



Confey, Leixlip LRD

Operational Waste Management Plan
21 July 2026

WDA2604031RP_A_02

www.wdacoustics.com

Notice

This document is intended only for Confey, Leixlip LRD. The information and document are specifically for Confey, Leixlip LRD and should not be reproduced, edited or copied in any form without the permission of Wave Dynamics. This document relates to the management of waste during the operational phase of the project which Wave Dynamics were engaged on. Wave Dynamics assumes no responsibility to any other party arising in connection with this document and its contents.

Document Information

Project Name:	Confey, Leixlip LRD
Address:	Confey, Leixlip, Co. Kildare
Project Number	WDA2604031
Report Title	Operational Waste Management Plan
Client	Leixlip and Newbridge SPV Limited

Document History

Revision	Status	Description	Author	Reviewer	Date
A	Issued	Operational Waste Management Plan			21/07/2026
			Shannon Doherty	Sean Rocks	

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,
Monaghan Rd,
Cork,
T12 H1XY

Phone (IRL): +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 were engaged by Leixlip and Newbridge SPV Limited to undertake an Operational Waste Management Plan (OWMP) for a proposed Large-Scale Residential (LRD) development on lands at Confey, Leixlip, Co. Kildare.

The Proposed Development:

The development will comprise a Large-Scale Residential Development (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 storey's 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.

Operational Waste Management Plan

This Operational Waste Management Plan (OWMP) has been developed to demonstrate that the proposed residential development at Confey, Leixlip, Co. Kildare, will be designed and managed to provide residents with waste management infrastructure. The goal is to minimise the generation of residual waste while maximising opportunities for segregating and recycling the waste produced by the development.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development.

The waste management strategy outlined in this report ensures that there is adequate storage capacity for the various types of segregated waste produced by the residential development. Following the guidelines in British Standard 5906:2005, which addresses waste management in buildings, Wave Dynamics have calculated the typical weekly waste generation. This calculation confirms that sufficient and appropriate waste storage capacity will be available for the development when it reaches full occupancy.

All recyclable materials will be separated at the source to minimise costs for waste contractors and maximise the diversion of materials from landfills. This effort contributes to the targets outlined in the National Waste Management Plan for a Circular Economy (NWMPCE) for 2024-2030. Following this Operational Waste Management Plan (OWMP) will also ensure that waste management practices at the development comply with the Kildare County Council (KCC) Waste Bye-Laws.

Additional recommendations have been provided. These recommendations may be used to further help contribute towards achieving current and long-term national and KCC targets for waste minimisation, re-use and recycling. Additional recommendations have been provided. These recommendations may be used to further help contribute towards achieving current and long-term national and KCC targets for waste minimisation, re-use and recycling.

Table of Contents

1	Introduction	1
1.1	Statement of Competence	1
2	Proposed Development	2
3	Waste Management in Ireland	3
3.1	Policy and Legislation	3
3.1.1	European Directives	3
3.1.2	National Waste Policy.....	4
3.2	Regional Level	5
3.2.1	National Waste Management Plan for a Circular Economy 2024–2030	5
3.2.2	Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action6	
3.2.3	The Kildare County Development Plan 2023 – 2029	6
3.2.4	Kildare County Council Waste Bye-Laws	7
4	Guidelines and Standards.....	8
4.1	Design Standards for New Apartments	8
4.2	Waste Management Obligations	8
4.3	Regional Waste Management Service Providers and Facilities	9
5	Typical Waste Categories	10
5.1	Definition of Waste.....	10
5.2	Waste Type.....	10
5.2.1	Operational Waste from the Proposed Development.....	10
5.3	European Waste Code	11
5.4	Waste Management.....	12
6	Estimated Waste Arisings	13
6.1	Waste Arisings: Houses.....	13
6.2	Waste Arisings: Duplex Units	14
6.3	Apartments.....	15
6.4	Total Weekly Waste Arisings	16
7	Waste Storage Facilities	17
7.1	Individual Houses	17
7.1.1	Waste Storage Requirements for Houses	17
7.2	Duplex Units.....	18
7.2.1	Waste Storage Requirements for Duplex Units.....	18
7.3	Apartments.....	18
7.3.1	Waste Storage Requirements for Apartments.....	19

7.4	Waste Storage Area (WSA) Design	19
7.5	Waste Storage in Residential Properties	20
7.6	Waste Storage Receptacles	21
7.6.1	What goes in Each Bin?	21
7.7	Polluter Pays Principle	22
8	Waste Collection	23
8.1	Waste Collection from Houses	23
8.2	Waste Collection from Duplex Units and Apartments	23
8.3	Refuse Vehicle Tracking	23
8.4	Presentation of Waste	24
9	Management of Additional Waste	25
9.1	Facility Management Responsibilities	26
10	Recommendations	27
11	Conclusion	28

1 Introduction

Wave Dynamics were engaged by Leixlip and Newbridge SPV Limited to undertake an Operational Waste Management Plan (OWMP) for a proposed Large-Scale Residential (LRD) development on lands at Confehy, Leixlip, Co. Kildare.

The principal aim of this Operational Waste Management Plan (OWMP) is to demonstrate how the proposed development has taken into account sustainable methods for waste management during its operation. This Plan has been prepared in-line with the current legal and industry standards including, the Waste Management Act 1996 as amended, Environmental Protection Agency Act 1992 as amended, Litter Pollution Act 1997 as amended, Kildare County Council (KCC) Segregation, Storage, and Presentation of Household & Commercial Waste Bye-Laws 2018, the National Waste Management Plan for a Circular Economy 2024 - 2030 and has been prepared with the following principles and objectives in mind:

- To contribute towards achieving current and long-term national and local targets for waste minimisation, recycling and re-use;
- To comply with all legal requirements for handling operational waste;
- To achieve high standards of environmental performance with respect to waste management; and
- To provide users of the proposed development with convenient, clean and efficient waste systems that enhances the operation of the buildings and promote high levels of recycling.

The key aims of this OWMP are to:

- Provide estimations on the anticipated waste generation within the proposed development;
- Provide a strategy for the management of the anticipated waste generation within the proposed development, from the point where waste is generated to the point where it is collected for off-site treatment;
- Ensure that occupants can easily segregate recyclables and are encouraged to do so;
- Allow waste to be disposed of easily, and be stored and collected in an efficient and discreet manner;
- Ensure that the Proposed Development has adequate facilities and space to adapt to any future waste management trends and practices; and
- Ensure that national and local targets, as well as all client waste management aims and aspirations, are met.

This OWMP may be updated during detailed design and when the development is occupied to incorporate any changes in legislation and also to incorporate any changes and improvements in management technique.

Appendix A of this OWMP outlines the 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 Operational Waste Management Plan (OWMP) is for a proposed Large-Scale Residential (LRD) development on lands at Confey, Leixlip, Co. Kildare.

The development will comprise a Large-Scale Residential Development (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.

Figure 1 below illustrates the proposed development plans.

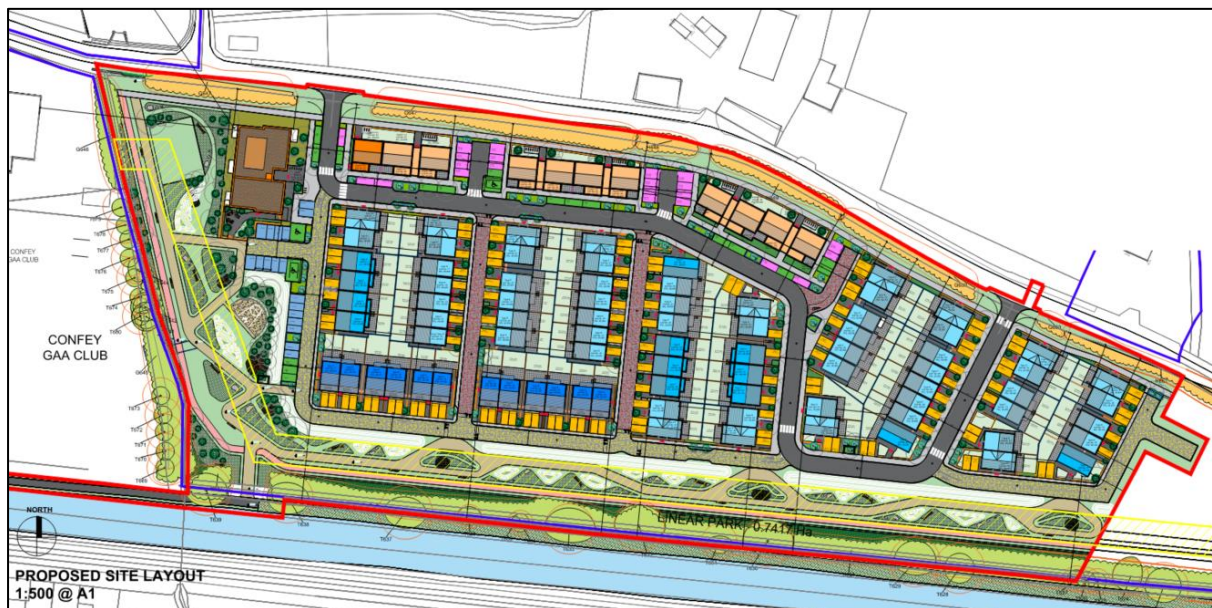


Figure 1: Proposed Development Plans

3 Waste Management in Ireland

The following section gives an overview of the main policy drivers for 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 OWMP 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 the provision of waste management facilities at the development and the estimated quantities of waste generated and for which the provision of storage is required have been based on the British Standard 5906:2005 Waste Management in Buildings – Code of Practice.

3.1 Policy and Legislation

Irish waste policy is grounded on the European Union's concept of a waste management hierarchy. The European Union's 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 waste 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 European Union (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;
- A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025; September 2020; and
- Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action.

The national waste policy currently in place, titled "A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025," 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.

3.2 Regional Level

The development is located in the Local Authority administrative area of Kildare County Council (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.

In 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 established 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 replaced previous regional waste management plans, it did not dissolve the three regional waste areas.

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 The Kildare County Development Plan 2023 – 2029

The Kildare County Development Plan 2023-2029 sets out Kildare County Council's policies and objectives for the development of the county over the plan period. The Council includes waste management objectives as part of Chapter 15 'Development Management Standards' relating to bin provision. It outlines the need for segregation of waste into dry recyclables, food waste and residual domestic waste. All new developments must comply with this by providing a three bin system in each unit.

Of note section 15.4.6 of the Development plan sets out the following guidelines related to bin design standards for proposed developments:

- Site Layout Plans for all applications for multi-unit residential development should detail the bin storage, bicycle parking and e-car charging provisions.
- Adequate provision shall be made for the storage and collection of waste materials. Each house shall have adequately screened storage for at least 3 number 'wheelie' bins.

Also Section 15.9.1 states the requirement in relation to Bin Storage for Employment Uses and requires 'Proposals for the safe storage and disposal of waste in a manner which is visually and environmentally acceptable.

3.2.4 Kildare County Council Waste Bye-Laws

The Kildare County Council Waste Management (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws 2018 were entered into force on the 1st day of March, 2019. The bye-laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the KCC functional area. Key requirements under these bye-laws of relevance to the development include the following:

- Kerbside waste presented for collection shall not be presented for collection earlier than 8:00 pm on the day immediately preceding the designated waste collection day;
 - All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath or any other public place no later than 8:00am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law;
 - Documentation, including receipts, is obtained and retained for a period of no less than one year to provide proof that any waste removed from the premises has been managed in a manner that conforms to these bye-laws, to the Waste Management Act and, where such legislation is applicable to that person, to the European Union (Household Food Waste and Bio-Waste) Regulations 2015; and
 - Adequate access and egress onto and from the premises by waste collection vehicles is maintained.
- The full text of the Waste Bye-Laws is available from the KCC website.

4 Guidelines and Standards

4.1 Design Standards for New Apartments

The Department of Housing, Local Government and Heritage issued the statutory "Design Standards for Apartments: Guidelines for Planning Authorities" under Section 28 of the Planning and Development Act 2000 (as amended). These guidelines completely replaced and revoked the previous "Sustainable Urban Housing" framework (originally published in 2015 and updated through to 2023). The guidelines establish standards for apartment development, focusing on design quality safeguards that include internal space standards for studio, one-, two-, and three-bedroom apartments, as well as requirements for internal storage and amenity spaces.

The guidelines mandate the provision of facilities for the storage and collection of waste materials in apartment complexes. Refuse facilities should be easily accessible to each apartment's stairwell or lift core and designed to accommodate the anticipated level of waste generation, including the types and quantities of containers required. Within the apartments, there should be sufficient space for the temporary storage of segregated materials before they are deposited in communal waste storage areas. Additionally, the use of in-sink macerators is discouraged, as they can impose additional strain on drainage systems. The guidelines outline several general design considerations that should be taken into account when providing refuse storage facilities:

- Sufficient communal storage area to satisfy the three-bin system for the collection of mixed dry recyclables, organic waste and residual waste;
- In larger apartment schemes, consideration should also be given to the provision of separate collection facilities for other recyclables such as glass and plastics;
- Waste storage areas must be adequately ventilated so as to minimise odours and potential nuisance from vermin/flies and taking account the avoidance of nuisance for habitable rooms nearby;
- Provision in the layout for sufficient access for waste collectors, proximity of, or ease of access to, waste storage areas from individual apartments, including access by disabled people;
- Waste storage areas should not present any safety risks to users and should be well-lit;
- Waste storage areas should not be on the public street, and should not be visible to or accessible by the general public. Appropriate visual screening should be provided, particularly in the vicinity of apartment buildings;
- Waste storage areas in basement car parks should be avoided where possible, but where provided, must ensure adequate manoeuvring space for collection vehicles;
- The capacity for washing down waste storage areas, with wastewater discharging to the sewer.

4.2 Waste Management Obligations

Currently, there are no specific guidelines in Ireland for the preparation of Operational Waste Management Plans (OWMPs). As a result, this document refers to national and regional waste policies, legislation, and other relevant guidelines. The Waste Management Act follows the "polluter pays" principle, meaning that the waste producer is responsible for any pollution incidents that may occur due to the improper transport of the waste they generate. Therefore, it is essential for waste producers to ensure that all waste contractors they hire comply with legal requirements regarding waste transport and disposal.

When appointing a waste contractor for the development, the Facilities Management Company must ensure that the chosen waste contractor has a valid waste transport permit. A contractor is not allowed to accept any waste at their site unless they possess a waste permit granted by a local authority under the Waste Management (Permit) Regulations, 1998, or a waste license issued by the Environmental Protection Agency (EPA).

This permit specifies the types of waste that a contractor is licensed to receive, store, sort, and recycle at their site. The Facilities Management Company appointed to oversee the development will be responsible for implementing all aspects of the Operational Waste Management Plan as outlined in this report. Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local

Authority under the Waste Management (Facility Permit & Registration) Regulations 2007, as amended, or a Waste Licence granted by the EPA.

4.3 Regional Waste Management Service Providers and Facilities

Several contractors provide waste collection services for the residential sector in the KCC region. Information about waste collection permits—whether granted, pending, or withdrawn—can be obtained from the National Waste Collection Permit Office (NWCPO). According to the Eastern Midlands Region (EMR) Waste Management Plan for 2015-2021, the number of landfills available in the region is decreasing. Currently, only three municipal solid waste landfills are operational, all of which are managed by the private sector. In addition, there are various other licensed and permitted facilities in the region, including waste transfer stations, hazardous waste facilities, and integrated waste management facilities.

Thermal treatment facilities are waste management systems that use high temperatures to process waste, reducing its volume, destroying harmful substances, and potentially generating energy. These facilities employ various methods like incineration, pyrolysis, and other thermal technologies to manage different types of waste, including municipal and industrial. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second in Poolbeg in Dublin.

There is a Civic Amenity / recycling centre, located c. 5.5 km northwest of the development site at Coolmine Industrial Estate, Dublin, which can be utilised by the residents of the development for other household waste streams, while a bottle bank can be found c. 2.5km west of the development site at Lidl car park, Station Rd, Leixlip. A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all Waste Licenses issued are available from the EPA.

5 Typical Waste Categories

5.1 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.

5.2 Waste Type

At a strategic level the key waste streams produced on site can be classified as:

- Inert – wastes that will not cause adverse effects to the environment when disposed of, or do not decompose and they have no potentially hazardous content when placed in a landfill. Examples of inert wastes are rocks, concrete, mortar, glass, uncontaminated soils and aggregates.
- Non-Hazardous – wastes that will decompose when buried resulting in the production of methane and carbon dioxide. Examples of non-hazardous wastes include timber, paper and cardboard.
- Hazardous – wastes that are harmful to human health or the environment (for example, pollution of watercourses) if they are incorrectly contained, treated or disposed of. Hazardous wastes may have one or more of the following properties: explosive, corrosive, flammable, highly flammable, infectious, oxidising or sensitising.

5.2.1 Operational Waste from the Proposed Development

The typical non-hazardous and hazardous wastes that will be generated at the Proposed Development will include the following:

- Dry Mixed Recyclables (DMR) - is defined as a collection of solid waste materials that can be stored and collected in one bin or in separate bins to increase recycling value. Includes waste paper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Organic waste – organic waste is defined as waste that is organic in nature and comprises mainly of food, be it cooked or uncooked, from kitchens and other catering establishments and is generally classified as putrescible;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste - this is the residual waste that is the remaining waste material after separate diversion of waste components through reduction, reuse, recycling and food waste collections.

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated in small quantities which will need to be managed separately including:

- Green/garden waste may be generated from internal plants or external landscaping;
- Batteries (both hazardous and non-hazardous);
- Drink Cans and Bottles (Deposit Return Scheme)
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- Printer cartridges/toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Lightbulbs;
- Textiles (rags);
- Waste cooking oil; and
- Furniture (and from time to time other bulky wastes).

Wastes should be separated into the specified types to ensure compliance with waste legislation and guidance while maximising the reuse, recycling, and recovery of waste, diverting it from landfill wherever possible.

5.3 European Waste Code

In 1994, the European Commission published the European Waste Catalogue and the Hazardous Waste List. In 2002, the EPA released a document titled "The European Waste Catalogue and Hazardous Waste List," which condensed the information from the original two documents and their subsequent amendments. Recently, this document has been replaced by the EPA's "Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous," published in 2018. This waste classification system is applicable across the EU and serves as the foundation for all national and international waste reporting related to waste collection permits, Certificates of Registration (CORs), permits and licenses, and the EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) codes for typical waste materials expected to be generated during the operation of the proposed development are outlined in Table 1.

Table 1: Typical Waste Typed Generated and Associated LoW Codes

Waste Material	Hazard Level	LoW/EWC Code
Paper and Cardboard	Non-Hazardous	20 01 01
Plastics	Non-Hazardous	20 01 39
Metals	Non-Hazardous	20 01 40
Mixed Non-Recyclable Waste	Non-Hazardous	20 03 01
Glass	Non-Hazardous	20 01 02
Biodegradable Kitchen Waste	Non-Hazardous	20 01 08
Oils and Fats	Non-Hazardous	20 01 25
Textiles	Non-Hazardous	20 01 11
Batteries and Accumulators*	Hazardous	20 01 33*/34
Printer Toner/Cartridges*	Hazardous	20 01 27*/28
Green Waste	Non-Hazardous	20 02 01
WEEE*	Hazardous	20 01 35*/36
Chemicals (solvents, pesticides, paints & adhesives, detergents, etc.) *	Hazardous	20 01 13*/19*/27*/28/29*/30
Fluorescent tubes and other mercury containing waste*	Non-Hazardous	20 01 21*
Bulky Wastes	Non-Hazardous	20 03 07

* Individual waste type may contain hazardous materials

The most common wastes remain Mixed Dry Recyclables, Organic Waste, Mixed Non-Recyclables, and Glass. The other wastes will be produced in small quantities and can be disposed at civic amenity centres.

5.4 Waste Management

Once a substance has become waste it will remain waste until it has been fully recovered and no longer poses a potential risk to the environment or human health. From that moment onwards, the material ceases to be waste, and it is no longer subject to the same legislative controls. This applies to waste used as aggregate or construction material in civil engineering applications and to exceed topsoils and sub-soils which need to be moved off-site. Waste recovery can be achieved when such waste is incorporated into a road, building or other infrastructure works, or in the case of inert waste, after processing if such a process is conducted following the criteria specified in the relevant quality protocols.

The principal objective of sustainable resource and waste management is to use material resources more efficiently, where the value of products, materials and resources are maintained in the economy for as long as possible and the generation of waste is minimised. To achieve resource efficiency there is a need to move from a traditional linear economy to a circular economy as illustrated in Figure 3.



Figure 3: Circular Economy

6 Estimated Waste Arisings

British Standard 5906:2005 Waste Management in Buildings – Code of Practice covers methods of storage, collection, segregation for recycling and recovery, and on-site treatment of waste from residential buildings. It is applicable to new buildings, refurbishments and conversions of residential and non-residential buildings, including but not limited to retail and offices. It sets out typical weekly waste arisings for various types of buildings, as outlined in Table 2.

Table 2: Typical Waste Arisings

Typical Weekly Waste Arisings			
Building Type	Weekly Waste Calculation	Example	Weekly Waste Arisings (Litres)
Dwelling (not HMO) This estimate assumes residential purposes only; if the dwelling is also used for any non-domestic purposes, the relevant arisings should be separately estimated and planned for.	70L per bedroom + 30L per dwelling	3-bedroom house	240
House in Multiple Occupation	100L per bedroom + 60L per dwelling	3-bedroom house	360
Office	50L per employee	10 employees	500
Shopping Centre	10L per sqm of sales area	25,000 sqm sales area	250,000
Fast Food Outlet	5L per sale	45,000 sales per week	225,000
Department Store	10L per sqm of sales area	3,700 sqm	37,000
Restaurant	75L per dinning space	30 dining spaces	2,250
4/5 Star Hotel	350L per bedroom	370 bedrooms	129,500
2/3 Star Hotel	250L per bedroom	100 bedrooms	25,000
1 Star Hotel/ B&B	150L per bedroom	5 bedrooms	750
Supermarket (small – sales area up to 1500sqm)	100L per sqm of sales area	800 sqm sales area	80,000
Supermarket (large – sales area more than 1500sqm)	150L per sqm of sales area	2,000 sqm sales area	300,000
Industrial Unit	5L per sqm of floor area	2,000 sqm floor area	10,000
School	2,500L per 100 pupils	700 pupils	17,500

For the purposes of the waste storage calculations, the waste will be segregated and stored into three main designated waste streams namely mixed dry recyclables, organic food waste and residual waste. When using volume as the unit measurement for waste arisings, it is considered that a 60:25:10:5 split between mixed dry recyclables, residual waste, organic waste and glass waste is a best estimate fit for waste breakdown for the proposed development and typical residential living. The above equation can be used to estimate the waste arisings for each of the different residential types based on the number of bedrooms present in the dwelling unit. Sections 6.1 and 6.2 below outline the estimated volume of waste that will be generated each week by each of the residential units based on the number of bedrooms per unit.

6.1 Waste Arisings: Houses

While British Standard 5906:2005, a code of practice for waste management in buildings, does not mandate a specific waste calculation for individual houses, it provides guidance on predicting waste quantities and designing appropriate storage solutions. While individual houses are generally not subject to the same detailed waste management regulations as larger developments, understanding the principles outlined in BS 5906:2005 and any

relevant council regulations can help determine appropriate waste storage solutions for each dwelling, which in turn helps determine appropriate storage capacity and collection frequencies for the proposed development.

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. Table 3 presents the estimated volume of waste that will be generated each week by each of the residential house types based on the number of bedrooms per unit.

Table 3: Estimated Main Waste Generation Volume for Each House Per Week

Waste Stream	Waste Volume (litres/week)	
	3 Bedroom House	4 Bedroom House
DryR (60%)	144	186
NonR (25%)	60	77.5
Organic (10%)	24	31
Glass (5%)	12	15.5
Total (100%)	240	310

Assuming full occupancy rates for all 81 no. houses the total waste arisings for all the houses on the proposed development have been calculated as shown in Table 4.

Table 4: Total Estimated Main Waste Generation Volume for All Houses Per Week

Waste Stream	Waste Volume (litres/week)	
	56 No. x 3 Bedroom Houses	25 No. x 4 Bedroom Houses
DryR (60%)	8,064	4,650
NonR (25%)	3,360	1,937.5
Organic (10%)	1,344	775
Glass (5%)	672	387.5
Total (100%)	13,440	7,750

In total, the houses will produce approximately 21,190 litres of waste per week.

6.2 Waste Arisings: Duplex Units

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. British Standard 5906:2005, code of practice for waste management in buildings was also used to estimate the weekly volume of waste generated by the duplex units in the development using the same methodology as the houses. Assuming full occupancy rates for all duplex units the waste arisings for each duplex unit has been calculated. Table 5 below illustrates the weekly estimated main waste generated by the 2 bedroom and 3 bedroom duplex units.

Table 5: Estimated Main Waste Generation Volume for Each Duplex Per Week

Waste Stream	Waste Volume (litres/week) per duplex type	
	2 Bedroom Duplex	3 Bedroom Duplex
DryR (60%)	102	144
NonR (25%)	42.5	60

Waste Stream	Waste Volume (litres/week) per duplex type	
	2 Bedroom Duplex	3 Bedroom Duplex
Organic (10%)	17	24
Glass (5%)	8.5	12
Total (100%)	170	240

Assuming full occupancy rates for all 22no. duplex units, the total waste arisings have been calculated as shown in Table 6.

Table 6: Total Estimated Main Waste Generation Volume for Each Duplex Per Week

Waste Stream	Waste Volume (litres/week) for all duplexes	
	11 No. x 2 Bedroom Duplex	11 No. x 3 Bedroom Duplex
DryR (60%)	1,122	1,584
NonR (25%)	467.5	660
Organic (10%)	187	264
Glass (5%)	93.5	132
Total (100%)	1,870	2,640

In total, the 11no. 2-bedroom duplex units will produce approximately 1,870 litres of waste per week and the 11no. 3-bedroom duplex units producing approximately 2,640 litres of waste per week, equalling a total of 4,510 litres of waste per week from the duplex units.

6.3 Apartments

The proposed development will comprise 22 no. units within a single apartment block of up to 5 storey's in height, consisting of 5 no. 1-bedroom apartments and 17 no. 2-bedroom apartments. British Standard 5906:2005, code of practice for waste management in buildings was also used to estimate the weekly volume of waste generated by the apartments in the development using the same methodology as the houses and duplex units. Assuming full occupancy rates for all apartments, the waste arisings for each apartment has been calculated. Tables 7 and 8 below illustrate the weekly estimated main waste generated by the apartments.

Table 7: Estimated Waste Generation Volume for the Apartments Per Week (Litres)

Waste Stream	Waste Volume (litres/week) per duplex type	
	1 Bedroom Apartment	2 Bedroom Apartment
DryR (60%)	60	102
NonR (25%)	25	42.5
Organic (10%)	10	17
Glass (5%)	5	8.5
Total (100%)	100	170

Assuming full occupancy rates for all 22 no. apartments, the total waste arisings have been calculated as shown in Table 8.

Table 8: Total Estimated Main Waste Generation Volume by the Apartments Per Week

Waste Stream	Waste Volume (litres/week) for all duplexes	
	5 No. x 1 Bedroom Apartments	17 No. x 2 Bedroom Apartments
DryR (60%)	300	1,734
NonR (25%)	125	722.5
Organic (10%)	50	289
Glass (5%)	25	144.5
Total (100%)	500	2,890

In total, the 22no. apartments will produce approximately 3,390 litres of waste per week.

6.4 Total Weekly Waste Arisings

The British Standard 5906:2005 Waste Management in Buildings – Code of Practice was used to determine the total amount of waste produced by the proposed development assuming full occupancy rates of all houses, duplex units and apartments. It is therefore estimated that a total of 29,090 litres (approx. 29m³) of the main waste types will be generated by the proposed development on a weekly basis once full occupancy has been reached.

Table 9: Total Development Weekly Waste Arisings

Waste Stream	Total Waste Volume (litres/week)		
	Houses	Duplex Units	Apartments
DryR (60%)	12,714	2,706	2,034
NonR (25%)	5,297.5	1,127.5	847.5
Organic (10%)	2,119	451	339
Glass (5%)	1,059.5	225.5	169.5
Estimated Waste Generated Weekly	21,190	4,510	3,390
Development Total	29,090		

7 Waste Storage Facilities

This section outlines the procedures for storing waste generated within the development. It has been prepared with careful attention to the proposed site layout and adheres to best practice standards as well as local and national waste management requirements including those of KCC.

7.1 Individual Houses

Each house on the development will have its own individual designated waste storage area, located either at the rear of the property or to the front. Mid terraced house which do not have rear yard access will have an allocated bin and bike shelter located to the front of the property, as illustrated in Figure 4 below. The bins will be collected on the street on the designated collection date each week. The residences are responsible for moving their bins for collection while following all of the Bye-laws issued by Kildare County Council.

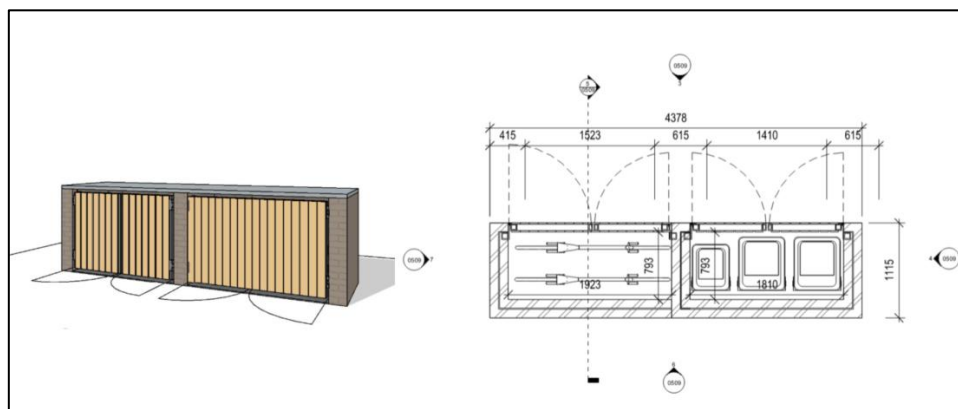


Figure 4: Bin and Bike Shelter

7.1.1 Waste Storage Requirements for Houses

The largest house size, based on the expected number of occupants, is a 4 No. bedroom house. This type of house would require:

- 1 x 240L DryR (Dry mixed recyclables).
- 1 x 140L NonR (Nonrecyclable waste).
- 1 x 140L (Organic Waste).

All other house types will adopt the same waste storage capacity. Waste glass should be stored separately and taken to the nearest bring bank. The closest bottle bank can be found c. 2.5km west of the development site at Lidl car park, Station Rd, Leixlip. Using the estimated waste generation volumes in Table 4, the waste receptacle requirements for DryR, NonR, organic waste and glass have been established for the houses. These are presented in Table 10.

Table 10: Waste Storage Requirements for Houses

House Type	Bins Required per House for Weekly Storage			
	DryR*	NonR**	Organic	Glass
3 – Bedroom House (Individual)	1 x 240L	1 x 140L	1 x 140L	Bring Bank
4 – Bedroom House (Individual)	1 x 240L	1 x 140L	1 x 140L	Bring Bank

Other types of waste materials, including waste electrical and electronic equipment, chemicals, lighting, furniture, and textiles, may be generated infrequently by residents. Residents are required to identify suitable temporary storage areas for these items within their units and dispose of them properly.

7.2 Duplex Units

The development consists of 22 duplex units housed within 11 three-storey blocks. The residential mix comprises 11 two-bedroom and 11 three-bedroom homes. Five shared Waste Storage Areas (WSAs) will serve these blocks: four WSAs will each serve two blocks, while the remaining WSA will serve the three blocks located in the north-west of the site. Each duplex unit will have access to a designated ground-floor storage area. Prior to collection, facilities management personnel will transfer residential waste from these shared WSAs to an allocated bin staging area for collection by the appointed waste contractor.

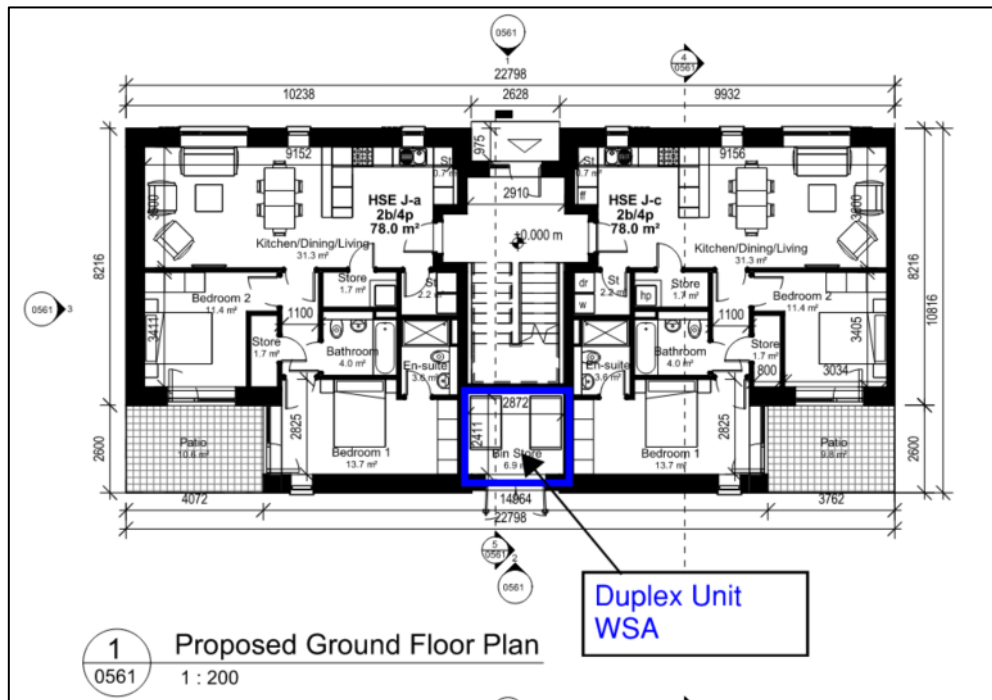


Figure 5: Duplex WSA

7.2.1 Waste Storage Requirements for Duplex Units

Based on the estimated waste volumes in Table 4, the receptacle requirements for the shared duplex Waste Storage Area (WSAs) have been established. Table 11 details the specific bin allocations required to fully accommodate the waste generated by all duplex units at maximum occupancy. Each dedicated WSA is sized appropriately to house this full allocation. These quantities assume a weekly collection service managed by an appointed, licensed waste contractor.

Table 11: Waste Storage Requirements for Duplex Units

Duplex Unit s	Bins Required for Weekly Storage			
	DryR*	NonR**	Organic	Glass
Each of 5 No. Duplex WSAs	1 x 1100L	1 x 1100L	1 x 240L	1 x 140L

Note: * = Dry Mixed Recyclables

** = Mixed Non-Recyclables.

7.3 Apartments

The apartments will have their own designated shared waste storage area (WSA) on the ground floor. The waste storage area will be used to store residential waste bins pending collection by the waste contractor. This shared residential Waste Storage Area will have restricted entry, allowing access only to authorised residents, facilities management personnel, and licensed waste contractors. Individuals seeking entry must use an access key /

code or an electronic fob to unlock the door. These access controls are in place to ensure the security and proper management of the waste storage facilities. It is important to note that the residents in the apartments bear the responsibility of transporting their segregated waste materials to their designated waste storage area. They must ensure that waste is disposed of in the proper receptacles as outlined by the waste management guidelines. This process helps maintain an organised and efficient waste management system within the apartment block. Residential waste from the shared WSA's, will be brought to an allocated bin staging area by personnel nominated by the facilities management company, prior to collection of the waste by the appointed waste contractor Figure 6 illustrates the location of the WSA for the apartment block.

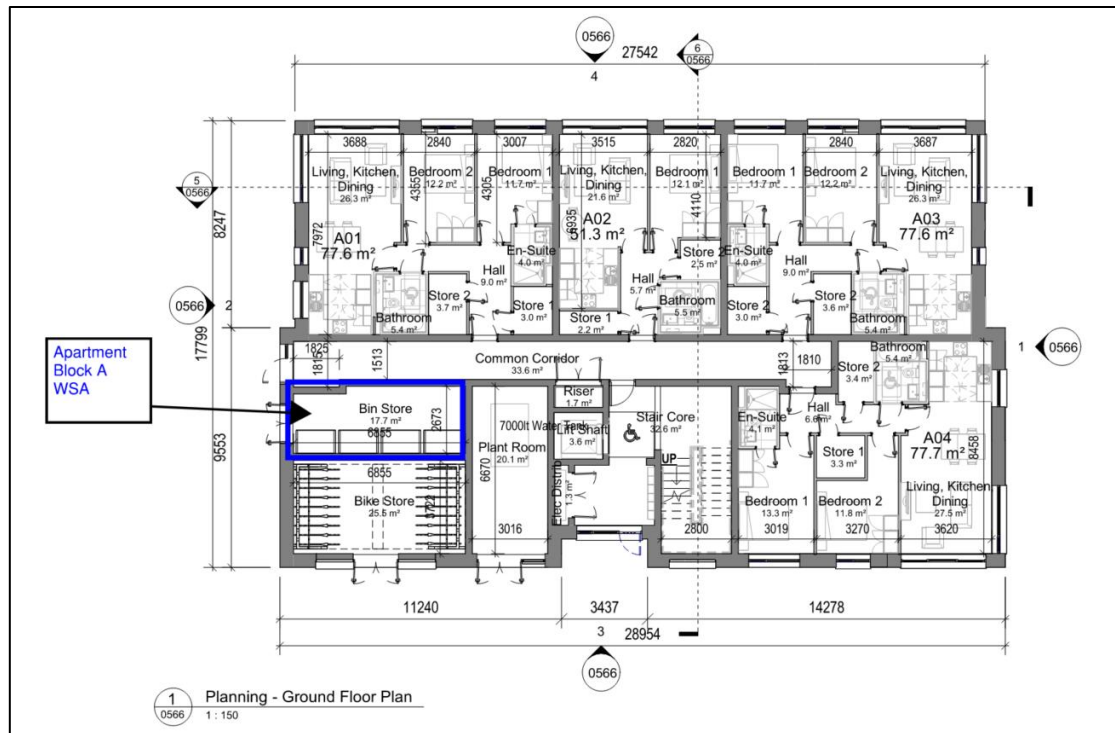


Figure 6: Waste Storage Area for Apartment Block A

7.3.1 Waste Storage Requirements for Apartments

The bin allocation for the apartments is detailed in Table 12. This table sets out the required bin provision to adequately accommodate the volume of waste generated by each apartment when operating at full occupancy. The apartments are provided with a dedicated waste storage area of sufficient size to accommodate the full bin allocation. The bin quantities outlined in Table 12 are based on the assumption of a weekly waste collection service from the waste storage area by an appointed licensed waste collection contractor.

Table 12: Minimum Waste Storage Requirements for the Apartment block WSA

Apartments	Bins Required for Weekly Storage			
	DryR*	NonR**	Organic	Glass
WSA	2 x 1100L	1 x 1100L	1 x 360L	1 x 140L

Note: * = Dry Mixed Recyclables

** = Mixed Non-Recyclables.

7.4 Waste Storage Area (WSA) Design

The apartment block shared waste storage area (WSA) shall be designed and equipped to fully comply with the requirements of all applicable design standards, including the following:

- Be fitted with a non-slip floor surface;

- Provide ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system for internal WSA's;
- The waste storage areas will be fitted with sensor lighting – a minimum Lux rating of 400 is recommended;
- The waste storage areas will be designed to provide safe access from the block A apartments for all persons;
- Be easily accessible for people with limited mobility;
- Be restricted to access by nominated personnel only;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have appropriate signage placed above and on bins indicating correct use;
- Have access for potential control of vermin, if required; and
- Be fitted with CCTV for monitoring.

The facilities management company and residents must ensure that the WSA's are maintained in good condition, in full compliance with the KCC Waste Bye-Laws. It is essential that everyone takes responsibility for adhering to these standards.

7.5 Waste Storage in Residential Properties

All residents will be required to segregate their waste into the following main waste categories within their own properties:

- Organic waste;
- DMR;
- MNR; and
- Glass

Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. An example of a potential 3 bin storage system is provided in Figure 7 below.



Figure 7: Example Trio Pull-Out-3-Compartment Bin

Residents must take their segregated waste materials to their own designated waste storage area and deposit their waste in the appropriate bins.

7.6 Waste Storage Receptacles

Typical waste storage receptacles, as shown in Figure 8 (or other approved containers). Each individual house/duplex is responsible for contacting a waste contractor to obtain the appropriate waste storage receptacles. These receptacles will be provided by the waste contractor for each specific unit. The types of bins utilised will vary in size, design, and colour based on the selected waste contractor. It is essential that all waste containers comply with the performance requirements specified in the SIST EN 840-1:2020 and SIST EN 840-2:2020 standards for mobile waste containers, as required.



Figure 8: Typical Waste Receptacles of Varying Size

7.6.1 What goes in Each Bin?

Green Bin

- Paper and cardboard
- Food tins
- Drink cans
- Hard plastics (e.g. mineral , water and detergent bottles)
- Soft plastics (e.g. crisp packets, plastic bags, bubble wrap)

Black Bin

- Soiled food packaging
- Bathroom waste
- Nappies
- Animal waste
- Cold ashes
- Aerosols
- Takeaway coffee cups
- Used candles

Brown Bin

- Coffee grounds and filters
- Cooked and raw foods
- Dairy products
- Eggs and egg shells
- Fruit, vegetables and peelings
- Tea leaves and tea bags
- Meat, bones and fish
- Hedge clippings, twigs and branches (max. 2 inches in diameter)
- Leaves, plants, weeds and grass.

Every resident will receive this OWMP upon moving in. Furthermore, the facilities management company will proactively update the OWMP as necessary, incorporating any new information on waste segregation, storage, reuse, and recycling initiatives that are introduced over time.

7.7 Polluter Pays Principle

The polluter pays principle is applied to the apartment block through a centrally managed but individually funded waste management system. All residential waste generated within the apartments will be deposited by residents into designated, clearly labelled waste receptacles located within the shared waste storage area. Waste will be segregated in accordance with Kildare County Council requirements (e.g. residual, recycling, and organic waste).

A facilities management company, acting on behalf of the residents in the apartment block, will engage a licensed waste collection operator authorised to operate within the Kildare County Council area to collect residential waste from the shared waste storage area on a weekly basis.

The cost of waste management, including collection and disposal, will be recovered directly from residents through service charges or management fees apportioned to each apartment. In this way, each household contributes financially to the disposal of the waste it generates, ensuring compliance with the polluter pays principle.

8 Waste Collection

There are numerous private contractors that provide waste collection services in the KCC area. All waste contractors servicing the development must hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered / permitted / licensed facilities only.

The facilities management company will be responsible for appointing a waste contractor for the collection of residential waste. The facilities management company will also be responsible for any residential waste issues on site.

8.1 Waste Collection from Houses

Residents with individual waste storage areas will be responsible for transferring their own bins to/from their own individual waste storage area to the street/bin staging area for collection by the appointed waste contractor. Suitable access and egress have been provided to enable the bins to be moved easily from individual waste storage areas to the waste collection point on the appropriate days.

8.2 Waste Collection from Duplex Units and Apartments

Waste collection from the duplex units and apartment block WSA can be carried out in the following manner:

- a) On the day of collection, bins from the WSA will be brought to a waiting refuse vehicle directly from the WSA. The facilities management company will put in place an agreement to ensure bins from the duplex units and apartment block WSA will be collected by waste contractors directly from the WSA and brought to the waiting refuse collection vehicles at the designated collection point, emptied and then returned to the appropriate WSA; or
- b) Residential waste from the shared WSA, will be brought to an allocated bin staging area by personnel nominated by the facilities management company, prior to collection of the waste by the appointed waste contractor.

8.3 Refuse Vehicle Tracking

Refuse vehicles will access the site via the site entrances from the R149. An auto-track analysis of the proposed development has been carried out for a 3 axle refuse vehicle, measuring 9.86m x 2.5m, accessing, manoeuvring within and egressing the site, as illustrated in Figure 9.

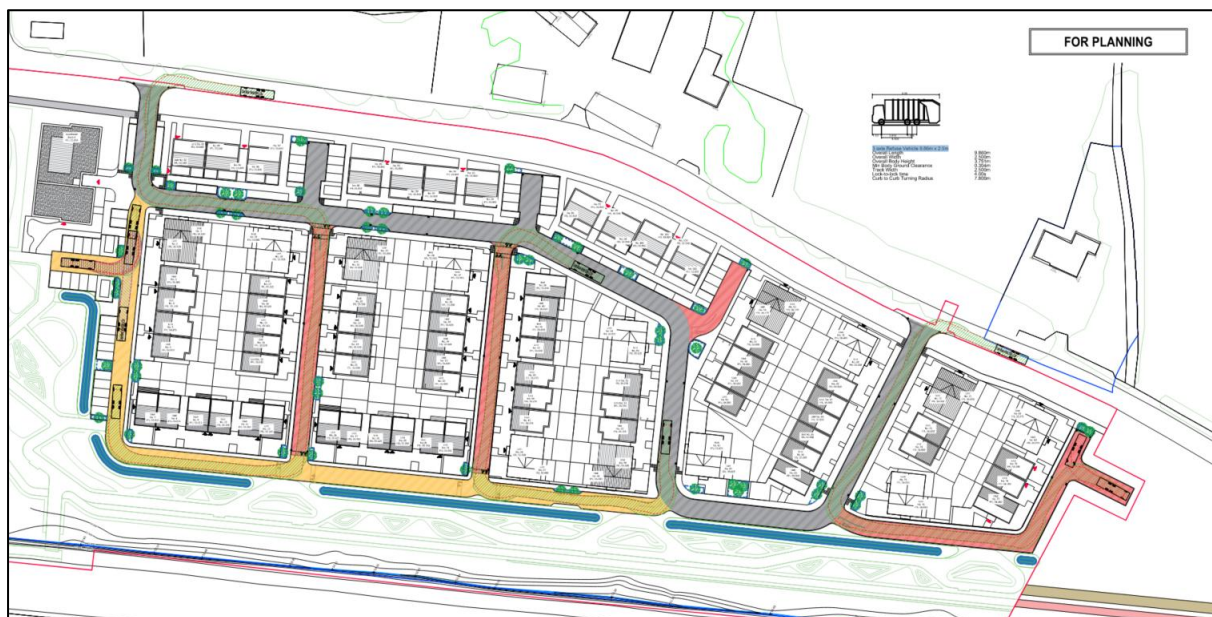


Figure 9: Refuse Vehicle Tracking

8.4 Presentation of Waste

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the KCC Waste Bye-Laws. Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter. It is recommended that bin collection times are staggered to reduce the number of bins required to be emptied at once and the time the waste vehicle is on-Site. This will be determined during the process of appointment of a waste contractor. Waste will be collected at agreed days and times by the nominated waste contractors. The frequency of the waste collection will be agreed with the Waste Contractor and will be reviewed when the subject development is fully occupied and as waste management trends evolve.

9 Management of Additional Waste

Some additional waste will be generated infrequently from the site during the operational phase of the proposed development. These types of materials will require separate management and outlined in the following non-exhaustive list;

Green Waste

Green waste from gardening activities, like trimming and pruning, can be disposed of in organic waste bins designed for biodegradable materials. If there's a large quantity of green waste, it's best to hire a professional landscape contractor for proper and eco-friendly disposal, following local regulations.

Batteries

A take-back service for waste batteries, including rechargeable ones, has been established to comply with S.I. No. 283/2014 - the EU (Batteries and Accumulators) Regulations 2014. Consumers can return used batteries to local civic amenity centres or retailers selling the same type for free, regardless of where they were purchased.

Deposit Return Scheme

Most beverage containers are eligible for recycling through the deposit return scheme. This includes bottles, cans, and tins made from plastic, aluminium, or steel. To qualify for return, containers must be between 150 ml and 3 litres in size and must prominently display the Re-turn logo. At the shops you can either return the containers:

- Using a Reverse Vending Machine (RVM)
- Manually in the shop

If a shop lacks a reverse vending machine (RVM) but sells containers with the Re-turn logo, it may allow manual returns unless a take-back exemption applies. RVM locations can be found on the Re-turn website (www.re-turn.ie).

Waste Electrical and Electronic Equipment (WEEE)

The WEEE Directive (Directive 2002/96/EC) and Waste Management Regulations aim to promote the recycling of electronic and electrical equipment. Consumers can bring their waste equipment to local recycling centres or return it to retailers within 15 days when purchasing new, similar items.

Printer Cartridge / Toners

Residents have the option to return used printer cartridges and toners to the respective suppliers at no charge. Additionally, these items can be disposed of at local civic amenity centres, where they will be managed for proper recycling or disposal.

Chemicals

Residents are responsible for taking any personal cleaning product waste or hazardous packaging to a civic amenity centre for appropriate disposal.

Light Bulbs

Residents are advised to transport used light bulbs to the nearest civic amenity centre for storage and disposal.

Textiles

Residents are encouraged to recycle waste textiles or donate them to charitable organisations for reuse. It is the responsibility of residents to ensure the proper disposal of waste textiles.

Waste Cooking Oil

If the residents generate waste cooking oil, this can be brought to a civic amenity centre.

Furniture & Other Bulky Waste Items

Residents may occasionally generate bulky waste items, including furniture and carpets. If they wish to dispose of such items, they can bring them to a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas will be included in the development plan. Residents may occasionally abandon defective or unused bicycles, making ownership identification difficult. Abandoned bicycles should ideally be donated to charity, or if applicable, the facilities management may arrange for collection by a licensed waste contractor.

9.1 Facility Management Responsibilities

It shall be the responsibility of the facilities management company to ensure that all domestic waste generated by residents is managed to ensure correct storage prior to collection by an appropriately permitted waste management company.

Facilities management will provide the following items:

- Provision of a Waste Management Plan document, prepared by the Facilities Management Company to all residential units, which shall clearly state the methods of source waste segregation, storage, reuse and recycling initiatives that shall apply to the management of the proposed development;
- Provision and maintenance of appropriate graphical signage to inform residents of their obligation to reduce waste, segregate waste and in the correct bin;
- Preparation of an annual waste management report for all residential units;
- Designation of access routes to common waste storage areas to ensure safe access from the apartments by mobility impaired persons;
- Provision of an appropriately qualified and experienced staff member, who will be responsible for all aspects of waste management at the proposed development; Daily inspection of waste storage areas and signing of a daily check list, which shall be displayed within the area; and Maintenance of a weekly register, detailing the quantities and breakdown of wastes collected from the proposed development and provision of supporting documentation by the waste collector to allow tracking of waste recycling rates.

10 Recommendations

This section outlines recommendations that can be used to help contribute towards achieving current and long-term national and KCC targets for waste minimisation, re-use and recycling.

Implementation

The subject development will appoint a fully Licenced Waste management company to manage the waste disposal process. All documentation, such as licenses, waste transfer notes will be made available to the management company and a record will be held on site.

Bulk Items

The management company will arrange for waste collection for bulk items from the duplex units on an annual basis which will allow residents to have heavy items such as electrical appliances and furniture collected and transported to a licenced facility. This initiative should also reduce the potential for illegal waste collections and fly-tipping in the local area.

Pest Management

A pest control operator will be designated as necessary to oversee pest management during the operational phase of this development. All waste generated within the premises will be stored in sealed waste receptacles, both within individual units and in the designated Waste Storage Area (WSA). These receptacles will be meticulously maintained to prevent leaks, odours, and pest infestations.

Record Keeping

The waste collection contractor shall maintain a comprehensive weekly register that details the quantities and classifications of general waste, recyclable waste, and organic waste collected from the development.

For each load of waste collected, the following information will be documented: the date of collection, the type of waste, the quantity of waste in that load, and the signature of an authorised representative of the company. Furthermore, the management company, if applicable, will compile an annual report for the duplex units that presents the quantities and types of waste generated by the development during the preceding year. This report will also include guidelines on the proper procedures for waste segregation at the source, as well as the correct placement of waste within the designated storage area.

11 Conclusion

This Operational Waste Management Plan (OWMP) has been developed to demonstrate that the proposed Large-Scale Residential (LRD) development on lands at Confey, Leixlip, Co. Kildare, will be designed and managed to provide residents with waste management infrastructure. The goal is to minimise the generation of residual waste while maximising opportunities for segregating and recycling the waste produced by the development.

Waste management within the Development has the following aims:

- To contribute towards achieving current and long-term government and KCC targets for waste minimisation, re-use and recycling;
- To allow that all legal requirements for handling and management of waste during operation of the Development are complied with; and
- To provide occupants with convenient, clean and efficient waste management systems that enhance the operation of the buildings and promote high levels of recycling.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development.

The waste management strategy outlined in this report ensures that there is adequate storage capacity for the various types of segregated waste produced by the residential development. Following the guidelines in British Standard 5906:2005, which addresses waste management in buildings, we calculated the typical weekly waste generation. This calculation confirms that sufficient and appropriate waste storage capacity will be available for the development when it reaches full occupancy.

All recyclable materials will be separated at the source to minimise costs for waste contractors and maximise the diversion of materials from landfills. This effort contributes to the targets outlined in the National Waste Management Plan for a Circular Economy (NWMPCE) for 2024-2030. Following this Operational Waste Management Plan (OWMP) will also ensure that waste management practices at the development comply with the Kildare County Council Waste Bye-Laws.

Additional recommendations have been provided. These recommendations may be used to further help contribute towards achieving current and long-term national and KCC targets for waste minimisation, re-use and recycling.

Appendix A- Proposed Site Layout



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
ARCHITECTSTĒGOS (ARCHITECTS) LTD.
REGULATING COMPLIANT TO TĒGOS ARCHITECTS ©