Contact us
+353 1 5242060
info@ors.ie
www.ors.ie

2023
Operational Waste Management Plan

ENGINEERING A SUSTAINABLE FUTURE

Operational Waste Management Plan

Clúid Housing, Former ESB Site, Mill Lane, Leixlip Co. Kildare

Document Control Sheet

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1 Introduction

This Operational Waste Management Plan (OWMP) has been prepared by ORS on behalf of Plus Architecture for a proposed development at Former ESB Site, Mill Lane, Leixlip Co. Kildare.

Kildare County Council has supported Clúid Housing with the proposed development of approximately 36 units on lands in their ownership.

Plus Architecture has proposed a design that will consist of the demolition of the former ESB premises building and its associated shed at the back and the construction of four buildings varying in height from one to two stories that will house 36 no. new residential units. The proposed residential units include one and two-bedroom apartments. A community centre, communal garden, access road, parking, and a bin shop will also be included in the development. A new mixed use 2-storey building is proposed on the Southern Site boundary with a frontage to the Main Street. This building will contain a Community Centre on the ground floor level and an apartment on the First Floor Level, the design is proposed in a mix as follows:

- 1 bedroom apartment: 34 units (94%)
- mixed-use 2-storey building and 2-bedroom apartment: 2 units (6%)

At the back of the site, the remainder of the apartments will be arranged in 3 blocks enclosing a landscaped communal garden which will incorporate picnic seating areas, bench seating and timber pergolas. The central open space will be equipped with amenity grass, bulb, shrub, and feature tree planting. On the North-Eastern corner, an allotment garden with raised beds, seating and storage for tools and equipment will be provided.

A gravity wastewater drainage system will be provided to collect domestic wastewater discharge from the proposed residential units and community centre. This will be routed to the existing public wastewater network.

Surface Water Drainage will be resolved with an underground piped stormwater network which will collect runoff from the building gutters and downpipes. Roadways and parking areas shall comprise of open concrete lined channels, kerb inlets and grid inlets all discharging into an underground piped network. Sedimentation structures (silt traps) will also be included, especially around the gravel areas within the external landscaped area.

1.1 Objective

The objective of the OWMP is to provide a strategy for storage, handling, collection, and transport of the wastes generated, and to ensure maximum recycling, reuse, and recovery of waste with diversion from landfill, wherever possible.

This OWMP has been prepared to ensure all waste management during the operational phase

of the proposed development is conducted in line with current legal and industry standards;

- Waste Management Act 1996 as amended,
- Protection of the Environment Act 2003 as amended,
- Litter Pollution Act 1997 as amended,
- Eastern-Midlands Region Waste Management Plan 2015 - 2021,
- County Kildare Waste Management (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws 2018, and
- British Standards BS 5906:2005 Waste Management in Buildings – Code of Practice.

It is the responsibility of each individual owner and/or property management company (where used) to ensure the OWMP is implemented within the apartment building(s) they own and/or manage.

1.2 Site Location

The site is located at the junction of Main Street and Mill Lane, in Leixlip, County Kildare (ITM Coordinates: 700799, 736050). The site was formerly occupied by ESB. The surrounding area features terraced and semi-detached dwellings, commercial units and is in close proximity to a wide range of local amenities including St. Catherine's Park. The site location is illustrated in **Figure 1.2** overleaf.

The site is bounded to the east by St. Catherine's recreational park. The river Liffey lies 210m south of the site. The site, which is the ownership of Kildare City Council, was previously occupied by ESB. The existing site entrance is also used to access an ESB Telecoms site. It is likely that long term access will need to be maintained for the ESB Telecoms site.

The development will consist of the demolition of the former ESB premises building and its associated shed, located adjacent to the road. The total extent of the site covers an area of *ca.* 4.914m^2 (0.4914ha).

Figure 1.1: Proposed Site Location

The site layout is detailed in drawing ref: **CHL-PLA-00-00-DR-A-0200-S2** included in **Appendix A**.

2 Overview of Waste Management in Ireland

2.1 National Waste Legislation

The primary legislative instruments that govern waste management in Ireland are:

- Environmental Protection Act 1992 (No. 7 of 1992) as amended
- Waste Management Act 1996 (No. 10 of 1996) as amended
- Waste Management (Planning) Regulations 1997 (S.I No. 137 of 1997)
- Litter Pollution Act 1997 (No. 12 of 1997) as amended
- Waste Management (Hazardous Waste) Regulations 1998 (S.I No 163 of 1998) as amended
- Waste Management (Movement of Hazardous Waste) Regulations 1998 (S.I No. 147 of 1998)
- Planning and Development Act 2000 (No. 30 of 2000) as amended.
- Waste Management (Licensing) Regulations 2004 (S.I No. 395 of 2004) as amended
- Waste Management (Shipments of Waste) Regulations 2007 (S.I No. 419 of 2007) as amended
- European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended
- Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended
- Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended
- Waste Management (Food Waste) Regulations 2009 (S.I 508 of 2009) as amended
- European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I No. 149 of 2014)
- European Union (Batteries and Accumulators) Regulations 2014 (S.I No. 283 of 2014) as amended
- Waste Management (Packaging) Regulations 2014 (S.I 282 of 2014) as amended
- Waste Management (Landfill Levy) Regulations 2015 (S.I No. 189 of 2015)
- European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I No. 191 of 2015)

2.2 National Waste Policy

European Union (EU) legislation, the EU Circular Economy Action Plan, the European Green Deal and UN Sustainable Development Goals are the primary drivers of change in relation to waste management policy in Ireland.

Waste policies are centered around the EU waste hierarchy model (**Figure 2.1**) which focuses on a tiered system for waste management, these include prevention and minimisation, reuse, recycling, recovery, and disposal. The objective of the waste hierarchy is to promote a circular economy and prevent waste from going for incineration/landfill.

Figure 2.1: EU Waste Hierarchy Model

Municipal waste or Municipal Solid Waste (MSW) is the waste produced in households, and similar waste produced by businesses. Typically, this waste is collected at kerbside and back door, or brought directly to bring banks or civic amenity sites. MSW only amounts to *ca*. 10% of the waste generated in the EU, but it is complex to manage because it is comprised of a number of streams such as general waste, mixed dry recycling, and organic waste, and it has a large number of producers.

The management of MSW in Ireland has evolved significantly since the *Waste Management Act* was introduced in 1996. In more recent years, government policy has focussed on waste as a resource. Ireland's national waste policy was reviewed in 2020 to strengthen the focus on the circular economy and *A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025* was published in September 2020 and updated in September 2021. It contains over 200 measures across various areas including the circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging waste, construction and demolition waste, textiles, green public procurement, and waste enforcement.

2.3 National Planning Guidelines

The *Sustainable Urban Housing Design Standards for New Apartments: Guidelines for Planning Authorities* published by the Department of Housing, Planning and Local Government in March 2018 set out guidelines for waste storage in apartment developments. The guidelines state that provision shall be made for the storage and collection of waste materials in apartment schemes.

Refuse facilities shall be accessible to each apartment stair/lift core and designed with regard to the projected level of waste generation and types and quantities of receptacles required. Within apartments, there should be adequate provision for the temporary storage of segregated materials prior to deposition in communal waste storage and in-sink macerators are discouraged as they place a burden on drainage systems.

In designing refuse storage facilities, the following design considerations should be considered:

- 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 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 for disabled persons.
- 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 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.

2.4 National Waste Statistics

Since 1998, the Environmental Protection Agency (EPA) has produced periodic National Waste Database Reports that detail estimates for household and commercial waste generation in Ireland and the level of recycling, recovery, and disposal of these materials. In the most recent EPA waste data release in December 2022 (latest reference year 2020) the following trends were recorded:

Generated – Ireland produced 3.21 million tonnes of municipal waste in 2020. This is a 4% increase since 2019. Of this, 57% came from households and 43% from commercial sources. This amounted to 645 kg of municipal waste per person in Ireland in 2019.

Managed – Of the 3.21 million tonnes of municipal waste generated in Ireland in 2020, 41% was recycled (up slightly from 37% in 2019), 43% was used in energy recovery (down from 46% in 2019) and 16% was landfilled (up slightly from 15% in 2019)**.**

Unmanaged – Waste that is not collected or brought to a waste facility and is therefore likely to cause pollution in the environment because it is burned, buried, or dumped. An estimated further 48,660 tonnes of household waste was unmanaged in Ireland in 2019.

Recovered – The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. Ireland is heavily reliant on export markets for final treatment of municipal waste. In 2019, some 1.2 million tonnes representing 40% of Ireland's municipal waste was exported, up from 35% in 2018. Of the municipal waste exported in 2019, 701,000 tonnes went for recycling, 447,000 tonnes went for energy recovery and 90,000 for composting.

Recycled – The waste broken down and used to make new items. Recycling also includes the

breakdown of food and garden waste to make compost. Ireland's municipal waste recycling rate was at 37% in 2019, which is down 1% from 2018.

Disposed – the waste landfilled or burned in incinerators without energy recovery. 15% of municipal waste was disposed to landfill, while 46% was incinerated in 2019.

2.5 Regional Policy

For the purposes of waste management planning, Ireland is divided into three regions: Southern, Eastern-Midlands, Connacht-Ulster. The application site is located in the Eastern-Midlands Region. The Region has 12 constituent local authorities, stretching from Dublin in the east, Louth to the north and Wicklow to the south. The Region covers both urban and rural with a population of approximately 2.2 million with an 80 / 20 split dominated by the Dublin which has the largest population and highest economic activity in the region and nationally.

2.5.1 Eastern-Midlands Region Waste Management Plan 2015-2021

The Eastern-Midlands Region Waste Management Plan (SRWMP) 2015-2021 the most recent plan published for the region. It is the framework for the prevention and management of waste in a safe and sustainable manner.

The EMRWMP set out three strategic targets for waste management for the region:

1. A 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan.
2. A recycling rate of 50% of Managed Municipal Waste by 2020.
3. To Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

The plan contains a comprehensive list of policies to achieve the overarching strategy and targets of the plan. Some of the key measures for local authorities and industry contained in the plan can be summarised as follows:

- Commit to a minimum expenditure on waste prevention activities each year.
- Encourage more reuse and repair activities in the region, particularly at civic amenity facilities.
- Ensure sufficient staff and financial resources are in place to implement prevention, resource efficiency and enforcement programmes.
- Deliver communication, awareness and on the ground activities which lead to a lasting change in the behaviours of citizens and businesses towards their wastes.
- Increase the level of source-segregated kerbside collections in the region, with a strong focus on ensuring that a three-bin system becomes commonplace at household and commercial levels.
- Implement and regulate the new national pay-by-weight charging system which is due to come into force.
- Enforce the regulations related to household and commercial waste to tackle the problem of unmanaged waste and other issues.

- Plan and develop higher quality waste treatment infrastructure including new reprocessing biological treatment, thermal recovery, and pre-treatment facilities.
- Grow the biological treatment sector, in particular composting and anaerobic digestion, by supporting the development of new facilities.
- Support the development of thermal recovery in the region which meets the needs of the region and the State in reducing the export of residual wastes for treatment abroad.
- Ensure existing and future waste facilities do not impact on environmentally sensitive sites through proper assessments and siting; and
- Grow the waste management sector into a prosperous and sustainable industry which creates and maintains healthy employment.

2.6 Local Policy

2.6.1 Kildare County Development Plan 2023-2029

The proposed development is located in the Local Authority area of Kildare County Council. Council waste management policy is based on the EU Waste Hierarchy of prevention, preparing for reuse, recycling, energy recovery and sustainable disposal. Waste management is now very much a private sector activity while the role of the local authorities is largely confined to regulation and educational activities.

The county development plan sets out policy and objectives towards waste management within the county. It is a policy of the Council to:

IN P6 Implement European Union, National and Regional waste related environmental policy, legislation, guidance, and codes of practice, in order to support the transition from a waste management economy towards a circular economy.

It is an objective of the Council to:

IN O39 Encourage a just transition from a waste economy to a green circular economy in accordance with ‘A Waste Action Plan for a Circular Economy 2020-2025’ and the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less'.

IN O40 Provide, promote, and facilitate high quality sustainable waste recovery and disposal infrastructure / technology in keeping with the EU waste hierarchy to cater for anticipated population growth and the business sector in the County.

IN O42 Require the appropriate provision for the sustainable management of waste within developments (particularly apartment buildings), including the provision of facilities for storage, separation, and collection of waste.

IN O44 Encourage waste prevention, minimisation, re-use, recycling, and recovery as methods for managing waste.

IN O45 Promote and facilitate communities to become involved in environmental awareness activities and community-based waste recycling and reduction initiatives, which lead to a circular economy and local sustainable waste management practices.

IN O46 Ensure the provision of waste management facilities in the county (both public and private) are subject to the specific requirements of the Eastern-Midlands Region Waste Management Plan 2015-2021 (or as amended / updated).

IN O47 Support and facilitate the separation of waste at source into organic and non-organic streams or other waste management systems that divert waste from landfill and maximise the potential for each waste type to be re-used, recycled, or composted.

IN O49 Support the implementation of the actions outlined in the Kildare Litter Management Plan 2020-2023 (and any subsequent updates).

2.6.2 Kildare County Council Waste Management Bye-Laws 2018

Kildare County Council in exercise of the powers conferred on it by Section 35(1) of the Waste Management Act, 1996 and in accordance with Part 19 of the Local Government Act, 2001 has adopted and made the County Kildare Waste Management (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws 2018.

These Bye-Laws regulate and control the segregation, storage, and presentation of household and commercial waste. The main provisions of the bye-laws are:

- To ensure all citizens dispose of their waste by using an authorised waste contractor or by taking it to an authorised waste facility or by sharing bins by written agreement.
- To maximise the use of Wheel bins and limit (by designation by Kildare County Council) the areas where bags can be presented.
- To define how wheel bins are to be presented.
- To ensure segregation of waste at source.
- Where wheel bins or branded bags, purchased from authorised waste collectors, are not used that documentation/receipts are kept demonstrating proper disposal of waste.
- To restrict the storage of wheelie bins on public roads or footpaths.

Part 2.9 of the Bye-Laws outlines the specific requirements for Multi-user Buildings and Apartment Blocks:

A management company, or another person if there is no such company, who exercises control and supervision of residential and/or commercial activities in multi-unit developments, mixed-use developments, flats or apartment blocks, combined living/working spaces or other similar complexes shall ensure that:

a) separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable household kerbside waste and residual household kerbside waste.
b) additional receptacles are provided for the segregation, storage, and collection of food waste where this practice is a requirement of the national legislation on food waste,
c) the receptacles referred to in paragraphs (a) and (b) are located both within any individual apartment and at the place where waste is stored prior to its collection,

d) any place where waste is to be stored prior to collection is secure, accessible at all times by tenants and other occupiers and is not accessible by any other person other than an authorised waste collector,
e) written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage, and presentation prior to collection,
f) an authorised waste collector is engaged to service the receptacles referred to in this section of these bye-laws, with documentary evidence, such as receipts, statements, or other proof of payment, demonstrating the existence of this engagement being retained for a period of no less than two years. Such evidence shall be presented to an authorised person within a time specified in a written request from either that person or from another authorised person employed by Kildare County Council,
g) receptacles for kerbside waste are presented for collection on the designated waste collection day,
h) adequate access and egress onto and from the premises by waste collection vehicles is maintained.

The Bye-Laws define "recyclable household kerbside waste" to mean the fraction of household kerbside waste that comprises recyclable household waste and which includes the materials set out in **Table 1**.

Table 1: Schedule 1 - Recyclable Kerbside Waste

SCHEDULE 1. Recyclable Kerbside Waste		
Paper	**Aluminium Cans**	**Plastic Bottles (PET 1)**
Newspapers	Drink cans	Mineral bottles
Magazines	Soda & beer cans	Water bottles
Junk mail		Mouthwash bottles
Envelopes	**Steel cans**	Salad dressing bottles
Paper	Pet food cans	
Phone books	Food cans	**Plastic Bottles (HDPE2)**
Catalogues	Biscuit tins	Milk bottles
Tissue boxes	Soup tins	Juice bottles
Sugar bags		Cosmetic bottles
Calendars	**Cardboard**	Shampoo bottles
Diaries	Food boxes	Household cleaning bottles
letters	Cereal boxes	laundry detergent bottles
Computer paper	Kitchen towel tubes	Window cleaning bottles
Used beverage & juice cartons	Parcel boxes	Bathroom bottles
Milk cartons		
Egg boxes	**Plastic Pots1 Trays & Tubs**	
Holiday brochures	Yogurt pots	
Paper potato bag	Margarine tubs	
	Rigid food trays	
	Liquid soap containers	
	Fruit trays/cartons	

2.6.3 Local Waste Management Services

There are a significant number of waste contractors operating in the Leixlip area who are permitted to collect waste. Details of waste collection permits (granted, pending, and withdrawn) for the Region are available from the National Waste Collection Permit Office

(NWCPO). A copy of all waste licences issued are available from the Environmental Protection Agency (EPA).

3 Proposed Development

Kildare County Council has supported Clúid Housing with the proposed development of approximately 36 units on lands in their ownership.

Plus Architecture has proposed a design that will consist of the demolition of the former ESB premises building and its associated shed at the back and the construction of four buildings varying in height from one to two stories that will house 36 no. new residential units. The proposed residential units include one and two-bedroom apartments. A community centre, communal garden, access road, parking, and a bin shop will also be included in the development. A new mixed use 2-storey building is proposed on the Southern Site boundary with a frontage to the Main Street. This building will contain a Community Centre on the ground floor level and an apartment on the First Floor Level, the design is proposed in a mix as follows:

- 1 bedroom apartment: 34 units (94%)
- mixed-use 2-storey building and 2-bedroom apartment: 2 units (6%)

At the back of the site, the remainder of the apartments will be arranged in 3 blocks enclosing a landscaped communal garden which will incorporate picnic seating areas, bench seating and timber pergolas. The central open space will be equipped with amenity grass, bulb, shrub, and feature tree planting. On the North-Eastern corner, an allotment garden with raised beds, seating and storage for tools and equipment will be provided.

A gravity wastewater drainage system will be provided to collect domestic wastewater discharge from the proposed residential units and community centre. This will be routed to the existing public wastewater network.

Surface Water Drainage will be resolved with an underground piped stormwater network which will collect runoff from the building gutters and downpipes. Roadways and parking areas shall comprise of open concrete lined channels, kerb inlets and grid inlets all discharging into an underground piped network. Sedimentation structures (silt traps) will also be included, especially around the gravel areas within the external landscaped area.

The proposed layout and elevations are illustrated in **Figures 3.1 to 3.5** below.

Figure 3.1: Proposed Site Layout

Figure 3.2: Proposed North Elevation – Block 2

Figure 3.3: Proposed South Elevation - Block 2

Figure 3.4: Proposed East Elevation

Figure 3.5: Proposed West Elevation

A dedicated bin storage facility measuring XXm^2 is provided to the west of the site, adjacent to the bicycle parking area, as illustrated in **Figure 3.6** below.

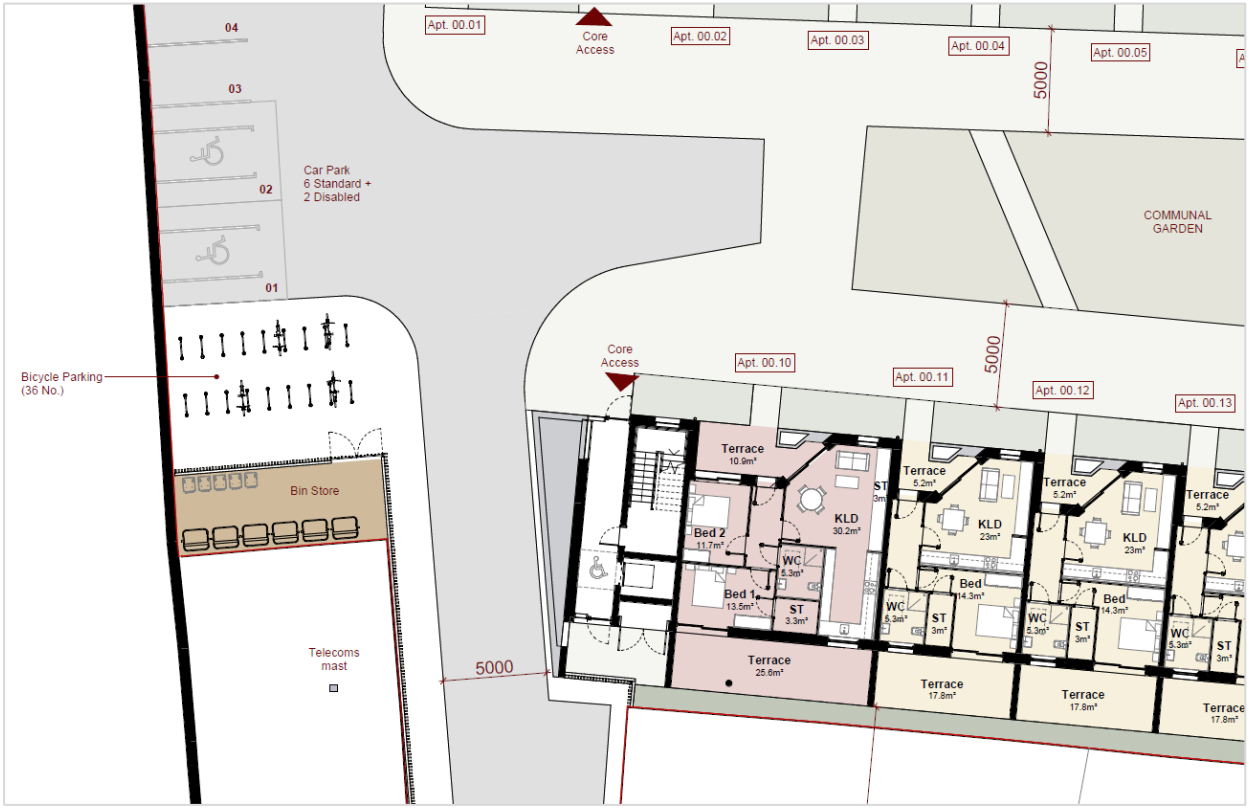

Figure 3.6: Location of Bin Store

4 Waste Categories

The typical waste that will be generated at the proposed development once operational will include the following:

- Organic Waste – including food waste or green waste
- Dry Mixed Recyclables (DMR) – including cardboard, non-confidential paper, newspapers, leaflets, aluminium cans, tins, Tetra Pak cartons, plastic bottles
- Glass
- Plastic packaging – can go into DMR waste or General depending on plastic type
- Mixed non-recyclables (MNR)/General waste

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

- Textiles
- Household hazardous waste (paints, thinners, strippers, cleaning agents, detergents, bleaches, insecticides, glues, and medicines)
- Edible oil and fat
- Batteries
- Waste electrical and electronic equipment (WEEE)
- Light bulbs
- Furniture and occasionally similar bulky waste
- Kitchen appliances (washing machines, cookers, microwave, fridges, freezers)
- Aerosols
- Printer ink/toner cartridges

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling, and recovery of waste diversion from landfill wherever possible.

5 Waste Codes

In 2002, the EPA has published a document titled the "*European Waste Catalogue and Hazardous Waste List*", which is a condensed version of the original two documents and their subsequent amendments. This document has been replaced by the "*EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous"* in June 2015.

Under the classification system, different types of wastes are fully defined by a code. The list of waste code for typical waste materials expected to be generated during the operation of the proposed development are provided in **Table 2** below.

Table 2: Typical EWC code wastes generated by the proposed development

Waste Material	EWC Code
Paper & cardboard	20 01 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Textiles	20 01 11
Chemicals (solvents, pesticides, paints & adhesives, detergents etc.	20 01 13*/19*/27*/28/29*/30
Fluorescent tubes and other mercury containing waste	20 01 21*
Edible Oils & Fat	20 01 25.26
Batteries and accumulators	20 01 33*/34
Waste electrical and electronic equipment	20 01 35*/36
Plastic	20 01 39
Metals	20 01 40
Green Waste	20 02 01
Mixed Municipal waste	20 03 01
Bulky waste	20 03 07

6 Waste Arisings

The waste arising from the proposed development and the associated bin requirements for the apartments have been estimated with regard to British Standards BS 5906:2005 – *Waste Management in Buildings – Code of Practice*. This code of practice sets outs methods of storage, collection, segregation for recycling and recovery for the residential units. The code sets out the typical weekly waste arising from domestic units and the subsequent storage requirements of same.

Applying the recommended numerical factors in combination with a waste generation model developed by ORS, the estimated bi-weekly waste arisings for the proposed apartment development is calculated to generate 7,452L of waste.

Volumes for the predicted waste streams were estimated. **Tables 3** below provides a breakdown of the estimated volumes per waste stream in litres on a bi-weekly basis for the apartments.

Table 3: Bi-Weekly waste arisings

Bi-Weekly waste arisings per waste stream for residential unit				
Estimated Bi-Weekly Waste Arisings (L)	**Organics Waste (L)**	**Dry Mixed Recyclables (L)**	**Mixed Municpal Waste (L)**	**Glass Waste (L)**
7,452	820	2,534	3,987	112

7 Waste Management

7.1 Waste Storage

This section provides information on how waste is proposed to be stored and moved within the development and then collected. This has been prepared with due consideration of the proposed site layout as well as best practice standards, local and national waste management requirements. In particular, consideration has been given to the following documents:

- Waste Management Act 1996 as amended,
- Protection of the Environment Act 2003 as amended,
- Litter Pollution Act 1997 as amended,
- Eastern-Midlands Region Waste Management Plan 2015 - 2021,
- County Kildare Waste Management (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws 2018, and
- British Standards BS 5906:2005 Waste Management in Buildings – Code of Practice.
- DoEHLG Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities 2018

A dedicated bin storage facility measuring 39m^2 is provided to the west of the site, adjacent to the bicycle parking area, as identified in **Section 3.0**.

All residential waste generated within individual apartments will be brought by residents to the bin store area. This area will be easily accessible to residents. Residents will be required to segregate their waste beforehand and then use the appropriate bins provided.

Bins within the storage area will be colour coded and labelled so that they are easily identifiable and to avoid cross contamination between the different waste streams.

Informational signage will indicate what waste can be disposed of in which bin.

Access to the bin storage area will be restricted to residents and waste contractors.

The bin storage area will be well lit and not present any safety risks to users.

The bin storage area will have a non-slip floor surface.

All bins will comply with BS EN 840 2012 in order to ensure that the collection vehicles can service the bins, and all bins will have a fitted lid to prevent waste escaping from bins and generating litter.

The waste storage area will be adequately ventilated so as to minimise odours and potential nuisance from vermin and flies.

As part of the facilities management for the development pest control will be provided by an approved contractor and monitored on a regular basis. Occupants will be informed of the correct storage of waste particularly organic waste to minimise the impacts from pests/vermin.

To ensure hygiene standards are maintained, if water supply cannot be provided to the waste storage areas, a contract will be put in place with the appointed waste contractor to provide a mobile bin cleaning service.

Table 4 shows the total bins required for the proposed development based on the estimated waste volume and streams to be generated within the apartments.

Table 4: Estimated number of bins required

Bi-Weekly Waste Volumes (L)	Organic 660L	Dry Mixed Recyclables 660L	Mixed Municipal Waste 660L	Glass 660L	Total No. Bins
7,452	1	4	6	1	12

Based on bi-weekly collection, bin provision should include;

- 1no. 660L bins for Organic Waste
- 4no. 660L bins for Dry Mixed Recyclables
- 6no. 660L bins for Mixed Municipal Waste
- 1no. 360L bins for Glass

All waste receptacles used will comply with the BS EN 840 2012 standard for performance requirements of mobile waste containers.

Tables 5 below details the area (m^2) required for all bin storage, excluding area required for general access.

Table 5: Area (m2) required for bin storage

	Organic 1100L	Dry Mixed Recyclables 1100L	Mixed Municipal Waste 1100L	Glass 1100L	Total No. Bins	Total Area (m^2)
Area Required (m^2)	1.3	4.0	6.3	0.7	12	12.6

Based on the estimated bi-weekly waste arisings it has been determined that a minimum area of 12.6 m^2 is required to store all bins for the development. An area of 39m^2 has been provided, as outlined in **Section 3.0**.

7.2 Waste Collection

All waste contractors serving the proposed development must hold a valid waste collection permit for the types of waste being collected and all waste must be transferred to licenced facilities only.

Details of waste collection permits (granted, pending, and withdrawn) for the Region are available from the National Waste Collection Permit Office (NWCPO). A copy of all waste licences issued are available from the Environmental Protection Agency (EPA).

The development site and bin storage areas can be accessed from Mill Lane and the internal road within the development, providing adequate access and egress onto and from the premises by waste collection vehicles.

Waste will be collected at agreed times on agreed days by the waste contractors, it is assumed for the purpose of this report that all collection will be on a bi-weekly basis.

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.

Written information will be provided to tenants about the arrangements for waste separation, segregation, storage, and presentation prior to collection in accordance with the relevant Bye-Laws.

8 Conclusion

The proposed apartment units have been designed and will be managed to provide the occupants with the required waste management infrastructure, to optimise the potential for segregating and recycling of waste produced.

The objective of this waste management plan is to maximise the quantity of waste recycled by providing sufficient waste recycling infrastructure, waste reduction initiatives, waste collection and waste management information services to the occupants of the proposed units.

To ensure hygiene standards are maintained, if water supply cannot be provided to the waste storage areas, a contract will be put in place with the appointed waste contractor to provide a mobile bin cleaning service. Also, as part of the facilities management for the development, pest control will be provided by an approved contractor and monitored on a regular basis.

It is estimated the proposed development as a whole (i.e., the proposed developed and the existing apartments) will produce *ca*. 7,452L of waste bi-weekly from the apartment units.

Bin storage areas will provide for a bi-weekly (14 days) storage capacity. On the day of collection, the licensed collection company will be able to access the development to service the designated bin storage areas. No unauthorised members of the public should have access to the bin storage areas.

Separate storage will be provided for Dry Mixed Recyclables, Glass, Organic Food Waste and Municipal Waste in each bin store, to support maximum segregation of all waste.

Additional capacity was considered when calculating the potential waste arisings in the event of missed collections due to bank holidays, industrial action, vehicle failure and adverse weather conditions. The estimated area required for bin storage was found to be 12.6m^2. 39m^2 of dedicated storage has been provided.

All waste arisings will be stored in bins proportionate to the volume of waste produced and in a manner that is safe for those handling it during collections.

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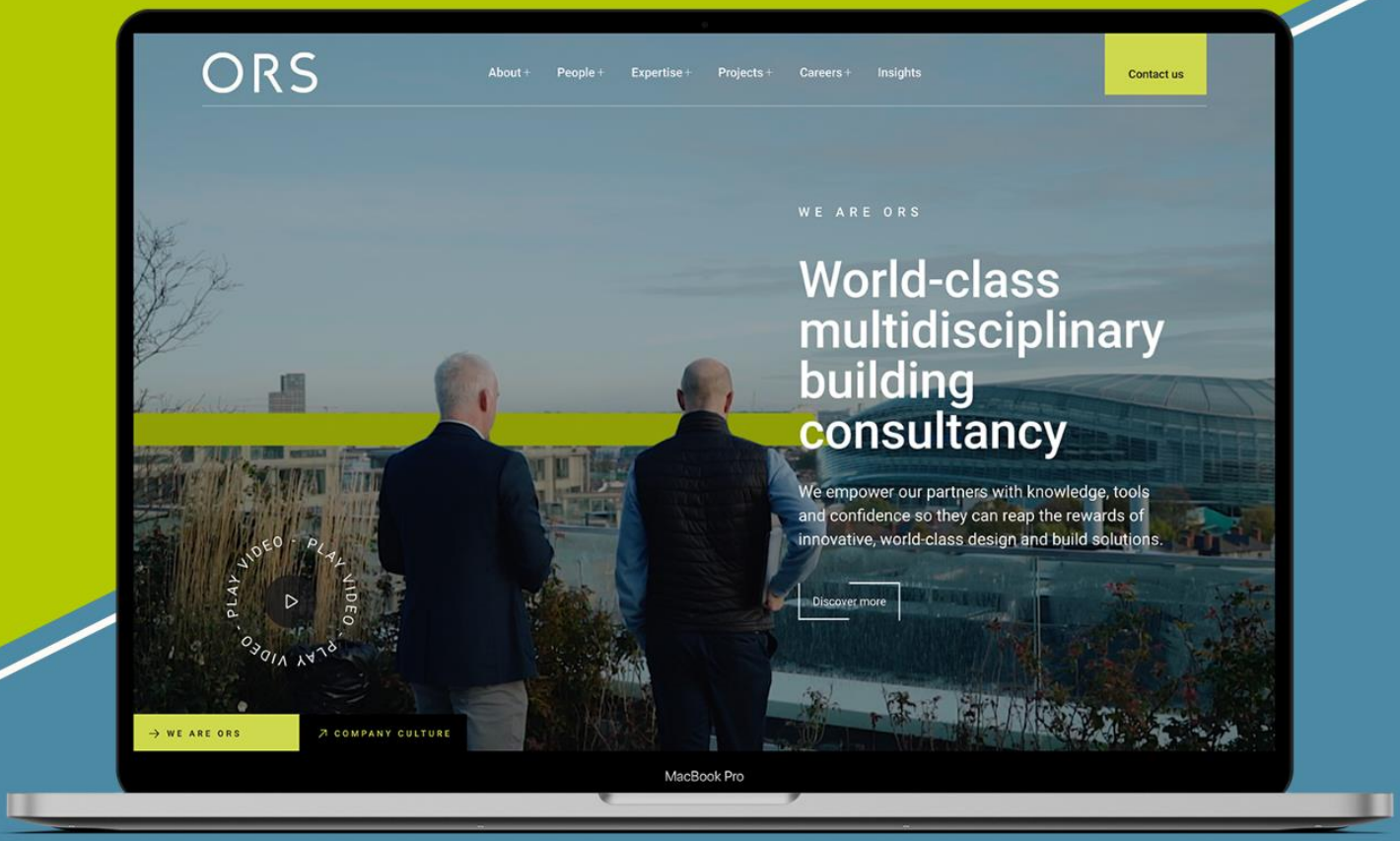

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Block A,
Marlinstown Business Park,
Mullingar, Co. Westmeath,
Ireland, N91 W5NN

Suite: G04, Iconic Offices,
Harmony Row,
Dublin 2, Co. Dublin,
Ireland, D02 H270

Level One, Block B,
Galway Technology Park,
Parkmore, Co. Galway,
Ireland, H91 A2WD

Office 2, Donegal Town,
Enterprise Centre, Lurganboy,
Donegal Town, Co. Donegal,
Ireland, F94 KT35

Office 4, Spencer House,
High Road, Letterkenny,
Co. Donegal,
Ireland, F92 PX8N

NSQ2,
Navigation Square,
Albert Quay, Cork
Ireland, T12 W351