KISHOGE PART 10 APPLICATION – SITE 5

Construction Environmental Management Plan

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1 INTRODUCTION

RPS have been appointed to prepare a Construction Environmental Management Plan (CEMP) for the proposed Kishoge Site 5 Residential Development. The purpose of this CEMP is to provide a comprehensive framework for managing and mitigating environmental impacts during the construction phase. This plan aims to ensure that the construction activities are carried out in a manner that protects the environment and the well-being of the local community.

As a "live" document, it will be updated throughout the project's progression, incorporating any conditions attached to statutory consents granted for the development.

The primary objective of this CEMP is to establish the minimum environmental management requirements that must be adhered to during the construction phase of the proposed development. The plan aims to achieve the highest possible standards of environmental management, ensuring that construction activities are conducted responsibly and sustainably. By adhering to this CEMP, the appointed main contractor(s) and sub-contractors will ensure that the construction phase of the development is managed responsibly, minimising environmental impacts and promoting sustainable construction practices.

2 PROPOSED DEVELOPMENT

2.1 Background

The Proposed Development is situated within the Clonburris SDZ Planning Scheme boundary, which comprises 280 hectares of land. The Planning Scheme outlines that social and community infrastructure will be provided in tandem with the proposed provision of residential development. Recently, development initiatives have begun to transform the area, with the construction of a primary and secondary school to the northeast.

The Proposed Development consists of a social housing residential development on undeveloped lands referred to as Site 5 in Clonburris Strategic Development Zone (SDZ) in Co. Dublin. The site spans approximately 6.2 hectares and will consist of 236 no. residential units, comprising a mixture of:

- Three-bedroom houses;
- Two and three-bedroom duplexes and triplexes; and
- One and two-bedroom apartments.

Additionally, the development will include car parking spaces with electric vehicle charging points, visitor cycle parking, an ESB substation, high-quality amenity spaces, landscape works, SUDs measures, and all associated site development works.

The site is divided by Thomas Omer Way, into two sections as illustrated in **Figure 2-1**. Site A is situated on the south side of Thomas Omer Way, south-east of the R136 roundabout, with the Carline Learning Centre located to the north on the opposite side of the road. Kishoge Community College and Lynch's Park residential estate are located to the east of the Site A boundary.

Figure 2-1: Site Location

Site B is located on the northern side of Thomas Omer Way, to the south of Foxborough and west of the Tor an Rí housing estate. A new social housing development, Griffeen Court and Omer Walk, have recently been constructed east of the site.

It is understood that a traveller accommodation site previously occupied the site off Lynch's Lane/Northern link street to the south. An electrical transmission tower is located to the northwest of the same site. This is to remain *in situ*. Similarly, an electrical pylon is situated centrally north of Site B, which will remain *in situ*.

2.2 Site Location

The Proposed Development is located west of Dublin City and just off the M50, lying between Lucan, Clondalkin and Liffey Valley. The Kildare railway line borders the development to the south with the Grand Canal lying approximately 460 metres further south. On the southwestern edge of the property, the newly operational Kishoge Rail Station is found adjacent to the railway line and the Clondalkin-Fonthill station lies about 1.8km to the east of the property. The site will be accessed from Lynch's Lane, an existing access road off Thomas Omer Way. The land is zoned for Clonburris SDZ in the South Dublin Development Plan 2022 – 2028 (Development Plan).

Currently the land use within the vicinity of the site is predominantly residential in nature. Located southwest and along the edge of the broader SDZ lands is the Adamstown SDZ. To the southwest of the site, the Grange Castle Business Park can be accessed via the Grange Castle Road, offering significant job opportunities in the region.

3 ENVIRONMENTAL MANAGEMENT

The following sections set out measures required to protect and eliminate the potential for significant impact to the environment. These shall be carried out together with any relevant guidance documents and legislative requirements.

3.1 Roles and Responsibilities

3.1.1 The Contractor

The appointed contractor(s) will be responsible for organising, directing, and executing all environmental activities during the detailed design and construction phases of the proposed development. The contractor must carry out all activities in compliance with relevant environmental requirements, including consent documentation and other regulatory and contractual obligations.

3.1.2 Site Manager

The contractor will appoint a Site Manager to oversee the daily management of the work areas within the site, ensuring that construction activities are carried out effectively, safely, and according to plan, maintaining the highest standards. This Site Manager will be a qualified, competent, and experienced professional responsible for managing site logistics, regularly communicating with construction staff, conducting project-specific inductions for on-site personnel, and ensuring all work complies with relevant design standards and health and safety regulations.

3.1.3 Environmental Manager

The contractor will appoint an Environmental Manager to ensure the effective implementation of the CEMP. This individual will be a qualified, competent, and experienced professional responsible for performing necessary tasks, reviewing environmental procedures, and consulting with the construction team and stakeholders as needed. The Environmental Manager's responsibilities will include:

- Maintaining and implementing the CEMP.
- Establishing, implementing, and maintaining the EMS in accordance with ISO 14001.
- Conducting regular environmental inspections and audits as specified in the contract and ensuring adherence to the CEMP.
- Ensuring construction activities comply with relevant environmental requirements and that compliance is properly recorded and documented.
- Completing site inspections and compiling monthly environmental compliance reports.
- Attending site and stakeholder meetings as required.
- Staying updated with relevant environmental best practices and legislative changes.
- Liaising with relevant staff to prepare Method Statements (MS) and plans for activities with potential environmental risks.
- Possessing detailed knowledge of all environmental information related to the proposed development.
- Ensuring all personnel, including subcontractors, receive adequate environmental inductions, awareness briefings, and training.
- Handling environmental complaints.
- Managing and responding to environmental incidents, ensuring all incidents are appropriately recorded and reported.

3.2 Training

3.2.1 Environmental Awareness Training

All personnel on site, including Contractor's own staff, Employer's Site Representative Staff and sub-contractors, will receive a Health and Safety Induction before being allowed on site. All Health and Safety Training will be in accordance with the relevant legislation and with the Contractor's Health and Safety Policies and management systems.

Environmental requirements will be explained to staff during a site induction to be held prior to beginning of construction activities. Additionally, ongoing instruction will be provided during 'toolbox' meetings, where project issues are discussed. The meetings are usually held at or near project site, on the morning before work begins. Important information and instructions discussed during the meeting would be recorded.

Project personnel will receive suitable environmental training to ensure they are aware of their responsibilities and are competent to carry out their work in an environmentally acceptable manner. This training will include:

- Promoting awareness of site-specific environmental topics;
- Reporting responsibilities for environmental incidents;
- Contingency and emergency planning;
- Environmental responsibilities and reporting procedures;
- Environmental policies; and
- Information within the CEMP and associated method statements including significant project aspects, impacts and controls.

3.2.2 Emergency Response and Environmental Incidents

The Contractor shall produce an Emergency Response Plan (ERP) which will include:

- Proposed training of relevant staff, including cover staff, in the implementation of the ERP and the use of spill kits;
- A method which will ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, and Contractor is required to prepare a contingency plan for before and after such events;
- The details of procedures to be undertaken by the Contractor in the event of the release of any sediment into a watercourse, or any spillage of chemicals, fuel or other hazardous wastes or other such risks that could lead to a pollution incident, including flood risks;
- A confirmation of the number and specification of spill kits which shall be carried by the Contractor, as a minimum; and
- Information on clean-up procedures to include the following: Contractor will immediately initiate appropriate clean-up operations and notify the site manager and environmental team/specialist of any sediment releases, hydrocarbon leakages or spillages during the construction activities;
    - The Contractor will contain the bulk of the spill immediately using a spill kit before placing the contaminated absorbent material and the contaminated soil in a stockpile at least 50 m from, and downslope of any watercourses; and
    - All contaminated material will be underlain and covered by plastic to prevent leachate generation, until such time as it can be removed off-site by an appropriately licensed waste management company.

3.3 Working Hours

Construction activities near residential properties will operate between 07:00 and 19:00 from Monday to Friday, and between 08:00 and 13:00 on Saturdays, subject to approval from South Dublin County Council (SDCC). There will be no activity on Sundays or Bank Holidays.

If additional or alternative working hours are needed, a request for permission to work outside these hours will be submitted to SDCC at least five working days in advance. This request will include a detailed case with an engineering report explaining the need for extended hours, along with proposed dates and times.

All affected residents and stakeholders will be notified upon approval of any extended working hours, including the reasons for the changes.

3.4 Communications Procedure

The contractor will make every effort to engage with local community stakeholders, particularly those impacted by the construction activities, such as residents, businesses, community resources, and vulnerable groups.

Communication with the local community, SDCC, and other relevant stakeholders will be maintained at suitable levels and frequencies throughout the construction period. Irish Water will develop a Communications Management Plan outlining the contractor's responsibilities for community and stakeholder engagement. For communications concerning environmental issues, the Environmental Manager will be informed and involved as necessary.

3.4.1 Advance Notice of Works

The contractor will ensure that local residents, businesses, occupiers, general users of the area, and stakeholders are informed in advance of any construction activities that may affect them. The detailed CEMP(s) and the Communications Management Plan will outline the relevant obligations and procedures for providing advance notice of works.

All notifications will specify the nature of the work, estimated duration, and working hours. They will also include a project-specific contact number for any inquiries. The contractor will be responsible for preparing and issuing these notifications, subject to the necessary approvals and consents.

In consultation with SDCC and statutory stakeholders, Irish Water and the contractor will determine whether additional targeted consultations with the public or relevant stakeholders are needed before specific construction activities commence locally.

3.4.2 Enquiries and Complaints

The contractor will set up a process to manage all inquiries, including complaints. Each inquiry will be recorded, and a log will be maintained detailing the response and actions taken. This log will be available for inspection by SDCC upon request. All inquiries, whether they are questions or complaints, will be addressed promptly.

Any environmental-related issues raised will be immediately reported to the Environmental Manager. When necessary, the Environmental Manager will inform SDCC, relevant stakeholders and statutory bodies.

3.4.3 Complaints Management

To reduce the likelihood of complaints, the Contractor will designate a specific contact person to handle all communications related to public nuisances throughout the project construction works. This person will address any queries, complaints, or formal correspondence regarding noise and vibration. Additionally, the Contractor will inform local residents about upcoming works to minimise perceived noise impacts. The SDCC Site Manager will serve as the primary contact for public inquiries and will be responsible for monitoring complaints, such as those related to odour.

A complaints procedure will be maintained by both the Contractor and the SDCC Site Manager throughout the project. Upon receiving an environmental complaint (e.g., noise, dust), it will be promptly logged in the Environmental Complaints Register. The register will include details such as:

- Name of the complainant;
- Nature of the complaint;
- Date and time of complaint; and
- Action taken as a result of the complaint.

The Complaints Register shall include a log of any written complaints received relating to environmental matters. This register shall be subject to review by the Contractor.

3.4.4 Internal Communications

Environmental issues on the project will be communicated internally through regular monthly meetings and reports. A key component of the environmental communications program is to train and raise awareness among project staff, ensuring staff are well-informed about the environmental aspects of the project.

3.4.4.1 Environmental Reporting Requirements (Contractor)

The Contractor will regularly generate routine environmental reports throughout the project. These reports, prepared by qualified personnel using standardised templates, will be submitted to the SDCC Site Manager. The details of these reports are outlined in **Table 4-1**.

Table 3-1: Environmental Reporting Requirements

Report	Description
Monthly Environmental Progress Reports	A written log of the environmental performance of the works. The report shall summarise environmental events for the period and include details on environmental incidents and complaints, environmental data such as waste and fuel, environmental monitoring details and areas of concern moving forward on the project.
Environmental Monitoring Reports (Monthly)	A summary report containing the details of environmental monitoring for the period on aspects such as water quality, dust, noise.
Environmental Incident Reports	A summary report detailing the cause and extent of a particular environmental incident. The report shall include a description of the remedial measures carried out and any recommendations following the incident to avoid future occurrence.
Environmental Audit Reports	A written log of the findings of environmental audits carried out and the actions required closing out any non-conformances.

4 TRAFFIC MANAGEMENT

A Traffic Management Plan (TMP) will be prepared in advance of the construction phase for the Proposed Development. The principal objective of the TMP is to ensure that the impacts of all building activities on both the public (off-site) and internal (on-site) environments are fully considered and proactively managed. This approach respects key stakeholders and ensures the safety of both the public and construction workers at all times, minimises disruptions, and maintains a controlled, hazard-free environment. The impact of the construction period will be temporary in nature.

All on-site construction activities will be governed by the TMP, the details of which will be fully agreed with SDCC prior to the commencement of construction activities.

Haul routes have been designed to accommodate all traffic during the Construction Stage. Construction traffic will only be generated on weekdays (07:00-19:00 hours, subject to planning permission conditions) and will include:

- Private vehicles owned and driven by site construction staff;
- Construction vehicles; and
- Delivery vehicles.

On-site employees will generally arrive before 08:00, avoiding the morning peak hour traffic, and will generally depart after 16:00 hours. Deliveries will be actively controlled and will arrive at a dispersed rate throughout the working day.

An appropriate control and routing strategy for HGVs will be implemented for the duration of site works as part of the TMP. Roads with weight/height restrictions will not be used for HGV routing during the construction phase.

A significant benefit of the development site's characteristics is that all construction traffic vehicle parking demands can be accommodated on-site, thereby minimising the impact on the operational performance and safety levels of the adjacent public road network.

Given the site's proximity to the strategic road network and the implementation of a detailed TMP, it is concluded that construction traffic will not cause significant traffic concerns or impede the operational performance of the local road network and its surrounding junctions. Construction traffic will access Site 5 via Thomas Omer Way.

The scheme will be constructed in a manner that minimises disruption to road users, local residents, and businesses. All construction works will be undertaken in a clearly delineated site area with specific entry and exit points for construction traffic.

5 ENVIRONMENTAL MANAGEMENT MEASURES

The following sections set out measures required to protect and eliminate the potential for significant impact to the environment. These shall be carried out together with any relevant guidance documents and legislative requirements.

5.1 Ecology

5.1.1 Biodiversity

In order to comply with relevant guidance (e.g. NRA 2005, 2006, 2008) and legal requirements (e.g. Wildlife Act 1976 (as amended), EU Habitats Directive, and EU Birds Directive), a pre-construction and during construction protected biodiversity (protected flora and fauna, and their habitats) measures shall be implemented.

5.1.1.1 Pre-Construction Phase

Pre-construction phase the appointed contractor must ensure that:

- A pre-construction biodiversity walkover survey (carried out by a suitable qualified ecologist in the optimal season (see NRA, 2008) shall be carried out no more than 10-12 months in advance of construction activities;
- Any measures identified during the pre-construction biodiversity walkover survey (e.g. root protection areas for tree, standoff areas from badger setts, and requirements for derogation licences) shall be fully implemented pre-construction; and
- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and a licence from the Wildlife Licencing Unit of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht), may be required.

5.1.1.2 Construction Phase

During construction phase the appointed contractor must ensure that:

- Any measures implemented as a result of the pre-construction biodiversity walkover survey (e.g. root protection areas for tree, standoff areas from badger setts, requirements for derogation licences) shall be fully maintained during construction;
- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and a licence from the Wildlife Licencing Unit of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht), may be required; and
- If protect flora and/or fauna are encountered during the construction, works will immediately be stopped, and the site manager

5.1.2 Invasive Species

The presence of invasive alien plant species has the potential to lead to an offence under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). Regulation 49 of the 2011 Regulations prohibits (unless under licence) the breeding, release, or allowing or causing the dispersal from confinement of any animal listed in the Third Schedule of the Regulations; or the planting, allowing or causing dispersal, and spreading of any plant listed in the Third Schedule.

It is an offence to plant or encourage the spread of any third schedule invasive species by moving contaminated soil from one place to another or incorrectly handling and transporting contaminated material

or plant cuttings. Persons must therefore take all reasonable steps and exercise due diligence to avoid committing an offence under the 2011 Regulations (as amended).

The Ecological Impact Assessment identified a small patch of Spanish Bluebell *Hyacinthoides hispanica* (or potentially a hydrid bluebell species) within the site. This species is listed on the third schedule of the European Communities (Birds and Natural Habitats) Regulations 2011), which makes it an offence to cause it to spread. There is a potential for this species to spread throughout the proposed development site during construction phase, which would constitute an offence under the EC (Birds and Natural Habitats) Regulations 2011 (as amended).

No Japanese knotweed or any other Schedule 3 invasive species were recorded within the site.

5.1.2.1 Pre-Construction Phase

Pre-construction the appointed contractor must ensure that:

- A pre-construction survey (carried out by a suitable qualified ecologist/invasive species specialist in the correct botanical season: e.g. April - September) shall be carried out in advance of construction activities;
- An Invasive Species Management Plan (ISMP) shall be prepared by a suitable qualified ecologist/invasive species specialist pre-construction. The ISPM will include management protocols for dealing with occurrences of scheduled invasive species; and
- Where a scheduled invasive species is accidentally introduced or becomes established within the proposed development site during pre-construction surveys and/or the construction phase, works shall be immediately halted and an effective exclusion zone will be erected (minimum 7 m) until such time that a suitably qualified ecologist/invasive species specialist can assess the site(s), and implement the required management protocol (as set out in the ISMP).

5.1.2.2 Construction Phase

During construction the appointed contractor must ensure that:

- An Invasive Species Management Plan (ISMP) shall be prepared by a suitable qualified ecologist/invasive species specialist pre-construction. The ISPM will include management protocols for dealing with occurrences of scheduled invasive species;
- All machinery entering the site during construction activities shall be free from contamination with scheduled invasive plants. This can be achieved through wheel wash stations for vehicles entering and exiting the proposed development site;
- The materials which are introduced to the site during the construction shall be free from scheduled invasive species, with certification of such; and
- Where a scheduled invasive species is accidentally introduced or becomes established within the proposed development site during pre-construction surveys and/or the construction phase, works shall be immediately halted and an effective exclusion zone will be erected (minimum 7 m) until such time that a suitably qualified ecologist/invasive species specialist can assess the site(s), and implement the required management protocol (as set out in the ISMP).

5.2 Noise and Vibration Management

During construction, the contractor should adhere to relevant legislation and guidelines, including:

- BS 5228: 2009: Code of Practice for Noise and Vibration Control on Construction and Open Sites (Parts 1 and 2); and

- Safety, Health and Welfare at Work (General Application) Regulations 2007: Part 5, focusing on noise and vibration.

There is likely to be an increase in noise levels at sensitive locations around the site, depending on the equipment used. The BS 5228 standard outlines noise limits for the duration of the works, which will be agreed upon with SDCC before starting. Any deviations from these limits require prior written approval from SDCC. A summary of these noise and vibration limits for the duration of the construction phase are shown in **Table 5-1**.

Table 5-1: Noise Limits for Off-site Works as measured at the facade of dwellings

Days and Times	$L_{Aeq\ (1hr)}$ dB	$L_{pA(max)\ slow}$ dB
Monday to Friday 07:00 to 19:00hrs	70	80
Monday to Friday 19:00 to 22:00hrs	60	65
Saturday 08:00 to 16:30hrs	65	75
Sundays and Bank Holidays 08:00 to 16:30hrs	60	65[1]

Mitigation measures will be implemented throughout the construction phase of the Proposed Development to minimise the impact to sensitive local receptors. These measures include:

- Fit machines with effective exhaust silencers and maintain them in good working order;
- Use sound-reduced models for major compressors with properly lined and sealed acoustic covers;
- Shut down machines when not in use;
- Avoid unnecessary revving of engines and switch off the equipment when not in use;
- Place ancillary plant like generators and compressors behind acoustic barriers and direct noise emissions away from sensitive areas;
- Handle materials to minimise noise emissions;
- Use task-specific and quiet plant and machinery where available;
- Use sound-reduced models for major compressors with properly lined and sealed acoustic covers;
- Prefabricate offsite where possible;
- Maintain internal haul road in good condition;
- Highlight significant noise and vibration activities in method statements or risk assessments and demonstrate mitigation measures; and
- Schedule noisy or vibrating activities to minimise disruption to local stakeholders.
- Monitor noise levels and record any exceedances or complaints.

Residents will be informed of construction activities based on a noise modelling exercise to determine who is likely to be affected. A record system will be in place to address noise issues, with efforts made to resolve any complaints from nearby residents.

[1] https://assets.gov.ie/79930/5570d8a0-22fb-4bf9-b690-0bfca5f8ece6.pdf

5.3 Air Quality Management

Construction activities at the Proposed Development can have a significant impact to air quality. These activities include:

- Site clearance;
- Excavation;
- Earthworks;
- Construction Plant;
- Vehicles movements; and
- Material transportation.

The potential for dust emissions is influenced by the specific construction activities and the surrounding environmental conditions, such as rainfall, wind speed, and wind direction. The impact of dust is also influenced by the proximity to sensitive areas and whether the wind can transport the dust to these locations. Generally, most of the dust settles near its source. Dust from the proposed works could cause disturbances and health issues to local receptors. During the construction phase, the contractor will take all reasonable measures to prevent or minimise dust emissions. These measures include:

- Where practicable on-site, vehicles will travel on hard surfaced areas to significantly reduce dust emissions;
- A wheel washing facility with water collection and filtering will be established before discharging to the surface water management system. Gate security staff will inspect vehicle cleanliness before they leave the site. During initial site setup, a mobile wheel washing vehicle will be available if needed. This facility will minimise dust transfer onto nearby roads and prevent dust buildup on surfaces;
- Site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance, during period of dry weather;
- Roads within and adjacent to the site will be regularly clean by road sweeping vehicles;
- Storage areas will be oriented to minimise wind-generated dust emissions, considering the prevailing wind direction;
- Fixed and mobile water sprays will be used to control dust emissions from material stockpiles and hard surfaces during dry or windy weather; and
- A daily inspection program will ensure dust control measures are effectively managed and operational.

A dust monitoring program will be implemented for the duration of the construction phase to ensure compliance with relevant standards and limits. Dust emissions from construction activities will not exceed 350 milligrams per square meter per day, averaged over 30 days (Bergerhoff Gauge) as per planning permission conditions.

5.4 Water Quality Management

Construction activities will be conducted with methods designed to protect surface and groundwater quality. The main risk to water quality includes concrete leachate, accidental spills and leaks and suspended solids.

- Surface Water Management:
    - Sediment-laden surface water runoff will be managed using sediment retention ponds, surface water inlet protection, and fencing with signage;
    - Exclusion zones and earth bunding will be established near open drainage ditches to regulate surface water discharge;
    - Groundwater extracted from excavations will be directed to on-site settlement ponds;
    - Runoff from vehicle wheel wash areas will be channelled to on-site settlement ponds;

- On-site settlement ponds will be equipped with geotextile liners and riprap inlets and outlets to prevent erosion;
- Surface water discharge points during construction will be agreed upon with SDCC's Environment Section before starting on-site work;
- Excavation and topsoil stripping will be planned with consideration of weather conditions and seasonal variations to minimise soil erosion;
- Construction materials must not be stockpiled within 5 meters of any watercourse or water-laden channel. Excess material stockpiles will be managed appropriately to prevent siltation of watercourses;
- Excavations will be left open for the shortest possible time to avoid acting as channels for surface water flows;
- All ready-mixed concrete will be delivered to the site by truck. A risk assessment for wet concreting will be conducted before starting the work, including measures to prevent the discharge of alkaline wastewater or contaminated stormwater into the underlying subsoil. Wash down and washout of concrete transport vehicles will occur at an appropriate offsite facility; and
- Concrete will be contained and managed to prevent pollution of watercourses. Concrete pouring will be avoided during heavy rainfall, and quick-setting mixes will be used.

- Accidental Spills and Leaks:
  - To prevent contamination of surface and groundwater, all oils, fuels, paints, and other chemicals will be stored in a secure, bunded hardstand area with a capacity of 110% of the largest tank or container;
  - Refuelling and servicing of construction machinery will occur in a designated hardstand area, away from any surface water inlets, unless these activities can be performed off-site. Drip trays will be used, and spill kits will be readily available;
  - Regular inspections of on-site machinery will be conducted to prevent leaks and ensure no contamination of watercourses;
  - Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for proper disposal or recycling; and
  - An Emergency Response Plan, prepared by the contractor before construction, will outline procedures for handling spills of chemicals, fuels, or hazardous wastes. Spillage kits will be available, and construction staff will be trained in emergency procedures and the use of the equipment.

5.5 Waste Management

The Contractor must develop a Resource & Waste Management Plan (RWMP) for the Proposed Development. When preparing the RWMP, the Contractor must consider any relevant planning permissions, legislation, and industry best practices, including the EPA's 2021 guidelines on creating Resource & Waste Management Plans for construction and demolition projects.

All works conducted as part of the Proposed Development will adhere to relevant statutory legislation, including the Waste Management Act and Local Government (Water Pollution) Acts. The contractor will fully comply with the Environmental Section of the Local Authority.

The disposal of waste during construction phase of the Proposed Development, including bulk excavation, will be managed to maximise environmental and developmental benefits from surplus materials and to minimise adverse disposal effects. The waste management hierarchy (Figure 5-1), which prioritises waste prevention, reuse, recycling and recovery over landfill disposal, will be followed.

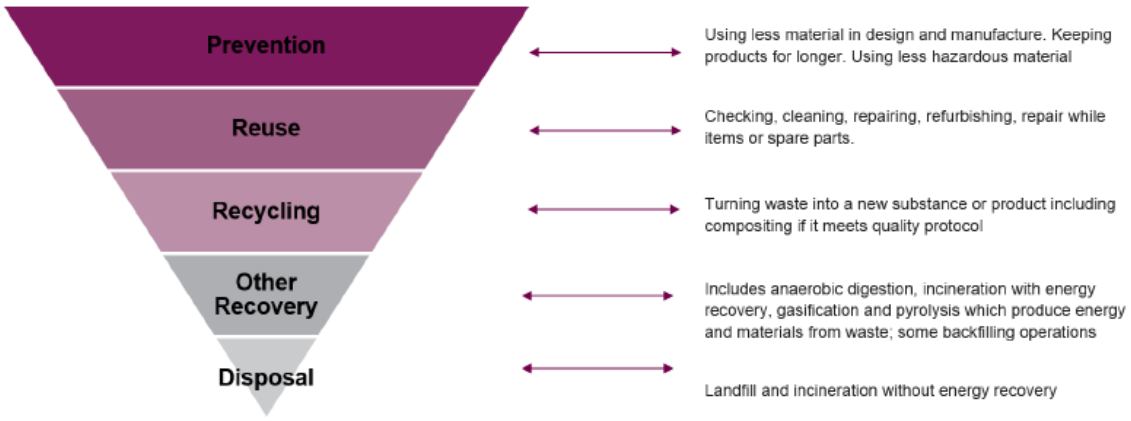

Figure 5-1: Waste Management Hierarchy

Construction waste management measures will form the core strategy throughout the construction phase of the Proposed Development. Materials will be reused wherever possible. Excavated material from development sites should be reused on-site where appropriate. If clean/inert excavated soil is found, the site manager will explore whether nearby construction sites require clean fill material to minimise transport costs and maximise material reuse. Any material used on another site will comply with Article 27 of the European Communities (Waste Directive) Regulations 2011. This reduces the impact on new resources and carbon emissions associated with the extraction, manufacture, and transportation of materials to the site.

The contractor will aim to minimise the generation of on-site waste and promote reuse, either directly or through recycling, by monitoring waste and setting targets. Recyclable materials such as metal, timber, cardboard, and office paper will be placed in color-coded bins for collection by the appropriate contractor.

Waste reduction measures include:

- Minimising raw material waste through design and construction technique analysis;
- Liaising with suppliers to return packaging materials for reuse, utilising off-cuts where possible, and recycling off-cut materials;
- Engaging contractors to maximise the use of recycled aggregates for hardcore;
- Keeping the site entrance clean to minimise dust and watercourse pollution;

To comply with legislative requirements, only local authority-licensed waste haulers and contractors will be permitted to collect and remove waste from the site. All waste will be deposited at a licensed waste facility, and waste delivery dockets must be completed and submitted to site management for record-keeping.

Waste materials shall be stored in designated waste storage areas that are isolated from surface water drains. The contractor will ensure that the proposed waste storage area(s) for the Proposed Development is adequate for the storage and handling of waste.

- Stockpiles (for soil and stone, aggregates, etc.), skips (for metals, wood, glass, etc.) or secure containers for hazardous materials will be assessed throughout the project to ensure they are fit for purpose and are suitably contained, bunded or defined as required;
- Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage;
- The waste storage area will be set out to reduce any potential for impact on sensitive human and natural receptors and a suitable buffer will be applied to mitigate any impact where necessary;
- Labelling and signage shall be used on site to inform personnel of key waste storage area requirements and restrictions, with clear signage provided on all waste storage areas; and
- Signage is also required to provide information to assist good resource practice across the site

6 MONITORING AND AUDITING

The following environmental monitoring system will be carried out to ensure that management requirements are being implemented and are meeting their objectives:

- The proposed works will be supervised by the appointed contractor. The contractors appointed Site Representative (CSR) will be obliged to liaise and report on the progression of works and the implementation of mitigation within the proposed construction site;
- Each MS prepared shall assign responsibility and monitoring duties to named staff. Training for each member of staff on their specific area of responsibility shall be carried out before the commencement of that operation. A record of all training carried out shall be maintained in the MS;
- Toolbox talks will be provided on the CEMP to all site staff immediately before works commence. The subject shall be the measures that have been put in place to protect the environment and the procedures, monitoring and recording that is to be undertaken in accordance with the MS. Site personnel will also be made aware of the ecological sensitivity of the site and its surrounds;
- Site boundary inspections to ensure intact and no breaches from either side, i.e. that site personnel are not crossing to the landowner side;
- All mitigation/ control measures shall be inspected daily by designated contractor staff with maintenance and repairs carried out immediately;
- Inspection of all waste generating locations, e.g. building demolitions, to ensure waste is being handled in accordance with Waste Management Plan;
- Inspection of Temporary Traffic Management Operations;
- Continuous monitoring of Noise and Air Quality during construction operations;
- Environmental Checklists shall be prepared for each operation. Responsibility for completion of these checklists will be assigned to individual members of the contractor's staff;
- All environmental monitoring and checklists shall be recorded and added to the CEMP; and
- All mitigation/control measures shall be inspected daily by site management with maintenance and repairs carried out immediately.

6.1 Auditing

The objectives for auditing are as follows:

- Ensure that environmental objectives of the project are fulfilled; and
- Assess the implementation of and compliance with the environmental requirements for the project.