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OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED RESIDENTIAL DEVELOPMENT

AT

BOYCETOWN, KILCOCK, CO. KILDARE

"KILCOCK WEST"

Report Prepared For

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1.0 INTRODUCTION

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed residential 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 *'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 storing, 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 titled as *'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 break the link between 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' 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' [11] 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 KCC.

The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the KCC area published in May 2015. A new *National Waste Management Plan for a Circular Economy* is expected to be published in 2022 and will supersede the three current regional waste management plans in Ireland.

The current regional plan sets out the following strategic targets for waste management in the region:

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

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 specified in the *Waste Management (Landfill Levy) Regulations 2015.*

The *Kildare County Development Plan 2017 – 2023* [12] 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 Proposed 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 Kilcock Local Area Plan 2015-2021 [13] which was released in 2015 sets policies in support of the regional development plan for the proper planning and sustainable development of the Kilcock local area over a six-year period.

- SI 2: To support the principles of good waste management and the implementation of best international practice in relation to waste management.
- SI 3: To prevent and minimise waste

- SI 4: To encourage and support material sorting and recycling
- SI 5: To minimise the amount of waste which cannot be prevented and ensure it is disposed of without causing environmental pollution

With regard to operational waste strategies specifically the Development Plan requires that the 'municipal/public recycling and communal composting facilities [are placed] in accessible locations throughout the town in conjunction with Meath County Council' and 'adequately sized public recycling facilities in new commercial developments' are provided, where appropriate.

2.3 Legislative Requirements

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

- Waste Management Act 1996 as amended;
- Environmental Protection Act 1992 as amended;
- Litter Pollution Act 1997 as amended and
- Planning and Development Act 2000 as amended [14]

These Acts and subordinate Regulations enable the transposition of 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, creche tenant and the proposed facilities management company undertake on-site management of waste in accordance with all legal requirements and 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 or IED (Industrial Emissions Directive) 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 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; 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.

An approved Civic Amenity and Transfer Facility is due to be constructed at Kilmacredock Upper & Castletown, Celbridge, 12.5km east of the development. Currently, KCC's Silliot Hill Recycling Centre & Civic Centre is situated c. 30km to the south of the development. These centres can be utilised by the residents of the development for certain household waste streams. The centre at Silliot Hill can accept aerosols, aluminium cans & metal cans, bulky waste, cardboard, clothes, computer bases, flat glass, gas cylinders, general waste, glass bottles, green waste (garden waste), gypsum plaster board, herbicides & pesticides containers, household batteries/ lead acid car batteries, ink cartridges, light bulbs/ fluorescent tubes, mattresses, mixed papers (all paper), paint cans, plastic packaging & plastic bottles, polystyrene, scrap metal, small electrical goods (toaster, kettle, etc), Tetra Pak, timber, tv & monitors, tyres, waste oil and white goods (fridge, dishwasher, etc). Kildare County Council Bottle Recycling Point is located c. 2.5km south-east of the development.

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

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The proposed development (30,839 sq.m GFA) will consist of the demolition of a detached, vacant cottage (gfa 69sq.m) and the construction of 272 residential units

(149 no. houses, 65 apartments and 58 duplexes), childcare facility and foul pumping station along with associated ancillary works and site works.

The 149 no. dwellings consist of:

- 40 no. 4 bed 2 storey houses (House Type A1, A2, A3, A4, A5)
- 8 no. 4 bed 3 storey houses (House Type E1, E2)
- 90 no. 3 bed 2 storey houses (House Type B1, B2, B3, C1, C2)
- 11 no. 2 bed 2 storey houses (House Type D)

The proposed apartments and duplexes are provided in 7 no. blocks (Blocks A, B, C, D, E, F, G) ranging in height from 3 to 4 storeys, with the exception of 1no. Duplex Block (Type N1), which is a 3 storey, end of terrace unit. Block A and Block B containing Rooftop terraces at 3rd floor level.

The Duplex Blocks (Type J1, Type, J2, Type J3, Type J4, Type K1, Type L1, Type M1, Type N1) are all 3-storey and contain 58 units divided as follows:

1. 6no. 1 bed ground floor apartment units
2. 23no. 2 bed ground floor apartment units
3. 1no. 2 bed duplex unit (two-storey unit)
4. 25no. 3 bed duplex units (two-storey units)
5. 3no. 4 bed duplex units (two-storey units)

The 65 apartments are located within Blocks A, B, C and D divided as follows:

6. 17no. 1 bed units (Type F1, Type F2, Type F3, Type F5, Type F5, Type F6)
7. 37no. 2 bed units (Type G1, Type G2, Type G3, Type G4, Type G5-A, Type G5-B, Type G6, Type G7, Type G8)
8. 11no. 3 bed units (Type H1, Type H2)

Block D also contains a childcare facility (gfa.526.2 sqm) and includes a dedicated outdoor play area (about 210 sq.m).

Ancillary works including 2 no. vehicular entrances off the R148 to the north and west, a spine road which will link with the permitted spine road on the adjoining lands to the south-east under PL09.306826, internal roads, footpaths, cycle lanes, car parking (465 no. spaces), cycle storage/parking (426 no. spaces), 2 no. bus stops, bin storage, public open space, hard and soft landscaping, natural play area, play equipment, boundary treatments, public lighting, 3 no. substations (14sq.m each) and controlled pedestrian crossing on the R148.

All associated site and infrastructural works including underground wastewater pump station (a wetwell); welfare building 6.25sqm and 3m in height; 472m of 125mm OD rising main and 250m of gravity sewer along the R148; an underground emergency storage tank, capacity 230 m3 approx.; above ground lifting gantry; valve and flowmeter chambers; a chemical dosing facility for odour control; Passive Carbon Unit; Kiosks; above ground surge vessel (<13 m3); Landscaping, fencing and access off the R148. The proposed development includes all necessary ancillary pipework and manholes, diversion of existing utilities; new power supply and water connection for the pump station, ducting, mechanical and electrical services, plant, instrumentation, automation, controls and equipment. It also includes all associated site development works, hardstanding areas and access and site drainage. The proposed development includes works on lands owned by Kildare County Council to facilitate access and drainage infrastructure.

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 in small quantities which will need to be managed separately including:

- Green/garden waste may be generated from internal plants or external landscaping;
- Batteries (both hazardous and non-hazardous);
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- Printer cartridges/toners;
- Chemicals (paints, adhesives, resins, detergents, etc.) ;
- Lightbulbs;
- Textiles (rags);
- Waste cooking oil (if any generated by the residents or creche tenant);
- 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* [15] and *Hazardous Waste List* [16] were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* [17], 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'* [18] which became valid from 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, 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 (also referred to as European Waste Code or EWC) for typical waste materials expected to be generated during the operation of the Proposed Development are provided in Table 3.1 below.

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*

Table 3.1 Typical Waste Types Generated and LoW Codes

4.0 ESTIMATED WASTE ARISINGS

A waste generation model (WGM) developed by AWN, has been used to predict waste types, weights and volumes arising 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. The waste generation for the creche unit is based on waste generation rates per m^2 floor area.

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

Waste type	Waste Volume (m^3/week)		
	Residential Block A - Apartment Units	Residential Block B - Apartment Units	Residential Block C - Apartment Units
Organic Waste	0.40	0.37	0.13
DMR	2.84	2.63	0.92
Glass	0.08	0.07	0.02
MNR	1.49	1.38	0.48
Total	**4.81**	**4.45**	**1.55**

Table 4.1 Estimated waste generation for the Proposed Development for the main waste types

Waste type	Waste Volume (m^3/week)			
	Creche	2-bed house/duplex/ apartment (individual)	3-bed house/duplex (individual)	4-bed house/duplex (individual)
Organic Waste	0.05	0.02	0.02	0.02
DMR	1.94	0.12	0.14	0.18
Glass	0.01	0.01	0.01	0.01
MNR	1.06	0.06	0.07	0.09
Total	3.05	**0.21**	**0.24**	**0.30**

Table 4.2 Estimated waste generation for the Proposed Development for the main waste types

BS5906:2005 Waste Management in Buildings – Code of Practice [19] 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.

5.0 WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the development will be stored and how the waste will be collected from the development. 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 '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 (section 4.8-4.9) (2020) [20].

Three dedicated shared Waste Storage Areas (WSAs) have been allocated within the development design for the residential units in the apartment blocks A, B and C, respectively. The creche has its own individual WSA located at the northeast of the creche. The locations of all WSAs can viewed on the drawings submitted with planning.

Houses with external access to the rear of their unit will store waste in their rear yard, while houses, duplexes and the 2 no. apartments in Block D without a rear yard / without external access to their rear yard will be allocated a sheltered bin store at the front or to the side of their unit.

Using the estimated waste generation volumes in Table 4.1 and 4.2 the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSAs. These are presented in Table 5.1.

Area/Use	Bins Required			
	MNR*	DMR**	Organic	Glass
Residential Block A WSA	2 x 1100L	3 x 1100L	2 x 240L	1 x 240L
Residential Block B WSA	2 x 1100L	3 x 1100L	2 x 240L	1 x 240L
Residential Block C WSA	1 x 1100L	1 x 1100L	1 x 240L	1 x 240L
Creche WSA	2 x 1100L	2 x 1100L	1 x 120L	1 x 120L
Individual House/Duplex/Apartment WSA	1 x 240L	1 x 240L	1 x 120L	Bottle Bank

Note: ** = Mixed Non-Recyclables*
*** = Dry Mixed Recyclables*

Table 5.1 Waste storage requirements for the Proposed Development

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 shared residential and creche WSAs.

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 standards for performance requirements of mobile waste containers, where appropriate.



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

5.1 Waste Storage –Block A, B and C Apartments

Residents in apartments in Blocks A, B and C will be required to segregate waste into the following main waste streams:

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

Space will be provided in the residential units to accommodate 3 no. bins to facilitate waste segregation at source.

Residents will be required to take their segregated waste materials to their designated residential WSA and dispose of their segregated waste into the appropriate bins. Locations of all WSAs can found on the plans submitted with the application.

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 shared residential WSAs will be restricted to authorised residents, facilities management and waste contractors by means of a key or electronic fob access. Using the estimated figures in Table 4.1 and 4.2, DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as textiles, batteries, 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 5.5.

5.2 Waste Storage – Houses, Duplex and Apartments in Block D

Residents in the detached and terraced houses, duplexes and apartments in Blocks D will be required to segregate their waste into the following waste categories within their own units:

- DMR;

- MNR;
- Organic waste; and
- Glass.

Space will be provided in the residential units to accommodate 3 no. bins to facilitate waste segregation at source.

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. For houses, duplexes and apartments in Block D with no rear garden / no external access to the rear garden, a dedicated shielded area for storage of 2 no. 240 litre and 1 no. 120 litre wheelie bins has been allocated at the front or side of the property. Residents will be required to place their segregated waste materials into these bins as necessary.

Residents with their own individual WSAs will be responsible for taking their own bins to and from the curb for collection.

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 bottle bank. Other waste materials such as glass, textiles, batteries, 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 5.5.

5.3 Waste Storage – Crèche Unit

Tenants will be required to segregate their waste into the following waste categories within their own unit:

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

The crèche unit is located on the ground floor and first floor of Block D. This unit will have its own dedicated waste storage area located at the northeast corner of the building, externally at ground floor level.

The crèche staff will be required to store waste temporarily in their unit and will then transport it on a daily basis or when required to the WSA.

Each bin/container 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 waste types can be placed in each bin.

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

Based on the recommended bin requirements in Table 5.1, DMR, MNR and organic bins will be collected on a weekly basis and the glass bin will be collected fortnightly or as required.

Other waste materials such as textiles, batteries, printer toner/cartridges and WEEE may be generated infrequently by the residents. The tenant will be required to identify suitable temporary storage areas for these waste items within the creche unit and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.4 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.

All waste from shared WSAs, requiring collection by the appointed waste contractor will be collected from the WSA by the waste contractor or facilities management. Receptacles will be bought to the curb for collection as close as possible to the collection time. Residents with their own individual WSAs will be responsible for taking their own bins to and from the curb for collection.

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

5.5 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.

Batteries

A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the Waste Management 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 creche staff 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 suiltably permited/licenced contractor. Facilties management may arrange collection depending on the agreement.

Waste Electrical and Electronic Equipment (WEEE)

The *WEEE 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 creche staff 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 creche unit, where appropriate. The creche staff 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 (solvents, paints, adhesives, resins, detergents etc)

Chemicals (such as solvents, paints 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 creche unit that is classed as hazardous (if they arise) will be appropriately stored within the unit'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 (Fluorescent Tubes, Long Life, LED and Lilament bulbs)

Waste light bulbs may be generated by lighting in the creche unit. It is anticipated that creche staff will be responsible for the off-site removal and appropriate recovery/disposal of these wastes. Facilities management may arrange collection depending on the agreement.

Waste light bulbs may be generated from building maintenance works. Such works are usually completed by external contractors or facilities management who are responsible for the off-site removal and appropriate recovery/recycling/disposal of any waste materials generated.

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.

Waste Cooking Oil

If the creche staff 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.

If the residents generate waste cooking oil, this can be brought to a civic amenity centre or disposed of in their organic bins.

Furniture (and other bulky wastes)

Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the residents and the creche unit. If residents wish to dispose of furniture,

this can be brought a civic amenity centre. If creche staff require collection of bulky waste, it will be arranged as required by the creche staff.

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

5.6 Waste Storage Area Design

The shared WSAs 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;
- Provide suitable lighting – a minimum Lux rating of 400 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 complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the 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 achieving 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 area for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

7.0 REFERENCES

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