

**OPERATIONAL PHASE  
WASTE MANAGEMENT PLAN**

**FOR**

**GLL PRS HOLDCO LIMITED**

**RELATING TO A PROPOSED**

**STRATEGIC HOUSING DEVELOPMENT, 'KENELM'**

**AT**

**DEER PARK  
HOWTH  
CO. DUBLIN**

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## TABLE OF CONTENTS

<b>1.0</b>	<b>Introduction.....</b>	<b>3</b>
<b>2.0</b>	<b>Operational Phase Waste Management.....</b>	<b>4</b>
<b>3.0</b>	<b>Residential Units Domestic Waste Management.....</b>	<b>6</b>
<b>4.0</b>	<b>Waste Quantities.....</b>	<b>9</b>
<b>5.0</b>	<b>Communal Waste Storage Area Design.....</b>	<b>10</b>
<b>6.0</b>	<b>Waste Bin Collection Strategy.....</b>	<b>11</b>
<b>7.0</b>	<b>Conclusions.....</b>	<b>12</b>
	<b>Appendix I Site Plan showing bin stores and bin collection point</b>	
	<b>Appendix II Bin collection vehicle dimensions</b>	

## 1.0 INTRODUCTION

This document presents the Operational Waste Management Plan (OWMP) for the control, management and monitoring of waste associated with a proposed strategic housing development (SHD) at Deer Park, Howth, Co. Dublin.

The proposed development comprises construction of a residential scheme of 162 no. residential units comprised of 1, 2 and 3 bed apartment across 3 no. apartment blocks (A-C).

The **Objective of this Operational Waste Management Plan** is to maximise the quantity of waste recycled by providing sufficient waste recycling infrastructure, waste reduction initiatives and waste collection and waste management information to the residents of the development.

The **Goal of this Operational Waste Management Plan** is to achieve a residential recycling rate of 50% of managed municipal waste by 2020 in accordance with *The Eastern-Midlands Region Waste Management Plan 2015-2021*.

The Operational Waste Management Plan shall be integrated into the design and operation of the development to ensure the following:

- That sufficient waste management infrastructure is included in the design of the development to assist residents minimise the generation of mixed waste streams and maximise the potential for waste source segregation.
- That the principle of waste segregation at source is the integrated into the design of the development by the provision of separate bin systems, signage and notifications.
- That the facility management company shall record the volumes and types of waste generated by the development to assess on an annual basis if the 50% recycling rate is being achieved.
- That all waste materials generated by site activities are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted facilities in compliance with the Waste Management Act 1996 and all associated Waste Management Regulations.
- That the Facilities Management Company will manage wastes storage areas and provide annual bulky waste collection services to facilitate residents.

## 2.0 WASTE MANAGEMENT PLAN – OPERATIONAL PHASE

The Operational Phase of the Waste Management Plan has been prepared in accordance with *The Eastern-Midlands Region Waste Management Plan 2015-2021* which defines the following Waste Targets:

- 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 2021
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill

The Operational Phase of the Waste Management Plan has been prepared in accordance with the relevant waste management objectives of the *Fingal County Council Development Plan 2017 – 2023*.

*OBJ DMS146 Ensure all new largescale residential and mixed-use developments include appropriate facilities for source segregation and collection of waste.*

*OBJ DMS147 Ensure all new developments include well designed facilities to accommodate the three bin collection system.*

### Key Aspects to achieve Waste Targets

- All residential units shall be provided with information on the segregation of waste at source and how to reduce the generation of waste by the Facilities Management Company.
- All waste handling and storage activities shall occur in the dedicated communal apartment waste storage areas.
- The development's Facility Management Company shall appoint a dedicated Waste Services Manager to ensure that waste is correctly and efficiently managed throughout the development.
- The Operational Phase of the Waste Management Plan is defined by the following stages of waste management:

Stage 1	Occupier Source Segregation
Stage 2	Occupier Deposit and Storage
Stage 3	Bulk Storage and On-Site Management
Stage 4	On-site treatment and Off-Site Removal
Stage 5	End Destination of wastes

This OWMP has been prepared with regard to *British Standard BS 5906:2005 Waste Management in Buildings-Code of Practice* which provides guidance on methods of storage, collection, segregation for recycling and recovery for residential building.

Section 3.0 below defines how the management of domestic wastes including 3-bin systems for the segregation of waste at source together with the communal waste storage areas have been designed with regard to *Section's 4.8 and 4.9 Refuse Storage of The Department of Housing, Planning and Local Government – Sustainable Urban Housing : Design Standards for New Apartments – Guidelines for Planning Authorities. 2018 which is reproduced below.*

### **Refuse Storage**

**4.8** Provision shall be made for the storage and collection of waste materials in apartment schemes. Refuse facilities shall be accessible to each apartment stair/ lift core and designed with regard to the projected level of waste generation and types and quantities of receptacles required. Within apartments, there should be adequate provision for the temporary storage of segregated materials prior to deposition in communal waste storage and in-sink macerators are discouraged as they place a burden on drainage systems.

**4.9** The following general design considerations should be taken into account in the provision of refuse storage facilities:

- Sufficient communal storage area to satisfy the three-bin system for the collection of mixed dry recyclables, organic waste and residual waste;
- In larger apartment schemes, consideration should also be given to the provision of separate collection facilities for other recyclables such as glass and plastics;
- Waste storage areas must be adequately ventilated so as to minimise odours and potential nuisance from vermin/flies and taking account the avoidance of nuisance for habitable rooms nearby;
- Provision in the layout for sufficient access for waste collectors, proximity of, or ease of access to, waste storage areas from individual apartments, including access by disabled people;
- Waste storage areas should not present any safety risks to users and should be well-lit;
- Waste storage areas should not be on the public street, and should not be visible to or accessible by the general public. Appropriate visual screening should be provided, particularly in the vicinity of apartment buildings;
- Waste storage areas in basement car parks should be avoided where possible, but where provided, must ensure adequate manoeuvring space for collection vehicles;
- The capacity for washing down waste storage areas, with wastewater discharging to the sewer.

*Ref. Section's 4.8 and 4.9 Refuse Storage of The Department of Housing, Planning and Local Government – Sustainable Urban Housing : Design Standards for New Apartments – Guidelines for Planning Authorities. 2018.*

### 3.0 RESIDENTIAL DOMESTIC WASTE MANAGEMENT

#### Apartment Units

The design of the residential apartments shall provide sufficient internal kitchen space for the storage of up to 10kg of general domestic waste, green recyclable waste and organic waste. A 3-compartment bin system shall be integrated into the kitchen design or be included as free-standing system to have a capacity of up to 30 litres. Each unit shall include waste storage bins which will be of such a size that will allow their easy manual handling to be brought to the communal waste storage areas.

#### Domestic kitchen 3-bin systems to segregate waste at source



#### Waste Management duties of the Facility Management Company

The Facilities Management Company shall be responsible for the implementation of all aspects of the Domestic Waste Management Plan which are detailed as follows.

The Facilities Management Company shall employ an appropriately qualified and experienced staff member who will be responsible for all aspects of waste management at the development.

All accommodation units shall be provided with a Waste Management Information document, prepared by the Facilities Management Company, which shall clearly state the methods of source waste segregation, storage, and recycling initiatives that shall apply to the Management of the development. This Information document shall be issued to all residential units on an annual basis.

It shall be the responsibility of the Facilities Management Company to ensure that appropriate signage is provided in each apartment lobby/entrance hall notifying apartment residents of their obligations to recycle domestic waste items in accordance with the requirements of the contracted Waste Collection contractor and to inform residents of the Estuary Recycling Centre at Swords Business Park, location of the Bring Bank located at the Reservoir Car Park, Howth and bottle banks located at Supervalu, Sutton.

It shall be the responsibility of the Facilities Management Company to ensure that all domestic waste generated by apartment residents is managed to ensure correct storage prior to collection by an appropriately waste permitted waste collection company on a weekly basis.

The Facilities Management Company shall conduct daily inspections of the waste storage areas and shall sign a daily check list which shall be displayed within the area.

The Facilities Management Company shall ensure that an adequate supply of biodegradable organic waste bags are in place at all times.

It shall be the responsibility of the Facilities Management Company to maintain and ensure the cleanliness of all communal waste storage areas to prevent odours and the attraction of vermin.

The Facilities Management Company shall engage a specialist cleaning contractor on a regular basis to clean and sterilise all communal waste storage areas.

It is expected that a single Waste Collection contractor shall be engaged to remove all mixed domestic waste and recyclable wastes from the waste storage areas and from individual houses on a weekly basis. The name of the waste collection contractor(s) once appointed shall be forwarded to the Environment Department of Fingal Council.

### **Communal Waste Storage Areas**

The 3 no. residential apartment blocks shall be served by 2 no. basement level common waste storage areas which shall include clearly visible guidelines on the appropriate segregation of different waste types as indicated in Appendix I. Each bin store has been designed and is of sufficient size with regard to the developments anticipated maximum occupancy population of 512 persons.

All new residents to the development shall be provided with Welcome Packs by the Facility Management Company which shall include waste management information as follows:

- The location of the local Estuary Recycling Centre at Swords Business Park, location of the Bring Bank located at the Reservoir Car Park, Howth and bottle banks located at Supervalu Sutton.
- Residents obligations to reduce waste, segregate waste within the home and dispose of waste in the correct bin will be clearly posted within the waste storage area.



The communal waste storage areas shall be designed to include the following aspects:

- A defined pedestrian route shall be marked from the lift/stair cores to the waste storage area.
- A non-slip surface shall be provided within the waste storage area.
- The waste storage shall be passively ventilated.
- The waste storage area shall be fitted with sensor lighting.
- The waste storage area shall be fitted with CCTV cameras and associated signage.
- The waste storage area shall be designed to provide safe access from the apartment units by mobility impaired persons.
- A dedicated and clearly labelled area shall be provided in which mobility impaired persons may place wastes into receptacles at a lower level which will be subsequently transferred to the bulk storage bins on a daily basis by the Facilities Management Company.
- The waste storage areas shall include ground drainage to foul sewer to allow for their regular cleaning and disinfection.
- All bulk waste storage bins shall be clearly labelled with exactly what type of waste materials may be deposited within them.
- The Facilities Management Company shall engage a mobile bin cleaning service provider to clean waste bins on a regular basis.
- Each communal waste storage area shall contain a brown organic waste bulk bin. Appropriate signage shall be placed on all brown bins informing residents of the exact nature of organic waste that can be placed in the bin. Signage will also state that all organic waste must be placed within biodegradable bags before placing in the bulk bin.
- Each communal waste storage area shall contain a biodegradable waste bag dispenser which will facilitate and encourage residents of apartments and duplexes to separately segregate food and organic waste within their apartments in a dedicated bin.

#### **Images of Typical Communal waste storage area**



## **Waste Management & Record Keeping**

The Facilities Management Company shall maintain a monthly register detailing the quantities and breakdown of general mixed domestic waste, recyclable waste and organic waste wastes removed from the development. Supporting documentation shall be provided by the Waste Collection Contractor on a monthly basis. This will allow for waste recycling targets to be tracked to achieve the 50% recycling target.

The Facilities Management Company shall prepare an annual information report for all residential units detailing the quantities and waste types generated by the development for the previous year. The report shall include reminder information on the correct segregation at source procedures and the correct placement of wastes in the waste storage area. Other aspects of ongoing waste management continuous improvement shall also be stated. This annual report shall also be submitted to Fingal County Council's Environment Department.

### **Annual Bulky Waste & WEEE Collections**

The Facilities Management Company shall provide a bulky waste and WEEE collection and transport service to the closest recycling centres on an annual basis which will allow residents to have bulky items such as appliances and furniture removed from their houses and apartments and transported to a licenced facility. This initiative will also reduce the potential for illegal waste collections and fly-tipping in the local area.

## **4.0 CALCULATED WASTE QUANTITIES**

Basement level communal waste storage areas are proposed for the apartment blocks.

The most recent EPA Waste statistics (2018) on household waste generation states 315kg is produced per person per year.

A value of 0.863Kg of waste generated per person per day has been therefore assumed for the purposes of this report to estimate the volume of waste to be generated at the proposed fully occupied residential development will be c. 442Kg/day, 3093Kg/week or 23m<sup>3</sup>/week.

**Table 1** 'Kenelm' Residential waste generation at full occupancy

Waste Type	% Waste	Kg/week	Kg/day
Organic waste	30.6	946	135
Paper	12.5	387	55
Cardboard	3.6	111	16
Composites	1	31	4
Textiles	15.5	479	68
Plastics	13.6	421	60
Glass	3.4	105	15
Metals	3.1	96	14
Wood	1.2	37	5
Hazardous municipal waste	0.9	28	4
Unclassified combustables	1.4	43	6
Unclassified incombustables	1.2	37	5
Fines	11.7	362	52
Bulky Waste & WEEE	0.3	9	1
<i>Totals</i>	<i>100</i>	<i>3093</i>	<i>442</i>

## 5.0 COMMUNAL WASTE STORAGE AREA DESIGN

The apartment development shall have 2 no communal waste storage areas located at basement level (Ref. Appendix I) which shall be of sufficient size to house the required number of 1100 litre wheelie bins.

The dimensions of standard 1100 litre bin are:

Width (mm)	1400
Depth (mm)	1200
Height (mm)	1150
Floor Area per bin (m <sup>2</sup> )	1.7

To allow free access to the bins and provide sufficient space for their movement, the required total bin store area = bin floor area x 1.5 x #bins required as detailed in Table 2.

**Table 2** Apartment Block minimum Communal Bin Store Area Requirements

Bin Store	Green Bin#	Brown Bin#	Grey Bin#	Minimum Total Bin Area (m <sup>2</sup> )
1	4	2	6	31
2	4	2	6	31
<b>Totals</b>	8	4	12	62

## 6.0 WASTE COLLECTION STRATEGY

All bulk waste bins shall be brought from the apartments communal bin storage areas to the designated demarcated bin collection area within the development at road-level by the Facilities Management staff.

The development shall include 1 No. waste bin collection point (Ref. Appendix I) to facilitate the maximum quantity of bins that may be collected during a single collection event (grey bins).

Collection Point 1 (Area 24m<sup>2</sup>)

Emptied bins shall be returned to the bin storage areas immediately following collection.

Appendix I presents the site plan showing the proposed bin storage areas and the associated bin collection points.

Appendix II presents the waste collection vehicle dimensions and turning dimensions.

**IMAGE OF BULK BIN TRANSPORT FROM BIN STORES TO COLLECTION POINT**



**7.0 CONCLUSIONS**

The proposed residential development shall be designed and managed to provide residents with the required waste management infrastructure to minimise the generation of un-segregated domestic waste and maximise the potential for segregating and recycling domestic waste fractions at source.

The operational waste management plan has been designed to comply with *Section's 4.8 and 4.9 Refuse Storage of The Department of Housing, Planning and Local Government – Sustainable Urban Housing : Design Standards for New Apartments – Guidelines for Planning Authorities. 2018* and with regard to relevant waste management objectives of the *Fingal County Council Development Plan 2017 – 2023*.

The **Objective** of this Waste Management Plan is to maximise the quantity of waste recycled by residents by providing sufficient waste recycling infrastructure, waste reduction initiatives and waste collection and waste management information services to the residents of the development.

The **Goal** of this Waste Management Plan is to achieve a residential recycling rate of 50% of managed municipal waste by 2021 (and future targets in subsequent Regional Waste Management Plans).

All residential units shall include sufficient storage space to accommodate a 3-bin waste system to encourage the segregation of waste at source.

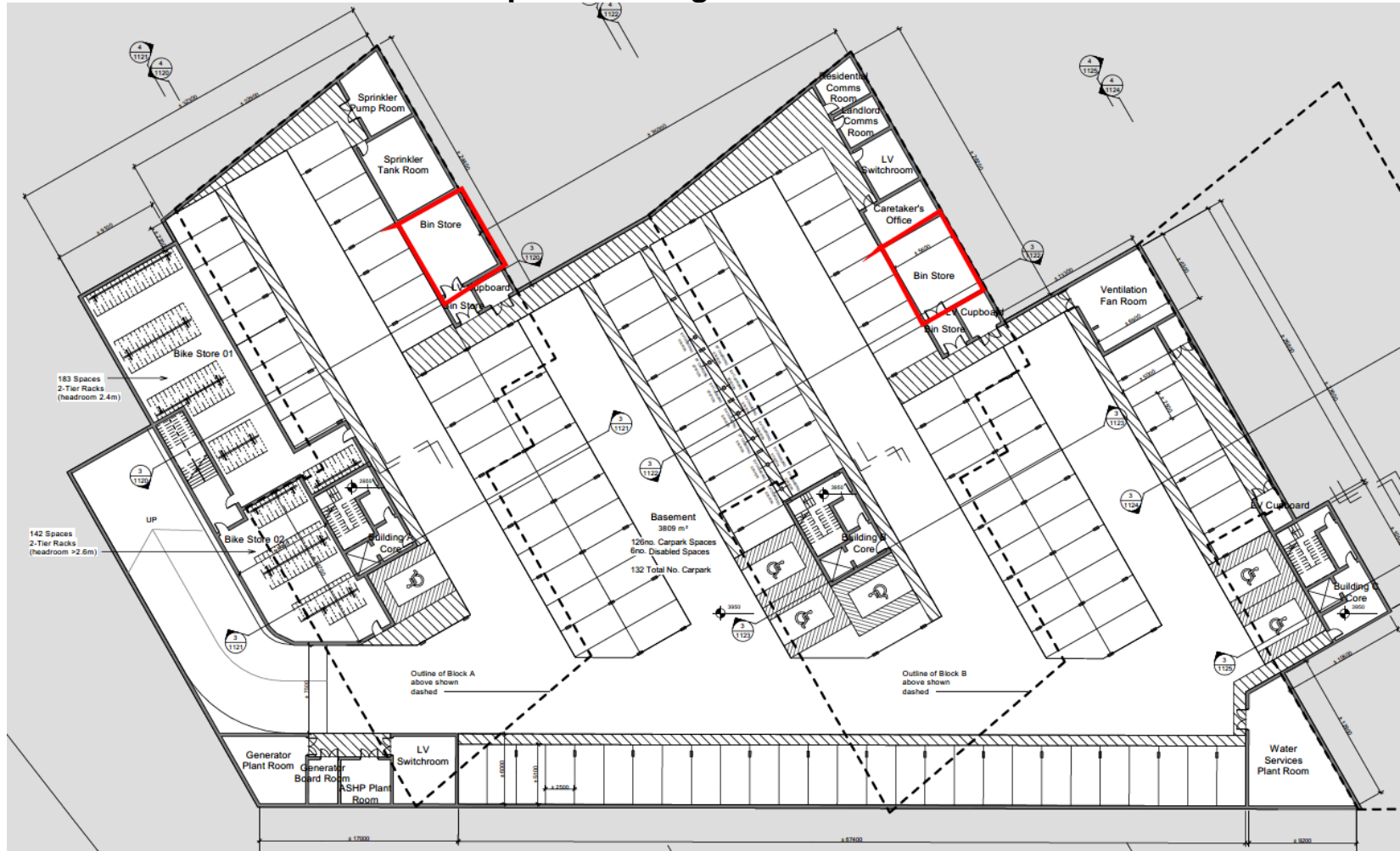
Residents will be provided with waste recycling and waste disposal information by the site's Facility Management Company who will be responsible for providing clean, safe and mobility impaired accessible communal waste storage areas.

The Facility Management Company shall maintain a register of all waste volumes and types collected from the development each year including a break-down of recyclable waste and where necessary, shall introduce initiatives to further encourage residents to maximise waste segregation at source and recycling. They shall also provide an annual bulky waste and WEEE collection service for all residents.

The Facility Management Company shall prepare an annual report for residents on the quantities of waste generated within the development to demonstrate how waste reduction and recycling targets are being achieved with regard to the targets defined in *The Eastern-Midlands Region Waste Management Plan 2015-2021 (and any future targets in subsequent Plans)*.

# APPENDIX I

## Site plan showing waste bin stores



# APPENDIX I

## Site plan showing bin collection point



## APPENDIX II

### Bin Collection Vehicle dimensions and minimum turning requirements

