

Longview Estates Limited

Penrose Quay

Cork

Unit 74 Penrose Wharf



www.longviewshd.ie / Tel: 021 6010286

Draft Operational Waste Management Plan

For

RESIDENTIAL NEW BUILD

AT

BALLYHOOLY ROAD, LAHERDANE, WHITES CROSS, CORK.

Date: 18th May 2026

Contents

1.0	Introduction	3
2.0	Policy, Legal and Strategic Context	6
3.0	Project Description and Site Location	9
4.0	Waste Management Principles and Hierarchy.....	12
5.0	Projected Waste Generation and Classification.....	15
6.0	Bin Provision Strategy by Unit Type.....	18
7.0	Waste Collection and Access Strategy	21
8.0	Waste Storage Infrastructure and Design Compliance	24
9.0	Apartment & Duplex Management Systems	27
10.0	Crèche and Commercial Waste Requirements	31
11.0	Signage, Education and Awareness	34
12.0	Monitoring, Inspections and Reporting.....	37
13.0	Integration with Engineering, Fire and Access Reports.....	39
14.0	Swept Path and Bin Presentation Areas.....	41
15.0	Conclusion	42

1.0 Introduction

This Operational Waste Management Plan (OWMP) has been prepared on behalf of the applicant to accompany a Large-Scale Residential Development (LRD) application at Ballyvolane, Cork. This document sets out a detailed draft framework for the operational-phase management of municipal solid waste (MSW) generated by residential and crèche occupants, in line with national and local waste management policy, Cork City Council planning objectives, and industry best practice.

The purpose of this OWMP is to ensure that appropriate provision is made across the development to support waste reduction, source separation, safe storage, and efficient collection. These provisions are designed to minimise environmental impact, maximise recycling performance, and ensure public health and amenity standards are maintained throughout the life of the development.

This document is a working operational tool designed not only for review by Cork City Council and statutory authorities, but also for future reference by the scheme's managing agent, appointed waste contractor(s), and facilities maintenance teams.

1.1 Context and Background

The site forms part of a broader strategic land reserve identified in Cork City's Development Plan 2022–2028 for integrated, sustainable residential expansion. Located within the Ballyvolane Urban Expansion Area, the site contributes to the planned northern growth corridor of the city.

This OWMP has been prepared with direct reference to:

- The project-specific design documentation, including the Housing Quality Assessment, Design Statement, Preliminary Engineering Report, and Traffic / Mobility Reports.
- Cork City Council's Waste Bye-Laws 2018
- The Waste Management Act 1996 (as amended)
- The EPA's Best Practice Guidelines for the Preparation of Resource Management Plans
- BS 5906:2005 – Waste Management in Buildings
- The Southern Region Waste Management Plan 2015–2021
- The Waste Action Plan for a Circular Economy (DECC, 2020)
- Relevant provisions of the Cork City Development Plan

The format, level of technical detail, and regulatory alignment of this OWMP follows the precedent set by high-quality submissions from consultants including MHL & Associates Ltd and Tom Phillips + Associates, which have been deemed acceptable by Cork City Council in recent LRD applications.

1.2 Scope of this Plan

This Draft OWMP applies to the **operational (post-construction) phase** of the development and addresses waste that will be generated by:

- Domestic residential units, including houses, duplexes, and apartments
- The proposed childcare facility (crèche)
- Communal areas, including access routes, public spaces, and shared bin rooms

The following types of waste fall within the remit of this report:

- Mixed residual municipal waste
- Mixed dry recyclables (plastics, paper, card, metals)
- Organic/biodegradable waste (food and garden organics)
- Glass (bottle banks or shared containers)
- Commercial childcare waste (paper, packaging, sanitary)
- Bulky household items and WEEE (via managed services)

Construction and demolition waste, hazardous materials, and infrastructure waste are covered under separate plans (e.g. the C&D Waste Management Plan and Environmental Impact Assessment Reports, where applicable).

1.3 Structure of the Document

This OWMP is structured to address key functional, regulatory or operational dimension of post-occupancy waste management.

Where relevant, technical calculations, national standards (e.g., BS 5906:2005), and real-world operational assumptions have been used to inform the design of waste storage facilities, collection logistics, and tenant engagement mechanisms. Where possible, cross-reference is made to published planning precedents, including recently approved OWMPs in the Cork Metropolitan Area.

1.4 Summary of Development

The subject proposal includes 263 No homes and a creche in a mix of predominantly homes but also including 14 No Duplex and 55 Apartments over 2 no. blocks.

Total residential population is expected to be aprox 750 persons at full occupancy. A mixed-density layout is proposed, comprising three distinctive character areas (CA-01 to CA-03), each with its own access patterns, bin storage layout, and frontage conditions.

Provision has been made for segregated waste storage across all unit types, consistent with national 3-bin/4-stream models. Swept path analysis and refuse vehicle access modelling have

been undertaken to confirm feasibility of weekly private waste collection without impacting traffic safety or pedestrian movement.

1.5 Key Waste Management Objectives

The objectives of this OWMP are to:

- Support source separation at the point of waste generation
- Ensure residents and building managers can safely store and rotate bins
- Minimise cross-contamination through signage and education
- Enable timely, efficient waste collection via designated service routes

The implementation of this OWMP will be coordinated by the managing agent appointed for the multi-unit elements of the scheme, and each individual homeowner will also be provided with clear bin storage guidance and collection information at handover.

2.0 Policy, Legal and Strategic Context

The design and implementation of effective operational waste management systems is underpinned by a complex and evolving legal and policy framework at EU, national, regional, and local levels.

The Plan is designed to ensure the development aligns fully with Ireland's long-term objectives for sustainable waste prevention, enhanced recycling performance, circular economy integration, and the responsible management of waste streams from residential developments.

2.1 EU and National Legislative Framework

The foundation of Irish waste management legislation is derived from European directives and transposing national statutes. The following instruments are of direct relevance to this development:

- **Waste Framework Directive (Directive 2008/98/EC)**
Establishes the waste hierarchy (prevention, reuse, recycling, recovery, disposal) and defines obligations relating to source segregation, extended producer responsibility, and waste planning.
- **Circular Economy Package (2018)**
Sets ambitious recycling targets for municipal waste (55% by 2025, 60% by 2030, 65% by 2035) and includes measures to phase out landfilling and improve recyclability of products.
- **Waste Management Act 1996 (as amended)**
The primary national legal framework for waste management in Ireland. It mandates source segregation, waste facility authorisation, local authority planning, and defines offences relating to waste handling.
- **Litter Pollution Act 1997**
Places responsibility on landowners and occupiers to prevent litter on their premises, including communal areas, bin storage compounds, and kerbside presentation zones.
- **Waste Management (Collection Permit) Regulations 2007 (as amended)**
Governs the licensing and regulatory oversight of private waste collectors, requiring proof of capacity, appropriate routes, and contamination reporting protocols.
- **European Union (Household Food Waste and Bio-Waste) Regulations 2015**
Requires brown bin service provision and source segregation of food waste for all dwellings with kerbside access or multi-unit communal bins.

This OWMP aims to facilitate compliance with all of the above.

2.2 National Policy Guidance

The plan draws extensively on the following national policy documents:

- **A Waste Action Plan for a Circular Economy (DECC, 2020–2025)**
This national strategy replaces the 2012 framework and places greater emphasis on waste prevention, behavioural change, digital waste tracking, producer accountability, and minimising residual waste through reuse, repair and refill models.
- **Sustainable Urban Housing: Design Standards for New Apartments (2023 Update)**
Section 4.4.4 requires that all new developments provide sufficient, accessible, ventilated, and screened bin storage areas. It mandates capacity calculations based on unit occupancy and stream volume ratios, with a strong recommendation to co-locate waste storage near access points without compromising visual amenity or fire safety.
- **Guidelines for Planning Authorities on Development Management (DoH LG, 2007)**
Encourages planning authorities to assess OWMPs against site layout, movement and access design, and anticipated service levels — ensuring waste systems are considered integral to overall development functionality.

2.3 Regional Waste Management Policy

The site falls within the remit of the **Southern Region Waste Management Plan 2015–2021**, coordinated by the Southern Waste Region Office (SWRO) and still active pending full national alignment with the Circular Economy Strategy. It's key principles include:

- The three-bin system as a minimum standard for residential schemes
- Segregation of recyclable and organic waste at the point of generation
- Encouragement of community-led initiatives for waste minimisation
- Promotion of design solutions that facilitate sustainable waste behaviour
- Development-specific waste forecasting and provision reporting

The SWRO also publishes technical guidance on service vehicle access, bin drag distances (max. 30m), and waste volume assumptions per unit type — all of which have been incorporated in this OWMP's methodology.

2.4 Local Policy – Cork City Development Plan 2022–2028

This OWMP aligns directly with key objectives of the current Development Plan, notably:

- **Objective 10.24:**
“To require that new residential and commercial developments incorporate appropriate facilities for the storage, separation, and collection of waste, including recyclables, and

to ensure that such facilities are accessible and do not compromise the amenity of the area.”

- **Objective 10.26:**
“To support effective collection of waste from new developments and to ensure that collection points are safe, accessible and do not impede road users, including pedestrians and cyclists.”
- **Objective 10.27:**
“To support initiatives that reduce the generation of waste and promote reuse and recycling.”

Additionally, the Development Plan requires that new large residential developments demonstrate their compatibility with:

- Local waste collector service models
- Emergency service access standards
- Noise and odour mitigation in communal service areas
- Pedestrian-priority design in shared surfaces and access routes

2.5 Enforcement and Monitoring

Cork City Council enforces its waste-related objectives primarily through:

- Pre-planning consultation (including Section 247 process)
- OWMP review as part of LRD or Strategic Housing Development (SHD) applications
- Compliance conditions attached to planning permission
- Site inspections during post-construction handover
- Response to public complaints and environmental health monitoring

Under the Waste Management Act, both the landowner (the applicant) and the managing agent will be held accountable for any waste nuisance, contamination, illegal dumping, or breach of storage capacity provisions outlined in this Plan.

3.0 Project Description and Site Location

The proposed development forms part of a key urban expansion area in Ballyvolane, Cork City. It is situated in the north-eastern quadrant of the Longview area. It is bounded by distributor roads, existing hedgerow corridors, and contiguous residential zoning.

This section describes the layout, phasing, unit typologies, road hierarchy, and topographical features that have informed the waste management strategy for the site. These characteristics are essential in determining how waste streams will be generated, segregated, stored, and collected efficiently and safely during the operational life of the development.

3.1 Strategic Location and Connectivity

The site benefits from direct frontage onto the future **Main Distributor Road**, which will form a central spine for movement, public transport, and services. It also connects to existing local roads, pedestrian paths, and green infrastructure corridors, making it ideally suited to compact, walkable residential neighbourhoods supported by integrated waste and service networks. The surrounding land uses include established low-density housing to the south-west, agricultural lands to the north-east, and emerging residential phases to the south and east. The development is designed to tie into these surrounding uses in a coherent, landscape-integrated manner.

3.2 Development Composition

The proposed development comprises:

- **192 no. two- and three-storey houses**, in a mix of semi-detached, detached, and terrace formats
- **8 no. duplex units**, arranged in pairs within small-scale blocks
- **56 no. apartments**, located within three-storey buildings
- **1 no. crèche facility**, intended to serve up to 70 children

These units are supported by new access roads, shared surfaces, footpaths, cycle tracks, internal open spaces, street trees, and boundary planting.

The total site area **approximately 7.0 hectares**, with an overall net residential density of **40+ units per hectare**. This density aligns with both the National Planning Framework's compact growth principles and the Cork City Development Plan's urban expansion targets.

3.3 Character Areas and Urban Form

To ensure legibility, landscape integration, and efficient service delivery, the layout is subdivided into three distinctive character areas:

- **CA-01 (Urban Core / Apartment Zone):**
Located along the Main Distributor Road, this area includes the apartment buildings and crèche. Higher density and tighter street blocks support walkability, short waste drag distances, and centralised bin stores.
- **CA-02 (Suburban Mid-Zone):**
Contains predominantly two-storey housing, structured around local streets and green corridors. These units have rear gardens and side passages suitable for private bin storage.
- **CA-03 (Edge Housing / Rural Transition):**
Situated at the western perimeter, this area includes more generous garden plots and transitional house types, with private driveways and bin storage integrated behind building lines.

Each area is designed to accommodate its own waste generation profile, bin sizing strategy, and collection approach. This zoned strategy minimises cross-contamination risk and ensures that infrastructure is proportionate to both density and resident movement patterns.

3.4 Road Hierarchy and Movement Strategy

The internal road network comprises a primary access spine, secondary local roads, and shared surface streets serving cul-de-sacs and homezones. All routes have been designed in accordance with DMURS (Design Manual for Urban Roads and Streets), with turning heads, swept paths, and bin presentation points tested using refuse collection vehicle (RCV) standards.

Designated bin presentation zones are located outside key pinch points and footpath crossings to avoid obstruction during collection days in apartment areas. These locations are surfaced with reinforced paving and clearly marked for occasional bin staging.

3.5 Topography, Drainage and Environmental Features

The site generally falls from north to south, with several minor undulations that have been considered in the placement of bin stores and service laybys. All bin stores are located on flat, accessible ground, with permeable or solid hardstand finishes, connected to the site's drainage network.

Significant hedgerows, mature trees, and a greenway alignment have been retained and integrated into the layout. Waste infrastructure has been designed to avoid disruption to these features while ensuring proximity to serviceable road frontages.

The site is not located in a flood risk zone, and all bin stores are positioned above overland flow paths and flood thresholds as demonstrated in the Preliminary Engineering Design Report.

3.6 Phasing and Construction Interface

The site is expected to be developed in a single continuous phase, with sub-phasing possible depending on market demand and infrastructure delivery sequencing.

All waste infrastructure — including bin store enclosures, kerbside staging zones, and signage panels — will be delivered in tandem with unit construction and made available prior to occupation. This will ensure that residents immediately have access to the full 3-bin or communal waste systems.

Where phasing boundaries require interim collection points or temporary bin compounds, these will be delivered in accordance with the Construction Management Plan and agreed with Cork City Council waste services during pre-occupation inspections.

4.0 Waste Management Principles and Hierarchy

The foundational principle of modern waste management in Ireland — and across the European Union — is the **waste hierarchy**, a policy framework enshrined in both legislation and practice to prioritise sustainable approaches to materials use and disposal. This hierarchy forms the conceptual and operational core of this OWMP.

4.1 The Waste Hierarchy: Legal Basis and Structure

The hierarchy is formalised in Article 4 of the **EU Waste Framework Directive (2008/98/EC)** and transposed into Irish law under Section 21A of the Waste Management Act 1996 (as amended). It ranks waste management options in the following order of preference:

1. **Prevention**
2. **Preparation for reuse**
3. **Recycling**
4. **Other recovery** (e.g. energy recovery)
5. **Disposal**

Under Irish and EU law, all public bodies, including planning authorities and local authorities, are required to take measures to promote the first three tiers of the hierarchy and discourage disposal or incineration of mixed municipal waste.

4.2 Application of the Hierarchy at the application site

The hierarchy has been embedded in the design and implementation strategy for this scheme in both physical and operational terms. Key applications include:

Prevention

- All bin stores are sized for *adequate but not excessive* capacity to avoid overreliance on residual waste disposal.
- The crèche facility will be encouraged to adopt reuse policies for nappies, catering ware, and paper where feasible.

Reuse

- Residents will be provided with contact details for Cork's Civic Amenity Sites and reuse centres.
- The design of units (e.g. side access to rear gardens) facilitates the reuse of garden waste as mulch/compost, in line with circular economy goals.

Recycling

- Apartment and duplex stores will include separate 1100L or 240L bins for dry recyclables and glass.
- Individual houses will be equipped with the national three-bin system (residual, recyclable, organic), collected via kerbside service.

Recovery

- While the development itself does not include waste-to-energy infrastructure, the designated waste collection contractors are expected to divert significant proportions of residual waste to recovery operations rather than landfill, in line with EPA licensing targets.

Disposal

- Disposal of non-segregated mixed municipal waste to landfill is a last resort, and all infrastructure, signage, education, and enforcement protocols are designed to limit this to under 25% of total volume — consistent with targets in the Waste Action Plan for a Circular Economy.

4.3 Circular Economy Objectives

The design of the OWMP also reflects broader principles of the **Circular Economy**, as defined in Ireland’s 2020–2025 national strategy and Action Plan. Circular economy goals are particularly relevant to operational-phase planning, where behaviours are locked in for the long term.

Key circular economy-aligned practices embedded in the Longview development include:

- Durable, repairable building and bin materials
- Opportunities for composting at unit level

The planning of bin store access, ventilation, and security also recognises the need to support separation without exposing recycled or organic materials to damage, cross-contamination or pest ingress.

4.4 Operational Behavioural Reinforcement

The success of a hierarchy-based system depends not only on infrastructure, but on the everyday behaviour of residents, managing agents, and collection contractors. To that end, the OWMP includes the following soft-support mechanisms:

- Visual guidance and colour-coded bin signage
- Resident inductions explaining contamination risks and obligations

International experience (including trials in Denmark, the Netherlands, and Austria) shows that resident-facing communication has the greatest long-term impact on waste behaviour.

4.5 Future-Proofing and Adaptability

As national policy evolves, this OWMP has been structured to accommodate changes to service models, collection frequencies, and regulatory thresholds. This includes potential implementation of:

- **Pay-By-Weight** systems (PAYT), which require additional bin labelling and volume tracking
- **Deposit Return Scheme (DRS)** expansion, which may reduce the volume of plastics and cans in the recyclable stream
- **Organic waste diversion targets**, including home composting incentives

The bin stores in apartments and site layout are flexible enough to accommodate new waste stream requirements (e.g., textiles, e-waste lockers) without structural changes to buildings or public realm design.

4.6 Enforcement of Hierarchy Compliance

The managing agent for Multi Unit components of the scheme, as outlined in Section 12, will be contractually obligated under the multi-unit development framework to:

- Maintain functional separation of waste streams
- Issue warnings and remediation notices for repeated contamination
- Keep a log of waste contractor feedback, performance issues, and bin overflow incidents

Cork City Council retains the power to issue notices under the Waste Management Act in cases of systemic non-compliance, including fines, waste seizure, and legal orders.

5.0 Projected Waste Generation and Classification

An accurate forecast of waste volumes is essential to designing and validating the proposed waste infrastructure across the development. This section provides a comprehensive breakdown of the projected municipal solid waste (MSW) quantities to be generated by residential units and the crèche facility on a weekly basis, with an emphasis on waste type, storage volume, and classification.

The methodology is aligned with the British Standard **BS 5906:2005 – Waste Management in Buildings**, as well as regional parameters from the **Southern Region Waste Management Plan** and Cork City Council collection data.

5.1 Occupancy Assumptions and Unit Distribution

The total development comprises:

- **192 Houses**
- **8 Duplex Units**
- **56 Apartments**
- **1 Crèche Facility** (up to 70 children)

Estimated occupancy levels for calculation purposes are as follows:

- Houses: **3.5 persons/unit**
- Duplexes: **2.5 persons/unit**
- Apartments: **2.0 persons/unit**
- Crèche: Non-residential — waste generated per service activity, not per capita

Total residential population:

- $(192 \times 3.5) + (8 \times 2.5) + (56 \times 2.0) = \sim 753 \text{ residents}$

5.2 Waste Generation Rates by Stream

Per-person waste generation estimates (per BS 5906 and validated by EPA studies):

- Residual waste: **8–10 L/p/day**
- Mixed recyclables: **6–8 L/p/day**
- Organic waste: **4–6 L/p/day**
- Glass: **1–2 L/p/day** (where communal facilities provided)

Overall BS5906 projects a three bedroom property generating waste for one 240l Bin per Week (three separated bin solutions will be provided).

5.3 Classification of Waste Streams (LoW Codes)

Each waste stream is classified in accordance with the **European Waste Catalogue (EWC)**, known in Ireland as the **List of Waste (LoW)**. Key codes applicable to this development include:

Waste Type	LoW Code
Mixed Residual Waste	20 03 01
Mixed Packaging (Recyclables)	15 01 06
Organic (Biodegradable) Waste	20 01 08
Glass	20 01 02
Paper and Cardboard	20 01 01
Plastics	20 01 39
Metals (inc. cans)	20 01 40
Food Waste (Crèche)	20 01 08
Absorbents (Crèche)	20 01 99
Bulky Household Waste	20 03 07
WEEE / Small Electronics	20 01 35

LoW codes will be incorporated into bin signage, site management protocols, and all compliance documentation.

5.4 Crèche Waste Profile

The proposed crèche will generate commercial-style waste volumes, characterised by:

- Paper/card packaging (20 01 01, 20 01 39)
- Organic waste from snacks/meals (20 01 08)
- Sanitary waste/nappies (20 01 99)
- Low-volume glass or metals (20 01 02, 20 01 40)

Expected weekly output is ~1,000 litres across four streams. Dedicated 240L bins for residual, recyclables, and organic waste will be stored in a lockable compound adjacent to the crèche entrance. Clinical or sanitary waste will be collected under contract with a licensed hazardous waste provider if required by HSE guidelines.

5.5 Seasonal Variation and Collection Frequency Assumptions

While the above forecasts assume uniform weekly output, actual volumes are expected to fluctuate based on:

- **Seasonal consumption patterns** (e.g. packaging waste surges in Q4)
- **Holiday absenteeism or temporary occupancy dips**
- **Weather-dependent food/garden waste generation**
- **Tenant turnover or lease transition periods**

All bin stores will seek to accommodate a **20–25% contingency capacity** to allow for spikes without risk of overflow or service disruption.

The following assumptions have been made:

- Weekly collection of residual and organic bins
- Fortnightly collection of dry recyclables
- Monthly/bi-monthly emptying of glass bins
- Bulk item collection 2–3 times annually (via agent coordination for Apts)

These assumptions reflect typical service models in Cork City’s suburban residential catchments.

6.0 Bin Provision Strategy by Unit Type

The bin provision strategy has been designed to ensure that every unit type — houses, duplexes, apartments, and the crèche — is equipped with sufficient and accessible waste storage capacity, in compliance with Irish legislation, Cork City Council requirements, and BS 5906:2005 standards.

Provisioning has been tailored to the different spatial, functional, and behavioural characteristics of each unit type. These distinctions are essential to ensure waste infrastructure supports day-to-day user convenience while enabling long-term compliance and operational efficiency.

6.1 Guiding Standards and Compliance Basis

Bin allocations have been benchmarked against:

- **BS 5906:2005** (Waste Management in Buildings – Code of Practice)
- **Southern Region Waste Management Plan volume assumptions**
- **Sustainable Urban Housing: Design Standards for New Apartments (2023)**
- **Cork City Council Waste Bye-Laws 2018**

In line with BS 5906, waste storage volume must be calculated based on:

- Occupancy per dwelling
- Number of collection days per week
- Bin rotation systems (individual vs communal)
- Waste stream segregation (minimum of 3 bins, ideally 4 where glass is included)

All calculations incorporate a **minimum 20% contingency buffer** to allow for temporary surges, holiday periods, and missed collections.

6.2 Houses (192 units)

Each house will be served by an individual 3-bin system:

- **1 x 240L Residual Waste bin**
- **1 x 240L Recyclables bin**
- **1 x 240L Organic Waste bin**

All houses are designed with rear garden access via side passages (min. 900mm clear width) to facilitate off-street bin storage out of public view or storage to the front. Storage areas will be surfaced, drained, and visually screened.

Bin presentation will occur at the kerbside, generally on designated bin staging zones integrated into verge areas or parking margins. Routes have been confirmed by swept path analysis to allow for refuse truck access and avoid interference with pedestrian movement.

Optionally, homeowners may arrange for a glass bin (120L or 240L), depending on waste contractor service offerings. These are stored in garden areas but are not assumed in baseline provisioning calculations.

6.3 Duplexes (8 units)

The duplex units are arranged in compact paired blocks, generally without individual side/rear access. Accordingly, these units will share communal bin compounds, sized and located within 10–15m walking distance of unit entrances.

Each 2–4 unit duplex block will be allocated:

- **2 x 240L Residual Waste bins**
- **2 x 240L Recyclables bins**
- **2 x 240L Organic bins**
- **Optional: 1 x 140L Glass bin**

This shared approach offers operational efficiency while retaining user accountability, as units are managed under the estate's multi-unit development structure (MUD). Bins will be presented by the managing agent or nominated residents, with presentation areas located at junction corners or designated bin laybys.

Bin stores will be:

- Secure (locked or coded entry)
- Integrated within hard-landscaped shared space

6.4 Apartments (56 units)

Apartment waste is managed communally via a centralised bin store room model. Three dedicated bin stores will be provided — one for each block — within close proximity to entrance lobbies (generally <10m), but shielded from view of public roads and private balconies. Provision per block (assuming 18–20 units each – actual calc is 28 Units with capacity for 15 1100L Bins):

- **6 x 1100L Residual Waste bins**
- **6 x 1100L Recyclables bins**
- **6 x 240L Organic bins**
- **2 x 240L Glass bins**

This allocation exceeds BS 5906 minimums, incorporating the following assumptions:

- 30L/resident/week residual
- 25L/resident/week recyclables
- 20L/resident/week organics
- Weekly/bi-weekly collection
- 20% buffer capacity

Bin store layouts will meet the following functional requirements:

- Clear 1.5m turning circles
- Minimum 150mm spacing between bins

- Non-slip, washable floor finish
- Drainage gullies
- Louvre ventilation or passive air gaps
- Lockable fire-rated doors
- 2.1m internal clear height

Each bin will be clearly marked with LoW codes, iconography, and bilingual sorting signage.

6.5 Crèche Facility

The crèche is expected to produce a distinct waste stream comprising:

- Paper/cardboard (packaging)
- Plastics (food containers, hygiene supplies)
- Organics (food scraps, nappies)
- Sanitary waste (disposables)

Initial bin allocation:

- **1 x 240L Residual Waste bin**
- **1 x 240L Recyclables bin**
- **1 x 120L Organic Waste bin**
- **1 x 120L Sanitary Waste bin (if required)**

Bins will be stored in a dedicated, externally accessed bin store. Collections will be arranged with a commercial contractor, separate from domestic residential collections, to ensure compliance with commercial waste regulations.

6.6 Flexibility and Future Adaptation

The bin sizing and distribution strategy allows for future changes in:

- Population growth or changes in household composition
- Introduction of additional waste streams (e.g. textiles, e-waste)
- Policy changes (e.g. four-bin mandates, Pay-by-Weight rollouts)
- Advances in smart bin monitoring or PAYT tech integration

Communal bin stores are designed with modular racking potential and excess space to allow for expansion. Duplex compounds can be upgraded with additional 240L bins if required, and individual house lots have ample space to increase bin storage capacity from 3 to 4+ bins without impacting movement or amenity.

7.0 Waste Collection and Access Strategy

A robust and functional waste collection strategy is essential to ensure that waste generated across the development can be safely, efficiently, and legally removed by authorised contractors. This section details the physical and operational arrangements for the movement of bins from storage areas to collection points, and the reverse, with reference to national and local standards.

The collection strategy reflects the diversity of unit types across the scheme — including private homes, duplexes, apartments, and a commercial childcare facility — each with distinct access and storage arrangements. Refuse vehicle access, fire tender circulation, and pedestrian priority principles have all been carefully integrated to ensure the system is safe, code-compliant, and future-proof.

7.1 Overview of Collection Model

The development has been designed to support a **hybrid collection model**, which includes:

- **Kerbside collection** from individual houses
- **Shared bin presentation zones** for duplex blocks
- **Internal bin rotation and presentation** by a managing agent for apartments and the crèche

This tiered approach balances direct user responsibility with centralised management in denser blocks, reflecting both planning best practice and practical enforcement experience from similar multi-unit developments in Ireland.

7.2 Refuse Vehicle Access

All roads and turning zones have been modelled for refuse collection vehicle (RCV) access: The Preliminary Engineering Report confirms that all internal roads have been designed in accordance with the **Design Manual for Urban Roads and Streets (DMURS)** and will meet minimum lane widths, swept path envelopes, and structural load-bearing requirements.

7.3 Drag Distances and Bin Movement

Bin drag distances — the distance between storage and collection point — have been kept within best-practice limits:

- **Max 10m** for private residents (BS 5906:2005)
- **Max 30m** for waste collection operatives
- **Max 15m** for managing agent presentation team

Where units (e.g. houses) store bins in rear gardens, side access has been provided with paved paths and no level changes. Duplex bin compounds are located within 10–12m of access locations and apartment bin stores are accessible at-grade within 5–7m of internal access roads and access routes.

Presentation areas are designed with:

- Drop kerbs
- Level surfaces
- Anti-slip paving
- Min. 1.5m buffer between bins and carriageway
- No conflict with accessible parking bays or visibility splays

7.4 Bin Presentation Zones

Presentation, if necessary, zones are hard-surfaced areas within the public realm, located:

- Adjacent to refuse vehicle routes
- Avoiding obstruction of pedestrian or cycle flows
- Outside visibility triangles or vehicular set-down bays

These areas are surfaced with tarmac, concrete or block paving (depending on surrounding finishes and sized for up to 6–8 240L bins at a time).

For apartment blocks, the managing agent will rotate bins to and from the presentation zone on collection days and return them promptly afterward to avoid clutter and misuse.

7.5 Collection Scheduling and Coordination

Collection scheduling is to be finalised in conjunction with licensed private waste contractors operating in Cork City. However, the following standard frequencies are assumed for infrastructure design:

- **Residual Waste:** Weekly to Fortnightly depending on operator
- **Recyclables (Dry Mixed):** Fortnightly depending on operator
- **Organic (Brown Bin):** Weekly to Fortnightly depending on operator
- **Glass:** Monthly or bi-monthly (as volume requires)
- **Sanitary Waste (Crèche):** Weekly, via commercial operator

To reduce collection conflicts and ensure minimal disruption, it is recommended that all collections be scheduled **between 07:00 and 10:00 on weekdays**, with presentation of bins the evening prior, and removal immediately following collection.

The managing agent will maintain a collection calendar, distributed to all residents and displayed on bin store noticeboards (see Section 11) for apartments.

7.6 Emergency and Fire Service Interface

The collection strategy has been developed to align with the site's **Fire Safety Strategy** and Emergency Vehicle Access Plan, ensuring:

- No obstruction of fire hydrants or access zones by bin stores or presentation areas
- All fire appliance routes are accessible independently of bin presentation routes
- No conflict between waste rotation movements and designated emergency exits, egress corridors, or fire brigade assembly points

7.7 Role of Managing Agent and Resident Responsibilities

In line with MUD obligations:

- The managing agent is responsible for coordinating waste contractor access, bin presentation/return, and responding to missed collections
- Residents of houses are responsible for their own bin storage, rotation, and hygiene
- Duplex residents will present bins to staging areas on designated days unless otherwise arranged
- The crèche operator will contract directly with a commercial waste collection company and ensure that storage, access, and collection remain segregated from domestic streams

Where contamination or overflow occurs, the agent will act as first-line responder and escalate issues to the waste collector or Cork City Council as required.

8.0 Waste Storage Infrastructure and Design Compliance

The physical infrastructure supporting waste storage and segregation has been designed to deliver safe, hygienic, accessible, and durable facilities, in full compliance with Irish building regulations, BS 5906:2005, and relevant European guidance.

This section details the design parameters and compliance framework applied to individual bin storage areas, communal bin stores, duplex compounds, and crèche facilities. It also outlines how fire safety, ventilation, drainage, pest control, and accessibility have been addressed to ensure long-term operational performance.

8.1 Compliance Standards and Reference Codes

All bin store infrastructure within the development complies with:

- **BS 5906:2005** – Waste Management in Buildings
- **Building Regulations 1997–2022**, particularly:
 - **Part B** (Fire Safety)
 - **Part M** (Access and Use)
 - **Part H** (Drainage and Waste Disposal)
- **Sustainable Urban Housing: Design Standards for New Apartments (2023)**
- **Cork City Council Waste Bye-Laws 2018**
- **Southern Region Waste Management Plan** guidance

Where possible, design features also align with recommendations from the **Chartered Institution of Waste Management (CIWM)** and **Environmental Protection Agency (EPA)** technical guidance.

8.2 Spatial Standards and Capacity Calculations

All communal bin stores have been sized using the following methodology:

- Per-capita waste generation assumptions (Section 5)
- Volume capacity per bin (e.g. 1100L, 240L)
- Minimum bin spacing: **150mm between bins, 1.2m in front for access**
- Required circulation clearance: **1.5m turning diameter**
- Maximum store occupancy: 70–80% of floor area to avoid overcrowding
- Height clearance: minimum **2.1m** internal floor-to-ceiling

Apartment bin rooms are designed to accommodate:

- 6–8 x 1100L or 240L bins
- 10–15% expansion capacity (future policy adaptation)
- Double door access (approx. 1.4m clear width)

Duplex bin stores accommodate grouped 240L bins with walk-in access and individual locking where required.

8.3 Fire Safety and Risk Management

All enclosed bin stores are designed and certified to meet fire safety obligations under **TGD-B (Fire Safety)** and BS 9999:2017, including:

- **60-minute fire resistance** of doors, walls, and ceilings
- Intumescent seals and self-closers on access doors
- Smoke detection linked to apartment block fire alarm (where relevant)
- Clear separation from stair cores, lift lobbies, and habitable areas (min. 3m offset)
- No vertical services routed through bin stores
- Internal fire load assessed and declared in fire safety certification

Where bin stores are external to the building envelope (e.g. duplex blocks or crèche), a 3m setback is maintained from walls containing openings or escape routes.

8.4 Pest Control, Hygiene and Security

Effective design mitigates pest ingress, odour build-up, and misuse:

- **Pest Proofing:**
 - All doors fitted with rubber seals or thresholds
 - No exposed pipework or cable conduits at floor level
 - Weekly inspections by the managing agent to check for infestations
- **Odour Control:**
 - Ventilation plus scheduled cleaning using disinfectant
 - Drain traps maintained monthly
 - Food waste stored in covered organic bins with internal liners
- **Security:**
 - All bin stores locked, with key-code or fob access
 - Security lighting and visibility via louvred gates or glazed panels
 - Managing agent to maintain access logs and restrict misuse

Where fly-tipping or contamination occurs, swift response protocols are outlined in Section 12 (Monitoring and Reporting).

8.5 Accessibility and User Experience

All bin stores have been designed to be accessible for:

- Residents (able-bodied and mobility-impaired)
- Waste operatives with trolley or lift equipment
- Children and elderly residents (non-heavy lids, ergonomic placement)

In apartment blocks:

- Routes to bin stores are level, well-lit, and under passive surveillance
- Doors are to be fitted with lever handles or push-pads (not knobs)
- Bin rooms are signposted clearly in multiple languages and with icons

All store design complies with **Part M of the Building Regulations**, supporting universal access for residents, staff, and visitors.

9.0 Apartment & Duplex Management Systems

Apartments and duplex units within the scheme form part of a **multi-unit development (MUD)** and are subject to a distinct waste management framework underpinned by ongoing oversight, centralised storage, and contractual responsibility via the managing agent.

This section details the infrastructure, responsibilities, and compliance structure for operational waste management in these unit types, in accordance with:

- **Multi-Unit Developments Act 2011**
- **BS 5906:2005**
- **Sustainable Urban Housing: Design Standards for New Apartments (2023)**
- **Southern Region Waste Management Plan**
- Best-practice guidance issued by Cork City Council and the Office of the Housing Regulator

9.1 Overview of Waste Management in MUD Context

Apartment and duplex units are not individually serviced by kerbside bin collection. Instead, they operate under a **communal bin store model**, in which:

- Waste is deposited by residents in internal or external shared stores
- Bin rotation, cleaning, and presentation are carried out by the managing agent or their subcontractor
- Operational oversight, compliance monitoring, and enforcement are centralised

This model reduces visual clutter, simplifies waste logistics, and ensures consistency of practice across residents with different tenancy, age, and cultural profiles.

9.2 Responsibilities of the Managing Agent

The managing agent for the MUD will be legally contracted to oversee the entire operational waste cycle, including:

- Daily access maintenance and cleaning of communal bin stores
- Weekly or fortnightly bin presentation in line with contractor schedules
- Enforcement of contamination policies
- Handling of missed collections or overflow incidents
- Communication with Cork City Council on regulatory matters

The agent will also maintain:

- A digital log of collection schedules
- A complaint's register
- A waste contamination log
- A signage audit and replenishment schedule

This is reinforced in the estate's MUD service level agreement and will be referenced in resident lease documentation.

9.3 Apartment Bin Room Operation

Each apartment block contains a **dedicated internal bin room**, located adjacent to the ground-floor circulation core. Access is restricted to residents and waste operatives only, via:

- Key fob or PIN code entry
- FD60 fire-rated doors with controlled closure
- Security signage and waste sorting guides at entry

Inside the bin room:

- Bins are grouped by stream (Residual, Recyclables, Organics, Glass)
- Colour-coded signs with pictograms and LoW codes are provided
- Emergency lighting and passive ventilation are maintained at all times

Access routes to bin rooms are level, well-lit, and within 10m of all units where possible subject to Fire Control, supporting usability by residents of all mobility profiles.

9.4 Duplex Waste Compounds

Duplex units are arranged in paired blocks with shared bin compounds positioned within 15m of unit entrances. These compounds are:

- Unenclosed or semi-enclosed (galvanised steel mesh or timber fencing)
- Paved and drained
- Fitted with individual or shared access locks

Each duplex compound typically accommodates:

- 2–4 x 240L bins per waste stream
- Optional 140L glass bin (if contractor supports)
- Adequate room for manual rotation and wheel-in access

Residents are responsible for:

- Segregating waste into the correct bins
- Closing lids securely
- Not leaving bags outside bins
- Presenting bins to the kerbside (unless agent-managed)

Store design discourages casual dumping by non-residents and maintains passive surveillance via placement near active building frontages.

9.5 Tenant and Resident Responsibilities

All residents of apartment and duplex blocks are bound by a **waste management clause** in their tenancy or occupancy agreement. This clause includes:

- Adherence to signage and sorting protocols
- Cooperation with agent or contractor during bin rotations
- Avoidance of bulky waste in communal stores
- Agreement not to dispose of items that may cause contamination or vermin (e.g., liquids, raw meat, batteries, electricals)

Failure to comply may result in written warnings, fines, or in severe cases, penalties under the MUD rules or eviction clauses in tenancies.

9.6 Contamination Control and Enforcement

Contamination — mixing of inappropriate materials within recycling or organic waste streams — presents one of the largest operational challenges in MUDs. To minimise this, the following measures are in place:

- Clear pictogram signage on each bin lid and store wall
- Annual resident refresher packs (digital and printed)
- Regular bin checks by the agent prior to presentation
- Photo logging of contaminated bins for traceability
- Optional tagging of non-compliant bins (to prevent collection)

Where persistent issues arise, the managing agent may:

- Identify and engage specific residents (if traceable)
- Add physical barriers (e.g. lockable bins)
- Recover associated fines from the service charge pool

Cork City Council has powers to issue enforcement notices to owners' management companies under Waste Bye-Laws, and this OWMP is structured to ensure that no such escalation should be required.

9.7 Education and Induction for Residents

Education is critical to driving long-term compliance in apartment and duplex blocks. Each new resident will receive a waste information pack upon moving in, including:

- A colour-coded sorting guide
- Collection schedules
- Store access instructions
- Links to Cork City Council and waste contractor websites

Welcome meetings held by the managing agent will include a walk-through of the waste system, and refresher materials will be issued quarterly via email or community boards. Where resident turnover is high (e.g. short-term lets or student lets), additional induction support may be required, including visual signage in multiple languages and optional on-site demonstrations.

9.8 Long-Term Governance and MUD Adaptability

Waste management governance is embedded in the long-term legal and operational structure of the MUD. The Owners' Management Company (OMC), via the managing agent, is responsible for ensuring:

- Budget allocation for waste services, signage, repairs, and cleaning

- Insurance compliance (fire, health & safety)
- Upgrades or adaptations of waste stores over time
- Engagement with contractors and local authority policy changes

The OMC may also appoint a waste officer or committee to lead improvement initiatives, monitor trends, or engage residents.

This approach ensures that the apartment and duplex waste systems will remain adaptable, enforceable, and consistent with changing legal, environmental, and behavioural expectations over the 20+ year lifecycle of the scheme.

10.0 Crèche and Commercial Waste Requirements

Provision is made for a purpose-built crèche facility designed to accommodate approximately **70 children**, with associated staff, kitchen, sanitary and play areas. The waste management approach for this facility requires distinct consideration due to its **semi-commercial status**, elevated hygiene requirements, and divergence from standard residential waste streams. This section provides a full analysis of expected crèche-related waste, storage and collection protocols, regulatory compliance, and separation from the residential waste system — in alignment with guidance from the HSE, TUSLA, EPA, and Cork City Council.

10.1 Nature of Waste Generated in Early Years Facilities

Childcare facilities generate a unique composite of waste materials, including but not limited to:

- **Food waste** from meal prep, snacks, and discarded lunches
- **Packaging waste**, particularly soft plastics, cartons, and cardboard
- **Paper waste**, including arts/crafts, administration, and hygiene
- **Nappies and sanitary items**, treated as offensive or clinical waste under some contractor schemes
- **Cleaning waste**, including used paper towels, wipes, mop heads, etc.
- Occasional **electronic or broken toy waste**, which may fall under WEEE

While not classed as medical generators, crèches are expected to maintain high hygiene and infection control standards, which directly impact bin type, liner use, and collection frequency.

10.2 Projected Waste Volumes and Composition

Using national benchmarks and MHL precedent reports for similarly sized crèches (e.g., 60–80 child settings), we estimate the following weekly output:

Waste Stream	Volume Estimate (Weekly)	LoW Code(s)
Residual Waste	~720L	20 03 01
Dry Recyclables	~480L	15 01 01 to 15 01 07
Organic Waste	~240L	20 01 08
Sanitary / Nappy Waste	~180L	20 01 99
Cleaning / Misc.	~60L	20 01 99
WEEE (as generated)	Ad hoc	20 01 35

Total expected weekly volume: **~1,680L**

Bin provision will exceed this volume by 20–25% to accommodate operational surges or missed collections.

10.3 Bin Infrastructure and Storage Design

The crèche will be served by a **dedicated external bin store**, separate from residential bin areas, and located adjacent to the service entrance. Design features include:

- **4 x 240L wheelie bins** (Residual, Recycling, Organic, Sanitary)
- Optional 120L glass bin (if internal food service generates glass)

10.4 Collection Arrangements and Commercial Licensing

Unlike domestic units, the crèche is classed as a **commercial generator** under Irish waste licensing rules. As such:

- Waste must be removed by a **licensed commercial contractor**
- Collection is subject to **commercial waste levies**, PAYT charges, and potentially more frequent pick-up cycles
- Waste data must be retained for inspection by Cork City Council or EPA if requested

The operator will enter into a **direct service agreement** with a contractor approved for the following waste streams:

- Mixed Residual (20 03 01)
- Dry Recyclables (15 01 codes)
- Food Waste (20 01 08)
- Sanitary/Offensive Waste (20 01 99), which may require special conditions or liner use
- Optional: Confidential paper shredding services or periodic WEEE collection

Collection frequency will be determined in coordination with the chosen contractor, with baseline assumptions of:

- **Residual and Organic:** Weekly
- **Recycling:** Weekly or fortnightly
- **Sanitary Waste:** Weekly, in sealed containers
- **Glass/WEEE:** As needed

10.5 Operational Hygiene and Compliance Protocols

Given the high hygiene standards required in early childhood environments, the following waste handling protocols will be adopted within the crèche:

- **All bins lined with industrial-grade bin bags** and sealed before transfer
- **Food waste stored in closed brown bins**, removed daily from internal kitchens
- **Nappy waste sealed in nappy disposal units**, double-bagged before outdoor storage
- **Daily cleaning of internal waste receptacles** using sanitiser sprays
- **Weekly hosing and disinfecting of the external bin store**, with all drainage captured via gully

Staff will be trained in basic waste segregation, contamination avoidance, and correct PPE use for waste handling tasks.

10.6 Separation from Residential Waste Systems

To prevent contamination, confusion, or misuse, the crèche waste system will be physically and operationally separated from the surrounding residential development:

- No shared bin stores, bins, or presentation zones
- Separate contractor and collection schedule
- Staff-only access to bin compound
- Crèche signage to deter resident interaction with bins

The managing agent for the apartment portion of the scheme will have no responsibility for crèche waste once the unit is let or occupied.

However, a coordination protocol will be included in the overall Estate Management Plan to ensure:

- No overlap of contractor vehicles during peak drop-off times
- Clear delineation of collection zones
- Maintenance of boundary planting or fencing

10.7 Regulatory and Licensing Implications

Depending on final operator fit-out, the crèche may fall under HSE and TUSLA registration thresholds for early years services, which bring additional inspection and hygiene obligations. In addition:

- The waste system must comply with **the Waste Management (Food Waste) Regulations 2009** for food-producing businesses
- Any hazardous waste (e.g. cleaning chemicals) must be stored and documented per **SI No. 403 of 2007** (Waste Licensing)

The waste contractor must provide:

- Annual tonnage summaries
- Collection receipts on demand
- Confirmation of final disposal sites (if requested during planning compliance)

11.0 Signage, Education and Awareness

Effective signage and sustained education are critical to the long-term success of any waste management system, especially in large, mixed-tenure residential environments. In the site, a proactive and layered approach to waste-related communication has been embedded across all phases — from resident induction and daily use, to contractor engagement and long-term estate management oversight.

This section sets out a signage and education strategy designed to support **high-quality waste segregation, low contamination rates, and resident ownership of environmental performance** — all aligned with Cork City Council’s Waste Bye-Laws (2018), regional awareness campaigns, and international best practice.

11.1 Principles of Effective Waste Signage and Education

The waste education framework is built on the following principles:

- **Clarity:** Language, imagery, and layout must be intuitive, visible, and easily understood across age groups and literacy levels.
- **Consistency:** Colour schemes, LoW codes, and layout must be applied identically across all bins, rooms, and digital channels.
- **Redundancy:** Communication must be layered (e.g. bin stickers, wall signs, digital reminders), to reinforce sorting behaviours in multiple formats.
- **Inclusivity:** Materials must accommodate linguistic diversity, visual accessibility, and vulnerable user groups.
- **Feedback and reinforcement:** Behaviour must be shaped through recognition, reinforcement, and structured corrective processes.

This multi-tiered approach reflects both MHL precedent documents and HSE/Housing Agency advice for large-scale, diverse housing developments.

11.2 Bin Signage System and Materials

All internal and external bins — whether for private, duplex, apartment, or crèche use — will be clearly labelled using the following elements:

Element	Description
Colour-coded panels	Matching national stream colours (Brown – Organics, Grey – Residual, Green – Glass, Blue – Recyclables)
LoW Code label	Printed and laminated label showing European waste classification (e.g. “LoW 20 01 08 – Biodegradable Kitchen Waste”)
Pictograms	Visual icons for items (e.g. banana peel, plastic bottle, newspaper)
Text guide	Brief “YES / NO” text (e.g. “YES: food scraps / NO: liquids”)
QR code	Link to digital sorting guide or multilingual video (see Section 11.4)

Operator Labels will be waterproof, UV-resistant, and mounted securely on:

- Bin lids (internal and external)
- Side panels (where applicable)
- Adjacent wall signage in communal rooms

Bin rooms will also include laminated A3 signs explaining stream functions, updated periodically by the managing agent as sorting rules evolve.

11.3 Multilingual and Inclusive Design

Given Ireland's increasing linguistic and cultural diversity, all signage and sorting guides will include:

- **Bilingual English/Irish labels**
- Supplementary translation into key community languages (e.g. Polish, Romanian, Arabic, Portuguese, French)
- **Visual icons and photographic guides** wherever possible to reinforce meaning
- **Plain English principles**, avoiding jargon or technical phrasing

For users with visual impairments or learning difficulties:

- Text will meet minimum 14pt font size
- High contrast colour schemes will be used
- Where feasible, audio support (e.g. QR-linked videos) will supplement physical signage

Signage design will be reviewed annually and refreshed as needed to maintain legibility and alignment with Cork City campaigns.

11.4 Resident Induction and Education

All residents will receive a **Waste Induction Pack** upon moving in, containing:

- Printed and digital sorting guide
- Colour reference card for bin streams
- Contact information for the managing agent
- QR codes for video demonstrations
- Overview of local recycling centres and bottle banks

In apartments and duplexes, an induction walk-through will be provided by the managing agent, covering:

- Location of communal bin rooms or compounds
- Collection days and presentation rules
- Use of access keys or PINs where applicable
- Policies around contamination and overflow

For crèche staff, a tailored briefing will include:

- Handling of sanitary waste
- Internal hygiene protocols

- Access to separate contractor collection bays

Annual refresher emails will be issued to all residents via the estate mailing list, with physical posters rotated on noticeboards quarterly.

12.0 Monitoring, Inspections and Reporting

Effective monitoring and ongoing evaluation are essential for maintaining high operational standards and legal compliance in a waste management system of this scale. Within the site, a robust framework has been established to ensure that all waste-related activities are tracked, recorded, and adjusted in response to usage trends, contamination risks, and policy evolution. This section outlines the tools, responsibilities, schedules, and enforcement mechanisms by which The applicant, through its managing agents and waste contractors, will monitor and optimise operational waste management performance.

12.1 Monitoring Objectives and Scope

The primary objectives of the monitoring programme are:

- To maintain compliance with local and national waste legislation
- To ensure proper functioning of all bin stores and collection logistics
- To detect and reduce contamination or illegal dumping
- To validate capacity assumptions and adjust provision where needed
- To support education campaigns and signage adjustments
- To maintain a proactive relationship with Cork City Council waste enforcement teams

The scope of monitoring covers all residential and crèche waste areas, including private unit storage (kerbside bins), communal stores (apartments and duplexes), and the commercial bin store associated with the childcare facility.

12.2 Management Responsibilities and Structures

Ongoing monitoring will be conducted by the appointed managing agent for the estate (as nominated under MUD legislation), supported by waste contractors and building maintenance teams. Roles include:

- **Managing Agent:** Oversees daily access, cleanliness, store maintenance, and resident feedback; maintains the waste system register
- **Waste Contractor(s):** Reports on collection issues, contamination levels, rejected bins, and frequency of overflow
- **Maintenance Staff:** Alerts managing agent to physical damage, obstructions, or pest ingress
- **Residents/Users:** Encouraged to report issues via estate app, hotline, or email contact

Quarterly performance reviews will be undertaken by the managing agent and reported to the Owners' Management Company (OMC).

12.3 Inspection Protocols

Inspections are expected to be carried out on the following basis (subject end user needs – i.e. an AHB may operate different, compliant provisions also):

Type of Inspection	Frequency	Responsibility	Output
Bin store cleanliness	Weekly	Maintenance team	Cleanliness log, issues noted
Contamination check	Every collection	Waste contractor	Photo record, contamination note
Structural audit	Quarterly	Managing agent	Maintenance schedule
Resident feedback review	Quarterly	Managing agent	Issue tracking report
Council compliance visit	As scheduled	Cork City Waste Enforcement	Site visit report

Inspections will follow a checklist-based format aligned with national guidance and BS 5906:2005.

12.4 Enforcement and Corrective Measures

Where residents or staff breach waste policies (e.g. illegal dumping, repeated contamination), the following enforcement structure applies:

- **Stage 1:** Verbal warning and guidance
- **Stage 2:** Written notice with remediation deadline
- **Stage 3:** Penalty under tenancy/MUD rules (e.g. cost recovery, restricted access)

The managing agent is empowered under lease and MUD law to levy charges or restrict amenities in response to repeated non-compliance.

Severe or repeated offences will be escalated to Cork City Council for enforcement under the Waste Bye-Laws.

12.5 Reporting to Cork City Council

Annual OWMP compliance summaries will be submitted to Cork City Council as part of estate management reporting.

12.6 Continuous Improvement Loop

All monitoring data for MUD areas will feed into an adaptive management framework, including:

- Quarterly waste strategy review meetings
- Integration with community engagement events (e.g. recycling workshops)
- Use of seasonal messaging and bin-lid stickers (e.g. Christmas contamination alerts)
- Piloting of innovations (e.g. smart bin sensors, compostable liner trials)

Key metrics (e.g. contamination rate, resident complaints, missed bins) will be tracked year-on-year to measure system maturity.

13.0 Integration with Engineering, Fire and Access Reports

An Operational Waste Management Plan (OWMP) cannot function in isolation. It must be fully integrated with the engineering, fire safety, and access design strategies that underpin the physical development of the area. This ensures that bin movement, waste collection, fire risk mitigation, and accessibility are operationalised at every scale — from kerbside collection to underground bin store compliance. The following section outlines how this OWMP aligns with and complements the supporting technical documentation prepared for this Large-Scale Residential Development (LRD) submission.

13.1 Engineering Integration: Drainage, Gradients, and Hard Surfacing

The Preliminary Engineering Report (March 2025) submitted by CEA outlines all civil works, including drainage, levels, and hard surfacing. Key overlaps with waste management include:

- **Gradient compliance:** All bin movement routes — from houses to presentation zones and from apartments to refuse truck access points — are designed with a slope of less than 1:20 to meet BS 5906 standards.
- **Drainage at bin stores:** Every communal bin room is fitted with a gully connected to the surface water system via trapped gullies. This prevents standing water and supports hygiene.
- **Non-slip surfacing:** External bin movement corridors, particularly those for apartment stores, are surfaced in brushed concrete or asphalt with non-slip aggregate.
- **Loading areas:** Refuse truck presentation points are designed for 26T vehicles, with appropriate hardstand construction to withstand bin lift and collection activities.

Additionally, foul and surface water drainage from bin stores is separated to ensure that liquid runoff does not enter foul systems, in line with Irish Water and EPA expectations.

13.2 Access Strategy and Refuse Vehicle Tracking

The Swept Path Analysis and Access Strategy demonstrates:

- Full turning movement capacity for standard 2-axle refuse trucks (10.5m)
- No reversing required beyond 6m for any waste contractor route
- 1.5m clearance each side of bin presentation areas to allow for safe manoeuvring
- Drop kerbs and flush thresholds at all bin room access points

Duplex and house units are designed for standard kerbside collection (3-bin system), while apartments and the crèche utilise pull-out presentation to designated hardstands on collection day.

Wayfinding signage, contrasting paving, and visibility splays ensure that waste contractors and site managers can clearly distinguish access paths and presentation points.

13.3 Health & Safety Considerations for Waste Staff

All bin stores and presentation points have been designed in accordance with the HSA Code of Practice for Manual Handling of Loads and BS 5906:2005, including:

- Clear access routes of minimum 1.5m
- Headroom of 2.1m within stores
- No requirement to lift or carry bins — all moved on wheels over even surfaces
- Safety signage (e.g. trip hazard, pest control procedures)

13.4 Coordination of Utilities and Services

The OWMP has been coordinated with utility service plans to ensure:

- No bin store interferes with underground drainage, ESB or broadband chambers
- Bin stores and paths are not used to route service lines that would require invasive maintenance
- Gully access is maintained for periodic cleaning
- No bin presentation area obstructs fire hydrants, gas meters, or electricity access points

In particular, the crèche commercial waste collection route avoids primary pedestrian flows, safeguarding access and reducing operational risk.

13.5 Compliance Statement

This OWMP confirms that:

- All bin stores are fire-safe, structurally compliant, and accessible
- All waste movement paths are serviceable by approved refuse vehicles
- No part of the waste system compromises drainage, accessibility, or engineering design

The systems described have been reviewed against engineering, fire and access documents and are deemed fully coordinated for submission.

14.0 Swept Path and Bin Presentation Areas

The successful and uninterrupted operation of a waste management system in a large-scale residential development is contingent upon precise and unobstructed refuse vehicle access to designated bin presentation areas. Swept path analysis — validated by engineering consultants — is a critical component of this Operational Waste Management Plan (OWMP), and supports Cork City Council's review of servicing feasibility, especially for large 2-axle refuse trucks. This section outlines in detail the vehicle movement design, presentation areas, accessibility principles, and contingency planning for the site, ensuring that all bins can be presented, collected, and returned without risk to people, property, or public infrastructure.

14.1 Refuse Vehicle Type and Parameters

All refuse access design has been modelled for a **standard 2-axle rear-loading refuse truck**, with the following dimensions (as per Design Manual for Urban Roads and Streets - DMURS):

- Overall length: 10.5m
- Width (incl. mirrors): 2.85m
- Turning radius (outer): 12.5m
- Rear overhang: 2.5m
- Vehicle weight (laden): ~26 tonnes

These parameters ensure compatibility with waste contractor.

15.0 Conclusion

This Operational Waste Management Plan (OWMP) provides a fully integrated and technically sound framework for the sustainable, compliant, and futureproofed management of all domestic and ancillary waste streams within the development. It has been prepared with direct reference to statutory guidance, Cork City Council development objectives, and industry best practice as evidenced in comparable planning submissions.

Through this plan, the applicant demonstrates its commitment to delivering a high-quality built environment where waste is effectively managed through coordinated infrastructure, estate governance, and resident engagement.

Key achievements of the OWMP include:

- Systematic provision for residual, recycling, organic, and future waste streams;
- Full compliance with BS 5906:2005, Irish Building Regulations, and Cork City Council policies;
- Defined operational protocols that ensure bin presentation and collection are efficient and safe;
- Clear responsibilities for estate managers, contractors, and residents;
- Infrastructure capable of adapting to changes in waste policy, technology, and demographics.

The OWMP is supported by site-wide engineering design, fire safety, and accessibility assessments, ensuring the practicality and enforceability of all proposed arrangements. This report is submitted as part of the statutory planning application and should be read in conjunction with the associated architectural, landscape, and engineering documentation. It reflects the applicant's intent to achieve long-term sustainability outcomes, minimise environmental impact, and support the circular economy.

Should Cork City Council require clarification or further detail on any aspect of this report, The applicant and its consultants remain available to provide follow-up.