awnconsulting

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

OPERATIONAL WASTE MANAGEMENT PLAN FOR A RESIDENTIAL DEVELOPMENT

AT

LANDS AT BALDOYLE

Report Prepared For

The Shoreline Partnership

Report Prepared By

Chonaill Bradley, Senior Environmental Consultant

Our Reference

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Cork Office
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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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of the Shoreline Partnership. The subject application site is located at Baldoyle-Stapolin, Dublin 13.

The development will consist of alterations to the permitted development, as permitted under FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046) of 544 no. residential units (385 no. apartments and 159 no. houses), retail and a crèche, to the development of 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail, crèche, parking, and public realm, over a total site area of c. 9.1 ha, and site development area of c. 8.89 ha. Landscaping will include extensive communal amenity areas, and significant public open space provision.

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 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 *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.

In addition, the following guidelines were consulted for healthcare specific waste management practice in relation to the proposed medical centre use:

- Health Service Executive (HSE), *Waste Management Awareness Handbook* (2011) [6]; and
- HSE and Department of Health and Children (DOHC), *Healthcare Risk Waste Management: Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste, 4th Edition* (2010) [7].

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 Government issued a policy statement in September 1998 titled as *'Changing Our Ways'* [8] 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 [9]. 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'* [10]. 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'* [11]. 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'* [12] 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 & 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'* [13] 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 t of municipal waste in 2018, this is almost a five percent increase since 2017. This means that each person living in Ireland generated 600kg of municipal waste in 2018;
- **Managed –** Waste collected and treated by the waste industry. In 2018, a total of 2,865,207 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 47,546 t was unmanaged in 2018;

- **Recovered –** the amount of waste recycled, 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 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 2018 was 38%, which is down from 41% in 2017; and
- **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 development is located in the Local Authority area of Fingal County Council (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* [14] 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.

Waste objectives with a particular relevance to the proposed development are:

Objectives:

- *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 [15]

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 - 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 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, 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 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 Fingal County Council Waste Bye-Laws

The FCC "Fingal County Council (Segregation Storage, Presentation and of Household and Commercial Waste) Bye-Laws (2020)" came into use 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)'*. The Bye-Laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the FCC functional area. Key requirements under these Bye-Laws of relevance to the proposed development 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.

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

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 facility in Poolbeg in Dublin.

The closest civic amenity centre can be found at Estuary Recyling Centre c. 6.80km away to the north west, the civic amenity centre can be used for the disposal of other household wastes as outlines in section 5.7.

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 subject application site is located at Baldoyle-Stapolin, Dublin 13.

The site is bound by existing residential areas to the south and east, referred to as Myrtle and the Red Arches respectively. Undeveloped residential areas are located to north and east of the site. The site is bound by the Dublin-Belfast / DART trainline and Clongriffin Station to the west.

The development will consist of alterations to the permitted development, as permitted under FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046) of 544 no. residential units (385 no. apartments and 159 no. houses), retail and a crèche, to the development of 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail, crèche, parking, and public realm, over a total site area of c. 9.1 ha, and site development area of c. 8.89 ha. Landscaping will include extensive communal amenity areas, and significant public open space provision.

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 wastepaper (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:

- Healthcare waste from the medical centre and pharmacy. See Section 3.2.1 below for more information;
- 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.

3.2.1 Healthcare Waste from the Medical Centre

Healthcare waste is defined in the HSE and DOHC *Healthcare Risk Waste Management* publication as *"solid or liquid waste arising from healthcare"*. Waste materials generated will fall into two main categories, namely healthcare non-risk waste (i.e. non-clinical healthcare waste) and healthcare risk waste (hazardous) as illustrated in Figure 3.1. Hazardous waste has been further subdivided in this plan into non-clinical hazardous waste and clinical/risk waste.

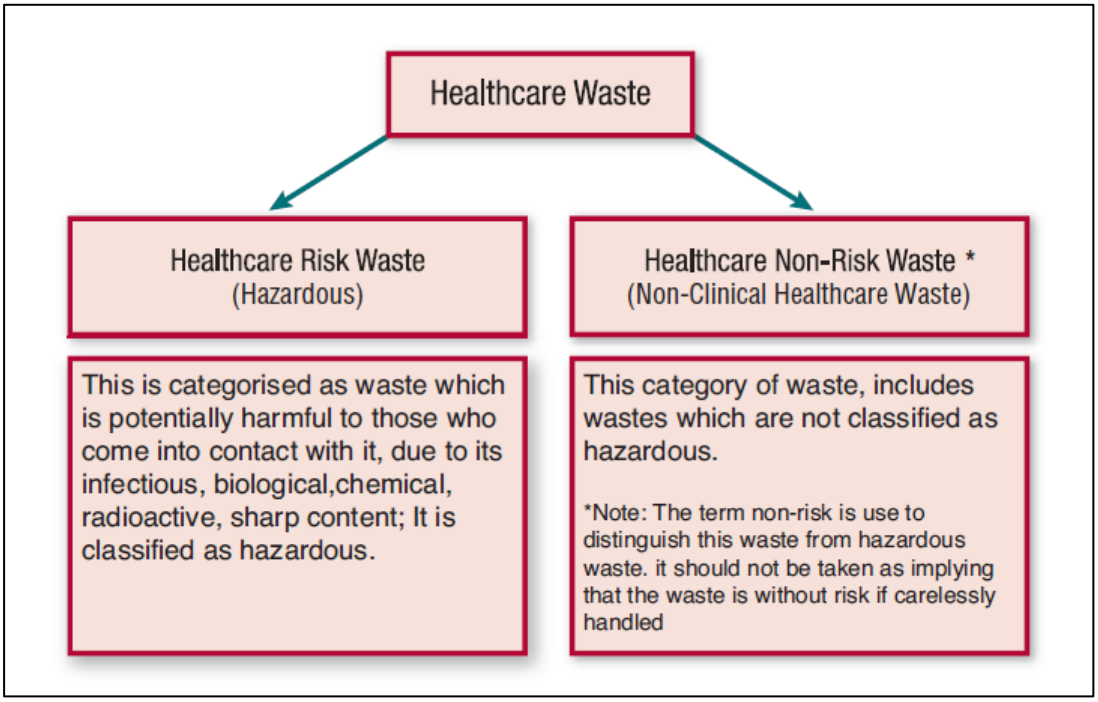

Figure 3.1 Healthcare Waste Categories (Source: HSE, *Waste Management Awareness Handbook* (2001)

Non-Risk/Non-Clinical Non-Hazardous Waste

The typical non-risk/non-clinical non-hazardous waste streams that will be generated will include the following typical waste categories:

- Dry Mixed Recyclables (DMR) – includes cardboard, non-confidential paper, newspaper, leaflets plastic packaging and bottles, aluminium cans, tins and Tetra Pak cartons;
- Confidential paper;
- Mixed Non-Recyclable /General Waste (MNR);
- Organic (food/catering) waste; and
- Glass.

In addition to the typical non-risk/non-clinical non-hazardous waste materials that will be generated on a daily basis, there will be some additional wastes generated on a regular basis that will need to be managed separately including:

- Green/garden waste from landscaping activities;
- Textiles;
- Batteries (non-hazardous) *note: hazardous batteries may also be generated which are referred to in Section 3.2.2*;
- WEEE including computers, printers and other ICT equipment (non-hazardous) *note: WEEE containing hazardous components may also be generated which are referred to in Section 3.2.2*; and
- Furniture (and from time to time other bulky wastes).

Non-Clinical Hazardous Waste

The typical non-clinical hazardous waste streams that will be generated will include the following:

- Printer/toner cartridges;
- Batteries (hazardous) *note: non-hazardous batteries may also be generated which are referred to in Section 3.2.1*;
- WEEE including computers, printers and other ICT equipment (containing hazardous components) *note: WEEE not containing hazardous components may also be generated which are referred to in Section 3.2.1*;
- Cleaning chemicals (solvents, pesticides, paints, adhesives, resins, detergents, etc.); and
- Light bulbs (Long Life, LED and Lilament bulbs).

Healthcare Risk Waste (Hazardous)

Healthcare risk waste will be generated from doctor surgeries, consulting rooms, treatment rooms. Figure 3.2 over shows the classification and colour coding of healthcare risk waste as presented in the HSE guidance document.

Not all of the waste types listed in Figure 3.2 will be generated at the care centre as the centre will provide primary care services only and will not carry out significant surgical procedures or cancer care services.

The healthcare risk waste generated at the care centre will comprise waste disposed of in yellow bags (such as dressings, swabs, bandages, gloves etc.) and yellow sharps buckets (for waste such as needles, syringes, razors, stitch cutters etc.).

Figure 3.2 Segregation of Healthcare Risk Waste (Source: HSE and DOHC, *Healthcare Risk Waste Management* (2010) and HSE, *Waste Management Awareness Handbook* (2011))

3.3 European Waste Codes

In 1994, the *European Waste Catalogue* [17] and *Hazardous Waste List* [18] were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* [19], which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* [20] 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. While the waste estimates for the commercial units has been based on area use per m^2.

The estimated waste generation for the development for the main waste types is presented in Table 4.1, 4.2 and 4.3.

Waste type	Waste Volume (m^3/week)			
	Residential Block A (Combined)	Residential Block D (Combined)	Residential Block B1 & B2 (Combined)	Residential Block C1a & C2a (Combined)
Organic Waste	4.52	4.61	1.26	1.06
DMR	32.05	32.68	8.96	7.52
Glass	0.88	0.89	0.24	0.21
MNR	16.85	17.18	4.71	3.95
Total	**54.30**	**55.36**	**15.18**	**12.74**

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

Waste type	Waste Volume (m^3/week)			
	Residential House 2 - Bed (Individual)	Residential House 3 - Bed (Individual)	Residential House 4 - Bed (Individual)	Creche Unit (Individual)
Organic Waste	0.02	0.02	0.02	0.05
DMR	0.11	0.13	0.18	1.74
Glass	0.01	0.01	0.01	0.01
MNR	0.07	0.08	0.09	0.95
Total	**0.21**	**0.24**	**0.30**	**2.76**

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

Waste type	Waste Volume (m^3/week)			
	Supermarket (Individual)	Medical Unit (Individual)	Pharmacy Unit (Individual)	Other Commercial Units (Combined)
Organic Waste	0.20	0.04	0.02	0.61
DMR	0.90	0.96	0.53	4.53
Glass	1.67	0.01	0.01	0.11
MNR	0.11	0.42	0.23	2.79
Cardboard	3.11	-	-	-
Confidential Paper	-	0.39	0.22	-
Medical Waste	-	0.28	0.07	-
Total	**6.00**	**2.10**	**1.08**	**8.04**

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

The BS5906:2005 Waste Management in Buildings – Code of Practice [21] was considered in the estimations of the waste arising. It has been assumed that waste will be generated by the residents, supermarket, pharmacy and other commercials unit's unit over a 7-day period, while the creche and medical unit facility 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 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 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;
- DoEHLG, *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (section 4.8-4.9) (2020) [22];

- *Fingal County Council Development Plan 2017 – 2023* (2017); and
- Fingal County Council *Segregation Storage, Presentation and of Household and Commercial Waste (2018)*

Waste Storage Areas

Unit Blocks A & D

11 no. shared communal Waste Storage Areas (WSAs) have been allocated within the development design for the residential apartment blocks. All WSAs have been strategically located on the ground floor level, in close proximity to cores.

Duplex/Unit Blocks B1 & B2

2 no. shared WSAs have been allocated in the development design for use by the duplex & apartment units in these blocks.

Duplex/Unit Blocks C1a & C1b

2 no. shared WSAs have been allocated in the development design for use by the duplex & apartment units in these blocks.

Houses units

Houses will have their own individual WSAs allocated at the rear of their home where external access to the rear yard is possible. When external access to the rear of the property is unavailable (such as the terraced houses), bins will be stored at the front of the unit, shielded from view of the road.

Creche and Supermarket

The creche and supermarket units will have their own individual WSAs allocated on ground floor level which can be viewed on the planning drawings.

Pharmacy, Medical and other Commercial Units

3 no. WSAs have been allocated for use by the pharmacy, medical and remaining mix of commercial units consisting of retail, food and beverage and gym units. The pharmacy and medical units will have their own individual WSA for the storage of medical waste allocated at the rear of their units. While the other commercial units will share a WSA located under Block D.

The waste receptacles from the apartment block and duplex WSAs will be brought by personnel nominated by the facilities management company to the curtilage for collection. Residents in houses will be responsible for taking their owns bins to the curb for collection.

All WSAs and temporary waste collection points for Blocks A & D can be viewed on the drawings submitted with the planning application.

Using the estimated waste generation volumes in Table 4.1, 4.2 and 4.3, 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					Equipment
	MNR*	DMR**	Organic	Glass	Bales	
Houses (Individual)	1 x 240L	1 x 240L	1 x 120L	Bottle Bank	-	-
Residential Apartment Block A (Shared)	16 x 1100L	29 x 1100L	19 x 240L	6 x 240L	-	-
Residential Apartment Block D (Shared)	16 x 1100L	30 x 1100L	19 x 240L	5 x 240L	-	-
Residential Apartment Block B1 & B2 (Shared)	5 x 1100L	8 x 1100L 1 x 240L	6 x 240L	2 x 120L	-	-
Residential Apartment Block C1a & C1b (Shared)	4 x 1100L	7 x 1100L	5 x 240L	2 x 120L	-	-
Creche (Individual)	1 x 1100L	2 x 1100L	1 x 120L	1 x 120L	-	-
Supermarket (Individual)	1 x 1100L	2 x 1100L	1 x 240L	1 x 240L	4	Bramidan B3 Baler
Medical Unit (Individual)	2 x 240L	1 x 1100L	1 x 120L	1 x 120L	-	Medical Waste bin
Pharmacy Unit (Individual)	2 x 240L	1 x 1100L	1 x 120L	1 x 120L	-	Medical Waste bin
Other Commercial Units (Shared)	3 x 1100L	5 x 1100L	3 x 240L	1 x 120L	-	-

*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 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 & Duplex 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 and duplex 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 5.7.

5.2 Waste Storage – Houses

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

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

It is anticipated that residents with external access to the rear of the property and will store waste in bins at the back of the house. For houses with no external access to the rear, a dedicated shielded area for storage of 2 no. 240l and 1 no. 120l litre wheelie bins have 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.

It is anticipated that DMR, MNR and organic waste will be collected on a weekly basis. Glass waste will be required to be brought to the nearest bottle bank for disposal.

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 5.7.

5.3 Waste Storage – Creche

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, the staff will need to bring segregated DMR, MNR, glass and organic waste to their WSA.

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

Access to the WSA will be restricted to authorised childcare facility 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. Facilties management may arrange collection depending on the agreement. Further details on additional waste types can be found in Section 5.7.

5.4 Waste Storage – Medical and Pharmacy Unit

Waste will be generated from a wide variety of activities throughout the proposed medical centre. Healthcare risk wastes will typically be generated in the doctor surgeries, consulting rooms and treatment rooms. DMR and MNR waste will be generated throughout the building. Confidential and non-confidential paper waste will mainly be generated in offices and staff workstations.

Organic (food) waste will be generated from staff lunches, micro kitchen areas and food brought into the building.

Appropriate colour coded, labelled and secured receptacles will be required for healthcare risk waste generated in the building as set out in the HSE, *Waste*

Management Awareness Handbook (and illustrated in Figure 3.2). The required healthcare risk waste receptacles will be:

- Yellow bags (stored in rigid bins e.g. 60L pedal bin)
- Yellow rigid buckets with yellow lid

These waste receptacles will be stored in designated treatment rooms, doctor surgeries, consulting rooms and treatment rooms areas. Facilities or cleaning staff will transfer the risk waste bags/buckets on a regular basis to a dedicated clinical waste room on the ground floor level of the building. This room will have at least 2 no. 240 litre yellow clinical waste bin and 1 no. roll cages.

In addition, clinical waste bags and sharps buckets may be temporarily transferred to utility stores located across the unit during the day prior to transfer to the clinical waste room. Where required, these temporary storage locations should have 60/80 litre pedal bins for yellow risk waste bags and shelf storage for sharps buckets. Facilities or cleaning staff will transfer this waste to the dedicated Clinical Waste Room on a daily basis.

Non-risk waste receptacles for DMR and MNR will be strategically positioned in the treatment rooms, consulting rooms and offices as necessary.

Where suitable, it is proposed that office and work station areas will utilise area waste stations (AWSs) for non-risk waste streams as opposed to using individual receptacles at desks. AWSs should be conveniently located within 10-15m of workstations, where possible, and would typically include:

- 1 no. 60/80 litre receptacle for dry mixed recyclables;
- 1 no. 60/80 litre receptacle for mixed non-recyclables; and
- 1 no. 60/80 litre receptacle for confidential paper.

In addition, smaller bins or caddies for organic and glass waste should be located in the micro kitchen areas.

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. Facilties management may arrange collection depending on the agreement. Further details on additional waste types can be found in Section 5.7.

5.5 Waste Storage – Supermarket and Commercial Units

The Supermarket and 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

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

Tenants in Block A and D will be required to allocate a waste store within their own unit temporarily before moving waste to the commercial WSAs under block A & D or in the case of the supermarket to their own individual WSA under block A.

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

If any kitchens are allocated in 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;
- Dish-wash and Glass-wash Area; and
- Bar 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 appropriate waste store within their unit.

All bins/containers in the tenants areas as well as 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 wastes can be put in each. Using the estimated figures in Tables 4.3, DMR, MNR, organic waste, cardboard and glass will be collected on a weekly basis.

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. Facilties management may arrange collection depending on the agreement. Further details on additional waste types can be found in Section 5.7

5.6 Waste Collection

There are numerous private contractors that provide waste collection services in the Fingal County 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 residential 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 commercial waste from shared and individual 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.

Residents in houses will be responsible for transferring their own bins to/from their individual WSA to the street 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 suitable waste contractor.

5.7 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 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 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 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 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 commercial units, where appropriate. The commercial tenants 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 (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 commercial units 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 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 at the commercial tenants. It is anticipated that commercial 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.

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 (and other bulky wastes)
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 development. As happens in other developments, residents and tenants 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.

Covid-19 Waste

Any waste generated by residential and commercial tenants that have tested positive for Covid-19 should be manged 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 development is open and occupied and the relevant guidance at the time will need to be reviewed.

5.8 Waste Storage Area Design

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

- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours 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 waste storage areas 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 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 *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 area 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
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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).
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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).
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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 Environment, Housing and Local Government (DoEHLG)*, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2018).