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Confey, Leixlip LRD

Resource and Waste Management Plan

21 July 2026

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Dublin Office
Wave Dynamics
Block 5, 1st Floor,
Airvista Office Park,
Santry, Dublin 9
D09 A3X2

Wexford Office
Wave Dynamics
Unit 14 Enterprise Centre,
Gorey Business Park,
Ramstown Gorey,
Co Wexford, Y25 Y2C8

Cork Office
Wave Dynamics
Cube Building,
Monahan Rd,
Cork,
T12 H1XY

Phone (DUB/Wex): +353 (0)1 9125070
Phone (Cork): +353 (0)21 2032017
Phone (UK): +44 20 8157 2967
Email: info@wdacoustics.com
Web: www.wdacoustics.com

Executive Summary

Wave Dynamics was engaged by Leixlip and Newbridge SPV Limited to prepare this Resource and Waste Management Plan (RWMP) for a proposed Large-Scale Residential (LRD) development on lands at Confey, Leixlip, Co. Kildare.

The Proposed Development:

The development will comprise a LRD on a site at Confey, Leixlip, Co. Kildare. The proposed development provides a total of 125 residential units, comprising 81 no. houses, 22 no. duplex units and 22 no. apartments. The housing element consists of a mix of semi-detached and terraced dwellings, including 56 no. 3-bedroom houses and 25 no. 4-bedroom houses, ranging in height from 2 to 3 storeys. The development includes 22 no. duplex units within 11 duplex blocks, comprising 11 no. 2-bedroom and 11 no. 3-bedroom duplex homes, arranged over 3 storeys. The apartment element comprises 22 no. units within a single apartment block of up to 5 storeys in height, consisting of 5 no. 1-bedroom apartments and 17 no. 2-bedroom apartments. Provision of car, cycle and motorbike parking will be provided throughout the development.

Vehicular, pedestrian and cyclist access points will be provided from the north of the site via R149, with additional pedestrian and cyclist access provided from the south via the Royal Canal Greenway. The development will also provide landscaping, public and communal open spaces and all associated site development works to facilitate the project. These include boundary treatments, plant and waste management areas, and other service provisions.

Resource and Waste Management Plan

This document outlines the principles and measures by which the waste generated during the construction phase of the proposed development will be managed and controlled. It provides clear guidance on the legal and policy framework for construction and demolition (C&D) waste management in Ireland. It includes estimates of the type and quantity of waste that the proposed development will generate and prescribes effective measures for managing various waste streams. This RWMP will be further updated by the appointed contractor prior to the commencement of works will be regularly reviewed and updated when required throughout the project's lifecycle to maximise waste reduction and efficiency.

Adhering to this RWMP will ensure that waste management during the construction phase of the proposed development is conducted in accordance with the standards specified in the EPA's *Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction and Demolition Projects*, the Kildare County Council (KCC) Waste Bye-Laws, and the *National Waste Management Plan for a Circular Economy* 2024 - 2030 (NWMPCE).

Table of Contents

1 Introduction

Wave Dynamics was engaged by Leixlip and Newbridge SPV Limited to prepare an RWMP for a proposed LRD on lands at Confey, Leixlip, Co. Kildare.

This document outlines a RWMP for the control, management and monitoring of resources and waste associated with the construction phase of the proposed development. This Plan has been prepared in-line with the current legal and industry standards including, the *Waste Management Act* 1996 as amended and associated Regulations, the Environmental Protection Agency (EPA) Act 1992 as amended, Litter Pollution Act 1997 as amended, and the *National Waste Management Plan for a Circular Economy* 2024 - 2030 (NWMPCE) (2024).

This RWMP has been prepared with the following principles and objectives in mind:

- To maximise the use of resources in the Design and Construction Phases and to minimise the generation of waste regarding the following principals:
    - Green Procurement and Design
    - Resource Re-Use, Recycling and Management
    - Waste Prevention and Segregation
- To maximise the segregation of construction waste materials on-site to produce uncontaminated waste streams for re-use and recycling both on-site and off-site.
- To comply with all legal requirements for handling of construction waste; and
- To achieve high standards of environmental performance with respect to waste management.

This plan is designed to ensure maximum recycling, reuse, and recovery of waste while firmly diverting it from landfills whenever possible. It establishes robust measures for the collection and transportation of waste from the site, effectively preventing issues related to litter and more serious environmental pollution, including soil and water contamination.

This RWMP provides clear guidance on the legal and policy framework for C&D waste management in Ireland. It includes estimates of the type and quantity of waste that the proposed development will generate and prescribes effective measures for managing various waste streams. The RWMP will be further updated by the appointed contractor prior to the commencement of works will be regularly reviewed and updated when required throughout the project's lifecycle to maximise waste reduction and efficiency.

This RWMP is supplemented with the following appendices.

- Appendix A: Resource Waste Management Register
- Appendix B: Licensed Waste Facility/Collectors in the Kildare Region
- Appendix C: Proposed Development Plans

1.1 Statement of Competence

This report was completed by Shannon Doherty, a Senior Consultant at Wave Dynamics, who brings over 14 years of specialised expertise in environmental planning, waste management, and regulatory compliance across major residential, infrastructure, energy, and brownfield/greenfield developments in the UK and Ireland. Shannon has extensive experience working within complex planning frameworks to ensure full regulatory alignment, with extensive experience producing Construction Environmental Management Plans (CEMPs), Waste Management Plans (WMPs), Emergency Response Plans (ERPs), and Decommissioning and Aftercare Plans for wind and solar assets. As a member of the Institute of Acoustics holding a Diploma in Acoustics and Noise Control and an ANC Certificate of Competence, he seamlessly integrates sound insulation and noise control engineering into broader environmental frameworks.

2 Proposed Development

This RWMP is for a proposed LRD on lands at Confey, Leixlip, Co. Kildare.

Proposed Development

The development will comprise a Large-Scale Residential Development (LRD) on a site at Confey, Leixlip, Co. Kildare.

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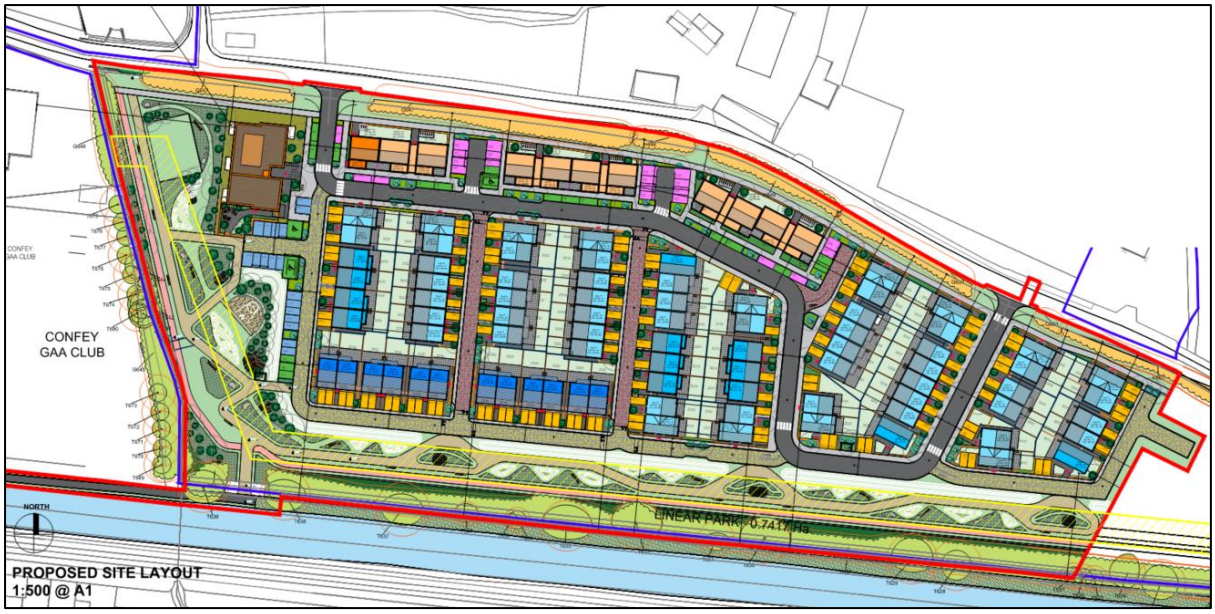

Figure 1: Proposed Development Plans

Existing Site

The site is a greenfield site located to the north of Leixlip in the designated first phase of residential development in the Confey Lands Masterplan. It lies between the R149 road and the Royal Canal just east of Confey GAA grounds. It is a natural extension of the existing neighbourhoods north of Leixlip. The R149 Road connects to Blanchardstown in the east and to Leixlip and Maynooth in the west. It is 4.176 Ha. in area and lies approximately 1.5 km north of Leixlip town centre.

3 C&D Resource Waste Management in Ireland

The following section gives an overview of the main policy drivers for C&D resource waste management in Ireland. It details the broad legislative context from the European Union (EU) and national legislation and considers how these are brought together to provide the main framework for an integrated waste management network.

In the preparation of this RWMP the National legislation and guidelines listed in this document were consulted and followed where applicable. In addition, the requirements of the Regional and Local policies have been adhered to in estimated quantities of construction waste generated during the construction phase of the proposed development.

3.1 Policy and Legislation

Irish waste policy is grounded on the EU concept of a waste management hierarchy. The EU waste management hierarchy is a series of waste management options, presented in decreasing order of environmental and economic desirability. The hierarchy states that the preferred option is prevention, followed by re-use, recycling, recovery, with the least desirable option being landfill. The overall intent of these policy statements is to move Irish waste management away from disposal and towards the more favoured options higher up the hierarchy and ultimately to achieve the full transition to a Circular Economy.

3.1.1 European Directives

Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste - the basic concepts related to waste management, such as definitions of waste, recycling and recovery. The Directive explains when waste ceases to be waste and becomes a secondary raw material, and how to distinguish between waste and by-products. The Directive outlines the requirement that wastes be managed without endangering human health and harming the environment. The Directive introduces the "polluter pays principle" and the "extended producer responsibility". It incorporates provisions on hazardous waste and includes recycling and recovery targets to be achieved by 2020. Article 4 sets out the waste hierarchy which prioritises waste management options to reduce and manage waste ranking from waste avoidance, as the preferred option, followed by resource recovery and as a final option, safe disposal of waste. This waste hierarchy is shown below in Figure 2.

Figure 2: Waste Hierarchy

2000/532/EC: Commission Decision of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste - the Directive seeks to provide a clear and concise definition of hazardous waste while also setting out the requirements for the management and permitting of hazardous waste recovery and disposal facilities.

Directive (EU) 2018/850 of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste - sets out the technical standards that all landfill disposal site must meet in the future in terms of improved and consistent operation and ensuring environmental protection. It is intended to prevent or reduce the adverse effects of the landfilling of waste on the environment, in particular on surface water, groundwater, soil, air and human health.

Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) – aims to increase recovery rates for waste/scrap items, and to reduce the quantities of this waste stream consigned to landfill. Producers of WEEE are responsible for the recovery of End-of-life equipment deemed a priority waste by the EU.

Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage – The purpose of the Directive is to establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage. It is aimed at preventing environmental damage by forcing industrial polluters to pay prevention and remediation costs.

3.1.2 National Waste Policy

The Department of Housing, Planning and Local Government is responsible for waste policy and legislation at the national level in Ireland. A considerable part of the national policy is influenced by initiatives from the EU. These initiatives typically come into effect through European Directives, as listed above, which are then integrated into Irish law via our own legislative processes. The national waste management policy in Ireland is outlined in the following policy documents:

- Waste Management Changing our Ways, 1998.
- Preventing and Recycling Waste: Delivering Change, 2002.
- Taking Stock and Moving Forward, 2004.
- A Resource Opportunity – Waste Management Policy in Ireland, 2012; and
- A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025; September 2020.
- Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action; and
- The National Waste Management Plan for a Circular Economy 2024–2030

The national waste policy currently in place, titled "A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025 (WAPCE)," was released in September 2020. This policy outlines various measures and actions for each aspect of waste management, along with compliance and enforcement strategies regarding applicable waste legislation. A significant shift in this new policy is the emphasis on the production chain rather than solely on waste disposal. The document features over 200 measures that cover diverse areas such as Circular Economy, Municipal Waste, Consumer Protection and Citizen Engagement, Plastics and Packaging, Construction and Demolition, Textiles, Green Public Procurement, and Waste Enforcement. The key objectives of the current Action Plan are as follows.

- To shift the focus away from waste disposal and treatment by ensuring that the useful lifetime of materials and products is prolonged.
- To shift the burden of environmental responsibility for disposable goods to the producer.
- To ensure that measures for supporting sustainability are fostered.

The existing legal framework is centred around the Waste Management Act of 1996 and the Environment (Miscellaneous Provisions) Act of 2011, which serve as the primary means for implementing national waste

policy. Additional regulations are found in the Circular Economy Act. The Circular Economy and Miscellaneous Provisions Act of 2022 supports Ireland's transition from a "take-make-waste" linear approach to a more sustainable model of production and consumption, ensuring that resources maintain their value within our economy for as long as possible.

The 2021 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (November 2023) reported the following key statistics for 2020:

- **Generated** – Ireland produced 3,170,000 t of municipal waste in 2021. This is a 1% decrease since 2020. This means that the average person living in Ireland generated 630 kg of municipal waste in 2021.
- **Managed** – Waste collected and treated by the waste industry. In 2020, a total of 3,137,000 t of municipal waste was managed and treated.
- **Unmanaged** – An estimated 33,000 tonnes of this was unmanaged waste i.e., not disposed of in the correct manner in 2021.
- **Recovered** – The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In Ireland 42% of Municipal waste was treated by energy recovery through incineration in 2021.
- **Recycled** – Just over 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2021, resulting in a recycling rate of 41 per cent. The recycling rate remains unchanged from 2020 and indicates that we face significant challenges to meet the upcoming EU recycling targets of 55% by 2025 and 65% by 2035.
- **Disposed** – The proportion of municipal waste sent to landfill also remains unchanged at 16% the same as 2020.
- **Reuse** – 54,800 tonnes of second-hand products we estimated by the EPA to have been reused in Ireland in 2021. The average annual Reuse rate per person in Ireland is 10.6 kg per person.

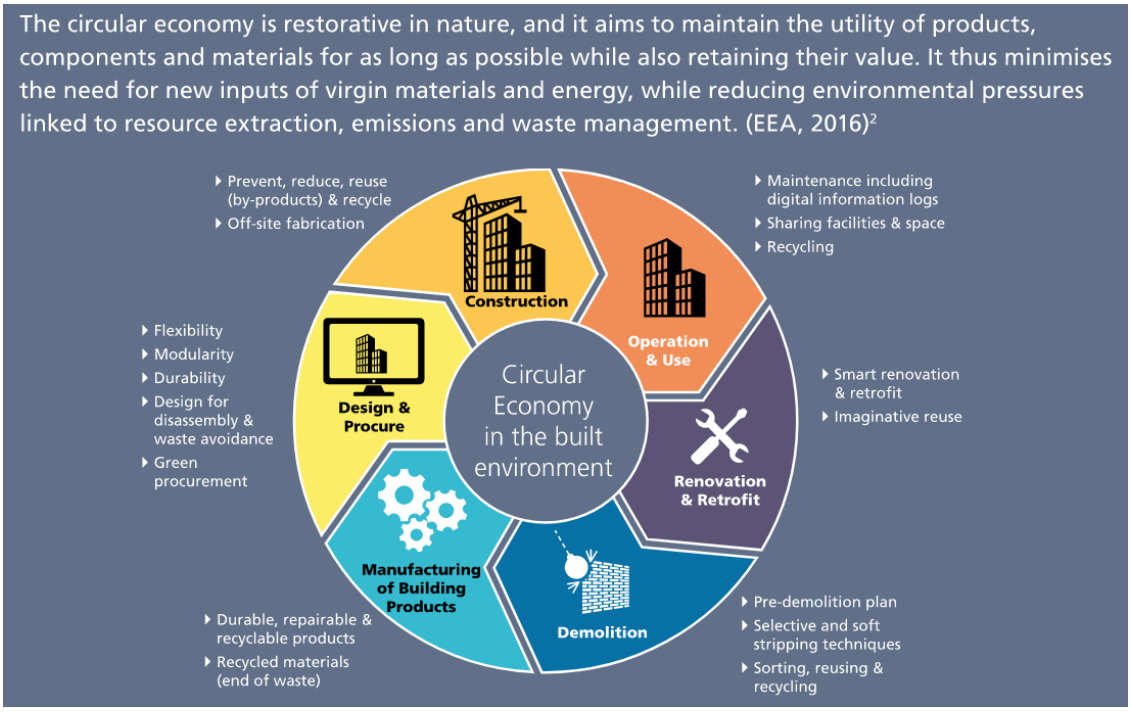

Figure 3: Circular Economic Model (Source: EPA Best Practice Guidelines)

3.1.3 Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects (EPA)

In November 2021, the EPA of Ireland released the "Best Practice Guidelines for Resource and Waste Management Plans for Construction and Demolition Projects." These guidelines replace the 2006 version issued

by the National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage, and Local Government (DoEHLG).

The guidelines offer a practical approach to managing C&D waste and resources, addressing all phases from design to deconstruction. This document has been prepared in line with these guidelines and includes the following;

- Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes.
- Design teams' roles and approach.
- Relevant EU, national and local waste policy, legislation and guidelines.
- Waste disposal/recycling of C&D wastes at the site.
- Provision of training for Resource Waste Manager (RM) and site crew.
- Details of proposed record keeping system.
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies i.e. waste recycling companies, Local Authority, etc

3.2 Regional Level

The development is located in the Local Authority administrative area of KCC.

Until recently waste management planning in Ireland had been divided into three different regions namely, Eastern-Midlands, Southern and Connacht-Ulster regions, with each region led by a Regional Waste Management Planning Office with its respective Waste Management Plan.

The Eastern-Midlands Region includes the local authorities of Dublin City, Dún Laoghaire-Rathdown, Fingal, South Dublin, Kildare, Louth, Laois, Longford, Meath, Offaly, Westmeath and Wicklow.

As of March 2024, the Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021 has been superseded by the Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025, which establishes a single, national plan to guide waste management in Ireland, moving towards a circular economy. Although the Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025 has replaced previous regional waste management plans, it has not dissolved the three regional waste areas.

The Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025 aims to promote sustainable consumption, reduce waste generation, enhance material capture to optimise circularity, and ensure compliance with relevant policies and legislation. The national plan outlines the following strategic targets for waste management in the country that are pertinent to this development.

- Construction Materials: 12% Reduction in Construction & Demolition Waste Generated by 2030.
- Reuse Facilities: Provide for reuse at 10 Civic Amenity Sites, minimum.

In Ireland, municipal landfill fees are determined by the weight of waste disposed of. In the Leinster Region, these charges typically range from €140 to €160 per tonne of waste. This amount includes an €85 per tonne landfill levy established under the Waste Management (Landfill Levy) (Amendment) Regulations 2015, as amended. Additionally, the Circular Economy (Waste Recovery Levy) Regulations 2024 will introduce a new levy of €10 per tonne for waste accepted for recovery. This includes backfilling at authorised recovery sites and at municipal waste landfills.

3.2.1 National Waste Management Plan for a Circular Economy 2024–2030

The National Waste Management Plan for a Circular Economy 2024–2030 serves as Ireland's statutory, operational framework for waste management and resource conservation. Evaluated and published by the regional waste management planning offices, the plan coordinates national waste infrastructure, strict regulatory enforcement, and local authority actions to achieve 0% total waste growth per person over its lifespan. The plan bridges the gap between high-level macroeconomic circularity principles and local waste infrastructure. It sets milestone targets to achieve by 2030, including a maximum municipal landfill rate of 10% or less by 2035,

mandatory source segregation across all commercial waste sectors, and transforming traditional civic amenity sites into proactive Circular Economy Hubs focused on community repair and reuse networks.

3.2.2 Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action

The Whole of Government Circular Economy Strategy 2026–2028: Accelerating Action is Ireland's second national framework designed to transition the country from a "take-make-waste" linear model to a regenerative, closed-loop system. Launched in February 2026, it aims to keep materials in use longer, reduce carbon emissions, and strengthen economic resilience.

Core Objectives

- **Raise Circular Material Use Rate (CMUR):** Increase Ireland's CMUR by two percentage points annually, aiming to reach 12% by 2030 (up from a 2024 baseline of 2.7%).
- **Decarbonisation:** Address the nearly 50% of global greenhouse gas emissions linked to material extraction and processing by reducing raw material consumption.
- **Economic Competitiveness:** Support green enterprise and sustainable jobs while reducing dependency on volatile global supply chains for virgin materials.
- **Digitalisation:** Establish digital tools, such as Digital Product Passports (DPPs), as essential enablers for tracking material flows and product lifecycles.

Key Initiatives & Sectoral Actions

The strategy focuses on six priority sectors with specific mandates:

Sector	Key Actions & Targets
Construction	2026 Circularity Roadmap; from 2028, public projects must use at least 10% recycled materials by weight.
Retail	Launch of "bring your own container" options by 2027; focus on Right to Repair and reduced packaging.
Textiles	Introduction of Extended Producer Responsibility (EPR) by April 2028 and a circular textiles roadmap by 2030.
Electronics	Alignment with the EU Right to Repair Directive; expansion of remanufacturing and repair networks.
Food & Agriculture	Alignment with the EU Right to Repair Directive; expansion of remanufacturing and repair networks.
Consumer Support	A National Pilot Repair Voucher Scheme (launching by 2027) to lower the cost of repairs for citizens.

3.2.3 KCC Guidance for Construction Project Waste Management

KCC's Waste Management Division has issued the *Guidance Notes for Environmental Design and Management of Construction Projects* (2022). These notes provide best practice guidance for the environmental design and construction of new, high-density developments. Their purpose is to help developers demonstrate to planning and waste authorities that the project's design, construction, and operation align with best environmental management practices.

Waste planning must adhere to the Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects, published by the EPA in 2021. These EPA guidelines ensure developers and designers consider how waste management services will enable effective handling of construction and demolition waste. Key requirements for proper construction waste management include:

- Dedicated Waste Compound: Establish a secure, dedicated area (subject to site restrictions) for bins and skips. Designate one person to manage signage, ensure proper housekeeping and record-keeping, and enforce waste segregation.
- Waste Tracking and Compliance: Track all waste to its final destination. Retain gate receipts from licensed facilities for excavation and demolition waste disposal to prove compliance with statutory obligations under the Waste Management Acts 1996, as amended.

- Waste Analysis and Reduction: Analyse anticipated waste and material surpluses. Set specific objectives for waste prevention, reuse, and recycling, including planning for the use of materials from renewable sources and applications under the European Communities (Waste Directive) Regulations, 2011.
- Materials Source and Management Plans: For developments with over 10 housing units or commercial spaces exceeding 1000 sq.m, the developer must create and implement a plan detailing design for maintenance, replacement, and the proportion of recycled/reused materials to support the circular economy.
- Hazardous Waste Management: Identify and manage all hazardous wastes. If hazardous soil or historical waste is found, the contractor must notify the KCC Environmental Enforcement Section and provide a Hazardous/Contaminated Soil Management Plan detailing tonnages, location, mitigation, and authorised disposal destinations.
- Invasive Species: Identify and manage any invasive species found, including eradication plans and follow-up checks.

3.2.4 Legislative Requirements

A key principle of European waste legislation, reflected in the Waste Management Act 1996 and Irish laws, is the “Duty of Care.” This principle states that waste producers are responsible for their waste from generation until it is legally recycled, recovered, or disposed of. Since it is often impractical for producers to handle waste directly, they hire waste contractors for transportation. The "Polluter Pays" principle means that producers can be liable for any pollution incidents caused by improper waste management by themselves or their contractors.

Developers must ensure that contracted waste services comply with legal requirements for waste management. Each waste contractor must have a collection permit from the National Waste Collection Permit Office (NWCPO), and waste receiving facilities need the appropriate permits or licenses. Without a Certificate of Registration (COR) or a waste permit from the relevant Local Authority or a licence from the EPA, these facilities cannot accept waste. The permits specify the types and amounts of waste that can be managed at those sites.

4 RWMP Roles and Responsibilities

4.1 Introduction

The Project Director/Manager will have overall responsibility for the construction of the Proposed Development and is responsible for developing and implementing the RWMP (and its various potential iterations as it is a 'live' document) during construction.

Other members of the project team will be assigned specific roles to assist the Project Director/Manager in the implementation of the RWMP, and individual specialists would be appointed to provide expert advice.

4.2 Construction Manager

The Construction Manager will act on behalf of the Principal Contractor, with responsibility for managing construction of the proposed development within the agreed environmental constraints in conjunction with all other necessary management processes. The principal duties and responsibilities of this position will include:

- Overall responsibility for the Proposed Development and implementation of the RWMP.
- Allocating resources to ensure the implementation of the RWMP.
- Participates in the management review of the RWMP for suitability, adequateness, and effectiveness; and;
- Sets the focus of environmental policy, objectives, and targets for the Contractor.

4.3 Site Manager

The Site Manager is directly responsible to the Construction Manager for the successful execution of the project. The principal duties and responsibilities of this position will include:

- To oversee the day-to-day construction activities.
- To report to the Construction Director on the on-going performance of the RWMP.
- To discharge his/her responsibilities as outlined in the RWMP; and,
- To support and augment the Environmental Manager through the provision of adequate resources and facilities in the implementation of the RWMP.

4.4 Site Personnel

All Contractors, and other site personnel, on the project will be responsible for the effective implementation of the RWMP and will adhere to the following principal duties and responsibilities:

- To co-operate fully with the General Contractor and the Environmental Officer in the implementation and development of the RWMP at the site.
- To conduct all their activities in a manner consistent with regulatory and best environmental practice.
- To participate fully in the environmental training program and provide management with any necessary feedback to ensure effective environmental management at the site; and,
- Adhere fully to the requirements of the site environmental rules

4.4.1 Training

All construction staff, including sub-contractors, would receive structured training on the requirements of the RWMP and the associated environmental control plans, as developed. They would also be required to attend a site induction which would include the key environmental issues identified for the Proposed Development. The briefing would emphasise the methods and working practices which must be employed to protect the environment, including emergency procedures for reporting and dealing with environmental incidents. Records of training and those attended will also be retained. The topics to be covered will include.

- Project programme and requirements.
- Health and Safety requirements.
- RWMP.
- Materials to be segregated.
- Segregation systems and protocols.
- Arrangement for the storage and handling of reusable materials and recyclables.
- Document control requirements.

4.5 Gate Person

The responsibilities of the Gate Person involve carefully monitoring and inspecting all vehicles departing from the site that are carrying waste. It is essential that each vehicle prominently displays a valid Waste Collection Permit (WCP) number on its side, which serves as proof of authorisation for waste transport.

In cases where a vehicle fails to show a valid WCP number, the Gate Person will refuse the vehicle's exit from the site. Concurrently, the Resource Manager (RM) will take the necessary steps to ensure that the waste load is safely returned to the designated area from which it originated. This process is crucial for maintaining site compliance and ensuring that all waste disposal regulations are strictly followed.

5 Resource and Waste Management Design Approach

5.1 Introduction

This section provides details on how resource optimisation and the management and minimisation of waste streams shall be implemented from design phase through to completion of the project.

5.2 Definition of Waste

The definition of "waste" comes from Article 3(1) of the revised European Waste Framework Directive (WFD) (2008/98/EC). According to this directive, waste is defined as “any substance or object which the holder discards or intends or is required to discard.” The term “discard” encompasses not only the disposal of a substance or object but also its recovery and recycling. Determining whether something is considered waste involves evaluating all relevant circumstances, such as the nature of the material, how it was produced, and its intended use. This assessment should also consider the aims of the WFD, which seeks to protect human health and the environment from harmful effects associated with the collection, transport, treatment, storage, and disposal of waste.

5.3 Prevention of Waste

Effective management of materials is essential for implementing a successful waste prevention and minimisation policy on-site. Materials will be ordered in a timely manner and only as needed to avoid over-ordering, excess supply, and waste. The RWMP will be updated before the construction phase to ensure proper storage and handling of construction materials, maximising usage and minimising waste. All materials delivered to the site will be inspected to verify that they are defect-free and suitable for use.

5.4 Design for Reuse and Recycling

5.4.1 Reuse the Site

Reusing materials and excavated soil on-site not only promotes sustainability but also reduces costs related to handling and disposing of waste generated during construction. To identify the best approach for reusing, recovering, or off-site disposal of materials, we will classify waste as either hazardous or non-hazardous, following the EPA's 2018 guidelines on waste classification. This process ensures responsible waste management and compliance with regulations, creating a safer construction environment.

It is important to note that the recovery of excavated material for reuse is subject to regulatory requirements. Compliance with the conditions for reclassifying resources and waste as outlined in Article 27 (By-products) and Article 28 (End of Waste) of the European Union (Waste Directive) Regulations 2011-2020 will be adhered to.

Whenever possible, concrete waste should be returned to the supplier for reuse. If this is not feasible, contractors must dispose of the concrete by crushing it on-site and taking it to an authorised off-site facility. Please note that crushed material resulting from a waste recovery operation is not suitable for the Article 27 Notification (By-products) procedure.

5.4.2 Excavation Works

Utilise the existing topography to minimise excavation and reuse any excavated materials on site where possible, e.g., rock for drainage layers, landscape fill, planting features or levelling spoil.

Site investigations and environmental soil testing will be conducted prior to any excavation on site. If potentially contaminated material is encountered, it must be segregated from clean or inert material, tested, and classified as either non-hazardous or hazardous according to the EPA publication titled “Waste Classification: List of Waste

& Determining if Waste is Hazardous or Non-Hazardous" using the *HazWasteOnline* application or a similar approved classification method. The material will then be categorised as clean, inert, non-hazardous, or hazardous in accordance with EC Council Decision 2003/33/EC, which outlines the criteria for waste acceptance at landfills.

If Asbestos-Containing Materials (ACMs) are found among the excavated material, their removal will only be carried out by a suitably permitted waste contractor, following the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010 and the Best Practice Guidance for Handling Asbestos (2023). All asbestos will be transported to a licensed or permitted facility.

In the unlikely event that hazardous soil or historically deposited waste be encountered during the construction phase, the appointed contactor will notify KCC and provide a Hazardous/Contaminated Soil Management Plan. This plan will include estimated tonnages, a description of the location, any relevant mitigation measures, and the intended destination for disposal or treatment, along with information on the authorised waste collector.

5.4.3 Demolition Works

There are no demolition works associated with the construction programme.

5.4.4 Site Preparation

Site offices, lock-ups, skips and containers from this phase of the site development will be reused for future development phases or on another project. Toilets, canteens, containers and office space will be shared with other sub-contractions on site.

5.4.5 Recycling

Recycling resources on site helps reduce the need for off-site management and lowers costs associated with transporting and processing materials. Import recycled materials or materials with recycled content from other locations and reuse them on site whenever possible.

A designated area of the site compound will be allocated for recycling building materials and packaging. Special skips will be provided to separately collect timber, concrete blocks, bricks, plastic, glass, and metal.

Waste generated by construction workers, including organic waste (such as food scraps), dry mixed recyclables (like paper, newspapers, plastic bottles, packaging, aluminium cans, tins, and Tetra Pak cartons), mixed non-recyclables, and general building waste (such as timber, cardboard, and metals), will be recycled whenever feasible.

5.5 Design for Green Procurement

Green procurement utilises tender specifications and criteria to acquire products and services that minimise waste. Early engagement and collaboration with supply chain stakeholders can enhance resource management. Here are some key considerations for effective procurement.

- The sourcing of goods and services should be conducted on an "as-needed" basis where possible which can reduce the need for packaging.
- Methods of waste prevention and minimisation shall be discussed with staff and subcontractors at an early stage of development, prior to procurement. Design solutions are to be agreed with an emphasis on sustainable practices
- Project material specifications should consider allowing the use of reclaimed materials.
- Ordering procedures should be conducted with waste minimisation in mind, i.e., avoid over-ordering, identify take-back schemes for material surpluses and offcuts.
- Promote the Client corporate policy and targets in relation to waste prevention and reduction in all design-phase documentation and tender documentation.

5.6 Design for Off-Site Construction

The use of precast materials such as walls, concrete slabs, and stairs should be implemented wherever possible. Adopting precast materials offers several benefits:

- Superior Material Quality and Accuracy: Factory fabrication of precast components is standardised, which improves quality and accuracy while minimising the negative impacts of weather and site conditions.
- Reduced Over-Ordering: Materials can be ordered directly from the factory, eliminating the need for on-site production and helping to avoid over-ordering.
- Faster Construction Times: Precast materials enable quick establishment of floor levels and allow facades to be closed in rapidly, which facilitates earlier commencement of internal work.
- Less Waste Production: The use of precast materials contributes to a reduction in overall waste generated during construction.
- Enhanced Quality: Precast components are typically produced in a sheltered environment, which enhances quality by mitigating potential environmental effects that could arise on-site.
- Reduced Environmental Contamination: Particularly with precast concrete, the risk of spillages is minimised, leading to lower levels of environmental contamination. Implementing precast materials can greatly enhance the efficiency and sustainability of construction projects.

5.7 Design for Materials Optimisation

The key principle of materials optimisation is to encourage manufacturers and construction companies to adopt lean production models. This involves maximising on-site material reuse to minimise the environmental impact of transportation and waste management. Standardising material sizes can also help reduce waste, along with promoting off-site manufacturing.

5.8 Design for Flexibility and Deconstruction

The proposed development will encompass residential units; therefore, plans for deconstruction are not anticipated in the foreseeable future. This design is characterised by its flexibility, which is regarded as a sustainable approach, as it will effectively serve medium- to long-term residents for many years to come.

6 Key Materials and Quantities

In 2022, Ireland's C&D sector produced approximately 8.3 million tonnes of waste. After a sharp rise to 9 million tonnes in 2021 following the pandemic, waste levels decreased again in 2022. This decline was largely due to the types of developments, such as housing, commercial, and infrastructure, and the stages of construction, particularly those requiring significant excavation.

To reduce C&D waste further, it is important to implement best practices in circular construction. This includes minimising waste generation, applying By-products Regulation 27, and optimising resource use according to the EPA's updated *Best Practice Guidelines for Resource Management Plans for Construction and Demolition Projects*.

6.1 Resource Targets

Project-specific resource and waste management targets will be updated upon confirmation by the client. It is expected that, for projects of this nature, a minimum of 70% of waste will be fully reused, recycled, or recovered. The establishment of these targets will facilitate the creation of project-specific benchmarks for monitoring progress. Typical Key Performance Indicators (KPIs) employed to define these targets will adhere to established guidelines:

- Weight (tonnes) or Volume (m^3) of waste generated per construction value.
- Weight (tonnes) or Volume (m^3) of waste generated per construction floor area (m^2).
- Fraction of resource reused on site.
- Fraction of resource notified as by-product.
- Fraction of waste segregated at source before being sent off-site for recycling/recovery; and
- Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.

6.2 Main Construction Waste Categories

In 1994, the European Commission implemented the European Waste Catalogue and the Hazardous Waste List, establishing essential frameworks for waste management. In 2002, the EPA released a document outlining these resources, which has since been superseded by the authoritative 2018 publication titled "Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous." This classification system is essential for waste reporting across the EU, specifically for collection permits, Certificates of Registration (CORs), and the EPA National Waste Database.

Table 1 details the primary non-hazardous and hazardous waste streams generated from typical construction activities. The List of Waste (LoW) code (2018) for each waste stream is also included, ensuring proper identification and management of all waste types.

Table 1: Typical waste types generated and LoW codes

LoW/EWC Code	Waste Material
17 01 01-03 & 07	Concrete, bricks, tiles, ceramics
17 02 01-03	Wood, glass and plastic
17-02-04[1]	Treated wood, glass, plastic, containing hazardous substances
17 04 01-11	Metals (including their alloys) and cable
17 08 01[1] & 02	Gypsum-based construction material
17 05 03[1] & 04	Soil and stones
17 09 04	Mixed C&D waste
20 01 01	Paper and cardboard

LoW/EWC Code	Waste Material
17 03 01[1], 02 & 03[1]	Bituminous mixtures, coal tar and tarred products
17 06 04	Insulation materials
20 02 01	Green waste
20 01 33 & 34	Batteries and accumulators
20 01 35 & 36	Electrical and electronic components
20 01 13, 19, 27-30	Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)
13 07 01-10	Liquid fuels
20 03 01	Mixed Municipal Waste
20 01 08	Organic (food) waste

1) Individual waste type may contain hazardous materials

6.3 Construction Waste Generation

Table 2 illustrates the breakdown of C&D waste types produced on a typical site, based on data from the EPA National Waste Reports 21 and the joint EPA & GMIT study.

Table 2: Percentage of waste materials generated on a typical Irish construction site

Waste Type	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
Total	**100**

Construction waste generation values are often provided per gross floor area in individual project Waste Management Plans. A general national benchmark from the EPA is a minimum of 7.7 tonnes/100m^2 (gross floor area) of non-hazardous waste. This is considered an acceptable construction waste generation value considering the size and scale of the proposed development.

Table 3, presents the estimated construction waste generation for the project, calculated based on the total gross floor area (13,602 m^2) and other available information up to this point. It includes indicative targets for managing the various waste streams. The estimated amounts for the primary waste types (excluding soils and stones) are determined using an average waste generation rate per square meter for residential developments, following the waste breakdown rates outlined in Table 2. These rates have been derived from the development area schedule provided by the architect.

Table 3: Estimated rates for the reuse, recycling, and disposal of construction waste, both on-site and off-site.

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	346	10	35	80	277	10	35
Timber	293	40	117	55	161	5	15
Plasterboard	105	30	31	60	63	10	10
Metals	84	5	4	90	75	5	4
Concrete	63	30	19	65	41	5	3
Other	157	20	31	60	94	20	31
Total	**1047**		**238**		**711**		**98**

It is important to note that it is challenging to accurately predict the construction waste generated from the proposed works until the final materials and detailed construction methods are confirmed. The exact materials and quantities may change during the construction process, which can lead to variations in waste generation.

6.4 Hazardous Wastes Arisings

6.4.1 Contaminated Land

Site investigations and environmental soil testing will be carried out prior to any excavation taking place on site. If potentially contaminated material is encountered, it must be segregated from clean or inert material, tested, and classified as either non-hazardous or hazardous according to the EPA publication titled “Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous” using the “HazWasteOnline”[1] application or a similar approved classification method. The material will then be categorised as clean, inert, non-hazardous, or hazardous in accordance with EC Council Decision 2003/33/EC, which outlines the criteria for waste acceptance at landfills.

6.4.2 Invasive Species

An ecological site walk over will be carried out prior to the commencement of any construction works. If any invasive plant species are noted within the site, an Ecological Clerk of Works (ECoW) will be a tasked to ensure the safe removal from site and disposal by a licensed carrier.

6.4.3 Fuel/Oils

Fuels and oils are classified as hazardous materials, and thus, all on-site storage of fuel and oil, including storage tanks and draw-off points, will be securely contained within bunds and positioned in a designated, secure area of the site. Compliance with these requirements is mandatory, and the site staff must be thoroughly trained in proper refuelling techniques. By adhering to these protocols, we will ensure that no fuel or oil waste is generated at the site.

6.5 Resource and Waste Manager

The Construction Project Manager will act as the RM and will be responsible for reducing and preventing waste. To help with this goal, consider the following initiatives.

- Provide proper storage facilities to minimise material damage.
- Align material ordering with the work program to reduce on-site storage but be prepared for necessary on-site storage due to labour and material shortages.
- Subcontractors must manage their own waste.
- Assess and recycle existing materials on site, such as using roof tile or brick offcuts as crushed rock sub-bases.

[1] https://www.hazwasteonline.com/

- Specify environmentally friendly materials that include a percentage of recycled content, meeting all functional and regulatory requirements.
- Utilise the existing topography to minimise excavation, reusing excavated materials like rock for various purposes.
- Standardise designs and materials to reduce complexity and enhance manufacturing and installation efficiencies.
- Provide training on resource management, including inductions and toolbox talks.
- Update the RWMP as needed to reflect new resources and practices.

6.6 Resource and Waste Management Options

Waste materials generated on-site will be segregated when practical. If on-site segregation is not feasible, off-site segregation will be conducted. Skips and receptacles will be available to promote proper waste separation. All waste leaving the site will be covered or enclosed, and an appointed waste contractor will collect it as receptacles fill. An approved waste contractor with a current waste collection permit will manage all generated waste. Waste requiring off-site disposal will be reused, recycled, recovered, or disposed of at an appropriately licensed facility. The National End-of-Waste Decision EoW-N001/2023 (Regulation 28) sets criteria for determining when recycled aggregate from recovery operations is no longer considered waste. During construction, materials can be assessed under these criteria to determine if it can be classified as non-waste.

During construction, some subcontractors may generate small amounts of waste. According to Article 30(1)(b) of the Waste Collection Permit Regulations 2007, those transporting non-hazardous waste not exceeding 2 tonnes, in vehicles not designed for waste, do not require a waste collection permit. Subcontractors generating no more than 2 tonnes of waste at a time can take this waste off-site in their work vehicles, but must ensure the receiving facility has the appropriate Certificate of Registration (COR), permit, or license

The contractor(s) will maintain written records that detail the waste generated during the construction phase. These records will include the classification of each waste type, waste collection permits for all contractors involved in waste collection from the site, and the necessary certificates, permits, or licenses for the facilities that will receive the waste removed from the site. This ensures that the waste is handled appropriately for reuse, recycling, recovery, or disposal. Dedicated bunded storage containers will be provided for hazardous wastes which may arise, such as batteries, paints, oils, chemicals, if required.

6.6.1 Soil, Stone and Gravel

The waste hierarchy prioritises waste management as follows: prevention and minimisation, preparing for reuse, recycling/recovery, energy recovery and finally, disposal.

During construction-related excavations, the preferred options of prevention and minimisation cannot be applied. Excavated material will be reused on-site wherever possible. If some material cannot be used on-site, it must be removed for appropriate reuse or disposal. Off-site material can be classified as a by-product (not waste) if it meets conditions under Regulation 27 of the European Communities (Waste Directive) Regulations 2011, which requires notification to the EPA via an online form.

Excavated material cannot be removed until EPA approval is secured. The potential for reusing material as a by-product will be evaluated during excavation to minimise unnecessary disposal. The beneficial reuse option for excavated material depends on environmental testing to classify it as hazardous or non-hazardous, following the EPA guidelines. Clean, inert materials can be used as fill in construction projects or as engineering fill for licensed waste sites. Additional testing may be necessary to ensure these materials meet the specific engineering standards for their intended use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any soils or stones are transferred onto another construction site, this will be done in accordance with Regulation 27. Contaminated material classified as hazardous will be stored separately and require off-site treatment or disposal abroad through the Transfrontier Shipment of Wastes (TFS).

6.6.2 Silt and Sludge

During the construction phase, silt and petrochemical interception will be carried out on run-off and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed off-site.

6.6.3 Concrete Blocks, Bricks, Tiles and Ceramics

Houses will be constructed of traditional block work, with duplexes utilising a precast floor slab and screed between ground floor and first floor. Concrete blocks, bricks, tiles, and ceramics produced during construction are anticipated to be clean and inert materials, which will be recycled whenever possible. If concrete needs to be crushed on-site, an appropriate mobile waste facility permit will be obtained from KCC.

6.6.4 Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

6.6.5 Timber

Uncontaminated timber, free from paints, preservatives, and glues, will be disposed of in a separate skip for off-site recycling.

6.6.6 Metal

Metals will be carefully separated according to their type whenever possible and stored in designated skips. Metals are highly recyclable resources, and numerous companies specialise in accepting these materials for processing. By ensuring proper segregation and storage, a more sustainable recycling ecosystem is achieved as well as minimising waste in landfills.

6.6.7 Plasterboard

During construction, plasterboard will be segregated in a designated skip until it is collected for recycling. The Site Manager will carefully monitor new plasterboard supplies to reduce waste.

6.6.8 Glass

Glass materials will be segregated for recycling, where possible.

6.6.9 Waste Electrical & Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages / receptacles / pallets pending collection for recycling.

6.6.10 Other Recyclables

Where any other recyclable wastes, such as cardboard and soft plastic, are generated, these will be segregated at source into dedicated skips and removed off-site.

6.6.11 Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles.

6.6.12 Other Hazardous Wastes

Hazardous wastes, including contaminated soil and waste fuels, will be stored on-site only as necessary, with regular off-site removal arranged. Storage will prioritise minimising exposure to personnel and the public and reducing environmental impacts. Whenever possible, these wastes will be recovered; otherwise, they will be disposed of properly.

7 Estimated Cost of Waste Management

The true cost of waste goes beyond just the expenses associated with waste collection and disposal. It also includes the value of the materials in the waste skip, the costs related to site storage, handling, and management, as well as the potential revenue lost from not selling, recycling, or reusing those materials.

Design teams should focus on reducing material purchasing costs through waste-efficient procurement methods, such as reusing materials and specifying recycled content where appropriate. Additionally, they should aim to lower waste disposal costs by implementing strategies to design out waste, plan material logistics, segregate waste at the source, and collaborate within the supply chain.

The following outline details the costs associated with various aspects of waste management. The overall cost of C&D waste management will be assessed, taking into account handling costs, storage costs, transportation costs, disposal costs, and revenue from rebates.

7.1 Reuse

Reusing materials on-site can lower transportation and disposal costs that would otherwise involve a waste contractor. Clean and inert materials like soils, gravel, and stones unsuitable for reuse can still be utilised as access roads or capping for landfills. These materials are often accepted at little to no cost, further reducing waste disposal expenses.

7.2 Recycling

Salvageable metals can earn a rebate to help offset collection and transportation costs. Clean cardboard and certain hard plastics are recyclable. Waste contractors charge less for collecting segregated recyclables than mixed waste. Timber can be recycled into chipboard, and contractors also charge less for segregated timber compared to mixed waste.

7.3 Disposal

Landfill charges range from €140 to €160 per tonne, which includes an €85 per tonne landfill levy as per the Waste Management (Landfill Levy) Regulations 2015. Waste contractors also charge a collection fee for skips.

Collecting segregated C&D waste is usually cheaper than municipal waste. C&D waste contractors take the materials to licensed facilities and often salvage usable items before disposing of the rest. Clean soil and rubble can also be utilised as fill or capping material when possible.

8 Construction Site Management

8.1 Site Management

The Construction Manager will oversee the RWMP and manage project resources. Key responsibilities include:

- Revising commitments or targets in the RWMP for Client approval during construction.
- Assigning resource management responsibilities to senior individuals.
- Appointing a qualified Resource Manager (RM) to implement the RWMP, who will update the plan as needed and provide training related to resource management.
- Ensuring site infrastructure is suitable and maintained.
- Engaging permitted Waste Contractors for the collection and disposal of inert and hazardous wastes.
- Maintaining up-to-date Waste Collection Permits and Waste Facility Permits.
- Conducting internal site and subcontractor audits.
- Being available for Local Authority audits.
- Keeping records of waste and resource exports handled by authorised operators.
- Collaborating with supply chain personnel to adopt supply chain initiatives.

8.2 On Site Resource Management

To minimise construction waste and promote the reuse and recycling of materials on-site, the following practices will be implemented:

- Order materials on an "as needed" basis to avoid oversupply and damage.
- Store and handle materials to reduce damage.
- Order materials in a sequence that minimises on-site storage.
- Conduct inductions and toolbox talks for staff and subcontractors on proper waste disposal.
- Segregate broken concrete and excess aggregate for future use as hardstanding.
- Collect excess wood in designated skips for recycling.
- Separate plastics and metals into dedicated skips.
- Retain stripped topsoil in managed bunds to prevent erosion.
- Hazardous materials (e.g., unidentified hotspots, underground tanks) found during construction will be isolated, with removal managed by the RM.

8.3 Supply Chain

The RM will work with procurement teams to ensure best practices are followed to prevent excess resources on-site. Key measures include:

- Choosing procurement methods that reduce unnecessary packaging, like 'Just-in-Time' (JIT) delivery to limit material spoilage.
- Using consolidation centres for JIT delivery, which are storage and distribution facilities located near the site.
- Implementing ordering procedures that avoid waste, such as preventing over-ordering and using take-back programs for packaging and surplus materials.
- Planning the work sequence to minimise leftover resources on-site.

8.3.1 Tracking and Tracing

The RM is responsible for maintaining records of all resource materials used on site and those that leave the site. This includes materials designated for reuse, recycling, energy recovery, backfilling, or other recovery and disposal methods at third-party locations. A recording system will be established to track residual waste and resources generated on-site.

A daily log will be maintained to track the movement of resources off-site, with updates provided each day. This information will be compiled into a database as part of the RWMP files.

For each movement of resources leaving the site, the RM will obtain a signed docket or invoice from the haulier or contractor. This document must detail the following information:

- A description of the resource stream
- List of Waste (Low) Code for each stream (where applicable)
- Validated quantity of material moved off-site by the haulier/contractor (typically reported in tonnes)
- The name and authorisation of the haulier to transport the material – in the case of a 'waste' this requires a valid Waste Collection Permit (WCP). In the case of by-product or other materials that are not a waste, no WCP is required. In both cases the vehicle registration number should also be recorded for each load of material removed from site.
- The name and authorisation of the destination site for the resource – again for a 'waste' this requires a valid Cert of Registration, Waste Permit or Waste Licence and in the case of by-product the relevant by-product determination.
- The waste contractors will be required to provide details of end-use or waste treatment in waste reports. This recording will be carried out for each resource type and the system will also be linked with the delivery records to allow the percentage of residual resource generated for each material to be determined.
- The system will allow the comparison of these figures with the targets established for the prevention, reuse and recovery of resources to highlight successes or failures against these targets. The RM shall ensure that all resources taken off-site are in line with the relevant legislation and the key area relates to ensuring that hauliers and recovery/disposal sites have the appropriate authorisations. Some key considerations include:
- Checking the expiry date of the authorisation relative to the duration of the works and whether any review of the permit is required over that period (e.g. WCPs have a maximum life of five years and review applications need to be lodged before expiry).
- Checking that the waste consent i.e. permit/licence has the authorisation 'COR holders, Waste Facility Permit holders and Waste Licence holders' for the resource stream proposed (e.g. Waste Permits and Waste Licences only permit an operator to accept specific waste streams).
- Authorisation for the resource management operation proposed (e.g. Waste Permits and Waste Licences only permit an operator specific recovery or disposal codes).
- Check that any waste acceptance limits expressed in the permit/licence for material acceptance are known and that on site sampling has indicated that the residual resource complies with these limits (for example a licensed soil recovery facility can only accept uncontaminated material which meets the limits set out in the EPA Soil Trigger Level Guidance for Soil Recovery and cannot accept contaminated soils).

All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Framework Directive (Directive 2008/98/EC), the Waste Management Act 1996 as amended, Waste Management (Collection Permit) Regulations 2007 as amended and Waste Management (Facility Permit & Registration) Regulations 2007 and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project RM will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR / permit or EPA Waste Licence for that site will be provided to the nominated project Waste Manager. If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from KCC and kept on-site along with details of the final destination (COR, permits, licences, etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

8.3.2 Record Keeping

All waste leaving the site will be documented. A system will track waste generated on-site, and a waste tracking log will monitor each exit. When the waste collection vehicle departs, the driver must stop at the site office to sign

out as a visitor and provide either a waste docket or a Waste Transfer Form (WTF) for hazardous waste. Security personnel will then complete and sign the Waste Tracking Register with the required information:

- Date.
- Time.
- Waste Contractor.
- Company waste contractor appointed by, e.g. Contractor or subcontractor name.
- Collection Permit No.
- Vehicle Reg.
- Driver Name.
- Docket No.
- Waste Type.
- List of Wastes (LoW).
- Weight/Quantity.

Waste vehicles must be checked by security or the RM to confirm they display the waste collection permit number and have a copy of the permit before removing waste.

Waste transfer dockets are due weekly to the RM and must be added to the Waste Tracking Log. This information will be provided to the KCC Waste Regulation Unit on request.

Subcontractors using their own waste contractors must maintain a waste tracking log for inspection by the main contractor, which will be combined with the main waste log.

Site contractors must keep waste receipts from the facility on file. All Waste Collection Permits, Certificates of Registration (CORs), Waste Facility Permits, and Waste Licenses should be on-site and reviewed periodically by the RM. Subcontractors must also furnish their waste collection permits and CORs for inspection by the main contractor.

8.3.3 Auditing

The RM will conduct ongoing audits during the construction phase, focusing on work practices, record keeping, and off-site tracking. Key responsibilities include:

Work Practice Audits: The RM will perform periodic inspections to ensure compliance with the RWMP, assessing the following.

- Site signage and necessary repairs.
- Storage infrastructure and required upgrades.
- Resource segregation practices and any contamination.
- Compliance of contractors' work practices with the RWMP.

Record Review: The RM will periodically check records of on-site wastes and resources. If there are unaccounted waste movements, the RM will investigate and implement corrective actions.

Target Comparison: Resource records will be compared with established goals for reuse and recycling.

Material Management: The RM will identify areas of high residual waste generation and review waste management methods to meet project targets.

Corrective Actions: The RM will issue corrective actions, such as training or penalties, for any deviations from the RWMP.

8.4 Communications

It is recommended that the RM carries out the following communication tasks during construction:

- Provide resource statistics to the Client and Contractor management. These reports should show performance against targets and be included in site meeting agendas.
- Communicate with local authorities about site inspections and audits. Document and report any follow-up actions.
- Work with stakeholders, such as the EPA and the public, on resource management at the site.
- After construction, create a final report summarising the outcomes of resource management, including reuse and recovery figures and the final destinations of resources removed from the site. Submit this report to the Client, Contractor management, and the local authority, which may need it for planning compliance.

8.5 Training

The RM will oversee the training of site personnel, including waste management, which should be combined with general site induction, health and safety awareness, and manual handling.
Before starting work, all project personnel, including sub-contractors, must complete an environmental induction covering the RWMP. The induction will include:

- The scope and content of the RWMP.
- Project commitments and targets.
- Anticipated resources and waste volumes.
- Procedures for identifying and segregating resources and wastes.
- Locations of Waste Storage Areas (WSAs).
- Instruction on hazardous wastes and their dangers.

This induction will be tailored to the specific responsibilities of site personnel. Ongoing toolbox talks will also be provided to keep staff informed about resource management practices and compliance with the RWMP.

9 Site Infrastructure

9.1 Overview

A Construction Environmental Management Plan (CEMP) will be prepared and submitted as part of the planning application for the proposed development. This document will outline the site logistics for the development and will serve as the primary reference for issues related to site logistics. This includes details on development staging, construction access, site access, site security, site facilities, and health and safety.

9.2 Site Compound

A site compound will be located at the western boundary of the development site to support construction activities. The compound will host essential site support functions, including:

- construction compound;
- welfare facilities;
- areas of hardstanding;
- turning areas, internal access tracks;
- car parking;
- material stockpiles;
- oil storage; and
- storage area for bulk materials (e.g., sand, aggregates).

Figure 4 below illustrates the location of the construction site compound, storage and parking facilities on the western boundary of the proposed development site.

Figure 4: Construction Site Compound

9.3 Waste Storage Areas (WSA)

In relation to resource and waste storage, the Waste Management Act 1996, as amended, allows for the temporary storage of resources defined as 'waste' at the site where it was produced. The Act defines the phrase 'the temporary storage of waste' limiting it to having a six-month duration. Appropriate measures to prevent environmental impact, e.g. run-off, will be implemented as needed.

Prior to construction, the site layout will be reviewed and suitable WSA with adequate space for storage and handling will be identified. WSAs may include stockpiles (for soil and stone, aggregates, etc.), skips (for metals, wood, glass, etc.) or secure containers for hazardous materials. All WSAs will be assessed as fit for purpose and will be suitably contained, bunded or defined as required. The WSA will be laid out to reduce any potential for impact on sensitive human (e.g. residential) or natural (water courses, ecological sites, etc.) and a suitable buffer to receptors will be applied to mitigate any impact. Waste materials will be collected and stored in separate clearly labelled skips and suitable containers for collection by a Permitted Waste Contractor holding an appropriate Waste Collection permit. Labelling and signage will be used on site to inform personnel of key WSA requirements and restrictions, with clear signage provided on all WSAs. Signage will also be erected to provide information to assist good resource practice across the site.

9.3.1 Oil Storage and Refuelling

Oil storage and refuelling areas will not be located close to any local watercourses or any drainage ditch. The following measures must be implemented.

- Dedicate specific areas for oil storage and refuelling, bunds sized to contain 110% of fuel storage capacity.
- The contractor will use fill point drip trays, bunded pallets and secondary containment units.
- The site will be enclosed and secured, and fuel storage areas will be secondarily secured.
- All fuel, oil and chemical deliveries will be supervised by a responsible person who will be trained to deal with any spillage to prevent a pollution problem occurring.

9.3.2 Stockpiles

The following measures are proposed in relation to stockpiling of materials:

- Locate stockpiles out of the wind or provide wind breaks to minimise dust generation.
- Keep stockpiles to minimum practicable height and use gentle slopes.
- Minimise the storage time of materials on site.
- Store materials away from the site boundary.
- Minimise the height of fall of all materials.
- Avoid spillage and clean any spill up as soon as possible.
- Good soil handling and storage methods including protection of stockpiles with geotextiles.

9.3.3 Non-Recyclable Waste

C&D waste unsuitable for reuse or recovery—including certain polystyrene, cardboard, and plastics—will be placed in separate, designated skips. Prior to removal, these containers will be inspected by the waste management team to ensure no recyclable materials have been misplaced. If contamination is found, the items will be resorted, and the cause of the sorting error will be addressed to improve future segregation.

A layout plan for a site-based waste segregation compound is shown in Figure 5.

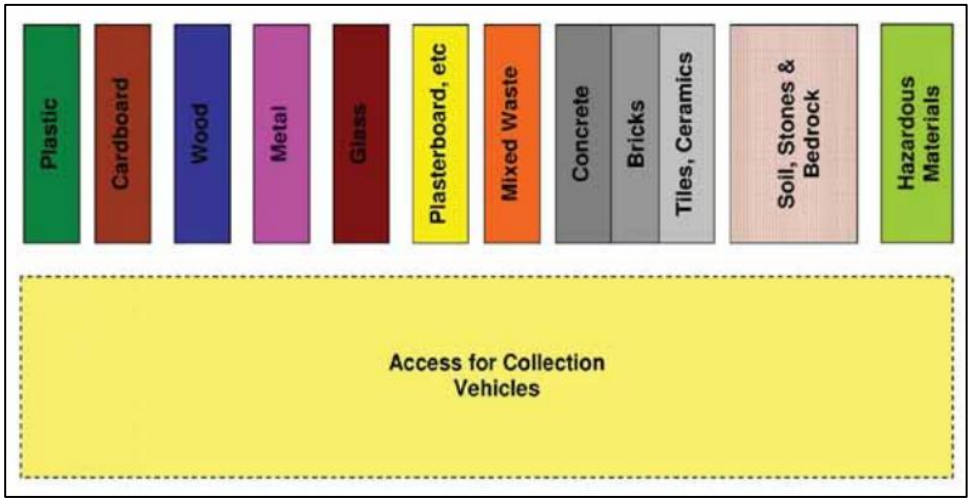

Figure 5: Layout Plan for the site-based waste segregation compound

9.3.4 Spill Kits

Spill kits shall be located within the WSA with clearly labelled instructions on how they shall be used to clean up fuel/oil spills.

Spill kit must be kept on site with sand, earth or commercial products for the containment of fuel and other material spillages. All staff will receive appropriate training in the use of these kits and are to be made aware of where the kit is stored. In the event of a spillage of oils or chemicals resulting in contamination of water courses or damage to habitats, the following procedure will be adopted:

- The appropriate spill kit is to be deployed immediately, and the site manager is to be informed.
- The incident is to be recorded within the site logbook; and
- In the event of significant spillage (in excess of 10 litres) or of contaminants being discharged directly to water courses, the EPA is to be contacted on **0818 33 55 99**.

Figure 6:Example Spill Kit

10 Conclusion

This document outlines the principles and measures by which the waste generated during the construction phase of the proposed LRD on lands at Confey, Leixlip, Co. Kildare, will be managed and controlled. It provides clear guidance on the legal and policy framework for C&D waste management in Ireland. It includes estimates of the type and quantity of waste that the proposed development will generate and prescribes effective measures for managing various waste streams. This RWMP will be further updated by the appointed contractor prior to the commencement of works will be regularly reviewed and updated when required throughout the project's lifecycle to maximise waste reduction and efficiency.

Adhering to this RWMP will ensure that waste management during the construction phase of the proposed development is conducted in accordance with the standards specified in the EPA's Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction and Demolition Projects, the KCC Waste Bye-Laws, and the NWMPCE.

Appendix A- Resource Waste Management Register

Description of Waste		Resource & Waste Management								Waste Collector		Waste Facility	
Waste Details	LoW Code	Vol. Gen t	Prevention Non-waste t	Reused Non-waste t	Recycled Non-waste t	R'covered Waste t	Disposed Waste t	Unit Cost € / t	Total Cost	Name	NWCP	Name	WFP/WL No.
Concrete, Bricks, Tiles and Ceramics	**17 01**												
Concrete	17 01 01												
Bricks	17 01 02												
Tiles and Ceramics	17 01 03												
Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances	17 01 06*												
Mixture of concrete, bricks tiles & ceramics	17 01 07												
Wood, Glass, and Plastic	**17 02**												
Wood	17 02 01												
Glass	17 02 02												
Plastic	17 02 03												
Glass, plastic and wood containing or contaminated with hazardous substances	17 02 04*												
Bituminous Mixtures, Coal Tar and Products	**17 03**												
Bituminous mixtures containing coal tar	17 03 01												
Bituminous mixtures containing other than those mentioned in 17 03 01	17 03 02												
Metals (including their Alloys)	**17 04**												
Copper, Bronze, Brass	17 04 01												
Aluminum	17 04 02												
Lead	17 04 03												
Zinc	17 04 04												
Iron and Steel	17 04 05												
Tin	17 04 06												
Mixed Metals	17 04 07												
Metal waste contaminated with hazardous substances	17 04 09*												
Cables	17 04 11												

Description of Waste		Resource & Waste Management								Waste Collector		Waste Facility	
Waste Details	**LoW Code**	**Vol. Gen t**	**Prevention Non-waste t**	**Reused Non-waste t**	**Recycled Non-waste t**	**R'covered Waste t**	**Disposed Waste t**	**Unit Cost € / t**	**Total Cost**	**Name**	**NWCP**	**Name**	**WFP/WL No.**
Soil (including excavated soil from contaminated sites, stones and dredging spoil)	**17 05**												
Soil and Stones	17 05 04												
Soil and Stones containing hazardous substances	17 05 03*												
Insulation and Asbestos-Containing Construction Materials	**17 06**												
Insulation Material	17 06 04												
Construction Materials Containing Asbestos	17 06 05*												
Gypsum based Construction Materials	**17 08**												
Gypsum	17 08 02												
Other Construction and Demolition Materials	**17 09**												
Mixed Construction and Demolition Waste other than those mentioned in 17 09 01, 17 09 02, 17 09 03	17 09 04												
Wastes of Liquid Fuels	**13 07**												
Fuel Oil & Diesel	13 07 01*												
Petrol	13 07 02*												
Other Fuels	13 07 03*												
Wastes from the Manufacture, Formulation. Supply and Use of Coatings	**08 01**												
Waste Paint & Varnish containing Organic Solvents or other Hazardous Materials	08 01 11*												
Waste Paint & Varnish other than those mentioned in 18 01 11	08 01 12												
Waste from wastewater treatment plants	**19 08**												
Sewage Screenings	19 08 01												
Municipal Wastes	**20 01**												

Description of Waste		Resource & Waste Management								Waste Collector		Waste Facility	
Waste Details	LoW Code	Vol. Gen t	Prevention Non-waste t	Reused Non-waste t	Recycled Non-waste t	R'covered Waste t	Disposed Waste t	Unit Cost € / t	Total Cost	Name	NWCP	Name	WFP/WL No.
Paper and Cardboard	20 01 01												
Wood other than that mentioned in 20 01 37	20.01 38												
Paint, ink, adhesives, and resins containing hazardous substances	20 01 27												
Electrical and electronic components	20 01 35-36												
Batteries and accumulators	20 01 33-34												
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13/19/27-30												
Other Municipal Wastes	**20 03**												
Mixed Municipal Waste	20 03 01												

Appendix B - Licensed Waste Facility/Collector

Waste Type	Waste Code	Licensed Waste Facility/Collector	Facility Code	Facility Address
Hazardous Waste	17 05 03*	McBreen Environmental	NWCPO-14-11320	Lismard, Portlaoise (Servicing Kildare/Nationwide)
Hazardous Waste		Enva Ireland	W0184-02	Clonminam Industrial Estate, Portlaoise
Soil & Stones	17 05 04		Behan's Land Restoration Ltd	W0247-01
		Bord na Móna (Drehid)	W0201-03	Killinagh Upper, Carbury, Co. Kildare
Concrete	17 01 01	Thorntons Recycling	NWCPO-09-01190	Servicing Maynooth/Kildare region
		Kilsaran Build	WFP-KE-16-0081	Gallstown, Grangebellew, Kildare
Bricks	17 01 02	AES (Bord na Móna)	W0198-01	Kilberry, Athy, Co. Kildare
Tiles and Ceramics	17 01 03	Drehid Waste Management	W0201-03	Killinagh Upper, Carbury, Co. Kildare
Wood	17 02 01	Bord na Móna Plc	W0198-01	Kilberry, Athy, Co. Kildare
		Starrus Eco Holdings (Greenstar)	W0188-01	Knockmay, Portlaoise (Servicing Kildare)
Glass	17 02 02	Rehab Glassco	WFP-KE-08-0357	Unit 4, Osberstown Business Park, Naas, Co. Kildare
Plastic	17 02 03	Thorntons Recycling	W0206-01	Dunboyne (Servicing Maynooth/North Kildare)
Bituminous mixtures	17 03 02	Roadstone Ltd	WFP-KE-15-0074	Allen, Naas, Co. Kildare
Mixed Metals	17 04 07	Hammond Lane Metal Co.	WFP-KE-14-0071	Athy Business Park, Athy, Co. Kildare
Mixed Construction and Demolition Wastes	17 09 04	AES (Bord na Móna)	W0194-02	Kyletalesha & Kyleclonhobert, Kildare/Laois border
		Glanway Ltd	P1015-03	Local collection servicing Kildare region

Appendix C – Proposed Development Plans

SCHEDULE OF ACCOMMODATION

CONFEY GAA CLUB

CONFEY GAA CLUB

LINEAR PARK - 0.7417 Ha.

NORTH

PROPOSED SITE LAYOUT
1:500 @ A1

Application Site

Extent of Ownership

Wayleave

ITM Coordinates:
X,Y= 700809, 737230

OS Map Sheets; 3194-06, 3194-07, 3194-A
OS Licence No. CYAL 50383112
Tailte Éireann - Surveying ©

0m 50m 100m

PLANNING

PROJECT TITLE:	Residential Development at Confey,Leixlip, Co. Kildare for Leixlip and Newbridge SPV Limited		
DRAWING TITLE:	Proposed Site Layout		
PROJECT NO:	2410	DATE:	20-07-2026
SCALE:	1:500 @ A1	DRAWN BY:	RC
FILE NAME:		CHECKED BY:	RC
DRAWING NO:	2410_SITE_0508-01	REVISION:	-

TĒGOS ARCHITECTS