REPORT



Trinity Consultants

awnconsulting

Operational Waste Management Plan

Project Title: Proposed Large-Scale Residential Development on lands at Southgreen, Co. Kildare.

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1. INTRODUCTION

AWN Consulting, a Trinity Consultants Team, has prepared this Operational Waste Management Plan (OWMP) on behalf of Poustrele Limited (the Client) for the Proposed Large-Scale Residential Development (LRD) (the Proposed Development) at lands at Southgreen, Co. Kildare (the site).

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 Regulations [1], *Environmental Protection Agency Act 1992* as amended [2], *Litter Pollution Act 1997* as amended [3], *the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE)* (2025) [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 national 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. 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 2002 [7]. 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 Irelands 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. There has not yet been an update released regarding a new interation.

The *Circular Economy and Miscellaneous Provisions Act 2022* [12] was signed into law in July 2022. The Act underpins Ireland's shift from a *"take-make-waste*" linear model to a more sustainable pattern of

production and consumption, that retains the value of resources in our economy for as long as possible and that will to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

The *Department of Housing, Local Government and Heritage authored Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities (2024)* [13], suggests the below thresholds at which the need for the supplemental information such as the OWMP should be considered.

- *30 or more residential units.*

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports' which as of 2023 have been renamed *Circular Economy and Waste Statistics Highlight Reports* [14] 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 2025 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (2025) reported the following key statistics for 2023:

- *Ireland generated 3.13 million tonnes of municipal waste in 2023, relatively unchanged compared to the 3.19 million tonnes generated in 2022.*
- *Between 2016 and 2023, municipal waste increased from 2.7 million tonnes to 3.13 million tonnes.*
- *Some 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2023, resulting in a recycling rate of 42%. This indicates that we face significant challenges to meet the upcoming EU recycling targets for 2025 to 2035.*
- *Of the municipal waste recycled in 2023, over 814,000 tonnes went for material recycling (approximately the same as 2022) and over 480,000 tonnes were treated by composting/anaerobic digestion (approximately the same as 2022 but up 37% on 2020).*
- *A rounded 1.3 million tonnes of Ireland's municipal waste went for incineration with energy recovery in 2023. This tonnage is 43% of municipal waste managed.*
- *Ireland's landfill rate for municipal waste managed was 14% in 2023. This is a 1% decrease from 2022's rate of 15%.*
- *There has been a steep decline in Ireland's landfill rate for municipal waste from over 80% in 2001. Ireland must reduce the share of municipal waste landfilled to 10% or less by 2035, which includes waste landfilled at each step along the waste treatment process in Ireland and abroad.*
- *An estimated 42% (1.2 million tonnes) of all municipal waste managed was exported abroad in 2023, an increase from the 39% in 2022. Of the waste exported, most went for recycling (49%) or energy recovery (36%) while 11% went for composting or anaerobic digestion.*

2.2 Regional Level

The Proposed Development is located in the Local Authority administrative area of Kildare County Council (KCC).

The *Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021*, which previously governed waste management policy in the KCC area, has been superseded as of March 2024 by the *NWMPCE 2024 – 2030*, the national waste management plan for Ireland.

The *NWMPCE* does not dissolve the three regional waste areas. The *NWCPCE* sets the ambition of the plan to have a 0% total waste growth per person over the life of the Plan with an emphasis on non-household wastes including waste from commercial activities and the construction and demolition sector.

This Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the Proposed Development:

National Targets

- ***1A.*** *(Residual Municipal Waste) 6% Reduction in Residual Municipal Waste per person by 2030*
- ***2A.*** *(Contamination of Materials) 90% of Material in Compliance in the Dry Recycling Bin*
- ***2B.*** *(Material Compliance Residual) 10% per annum increase in Material Compliance in the residual bin. (90% by the end of 2030)*
- ***3A.*** *(Reuse of Materials) 20kg Per person / year – Reuse of materials like cloths or furniture to prevent waste.*

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015 (as amended)[15]. *The Circular Economy (Waste Recovery Levy) Regulations 2024* [16] will also have a levy of €10 per tonne to waste accepted for recovery.

The KCC *Kildare County Development plan 2023-2029* [15] took effect in 2023 and 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 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 O41:*** *Encourage waste prevention, minimisation, re-use, recycling, and recovery as methods for managing waste.*
- ***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 O46:*** *Support the implementation of the actions outlined in the Kildare Litter Management Plan 2020-2023 (and any subsequent updates).*

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;*
- *Planning and Development Act 2000 as amended* [18]*;*
- *Circular Economy and Miscellaneous Provisions Act 2022.*

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, crèche tenants and any 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 contactor 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 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 sector 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 all are 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 in Poolbeg in Dublin.

The Silliot Hill Recycling Centre, Kilcullen, on the Naas-Kilcullen Road, located c. 17.5 km east of the development, can be utilised by the residents of the Proposed Development for certain household waste streams. This centre can accept aluminium cans, metal tins/cans, plastic bottles, Tetra Pak cartons, glass bottles, paper, green waste, car batteries, household batteries and waste oil. There is also a bring bank c. 1.3 km to the south at the Tesco Superstore, Monasterevin Road, Kildare where clear, green and brown glass can be brought.

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

3. DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Location, Size and Scale of the Development

Pousterle Limited intend to apply for permission for development of a Large - Scale Residential Development (LRD) on a site of approx. 6.13 ha at Southgreen Road, Kildare, Co. Kildare. The site is generally bounded to the north by agricultural fields; to the south by the recently constructed Southern Internal Link Road; to the west by Southgreen Road and an existing Electricity Station; and to the east by Old Road and existing residential properties.

The proposed development will consist of:

- The construction of a new residential scheme of 146 no. residential units ranging in height from 1-3 storeys as follows:
  - 136 no. houses (7 no. 2 bed units; 102 no. 3 bed units; and 27 no. 4 bed units) in a mixture of bungalow, detached, semi-detached, and terrace style units ranging in height from 1 – 2 storeys.
  - 10 no. duplex apartment units (5 no. 1 beds, 3 no. 2 beds, and 2 no. 3 beds) in new Block A ranging in height from 2-3 storeys
- Each residential unit will be afforded with private open space in the form of a front/rear/side garden for houses or terrace / balconies for duplex apartment units.
- The provision of a new creche facility (approx. 161 sq m GFA) and associated areas of external open space (approx. 60 sq m) located at Block A.
- Public open space (approx. 6,992 sq m) is proposed in the form of 2 no. new large public open space areas within the site (approx. 3,046 sq m and 3,946 sq m respectively).
- Communal open space (approx. 82 sq m) is proposed adjacent to Block A.
- A total of 321 no. car parking spaces (305 no. for residential units and 16 no. for the creche facility) are provided. This provision includes 2 no. accessible spaces and 17 no. visitor spaces.
- A total of 527 no. cycle parking spaces (517 no. for residential units and 10 no. for the creche facility) are provided. This provision includes 75 no. visitor spaces. Resident cycle parking is proposed in the form of secure bicycle store enclosures to the front of terraced units; on curtilage spaces to the rear of units with side access; and a bicycle store for apartment units located within Block A. Visitor parking is proposed in the form of Sheffield stands.
- The development shall be served via 2 no. new vehicular access points from Southgreen Road. An additional private vehicular access point is proposed via Old Road to service 1 no. new bungalow (4 no. bed residential unit). Provision is also made for future vehicular access via Southgreen Road to serve the open space and amenity zoned lands to the north of the main development site.
- Pedestrian and Cyclist access is also proposed via Southgreen Road and via a new secondary access point from the Southern Internal Link Road to the south of the site and Old Road to the east of the site.
- Upgrades/widening to Southgreen Road including the provision of 2 no. directional single lane cycle tracks and pedestrian footpaths on either side of the Southgreen Road, together with amendments to the existing cycle tracks and footpaths on Southgreen Road north of Southern Internal Link Road are proposed.
- A new pedestrian/cycle link is also delivered to the north of the main development site connecting South Green Road to Old Road.
- The associated site and infrastructural works include provision for an ESB Sub Station; water services; foul and surface water drainage and connections; attenuation proposals; permeable paving; all landscaping works; boundary treatment; PV/Solar Panels; internal roads and footpaths; waste storage areas, all electrical services and all associated site development works.



Figure 3.1 Proposed Site Layout & Redline Boundary (Source: MCORM Architects, 2026)

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, landscaping and gardens;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

In addition to the typical waste materials that will be generated at the Proposed 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:

- Drink Cans and Bottles (Deposit Return Scheme);
- Green / garden waste may be generated from external landscaping;
- 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 List of Waste Codes

In 1994, the *European Waste Catalogue* [19] and *Hazardous Waste List* [20] were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* [21], 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*'[22] 2018. 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, COR's, permits and licences and EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code 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 Code
Paper and Cardboard	20 01 01
Plastics	20 01 39

Waste Material	LoW Code
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. 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 and the floor area has been used to determine the estimated waste generated from the crèche unit.

The estimated waste generation for the Proposed Development for the main waste types is presented in Tables 4.1 - 4.3.

Table 4.1 Estimated Waste Generation for the Residential Units of the Proposed Development

Waste Type	Waste Volume (m^3 / week)	
	2-Bed Unit (Individual WSA)	3-Bed Unit (Individual WSA)
Organic Waste	0.02	0.02
DMR	0.11	0.13
Glass	0.01	0.01
MNR	0.07	0.08
Total	**0.21**	**0.24**

Table 4.2 Estimated Waste Generation for the Residential Units of the Proposed Development

Waste Type	Waste Volume (m^3 / week)
	Duplex Apartments (Shared WSA)
Organic Waste	0.16
DMR	1.12
Glass	0.03
MNR	0.59
Total	**1.90**

Table 4.3 Estimated Waste Generation for the Crèche Unit of the Proposed Development

Waste Type	Waste Volume (m^3 / week)
	Crèche Unit (Individual WSA)
Organic Waste	0.02
DMR	0.85
Glass	0.00
MNR	0.46
Total	**1.33**

BS5906:2005 Waste Management in Buildings – Code of Practice [23] 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 arisings from the Proposed Development.

5. 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,*
- *The NWMPCE* (2024);
- *The Kildare County Council Development Plan 2023-2029*;
- KCC, *Kildare County Council Waste Management (Segregation, Storage and Presentation of Household & Commercial Waste) Bye-Laws'* (2019); and
- *DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2025) [24].

Waste Storage Areas

The location of the Waste Storage Areas (WSAs) can be viewed on the drawings submitted with the planning application under separate cover and in the appendices of this report.

Locations

- There is one (1 no.) shared WSA for the Apartment Duplex units which is located internally at ground floor level within the Apartment Duplex Block;
- There is a separate WSA designated for the crèche unit which is located internally at ground floor level.

Residential units with access to individual waste storage areas will have designated spaces either at the front or rear of their unit for storing their bins.

Facilities management will supply all residents with shared WSAs and crèche tenants of the Proposed Development with a document that shall clearly state the methods of source waste segregation, storage, reuse and recycling initiatives that shall apply within the Proposed Development.

Using the estimated waste generation volumes in Tables 4.1 to 4.3, above, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSAs. It is envisaged that all waste 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 Block (Shared WSA)	1 no. 1100 L	1 no. 1100 L	1 no. 120 L	1 no. 240 L
Individual Houses (Individual WSA)	1 no. 240 L	1 no. 240 L	Bottle Bank	1 no. 120 L
Crèche Unit WSA	1 no. 1100 L	1 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 team in the shared WSAs. Residents in the house units and tenants in the crèche unit will need to provide their own waste receptacles.

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 WSA 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 (240L and 1100L)

Receptacles for organic, DMR, glass and MNR will be provided in the WSAs prior to first occupation of the development i.e. prior to the first residential unit or crèche unit being occupied.

This Plan will be supplemented, as required, by the property management company with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

5.1 Waste Storage – Residential Units

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

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

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

Graphical signage will be erected by facilities management, above or on the bins to show exactly which wastes can be put in each. Bins/containers will also be colour coded to avoid cross contamination of the different waste streams.

Access to the shared WSAs will be restricted to authorised residents, facilities management and waste contractors by means of a key or electronic fob access.

Other waste materials such as textiles, batteries, printer toner/cartridges, cooking oil 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 5.4.

5.2 Waste Storage – Crèche Unit

The crèche tenants will be required to segregate their waste into the following main waste categories within their own units:

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

The crèche tenants will be required to take their segregated waste materials to their designated WSA and deposit their segregated waste into the appropriate bins. The location of the WSA is illustrated in the drawings submitted with the planning application under separate cover and in the appendices of this report.

Suppliers for the crèche tenants should be requested by the tenants to make deliveries in reusable containers, minimize packaging or remove any packaging after delivery, where possible, to reduce waste generated by the Proposed Development.

If any kitchens are allocated in crèche unit areas, this will contribute a significant portion of the volume of waste generated on a daily basis, and as such it is important that adequate provision is made for the storage and transfer of waste from these areas to the WSA.

If kitchens are required it is anticipated that waste will be generated in kitchens throughout the day, primarily at the following locations:

- Food Storage Areas (i.e. cold stores, dry store, freezer stores and stores for decanting of deliveries);
- Meat Preparation Area;
- Vegetable Preparation Area;
- Cooking Area; and
- Dish-wash and Glass-wash Area.

Small bins will be placed adjacent to each of these areas for temporary storage of waste generated during the day. Waste will then be transferred from each of these areas to the designated crèche WSA.

All bins / containers in the crèche tenants' areas as well as in the WSA 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 wastes can be put in each.

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

Other waste materials such as textiles, batteries, printer toner/cartridges, cooking oil and WEEE may be generated infrequently by the tenants. 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 5.4.

5.3 Waste Collection

There are numerous private contractors that provide waste collection services in the Kildare 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.

All bins from the Proposed Development shared WSAs and crèche WSA will be collected directly from the WSAs there will be no need for a temporary staging/collection area. It will be the responsibility of the facilities management or the waste contractor, depending on the agreement, to bring bins from the shared WSAs to the collection truck for emptying. The facilities manager or the waste contractor will ensure that empty bins are promptly returned to the WSAs after emptying.

Residents in the house units with their own individual WSAs will be responsible for relocating their bins to and from the roadside on designated collection days.

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

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

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

A road sweep analysis can be found in Appendix B of this report.

The collection of the waste will be such that it 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) [25].

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.

Deposit Return Scheme
Most drinks containers can be recycled via the deposit return scheme, such as bottles, cans and tins made from plastic, aluminium or steel can be returned once they are between 150ml and 3 litres in size and have the Re-turn logo on them.

At the shops you can either return the containers:

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

If a shop does not have a RVM but they sell containers with the Re-turn logo, the shop may allow you to manually return containers in store, unless they have a take back exemption.

Locations of RVM machines can be found via the Re-turn website (www.re-turn.ie)

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.

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 permited / licenced contractor. Facilties 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 permited / licenced contractor. Facilties 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 tenants' own space. Facilties 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 will 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 crèche tenants will be responsible for the off-site removal and appropriate recovery / disposal of these wastes. Facilties 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 crcehe 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 organized 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.

Furniture & Other Bulky Waste Items

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the crèche tenants. The collection of bulky waste will be arranged, as required by the 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 Proposed Development. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership. Abandoned bicycles will be donated to charity if they arise or facilities management will arrange collection by a licensed waste contractor.

5.5 Waste Storage Area Design

The shared WSAs and crèche WSA will be designed and fitted-out to meet the requirements of relevant design Standards, including:

- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system for internal WSAs;
- Provide suitable lighting – a minimum Lux rating of 400 is recommended;
- Be easily accessible for people with limited mobility;
- Be restricted to access by nominated personnel only;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have appropriate signage placed above and on bins indicating correct use;
- Have access for potential control of vermin, if required; and
- Be fitted with CCTV for monitoring.

The facilities manager, crèche tenants and residents will be required to maintain the bins and storage areas in good condition as required by the KCC *Waste Bye-Laws*.

5.6 Facility Management Responsibilities

It shall be the responsibility of the facilities manager to ensure that all waste generated is properly managed and correctly stored prior to collection by an appropriately permitted waste management company.

The facilities manager will provide the following items to all residents with shared WSAs, crèche tenants and any appointed facilities management team appointed:

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

5.7 Pest Management

A pest control operator will be appointed as required to manage pests onsite during the operational phase of the Proposed Development. All waste generated within the Proposed Development will be stored in closed waste receptacles both within the unit and within the WSAs. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

The WSAs will have access for potential control of vermin, if required, be supplied with hot or cold water, drainage point and will be regularly inspected by facilities management to deter pests.

5.8 Fly-Tipping Management

To prevent fly-tipping, all WSAs will be fully enclosed and accessible only to authorised users via controlled access (e.g., key or electronic fob). Public access will not be permitted. The WSAs will be subject to regular inspections by facilities management and will benefit from passive surveillance and CCTV coverage. Bins will only be presented for collection immediately prior to the scheduled pick-ups and promptly returned thereafter, ensuring no opportunity for unauthorised waste disposal. These measures will effectively minimise the potential for fly-tipping and ensure compliance with the *KCC Waste Bye-Laws.*

6. SUMMARY AND CONCLUSION

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 Proposed 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 NWMPCE*.

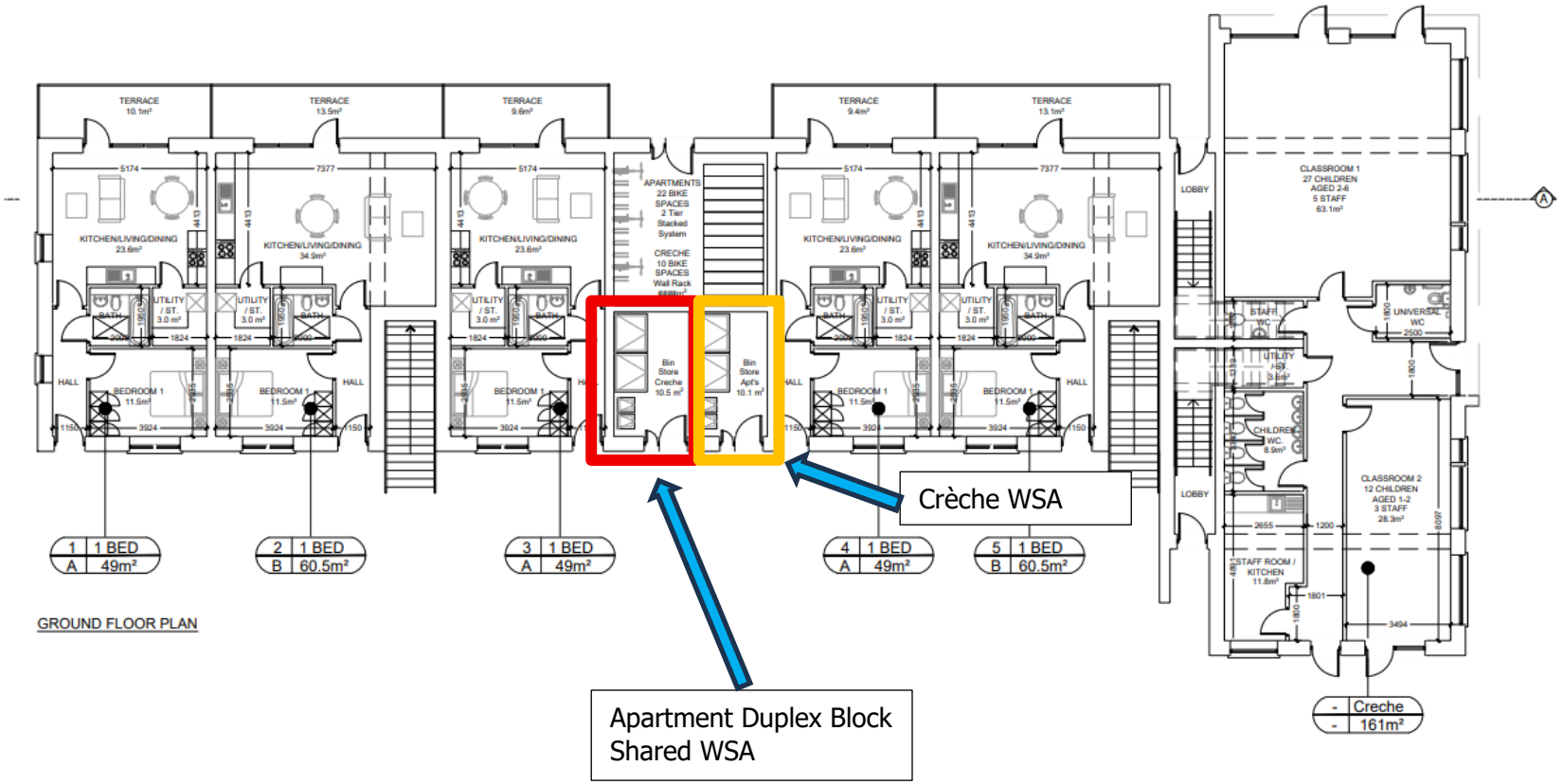
Adherence to this plan will also ensure that waste management at the Proposed Development is carried out in accordance with the requirements of the *KCC Waste Bye-Laws.*

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. REFERENCES

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APPENDIX A. WASTE STORAGE AREA LOCATIONS



GROUND FLOOR PLAN

APPENDIX B. ROAD SWEEP ANALYSIS

