

OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED RESIDENTIAL DEVELOPMENT

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Report Prepared For

**Kieran Curtin, Receiver over
certain assets of Maplewood
Developments Unlimited
Company (in liquidation and in
receivership)**

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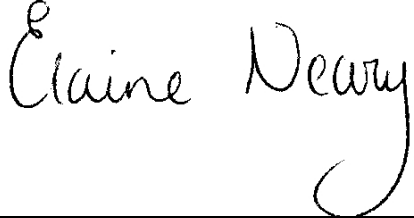
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CONTENTS		Page
1.0	INTRODUCTION	4
2.0	OVERVIEW OF WASTE MANAGEMENT IN IRELAND	4
2.1	National Level	4
2.2	Regional Level	6
2.3	Legislative Requirements	7
2.3.1	Kildare County Council Waste Management Bye-Laws	8
2.4	Regional Waste Management Service Providers and Facilities	9
3.0	DESCRIPTION OF THE Development	9
3.1	Location, Size and Scale of the Development	9
3.2	Typical Waste Categories	10
3.3	European Waste Codes	11
4.0	ESTIMATED WASTE ARISING	11
5.0	WASTE STORAGE AND COLLECTION	12
5.1	Waste Storage – Individual Apartments/Duplexes/Houses	14
5.2	Waste Storage – Crèche Unit	15
5.3	Waste Collection	15
5.4	Additional Waste Materials	16
5.5	Waste Storage Area Design	18
6.0	CONCLUSIONS	18
7.0	REFERENCES	20

1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Kieran Curtin, Receiver over certain assets of Maplewood Developments Unlimited Company (in liquidation and in receivership). The proposed development is for the construction of a residential development, a childcare facility, communal and public open space, landscaping, car and cycle parking, provision of a secondary link street, and associated internal roads, pedestrian and cycle paths and all associated site and infrastructural works.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed development is undertaken in accordance with the current legal and industry standards including the *Waste Management Act 1996* as amended and associated Regulations¹, *Environmental Protection Agency Act 1992* as amended², *Litter Pollution Act 1997* as amended³, the '*Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021*'⁴ and the *Kildare County Council (KCC) Waste Management Segregation, Storage and Presentation of Household & Commercial Waste Bye-Laws 2018*⁵. In particular, this OWMP aims to provide a robust strategy for the storage, handling, collection and transport of the wastes generated at site.

This OWMP aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. The OWMP also seeks to provide guidance on the appropriate collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil or water resources). The plan estimates the type and quantity of waste to be generated from the proposed development during the operational phase and provides a strategy for managing the different waste streams.

At present, there are no specific guidelines in Ireland for the preparation of OWMPs. Therefore, in preparing this document, consideration has been given to the requirements of national and regional waste policy, legislation and other guidelines.

2.0 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998 entitled '*Changing Our Ways*'⁶, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. A heavy emphasis was placed on reducing reliance on landfill and finding alternative methods for managing waste. Amongst other things, *Changing Our Ways* stated a target of at least 35% recycling of municipal (i.e. household, commercial and non-process industrial) waste.

A further policy document, '*Preventing and Recycling Waste – Delivering Change*' was published in 2002⁷. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled '*Making Ireland's Development Sustainable – Review, Assessment and Future Action*'⁸. This document also stressed the need to decouple economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document *Changing Our Ways*, a review document was published in April 2004 entitled '*Taking Stock and Moving Forward*'⁹. Covering the period 1998 – 2003, the aim of this document was to

assess progress to date with regard to waste management in Ireland, to consider developments since the policy framework and the local authority waste management plans were put in place, and to identify measures that could be undertaken to further support progress towards the objectives outlined in *Changing Our Ways*.

In particular, *Taking Stock and Moving Forward* noted a significant increase in the amount of waste being brought to local authority landfills. The report noted that one of the significant challenges in the coming years was the extension of the dry recyclable collection services.

In September 2020, the Irish Government published a new policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan 'A Waste Action Plan for a Circular Economy'¹⁰ (WAPCE), was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to a new economy, where climate and environmental challenges are turned into opportunities, replacing the previous national waste management plan "A Resource Opportunity" (2012).

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021)¹¹ to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports'¹² detailing, among other things, estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery and disposal of these materials. The 2019 *National Waste Statistics*, which is the most recent study published, along with the national waste statistics web resource (November 2021) reported the following key statistics for 2019:

- **Generated** – Ireland produced 3,085,652 t of municipal waste in 2019. This is almost a 6% increase since 2018. This means that the average person living in Ireland generated 628 kg of municipal waste in 2019.
- **Managed** – Waste collected and treated by the waste industry. In 2019, a total of 3,036,991 t of municipal waste was managed and treated.
- **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. The EPA estimates that 48,660 t was unmanaged in 2019.
- **Recovered** – The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In 2019, around 83% of municipal waste was recovered – a decrease from 84% in 2018.
- **Recycled** – The waste broken down and used to make new items. Recycling also includes the breakdown of food and garden waste to make compost. The recycling rate in 2019 was 37%, which is down from 38% in 2018.
- **Disposed** – Less than a sixth (15%) of municipal waste was landfilled in 2019. This is an increase from 14% in 2018.

2.2 Regional Level

The proposed development is located in the Local Authority area of Kildare County Council (KCC). The *Eastern-Midlands Region Waste Management Plan 2015 – 2021* is the regional waste management plan to the administrative area, published in May 2015. Currently the EMR and other regional waste management plans are under review and the Regional Waste Management Planning Offices expect to publish the final plan in 2022.

The Regional Plan sets out the strategic targets for waste management in the region and sets a specific target for C&D waste of “70% preparing for reuse, recycling and other recovery of construction and demolition waste” (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €130 - €150 per tonne of waste, which includes a €75 per tonne landfill levy introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2012*.

The *Kildare County Development Plan 2017 – 2023*¹³ came into force as of March, 1st 2017 and sets out a number of objectives for the Kildare County area, in line with the objectives of the regional waste management plan. Waste objectives with a particular relevance to the development are:

- WM 1: To implement European Union, National and Regional waste related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.
- WM 3: To support the implementation of the Eastern-Midlands Region Waste Management Plan 2015-2021 by adhering to overarching performance targets, policies and policy action.
- WM 4: To support waste prevention through behavioural change activities that disassociates economic growth with resource use.
- WM 7: To secure appropriate provision for the sustainable management of waste within developments, including the provision of facilities for the storage, separation and collection of such waste.
- WM 10: To encourage waste prevention, minimisation, reuse, recycling and recovery as methods of managing waste. Where waste management is not being carried out properly, the Waste Management Act 1996 as amended, will be used as a means of ensuring specific national policies and regulations are adhered to.
- WM 15: 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 reused and recycled or composted and divert organic waste from landfill, in accordance with the 'National Strategy on Biodegradable Waste 2006 and the Eastern – Midlands Region Waste Management Plan 2015-2021.

The KCC *Draft Kildare County Development plan 2023-2029*¹⁴ was released in March 2022 sets policies and objectives in support of the regional development plan and the Waste Action Plan for a Circular Economy 2020-2025 for the proper planning and sustainable development of the Kildare area. The following policies and objectives are of particular relevance to waste management:

- 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.*

- *IN O36: 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'.*
- *IN O37: 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 O38: Ensure the provision of adequately sized public recycling facilities in association with new commercial developments and in tandem with significant change of use / extensions of existing commercial developments where appropriate to maximise access by the public.*
- *IN O39: 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 O41: Encourage waste prevention, minimisation, re-use, recycling, and recovery as methods for managing waste.*
- *IN O44: 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 O46: Support the implementation of the actions outlined in the Kildare Litter Management Plan 2020-2023 (and any subsequent updates).*

The KCC *Cellbridge Local Area Plan 2017-2023*¹⁵ which was released in 2017 sets policies in support of the regional development plan for the proper planning and sustainable development of the Cellbridge local area over a seven-year period. The following policies and objectives are of particular relevance to waste management:

Policies

- Policy INF5: It is the policy of the Council to protect environmental quality in Celbridge through the implementation of European, national and regional policy and legislation relating to air quality, light pollution, noise pollution and waste management.

Objectives

- IO 4.1: To adequately maintain recycling facilities and to secure the provision of additional facilities, as required, including in conjunction with new development.
- IO 4.2 To provide a civic amenity site (recycling centre) in Celbridge on lands located south of the M4 Motorway and north of the R449 Regional Route to the west of Exit 6.

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the proposed development are:

- Waste Management Act 1996 as amended.
- Environmental Protection Agency Act 1992 as amended;
- Litter Pollution Act 1997 as amended and
- Planning and Development Act 2000 as amended¹⁶

These Acts and subordinate Regulations transpose the relevant European Union Policy and Directives into Irish law.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996* as amended and subsequent Irish legislation, is the principle of “Duty of Care”. This implies that the waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final disposal area, waste contractors will be employed to physically transport waste to the final waste disposal site.

It is, therefore, imperative that the residents, the crèche tenants and the proposed facilities management company undertake on-site management of waste in accordance with all legal requirements and that the facilities management company employ suitably permitted / licenced contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contractor handle, transport and reuse / recover / recycle / dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). 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 or Industrial Emissions (IE) Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and / or disposed of at the specified site.

2.3.1 Kildare County Council Waste Management Bye-Laws

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

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

The full text of the Waste Bye-Laws is available from the KCC website.

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the residential and commercial sectors in the KCC region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and are all operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second facility in Poolbeg in Dublin.

The the Coolmine Recycling Centre at the Coolmine Industrial Estate, located c. 10.47km north east of the development site, can be utilised by the residents of the proposed development for other household waste streams. This centre can accept mixed dry recyclables, paint, varnish, mixed bulky waste, wood, mattresses, garden (green) waste and general waste. There is also a bring bank located c. 500m south of the proposed development at the Cellbridge GAA club, where glass and aluminium cans can be deposited.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all Waste / Industrial Emissions Licenses issued are available from the EPA.

3.0 DESCRIPTION OF THE DEVELOPMENT

3.1 Location, Size and Scale of the Development

Kieran Curtin, Receiver over certain assets of Maplewood Developments Unlimited Company (in liquidation and in receivership), intends to apply for a seven year planning permission for a Strategic Housing Development at lands at Dublin Road and the Shinkeen Road, within the townlands of Donaghcumper and Ballyoulster, Celbridge, Co. Kildare. The application site has an area of c. 13.4 ha and bound by a greenfield site, Donaghcumper Cemetery, Retronix Semiconductor company and the Dublin Road to the north, the Rye River Brewing Company and the Ballyoulster Park housing estate to the north east, the Primrose Gate housing estate to the south, agricultural lands to the east and Shinkeen Road to the west. Donaghcumper Medieval Church Ruins (RPS No. B11-02) and the house on Dublin Road, Donaghcumper (RPS No. B11-26), are protected structures located north of the application site.

The proposed development comprises a Strategic Housing Development of 344 no. residential units (comprising 54 no. 1 beds, 30 no. 2 beds, 210 no. 3 beds and 50 no. 4 beds), a 2 no. storey childcare facility with a GFA of c. 369 sq.m, public and communal open space, landscaping, car and cycle parking spaces, provision of an access road from Dublin Road and Shinkeen Road, associated vehicular accesses, internal roads, pedestrian and cycle paths, bin storage, cycle storage, pumping station and all associated site and infrastructural works.

The residential component of the development consists 214 no. apartments / duplex units, and 130 no. houses of to be provided as follows:

- 4 no. 3 bed two storey detached houses;
- 28 no. 3 bed two storey semi-detached houses;
- 48 no. 3 bed two storey terraced houses;
- 50 no. 4 bed three storey semi-detached houses;

- 214 no. duplex apartments / apartments (54 no. 1 beds, 30 no. 2 beds, and 130 no. 3 beds) in a series of 15 no. duplex apartment / apartment blocks of 3 no. storeys in height, and all duplex apartments / apartments are provided with a terrace / balcony or private garden;

The development includes a total of 585 no. car parking spaces, 4 no. loading bays and a total of 770 no. cycle spaces. The proposal includes hard and soft landscaping, lighting, boundary treatments, the provision of public and communal open space, including 3 no. Local Parks, children's play areas, and an ancillary play area for the childcare facility.

The proposed development includes road upgrades, alterations and improvements to the Dublin Road / R403 and the Shinkeen Road, including the provision of new vehicular accesses and signalised junctions, pedestrian crossing points, and associated works to facilitate the same. The proposal includes internal roads, including 3 no. bridge crossings, cycle paths, footpaths, with proposed infrastructure and access points provided up to the application site boundary to facilitate potential future connections to adjoining lands.

The development includes foul and surface water drainage, pumping station, 3 no. ESB Substations, services and all associated and ancillary site works and development.

3.2 Typical Waste Categories

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

- Dry Mixed Recyclables (DMR) - includes waste paper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Organic waste – food waste and green waste generated from internal plants / flowers;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

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 less frequently / in smaller quantities which will need to be managed separately including:

- Green / garden waste may be generated from internal plants;
- Batteries (both hazardous and non-hazardous);
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- Printer cartridges / toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Light bulbs;
- Textiles;
- Waste cooking oil (if any generated by the residents or the crèche tenants);
- Furniture (and, from time to time, other bulky wastes); and
- Abandoned bicycles.

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 with diversion from landfill wherever possible.

3.3 European Waste Codes

In 1994, the *European Waste Catalogue* ¹⁷ and *Hazardous Waste List* ¹⁸ were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* ¹⁹, which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' ²⁰, applicable since the 1st June 2015. This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, CORs, permits and licences and the EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code (also referred to as European Waste Code (EWC)) for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3.1, below.

Table 3.1 Typical Waste Types Generated and LoW Codes

Waste Material	LoW/EWC Code
Paper and Cardboard	20 01 01
Plastics	20 01 39
Metals	20 01 40
Mixed Non-Recyclable Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25
Textiles	20 01 11
Batteries and Accumulators*	20 01 33* - 34
Printer Toner/Cartridges*	20 01 27* - 28
Green Waste	20 02 01
WEEE *	20 01 35*-36
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*
Bulky Wastes	20 03 07

* Individual waste type may contain hazardous materials

4.0 ESTIMATED WASTE ARISING

A waste generation model (WGM) developed by AWN has been used to predict waste types, weights and volumes expected to arise from operations within the proposed development. The WGM incorporates building area and use and combines these with other data, including Irish and US EPA waste generation rates.

The estimated quantum / volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units, while the floor area usage (m²) has been used to estimate the waste arising from the crèche unit (commercial unit).

Waste generated from the shared communal residential amenities been included in the residential waste figures and will be stored within the residential waste bins.

The estimated waste generation for the proposed development for the main waste types is presented in Tables 4.1 and 4.2.

Table 4.1 Estimated Waste Generation for Residential and Crèche Units

Waste Type	Waste Volume (m ³ / week)			
	1 Bed Apartment (Individual)	2 Bed House / Duplex (Individual)	3 Bed House / Duplex (Individual)	4 Bed House (Individual)
Organic Waste	0.01	0.02	0.02	0.02
Dry Mixed Recyclables	0.08	0.12	0.14	0.18
Glass	<0.01	<0.01	<0.00	<0.00
Mixed Non-Recyclables	0.05	0.06	0.07	0.09
Total	0.15	0.20	0.23	0.29

Table 4.2 Estimated Waste Generation for the Crèche Unit

Waste Type	Waste Volume (m ³ / week)
	Crèche
Organic Waste	0.05
Dry Mixed Recyclables	1.95
Glass	0.01
Mixed Non-Recyclables	1.06
Total	3.07

*BS5906:2005 Waste Management in Buildings – Code of Practice*²¹ has been considered in the calculations of waste estimates. AWN's modelling methodology is based on recently published data and data from numerous other similar developments in Ireland and is based on AWN's experience, it provides a more representative estimate of the likely waste arising from the proposed development.

5.0 WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the site will be stored and 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, including those of KCC. In particular, consideration has been given to the following documents:

- *BS 5906:2005 Waste Management in Buildings – Code of Practice*,
- *EMR Waste Management Plan 2015 – 2021*;
- *KCC, Kildare County Development Plan 2017-2023 (2017)*;
- *KCC, Draft Kildare County Development Plan 2023-2029 (2022)*;
- *KCC 'Waste Management (Segregation, Storage and Presentation of Household & Commercial Waste) Bye-Laws' (2018)*; and
- *DoHLGH Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2020)*²².

Individual Apartments/Duplexes/Houses

All Apartments, Duplexes and Houses will have their own individual WSAs allocated at the rear of their home where external access to the rear yard is possible. When

external access to the rear of the property is unavailable, bins will be stored at the front of the unit, shielded from view of the road.

Crèche

One (1 no.) WSA has been allocated for the crèche unit only, located externally adjacent to the crèche unit.

Locations of all WSAs can be viewed on the drawings submitted with the planning application under separate cover.

Bins will be staged adjacent to the road immediately prior to collection by residents and crèche tenants, they will be collected from the curtilage. Bins will then be returned to their respective WSAs immediately after collection and/or inline with the KCC waste byelaws

Using the estimated waste generation volumes in Tables 4.1 and 4.2, above, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSAs. It is envisaged that all waste types will be collected on a weekly basis.

Waste Storage Requirements

Estimated waste storage requirements for the operational phase of the proposed development are detailed in Table 5.1, below.

Table 5.1 Waste storage requirements for the proposed development

Area/Use	Bins Required			
	MNR ¹	DMR ²	Glass	Organic
Apartment/Duplex/ House (Individual) WSA	1 no. 240 L	1 no. 240 L	Bring Bank	1 no. 120 L
Crèche WSA	1 no. 1100 L	2 no. 1100 L	1 no. 120 L	1 no. 120 L

Note: 1 = Mixed Non-Recyclables

2 = Dry Mixed Recyclables

The waste receptacle requirements have been established from distribution of the total weekly waste generation estimate into the holding capacity of each receptacle type. Waste storage receptacles as per Table 5.1, above, (or similar appropriate approved containers) will be provided by the facilities management company in the residential WSA.

The types of bins used will vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSAs are shown in Figure 5.1. All waste receptacles used will comply with the SIST EN 840-1:2020 and SIST EN 840-2:2020 as the standards for performance requirements of mobile waste containers, where appropriate.



Figure 5.1 Typical waste receptacles of varying size (240 L and 1100 L)

5.1 Waste Storage – Individual Apartments/Duplexes/Houses

Residents in individual units will be required to segregate their waste into the following waste categories within their own units:

- DMR;
- MNR;
- Organic waste; 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 5.2 below.



Figure 5.2 Example three bin storage system to be provided within the unit design

It is anticipated that residents in houses with external access to the rear of the property will store waste in bins at the back of the house. When external access to the rear of the property is unavailable, bins will be stored at the front of the unit, shielded from view of the road. Residents will be required to place their segregated waste materials into these bins as necessary.

It is anticipated that DMR, MNR and organic waste will be collected on a weekly basis. Residents will be required to take glass to the nearest bring bank. Other waste materials such as glass, textiles, batteries, cooking oil, printer toner/cartridges and WEEE may be generated infrequently by the residents. Residents will be required to identify suitable temporary storage areas for these waste items

within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.3.

5.2 Waste Storage – Crèche Unit

Staff will be required to segregate their waste into the following waste categories within their own units:

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

As required, the staff will need to bring segregated DMR, MNR, glass and organic waste to the dedicated crèche WSA.

Each bin/container in the WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin.

Access to the WSA will be restricted to authorised crèche staff and facilities management by means of a key or electronic fob access.

Based on the recommended bin requirements in Table 5.1, DMR, MNR and organic waste will be required to be collected weekly and glass will be collected as required.

Other waste materials such as textiles, batteries, printer toner/cartridges and WEEE may be generated infrequently by the crèche tenants. Crèche tenants will be required to identify suitable temporary storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.3.

5.3 Waste Collection

There are numerous private contractors that provide waste collection services in the KCC area. All waste contractors servicing the proposed 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.

Suitable access and egress has been provided to enable the bins to be moved easily from the WSAs to the waste collection vehicles on the appropriate days. Waste will be collected at agreed days and times by the nominated waste contractors.

Bins from the crèche WSA will be brought to a collection point by crèche staff or the waste contractor for collection. Bins will be staged adjacent to the road immediately prior to collection, and will be collected from the curtilage. Bins will then be returned to their respective WSA immediately after collection, either by facilities management or the waste contractor.

Residents in apartment/duplex/houses with their own individual WSAs will be responsible for moving their waste receptacles to and from the curb before and after collection.

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the KCC *Waste Bye-Laws*. Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

The staging areas are such that they will not obstruct traffic or pedestrians (allowing a footway path of at least 1.8m, the space needed for two wheelchairs to pass each other) as is recommended in the *Design Manual for Urban Roads and Streets (2019)*²³.

It is recommended that bin collection times are staggered to reduce the number of bins required to be emptied at once and the time the waste vehicle is on-site. This will be determined during the process of appointment of a waste contractor.

5.4 Additional Waste Materials

In addition to the typical waste materials that are generated on a daily basis, there will be some additional waste types generated from time to time that will need to be managed separately. A non-exhaustive list is presented below.

Green Waste

Green waste may be generated from external landscaping and internal plants / flowers. Green waste generated from landscaping of external areas will be removed by external landscape contractors. Green waste generated from gardens internal plants / flowers can be placed in the organic waste bins. If substantial green waste is produced by the crèche tenants it can be removed by a landscape contractor.

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. In accordance with these regulations, consumers are able to bring their waste batteries to their local civic amenity centre or can 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 crèche 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 associated Waste Management (WEEE) Regulations have been enacted to ensure a high level of recycling of electronic and electrical equipment. In accordance with the regulations, consumers can bring their waste electrical and electronic equipment to their local 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, provided the item is disconnected from all mains, does not pose a health and safety risk and is readily available for collection.

As noted above, the crèche tenants cannot use the 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 permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Printer Cartridge / Toners

It is recommended that a printer cartridge / toner bin is provided in the crèche unit, where appropriate. The crèche tenants will be required to store this waste within their

unit and arrange for return to retailers or collection by an authorised waste contractor, as required.

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 centre.

Chemicals

Chemicals (such as solvents, paints, adhesives, resins, detergents, etc) are largely generated from building maintenance works. Such 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.

Any waste cleaning products or waste packaging from cleaning products generated in the crèche unit that is classed as hazardous (if they arise) will be appropriately stored within the tenant's own space. Facilities management may arrange collection, depending on the agreement.

Any waste cleaning products or waste packaging from cleaning products that are classed as hazardous (if they arise) generated by the residents should be brought to a civic amenity centre.

Light Bulbs

Waste light bulbs (fluorescent, incandescent and LED) may be generated by lighting at the crèche unit. It is anticipated that the crèche tenants will be responsible for the off-site removal and appropriate recovery / disposal of these wastes. Facilities management may arrange collection, depending on the agreement.

Light bulbs generated by residents should be taken to the nearest civic amenity centre for appropriate storage and recovery / disposal.

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. The crèche tenants and residents will be responsible for disposing of waste textiles appropriately.

Waste Cooking Oil

If the crèche tenants use cooking oil, waste cooking oil will need to be stored within the unit on a bunded area or spill pallet and regular collections by a dedicated waste contractor will need to be organised as required. Under sink grease traps will be installed in any cooking space.

If the residents generate waste cooking oil, this can be brought to a civic amenity centre or placed in the organic bin.

Furniture & Other Bulky Waste Items

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the residents and crèche tenant. The collection of bulky waste will be arranged, as required by the crèche tenant. If residents wish to dispose of furniture, this can be brought a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership. Abandoned bicycles should be donated to charity if they arise or facilities management may arrange collection by a licensed waste contractor.

COVID-19 Waste

Any waste generated by residents and crèche tenants that have tested positive for COVID-19 should be managed in accordance with the current COVID-19 HSE Guidelines at the time that that waste arises. At the time this report was prepared, the HSE Guidelines require the following procedure for any waste from a person that tests positive for COVID-19:

- Put all waste (gloves, tissues, wipes, masks) from that person in a bin bag and tie when almost full;
- Put this bin bag into a second bin bag and tie a knot;
- Store this bag safely for 3 days, then put the bag into the non-recyclable waste / general waste wheelie bin for collection / emptying.

Please note that this guidance is likely to be updated by the time the proposed development is open and occupied and the relevant guidance at the time will need to be reviewed.

5.5 Waste Storage Area Design

The crèche WSA 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;
- Provide suitable lighting – a minimum Lux rating of 220 is recommended;
- Appropriate sensor controlled lighting;
- Be easily accessible for people with limited mobility;
- Be restricted to access by nominated personnel only;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have appropriate graphical and written signage placed above and on bins indicating correct use;
- Have access for potential control of vermin, if required;
- Robust design of doors to bin area incorporating steel sheet covering where appropriate; and
- Be fitted with CCTV for monitoring.

The facilities company will be required to maintain the waste storage areas in good condition as required by the KCC Waste Bye-Laws.

6.0 CONCLUSIONS

In summary, this OWMP presents a waste strategy that addresses all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the proposed development.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus contributing to the targets set out in the *EMR Waste Management Plan 2015 – 2021*.

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the *KCC Waste Bye-Laws*.

The waste strategy presented in this document will provide sufficient storage capacity for the estimated quantity of segregated waste. The designated areas for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

7.0 REFERENCES

1. Waste Management Act 1996 as amended.
2. Environmental Protection Agency Act 1992 (Act No. 7 of 1992) as amended;
3. Litter Pollution Act 1997 (Act No. 12 of 1997) as amended;
4. Eastern-Midlands Waste Region, *Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021* (2015)
5. Kildare County Council (KCC) *Waste Management (Segregation, Storage and Presentation of Household & Commercial Waste Bye-Laws*(2018).
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7. Department of Environment, Heritage and Local Government (DoEHLG) *Preventing and Recycling Waste - Delivering Change* (2002)
8. DoELG, *Making Ireland’s Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development)* (2002)
9. DoEHLG, *Taking Stock and Moving Forward* (2004)
10. Department of Communications, Climate Action and Environment (DCCA), *Waste Action Plan for the Circular Economy - Ireland’s National Waste Policy 2020-2025* (2020).
11. DCCA, *Whole of Government Circular Economy Strategy 2022-2023 ‘Living More, Using Less’* (2021).
12. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2012*.
13. KCC, *Kildare County Development Plan 2017 – 2023* (2017).
14. KCC, *Draft Kildare County Development Plan 2023 – 2029* (2022).
15. KCC, *Celbridge Local Development Plan 2017 – 20223* (2017)
16. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended 2010 (S.I. No. 30 of 2010) and 2015 (S.I. No. 310 of 2015).
17. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
18. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
19. EPA, *European Waste Catalogue and Hazardous Waste List* (2002)
20. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2018)
21. BS 5906:2005 *Waste Management in Buildings – Code of Practice*.
22. DoHLGH, *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2020).
23. Department of Transport, Tourism and Sport and Department of Housing, Planning and Local Government, *Design Manual for Urban Roads and Streets* (2019).