PMCA
ARCHITECTURE & DESIGN

104 Francis Street,
Dublin, D08 R63F
+353 1 4549911
info@pmcaarchitects.ie
www.pmcaarchitects.ie

OPERATIONAL WASTE MANAGEMENT PLAN FOR PLANNING APPLICATION AT HILL HOUSE, LUCAN ROAD, LUCAN, CO. DUBLIN

Report prepared for	**Frances Dowling**
Report prepared by	**PMCA Architects**
Date of Issue	**5th August 2022**

CONTENTS

1.0 INTRODUCTION

2.0 OVERVIEW OF WASTEMANAGEMENT IN IRELAND

- 2.1 National Level
- 2.2 Regional Level
- 2.3 Legislative Requirements
- 2.3.1 South Dublin County Council Waste Bye-Laws
- 2.4 Regional Waste Management Service Providers and Facilities

3.0 DESCRIPTION OF THE PROJECT

- 3.1 Location, Size and Scale of the Development
- 3.2 Typical Waste Categories
- 3.3 European Waste Codes

4.0 ESTIMATED WASTE ARISINGS

5.0 WASTE STORAGE AND COLLECTION

- 5.1 Waste Collection
- 5.2 Additional Waste Materials
- 5.3 Waste Storage Area Design

6.0 CONCLUSIONS

7.0 REFERENCES

1.0 INTRODUCTION

PMCA Architects has prepared this Operational Waste Management Plan (OWMP) on behalf of Frances Dowling for planning permission at Hill House, Lucan Road, Lucan, Co. Dublin.

The proposed development will consist of the demolition of an existing single storey dwelling house known as "Hillhouse" and ancillary outbuildings and sheds, and the construction of a residential development of 19 units consisting of 6 no. one bedroom apartments and 13 no. two bedroom apartments in a single 4 storey block with balconies and terraces facing north south and west. Ancillary site works including parking for 11 cars, 1 no. communal bin store, 20 secure bicycle parking spaces and main vehicle access off Lucan Road and a secondary access is proposed off Lucan Heights to the south. All on a site of 0.19 Ha at Hill House, Lucan Road, Lucan, Co. Dublin.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed development is undertaken in accordance with the current legal and industry standards including, the Waste Management Act 1996 – 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 South Dublin County Council (SDCC) 'South Dublin County Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws' (2019)[5]. In particular, this OWMP aims to provide a robust strategy for storing, handling, collection and transport of the wastes generated at the site.

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

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

2.0 OVERVIEW OF WASTEMANAGEMENT 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.

The most recent policy document was published in July 2012 titled '*A Resource Opportunity*'[10]. The policy document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out a number of actions, including the following:

- A move away from landfill and replacement through prevention, reuse, recycling and recovery.
- A Brown Bin roll-out diverting 'organic waste' towards more productive uses.
- Introducing a new regulatory regime for the existing side-by-side competition model within the household waste collection market.
- New Service Standards to ensure that consumers receive higher customer service standards from their operator.
- Placing responsibility on householders to prove they use an authorised waste collection service.
- The establishment of a team of Waste Enforcement Officers for cases relating to serious criminal activity will be prioritised.
- Reducing red tape for industry to identify and reduce any unnecessary administrative burdens on the waste management industry.

- A review of the producer responsibility model will be initiated to assess and evaluate the operation of the model in Ireland.
- Significant reduction of Waste Management Planning Regions from ten to three.

While *A Resource Opportunity* covers the period to 2020, it is subject to a mid-term review in 2016 to ensure that the measures are set out properly and to provide an opportunity for additional measures to be adopted in the event of inadequate performance. This mid-term review has not yet been published.

In December 2019, the Department of Communications, Climate Action and Environment issued Public Consultation Waste Action Plan for the Circular Economy in order to seek views on the development of a new Waste Action Plan for Ireland as part of the transition to a Circular Economy. The consultation closed on the 21st February 2020. The new *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025*[11], which takes into consideration the consultation responses, was very recently published on the 4th September 2020. 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*'[12] detailing among other things estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery and disposal of these materials. The 2017 National Waste Statistics, which is the most recent study published (December 2019), reported the following key statistics for 2017:

- **Generated** – Ireland produced 2,768,043 t of municipal waste in 2017, this is less than a one percent increase since 2016. This means that each person living in Ireland generated 577kg of municipal waste in 2017;
- **Managed** – Waste collected and treated by the waste industry. In 2017, a total of 2,723,543 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 44,500 t was unmanaged in 2017;
- **Recovered** – the amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In 2017, over three quarters (77%) of municipal waste was recovered, this is an increase from 74% in 2016;

• **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 2017 was 41%, the same as 2014 & 2016; and
• **Disposed** – Less than a quarter (23%) of municipal waste was landfilled in 2017, this is a decrease from 26% in 2016.

2.2 Regional Level

The proposed development is located in the Local Authority area of South Dublin County Council (SDCC). The EMR Waste Management Plan 2015 – 2021 is the regional waste management plan for the SDCC area 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 specified in the Waste Management (Landfill Levy) Regulations 2015.

The South Dublin County Council Development Plan 2016 – 2022[14] sets out a number of objectives and actions for the South Dublin area in line with the objectives of the waste management plan.

Waste objectives and actions with a particular relevance to the proposed development are as follows:

Objectives:

- **IE5 Objective 1:** To support the implementation of the Eastern–Midlands Region Waste Management Plan 2015-2021 by adhering to overarching performance targets, policies and policy actions.
- **IE5 Objective 2:** To support waste prevention through behavioural change activities to de-couple economic growth and resource use.
- **IE5 Objective 3:** To encourage the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources.
- **IE5 Objective 8:** To secure appropriate provision for the sustainable management of waste within developments, including the provision of facilities for the storage, separation and collection of such waste.

Actions:

- Support and facilitate the separation of waste at source into organic and nonorganic streams or other waste management systems that divert waste from landfill and maximise the potential for each waste type to be re-used and recycled or composted and divert organic waste from landfill, in accordance with the National Strategy on Biodegradable Waste (2006).
- Implement the objectives of the National Waste Prevention Programme at a local level with businesses, schools, householders, community groups and within the Council's own activities.
- Promote an increase in the amount of waste re-used and recycled consistent with the Regional Waste Management Plan and Waste Hierarchy and facilitate recycling of waste through adequate provision of facilities and good design in new developments.
- Implement the South Dublin Litter Management Plan 2015 - 2019.

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

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 and proposed building 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 IE (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 South Dublin County Council Waste Bye-Laws

The SDCC "South Dublin (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)" were entered into force on the 3rd of December 2018. These Bye-laws will repeal the previous SDCC waste Bye-laws of 2007 & 2012. The Bye-laws

set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the SDCC 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 8.00 pm on the day immediately preceding the designated waste collection day;
- All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath or any other public place no later than 8:00am on the day following the designated waste collection day.
- 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 SDCC website.

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the residential sector in the SDCC 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.

There is an SDCC bring bank c.2km to the south west of the development off the Newcastle Road, which can be utilised by the residents of the development for certain household waste streams including textiles and glass. The closest civic amenity centre can be found c. 11km away to the south east, the civic amenity centre 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 Development

Frances Dowling intend to apply for a planning permission with a total application site area of 0.09 ha on lands located at Hill House, Lucan Road, Lucan, Co. Dublin.

The proposed development will consist of the demolition of an existing single storey dwelling house known as "Hillhouse" and ancillary outbuildings and sheds, and the construction of a residential development of 19 units consisting of 6 no. one bedroom apartments and 13 no. two bedroom apartments in a single 4 storey block with balconies and terraces facing north south and west. Ancillary site works including parking for 11 cars, 1 no. communal bin store, 20 secure bicycle parking spaces and main vehicle access off Lucan Road and a secondary access is proposed off Lucan Heights to the south. All on a site of 0.19 Ha at Hill House, Lucan Road, Lucan, Co. Dublin.

3.2 Typical Waste Categories

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

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

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated in small quantities which will need to be managed separately including:

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

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible.

3.3 European Waste Codes

In 1994, the European Waste Catalogue 15 and Hazardous Waste List 16 were published by the European Commission. In 2002, the EPA published a document titled the European Waste Catalogue and Hazardous Waste List 17, which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' 18 which became valid from the 1st June 2015. This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database.

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

Waste Material	LoW/EWC Code
Paper and Cardboard	20 01 01
Plastics	20 01 39
Metals	20 01 40
Mixed Non-Recyclable Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25
Textiles	20 01 11
Batteries and Accumulators*	20 01 33* - 34
Printer Toner/Cartridges*	20 01 27* - 28
Green Waste	20 02 01
WEEE*	20 01 35*-36
Chemicals (solvents, pesticides, paints & adhesives, detergents, etc.) *	20 01 13*/19*/27*/28/29*30
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky Wastes	20 03 07 *

**Individual waste type may contain hazardous materials*

Table 3.1 Typical Waste Types Generated and LoW Codes

4.0 ESTIMATED WASTE ARISINGS

Waste arisings were calculated in accordance with BS 5906:2005 and included a provision of 5 litres (L) of food waste per residential unit per week. These guidelines determine the minimum capacity for waste storage space to be allocated and are as follows:

- 30 litres (L) per unit + 70L per bedroom (see Table 4.1 for further details);
- Split 50:50 between MDR and residual waste; and
- 5L per residential unit for food waste.

The estimated quantum/volume of waste that will be generated from the residential development has been determined based on the predicted occupancy of the units.

The total estimated waste generation for the development for the main waste types is presented in Table 4.1 and is based on the uses and areas as advised by the project architects.

Waste type	Apartments Waste Volume (L /week)
Organic Waste	95
DMR	1,405
MNR	1,405
Total	2,905

Table 4.1 Estimated communal waste generation for all the proposed apartments for the main waste types

The *BS5906:2005 Waste Management in Buildings* – Code of Practice19 was considered in the estimations of the waste arising. The predicted total waste generated from the residential units based on the Code of Practice is c. 2,905L per week

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 SDCC. 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 (2018) 19 ;
- SDCC South Dublin County Council Development Plan 2015 – 2021 (2015); and
- SDCC 'County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws' (2018)

The development will have one communal Waste Storage Area (WSA) to accommodate the proposed apartments which will be located at ground floor level. The location of the WSA is illustrated on the architectural drawings submitted with the planning application. (Note: WSA is referred to as bin stores on the drawings).

It is anticipated that DMR, MNR and organic waste from the communal WSA will be collected twice weekly and the DMR. Glass waste will be required to be brought to the nearest bottle bank for disposal.

Using the estimated waste generation volumes in Table 4.1, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the for the development and can be viewed in table 5.1 below.

Waste type	Bin Numbers for Communal WSA
Organic Waste	1 x 240 L
Dry Mixed Recyclable Waste	1 x 1,100 L
Glass	Bottle Bank
Mixed Non-Recyclable Waste	1 x 1,100L

Table 5.1 Communal Waste storage requirements for the proposed apartments

The waste receptacle requirements have been established from distribution of the waste generation estimates into the holding capacity of each receptacle type. Mixed non-recyclable waste, dry mixed recyclable waste and organic waste for the communal WSA accommodating the apartments and duplexes will be collected twice weekly and the individual WSA for the houses will be collected weekly by the nominated waste contractor. Residents will bring glass to a local bottle bank.

Waste storage receptacles as per Table 5.1 above (or similar appropriate approved containers) will be provided by the facilities management company in the communal WSA.

The types of bins used will vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSA 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)

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

Access to the communal WSA will be restricted to authorised residents, building management and waste contractors by means of a key or electronic fob access. Bins will be locked to ensure they are only used by residents.

The residents and the building management company will be required to maintain the bins and WSA in good condition.
The building management company should prepare and provide the residents with a Waste Management Plan document clearly stating the methods of source waste segregation, storage, reuse and recycling initiatives for the development.

In addition, the following waste types should also be segregated by residents within their own residential units (where generated):

- Batteries (both hazardous and non-hazardous);
- WEEE (both hazardous and non-hazardous);
- Light bulbs;
- Printer cartridges/toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Textiles (rags);
- Waste cooking oil (if it arises); and
- Furniture/bulky wastes.

These waste types should not be brought to the communal WSA. The recommended strategy for managing these waste types is discussed in Section 5.2.

5.1 Waste Collection

There are numerous private contractors that provide household waste collection in the South Dublin 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 and/or licensed facilities only.

During collection, waste vehicles will access the proposed development from the entrance on Lucan Road and collect the waste from their WSA. Once emptied, the bins will be promptly returned to their WSA by nominated personnel.

All waste receptacles presented for collection will be clearly identified as required by waste legislation and the requirements of the SDCC Waste Bye-Laws. Also, waste will be presented

for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

5.2 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.

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.

Printer Cartridge/Toners

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 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)

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

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. The local bring bank provides for collection of waste clothes and other textiles.

Waste Cooking Oil

If the residents generate waste cooking oil, this can be brought to a civic amenity centre.

Furniture (and other bulky wastes)

If residents Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the residents. If residents wish to dispose of furniture, this can be brought the recycling centre.

5.3 Waste Storage Area Design

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

- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system for internal WSA;
- 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 company(s) will be required to maintain the waste storage area in good condition as required by the SDCC Waste Bye-Laws.

6.0 CONCLUSIONS

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

- o European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended
- o Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended
- o Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended
- o Waste Management (Licensing) Regulations 2000 (S.I No. 185 of 2000) as amended
- o European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014)
- o Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
- o Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
- o European Communities (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
- o Waste Management (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
- o Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended 2015 (S.I. No. 190 of 2015)
- o European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 430 of 2015)
- o Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000)

o Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended o European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)

o European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended;

2. Protection of the Environment Act 2003 (Act No. 27 of 2003) as amended;
3. Litter Pollution Act 1997 (Act No. 12 of 1997) as amended;
4. Eastern-Midlands Waste Region, Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021 (2015)
5. South Dublin County Council (SDCC) 'County of South Dublin (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws' (2018).
6. Department of Environment and Local Government (DoELG) Waste Management – Changing Our Ways, A Policy Statement (1998)
7. Department of Environment, Heritage and Local Government (DoEHLG) Preventing and Recycling Waste - Delivering Change (2002)
8. DoELG, Making Ireland's Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development) (2002)
9. DoEHLG, Taking Stock and Moving Forward (2004)
10. DoECLG, A Resource Opportunity - Waste Management Policy in Ireland (2012)
11. Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-202511
12. Environmental Protection Agency (EPA), National Waste Database Reports 1998 – 2012
13. SDCC, South Dublin City Development Plan 2015 – 2021 (2015)
14. 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).
15. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
16. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
17. EPA, European Waste Catalogue and Hazardous Waste List (2002)
18. EPA, Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2015).
19. BS 5906:2005 Waste Management in Buildings – Code of Practice.
20. Department of Environment, Housing and Local Government (DoEHLG), Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018).