

**OPERATIONAL WASTE
MANAGEMENT PLAN FOR
A STRATEGIC HOUSING
DEVELOPMENT**

AT

**GROWTH AREA 03 LANDS AT
BALDOYLE (FORMERLY
KNOWN AS THE COAST),
DUBLIN 13**

The Tecpro Building,
Clonshaugh Business & Technology Park,
Dublin 17, Ireland.

T: + 353 1 847 4220
F: + 353 1 847 4257
E: info@awnconsulting.com
W: www.awnconsulting.com

Report Prepared For

The Shoreline Partnership

Report Prepared By

Chonaiil Bradley, Senior Environmental
Consultant

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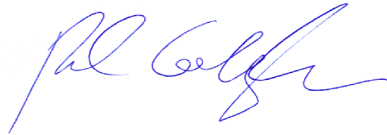
Unit 5, ATS Building,
Carrigaline Industrial Estate,
Carrigaline, Co. Cork.
T: +353 21 438 7400
F: +353 21 483 4606

AWN Consulting Limited
Registered in Ireland No. 319812
Directors: F Callaghan, C Dilworth,
T Donnelly, E Porter
Associate Director: D Kelly

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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	5
2.3	Legislative Requirements	6
2.3.1	Fingal County Council Waste Bye-Laws	8
2.4	Regional Waste Management Service Providers and Facilities	8
3.0	DESCRIPTION OF THE PROJECT	9
3.1	Location, Size and Scale of the Development	9
3.2	Typical Waste Categories	9
3.3	European Waste Codes	10
4.0	ESTIMATED WASTE ARISING	11
5.0	WASTE STORAGE AND COLLECTION	12
5.1	Waste Storage – Apartment Block Units	14
5.2	Waste Storage – Creche	14
5.3	Waste Storage – Café Unit	15
5.4	Waste Collection	16
5.5	Additional Waste Materials	16
5.6	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 the Shoreline Partnership for the proposed Strategic Housing Development (SHD) at Baldoyle-Stapolin, Growth Area 03 (GA03) ('the proposed Project' hereafter) located at Baldoyle, Dublin 13. The proposed Project will consist of the construction of a residential-led development with residential apartments, crèche and café unit, along with all hard and soft landscaping, amenity areas, road and services.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed residential Project is undertaken in accordance with current legal and industry standards including, the *Waste Management Act 1996 – 2011* as amended and associated Regulations ¹, *Protection of the Environment Act 2003* as amended ², *Litter Pollution Act 2003* as amended ³, the '*Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021*' ⁴ and the Fingal County Council (FCC) *Segregation Storage, Presentation and of Household and Commercial Waste (2019)* 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 Project 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 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 government released 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 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).

It aims to fulfil the commitment in the Programme for Government to publish and start implementing a new National Waste Action Plan. It is intended that this new national waste policy will inform and give direction to waste planning and management in Ireland over the coming years. It will be followed later this year by an All of Government Circular Economy Strategy. The policy document shifts focus away from waste disposal and moves it back up the production chain. To support the policy, regulation is already being used (Circular Economy Legislative Package) or in the pipeline (Single Use Plastics Directive). 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.

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 2018 National Waste Statistics, which is the most recent study published, along with national waste statistics web resource (August 2020) reported the following key statistics for 2018:

- **Generated** – Ireland produced 2,912,353 tonnes of municipal waste in 2018. This is almost a 5% increase since 2017. This means that the average person living in Ireland generated 600 kg of municipal waste in 2018.
- **Managed** – In 2018, a total of 2,865,207 tonnes of municipal waste was managed and treated.
- **Unmanaged** – This refers to 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 47,546 tonnes was unmanaged in 2018.
- **Recovered** – This refers to the amount of waste used as a fuel in incinerators, or used to cover landfilled waste. In 2018, around 85% of municipal waste was recovered. This is an increase from 77% in 2017.
- **Recycled** – The recycling rate in 2018 was 38%, which is down from 41% in 2017. This fraction also includes the breakdown of organic waste to produce compost.
- **Disposed** – Less than a quarter (15%) of municipal waste was landfilled in 2018. This is a decrease from 23% in 2017.

2.2 Regional Level

The proposed Project is located in the Local Authority area of FCC.

The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the FCC area which was published in May 2015. The 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 introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2012*.

The *Fingal Development Plan 2017 – 2023*¹² came into effect in 2017 and sets out a number of policies and objectives for the Fingal region in line with the objectives of the regional waste management plan, including the following:

- Objective **WM03**: *Implement the provisions of the Eastern Midlands Region Waste Management Plan 2015 -2021 or any subsequent Waste Management Plan applicable within the lifetime of the Development Plan. All prospective developments in the County will be expected to take account of the provisions of the Regional Waste Management Plan and adhere to the requirements of that Plan.*
- Objective **WM05**: *Prevent and minimise the generation of waste in accordance with the Eastern Midlands Region Waste Management Plan 2015 -2021 (or any subsequent plans).*
- Objective **WM07**: *Promote the increased re-use of waste in accordance with the Eastern Midlands Region Waste Management Plan 2015-2021 (or any subsequent plan)."*
- Objective **DMS36**: *Ensure all new residential schemes include appropriate design measures for refuse storage areas, details of which should be clearly shown at pre-planning and planning application stage. Ensure refuse storage areas are not situated immediately adjacent to the front door or ground floor window, unless adequate screened alcoves or other such mitigation measures are provided.*
- Objective **DMS37**: *Ensure the maximum distance between the front door to a communal bin area does not exceed 50 metres.*

2.3 Legislative Requirements

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

- Waste Management Act 1996 (No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No. 27 of 2003) and 2011 (No 20 of 2011). Sub-ordinate and associated legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended
 - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended
 - Waste Management (Facility Permit and Registration) Regulation 2007 (S.I No. 821 of 2007) as amended
 - Waste Management (Licensing) Regulations 2000 (S.I No. 185 of 2000) as amended

- European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014) as amended.
- Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) as amended
- Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
- European Communities (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
- Waste Management (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
- Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended
- European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 430 of 2015)
- Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended
- Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended
- *European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)*
- European Union (Properties of Waste Which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended.
- Environmental Protection Act 1992 (S.I. No. 7 of 1992) as amended;
- Litter Pollution Act 1997 (Act No. 12 of 1997) as amended and
- Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended ¹³

These Acts and subordinate Regulations enable the transposition of relevant European Union Policy and Directives into Irish law.

European and national waste management policy is based on the concept of 'waste hierarchy', which sets out an order of preference for managing waste (prevention > preparing for reuse > recycling > recovery > disposal) (Figure 2.1).



Figure 2.1 Waste Hierarchy (Source: European Commission)

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996 - 2011* 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 to 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, tenants and 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 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 Directive (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 Fingal County Council Waste Bye-Laws

The *Fingal County Council (Segregation Storage, Presentation and of Household and Commercial Waste) Bye-Laws (2020)* came into effect on the 1st of April 2020. These bye-laws repeal the previous *Fingal County Council Bye-Laws for the Storage, Presentation and Collection of Household Waste (2006)*. They set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the FCC area. Key requirements under these bye-laws of relevance to the proposed Project include the following:

- Kerbside waste presented for collection shall not be presented for collection earlier than 6.00 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 9:00am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law 4;
- 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.

2.4 **Regional Waste Management Service Providers and Facilities**

Various contractors offer waste collection services for the residential sector in the FCC 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 in Poolbeg, Dublin City.

The closest civic amenity centre can be found at Estuary Recycling Centre c. 6.80 km to the north-west. This can be used for the disposal of other household wastes, as outlines in Section 5.5.

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 Proposed Project

The proposed development site is located at Baldoyle-Stapolin, Dublin 13. It is a site of c. 6.89 hectares, and comprises lands referred to as Growth Area 3 (GA3) within the Baldoyle-Stapolin Local Area Plan. The lands are bound by the Dublin-Belfast / DART train line to the west, existing and proposed residential areas to the south and east, and future Racecourse Park to the north.

The proposed development will consist of the development of 1,221 no. residential apartment/duplex dwellings in 11 no. blocks ranging in height from 2 to 15 storeys and including for residential tenant amenity, restaurant/cafe, crèche, car and bicycle parking and public realm. Residential Tenant Amenity Facilities are located in Blocks E3, E4, G3, G4 & G5 and external communal amenity space is provided at ground, podium and terrace levels throughout the scheme. Car Parking is provided in a mix of undercroft for Blocks E1-E2, F1 and F2 and at basement level for Blocks G1-G3 and G4-G5. Cycle parking spaces are provided for residents, visitors and commercial uses, in secure locations and within the public realm throughout the scheme. A new central public space between Blocks E1-E2 and E3 and E4 and a new linear space between Blocks G2-G3 and G4-G5 provides pedestrian and cycle connectivity from Longfield Road to the proposed future Racecourse Park to the north. A proposed new bus, cycle, pedestrian and taxi ramp to the south of the site and north of Stapolin Square provides access from Longfield Road to Clongriffin Train Station. For a full description of the development please see the Statutory Notices.

3.2 Typical Waste Categories

The typical non-hazardous and hazardous wastes that will be generated at the proposed Project 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 Site 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 commercial 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* 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, CORs, 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 Project 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 ARISING

AWN's waste generation model (WGM) has been used to predict waste types, weights and volumes arising from operations within the proposed Project. The WGM incorporates building area and use and combines these with other data including Irish and US EPA waste generation rates.

The estimated volumes of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units. While the waste estimates for the commercial units has been based on area use (m²).

Waste quantities generated in the residential amenity areas have been included within the residential unit block breakdown figures.

The estimated waste generation for the proposed Project for the main waste types is presented in Tables 4.1 – 4.4.

Waste type	Waste Volume (m ³ /week)			
	Residential Block E1 (Combined)	Residential Block E2 (Combined)	Residential Block E3 (Combined)	Residential Block E4 (Combined)
Organic Waste	2.39	1.04	0.63	0.51
DMR	16.93	7.40	4.48	3.58
Glass	0.46	0.20	0.12	0.10
MNR	8.90	3.89	2.35	1.88
Total	28.69	12.53	7.58	6.07

Table 4.1 Estimated waste generation for the proposed Project for the main waste types

Waste type	Waste Volume (m ³ /week)			
	Residential Block F1 (Combined)	Residential Block F2 (Combined)	Residential Block G1 (Combined)	Residential Block G2 (Combined)
Organic Waste	1.25	1.66	2.59	2.71
DMR	8.86	11.75	18.33	19.18
Glass	0.24	0.32	0.50	0.52
MNR	4.66	6.18	9.64	10.08
Total	15.01	19.91	31.06	32.49

Table 4.2 Estimated waste generation for the proposed Project for the main waste types

Waste type	Waste Volume (m ³ /week)		
	Residential Block G3 (Combined)	Residential Block G4 (Combined)	Residential Block G5 (Combined)
Organic Waste	1.67	0.89	2.60
DMR	11.86	6.29	18.41
Glass	0.32	0.17	0.50
MNR	6.24	3.31	9.68
Total	20.09	10.66	31.19

Table 4.3 Estimated waste generation for the proposed Project for the main waste types

Waste type	Waste Volume (m ³ /week)	
	Creche Block G4	Café Block E4
Organic Waste	0.06	0.18
DMR	2.08	0.42
Glass	0.01	0.01
MNR	1.13	0.54
Total	3.28	1.16

Table 4.4 Estimated waste generation for the proposed Project for the main waste types

BS 5906:2005 *Waste Management in Buildings – Code of Practice*¹⁹ was considered in the estimations of the waste arisings. It has been assumed that waste will be generated by the residential and café units over a 7-day period, while the crèche will operate over a 5-day period. It is anticipated that the conservative estimation of waste quantities from the residential units will be sufficient to cover the small quantities likely to be generated in the communal areas on a weekly basis.

5.0 WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the proposed Project will be stored and how the waste will be collected from the proposed Project. 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 FCC. 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*;
- DoHLGH (2020) *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (section 4.8-4.9)²⁰;
- FCC (2017). *Fingal Development Plan 2017 – 2023*; and
- *FCC Segregation Storage, Presentation and of Household and Commercial Waste (2020)*

Waste Storage Areas

Locations of all waste storage areas (WSAs) and collection points can be viewed in Appendix A of this document.

Unit Blocks E1 & E2

Four (4 no.) shared communal WSAs have been allocated within the proposed Project design for the residential apartment blocks. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Unit Blocks E3 & E4

Two (2 no.) shared communal WSAs have been allocated within the proposed Project design for the residential apartment blocks, one for each block. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Unit Blocks F1 & F2

Four (4 no.) shared communal WSAs have been allocated within the proposed Project design for the residential apartment blocks, two for each block. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Unit Blocks G1 G2 & G3

Four (4 no.) shared communal WSAs have been allocated within the proposed Project design for the residential apartment blocks. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Unit Blocks G1 G2 & G3

Four (4 no.) shared communal WSAs have been allocated within the proposed Project design for the residential apartment blocks. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Unit Blocks G1 G2 & G3

Three (3 no.) shared communal WSAs have been allocated within the proposed Project design for the residential apartment blocks. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Residential Amenities

Waste from the residential amenity areas will be taken to the closet residential WSA for storage.

Crèche and Café

The crèche and café units will store locked bins in the closest WSAs to their unit allocated on ground floor level, which can be viewed on the planning drawings, submitted under separate cover as part of this application. Commercial and residential waste will not be mixed and, where possible, these WSAs will be segregated by physical structures.

Using the estimated waste generation volumes in Tables 4.1 – 4.4, the waste receptacle requirements for MNR, DMR, organic waste, cardboard and glass have been established for the WSAs. These are presented in Table 5.1.

Area/Use	Bins Required			
	MNR*	DMR**	Organic	Glass
Residential Apartment Block E1 & E2 (Shared)	12 x 1100L	23 x 1100L	15 x 240L	3 x 240L
Residential Apartment Block E3	3 x 1100L	4 x 1100L	3 x 240L	1 x 240L
Residential Apartment Block E4	2 x 1100L	4 x 1100L	3 x 240L	1 x 240L
Residential Apartment Block F1	5 x 1100L	8 x 1100L 1 x 240L	6 x 240L	1 x 240L
Residential Apartment Block F2	6 x 1100L	11 x 1100L	7 x 240L	2 x 240L
Residential Apartment Block G1, G2 & G3 (Shared)	24 x 1100L	45 x 1100L	30 x 120L	6 x 240L
Residential Apartment Blocks G4, G5 (Shared)	12 x 1100L	23 x 1100L	15 x 240L	3 x 240L
Crèche Unit	2 x 240L	1 x 1100L	1 x 120L	1 x 120L
Café Unit	1 x 1100L	2 x 240L	1 x 240L	1 x 120L

Note: * = Mixed Non-Recyclables

** = Dry Mixed Recyclables

Table 5.1 Waste storage requirements for the proposed Project

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 WSAs. Residents in houses will be responsible for providing their own bins.

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 IS EN

840 2012 standard 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 – Apartment Block Units

Residents will be required to segregate waste into the following main waste streams:

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

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

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 apartment blocks 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; DMR, MNR, organic waste and glass will be collected on a weekly basis. At the designated collection times, bins will be brought by personnel nominated by the facilities management company from the shared WSAs directly to the designated collection point at the closest road.

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 – Crèche

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

- DMR;
- Organic waste;
- Glass; and

- **MNR.**

As required, staff will need to bring segregated DMR, MNR, glass and organic waste to the closest residential WSA in Block G4. All crèche bins will be locked and, where possible, segregated from residential bins. Crèche waste will not be mixed with residential waste.

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 building 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 batteries, WEEE and printer toner / cartridges will be generated less frequently. The tenant will be required to store these waste types within their own unit and arrange collection with an appropriately licensed waste contractor. Facilities management may arrange collection, depending on the agreement. Further details on additional waste types can be found in Section 5.5.

5.3 Waste Storage – Café Unit

Commercial tenants will be required to segregate waste within their own unit into the following main waste types:

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

As required, staff will need to bring segregated DMR, MNR, glass and organic waste to the closest residential WSA in Block E4. All café bins will be locked and, where possible, segregated from residential bins. Café waste will not be mixed with residential waste.

Suppliers to the tenant should be requested by the tenant to make deliveries in reusable containers, minimize packaging, or remove any packaging after delivery, where possible, to reduce waste generated by the proposed Project.

All bins / containers in the tenant's 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. Using the estimated figures in Table 4.4, DMR, MNR and organic waste will be collected on a weekly basis, while glass will be collected as required.

Other waste materials, such as batteries, WEEE and printer toner / cartridges will be generated less frequently. The tenant will be required to store these waste types within their own unit and arrange collection with an appropriately licensed waste contractor. Facilities management may arrange collection depending on the agreement. 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 Fingal County area. All waste contractors servicing the proposed Project 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 residential and commercial waste from shared WSAs, requiring collection by the appointed waste contractor, will be transferred from the WSAs by personnel nominated by facilities management company to the collection point. All collection locations can be viewed in Appendix A of this document.

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 suitable 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 gardens, 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 and 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 commercial tenants cannot use the civic amenity centre. They must segregate their waste batteries and either avail of the take-back service provided by retailers or arrange for recycling / recovery of their waste batteries by a suitably permitted/licenced contractor. Facilities management may arrange collection depending on the agreement.

Waste Electrical and Electronic Equipment (WEEE)

The *WEEE Directive 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 commercial 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 commercial units, where appropriate. The commercial 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 commercial units that is classed as hazardous (if they arise) will be appropriately stored within the tenants 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 tubes, incandescent filament bulbs and LEDs) may be generated by the commercial tenants. It is anticipated that commercial 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. Waste 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. Commercial tenants and residents will be responsible for the appropriate disposal of textile wastes.

Waste Cooking Oil

If the commercial 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.

Furniture

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the commercial 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 Project. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership.

Where it has come to the attention of building management that a bicycle appears to have been abandoned, after an appropriate period of time, the bicycle should be removed. Depending on the quality of the bicycle in question, abandoned bicycles may be donated for reuse, or to charity, second-hand shops or bicycle repair shops, or disposed of appropriately. The priority in the first instance should be to promote reuse in accordance with the waste hierarchy. The building management company may employ various means, as they see fit, to notify residents of impending removal of bicycles, e.g. notices attached to bicycles, email, notice in public area. A holding period may also be applied, if deemed appropriate, to allow for residents to reclaim bicycles which have been removed.

Covid-19 Waste

Any waste generated by residential and commercial 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 Project is operational, and the relevant guidance at the time will need to be reviewed.

5.6 Waste Storage Area Design

The shared WSAs should be designed and fitted-out to meet the requirements of relevant design standards, including the following:

- 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 220 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 management company will be required to maintain the WSAs in good condition, as required by the FCC 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 proposed Project.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the Site of the proposed Project. 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 Site of the proposed Project is carried out in accordance with the requirements of the FCC 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 (S.I. No. 10 of 1996) as amended 2001 (S.I. No. 36 of 2001), 2003 (S.I. No. 27 of 2003) and 2011 (S.I. No. 20 of 2011). Sub-ordinate and associated legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended
 - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended
 - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. No. 821 of 2007) as amended
 - Waste Management (Licensing) Regulations 2000 (S.I. No. 185 of 2000) as amended
 - European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014)
 - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
 - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
 - European Communities (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
 - Waste Management (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
 - Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended 2015 (S.I. No. 190 of 2015)
 - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 191 of 2015)
 - Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000)
 - Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended
 - *European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)*
 - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015)
2. Protection of the Environment Act 2003, (No. 27 of 2003) as amended
3. Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended
4. Eastern-Midlands Waste Region, *Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021* (2015)
5. *FCC Segregation, Storage, Presentation and of Household and Commercial Waste (2020)*.
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10. DoELG, *Making Ireland's Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development)* (2002)
11. DoEHLG, *Taking Stock and Moving Forward* (2004)
12. Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025* (2020).
13. DoECLG, *A Resource Opportunity - Waste Management Policy in Ireland* (2012)
14. DoELG, *Making Ireland's Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development)* (2002)

15. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2017*.
16. FCC, *Fingal County Development Plan 2017 – 2023* (2017)
17. 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).
18. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
19. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
20. EPA, *European Waste Catalogue and Hazardous Waste List* (2002)
21. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2015).
22. BS 5906:2005 Waste Management in Buildings – Code of Practice.
23. Department of Housing and Local Government & Heritage (DoHLGH), *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2020).

APPENDIX A – WASTE LOCATIONS & COLLECTION POINTS

