

Appendix 15.1 – Operational Waste Management Plan



OPERATIONAL WASTE MANAGEMENT PLAN

PRESENTED TO

Castlethorn Developments Luttrellstown Limited
Kellystown Residential Development

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1 INTRODUCTION

DNV has produced this Operational Waste Management Plan (OWMP) at the request of Castlethorn Developments Luttrellstown Limited for a Proposed Largescale Residential Development located on lands at St. Mochta's, Kellystown, Dublin 15 (hereafter referred to as 'the Proposed Development').

The Proposed Development will be subject of two planning applications; Luttrellstown Gate Phase 2 (Plot 1) consists of 99 no. residential units in a mix of houses and duplexes and St Mochta's LRD (Plot 2) consists of 302 no. residential units in a mix of houses, apartments and duplexes. A full project description is included in Section 3 of this report.

The OWMP has been prepared to ensure that the management of waste during the operational phase of the Proposed Development is undertaken in accordance with current legal and industry standards including the 'Waste Management Act 1996, as amended', and associated Regulations including, 'Protection of the Environment Act 2003 as amended', 'Litter Pollution Act 1997 as amended', the 'National Waste Management Plan for a Circular Economy 2024-2030' and 'Fingal County Council Segregation, Storage and Presentation of Household and Commercial Waste Bye-Laws 2020' (hereinafter referred to as 'the bye-laws').

At present, there are no specific guidelines issued by Fingal County Council 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.

The plan will be subject to review if a planning permission is granted and any material-changes in the proposed operational strategy will be subject to agreement with Fingal County Council at project construction and operational stages.

This OWMP aims to provide a detailed plan for the storage, handling, collection, and transport of the wastes generated at the development in a manner that does not present a risk to human health or the environment, or a risk of common waste related nuisance such as litter or odour.

The OWMP is designed to ensure that waste arising from the operational phase of the project is managed to incentivise waste prevention and to encourage the segregation of waste so that it can be managed in accordance with the Waste Hierarchy. Diversion of waste from landfill and waste prevention will be the overarching philosophy adopted.



Figure 1-1 Waste Hierarchy

Source: https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en

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.

This OWMP considers the requirements of national and regional waste policy, legislation, and other local authority guidelines. In addition, it takes account of the following guidance:

- “Sustainable Urban Housing: Design Standards for New Apartments”, July 2023 and
- BS 5906:2005 Waste management in buildings — Code of practice

2 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

Operational Waste Management Plans are prepared to support planning applications in Ireland. The purpose of this Operational Waste Management Plan is to detail and plan how waste generated during the operational phase of the Proposed Development will be managed. This will include requirements for waste storage provisions, access to authorised waste collection and proximity to additional recycling facilities.

The Proposed Development is located in the Fingal County Council (FCC) planning district. In preparing this document, consideration has been given to the requirements of the FCC Environment Department, national and regional waste policy, legislation, and other Local Authority Guidelines.

2.1 European and Irish Legal Context

Waste Legislation in Europe and the Republic of Ireland (hereinafter referred to as “Ireland”) is extensive and often complex.

The Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste) is a core component of waste regulations across Europe. The Waste Framework Directive (which was transposed into Irish law in 2011) ‘S.I. No. 126/2011 - European Communities (Waste Directive) Regulations 2011’, encourages the prevention, recycling, and processing of waste. The Waste Framework legislation establishes the legal structure for the prevention and management of waste in Ireland. It sets out a Waste Hierarchy which priorities waste prevention, preparation for re-use, recycling, and energy recovery. Waste disposal is the last resort and least favourable option. The Directive requires Member States to adopt waste management plans and waste prevention programmes. It also governs the reporting on waste generation, waste treatment, and capacity and sets down mandatory targets for waste diversion, collection, and treatment.

The new WFD (Directive (EU) 2018/851 of the European Parliament, amending Directive 2008/98/EC on waste) was approved by the EU in July 2018, and was transposed into Irish Law in July 2020. The new WFD forms part of the circular Economy Package adopted by the EU; it requires EU Member States to improve their waste management systems, to improve the efficiency of resource use, and to ensure that waste is valued as a resource.

In Ireland, the primary platform for waste legislation is the ‘Waste Management Act 1996, as amended’, and the ‘Protection of the Environment Act 2003, as amended’. ‘The Waste Management Act, as amended’, has been brought into effect by making a series of subordinate regulations, covering a range of specific ‘priority’ waste types such as food waste, waste electrical and electronic equipment, batteries etc. The Act has been further amended by enacting regulations, mainly the Waste Directive Regulations which addresses new EU environmental initiatives and strengthen areas where problems have arisen.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the ‘Waste Management Act, as amended’, 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 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 waste treatment destination, waste contractors will be employed to physically transport waste to the final waste destination. It is therefore imperative that residential development management companies undertake on-site management of waste in accordance with all legal requirements and employ appropriately authorised waste contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contractor handle, transport, and reuse/recover/recycle/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

Each appointed Waste Contractor must hold a valid waste collection permit to transport waste which is issued by the National Waste Collection Permit Office (NWCPO). Waste treatment facilities must also be appropriately permitted (Waste Facility Permit or Certificate of Registration) or licensed by the Local Authority or Environmental Protection Agency to accept the waste. The Management Company appointed will be responsible for ensuring that all Waste Contractors hold the appropriate authorisations.

2.2 Waste Policy in Ireland

In addition to waste regulations, Ireland has adopted waste management policies. Waste management policy is adopted by the government and is detailed in a set of policy documents which have been produced since 1998:

- Waste Management: Changing Our Ways (1998)
- Preventing and Recycling Waste: Delivering Change (2002)
- Taking Stock & Moving Forward (2004)
- National Strategy on Biodegradable Waste Management (2006)
- A Resource Opportunity – Waste Management Policy in Ireland (2012)
- A Waste Action Plan for a Circular Economy (2020)

‘A Waste Action Plan for a Circular Economy: Ireland’s National Waste Policy 2020-2025’ was published by the Department of Communications, Climate Action and Environment in September 2020. This policy sets out a number of important policy actions with the aim of transforming the current economic and waste system from linear to circular. These include the following actions:

- A shift towards a policy framework which rewards circularity and moves away from the waste of resources.
- Increased accountability of products that producers place on the market through levies on non-recyclable waste and the overuse of packaging.
- Targets for recycling (65% by 2035), food waste (reduced by 50% by 2030) and waste to landfill (no more than 10% by 2035).
- To support households, awareness and education measures will be strengthened; the waste collection industry will be encouraged to play a role in such measures.
- All Regional Waste Management Plans will be replaced with a National Waste Management Plan for a Circular Economy.
- A standardising of the colour coding of bins:

- (Mixed Municipal Waste (MMW) / General Waste to be designated as a 'recovery' bin: colour **black**;
- Dry Mixed Recyclables (DMR) bin: colour **green**;
- Organic (food) Waste bin to be designated as 'organic waste recycling bin': colour **brown**), and
- Glass bin: colour **blue**.

2.3 National Waste Management Plan & Local Bye-laws

The National Waste Management Plan for a Circular Economy 2024-2030 sets out the framework for the prevention and management of waste across Ireland. This document is a statutory document underpinned by national and EU waste legislation.

The strategic vision of the Plan is to rethink the approach to managing waste, and to move towards a 'circular economy' approach where resources are reused or recycled as much as possible, and the overall generation of waste is minimised.

To achieve this vision, the Plan has set out a number of specific and measurable performance targets:

- Achieve a recycling rate of 55% by 2025, 60% by 2030 and 65% by 2035
- Mitigate total waste growth to 0% growth per person over the life of the Plan (baseline for total waste generated per person per year is 2.7 tonnes based on NWCPO data).
- 6% aggregate reduction in all residual municipal waste by 2030 (including commercial and household) (Baseline 0.37 tonnes rMSW per person).
- Reduce contamination in municipal bins. This is measured as 'material compliance' which is the fraction of appropriate material placed in each of the residual, recyclable or food waste recycling bins.
 - A material compliance target of 90% in the dry recycling bin as a minimum standard.
 - A target of 10% per annum increase in material compliance in the residual bin is applied in this Plan. This represents a potential 90% material compliance rate by the end of 2030.

The relevant Priority Actions identified by the Plan in regard to the management of Municipal Household Waste are as follows:

- *"Maximise households on kerbside systems, standardise the identification of bins and promote items accepted for recycling using visual representation."*

- *“Identify appropriate segregated waste collection systems for apartments and mixed use developments and support the waste industry in the implementation of these systems.”*

Fingal County Council is located within the Eastern-Midlands Waste Region (EMWR) which is one of Ireland’s three waste management regions. The framework for the prevention and management of waste for this regional is set out in the Eastern-Midlands Waste Region Waste Management Plan 2015-2021, a statutory document underpinned by national and EU waste legislation. The strategic vision of the regional waste management plan (WMP) is to rethink the approach to managing wastes. In order to achieve this vision, the WMP has set out three specific and measurable performance targets:

- 1% reduction per annum in the quality of household waste generated per capita over the period of the Eastern Midlands Region Waste Management Plan.
- Reduce to 0% the direct disposal of unprocessed municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.
- Achieve a recycling rate of 50% of managed municipal waste by 2020.

Fingal County Council ‘Segregation, Storage and Presentation of Household and Commercial Waste Bye-Laws 2020’ place some additional obligations in how waste is stored and managed at the development. Sections 8(a) and 8(c) of bye-laws respectively state that dry-recyclable waste and bio-waste must be source segregated by the waste holder.

The bye-laws provide that a management company of an apartment complex shall ensure that adequate numbers of waste containers are available for use by holders of waste in such complex for residual waste, dry recyclable waste, and biological waste (where a collection service for such waste fraction is provided). The number of bins to be provided at this development are further detailed in Section 4.4 of this report.

The bye-laws state the waste is to be separated at source. Any such separated recyclable waste shall not be deposited into a container designated for residual household kerbside waste and no such residual waste shall be deposited into a container designated for recyclable household kerbside waste. Food waste arising must also be separated at source.

Section 10 of the Bye Laws relates specifically to apartments and provides that:

- a) separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable household kerbside waste and residual household kerbside waste*
- b) additional receptacles are provided for the segregation, storage and collection of food waste where this practice is a requirement of the national legislation on food waste,*
- c) the receptacles referred to in paragraphs (a) and (b) are located both within any individual apartment and at the place where waste is stored prior to its collection,*

- d) *any place where waste is to be stored prior to collection is secure, accessible at all times by tenants and other occupiers and is not accessible by any other person other than an authorised waste collector,*
- e) *written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage and presentation prior to collection,*
- f) *an authorised waste collector is engaged to service the receptacles referred to in this section of these bye-laws, with documentary evidence, such as receipts, statements or other proof of payment, demonstrating the existence of this engagement being retained for a period of no less than two years. Such evidence shall be presented to an authorised person within a time specified in a written request from either that person or from another authorised person employed by Fingal County Council,*
- g) *receptacles for kerbside waste are presented for collection on the designated waste collection day,*
- h) *adequate access and egress onto and from the premises by waste collection vehicles is maintained.*

Section 8 of the bye Laws covers the Segregation of Household Waste and Contamination Prevention and extending food waste collection and states:

- a) *Subject to paragraph (c), household kerbside waste shall be segregated into residual household kerbside waste and recyclable household kerbside waste, with these fractions being stored separately. Any such separated recyclable waste shall not be deposited into a container designated for residual household kerbside waste and no such residual waste shall be deposited into a container designated for recyclable household kerbside waste.*
- b) *Neither recyclable household kerbside waste nor food waste arising from households shall be contaminated with any other type of waste before or after it has been segregated.*
- c) *household kerbside waste shall be segregated into residual household kerbside waste, recyclable household kerbside waste and food waste, with these fractions being stored separately unless a dwelling is situated within one of the areas designated by Fingal County Council.*
- d) *Such separated recyclable waste shall not be deposited into a container designated for residual household kerbside waste or for food waste; separated food waste shall not be deposited into a container designated for residual household kerbside waste or recyclable household kerbside waste.*

(Note: These byelaws generally require a three bin system with the exception of designated areas where a two-bin system is permitted. No such areas have been designated within Fingal County Council at the coming into force of these byelaws).

There are separate legal requirements mandating householders to segregate food waste and to keep it separate. These are contained in the European Union (Household Food Waste and

Bio- Waste) Regulations 2015. Food waste also may be subject to home composting or be delivered to an authorised waste facility.

The bye laws set down the requirements for the location of waste storage, which must be accessible to the occupier at all times but not to unauthorised personnel; they state that written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage, and presentation prior to collection; and that safe access and egress is provide for waste collection vehicles.

“The Fingal Development Plan 2023 – 2029”

This OWMP also takes into account the objectives of Chapter 11 of the Fingal Development Plan 2023 – 2029:

Objective IUO28 – Eastern Midlands Region Waste Management Plan

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 IUO34 – Waste Management in New Developments

Require the provision of appropriate, well designed, accessible space to support the storage, separation and collection of as many waste and recycling streams as possible in all new commercial and residential developments within the County. See also Chapter 14, Development Management Standards (Section 14.20.12: Waste Management)”.

3 DESCRIPTION OF THE PROJECT

3.1 Description of the Development

The development site is located on lands at St. Mochta's, Kellystown, Dublin 15. The site is bound by the Dublin to Maynooth railway line to the north, open space to the west, Luttrellstown Road to the south and Porterstown Road to the east.

Luttrellstown Gate Phase 2 (Plot 1)

Castlethorn Developments Luttrellstown Limited intends to apply for Permission for a development at a site (c. 3.72ha) at lands in the Townland of Kellystown.

The proposed development comprises 99 no. residential units in a mix of houses and duplex units consisting of 71 no. 2 storey houses (66 no. 3-bedroom and 5 no. 4-bedroom), 16 no. 3 storey houses (16 no. 4-bedroom), 4 no. 1-bedroom duplex units and 8 no. 2-bedroom duplex units and all associated and ancillary site development and infrastructural works, hard and soft landscaping and boundary treatment works, including public open space; public lighting; surface car parking spaces; bicycle parking spaces/stores for mid-terrace units; bin stores. The proposed development includes a minor amendment to development permitted under Reg. Ref. ABP-312318-21, as amended by Reg. Ref. LRD0034-S3, with minor adjustment proposed to the permitted surface water attenuation pond. Vehicular access to the proposed development is provided by the road network permitted under Reg. Ref. ABP-312318-21, as amended by Reg. Ref. LRD0034-S3.

St Mochta's LRD (Plot 2)

Castlethorn Developments Luttrellstown Limited intends to apply for Permission for a development at a site (c. 4.38ha) at lands in the Townland of Porterstown.

The proposed development comprises 302 no. residential units in a mix of houses, duplex and apartment units consisting of 62 no. 2 storey, 3-bedroom houses and 35 no. 3 storey, 4-bedroom houses; 205 no. Duplex / Apartment Units (98 no. 1-bed, 88 no. 2-bed and 19 no. 3-bed) across 4 no. blocks comprising: Block D ranging in height from 5-7 storeys accommodating 57 no. apartment units; Block E ranging in height from 5-7 storeys accommodating 77 no. apartment units; Block F ranging in height from 4-5 storeys accommodating 39 no. apartment and duplex units; Duplex Blocks G1, G2, G3 & G4 3 storeys in height accommodating 32 no. apartment units; and all associated and ancillary site development and infrastructural works, hard and soft landscaping and boundary treatment works, including public open space; public lighting; surface car parking spaces; bicycle parking spaces/stores for mid-terrace units; bin stores. Vehicular access to the proposed development is provided by the road network permitted under Reg. Ref. ABP-312318-21, as amended by Reg. Ref. LRD0034-S3.

The Operational Waste Management Plan addresses waste management for the development once it is operational i.e., post the construction phase.

3.2 Proximity of the Development to Recycling Facilities

The development site is located at St. Mochta's, Kellystown, Dublin 15. Figure 3-1 presents the proximity of the development site to local bring bank facilities. There is a large civic amenity centre in Coolmine servicing the Kellystown area, with numerous bring banks throughout the region for glass bottle collection.

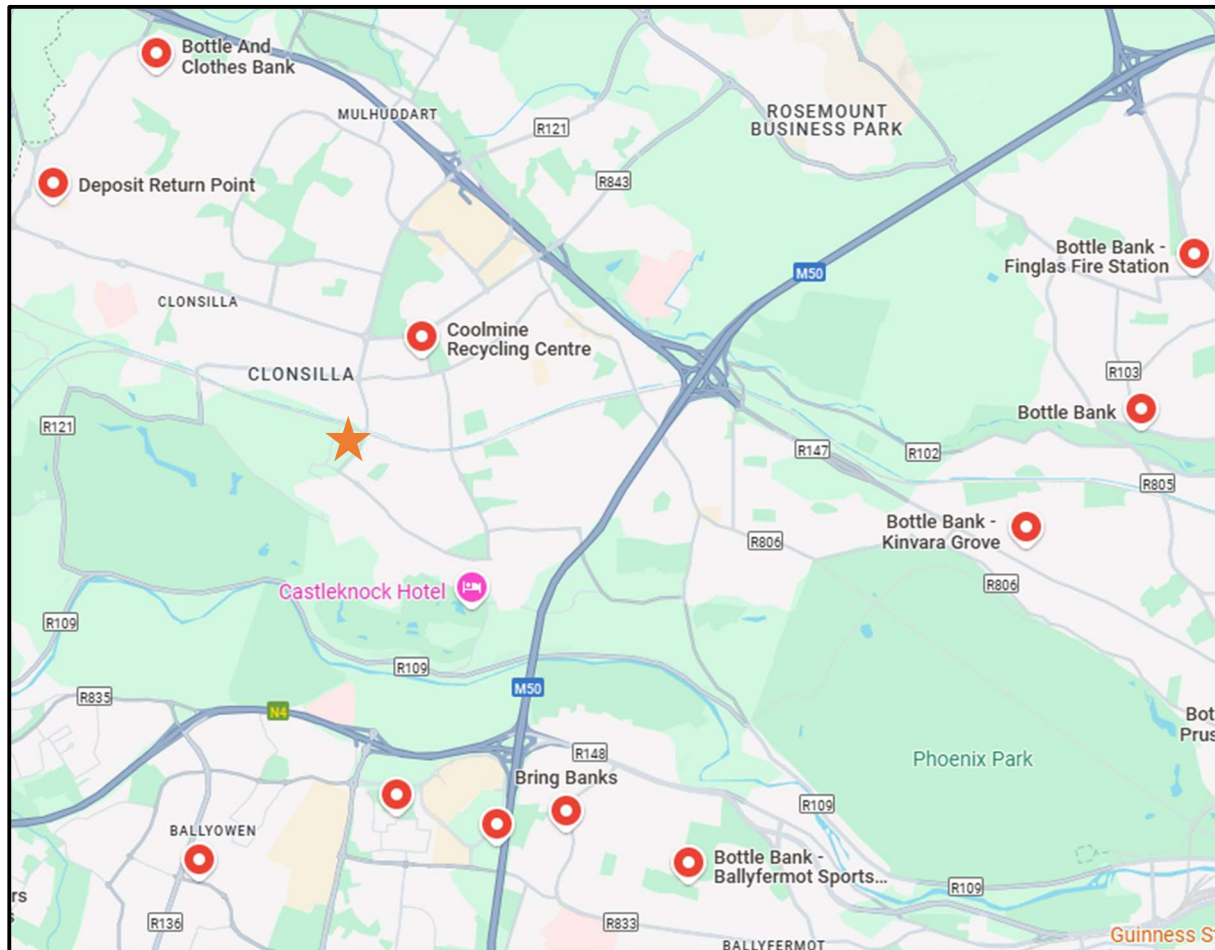


Figure 3-1 Bring Banks and Civic Amenity Recycling Centre Located in proximity to the Proposed Development (Source: Google Maps), site location identified with an orange star.

4 WASTE GENERATION AND STORAGE

4.1 List of Waste Codes

Correct classification of waste is the foundation for ensuring that the collection, transportation, storage, and treatment of waste is carried out in a manner that provides protection for the environment and human health and in compliance with legal requirements. In 1994, the *'European Waste Catalogue' (EWC)* was published by the European Commission. This waste classification system applies across the EU and is the basis for all national and international waste reporting obligations such as those associated with waste collection permits, certificates of registration, waste facility permits and EPA Waste and IED licences and EPA National Waste Database.

In 2002, the EPA published a document titled the *'European Waste Catalogue and Hazardous Waste List'*. This document was replaced in 2018 by the EPA *'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous'*. The EPA document consolidates the EWC legislation and allows the generators of waste to classify the waste as hazardous or non-hazardous and, in the process to assign the correct List of Waste entry.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code (previously 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 4-1.

Table 4-1 Expected Waste Types and List of Waste Codes

Waste Description	List of Waste Code
Mixed Municipal Waste	20 03 01
Dry Mixed Recyclables	20 03 01
Biodegradable Kitchen Waste	20 01 08
Glass	20 01 02
Bulky wastes	20 03 07
Waste electrical and electronic equipment*	20 01 35* 21 01 36
Batteries and accumulators*	20 01 33* 20 01 34
Textiles	20 01 11
Fluorescent tubes and other mercury containing waste*	20 01 21
Chemicals (solvents, pesticides, paints & adhesives, detergents, etc.)*	20 01 13*, 20 01 19*, 20 01 27*, 20 01 28, 20 01 29*, 20 01 30
Plastic	20 01 39

Metals	20 01 40
Paper and Cardboard	20 01 01

**Individual waste type may contain hazardous materials*

4.2 Residential

4.2.1 Waste Types Arising

The predicted waste types that will be generated at the Proposed Developments residential units include the following:

- i. **Mixed Municipal Waste (MMW) / General Waste;**
- ii. **Dry Mixed Recyclables (DMR)** - including cardboard, plastic packaging, aluminium cans, tins, paper, and Tetra Pak cartons;
- iii. **Organic (food) Waste;** and
- iv. **Glass.**

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

- Bulky wastes – including furniture, carpets, mattresses;
- Waste electrical and electronic equipment (WEEE);
- Batteries;
- Textiles – clothes or soft furnishings;
- Light bulbs or fluorescent tubes;
- Chemicals – old medicines, paints, detergents; and
- Waste oil - cooking oil.

4.2.2 Waste Storage Capacity Requirements

4.2.2.1 Houses

Luttrellstown Gate Phase 2 (Plot 1)

There will be 66 no. 3 bed houses and 21 no. 4 bed houses provided for the development as detailed in Table 4-2:

Table 4-2 No. of Houses and types

House Type	Description	No. Beds	Access	No.
H3A	3-bed deep plan	3	Ground Floor	15
H3A1	3-bed deep plan extended	3	Ground Floor	19
H3B	3- bed End of Terrace, gable entry	3	Ground Floor	3
H3C	3-bed wide plan	3	Ground Floor	10
H3C1	3-bed wide plan End of Terrace (bay window)	3	Ground Floor	11
H3D	3B/5P, 5.4m Wide House, with recessed porch, mid terrace	3	Ground Floor	8
H4A	4-bed semi-detached	4	Ground Floor	16
H4B	4-bed detached (Brighton Road)	4	Ground Floor	5

St Mochta's LRD (Plot 2)

There will be 82 no. 3 bed houses and 15 no. 4 bed houses provided for the development as detailed in Table 4-3:

Table 4-3 No. of Houses and types

House Type	Description	No. Beds	Access	No.
H3C	3B/5P, 5.4m Wide House, with recessed porch, mid terrace	3	Ground Floor	9
H3C1	3B/5P, 5.4m Wide House, with recessed porch, mid terrace, extended	3	Ground Floor	1
H3CL	3B/5P, 5.6m Wide House, with recessed porch, end terrace	3	Ground Floor	3
H3CL1	3B/5P, 5.6m Wide House, with recessed porch, end terrace, extended	3	Ground Floor	2
H3CM	3B/5P, 5.4m Wide House, with recessed porch, mid terrace	3	Ground Floor	10
H3CM1	3B/5P, 5.4m Wide House, with recessed porch, mid terrace, extended	3	Ground Floor	2
H3CR	3B/5P, 5.6m Wide House, with recessed porch, end terrace	3	Ground Floor	3
H3CR1	3B/5P, 5.6m Wide House, with recessed porch, end terrace, extended	3	Ground Floor	2
H3D	3B/5P, 5.4m Wide House, without recessed porch, mid terrace	3	Ground Floor	7
H3D1	3B/5P, 5.4m Wide House, without recessed porch, mid terrace, extended	3	Ground Floor	1

H3DL	3B/5P, 5.6m Wide House, without recessed porch, end terrace	3	Ground Floor	3
H3DM	3B/5P, 5.4m Wide House, without recessed porch, mid terrace	3	Ground Floor	6
H3DM1	3B/5P, 5.4m Wide House, without recessed porch, mid terrace, extended	3	Ground Floor	2
H3DR	3B/5P, 5.6m Wide House, without recessed porch, end terrace	3	Ground Floor	3
H3E	3B/6P +Study, 6.1m Wide House, without recessed porch, mid terrace	3	Ground Floor	14
H3EL	3B/6P +Study, 6.1m Wide House, without recessed porch, end terrace	3	Ground Floor	3
H3ER	3B/6P +Study, 6.1m Wide House, without recessed porch, end terrace	3	Ground Floor	3
H3F	3B/5P, 9.6m Wide, Courtyard House, mid terrace	3	Ground Floor	2
H3FL	3B/5P, 9.6m Wide, Courtyard House, end terrace	3	Ground Floor	2
H3FM	3B/5P, 9.6m Wide, Courtyard House, mid terrace	3	Ground Floor	2
H3FR	3B/5P, 9.6m Wide, Courtyard House, end terrace	3	Ground Floor	2
H4A	4B/7P Avenue House, mid terrace	4	Ground Floor	8
H4AL	4B/7P Avenue House, end terrace	4	Ground Floor	1
H4AL1	4B/7P Avenue House, end terrace	4	Ground Floor	1
H4AR	4B/7P Avenue House, end terrace	4	Ground Floor	1
H4AR1	4B/7P Avenue House, end terrace	4	Ground Floor	1
H4B	4B/6P, 6.3m Wide, Garage House, mid terrace	4	Ground Floor	1
H4BL	4B/6P, 6.3m Wide, Garage House, end terrace	4	Ground Floor	1
H4BR	4B/6P, 6.3m Wide, Garage House, end terrace	4	Ground Floor	1

The number of bedrooms is required to complete the calculations of waste volumes generated as per the *BS 5906:2005 Waste management in buildings — Code of practice*. The calculation for typical weekly waste arisings and subsequent storage requirements for domestic dwellings is as follows:

$$\text{Number of dwellings} \times \{(\text{volume arising per bedroom [70 L]} \times \text{average number of bedrooms}) + 30\}^a$$

^a Based on average household occupancy.

Table 4-4 and Table 4-5 below include the calculations of waste arising using the formula provided in the *BS 5906:2005 Waste management in buildings — Code of practice*. Table 4-4 and Table 4-5 detail the number of dwellings for each accommodation type. The volume arising per bedroom is assumed to be 70 litres (L) as per the calculation formula provided. An additional 30L is added onto every dwelling for each calculation. It is expected that this

additional volume is to allow for sufficient storage capacity in periods of seasonal variations resulting in high waste generation.

The total volume of waste generated weekly from the houses located within Luttrellstown Gate Phase 2 is 22,350L per week, or an average of 275L per house per week. The total volume of waste generated weekly from the houses within St Mochta's LRD, is 24,330L per week, or an average of 275L per house per week.

Table 4-4 Estimated Waste Volumes for Houses – Luttrellstown Gate Phase 2

House Type	No. of dwellings	Volume waste generated per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres All Units	Total Litres Per Unit per week
3 Bed house	66	70	3	30	15,840	240
4 Bed house	21	70	4	30	6,510	310
<i>Total Dwellings</i>	87			Total litres	22,350	275

Table 4-5 Estimated Waste Volumes for Houses – St Mochta's LRD

House Type	No. of dwellings	Volume waste generated per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres All Units	Total Litres Per Unit per week
3 Bed house	82	70	3	30	19,680	240
4 Bed house	15	70	4	30	4,650	310
<i>Total Dwellings</i>	97			Total litres	24,330	275

See section 4.2.3.1 for details of Waste Storage arrangements for houses.

4.2.2.2 Block G1, G2, G3, G4 Duplexes

St Mochta's LRD (Plot 2)

The following duplexes and numbers will be provided in the development:

Table 4-6 Estimated Waste Volumes for Block G duplexes – St Mochta's LRD

House Type	No. of dwellings	Volume waste generated per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres All Units	Total Litres Per Unit per week
1 Bed Sim-plex	16	70	1	30	1,600	100
2 Bed Du-plex	2	70	2	30	340	170
3 Bed Du-plex	14	70	3	30	3,360	240
<i>Total Dwellings</i>	32			Total litres	5,300	170

The methods provided in *BS 5906:2005 Waste management in buildings — Code of practice*, as previously described in section 4.2.2.1, were also used to calculate the waste arisings for the Block G duplexes for St Mochta's LRD.

Table 4-6 above includes the calculations of waste arising using the formula provided in the *BS 5906:2005 Waste management in buildings — Code of practice*. Table 4-6 details the number of dwellings for each accommodation type. The volume arising per bedroom is assumed to be 70 litres (L) as per the calculation formula provided. An additional 30L is added onto every dwelling for each calculation. It is expected that this additional volume is to allow for sufficient storage capacity in periods of seasonal variations resulting in high waste generation.

The total volume of waste generated weekly from the Block G duplexes located within St Mochta's is 5,300L per week, or an average of 170L per duplex per week.

4.2.2.3 Apartments and Duplexes

Luttrellstown Gate Phase 2 (Plot 1)

The bin storage capacity required for the duplex buildings is based on the number of units and the number of bedrooms in each unit. The capacity requirements have been based on a full occupancy scenario and collections of bins every second week, which is preferable to weekly collections from a resource efficiency perspective. It should be noted that this leaves scope for increased frequency of collections should this ever be required.

The British Standard BS5906:2005 *Waste management in buildings — Code of practice* provides guidance in respect of waste generation for domestic and commercial premises to calculate the storage, containment, and equipment requirements for effective waste management. Calculations provided in this British Standard document have been used to calculate the waste storage capacity requirements for the apartments and duplexes in this Proposed Development. Table 4-7 details the Schedule of Accommodation for the duplexes in Block H and Block J.

Table 4-7 Description and Number of Duplexes

	1 BED	2 BED	3 BED	Total
Block H	2	4	0	6
Block J	2	4	0	6
	4	8	0	12

The number of bedrooms is required to complete the calculations of waste volumes generated as per the *BS 5906:2005 Waste management in buildings — Code of practice*.

The calculation for typical weekly waste arisings and subsequent storage requirements for domestic dwellings is as follows:

$$\text{number of dwellings} \times \{(\text{volume arising per bedroom [70 L]} \times \text{average number of bedrooms}) + 30\}^a$$

^a Based on average household occupancy.

Table 4-8 below includes the calculations of waste arising using the formula provided in the *BS 5906:2005 Waste management in buildings — Code of practice*. Table 4-8 details the number of bins required to service the volume of waste arisings. The volume arising per bedroom is assumed to be 70 litres (L) as per the calculation formula provided. An additional 30L is added onto every dwelling for each calculation. It is expected that this additional volume is to allow for sufficient storage capacity in periods of seasonal variations resulting in high waste generation.

Table 4-8 Estimated Waste Volumes for Duplexes

Block H					
Type	No. of dwellings	Volume per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres /Unit/Week
1 Bed	2	70	1	30	200
2 Bed	4	70	2	30	680
			Total Litres		880
Block J					
Type	No. of dwellings	Volume per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres /Unit/Week
1 Bed	2	70	1	30	200
2 Bed	4	70	2	30	680
			Total Litres		880
Total Weekly waste arising, (Duplex's) in Litres					1,760

The calculations completed in Table 4-8 conclude that the typical weekly waste arising is **1,760L**.

It is preferable to accommodate fortnightly collection in the interests of promoting source segregation and waste minimisation efforts and encouraging the use of the recycling and food waste bins. This waste collection model has the added benefit of reducing the cost burden on the occupants and management company.

Based on fortnightly waste collections, there would therefore be a requirement to accommodate storage for a volume of 3,520L, or the equivalent of 3 no. 1,100L wheeled bins.

Table 4-9 Bins & Capacity for fortnightly Collections (Duplexes)

No. of Bins	Size of Bins	Total Litre Capacity	Waste Type
2	140	280	Glass
2	140	280	Organic (food) Waste
2	1,100	2,200	Dry Mixed Recyclables (DMR)
2	660	1,320	Mixed Municipal Waste (MMW)
TOTAL		4,080	

Based on fortnightly waste collections, it is anticipated that 2 no. 1,100L bins, 2 no. 660L bins and 4 no. 140L bins (or equivalent) will be required in the waste storage areas as detailed in Table 4-9 (2 no. 660L bins for **Mixed Municipal Waste (MMW)**, 2 no. 1,100L bins for **Mixed Recyclables (DMR)**, 2 no. 140L bin for **Organic (food) Waste**, and 2 no. 140L bin for **Glass**). The percentage of recyclable and non-recyclable wastes are set out in Table 4-10.

Table 4-10 Breakdown of Waste Storage Capacity into Recyclable and Non-Recyclable (Duplexes)

		Waste Types to be Generated								Total Storage Volume Required per WSA
		Glass		Organic (food) Waste		Dry Mixed Recyclables (DMR)		Mixed Municipal Waste (MMW)		
WSA ID	Total No. of Units	Bin Capacity (l)	No. bins required	Bin Capacity (l)	No. bins required	Bin Capacity (l)	No. bins required	Bin Capacity (l)	No. bins required	
Block H	6	140	1	140	1	1100	1	660	1	
Block J	6	140	1	140	1	1100	1	660	1	
		280		280		2200		1320		4080
% Of waste type		6.9%		6.9%		53.9%		32.4%		100.00%
		68%						32%		

The total capacity of the number of bins actually provided is 4,080L (or the equivalent of just under 4 no. 1,100L wheeled bins) which exceeds the required capacity for fortnightly collections.

On this basis, the bin storage capacity comfortably allows for fortnightly collections which is more efficient, leaving adequate contingency to increase collection frequency should that be required during unusually high volume periods such as Christmas.

St Mochta's LRD (Plot 2)

For the apartment and duplex buildings, it is necessary to calculate the required bin storage capacity based on the number of units and the number of bedrooms in each unit. The capacity requirements have been based on a full occupancy scenario with a weekly bin collection.

Table 4-11 Description and Number of Apartments and Duplexes

	1 BED	2 BED	3 BED	Total
Block D	22	35	0	57
Block E	40	37	0	77
Block F	20	14	5	39
	82	86	5	173

The methods provided in *BS 5906:2005 Waste management in buildings — Code of practice*, as previously described in section 4.2.2.3, were also used to calculate the waste arisings for St Mochta's LRD. Table 4-11 details the Schedule of Accommodation for apartments and duplexes in Block D, E and F.

Table 4-12 includes the calculations of waste arising using the formula provided in the *BS 5906:2005 Waste management in buildings — Code of practice*. Table 4-12 details the number of bins required to service the volume of waste arisings.

Table 4-12 Estimated Waste Volumes for Apartments and Duplexes

Block D					
Type	No. of dwellings	Volume per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres /Unit/Week
1 Bed	22	70	1	30	2,200
2 Bed	35	70	2	30	5,950
3 Bed	0	70	3	30	0
	57		Total Litres		8,150
Block E					
Type	No. of dwellings	Volume per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres /Unit/Week
1 Bed	40	70	1	30	4,000
2 Bed	37	70	2	30	6,290
3 Bed	0	70	3	30	0
	77		Total Litres		10,290
Block F					
Type	No. of dwellings	Volume per Bedroom (70L)	No. of Bedrooms	Additional 30L	Total Litres /Unit/Week
1 Bed	20	70	1	30	2,000
2 Bed	14	70	2	30	2,380
3 Bed	5	70	3	30	1,200
	39		Total Litres		5,580
Total Weekly waste arising, (Apartments and Duplex's) in Litres					24,020

The calculations completed in Table 4-12 conclude that the typical weekly waste arising is **24,020L**.

Based on weekly waste collections, there would therefore be a requirement to accommodate storage for a volume of 24,020L, or the equivalent of 22 no. 1,100L wheeled bins.

Table 4-13 Bin Numbers & Capacity for weekly Collections (Apartments & Duplexes)

Block D, E, F			
No. of Bins	Size of Bins	Total Litre Capacity	Waste Type
9	140	1,260	Glass
13	140	1,820	Organic (food) Waste
12	1100	13,200	Dry Mixed Recyclables (DMR)
8	1100	8,800	Mixed Municipal Waste (MMW)
TOTAL		25,080	

Based on weekly waste collections, it is anticipated that 20 no.1,100L bins and 22 no. 140L bins (or equivalent) will be required in the waste storage areas as detailed in Table 4-13 (8 no. 1,100L bins for **Mixed Municipal Waste (MMW)**, 12 no. 1,100L bins for **Mixed Recyclables (DMR)**, 13 no. 140L bin for **Organic (food) Waste**, and 9 no. 140L bin for **Glass**).

The percentage of recyclable and non-recyclable wastes are set out in Table 4-14.

Table 4-14 Breakdown of Waste Storage Capacity into Recyclable and Non-Recyclable (Apartments and Duplexes)

		Waste Types to be Generated								Total Storage Volume Re-quired per WSA
		Glass		Organic (food) Waste		Dry Mixed Re-cyclables (DMR)		Mixed Municipal Waste (MMW)		
WSA ID	Total No. of Units	Bin Ca-pacity (l)	No. bins re-quired	Bin Ca-pacity (l)	No. bins re-quired	Bin Ca-pacity (l)	No. bins re-quired	Bin Ca-pacity (l)	No. bins re-quired	
Block D	57	140	3	140	3	1100	4	1100	3	8,540
Block E	77	140	5	140	7	1100	5	1100	3	10,480
Block F	39	140	1	140	3	1100	3	1100	2	6,060
		1,260		1,820		13,200		8,800		25,080
% Of waste type		5.0%		7.3%		52.6%		35.1%		100.00%
		65%						35%		

The total capacity of the number of bins actually provided is 25,080L (or the equivalent of just under 23 no. 1100L wheeled bins) which exceeds the required capacity for weekly collections.

4.2.3 Waste Storage Arrangements

4.2.3.1 Houses

Where a house has external access to its rear garden, via side entrance or a service lane, then the bins for that household will be stored in its rear garden. Where a house does not have external access to its rear garden, it is provided with a bin store to the front of the dwelling, which is sized to hold 3 no. Wheelie bins (see Figure 4-1). All houses have space within the curtilage of the dwelling to facilitate a three bin system for the collection in standard 240 litre wheelie bins for Mixed Municipal Waste (MMW) / General Waste, Dry Mixed Recyclables (DMR) and 120 litre wheelie bin for Organic (food) Waste. The bins provided will be typical of the widely rolled out “three bin system” which is provided as standard by the waste management contractor, conforming to the requirements for residents to source segregate organic and recyclable waste from the non-recyclable waste stream.

It is concluded that adequate capacity is provided for the estimated volume of waste arising at each dwelling (as detailed in Table 4-4 and Table 4-5), through the provision of ample storage space for a three wheelie bin collection system of approximately 600 litre capacity with space for larger bins if required, based on fortnightly collections, and taking into account that glass bottles generated will be recycled by the occupants at nearby bring bank facilities.



Figure 4-1 Internal layout of house bin stores (Yellow) (O'Mahony Pike, 2025)

4.2.3.2 Block G1, G2, G3, G4 Duplexes

The duplexes in Block G1, G2, G3, G4 are provided with individual bin stores (yellow box) as shown in Figure 4-2 and Figure 4-3 below, located adjacent to their front doors/access stairs, negating the need for a communal bin store. Residents will be responsible for placing their own bins out for collection by authorised waste collection contractors on the relevant collection day.

Residents will be required to segregate waste into the following waste categories:

- **Mixed Municipal Waste (MMW)** / General Waste;
- **Dry Mixed Recyclables (DMR)** - includes cardboard, plastic packaging, aluminium cans, tins, paper, and Tetra Pak cartons;
- **Organic (food)** Waste; and
- **Glass**.



Figure 4-2 Location and internal layout of Waste Storage Areas in Block G1, G2, G3 and G4 (Yellow) (O'Mahony Pike, 2025)



Figure 4-3 Internal layout of Waste Storage Areas in Block G1, G2, G3 and G4 (Yellow)
(O'Mahony Pike, 2025)

4.2.3.3 Apartments and Duplexes

A number of dedicated, shared Waste Storage Areas are provided within the communal amenity spaces to serve the apartment and duplex units. These Waste Storage Areas are centrally located to ensure security and ease of access for residents throughout the development.

Residents will be required to segregate waste into the following waste categories:

- **Mixed Municipal Waste (MMW)** / General Waste;
- **Dry Mixed Recyclables (DMR)** - includes cardboard, plastic packaging, aluminium cans, tins, paper, and Tetra Pak cartons;
- **Organic (food)** Waste; and
- **Glass**.

The layout and design of the apartments and duplexes will ensure that there is adequate provision for the temporary storage of segregated materials prior to deposition in communal Waste Storage Areas. Adequate space is allocated in the kitchen area to accommodate a

three-compartment bin for waste segregation at source. In-sink macerators will not be provided in the apartments and duplexes.

The Management Company will be responsible for the provision of a leaflet to all new tenants encouraging good waste segregation and pictorial information detailing the waste streams that can be placed in each bin. In addition to this, clauses that support waste segregation targets will be included in relevant legal documentation e.g., tenancy agreements where possible.

A number of Waste Storage Areas have been allocated for the apartment and duplex residents at ground level. It will be the responsibility of the residents to bring their segregated waste to Waste Storage Areas and place into the appropriately labelled bins. Each bin will be clearly labelled to identify what wastes can and cannot be placed in the bin and labels will be pictorial. The route to the Waste Storage Areas, and the area itself, will be wheelchair accessible, adequately lit, and appropriately ventilated.

Residents will have secure access to the Waste Storage Areas (pin code or fob key). This will prevent unauthorised access to waste bins by the general public.

Any additional household wastes such as bulky waste, WEEE, batteries, textiles etc. must be brought by the apartment residents to a local recycling facility.

Access to a Waste Collection Service will be provided upon the first occupancy, irrespective of the occupancy levels of the new units.

4.3 Shared Waste Storage Areas

The Department of Housing, Planning and Local Government published guidelines in July 2023 – “*Sustainable Urban Housing: Design Standards for New Apartments*”. These Guidelines detail the provisions that need to be made for the storage and collection of waste materials in apartment schemes. These guidelines have been considered when preparing the design of the Waste Storage Areas.

The Waste Storage Areas for this residential development are strategically located and will have the following provisions as minimum:

- i. **Access:** The Waste Storage Area will be accessible for the mobility impaired.
- ii. **Lighting:** The Waste Storage Area will have adequate lighting. This is to ensure that waste will not be tipped in dimly lit areas and that the areas do not pose as a safety risk.
- iii. **Spillage & drainage:** A non-slip surface will be provided to prevent slips or falls, and the Waste Storage Area will have adequate drainage which will be directed to foul sewer.
- iv. **Security:** The Waste Storage Area will have restricted access and will be accessible by tenants and residents only. This is to prevent unauthorised access to the bins by the general public.
- v. **Screening:** The Waste Storage Area will be appropriately screened to ensure it is not visible to the general public.

- vi. **Ventilation:** A natural vent will be provided. All vents will be ducted to an external opening so that the Waste Storage Area will not cause an odour nuisance, taking into account the avoidance of nuisance for habitable rooms nearby.
- vii. **Signage:** Pictorial signage will be provided to show residents and tenants what wastes can and cannot be placed in each bin. All signage will be provided by the management company appointed.
- viii. **Environmental nuisance:** The Waste Storage Area will be in an enclosed area to avoid environmental nuisances such as litter. Regular waste collections will be required from the waste collection providers to prevent any other environmental nuisances such as odour or vermin. The management company appointed will be required to ensure there is adequate vermin control in place.
- ix. **Vehicular Access:** The development has been designed to ensure that waste collection vehicles can safely access the development to collect the bins. Vehicular access for waste collection is included in the traffic management plan for the development.

Luttrellstown Gate Phase 2 (Plot 1)

Duplexes and apartments are provided with shared Waste Storage Areas containing a four-bin wheelie bin system (See Figure 4-4 for Location). Figure 4-4 also details the internal layout of the shared Waste Storage Areas for Block H and Block J.



Figure 4-4 Location and internal layout of Waste Storage Area in Block H and Block J (Yellow) (O'Mahony Pike, 2025)

St Mochta's LRD (Plot 2)

Duplexes and apartments are provided with shared Waste Storage Areas containing a four-bin wheelie bin system. Figure 4-5 to Figure 4-6 detail the location and internal layout of the Waste Storage Areas.

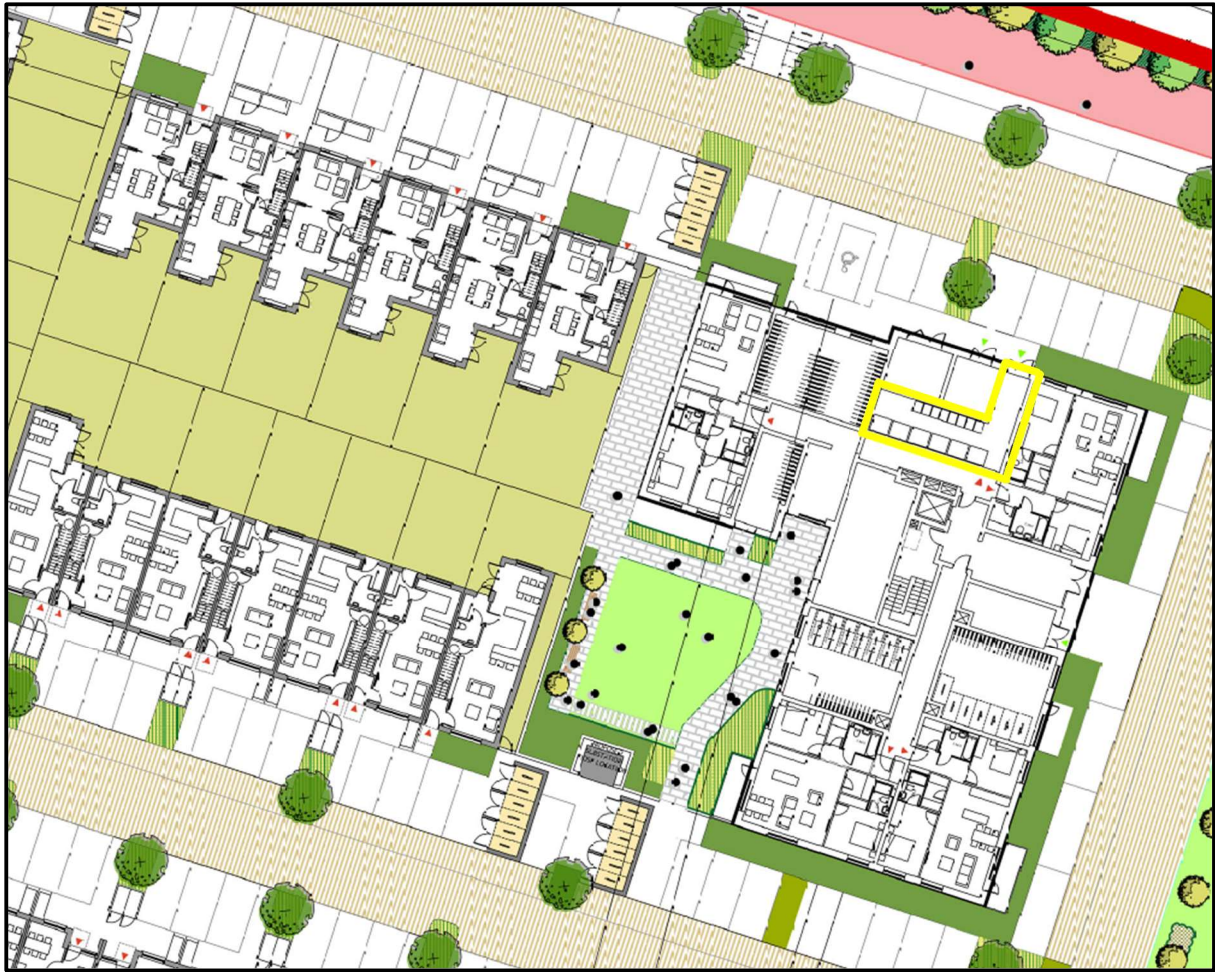


Figure 4-5 Location and internal layout of Waste Storage Area in Block D (Yellow)
(O'Mahony Pike, 2025)



*Figure 4-6 Location and internal layout of Waste Storage Area in Block E and F (Yellow)
(O'Mahony Pike, 2025)*

4.4 Other Waste Materials

Other waste materials such as bulky waste, textiles, printer toner/cartridges, WEEE and batteries and other household hazardous wastes may be generated infrequently by the occupants of the residential units. Residents will be required to suitably store these wastes within their own dwellings and dispose of them appropriately at bring centres or civic amenity facilities. Details of nearby recycling centres and bring banks is available on the Repak.ie website. All occupants will be supplied with information by the management company on the location of recycling facilities in the area.

4.5 Recycling Rates & Targets

The Waste Storage Areas will be provided with receptacles and signage to promote a rate of 30% of the overall waste collected to be Mixed Municipal Waste (MMW) / General Waste and 70% of waste collected recyclable waste streams which will include Dry Mixed Recyclables

(DMR) (packaging, papers, cardboards, plastics, aluminium, metals, and tin) and Organic (food) Waste.

All of the Mixed Municipal Waste (MMW) collected will be transported for further recovery. All MMW will be consigned to a recovery facility where it will undergo mechanical waste recovery, or it will be consigned to a facility for energy recovery. No MMW will be transported directly to landfill.

On review of bin usage by the appointed Management Company, MMW bins may be replaced with additional Organic (food) Waste or Dry Mixed Recyclables (DMR) bins to further increase waste segregation at source.

The ratio of bins detailed in this OWMP is in line with the European Commission's proposal to introduce 70% plus re-use and recycling targets for Mixed Municipal Waste (MMW) by 2030. This waste collection proposal also provides a waste management solution that has sufficient flexibility to support future targets and legislative requirements.

4.6 Bin Weight Limits & Dimensions

The FCC bye-laws state that waste presented for collection by a holder shall not be overloaded.

Due to the capacity of bins being provided, bins will not be overloaded and will comply with the Bye-laws.

For the shared Waste Storage Areas, it is intended to use 1,100L bins of approximately 1300mm x 1000mm x 1300mm with a load capacity of no more than 240kg which will comply with IS EN 840 1997 for Dry Mixed Recyclables (DMR) and Mixed Municipal Waste (MMW), and 140L bins of 1060mm x 480mm x 550mm for Organic (food) Waste. All houses and duplexes in Block G will be provided with standard sized, compliant wheelie bins from their bin provider.

All bins will be color-coded and labelled to avoid cross-contamination, **green bins** for Dry Mixed Recyclables (DMR), **brown bins** for Organic (food) Waste, **black bins** for Mixed Municipal Waste (MMW) / General Waste, and **blue bins** for Glass (in accordance with the Waste Action Plan for Circular Economy). Use of and access to the Waste Storage Areas will be restricted to residents and waste contractors only. The Waste Storage Areas will not be visible to the public and will conform to the requirements of *BS 5906: 2005 – Waste Management in Buildings – Code of Practice*.

It is envisaged that residents of the apartments and duplexes will be subjected to a service management company service charge where waste management will be included in the fee.

5 WASTE COLLECTION

All collections must take place in compliance with conditions of the Waste Contractor's Waste Collection Permit for the region and in line with the Local Authority bye-laws and the Waste Management (Waste Collection Permit) Regulations 2007 as amended. All residents are obliged by law to avail of the waste management service and must comply with local bye-laws and Statutory Instruments in relation to the presentation of waste for collection. Waste collections for a four bin system service will be available from the time of first occupancy (i.e. even if all dwellings are not occupied).

A waste collection service will be available to all occupants from first occupancy, irrespective of whether all units have been filled or not.

In all cases, waste collection vehicles will service the bins and the empty bins will be returned to the Waste Storage Areas. Bins will never be left outside the curtilage of the development. Access and egress of the waste collection vehicles will be in accordance with the Traffic Management Plan for the facility which has ensured the design allows for free-flowing movement of refuse collection vehicles throughout the development. BS 5906: 2005 – Waste Management in Buildings – Code of Practice has been taken into consideration when detailing vehicular access and egress to the development for the purposes of waste collection.

Records of the collections from the apartments and duplexes will be maintained by the management company for the development including reports from the facilities to which the waste is taken. Residents of individual dwellings will be responsible for maintaining their own waste collection records.

All bins in the shared Waste Storage Areas will be accessible for collection by the waste management contractor. It will be the responsibility of the management company to ensure that bins are accessible for collection from the Waste Storage Areas by the waste management operatives and to assist on collection day to wheel out and replace bins during collection where required.

Occupants of residential houses will be responsible for placing their own bins at the kerb for collection, and for the return of those bins to the storage areas within the curtilage of their dwelling in compliance with the FCC Bye Laws require that bins must not be presented before 6pm the previous night nor left out post collection beyond 9am the day following the day of collection.

6 MANAGEMENT SYSTEM

6.1 Information and Communication

Written information will be provided by the appointed management company, to each tenant or other occupier about the arrangements for waste separation, segregation, storage, and presentation prior to collection. The information pack will also contain information about nearby recycling facilities. This information will also be included in information booklets provided to new occupants of properties on the development.

It shall be a condition of contract with the appointed management company to ensure that all residents will be provided with an information pack from the waste collection provider. This information pack will detail the waste streams that can and cannot be placed in the bins provided in the waste compound so that waste segregation is actively encouraged and the specific dates on which the bins will be collected are clearly identified.

A clause will be included in the contract with the waste collection provider to provide this information pack to new residents.

6.2 Waste Management Contracts

It will be a condition of any management contract at the development that adequate budgets are in place for the provision of all required waste management services including a four-bin system for the collection of separate Organic (food) Waste, Dry Mixed Recyclables (DMR), Mixed Municipal Waste (MMW) / General Waste and Glass from the apartments and duplexes.

In addition to the requirements set out in Section 6.1 Information and Communication, the Management Company appointed will be required to continually monitor the performance of the waste management system. This will include routine visual checks of the Waste Storage Areas to ensure that all bins collected are returned to the Waste Storage Areas and to ensure this area is maintained so as not to cause any environmental nuisance to residents. These checks will also assess if the bins are in good condition or need to be replaced where damage is identified.

Provision for bin cleaning will be included in the contract with the waste management contractor appointed to ensure the provision of bin cleaning services or replacement of clean bins by the waste contractor.

The Management Company will review all annual waste reports from the Waste Collection Company appointed to ensure that the waste collected is in line with the European recycling targets. Where poor recycling rates are noted information leaflets will be recirculated to all residents which will include information on what materials can be recycled and the waste streams that can be placed in bins. Residents will also be reminded of legal obligations where applicable. Further communication strategy to engage tenants and owner occupiers in good waste management practices will be adopted if deemed necessary.

Contingency policies will be in place to ensure continuity of service.

7 CONCLUSIONS

By implementing design and actions outlined in this OWMP, a high level of recycling, reuse and recovery will be achieved at the development in line with European targets. Dry Mixed Recyclables (DMR) and Organic (food) Waste will be segregated at source to reduce the quantity of residual waste materials requiring off-site recovery or disposal.

The source segregation of waste types as detailed in this report will help to achieve the targets set out in the *National Waste Management Plan for a Circular Economy 2024-2030*.

The design of the Waste Storage Areas will meet the requirements as detailed in the “*Sustainable Urban Housing: Design Standards for New Apartments*”, July 2023.

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