noise nuisance, and, if necessary, noise monitoring undertaken. Should the noise continue to exceed acceptable noise levels, suitable abatement measures will be implemented, such as restrictions in operational hours, use of alternative equipment etc. Any complaints received and action taken regarding noise at the site will be recorded and logged in the Site Diary.

Mitigating measures employed on-site to ensure that noise from plant and equipment does not become a problem will include the fitting of silencers on all vehicles used in accordance with manufacturers guidance and if deemed necessary, portable acoustic screens will also be employed on-site.

Noise levels will only be monitored if a problem is identified. If required monitoring will be undertaken on a daily basis using a hand-held noise meter and the results will be recorded and logged in the site diary.

B.9.3.2. Trigger Levels for On-Site Workers

The 'Control of Noise at Work' Regulations 2005 came into force in April 2006. The regulations define acceptable levels, levels to monitor, limit values, compulsory health surveillance, weekly averaging and tighter hearing protection controls.

The 2005 regulations lowered the acceptable levels of noise exposure, above which both employers and employees are required to take certain actions. This was based on medical evidence suggesting that people may actually be prone to damage from continuous noise exposure at levels as low as 70dBA.

Control of N@W Regulations 2005	
Lower Action Value (LAV)	80dB(A) Lep'd
LAV Peak Action Value	135dB
Upper Action Value (UAV)	85dB(A) Lep'd
UAV Peak Action Value	137dB
Exposure Limit Value (ELV)	87dB(A) Lep'd
ELV Peak Action Value	140dB

B.9.3.3. Location of Monitoring Points

Should monitoring of noise be required the following protocol will be implemented. The noise monitor is portable and therefore locations do not need to be static. As a minimum noise will be monitored at the same location as the dust monitors and are provided in **Table B9.2.3** above. Additional monitoring will be undertaken as required by the site manager or TCM. Baseline monitoring will be undertaken at a time when plant and equipment is not operational.

B.9.3.4. Trigger Levels at Monitoring Points

We would suggest the following noise criteria be achieved by the cumulative effect of all plant noise emissions as measured at 1m from the façade of any nearby dwelling:

Daytime (08:00 – 19:00 hours): 5dB(A) above background noise levels

B.9.4. Odour Emissions

The results of the SI have classified the Site as CS2 ground gas conditions. Simple olfactory monitoring will be undertaken and any odours noted will be monitored with an appropriate gas monitor. If odours emissions are occurring appropriate measures will be taken to mitigate the effects. This will include covering of stockpiles, backfilling of excavations and in extreme cases proprietary odour suppression additives.

B.9.4.1. Prevention

Where the soils are likely to give rise to odours, care will be taken to minimise the excavation of soils, furthermore, the location of stockpiles in relation to local receptors will be considered, as will wind conditions at the time of soils disturbance, in order to reduce the potential for adverse impacts to nearby sensitive receptors.

Where it is considered highly likely that odours will be generated, the Site will retain odour masking or neutralising equipment on site. This will be located in the site storage compound.

B.9.4.2. Monitoring

Olfactory monitoring (smelling with the human nose) and a gas monitor will be undertaken at the Site as required. The monitoring will involve checking at those site boundaries adjacent to sensitive receptors on a daily basis during treatment, to ensure that odours are not detectable. The results of the monitoring will be recorded in the site diary.

B.9.4.3. Remedial Actions

Should odour be detected at the site boundaries, soil moving or treatment activities will stop whilst the source of the odour is established. If appropriate, odour masking or neutralising equipment will be installed prior to works recommencing. These actions will be recorded in the site diary.

Any complaints received regarding odour emissions will be investigated and recorded using the complaints procedure outlined in the Section F below.

B.9.4.4. Control Of Odour Emissions

The Site was classified as CS2 ground gas conditions. The Site is a historical landfill and so the encounter of odorous materials is possible. Chemical analysis of the waste material indicated elevated levels of polyaromatic hydrocarbons and there is potential for putrescible materials within the waste.

Should it be a requirement that daily odour monitoring be undertaken or in the event that malodorous wastes are encountered the following standards detailed in Table B9.4.1 will be implemented.

Table B9.5. Standards for Monitoring and Control of Emissions of Odours and VOC.	
Activity	**Action**
a) Monitoring of methane, carbon dioxide and volatile organic compounds emissions	i) Olfactory monitoring of aerial emissions from the operating site shall be carried out: • by the manager or supervisor, at least once per day, at the site boundary situated downwind of the waste operations, and shall be recorded in the site diary; and • by staff supervising individual waste handling operations, during the carrying out of those operations.
b) Methane, carbon dioxide and volatile organic compounds emissions action plan	i) On detection or notification of aerial emissions of methane, carbon dioxide or volatile organic compounds that are or are likely to be transported beyond the operating site boundary, at such levels that they are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality, immediate action to be taken to stop the waste handling operations giving rise to the emission and to suppress the emission from the waste. ii) The incident and the remedial action shall be recorded in the mobile plant diary.

B.9.4.5. Trigger Levels for Methane and Carbon Dioxide

The Site is a historical landfill with potential for putrescible materials within the waste and therefore, there is potential for methane and carbon dioxide production. The results Site was classified CS2.

Trigger levels of 1.5% v/v for methane and 5% v/v for carbon dioxide have been allocated.

B.9.4.6. Trigger Levels for VOC's

Some contamination is present as polycyclic aromatic hydrocarbons in the range >C_{20}. One (1 no.) incident of benzene was present in the samples tested; this is not considered to be significant. In order to determine a suitable trigger level for the use of the PID a threshold level of 10ppm, based on EH40 TWA Table 1, has been adopted based on the potential presence of Naphthalene. This level also provides a conservative approach with other similar VOC's having TWA of around 50ppm.

Trigger Values for odour emissions have therefore been set at 10 ppm, to reflect the presence of the following compounds;

- Total Petroleum Hydrocarbons
- Polynuclear Aromatic hydrocarbons e.g., Naphthalene,
- Volatile and Semi-volatile organic compounds (SVOC's)

B.9.4.7. Odour Emissions Action Plan

If the identified trigger values are exceeded the following mitigating measures will generally be employed and controls are in place as described in the table below:

Table B9.6. Odour Emission Action Plan.	
Measures	**Specifications**
Prevention	No wastes of putrescible nature e.g. green waste and contaminated material from off-site source to be deposited at the site
Physical Containment	Covered soil piles
	Containment of any encountered leachate
Monitoring	Olfactory monitoring of odour
Actions	Implement control procedures

In extreme circumstances the odour nuisance would be addressed by the use of mist pumps attached to a spray bar system. The odour suppression system would deliver a specially formulated product to either neutralise or suppress the odour. If required the details will be forwarded to the agency for information.

If the material was assessed as being a nuisance and further treatment on site would not abate the odour problems then the material would be removed and disposed of at a licensed facility.

B.9.4.8. Baseline Monitoring Groundwater and Soil Gases

The monitoring of soil and groundwater has been undertaken as part of routine SI undertaken by Hydrock Ltd and the results are presented in the reports referenced in Table 1.1. The HRA (R**) concluded that the risks to controlled waters is very low, and risks from ground gas are low.

B.9.5. Control of Leachate into Groundwater and Surface Water

B.9.5.1. Prevention

Excavations are not proposed, at or below, the water table and leachate production is considered to be a low risk.

Any leachate or significantly leachable materials will not be used in the waste recovery. These materials will be segregated and removed to a suitable off-site waste facility.

B.9.5.2. Monitoring

The quantity and quality of the groundwater and soil data collected by the SI and presented in Appendix 4 of the application documents are considered suitable for baseline monitoring at the Application Site. Further discussed within the GERMCO HRA 2309 R03. It is therefore considered by GEMCO that further baseline monitoring is not necessary.

Monitoring will be undertaken throughout the treatment and waste recovery operation to ensure that the groundwater quality is not worsened by the earthworks and treatment. Groundwater samples will be taken from the monitoring points identified on the Site Infrastructure Plan, included at Appendix 2 GEM 2309 001 P02. These include an up-gradient and a down-gradient location.

Groundwater samples will be sent to an appropriate MCERTS accredited laboratory for chemical testing.

B.9.5.3. Remedial Action

Should it be identified that the groundwater quality is being worsened by the treatment and/ or waste recovery operation, works shall cease immediately and an investigation by an appropriately qualified person shall be undertaken to identify the source of the leachate.

B.9.6. Control of Litter

The waste is not expected to contain litter, on the basis of the age of the deposit and provenance, being largely construction / demolition type waste, rather than domestic or municipal solid waste. Sources of litter will be limited to activity generated waste associated with site operations. Wastes from site operations will be controlled by the adoption of good-housing keeping and the provision of appropriate disposal bins.

B.9.6.1. Prevention

Any litter arising will be collected and stored in a dedicated skip pending off site removal to an appropriately licensed facility. If the litter is considered to be prone to becoming windblown, the skip will either be of the sealed variety or will be netted.

B.9.6.2. Monitoring

The visual presence of litter within the operational site will be monitored on a daily basis. A record of the monitoring will be made in the site diary.

B.9.6.3. Remedial Action

Should litter be noted to be present it will be cleared by the end of the working day.

Any complaints regarding litter will be investigated and recorded using the complaints procedure outlined in this EMS document Section F.

B.9.7. Control of Pests, Birds and Scavengers

It is considered unlikely that the waste soils to be treated will be attractive to pests etc. as a form of food. Any such site may however, provide harbourage for such pests.

B.9.7.1. Prevention

Good housekeeping at the operational site should prevent pests etc. frequenting the site.

B.9.7.2. Monitoring

Visual monitoring of the site for the presence of pests will be undertaken on a weekly basis and the findings noted in the site diary.

B.9.7.3. Remedial Action

Should the presence of pests be suspected, a specialist sub-contractor will be employed to deal with the problem.
Any complaints regarding pests will be investigated and recorded using the complaints procedure outlined in Section F.

B.9.8. Fire Prevention Plan

There is no intention to treat or handle combustible wastes at the Site. No combustible materials are expected within the waste mass. There will be fuel stores onsite for fuelling plant and equipment. Fire extinguishers will be located at the fuel store and in the Site office.

B.10. Soil Erosion

The guidance requires evidence that the Waste Recovery operation will not result in any environmental detriment e.g. problems such as soil erosion will be mitigated by the implementation of a landscaping scheme (2309 VP3821SV Appendix 1, Development Drawings).

B.11. Flood Risk

The guidance requires evidence that the Waste Recovery operation will not result in any environmental problems such as increased flooding risk (2309 VP3821SV Appendix 1, Development Drawings).

B.12. Keeping Records

The following records will be routinely kept. Site records will be taken to The Contractor offices as soon as practically possible after creation of the record.

- Site Inspections (TCM)
- Daily Site Diary (Site Manager)
- Waste Returns (TCM / Site Manager)
- Monitoring Results (The Contractor Engineer / Site Manager / TCM)

All records associated with the site shall be kept for a minimum of six years in accordance with the requirements of the Environmental Permit.

B.12.1. Inspection Records

A copy of the inspection record to be used by the TCM is provided at 2309 VP3821SV Appendix 7.

B.12.2. Daily Site Diary

The Site Diary will be maintained by Site Staff and kept at the site offices, recording:

- Site opening times;
- Staff on site;
- Daily weather conditions;
- Incidents / abnormal occurrences;
- Details of waste treated;
- Details of recovered waste re-used;
- Record of inspections;
- Record of Site Visitors;
- Plant breakdowns; and
- Complaints / action taken.

B.12.3. Other Records

In addition to the Site Diary the following records will also be kept:

- Permits
- Environmental Management System;
- Plant Maintenance/ Inspections;
- Details of waste removed from site; and
- Reviews/ audits.

B.12.4. Reporting of Results

Monitoring results and waste returns will be made available to TCM on a weekly basis for the duration of the relevant works. These results will be made available for inspection on site and reported to the EA at the end of each reporting quarter as follows:

Environment Agency Reporting Periods	
Quarter 1	1 January to 31st March
Quarter 2	1st April to 30 June
Quarter 3	1st July to 30th September
Quarter 4	1 October to 31st December

C. SITE OPERATIONS

C.1. Commissioning, Operating and Maintenance Plan

C.1.1. General

The process to be employed at The Wave, London is the blending, mixing, bulking, screening, segregation, particle size reduction and / or particle separation in order to facilitate remedial action.

Specifically; the screening of soils and removal of fragments of Asbestos Containing material (ACM) and removal of deleterious materials, and crushing of oversize material to less than 125mm to produce recycled aggregate.

The treatment plant will be situated in the area shown on the Site Infrastructure Plan, GEM 2309 001 -P02. The soils will be treated using ex-situ methods involving the sorting, screening, segregation and removal of ACM fragments to affect a remedial action.

C.1.2. General Commissioning-procedure:

Before commencing the works, a full test of the plant will be undertaken to check that it is working correctly, efficiently and safely.

Mechanical: Testing of overall turning of the plant will be conducted on completion of the mobile installation. Electric motors will be checked that they are working and turning appropriately.

Electrical Equipment: All electrical lines will be fastened to the structure above head height and insulated. Moreover, above ground cabling will be arranged in a way that will remove any possibility of a potential safety hazard, by being fastened tightly and securely and taking a route which will pose no threat. These will also be insulated.

Hydraulic Equipment: Pumps and piping will be checked and tested to ensure that they are working correctly. Points of welding will be checked that they are adequately fixed and that no leaks are present in the pump housing or piping.

C.1.3. Maintenance procedure

Maintenance tasks are undertaken on an hourly, daily, weekly and monthly basis depending on the equipment/machinery being considered and on the material being treated. Moreover, experienced operators regularly check the progress of the contaminated material in the treatment process at each stage throughout the day, identifying and correcting any foreseeable maintenance problems.

The process will be undertaken in a designated treatment area as shown on the Site Infrastructure Plan, GEM 2309 001-P01,GEMCO Drawings, Appendix 2. After treatment and verification, the recovered material will be placed and compacted in the required area i.e., point of use.

C.1.4. Operating Site Engineered Containment and Drainage Systems

Excavations are not proposed, at or below, the water table and leachate production is considered to be a low risk. Taking account of these factors, it is considered unnecessary to install a full specification

engineered containment or drainage system. The treatment area has been located as far as practically possible from sensitive receptors to minimise nuisance of noise and dust.

C.1.4.1. Fuel and Other Hydrocarbon Storage

A designated area will be provided for fuel storage. The fuel store will be a storage bowser incorporating a double bunded storage tank with 110% of the tank's capacity in accordance with the Control of Pollution (Oil Storage) (England)

C.2. Contingency Plans

The following procedure(s) are to be implanted in the event that one of the following events occurs that may have an adverse impact on the environment:

- Breakdowns;
- enforced shutdowns;
- any other changes in normal operations, for example due to extreme weather.

C.2.1. Breakdowns

In the event of a breakdown of equipment forming part of the treatment and/or waste recovery process, the Site Manager will instruct staff to shut down operations to prevent any adverse impact to the environment. The reason for the breakdown will then be assessed and if possible, any necessary repairs will be carried out on site. If this is not possible, external contractors will be contacted to arrange repairs at the earliest available opportunity.

In the event that repairs are not possible a replacement for the broken-down equipment will be arranged.

C.2.2. Enforced Shutdowns

In the event of an enforced shut down or other unforeseen events, the treatment plant will be shut down and the fenced area secured.

Stockpiles of untreated soils will be 'back-bladed' and smoothed with the back of an excavator bucket to minimise wind blow. If necessary, stockpiles of soil will be covered.

C.2.3. Weather

In the case of adverse weather causing unacceptable emissions, operations will be suspended and the area secured until weather improves. No works will take place unless instructed by The Contractor Site Manager.

D. ACCIDENT PREVENTION AND MANAGEMENT PLAN

D.1. Purpose

The purpose of this plan is to identify potential emergency situations and potential accidents that can have an adverse environmental impact(s) and how to respond to them.

D.2. Scope

The scope of the plan is activities on the Company's operational sites and permanent locations that could potentially cause damage the environment.

D.3. Definitions

Minor Incident: An incident which may cause environmental damage, pollution or contamination if no action is taken to correct it.

Major Incident: An incident that has caused significant environmental damage, pollution or contamination or a breach of legal requirements.

D.4. Environmental Emergency Preparedness and Response Procedure

D.4.1. Emergency Preparedness and Response Planning

- Site Management will identify potential emergency situations and potential accidents relevant to their site and specify the relevant emergency response procedures;
- Site Management will prominently display within site offices the Environmental Incident Response Plan;
- Site Management will specify any response equipment required and ensure adequate stocks are kept in appropriate locations; and
- Site Management will inform operatives of the emergency response procedures on site.

D.4.2. Emergency Response

- All work should stop in the area of the incident;
- Attempt to control incident immediately – do not put the health and safety of yourself or others at risk;
- Report incident to the Site Manager as soon as practical;
- In the case of a major incident Site Managers should immediately inform their Contracts Director;
- In the case of a major incident with implications beyond the site boundary Contracts Director will notify the relevant authority and the client;
- Site Management will ensure that an Incident/Non-Conformance Report Form is completed for any minor or major incident and any corrective action deemed necessary is implemented; and
- Site Management will forward a copy of all Incident/Non-Conformance Report Forms to the Contracts Director, who will maintain an Incident/Non-Conformance Report Forms Register.

D.4.3. Testing and reviewing of emergency preparedness and response procedures

- The company has identified potential emergency situations and potential accidents within the Significant Environmental Impact Log and will undertake periodic reviews of the Log, in particular, after the occurrence of accidents or emergency situations; and
- The company will also periodically test such procedures where practicable.

E. A CHANGING CLIMATE

It is considered unlikely that Climate Change will affect our operations at The Contractor endeavour at all times to utilise equipment and products that are more environmentally sustainable.

By nature, the deployment of the Environmental Permit is a way of implementing the Waste Hierarchy and proposes to recover soils that otherwise would have been landfilled.

The Contractor endeavour to use the Best Available Techniques and up to date equipment to minimise the environmental impact of our activities.

There are no specific circumstances posed by the Site that would be affected by a changing climate.

F. COMPLAINTS PROCEDURE

Any complaint received by The Contractor will be recorded and investigated. Should the complaint be found to be justified, appropriate remedial actions will be taken and the actions recorded in the site diary.

The complaint will be reported to the TCM within 24 hours. The original complainant will be informed of the outcome of the investigation of the complaint and any actions taken within 5 workings days.

Details of each complaint, including the complainant's details, actions taken and outcomes, will be recorded on a complaint log, which will form part of the records of the site diary.

G. MANAGING STAFF COMPETENCE AND TRAINING RECORDS

G.1. Management

The Contractor's Environmental Manager will undertake audits of the site's performance against the Management System to ensure the site is operating effectively and compliant with any new regulatory or permit requirements. A regular review of the management system will be undertaken by management.

G.2. Site Operations - Minimum Staffing and Supervision

A full-time site supervisor will be present on behalf of The Contractor during operational hours with additional visits on a weekly basis by the project manager. The technically competent person will visit the site a minimum of one day per week or more frequently as required.

A copy of the MTL, Deployment Form and waste recovery permit will be available on the operating site for reference when required by site staff carrying out the work under the requirements of the MTL and bespoke permit. All staff will be (or will work under the direct supervision of a member of staff who is) fully conversant with those aspects of the licence/ permit conditions and deployment form that are relevant to their duties.

The arrival and departure time of the technically competent person(s) at the operating site will be recorded in the site diary.

G.3. Staff Training

The Contractor shall carry out all necessary training and maintain a Training Matrix for all staff.

All staff will be trained and competent to both manage and operate the Site to ensure compliance with the permits and this will be recorded through staff training matrix, tool box talks and staff training schemes as applicable. These will be reviewed and updated regularly as required. Any contractors working on site will also have the skills and knowledge they need and a contractor check sheet will be completed prior to commencing any works.

All staff working on permitted activities will be trained on what the management system means and their responsibilities and role within it. Copies of the permits will be kept on site in the main office for access at all times. In addition, each site will generally operate the following:

- Sign in sheet and plant allocations sheet to determine sufficient resource capability and capacity;
- Organogram for each project listing the roles and responsibilities of staff;
- Tool box talks will be regularly carried out to ensure staff are trained in aspects that can lead to pollution and the measures to be taken to prevent that pollution and accident and incident management; and
- Site induction for staff, visitors and contractors.

G.4. Plant And Vehicle Training

All operatives that are required to operate plant and machinery are suitably trained in its operation, safety and maintenance. This training is regularly monitored and checked by The Contractor's Site Manager. Staff will also be provided with regular tool box talks to ensure they are kept up to date with site activities.

H. REVIEW OF MANAGEMENT SYSTEM

The TCM will carry out a review of the Site Operations and Environmental Management System against the requirements of the Environmental Permits at least once during operations and on an annual basis.

The Contractor will also carry out an annual management review of the EMS and Occupational Health and Safety Management System. Internal Audits will be undertaken on annual basis.

The reviews are documented and records are kept in The Contractor's electronic filing system.

I. SITE CLOSURE

Site Closure will be achieved on completion of the treatment, verification and validation testing and the placement of the recovered soils in the proposed development.

The works will be validated in accordance with an agreed Remediation Strategy via the planning permission.

On completion and decommissioning the EA will be notified that activities at the Site have ceased.

J. AFTERCARE MONITORING

The proposed use following completion of the work is effectively a park with commercial spaces and temporary accommodation and amenity facilities.

As a deposit for recovery, there is no closure plan / closure process.

K. REFERENCES

R.1. Norwest Holst Soil Engineering, Ground Investigation at Picketts Lock HPC, Ref. F13229, May 2004
R.2. Hydrock Consultants Ltd, Desk Study Report, The Wave, London, Ref. WAV-HYD-DS-RP-GE-1000-S0-P1 September 2018
R.3. Hydrock Consultants Ltd, Site Investigation Report, The Wave, London: Siteworks Phase 1 Area, WAV-HYD-XX-XX-RP-GE-1000-S2-P02
R.4. GEMCO, Waste Recovery Plan, Ref: 2309 R01: Issue 2, 10th March 2025
R.5. GEMCO CSM and ESSD Report, Ref 2309 R02 Issue 1, 29th April 2025
R.6. GEMCO, Hydrological Risk Assessment, Ref: 2309 R03: Issue 1, 10th March 2025
R.7. Waste Framework Directive (2008/98/EC);
R.8. Environmental Permitting Regulations, SI 2014 255
R.9. The Hazardous Waste (England and Wales) Regulations 2005.
R.10. Waste (England and Wales) Regulations 2011.

Figure 1

Site Location Plan

Figure 2

Application Site Boundary

Figure 3

Layout of Engineered Containment Area