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White Heather Large Scale Residential Development (LRD)

Operational Waste Management Plan

27 November 2025

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Document Information

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Executive Summary

Wave Dynamics was engaged by Green Urban Logistics 3 White Heather Propco Limited to undertake an Operational Waste Management Plan (OWMP) as part of the planning stage application for the construction of a mixed use, Large Scale Residential Development (LRD) on lands at White Heather Industrial Estate, South Circular Road, St. James, Dublin 8.

The proposed mixed-use, Large-Scale Residential Development (LRD) will consist of the following:

The proposed mixed-use Large-Scale Residential Development (LRD) will comprise the demolition of all existing commercial and warehouse buildings and structures on the site, and the construction of 250 no. residential units within six blocks (Blocks 01, 02(A/B), 03(A/B), 04(A/B), and two duplex blocks) ranging in height up to seven storeys. The development will include 12 no. studio apartments, 148 no. one-bedroom apartments, 74 no. two-bedroom apartments, 8 no. one-bedroom duplex units, and 8 no. two-bedroom duplex units.

All residential units will include private balconies or terraces, oriented north, south, east, or west.

The proposal also includes the conversion of the existing residential dwelling at 307/307A South Circular Road to a crèche with an associated external play area. A new kiosk/café and adjoining open space will be provided adjacent to 307/307A South Circular Road, along with car and bicycle parking. The development will provide public open spaces between Blocks 03 and 04, as well as to the north and south of the apartment blocks, the latter overlooking the Grand Canal, together with communal open spaces throughout the scheme. Vehicular, pedestrian, and cyclist access will be provided from the northeast of the site via South Circular Road, with additional pedestrian and cyclist access from the west via St James's Terrace.

The proposal also includes landscaping, public and communal open spaces, and all associated site development works required to facilitate the project. These works include boundary treatments, plant and waste management areas, and other service provisions, including ESB infrastructure.

Operational Waste Management Plan

This Operational Waste Management Plan (OWMP) has been developed to demonstrate that the proposed Residential Development at White Heather, 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, the typical weekly waste generation was calculated. 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 Dublin City 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 DCC targets for waste minimisation, re-use and recycling.

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1 Introduction

Wave Dynamics was engaged by Green Urban Logistics 3 White Heather Propco Limited to undertake an Operational Waste Management Plan (OWMP) as part of the planning stage application for the construction of a mixed use, Large Scale Residential Development (LRD) on lands at White Heather Industrial Estate, South Circular Road, St. James, Dublin 8.

The principal aim of this Operational Waste Management Plan (OWMP) is to demonstrate how the Proposed Development has considered 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, Dublin City Council (DCC) Waste Management (Storage, Presentation and Segregation of household and Commercial Waste) ByeLaws' (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 operational waste management plan (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. Shannon has over 12 years' experience working on major residential, infrastructure, energy and brownfield/greenfield development projects in the UK and Ireland. His qualifications include; BSc (Hons) in Music Technology, Diploma in Acoustics and Noise Control (Institute of Acoustics), ANC Certificate of Competence in Sound Insulation Testing. Shannon is a member of the Institute of Acoustics. In addition to his work in Acoustics Shannon is part of the NOAL team with WDA. He has extensive experience in producing Construction Environmental Management Plans (CEMPS), Waste Management Plans (WMP) Emergency Response Plans (ERP), Decommissioning and Aftercare Plans for Wind and Solar, Air Quality Impact Assessments, Odour Assessments and Artificial Lighting Impact Assessments. Shannon has completed environmental plans for major residential, infrastructure, energy and brownfield/greenfield development projects in the UK and Ireland.

2 Proposed Development

This Operational Waste Management Plan (OWMP) is for the proposed mixed-use, Large-Scale Residential Development (LRD) on lands at White Heather Industrial Estate, South Circular Road, St. James, Dublin 8.
The proposed mixed-use, Large-Scale Residential Development (LRD) will consist of the following:

The proposed mixed-use Large-Scale Residential Development (LRD) will comprise the demolition of all existing commercial and warehouse buildings and structures on the site, and the construction of 250 no. residential units within six blocks (Blocks 01, 02(A/B), 03(A/B), 04(A/B), and two duplex blocks) ranging in height up to seven storeys. The development will include 12 no. studio apartments, 148 no. one-bedroom apartments, 74 no. two-bedroom apartments, 8 no. one-bedroom duplex units, and 8 no. two-bedroom duplex units.
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The proposal also includes landscaping, public and communal open spaces, and all associated site development works required to facilitate the project. These works include boundary treatments, plant and waste management areas, and other service provisions, including ESB infrastructure.

Figure 1 below illustrates the proposed development plans.

Figure 1: Proposed Site Layout Plan

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; and
- A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025; September 2020

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 proposed development is located in the Local Authority administrative area of Dublin City Council (DCC).

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 its development;

- (Residual Municipal Waste) 6% Reduction in Residual Municipal Waste per person by 2030
- (Contamination of Materials) 90% of Material in Compliance in the Dry Recycling Bin
- (Material Compliance Residual) 10% per annum increase in Material Compliance in the residual bin. (90% by the end of 2030)
- (Reuse of Materials) 20kg Per person / year – Reuse of materials like cloths or furniture to prevent waste.
- Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015.

3.2.1 The Dublin City Development Plan 2022 – 2028

The Dublin City Development Plan 2022-2028 outlines several policies and objectives aimed at aligning with the goals of the National Climate Action Policy. It highlights the necessity of taking action to address climate-related issues across all sectors of society and the economy. In the waste sector, the climate action policy focuses on shifting towards a 'circular economy,' which is based on three core principles: eliminating waste and pollution,

keeping products and materials in use, and regenerating natural systems. Additional policies and objectives are detailed in the draft development plan:

Policies

- CA7 F: minimising the generation of site and construction waste and maximising reuse or recycling.
- CA22: The Circular economy: To support the shift towards the circular economy approach as set out in 'a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, or as updated.
- CA23: To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.
- SI27: Sustainable Waste Management: To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.
- SI29: Segregated Storage and Collection of Waste Streams: To require new commercial and residential developments, to include adequate and easily accessible storage space that supports the separate collection of as many waste and recycling streams as possible, but at a minimum general domestic waste, dry recyclables and food waste as appropriate.
- SI30: To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2018 (or and any future updated versions of these guidelines produced during the lifetime of this plan).

Objectives

- SIO14 Local Recycling Infrastructure: To provide for a citywide network of municipal civic amenity facilities/ multi-material public recycling and reuse facilities in accessible locations throughout the city in line with the objectives of the circular economy and 15-minute city.
- SIO16 Eastern-Midlands Region Waste Management Plan: To support the implementation of the Eastern-Midlands Regional Waste Management Plan2015–2021 and any subsequent plans in order to facilitate the transition from a waste management economy towards a circular economy.

3.2.2 Dublin City Council Waste Bye-Laws

The Dublin City Council (DCC) enacted the "Storage, Presentation, and Segregation of Household and Commercial Waste Bye-Laws (2018)" in May 2019, replacing earlier regulations. Key requirements relevant to the proposed development are:

- Present kerbside waste for collection no earlier than 5:00 PM the day before collection.
- Remove all waste containers from public areas by 10:00 AM the day after collection, unless alternative arrangements are approved.
- Retain documentation, including receipts, for at least one year to prove waste management compliance with these bye-laws, the Waste Management Act, and relevant EU regulations.
- Ensure adequate access for waste collection vehicles to and from the premises.

4 Guidelines and Standards

4.1 Design Standards for New Apartments

The Department of Housing, Planning and Local Government published the "Sustainable Urban Housing: Design Standards for New Apartments - Guidelines for Planning Authorities" in 2015, with updates released in 2018, December 2020, and December 2022. These guidelines establish standards for apartment development, focusing on design quality safeguards that include internal space standards for 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 DCC 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. 0.8 km south of the development site at Eamonn Ceannt Park Rutland Grove, Crumlin, Dublin 12, which can be utilised by the residents of the development for other household waste streams, while a bottle bank can be found c. 200m south-west of the development site at Parnell Road Bottle Bank. 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 proposed development will generate residential and non-residential waste. The typical non-hazardous and hazardous wastes that will be generated 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 waste receptacle or in separate waste receptacles to increase recycling value. Includes wastepaper (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 though 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 (if any generated by the residents or crèche tenants);
- Furniture (and from time to time other bulky wastes); and
- Abandoned bicycles.

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 List of Waste Codes

In 1994, the European Commission introduced the European Waste Catalogue and the Hazardous Waste List. In 2002, the EPA published a document summarizing these resources, which has since been replaced by the 2018 publication, "Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous." This classification system is used across the EU for waste reporting related to collection permits, Certificates of Registration (CORs), and the EPA National Waste Database.

In the classification system, various types of waste are defined by specific codes. The List of Waste (LoW) codes for typical waste materials anticipated during the operation of the proposed development are outlined in Table 5.1.

Table 5.1: 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 topsoil's 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 and non-residential buildings and healthcare establishments. 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 6.1.

Table 6.1: 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

While British Standard 5906:2005, a code of practice for waste management in buildings, does not mandate a specific waste calculation for individual apartment/studio/duplex's, it provides guidance on predicting waste quantities and designing appropriate storage solutions. While individual residential spaces 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 proposed development will consist of a total of 250 no. residential units, consisting of the following;

- 148 no. one-bedroom apartments;
- 74 no. two-bedroom apartments;
- 8 no. one-bedroom duplex units;
- 8 no. two-bedroom duplex units; and
- 12 no. studio apartments.

British Standard 5906:2005, code of practice for waste management in buildings was used to estimate the weekly volume of waste generated by the apartments/studios/duplex units in the development using the methodology outlined in Table 6.1 above and a typical waste split of a 60:25:10:5. Assuming full occupancy rates for all units, the waste arisings for the proposed development has been calculated as shown in Sections 6.1.1 – 6.1.5 below.

6.1.1 Block B01

Block B01 consists of 15no. 1 bedroom units and 8no. 2 bedroom units. Table 6.2 illustrates the weekly estimated main waste generated by block B01.

Table 6.2: Estimated Main Waste Generation Volume for Block B01 Per Week

Waste Stream	Approximate Waste Volume Split (litres/week)	
	1 Bedroom Unit	2 Bedroom Unit
DryR (60%)	60	102
NonR (25%)	25	42.5
Organic (10%)	10	17
Glass (5%)	5	8.5
Total	**100**	**170**

Assuming full occupancy rates for all apartment units in block B01, the total waste arisings have been calculated as shown in Table 6.3.

Table 6.3: Total Estimated Main Waste Generation Volume for Block B01 Per Week

Waste Stream	Approximate Total Waste Volume Split (litres/week)	
	15no. x 1 Bedroom Unit	8no. x 2 Bedroom Unit
DryR (60%)	900	816
NonR (25%)	375	340
Organic (10%)	150	136
Glass (5%)	75	68
Total Litres	**1500**	**1360**

In total, block B01 will produce approximately 2,860 litres of waste per week.

6.1.2 Duplex Units

Of the 250no. proposed residential units, 16no. units will be a mixture of 1-bed and 2-bed duplex units. Table 6.4 illustrates the weekly estimated main waste generated by the 1 bedroom and 2-bedroom duplex units.

Table 6.4: Estimated Main Waste Generation Volume for Each Duplex Unit Per Week

Waste Stream	Approximate Waste Volume Split (litres/week)	
	Duplex Units	
	1 Bedroom Duplex Unit	2 Bedroom Duplex Unit
DryR (60%)	60	102
NonR (25%)	25	42.5
Organic (10%)	10	17
Glass (5%)	5	8.5
Total	**100**	**170**

Assuming full occupancy rates for all 16 no. duplex units, the total waste arisings have been calculated as shown in Table 6.5.

Table 6.5: Total Estimated Main Waste Generation Volume for Total Duplex Units Per Week

Waste Stream	Approximate Total Waste Volume Split (litres/week)	
	8no. 1 Bedroom Duplex Units	8no. 2 Bedroom Duplex Units
DryR (60%)	480	816
NonR (25%)	200	340
Organic (10%)	80	136
Glass (5%)	40	68
Total Litres	**800**	**1360**

In total, the 8no. 1 bedroom duplex units will produce approximately 800 litres of waste per week, with the 8no. 2 bedroom duplex units producing approximately 1,360 litres of waste per week, resulting in a total 2,160 litres of weekly waste form the duplex units.

6.1.3 Blocks B02A, B02B, B03A and B03B

Blocks B02A, B02B, B03A, and B03B collectively provide a total of 160no. residential units, distributed as 96no. one-bedroom units, 57no. two-bedroom units, and 7no. studios. These blocks also incorporate approximately 311.6 m² of amenity space. All amenity areas are expected to produce waste streams comparable to standard residential waste.

British Standard 5906:2005, code of practice for waste management in buildings was used to estimate the weekly volume of waste generated by the community spaces. The required bin storage capacity is calculated based on the floor area of the individual space. BS:5906:2005 indicative figure of weekly waste arising for communal areas of 5 Litres per floor area (m^2). Table 6.6 illustrates the weekly estimated main waste generated by blocks B02A, B02B, B03A and B03B.

Table 6.6: Estimated Main Waste Generation Volume for Blocks B02A, B02B, B03A and B03B Per Week

Waste Stream	Approximate Waste Volume Split (litres/week)			
	1 Bedroom Unit	2 Bedroom Unit	Studio	Residential Amenities Per 100m²
DryR (60%)	60	102	60	300
NonR (25%)	25	42.5	25	125
Organic (10%)	10	17	10	500
Glass (5%)	5	8.5	5	25
Total	**100**	**170**	**100**	**500**

Assuming full occupancy rates for all apartment units in blocks B02A, B02B, B03A and B03B, the total waste arisings have been calculated as shown in Table 6.7.

Table 6.7: Total Estimated Main Waste Generation Volume for Blocks B02A, B02B, B03A and B03B Per Week

Waste Stream	Approximate Total Waste Volume Split (litres/week)			
	96no. x 1 Bedroom Unit	57no. x 2 Bedroom Unit	7no. x Studios	Residential Amenities
DryR (60%)	5760	5814	420	934.8
NonR (25%)	2400	2422.5	175	389.5
Organic (10%)	960	969	70	155.8
Glass (5%)	480	484.5	35	77.9
Total Litres	**9600**	**9690**	**700**	**1558**

In total, blocks B02A, B02B, B03A and B03B will produce approximately 21,548 litres of waste per week.

6.1.4 Blocks B04A and B04B

Blocks B04A and B04B will consist of 37no. one bedroom units, 9no. two bedroom units and 5no. studio units. Table 6.8 illustrates the weekly estimated main waste generated from blocks B04A and B04B.

Table 6.8: Estimated Main Waste Generation Volume for Blocks B04A and B04B Per Week

Waste Stream	Approximate Waste Volume Split (litres/week)		
	1 Bedroom Unit	2 Bedroom Unit	Studio
DryR (60%)	60.0	102.0	98.0
NonR (25%)	25.0	42.5	41.0
Organic (10%)	10.0	17.0	17.0
Glass (5%)	5.0	8.5	9.0
Total	**100**	**170**	**165**

Assuming full occupancy rates for all units in blocks B04A and B04B, the total waste arisings have been calculated as shown in Table 6.9.

Table 6.9:Total Estimated Main Waste Generation Volume for Blocks B04A and B04B Per Week

Waste Stream	Approximate Total Waste Volume Split (litres/week)		
	37no. x 1 Bedroom Unit	9no. x 2 Bedroom Unit	5no. x Studio Units
DryR (60%)	2220.0	918.0	300.0
NonR (25%)	925.0	383.0	125.0
Organic (10%)	370.0	153.0	50.0
Glass (5%)	185.0	77.0	25.0
Total	**3700**	**1530**	**500.0**

In total, blocks B04A and B04B will produce approximately 5,730 litres of waste per week.

While typical daily waste streams will be managed routinely, specific additional waste types may be generated in small quantities across all residential units. These materials can be brought to the nearest civic amenity / recycling centre, located c. 0.8 km south of the development site at Eamonn Ceannt Park Rutland Grove, Crumlin, Dublin 12:

- ‘Office’ type wastes such as paper and printer ink;
- Waste electrical and electronic equipment (WEEE);
- Batteries; and
- Light bulbs or fluorescent tubes.

6.1.5 Creche and Kiosk

The proposed development will also comprise of a community creche and kiosk. These community spaces will generate similar waste types to residential waste types, such as:

- Mixed Municipal Waste (MMW) / General Waste;
- Dry Mixed Recyclables (DMR) - includes cardboard, plastic packaging, aluminium cans, tins, paper;
- Organic (food) Waste.

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

- 'Office' type wastes such as paper and printer ink;
- Waste electrical and electronic equipment (WEEE);
- Batteries;
- Glass; and
- Light bulbs or fluorescent tubes.

British Standard 5906:2005, code of practice for waste management in buildings was used to estimate the weekly volume of waste generated by the community creche and kiosk. The required bin storage capacity is calculated based on the floor area of each individual space. BS:5906:2005 indicative figure of weekly waste arising for retail and communal areas of 5 Litres per floor area (m^2). Table 6.10 illustrates the weekly estimated main waste generated by the community creche and community kiosk. The BS:5906:2005 waste split of 60:25:10:5 has been assumed.

Table 6.10: Estimated Main Waste Generation Volume for the Community Creche and Community Kiosk Per Week

	Approximate Waste Volume (litres/week)	
	Creche	**Kiosk**
Floor Area	172.6m^2	39.6m^2
Approximate Waste Volume (litres/week)	**863**	**198**

Based on the total floor area of the community creche and community kiosk, the total waste arisings have been calculated as shown in Table 6.11.

Table 6.11: Total Estimated Main Waste Generation Volume for the Community Creche and Community Kiosk Per Week

Waste Stream	**Approximate Total Waste Volume (litres/week)**	
	Creche	**Kiosk**
DryR (60%)	518	119
NonR (25%)	216	50
Organic (10%)	86	20
Glass (5%)	43	10
Total Litres (100%)	**863**	**198**

In total, the community creche and community kiosk will produce approximately 1,061 litres of waste per week.

6.2 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 units. It is

therefore estimated that a total of 33,359 litres (approx. 33m^3) of the main waste types will be generated by the proposed development on a weekly basis once full occupancy has been reached.
Table 6.12 outlines the estimated total weekly waste arisings associated with the proposed development.

Table 6.12: Total Estimated Waste to be Generated

Total Generated Waste Litres/Week (100%)						
Waste Stream	**Block B01**	**Duplex Units**	**Blocks B02A, B02B, B03A and B03B**	**Blocks B04A and B04B**	**Creche & Kiosk**	**Total Generated Waste**
DryR (60%)	1716	1296	12929	3438	637	20015
NonR (25%)	715	540	5387	1433	265	8340
Organic (10%)	286	216	2155	573	106	3336
Glass (5%)	143	108	1077	287	53	1668
Total Litres/Week	**2860**	**2160**	**21548**	**5730**	**1061**	**33359***

*Inclusive of glass waste.

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

- Bulky wastes – including furniture, carpets, mattresses;
- Waste electrical and electronic equipment (WEEE);
- Batteries;
- Textiles – clothes or soft furnishings;
- Light bulbs or fluorescent tubes;
- Chemicals – old medicines, paints, detergents; and
- Waste oil - cooking oil.

These materials can be disposed of at the nearest civic Amenity / recycling centre, located c. 0.8 km south of the development site at Eamonn Ceannt Park Rutland Grove, Crumlin, Dublin 12.

Waste electrical and electronic equipment (WEEE)

It is assumed the proposed development may occasionally generate small quantities of E waste (WEEE). The management company should establish designated area for collecting e-waste, ensuring safe storage of items containing hazardous materials and partner with authorized WEEE recycling facilities for proper collection, dismantling, and recycling of e-waste.

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 DCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice.
- A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy2020-2025; September 2020.
- The Dublin City Development Plan 2022 – 2028;
- Dublin City Council Storage, Presentation, and Segregation of Household and Commercial Waste Bye-Laws (2018); and
- DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (sections 4.8 & 4.9) (2022).

7.1 Waste Storage Area (WSA)

The proposed development will have 3 no. designated waste storage areas, located internally and externally throughout the proposed development site. Figures 4 - 6 below illustrate the location of each Waste Storage Area (WSA).

7.1.1 WSA 01

WSA 01 is a shared Waste Storage Area (WSA) for residents to use, located on the western boundary of the proposed development site, the WSA 01 will serve residents in Block B01. Residents are responsible for taking their segregated waste materials to the designated waste storage area and disposing of them in the appropriate waste receptacles . To accommodate waste generated by block B01, WSA 01 will require 3 no. 1100L waste receptacles and 2no. 240L waste receptacles . Further information on bin requirements is outlined in Section 7.2 of this report. The WSA is located externally at ground level as illustrated in Figure 4 (WSA highlighted in yellow).

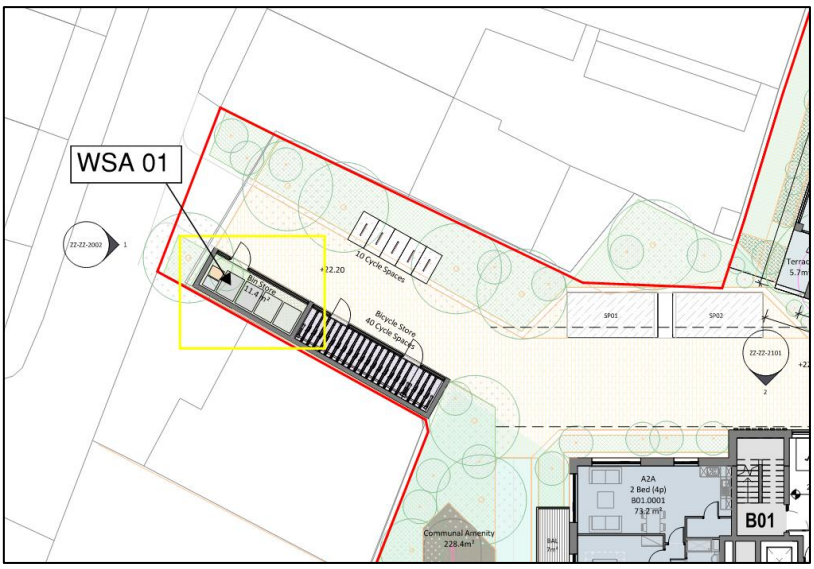


Figure 4: Waste Storage Area 01

7.1.2 WSA 02

Waste Storage Area 2 is located on the northern boundary of the proposed development site. This WSA will serve the duplex units at T05 as well as accommodating bin storage for the community creche and kiosk. Residents and staff are responsible for taking their segregated waste materials to the designated waste storage area and disposing of them in the appropriate waste receptacles . To accommodate waste generated by the duplex units as well as the community creche and kiosk, WSA 02 will require 3no. 1100L waste receptacles and

5no. 240L waste receptacles . Further information on bin requirements is outlined in Section 7.2 of this report. Figure 5 below illustrates the location of WSA 02 (WSA highlighted in yellow).

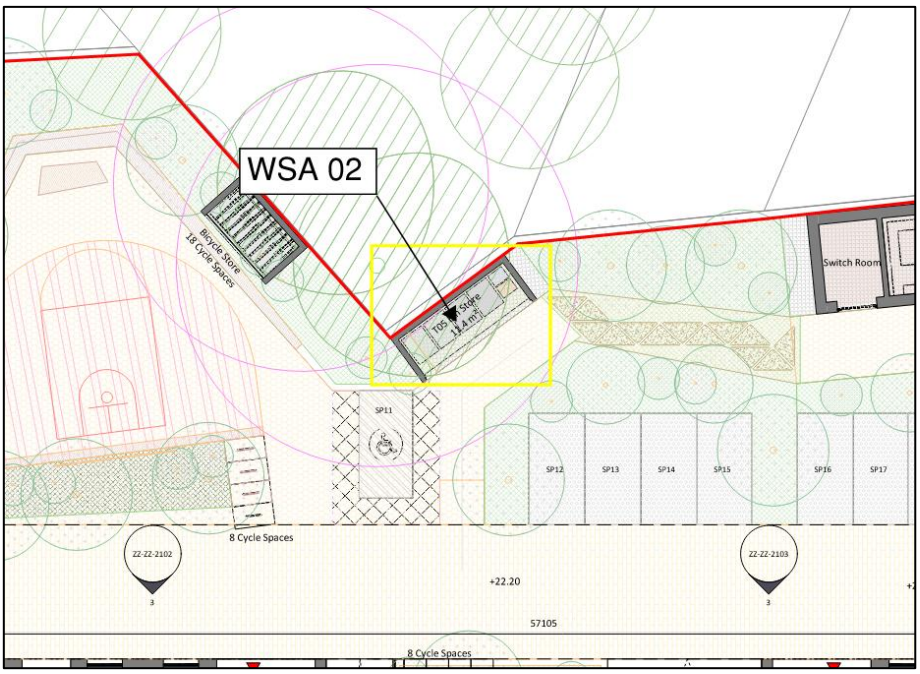


Figure 5: Waste Storage Area 02

7.1.3 WSA 03

WSA 03 is a shared Waste Storage Area (WSA) for residents to use, located at ground floor level of block B03A, WSA 03 will serve residents of blocks B02A, B02B, B03A, B03B, B04A and B04B.

To accommodate waste generated by both blocks B02A, B02B, B03A, B03B, B04A and B04B, WSA 03 will require 2 no. commercial mini compactors, designated space for no.2 x 2m^3 skip bags for DryR waste, no.1 x 2m^3 skip bag for NonR waste, and 11no. x 240L organic waste bins. Residents are encouraged to bring glass waste to the nearest bring bank, located approx. 200m south-west of the development site at Parnell Road Bottle Bank. Residents are responsible for taking their segregated waste materials to the designated waste storage area and disposing of them in the appropriate waste receptacles/compactors.

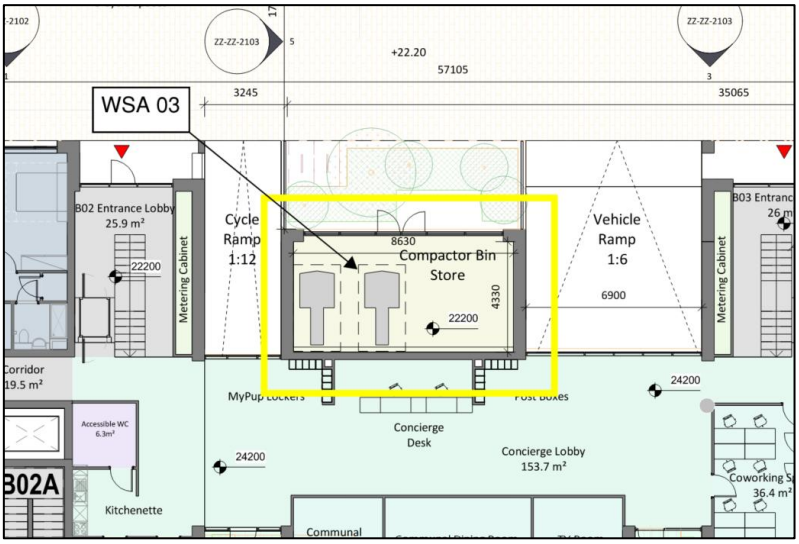


Figure 6: Waste Storage Area 03[1]

[1] WSA 03 will provide accommodate no2. x 1100L waste receptacles from WSA04.

Waste Compactor

WSA 03 located at ground floor level of block B03A has been designed to adequately accommodate commercially available mini waste compactors, specifically for the management of DMR (Dry Mixed Recycling) and MNR (Mixed Non-Recyclable) waste streams. Among the available options, the residential EASi compactor from AES Recycling has been selected as the most suitable choice. This compaction system will drastically reduce the overall volume of waste produced, effectively minimising the number of waste bins that need to be stored on-site. Additionally, it will decrease the frequency with which bins must be transported to the curb for municipal collection, streamlining the waste management process.

The EASi compactor requires slightly more space than standard euro waste bins, as it compresses waste into sizable 2m³ and 3m³ bags—one bag designated for DMR waste and another for MNR waste. These compacted bags are then stored until collection day. The advantage of this compaction system lies in its ability to lower the collection frequency, resulting in less disruption to the building's routine and potentially reducing collection costs over time.

As technology advances, the building management company may explore alternative waste management options in the future to further enhance efficiency. Nonetheless, for the purpose of ensuring the Waste Storage Area (WSA) is sufficiently sized for current and immediate future needs, this plan incorporates use of the EASi compactor.

It is important to note that the EASi compactor is capable of compressing waste into 2m³ and 3m³ skip bags, which are also known as Flexible Intermediate Bulk Containers (FIBCs). These bags are designed for easy handling and transport, making them an efficient solution for volume reduction in waste disposal. By implementing this compactor, the overall waste management strategy is not only streamlined but also more environmentally friendly, contributing to a cleaner and more sustainable living environment.

The proposal of the EASi compactor is based on a similar site which received planning from South Dublin County Council located at St. Edmund's, St. Loman's Road, Palmerstown, Dublin 20 (Planning Reg Ref ABP-305857). A photo of the Epac Lodestone compactor is provided in Figure 7 below.

Figure 7: EASi Compactor

One of the significant advantages of the EASi compactor system is its efficient use of space; it requires only the area of a single car parking spot. This compact design makes it an ideal solution for urban environments where space is often limited. The system includes enclosed bags that are available in two sizes to accommodate different waste management needs.

The two-cubic-meter bag can store the equivalent of ten 1,100 -litre bins, while the larger three-cubic-meter bag can hold the equivalent of fifteen 1,100-litre bins. This substantial storage capacity means that users can effectively reduce the number of bins needed for waste collection. Consequently, utilising the EASi compactor system can lead to significant overall cost savings, as it minimises the frequency of collection services required

and optimizes waste management processes. This not only enhances operational efficiency but also reduces environmental impact.

Figure 8: EASi Compactor Space Requirement

EASi compactor utilises specialised bags that are designed to contain odours, effectively eliminating the unpleasant smells typically associated with waste bins. These bags rest on a standard pallet, making it easy to replace them with a new bag using a regular pallet truck. Each new bag is fresh and clean, hydrophobic to prevent spills, and suitable for all types of domestic, recycling, and light industrial waste. The system is sanitary, preventing the habitation and recurrence of rodents and insects. Further information on the AES Bord na Móna Epac mini compactor can be found at www.aesrecycling.ie/business/easi/.

Figure 9: EASi Compactor Waste Bags

7.2 Waste Storage Requirements for the Development

The predicted waste receptacle allocation for the proposed development is presented in Table 7.1. This table shows the allocation of waste receptacle storage that will be required to accommodate all the waste that will be generated by the development when operating at full capacity, as was presented in Table 6.12. Mixed non-recyclable waste, dry mixed recyclable waste and organic waste will be collected weekly by the nominated waste contractor. Waste glass should be stored separately and taken to the nearest bottle bring bank, located approx. 200m south-west of the development site at Parnell Road Bottle Bank. Using the estimated waste generation volumes outlined in Section 6 , the waste receptacle requirements for the proposed development has been established. All waste types will be collected on a weekly basis. Waste receptacle requirements are presented in Table 7.1.

Table 7.1: Total Waste Storage Requirements for the Proposed Development
Note: * = Dry Mixed Recyclables
** = Mixed Non-Recyclables

WSA Requirements for Each Area	Waste Receptacles Required for Weekly Storage				
	Compactor	**DryR***	**NonR****	**Organic**	**Glass**
Block B01	N/a	2 x 1100 L	1 x 1100 L	2 x 240 L	Bring Bank
Duplex Units	N/a	1 x 1100 L 1 x 240L	1 x 1100 L	1 x 240 L	Bring Bank
Blocks B02A, B02B, B03A and B03B	No.1 x ESAi Compactor DMR No.1 x ESAi Compactor MNR	No.2 x Compacted Waste containers (circa 2m3 each) DMR	No.1 x Compacted Waste container (circa 2m3 each) MNR	11 x 240 L	Bring Bank
Blocks B04A and B04B					Bring Bank
Creche and Kiosk	N/a	1 x 1100 L	2 x 240 L	1 x 240 L	Bring Bank
Total	**No.2 x ESAi Compactors**	**No.2 x Compacted Waste container (circa 2m^3 each) DMR** **No.4 x 1100L** **No.1 X 240L**	**No.1 x Compacted Waste container (circa 2m^3 each) MNR** **No.2 x 1100L** **No.2 X 240L**	**15 x 240 L**	**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.

7.3 Waste Storage Area (WSA) Design

The WSAs should be designed and fitted-out to meet the requirements of relevant design Standards, including:

- 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 units 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 waste receptacles ;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for waste receptacles washing run-off;
- Have appropriate signage placed above and on waste receptacles 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 DCC Waste Bye-Laws. It is essential that everyone takes responsibility for adhering to these standards.

7.3.1 Waste Storage Area Capacity

Each waste storage area must have the capacity to house the required number of waste receptacles . Table 7.2 outlines the necessary number of waste receptacles required within each WSA. When there is not sufficient storage space to house the required number of waste receptacles, an alternative adjacent was must be used.

Table 7.2: Waste Storage Area Capacity

Waste Storage Area	Waste Receptacles Required for Weekly Storage				Total Required Storage Capacity	Sufficient Storage Capacity	Comment
	DryR*	NonR**	Organic	Glass			
WSA 01 (Block B01)	2 x 1100 L	1 x 1100 L	2 x 240 L	Bring Bank	3 x 1100L 2 x 240L	Yes	1 x 1100L bin surplus provided
WSA 02 (Duplex Units)	1 x 1100 L 1 x 240L	1 x 1100 L	1 x 240 L	Bring Bank	2 x 1100L 2 x 240L	Yes	1 x 1100L No. 3 bin surplus provided
WSA 03 (Blocks B02A, B02B, B03A, B03B, B04A and B04B)	1 x ESAi Compactor DMR 1 x ESAi Compactor MNR	3 x Compacted Waste containers (circa 2m^3 each) 2no. for DMR and 1no. for MNR	11 x 240 L	Bring Bank	2no. x ESAi Compactor 3no. x Compacted Waste containers (circa 2m3 each), 11 x 240 L	Yes	N/A
				Bring Bank		Yes	N/A
WSA 02 (Creche and Kiosk)	1 x 1100 L	2 x 240 L	1 x 240 L	Bring Bank	1 x 1100L 3 x 240L	Yes[1]	Bins storage provided in WSA 02

1) Use WSA 02

7.4 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 10 below.

Figure 10: 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 waste receptacles .

7.5 Waste Storage Receptacles

Typical waste storage receptacles, as shown in Figure 11 (or other approved containers), will be supplied by the facilities management company in the shared residential waste storage areas (WSAs). These receptacles will be provided by the waste contractor for each specific unit. The types of waste receptacles 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 11: Typical Waste Receptacles of Varying Size

7.5.1 What goes in Each Bin?

Green Bin

- Paper and cardboard
- Food tins
- Drink cans
- Tetra-Pak cartons (e.g. milk, soup and juice cartons)
- Hard plastics (e.g. mineral , water and detergent bottles)
- Soft plastics (e.g. crisp packets, plastic bags)

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 eggshells
- 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.

Receptacles for organic waste, mixed dry recyclables, glass, and mixed non-recyclable waste will be readily available in the shared Waste Storage Areas (WSAs) before anyone occupies the first residential unit. Every resident will receive this WMP upon moving in. Furthermore, the facilities management company will proactively update the WMP as necessary, incorporating any new information on waste segregation, storage, reuse, and recycling initiatives that are introduced over time.

8 Waste Collection

There are numerous private contractors that provide waste collection services in the DCC 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 put in place an agreement to ensure waste receptacles from each WSA will be collected by waste contractors directly from the WSA and brought to the waiting refuse collection vehicles. The empty waste receptacles will then be returned to the WSA immediately after collection. Suitable access and egress have been provided to enable the waste receptacles to be moved easily from the WSA to the waste collection vehicles on the appropriate days. Refuse vehicles will approach the development from South Circular Road. Auto tracking for refuse vehicles is illustrated in Figure 12 below and outlined in detail in Appendix A.

Figure 12: Auto Tracks of Refuse Vehicle Entering and Exiting

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the DCC 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 waste collection times are staggered to reduce the number of waste receptacles 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.

The building management company, in collaboration with the waste management contractor, will take on the responsibility of transporting the bins, bales, and compactor containers from the designated waste storage areas (WSAs) to the refuse vehicle collection point. Alternatively, these items may be taken to the nearest road for temporary storage until they can be collected.

To facilitate this process, a trolley, tug, or another suitable vehicle will likely be required to efficiently move the bins and compactor containers between the waste storage areas and the marshalling areas where collection occurs. Proper coordination between the management and waste contractor is essential to ensure timely and

safe transport of waste materials. Additionally, all safety and operational protocols must be followed to minimise disruption and maintain cleanliness throughout the area.

Figure 13: Transporting EASi Compactor Waste Bag

8.1 Waste Collection Schedule

Mixed non-recyclable waste, dry mixed recyclable waste and organic waste will be collected weekly by the nominated waste contractor. Some waste contractors in the Dublin area may facilitate the collection of waste on a more frequent basis i.e. twice weekly, depending on the weekly schedule of the refuse vehicles in the local area. Twice weekly waste collections may result in fewer waste receptacle required to service the proposed development. Opting for a twice weekly waste collection will require an agreement between the facilities management company and the nominated waste contractors.

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 receptacles 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 as amended. Consumers can return used batteries to local civic amenity centres or retailers selling the same type for free, regardless of where they were purchased. This initiative promotes responsible recycling and provides easy access to safe disposal options.

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. Retailers must also collect WEEE within 15 days of delivering a new item, provided it is disconnected, safe, and accessible for collection.

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

Chemicals, such as solvents, paints, adhesives, resins, and detergents, are often produced during building maintenance work. These tasks are usually carried out by external contractors, who are responsible for the off-site removal and proper recovery, recycling, or disposal of any waste materials generated. Residents should bring any waste cleaning products or hazardous waste packaging from cleaning products (if they arise) 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 appropriate 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 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 apartment units 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 DCC 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 apartment and 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. The WSA will be equipped with access to hot and cold water, a drainage point, and will undergo regular inspections by facilities management to mitigate pest-related issue.

Record Keeping

The management company shall maintain a comprehensive weekly register that details the quantities and classifications of general waste, recyclable waste, and organic waste collected from the development. Additionally, the waste collection contractor will provide supporting documentation on a regular basis.
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 will compile an annual report for the apartment 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 mixed use, Large Scale Residential Development (LRD) on lands at White Heather Industrial Estate, South Circular Road, St. James, Dublin 8, 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 DCC 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 minimize 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 Dublin City 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 DCC targets for waste minimisation, re-use and recycling.

Appendix A- Proposed Ground Floor Plans

Proposed Ground Floor Plan

Parking Schedule - Secure Internal Car Spaces

Description	Space Count
Car Parking Space - Typical Apartment/House	57
Motorcycle Parking Space	5
Grand Total: 62	62

Parking Schedule - Street Level External Bicycle and Car Spaces

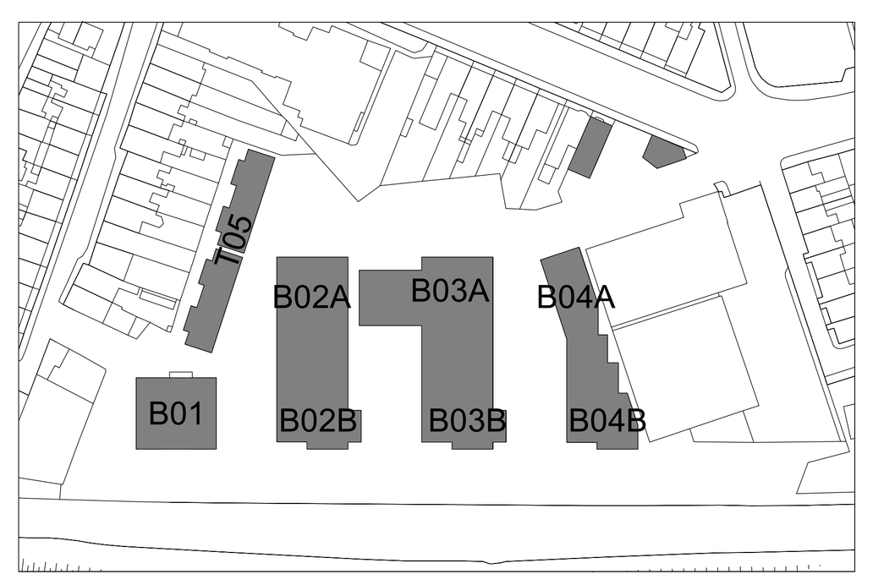
Description	Space Count
Bike Space - Cargo	2
E-Bike Space	8
Sheffield Stand	54
Bicycle Space	64
Accessible Designated Car Parking Space - Apartment/House	4
Car Parking Space - Storage World	7
Car Parking Space - Typical Apartment/House	16
Car Space	27
GRAND TOTAL: 59	91

PARKING LEGEND

- Motorcycle Parking Space
- Bike Space - Cargo
- Bike Space - Sheffield Stand
- Bike Space - Two Tier Stand
- Car Parking Space - Typical Apartment/House
- Accessible Car Parking Space

Unit Type Key

- Studio Apartment
- 1 Bed Apartment
- 2 Bed Apartment
- 3 Bed Apartment



SITE KEY PLAN

Revision Description	Date	Rev. No.	Issued by
Issued for S247 Documentation	28.03.2025	P01	LD
LRD S32B Submission	18.07.2025	A3-C01	MN
Planning Set - Draft	17.10.2025	P02	MN

Any reference to fire safety design or performance is presented for coordination purposes only. Refer only to the granted Fire Safety Certificate, and fire consultant's information for fire safety design, specification and performance.

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