BALLINACURRA MILL LRD

Operational Waste Management Plan

2025

Contents

1. Introduction

This Operational Waste Management Plan outlines a waste management strategy for the proposed residential development at Ballinacurra Mill, Rose Lane, Ballinacurra, Co. Cork. The development includes 103 dwelling houses and 25 apartments with associated landscaping and infrastructure on a 3.63-hectare site.

The Operational Waste Management Plan is designed to meet legal requirements and align with national, and local waste policies, ensuring effective waste segregation, recycling, and recovery processes. By using structured planning and following best practices, this strategy supports a circular economy, reduces reliance on landfill, and promotes sustainable waste management for the development proposal at operation stage.

2. Plan Objective

Current government policies prioritize achieving a circular economy, which reduces and minimizes material usage, redesigns products and services to use fewer resources, and repurposes waste as a resource.

While reducing and preventing household waste generation largely falls outside the scope of this proposal, the primary objective presented is to ensure that any waste generated by the development is managed effectively. This includes providing the necessary infrastructure for proper waste segregation to facilitate recycling in line with regulations, industry standards and guidelines.

3. Method

There is no specific guidance for preparing an Operational Waste Management Plan however, this plan is referenced to the waste policy and legislative requirements outlined in Section 3.0. BS 5906:2005 Waste Management in Buildings – Code of Practice providing guidance for estimating waste generation. Additionally, EPA National Waste Statistic Reports and Household Waste Characterisation reports inform the percentage breakdown of waste.

4. Proposed Development - Description

The proposed development includes 103 dwelling houses and 25 apartments (total of 128 residential units) as follows:

92 no. new dwelling houses ranging from 2 to 3 storeys in height (comprising of 39 no. 2 bedroom houses, 36 no. 3 bedroom houses and 17 no. 4 bedroom houses), 8 no. dwelling houses in existing structures (including 1 no. 3 bedroom dwelling in Rosehill outbuildings and 3 no. 2 bedroom dwellings and 4 no. 3 bedroom dwellings in the Mill Buildings),
The repair and conservation of Rosehill House to 1 no. 4 bedroom dwelling, and conversion of Eastville House to 1 no. 2 bedroom dwelling and 1 no. 3 bedroom dwelling,

25 no. apartments in existing structures (comprising of 1 no. ground floor Studio and 10 no. 1 bedroom apartments and 14 no. 2 bedroom apartments in existing Mill buildings from first to third floor),

1 no. single storey creche, 1 no. single storey café, 1 no. ESB substation, 2 no. ground floor retail units, 1 no. ground floor commercial office unit, and 1 no. ground floor medical centre unit.

Site Plan - Ballinacurra Mill LRD Proposal

5. Estimated Waste Generated

According to the EPA's waste statistics for Ireland, the most recent figures indicate that the average amount of household waste generated per person annually is 342 kg.

Additionally, figures extracted from the Circular Economy and Waste Statistics Highlights Report 2021 show that 69% of Irish households with kerbside collection have access to brown bins. However, as mentioned earlier in this report, a percentage of organic household waste continues to be disposed of incorrectly in other bins. Ireland's recycling rate must improve to meet the ambitious EU targets set for 2025 and 2030. In estimating the waste generation for the proposed development, the *BS 5906:2005 Waste Management in Buildings – Code of Practice* has been used.

Waste Likely to be Generated

The proposed development is expected to generate both non – hazardous and hazardous waste on a regular basis, including the following types:

- Dry Mixed Recyclables (DMR): This includes wastepaper (such as newspapers, magazines, brochures, catalogues, and leaflets), cardboard, plastic packaging, metal cans, plastic bottles, aluminium cans, tins, and Tetra Pak cartons.
- Organic Waste: This includes food waste and green garden waste.
- Glass.
- Mixed Non-Recyclable (MNR) / General Waste.

These waste materials can be segregated into the appropriate categories to comply with waste legislation and guidelines, maximizing opportunities for reuse, recycling, and recovery while diverting waste from landfill wherever possible.

In addition to the daily waste generated, the following additional waste types are expected in smaller quantities, typically generated by residents:

- Batteries (both hazardous and non-hazardous)
- Chemicals (such as paints, adhesives, resins, detergents, etc.)
- Furniture (and, on occasion, other bulky waste, including white goods)
- Light bulbs (including fluorescent tubes and LED bulbs)
- Printer cartridges and toners
- Textiles
- Waste cooking oil (if generated by residents)
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous)

Available data from the EPA, determines that the average person generates approximately 2.44 kg of waste per week. Waste often consists of Dry Mixed Recyclables (DMR), Mixed Non-Recyclables (MNR), glass, and organic waste. Densities of 270 kg per cubic metre for dry recyclable and non-recyclable, 500 kg per cubic metre of organic waste and 570 kg for glass, approximately allows calculating the volume required for each waste types

6. Waste Storage & Collection

This section shows the storage and collection methods for waste generated within the development, for the proposed site layout. Best practice standards, applicable local and national waste management guidelines. Key guidelines referenced include:

BS 5906:2005 Waste Management in Buildings – Code of Practice
Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021
Department of Housing, Planning and Local Government (DoHPLG), Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2023)

Residents will be required to separate waste into Dry Mixed Recyclables (DMR), Mixed Non-Recyclables (MNR), glass, and organic waste. Each apartment block will include a designated bin store on the ground floor as detailed here.

Bin Storage Location, Numbers & Volume Proposed

Each 1100L bin requires approximately 1.68m² of floor space, with an additional 1.5 times the bin area recommended for adequate movement space. Each 360L bin requires 0.58m² of floor space. To ensure sufficient space, an estimate has been calculated for 10 x 1100L bins and 2 x 360L bins to service the apartments, requiring a total area of 43.16m², compared to the 50m² provided.

The proposed waste storage areas are adequate to accommodate the estimated weekly collection needs, with capacity to handle occasional increases in waste generation. Collections may be increased if required. The facility management team, manage bins and waste storage areas. Residents are informed of the waste segregation requirements and the storage procedures. Tables of waste quantity and collection location below for each apartment building, commercial interest, creche and residences.
Communal bin storage areas are required to:

- Be fitted with a non-slip floor surface;
- Ventilated to reduce the potential for generation of odours;
- Suitably lit and with appropriate sensor controlled lighting;
- Be accessible for people with limited mobility;
- Be restricted to access by nominated personnel and residents only;
- Have appropriate written signage placed above and on bins indicating correct use;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Robust design of doors to bin area;
- Be fitted with CCTV for monitoring as appropriate.

Waste Collection

On collection days, communal bins are moved from the ground-floor storage locations to an external pickup location. Refuse trucks have adequate turning space for efficient collection in designated areas outside Mill Buildings and Creche. Private bins are placed in front of houses.

All contractors servicing the development to have a valid waste collection permit ensuring waste is transported to registered / permitted facilities. Collections occur weekly.

7. Waste Management

Dwelling Houses

All dwelling houses have bin storage to the rear gardens.61 of the dwelling houses have private access to rear gardens for bin storage and 42 dwellings have shared access to private gardens. Bin Capacity may require adjustment to provide separate storage for recyclable goods and may adapt to changes in guidance and regulation.

Refer to *Table 5 Residential Houses Waste Production* below for information on capacity and collection.

Apartments

Recycling and waste bin storage facilities are proposed for the apartments. Bin storage is proposed in The Smarts Store for the 5 apartments within that building. Bin storage is proposed in The Malt Store for the 16 apartments proposed in The Malt Store and The Malt House. Bin storage is also proposed adjacent to The Kiln Building for the 4 apartments in the Kiln building. Bin Capacity may require adjustment to provide separate storage for recyclable goods and may adapt to changes in guidance and regulation.

Refer to *Table 01, 02, 03, 04 Apartments Waste Production* below for information on capacity and collection.

Retail, Commercial Spaces & the Creche

Recycling and waste bin storage facilities are proposed within retail and office space with external storage provided for the creche. Bin Capacity may require adjustment to provide separate storage for recyclable goods and may adapt to changes in guidance and regulation.

Refer to *Table 06 Commercial Areas Waste Production* below for information on capacity and collection.

Recycling

Bins are provided for Recycling and General Waste, Compost and Glass depending on providers and guidance and legislation. Waste storage capacity is rounded to bin literage and numbers depending on availability of waste storage types. Bin size can vary depending on residential occupancy and habits.

05 Residential Houses - Waste Production							
Residential Houses	**No. of Units**	**Total Persons**	**Persons per Unit**	**Organic 1.51kg/p**	**DMR 1.25kg/p**	**MNR 0.99kg/p**	**Glass 0.13kg/p**
2 Bed	13	39	3	58.89	48.75	38.61	5.07
2 Bed	30	120	4	181.20	150.00	118.80	15.60
3 Bed	3	12	4	18.12	15.00	11.88	1.56
3 Bed	38	190	5	286.90	237.50	188.10	24.70
3 Bed	1	6	6	9.06	7.50	5.94	0.78
4 Bed	1	7	7	10.57	8.75	6.93	0.91
4 Bed	17	136	8	205.36	170.00	134.64	17.68
Total	103	510	**Kg/week**	770.10	637.50	504.90	66.3
Total Litres			**L/week**	1540.20	2358.75	1868.13	116.03
Collection - Residential Service - Street Location							

01 Smart Store Apartments - Waste Production							
Bin Storage Smarts Store	**No. of Units**	**Total Persons**	**Persons per Unit**	**Organic**	**DMR**	**MNR**	**Glass**
1 Bed	3	6	2	9.06	7.5	5.94	0.78
2 Bed	2	6	3	9.06	7.5	5.94	0.78
Total	5	12	**Kg/week**	18.12	15	11.88	1.56
Total Litres			**L/week**	36.24	55.55	44	2.737
Collection - Eastville							

02 Malt Store Apartments - Waste Production							
Bin Storage Malt Store	**No. of Units**	**Total Persons**	**Persons per Unit**	**Organic**	**DMR**	**MNR**	**Glass**
1 Bed	4	8	2	12.08	10	7.92	1.04
2 Bed	2	6	3	9.06	7.5	5.94	0.78
Total	6	14	**Kg/week**	21.14	17.5	13.86	1.82
Total Litres			**L/week**	42.28	64.81	51.33	3.19
Collection - Coppinger's Way							

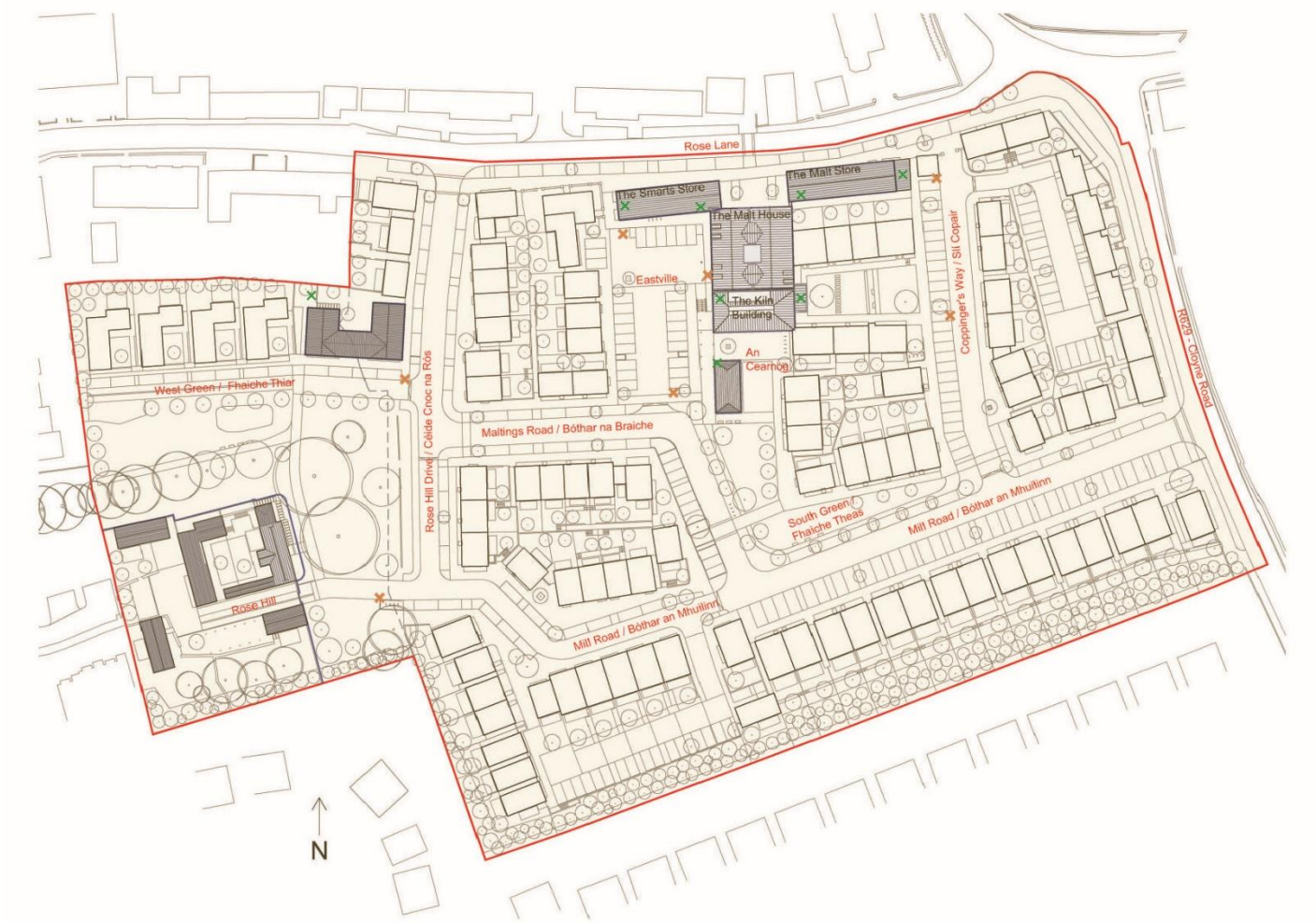
03 Malt House Apartments - Waste Production							
Bin Storage Malt Store	**No. of Units**	**Total Persons**	**Persons per Unit**	**Organic**	**DMR**	**MNR**	**Glass**
1 Bed	2	4	2	6.04	5	3.96	0.52
2 Bed	8	25	3	37.75	31.25	24.75	3.25
Total	10	29	**Kg/week**	43.79	36.25	28.71	3.77
Total Litres			**L/week**	87.58	134.26	106.3	6.6
Collection - Coppinger's Way							

04 Kiln Building Apartments - Waste Production							
Bin Storage Kiln Building	**No. of Units**	**Total Persons**	**Persons per Unit**	**Organic**	**DMR**	**MNR**	**Glass**
1 Bed	2	4	2	6.04	5	3.96	0.52
2 Bed	2	6	3	9.06	7.5	5.94	0.78
Total	4	10	**Kg/week**	15.1	12.5	9.9	1.3
Total Litres			**L/week**	30.2	46.30	36.67	2.28
Collection - Coppinger's Way							

06 Commercial Areas - Waste Production							
Commercial Units	**Persons Employed**	**Area sqm**	**Waste in Litres/Week**	**Waste in Kg / Week**	**Bins 1100L**	**Bins 240L**	**Collection Location**
Retail Malt House	8	274	1370	465	1	1	Eastville
Retail Kiln Bldg.	4	140	350	119		2	Maltings Rd.
Medical Centre	3	69	150	51		1	Rose Lane
Office	5	56	240	80		1	Rose Lane
Café	2	69	345	118		2	Maltings Rd.
Creche	9	223	550	187		2	Rose Hill Dr.
Total	31	831	**3015**	1025	1	9	

Waste Management Storage and Collection

Apartments and Commercial Buildings



Nett site area: 3.63 ha

X Bins / Refuse storage for 25 Apartments, Commercial & Retail Space and Creche

X Collection point for Bins / Refuse for 25 Apartments, Commercial Areas and Creche

Collection Area also indicated for Rosehill

8. Waste Management Policy & Legislative Overview

National Context

Ireland's waste management practices, infrastructure, and regulations have advanced significantly over the past 20 years, driven by EU and national legislation, policy, and economic initiatives. The Department of Environment, Climate, and Communications published *A Waste Action Plan for a Circular Economy, Ireland's National Waste Policy 2020-2025* in September 2020, replacing the previous 2012 policy, *A Resource Opportunity – Waste Management Policy in Ireland*, which focused on waste as a resource and reducing landfill use to near elimination.

According to the Environmental Protection Agency (EPA), "The ambition for Ireland is a circular economy," aligning with EU policy. This circular approach prioritizes waste prevention, reducing single-use items, incentivizing reuse and repair, maximizing recycling, and using non-recyclable residual waste as an energy source to reduce fossil fuel dependency.

Key Municipal Waste Trends (EPA Data for 2021):

- Municipal waste includes household and similar commercial waste. In 2021, Ireland generated 3.17 million tonnes, a 1% decrease from 2020. Of this, 57% came from households.
- Recycling accounted for 41% of municipal waste, remaining unchanged from 2020, with 63% of the recycled waste going for material recycling and 37% for composting. While material recycling decreased, composting increased.
- 41% of municipal waste was incinerated with energy recovery, maintaining the same rate as 2020.
- Ireland's landfill rate for municipal waste was 16% in 2021, consistent with 2020. This marks a significant decline from over 80% in 2001, though Ireland must further reduce landfill usage to 10% or less by 2035.

Challenges and Policy Needs:

The 2021 data indicate a pressing need for policies to prevent municipal waste and reduce the link between economic growth and waste generation. Between 2016 and 2021, municipal waste generation rose by over 400,000 tonnes (15%), closely tied to disposable income trends. Household waste alone reached 1.84 million tonnes in 2021, up 17% from 2019—amounting to 1 tonne per household or 365 kg per person.

Household Waste Segregation (EPA Household Municipal Waste Characterisation 2022):

- General Waste Bin: 21% of contents are food and garden waste, 24% could be recycled, and 19% could go to bring centres. In total, 64% of waste in general bins could be better sorted.
- Recycling Bin: 15% should be in the general bin, 3% in organic bins, 8% in bring centres, with an additional 10% contamination. Overall, 36% of recycling bin content was incorrectly sorted.
- Organic Waste Bin: 5% was non-organic material.

The report emphasizes the need for greater industry support to improve waste segregation, including universal brown bin provision for households and enhanced recycling infrastructure to facilitate access to bring centres.

Legislation - Waste Management

Under current legislation, future homeowners, occupiers, and management companies are responsible for ensuring that waste is properly managed, handled, and disposed of. Specifically, all waste collectors must hold appropriate permits, and all waste must be recycled or recovered at authorized facilities.
Each waste contractor must have a collection permit issued by the National Waste Collection Permit Office (NWCPO) to transport waste. Waste receiving facilities are also required to have the correct permits and/or licenses.

Facility operators may only accept waste if they hold a Certificate of Registration (COR) or a waste permit issued by the relevant Local Authority under the *Waste Management (Facility Permit & Registration) Regulations 2007*, as amended, or an Industrial Emissions Directive (IED) or waste license granted by the EPA. The COR, permit, or license specifies the types and quantities of waste the facility can receive, store, sort, recycle, recover, and/or dispose of at the site.

9. Conclusion

This Operational Waste Management Plan outlines a comprehensive waste strategy considering legal requirements, waste policies, and best practice guidelines in Ireland and County Cork. The proposal integrates necessary storage areas and access arrangements to effectively support waste management requirements. This plan facilitates high levels of recycling, reuse, and recovery, ensuring that recyclable materials are segregated at source, reducing costs associated with waste disposal. Residual waste may be directed to energy recovery facilities, which helps to maximize landfill diversion and meet current waste reduction targets.

The strategy provides storage capacity for the estimated waste quantities and ensures that designated waste storage areas are suitable to accommodate all required bins and containers.

10. Additional Waste Materials - Notes

Green/garden waste

Green/garden waste may be generated from gardens, external landscaping and internal plants / flowers. Green waste generated from landscaping of external areas is removed by external landscape contractors. Green waste generated from gardens internal plants / flowers can be placed in organic waste bins or kept on site.

Waste Cooking Oil

If Commercial tenants use cooking oil, waste cooking oil will need to be stored within their unit in a bunded area or spill pallet and regular collections by a dedicated waste contractor need to be organised as required. Under sink grease traps must be used in any cooking / café space. If the residents generate waste cooking oil, it may be brought to a civic amenity centre or placed in the organic bin when hardened.

Batteries

A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the S.I. No. 283/2014 - European Union (Batteries and Accumulators) Regulations 2014, as amended. Consumers my bring waste batteries to their local civic amenity / recycling centre or may return them free of charge to retailers which supply the equivalent type of battery, regardless of whether or not the batteries were purchased at the retail outlet and regardless of whether or not the person depositing the waste battery purchases any product or products from the retail outlet. The commercial tenants cannot use the civic amenity centre. They must segregate their waste batteries and either avail of the take-back service provided by retailers or arrange for recycling / recovery of their waste batteries by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Waste Electrical and Electronic Equipment (WEEE)

The WEEE Directive (Directive 2002/96/EC) and Waste Management (WEEE) Regulations ensure recycling of electronic and electrical equipment. Consumers may bring their waste electrical and electronic equipment to their local civic amenity / recycling centre. In addition, consumers can bring back WEEE within 15 days to retailers when they purchase new equipment on a like for like basis. Retailers are also obliged to collect WEEE within 15 days of delivery of a new item, once disconnected, has no health and safety risk and is ready for collection. Commercial tenants cannot use a civic amenity centre. They must segregate their WEEE and either avail of the take-back / collection service provided by retailers or arrange for recycling / recovery of their WEEE by a suitably licenced operator.

Printer Cartridge/Toners

Waste printer cartridge / toners generated by residents can usually be returned to the supplier free of charge or can be brought to a civic amenity / recycling centre. A printer cartridge / toner

bin may be provided in the commercial unit. The commercial tenant is required to store this waste within their unit and arrange for return to retailers or collection.

Chemicals

Chemicals (paints, adhesives, resins, detergents, solvents etc) are generated from building maintenance works. Works are usually completed by external contractors who are responsible for the off-site removal and appropriate recovery / recycling / disposal of any waste materials generated. Waste cleaning products or waste packaging from cleaning products generated in the commercial units that is classed hazardous must be stored within the occupiers' own space and is their responsibility. Any waste cleaning products or waste packaging from cleaning products that are classed as hazardous (if they arise) generated by the residents may be left at a civic amenity.

Light Bulbs

Commercial tenants are responsible for the off-site removal and appropriate recovery / disposal of waste bulbs. Light bulbs generated by residents should be taken to the nearest civic amenity / recycling centre for appropriate storage and recovery / disposal.

Textiles

Waste textiles may be recycled or donated to a charity organisation for reuse. Residents are responsible for disposing of waste textiles appropriately.

Furniture (and other bulky wastes)

Furniture and other large items may be brought to a civic amenity / recycling centre. Local arrangements are made periodically by the County Council for collection of large items.

11. References

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end.