

**OPERATIONAL PHASE
WASTE MANAGEMENT PLAN**

**RELATING TO A PROPOSED
STRATEGIC HOUSING DEVELOPMENT**

AT

FARANKELLY, GREYSTONES, CO. WICKLOW

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1.0 INTRODUCTION

This document presents the Operational Phase Waste Management Plan (OWMP) for the control, management and monitoring of waste associated with a proposed Strategic Housing Development (SHD) at Farrankelly, Greystones, Co. Wicklow.

The development will consist of the construction of a residential development of 426 no. dwellings, a creche (c. 599 sq. m), Residential amenity building (c. 325 sq. m), Active open space of c. 4.5 hectares, greenway of c. 2.4 hectares and open space as follows:-

- A) 245 no. houses as follows; 148 no. 3 bedroom houses and 97 no. 4 bedroom houses, [houses are provided with two car parking spaces and solar panels – House Type E fronting onto Kilcoole Road 3 storey; House Types G1, G2 and H Dormer House types, all other House types 2 storey];
- B) 93 no. apartments with balconies in 3 no. 4 storey apartment buildings comprising 36 no. 1 bedroom apartments, 53 no. 2 bedroom apartments and 4 no. 3 bedroom apartments [93 no. car parking spaces and 93 no. cycle parking spaces for apartments, including basement area for apartments]
- C) 44 no. 2 bedroom duplex apartments and 44 no. 3 bedroom duplex apartments in 11 no. 3 storey duplex buildings [132 car parking spaces and 88 no. bicycle spaces for duplex units];
- D) Provision of a 2 storey split level residential amenity building of c. 325 sq. m (3 no. car parking spaces and 12 no. bicycle spaces). Temporary use of the residential amenity building as a marketing suite for a period of 3 years.
- E) Provision of a 2 storey creche of c. 599 sq. m (10 no. car parking & 12 no. cycle spaces), 1 no. ESB substation (beside creche) and unit substations, associated single storey bicycle storage and refuse storage buildings.

The **Objective of this 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 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 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.
- That the principle of waste segregation at source is the integrated into 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 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 2020
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill

The Operational Waste Management Plan has been prepared in accordance with strategy, policy and objectives of the Wicklow County Development Plan 2016 – 2022 as detailed below:

Waste Management Strategy

To promote and facilitate best practice in prevention, re-use, recovery, recycling and disposal of all waste and environmental emissions produced in the County.

Solid Waste Management:

It is the policy of the Council, as set out in the Regional Waste Management Plan, to:

- prevent or minimise the production of waste in the first instance;
- reduce, re-use and recycle to the maximum extent possible;
- endeavour to recover energy from waste where possible; and
- ensure the efficient and safe disposal of any residual waste.

The role of a land-use plan in the achievement of these objectives is somewhat limited, but it will play a role in guiding the location of new facilities and services that are necessary to implement the Waste Management Plan.

Solid Waste Management Objectives:

WE1

To require all developments likely to give rise to significant quantities of waste, either by virtue of the scale of the development or the nature of the development (e.g. one that involves demolition) to submit a construction management plan, which will outline, amongst other things, the plan for the safe and efficient disposal of waste from the site.

WE2

To require all new developments, whether residential, community, agricultural or commercial to make provision for storage and recycling facilities (in accordance with the standards set out in Development & Design Standards of this plan).

WE3

To facilitate the development of existing and new waste recovery facilities and in particular, to facilitate the development of 'green waste' recovery sites.

WE4

To facilitate the development of waste-to-energy facilities, particularly the use of landfill gas and biological waste.

WE5

To have regard to the Council's duty under the 1996 Waste Management Act (as amended), to provide and operate, or arrange for the provision and operation of, such facilities as may be necessary for the recovery and disposal of household waste arising within its functional area.

WE6

To facilitate the development of sites, services and facilities necessary to achieve implementation of the objectives of the Regional Waste Management Plan.

Key Aspects of the OWMP 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 for both the residential and commercial aspects of the development:

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

The operational phase of the WMP 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.

The apartments which will include a 3 - bin waste segregation at source system 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.*

3.0 RESIDENTIAL UNITS DOMESTIC WASTE MANAGEMENT

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.

Houses

The design of residential houses shall provide sufficient internal kitchen space for the storage of up to 10kg of general domestic waste, green recyclable waste and organic waste.

Individual houses shall have a single grey mixed municipal waste 110 litre bin, a green 110 litre recyclable waste bin and a brown 110 litre organic waste bin which shall be stored within the curtilage of each house. Residential houses shall be served by private waste collection contractors.

Duplex Units

The design of the Duplex Units shall provide sufficient internal kitchen space for the storage of up to 10kg of general domestic waste, green recyclable waste and organic waste.

The Duplex units shall be served by 3 No. ground level communal waste storage areas and shall include clearly visible guidelines on the appropriate segregation of different waste types.

Apartments

The design of residential apartment units shall provide sufficient internal kitchen space for the storage of up to 10kg of general domestic waste, green recyclable waste and organic waste. Each apartment / 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.

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 location of the Bray and Wicklow Town civic amenity recycling centres.

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.

Common Waste Storage Areas

Apartment Blocks 1 & 2 shall be served by basement level communal waste storage areas and shall include clearly visible guidelines on the appropriate segregation of different waste types.

Apartment Block 3 shall be served by a ground level communal waste storage area and shall include clearly visible guidelines on the appropriate segregation of different waste types.

Signage shall be posted within the waste storage areas to inform residents indicating the location of the local Bray and Wicklow Town civic amenity recycling centres and the nature of waste materials that can be brought and deposited at them.

Signage shall be posted within the waste storage areas to inform residents of their 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.

All waste storage bins shall be clearly labelled with exactly what type of waste materials may be deposited within them.

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

- A defined pedestrian route shall be marked from the apartment buildings to the waste storage area.
- A non-slip surface shall be provided within the waste storage area.
- The waste storage area shall be of a block construction with a roof.
- 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 and student accommodation 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 area shall include ground drainage to allow for its regular cleaning and disinfection.
- The Facilities Management Company shall engage a mobile bin cleaning service provider to clean waste bins on a monthly basis.
- Sufficient domestic waste storage areas shall be provided throughout the development.

- 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.

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 waste storage areas to prevent odours and the attraction of vermin.

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 on a weekly basis. The name of the waste collection contractor(s) once appointed shall be forwarded to the Environment Department of Wicklow County Council.

Sport Pitches, Tennis Court, Play Area

The sports pitches, tennis court area and the children's play area shall include sufficient general and green waste bins throughout. The Facility Management company shall be responsible for ensuring that all bins are emptied on a regular basis and that waste bins are collected and emptied by the sites waste collection contractor.

Waste Management & Record Keeping

The Facilities Management Company shall maintain a weekly 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.

Bottle & Aluminium can Bring Bank

It is proposed that a green, clear and brown glass bottle and aluminium can recycling bring bank shall be located within the development (Refer to drawings submitted with planning application) to encourage the recycling of glass and to reduce the quantity of glass in domestic waste bins. The bring bank area will be located in an accessible location for collection trucks and will include appropriate signage informing residents that all bags and cardboard boxes shall not be left at the bring bank. The Facilities Management Company shall be responsible for ensuring that the bring banks are emptied on a regular basis and are not allowed to overflow.

Bring Bank



Domestic kitchen 3 bin system



Communal waste storage area



4.0 WASTE QUANTITIES GENERATED

The 2016 EPA Publication, *National Waste Prevention Programme, 2015 Annual Report*, states,

“The household waste per person in Ireland has been decreasing over the period 2006 to 2012 from 470 kg/person in 2006 to 344 kg/person in 2012. This indicates success in national campaigns and awareness as regards waste minimisation – though effects of reduced consumption are also likely to have contributed. In addition, it suggests an economy and society that are improving the efficiency of consumption patterns with respect to waste generation.”

A value of 0.942Kg 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 residential development.

The total weekly domestic waste generated by the fully operational development is calculated to be 82m³/week.

5.0 COMMUNAL WASTE STORAGE AREA DESIGN

The apartment blocks and duplex units shall have dedicated communal bin storage areas as follows.

Apartment Blocks 1 & 2	86m ²
Apartment Block 3	26m ²
Duplex Waste Storage Area 1	39m ²
Duplex Waste Storage Area 2	17m ²
Duplex Waste Storage Area 3	18m ²

6.0 WASTE COLLECTION STRATEGY

All communal waste bins shall be brought from the communal bin areas to the designated bin collection areas at road side locations throughout the development by the Facilities Management staff. Emptied bins shall be returned to the bin stores.

7.0 BRING BANK AREA DESIGN

The Bring Bank will be comprised of 3 glass bins and 1 aluminium can bins. The bring bank shall be located set back from an internal roadway on a concrete plinth to allow for collection vehicles to safely empty the bins.

A standard 2,500 litre glass/can recycling bin dimensions are:

L	1400mm
W	1200mm
H	1750mm
Bin Footprint Area	1.7m ²
4 Bin Footprint Area	6.8m ²

8.0 WASTE MANAGEMENT AT THE CRECHE

Waste generated by the Creche facility shall be stored within the curtilage of the building and shall be managed by the operators of the Creche who shall engage a commercial waste contractor to collect waste generated.

9.0 CONCLUSIONS

The proposed residential development at Farankelly 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.

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 2020 (and future targets in subsequent Regional Waste Management Plans).

Apartment and Duplex residents will be provided with waste recycling and waste disposal information by the development's Facility Management Company who will be responsible for providing clean, safe and mobility impaired accessible communal waste storage areas for the apartment blocks.

House residents shall engage private waste collection contractors who provide a 3-bin waste collection service.

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 development shall be designed to provide adequate domestic waste storage areas for each apartment blocks. This will promote the appropriate segregation at source of domestic generated waste from all residential units at the development. Communal waste bin storage areas shall be designed in a manner to ensure that appropriate signage for the correct disposal and recycling of waste is available for residents.

A bottle and aluminium can bank shall be located within the development to encourage residents to recycle glass and aluminium cans and divert waste glass from domestic waste bins.

The Facility Management Company shall prepare an annual report for the Local Authority and residents of the development 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*.