MHL & ASSOCIATES LTD.

For: **Clockstrike Ltd.**

Proposed Residential Development - Phase 2,
Ringwood, Blarney.



Preliminary Operational Waste Management Plan

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MHL & Associates Ltd.
Consulting Engineers

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1 INTRODUCTION

This Preliminary Operational Waste Management Plan (POWMP) has been carried out by MHL & Associates Ltd. on behalf of Clockstrike Ltd. for the proposed Large Scale Residential Development (LRD) for zoned lands in Ringwood, Blarney, Cork. This POWMP has been prepared in compliance with the Cork City Development Plan 2022 where applicable.

Section 3 of this report provides a comprehensive project description, outlining a development comprising a mix of apartments, duplex units, and commercial units.

This plan is developed to ensure that waste management during the operational phase of the proposed development aligns with prevailing legal and industry standards. Its primary objective is to maximise recycling, reuse, and recovery of waste, aiming to divert waste from landfill whenever feasible. The plan offers directives on the proper collection and transportation of waste. Additionally, it includes estimations regarding the types and quantities of waste anticipated from the proposed development during its operational phase, along with guidance for managing the waste effectively.

This POWMP has been developed to ensure that waste management during the operational phase of the proposed development adheres to current legal and industry standards. This includes compliance with the 'Waste Management Act 1996, as amended', and associated regulations such as the 'Protection of the Environment Act 2003', 'Litter Pollution Act 1997', the 'Southern Region Waste Management Plan 2015-2021', and the 'County Cork Waste Management Byelaws, 2019' (hereinafter referred to as 'the Byelaws').

It's important to note that this plan will undergo review if planning permission is granted, and any significant changes in the proposed operational strategy will be subject to agreement with Cork City Council during both the construction and operational stages of the project.

Specifically, this POWMP is geared towards furnishing a comprehensive plan for the storage, handling, collection, and transportation of waste generated at the development in a manner that safeguards human health and the environment, while also mitigating common waste-related nuisances such as litter or odours.

The POWMP is to ensure that waste arising from the operational phase of the project is managed to promote waste prevention and encourage waste segregation in line with the Waste Hierarchy. The overarching philosophy prioritises waste diversion from landfill and waste prevention. The plan entails estimating the types and quantities of waste anticipated from the proposed development during its operational phase, along with providing a strategy for managing various waste streams.

This POWMP aligns with the mandates of national and regional waste policies, legislation, and relevant guidelines. This plan has been prepared in accordance with best practice standards, local and national waste management requirements, including those of Cork City Council and in particular, with the following documents:

The objective of this Operational Waste Management Plan (POWMP) is to maximise the quantity of waste recycled by providing adequate recycling infrastructure, implementing waste reduction initiatives, and supplying operators and users of the development with relevant waste collection and management information. The POWMP shall be fully integrated into the design and operation of the development to ensure that sufficient waste management infrastructure is incorporated to minimise the generation of mixed

waste streams. The principle of waste segregation at source shall be implemented through the provision of separate bin systems. All non-clinical waste generated by site activities will be removed by appropriately permitted waste haulage contractors and disposed of at licensed or permitted facilities in compliance with the Waste Management Act 1996 and associated regulations. Similarly, all clinical waste will be removed by suitably permitted hazardous waste contractors, accompanied by a Waste Transfer Form (WTF), in accordance with the Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147/1998).

• BS 5906:2005 Waste Management in Buildings – Code of Practice.
• Southern Region Waste Management Plan 2015 - 2021.
• Cork City Development Plan 2022 – 2028.
• Cork City Council Byelaws for the Segregation, Storage and Presentation of Household and
• Commercial Waste (2018); and
• DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2022).

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2 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

Operational Waste Management Plans are mandated in Ireland's planning process. The aim of this Preliminary Operational Waste Management Plan is to meticulously outline how waste generated during the operational phase of a proposed development will be handled. This encompasses provisions for waste storage, access to authorised waste collection services, and proximity to additional recycling facilities.

The proposed development falls within the jurisdiction of Cork City Council's planning district. In formulating this plan, careful attention has been paid to the directives of Cork City Council's Environment Department, as well as to national and regional waste policies, legislation, and other guidelines issued by Local Authorities.

2.1 European and Irish Legal Context

Waste legislation in Europe and Ireland is extensive and often intricate. The framework legislation establishes the legal framework for waste prevention and management in Ireland, covering aspects such as waste generation reporting, treatment, capacity, and setting mandatory targets for diversion, collection, and treatment.

At the core of waste regulations across Europe is the Waste Framework Directive (Directive 2008/98/EC), which was transposed into Irish law in 2011 through the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126/2011). This directive promotes waste prevention, recycling, and processing, outlining a Waste Hierarchy that prioritises waste prevention, preparation for re-use, recycling, and energy recovery, with disposal as the last resort. Member States are required to adopt waste management plans and waste prevention programs.

The new Waste Framework Directive (Directive (EU) 2018/851) was adopted by the EU in July 2018 and transposed into Irish law in July 2020. Part of the Circular Economy Package, this directive mandates EU Member States to enhance their waste management systems, improve resource efficiency, and ensure that waste is considered a valuable resource.

In Ireland, the primary legislation governing waste is the Waste Management Act 1996, as amended, and the Protection of the Environment Act 2003, as amended. The Waste Management Act, supplemented by subordinate regulations, addresses specific waste types such as food waste, waste electrical and electronic equipment, and batteries. Amendments to the Act, particularly through Waste Directive Regulations, align with new EU environmental initiatives and reinforce areas of concern.

A fundamental principle of European waste legislation, incorporated into Irish legislation including the Waste Management Act, is the principle of "Duty of Care." This principle holds waste producers responsible for their waste from generation to legal disposal, including the disposal method.

As it is often unfeasible for waste producers to physically transport waste to its final treatment destination, the services of waste contractors are typically enlisted for this purpose. Hence, it is essential for management companies overseeing residential developments to manage waste on-site in compliance with legal obligations. Additionally, they must engage authorised waste contractors to handle waste off-site, ensuring adherence to all legal requirements. This entails ensuring that waste contractors manage waste transportation, handling, and treatment in a manner that prevents any adverse environmental impacts.

Each appointed Waste Contractor must hold a valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). Moreover, waste treatment facilities must possess appropriate permits or licenses from the Local Authority or Environmental

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Protection Agency to accept waste. The designated Management Company is responsible for verifying that all Waste Contractors possess the requisite authorisations.

2.2 Waste Policy in Ireland

Ireland has adopted waste management policies in addition to waste regulations. These policies have been detailed in a series of policy documents 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)
- National Waste Management Plan for the Circular Economy 2024-2030

The latest policy document, 'A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2024-2030,' was published by the Department of Communications, Climate Action, and Environment in September 2020. This policy outlines several significant actions aimed at transitioning the current economic and waste system from linear to circular, including:

- Shifting towards a policy framework that incentivises circularity and reduces resource wastage.
- Enhancing accountability for products placed on the market by imposing levies on non-recyclable waste and excessive packaging.
- Setting targets for recycling (65% by 2035), reducing food waste (by 50% by 2030), and limiting waste sent to landfill (no more than 10% by 2035).
- Strengthening awareness and education measures for households, with encouragement for the waste collection industry to participate.
- Replacing all Regional Waste Management Plans with a National Waste Management Plan for a Circular Economy.
- Standardizing bin color-coding (e.g., designating the general waste bin as a 'recovery' bin in black, the mixed dry recycling bin in green, and the organic waste bin as an 'organic waste recycling bin' in brown).

These policies reflect Ireland's commitment to sustainable waste management practices and the transition to a circular economy.

2.3 Regional Waste Management Plans & Local Byelaws

The site is situated within the Southern Waste Region, encompassing the territories of ten local authority areas: Carlow, Clare, Cork County, Cork City, Limerick City & County, Kerry, Kilkenny, Tipperary, Waterford City & County, and Wexford. The Southern Region Waste Management Office (SRWMO), overseen by Limerick City & County Council and Tipperary County Council, manages the implementation of the Southern Region Waste Management Plan 2015 – 2021 (WMP). This plan, a statutory document guided by national and EU waste legislation, outlines a strategic vision aimed at reimagining waste management approaches. To realise this vision, the WMP establishes three specific and measurable performance targets:

- A 1% reduction per annum in the quantity of household waste generated per capita over the Plan's duration.
- Achieving a recycling rate of 50% of managed municipal waste by 2020.

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- Eliminating direct disposal of unprocessed municipal waste to landfill (from 2016 onwards) in favour of advanced pre-treatment processes and local recovery practices.

The existing regional waste management plans will be succeeded by the National Waste Management Plan for a Circular Economy (NWMPCE), currently in the consultation/drafting stage, aligning with the principles outlined in the Waste Action Plan for a Circular Economy.

Furthermore, the County Cork Waste Management Byelaws, 2019 ("the Byelaws") and Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Byelaws, 2019, impose additional obligations regarding waste storage and management within the development. According to the Byelaws, household kerbside waste must be presented for collection exclusively in suitable waste containers, not overloaded, with securely closed lids. No waste should be placed atop lids or adjacent to waste containers, and waste storage is restricted to designated locations except on the day before and the designated waste collection day.

For apartment complexes, management companies are required to furnish separate receptacles of appropriate size and quantity for the proper segregation, storage, and collection of recyclable household kerbside waste and residual household kerbside waste. Additional receptacles are mandated for segregating, storing, and collecting food waste. The specific number of bins for this development is further elaborated in Section four of this report.

Section 10(h) of the Byelaws stipulates that "adequate access and egress onto and from the premises by waste collection vehicles is maintained" for waste collection. This requirement has been factored into the design of the development, ensuring sufficient access and egress for waste collection vehicles. Additionally, this Operational Waste Management Plan (POWMP) aligns with the objectives outlined in Chapter 5 of the Cork County Development Plan 2022-2028.

2.4 Waste Recycling Targets

The POWMP notes the following stages of waste management with regard to the Circular Economy and the Waste Hierarchy

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

3 DESCRIPTION OF PROJECT SITE LOCATION

The applicant's land ownership consists of two individual land holdings on either side of the N20. The applicant is seeking planning for the lands located South of the N20 and east of Station Road. For the purposes of this report, these lands are referred to as the "Ringwood Phase 2" site. The applicant's lands north of the N20 are referred to as the "Stoneview" site and form part of the overall Masterplan Strategy for entire lands under Clockstrike Ltd. ownership.

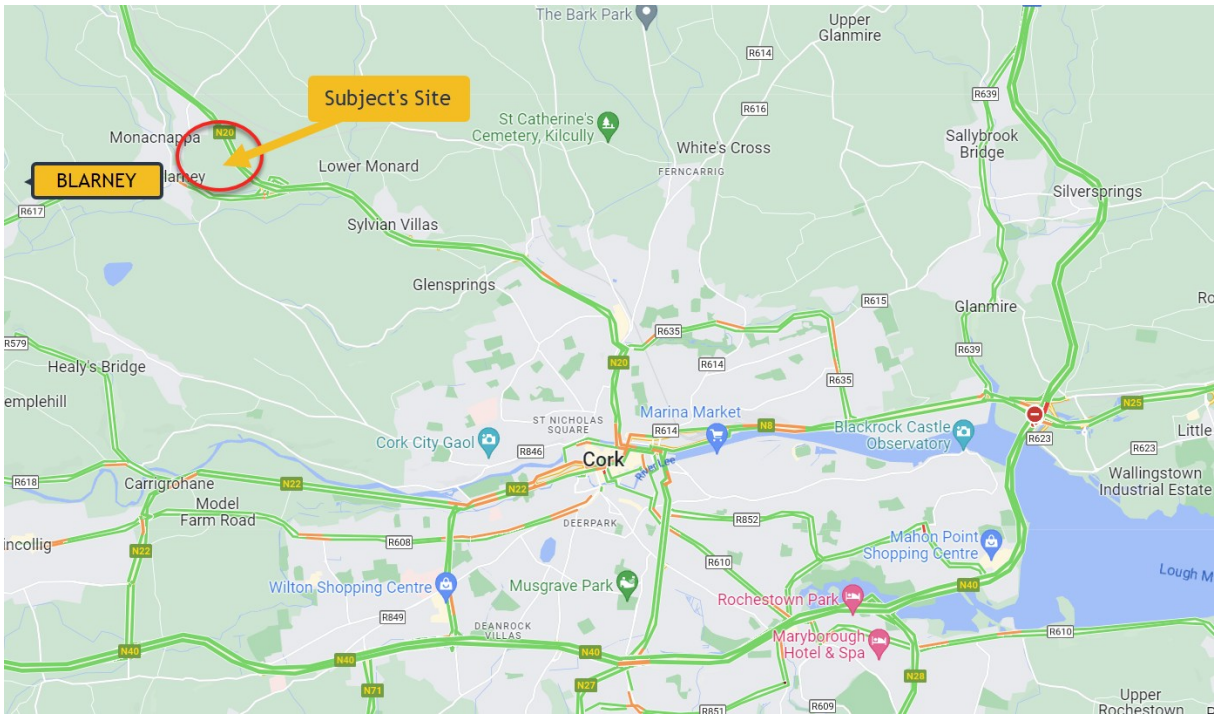


Figure 3.1: Subject's Site Location

The figure above shows the site location in relation to the Blarney Village environs and the wider regional road network. The site is 0.5-1.0 km east of the village centre.

The development of the Ringwood site is in keeping with Cork City Development Plan 2022-2028 which focuses on developing Blarney into an important population centre to the west of the city, fulfilling its role in urban city development.

The proposed site layout has been developed by CCK Architects. Please refer to the design team drawing pack submitted for further details.

The wider Ringwood site is located northwest of Cork City and northeast of Blarney village. The subject's site northern and eastern perimeters are aligned with the National Primary Road (N20), with Station Road bounding its western perimeter. The lands to the south are bounded by the R617 Regional Road.



Figure 3.2: Site Location & Surrounding Area

3.1 Application Description

The LRD Phase 2 planning description states:

Clockstrike Ltd., intend to apply for permission for a Large-Scale Residential Development (LRD), at this site at Ringwood, Shean Upper and Shean Lower, Blarney, Cork. The proposed development will consist of a large-scale residential development (LRD), representing Phase 2 of development in the Blarney East / Ringwood Expansion Area, and comprising the construction of (i) 323 no. residential dwellings comprising of 157 no. terraced, end-of-terrace, and detached houses (including 129no. 3-bed and 28no. 4-bed units); 52 no. duplexes provided in 5 no. 3-storey buildings (including 26 no. 2-bed and 26 no. 3-bed units) and 114 no. apartments provided in 2 no. 5-storey buildings (including 54 no. 1-bed and 60 no. 2-bed units); (ii) a primary care centre, over 2 stories and 1,724sqm in area, incorporating GP services (iii) the refurbishment and redevelopment of existing farm outbuildings for conversion to a retail/pharmacy use, 80sqm in area, and café/restaurant use, 380sqm in area; (iv) a new access roadway into the site from the R617 with associated pedestrian and cyclist infrastructure, which will form the 1st phase of the proposed Stoneview Access Link Road, (v) a new signalised junction on the R617 road which will provide a single lane approach to the west and a two lane approach to the east, comprising one lane for through traffic on the R617 and a right turn lane for traffic turning into the site, and associated footpath improvements and cycle lane provision (vi) a new signalised junction at the R617 and Killard Road junction which will provide a two lane approach from the west, one lane for through traffic heading eastbound on the R617 and a right turn lane onto the Killard Road, with associated footpath improvements and pedestrian and cyclist infrastructure; (vii) a new signalised junction on Station Road that reflects the junction permitted under the Phase

1 LRD scheme (Reg. Ref. 2443031) (viii) private, communal, and public open spaces and hard and soft landscaping, boundary treatments and amenity areas, including a new wetland public amenity area, (ix) drainage works and nature-based SuDS measures (x) foul sewer infrastructure, including 1no. pump station, the diversion of existing foul and water sewers and other new network works, (xi) car parking, including EV charging points, bicycle parking, and motorcycle parking bays (xii) 2no. substations, all associated ancillary site, drainage and development works. The planning application is accompanied by an Environmental Impact Assessment Report (EIAR).

The application may be inspected online at the following website: www.ringwoodphase2lrd.ie.



Figure 3.3: Development Site Layout (Phase 2) (c: CCK Architects)

The development proposes to connect onto Station Road with a proposed new development junction. Extensive traffic analysis for this junction and surrounding road networks has been carried out by Systra Ltd. Please refer to their submitted documentation for further details. This junction arrangement has been arrived at following preliminary discussions with Cork City Council.

3.2 Permitted Phase 1 (Permitted)

The proposed permitted development is to consist of a largescale residential development (LRD) of 246no. residential dwellings comprising the following: 101no. apartments arranged in 4no. part 3-storey, part 4-storey apartment blocks (to include 6no. 1-bed studio units, 35no. 1-bed units and 60no. 2-bed units); 30no. duplex dwellings arranged in 3no. 3-storey buildings (to include 15no. 1-bed dwellings and 15no. 2-bed dwellings); and 115no. 2-storey and 3-storey houses (to include 19no. 2-bed dwellings, 64no. 3- bed dwellings, and 32no. 4-bed dwellings).The proposed development also includes crèche (380.6sqm) with capacity to accommodate 61no. children.



Figure 3.4: Development Site Layout (Phase 1) (c: CCK Architects)

Please note that the application (Phase 2) is noted as future phase in the figure above.

3.3 Proximity of the Development to Recycling Facilities

The development site is positioned along Station Road and the R617 Road in Co. Cork. As depicted in Figure below, the site's proximity to local bring bank facilities is noted. Notably, the Cork area boasts a significant civic amenity centre located in close proximity to the site, catering to the region's waste management needs. Additionally, various bring banks are dispersed across the region, facilitating glass bottle collection.



Figure 3.5 Bring Banks and a Civic Amenity Recycling Centre (c: Repak)

4 WASTE GENERATION AND STORAGE

4.1 Waste Types Arising – Residential (Apartments, Duplexes and Houses)

The anticipated waste types expected to be generated at the proposed residential properties include the following:

i. Mixed Municipal Waste (MSW) or General Waste,
ii. Dry Mixed Recyclables (DMR) - comprising cardboard, plastic packaging, aluminium cans, tins, paper, and Tetra Pak cartons,
iii. Organic (food) waste, and
iv. Glass.

Alongside these daily waste materials, there will be additional waste types produced in smaller quantities that will require separate management, including:

- Bulky wastes such as furniture, carpets, and mattresses,
- Glass items like bottles and jars,
- Waste Electrical and Electronic Equipment (WEEE),
- Batteries,
- Textiles like clothes or soft furnishings,
- Light bulbs or fluorescent tubes,
- Chemicals such as old medicines, paints, and detergents, and
- Waste oil, including cooking oil.

4.2 Waste Types Arising – Commercial Units (Retail / Café)

The non-residential units (i.e. the proposed retail and café), are expected to generate waste types similar to those of residential units, including:

- Dry mixed recyclables,
- Mixed Municipal Waste (non-recyclable),
- Organic (food) waste, and
- Glass.
- Oil.
- PCC – Medical Waste.

Additionally, there will be some commercial "office" type waste generated by the proposed retail and café, such as paper, printer ink, batteries, and Waste Electrical and Electronic Equipment (WEEE).

4.3 List of Waste Codes

Ensuring the accurate classification of waste is essential to guaranteeing that its collection, transportation, storage, and treatment adhere to environmental and health protection standards and comply with legal regulations. The European Waste Catalogue was initially issued by the European Commission in 1994. Subsequently, in 2002, the Environmental Protection Agency (EPA) released a publication titled the 'European Waste Catalogue and Hazardous Waste List'. This publication has been superseded by the EPA's 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous', which came into effect on July 1, 2018.

The waste classification system, applicable across the European Union, serves as the foundation for various national and international waste reporting requirements. These include obligations related to waste collection permits, certificates of registration, waste facility permits, EPA Waste and IED licenses, and the EPA National Waste Database.

The EPA's publication 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' (EPA, 2018) consolidates relevant legislation, facilitating

waste generators in classifying waste as hazardous or non-hazardous and accurately assigning the corresponding List of Waste (LoW) entry.

Within this classification system, each type of waste is precisely defined by a code. The following figure provides the List of Waste (LoW) codes, previously referred to as European Waste Codes (EWC), for typical waste materials anticipated during the operation of the proposed development.

Waste Description	List of Waste Code
Mixed Municipal Waste	20 03 01
Mixed Dry 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 13/19/27-28/29-30
Plastic	20 01 39
Metals	20 01 40
Paper and Cardboard	20 01 01

Figure 4.1 Waste codes and expected waste types.

4.4 Generated Waste Types and Quantities- Residential

Based on the latest EPA Ireland data (2022 household waste characterisation study and 2023 statistics), Ireland generates approximately 342 kg of household (municipal) waste per person per year. This equates to circa 6.23 kg/person/week or circa 0.89 kg/person/day, including all categories (residual, recyclables, organics).

Waste Type	% Waste	Kg/week	Kg/day
Organic waste	81	0.13	81.2
Paper	33	0.15	33.2
Cardboard	10	0.04	9.5
Composites	3	0.01	2.7
Textiles	41	0.38	41.1
Plastics	36	0.90	36.1
Glass	9	0.01	9.0
Metals	8	0.09	8.2
Wood	3	0.04	3.2
Hazardous municipal waste	2	0.01	2.4
Unclassified combustibles	4	0.01	3.7
Unclassified incombustibles	3	0.01	3.2
Fines	31	0.12	31.0
Bulky Waste & WEEE	1	0.003	0.8
Totals	***100***	***1855***	***265***

Figure 4.2 Non clinical waste types per day/week

4.5 Generated Waste Types and Quantities- Commercial

Facility Type	Source / Guidance	Typical Waste Generation Rate
Retail Shops (General)	EPA Ireland, 2022 Non-Household Municipal Waste Characterisation Report (CTC, 2023)	0.02 – 0.04 kg per sqm per day, commercial municipal waste,
Pharmacies (Pharmaceutical Waste)	EPA Ireland, National Hazardous Waste Management Plan Mid-term Evaluation (2025); Scaled from NI DoH estimates (2023)	0.3 – 0.5 kg per pharmacy per day
Facility Type	**Source / Guidance**	**Typical Waste Generation Rate**
Restaurants/Cafés (General)	EPA Ireland, Food Waste in Full-Service Restaurants (2018 benchmark, updated 2023 stats)	~200 – 260 g per cover
Restaurants/Cafés (Area-Based)	EPA Ireland, Food Waste Statistics (2023); Derived from National Waste Statistics	0.08 – 0.12 kg per sqm per day

Figure 4.3 Commercial waste types

Waste Type	**kg/week**	**kg/day**	
General Commercial Waste	16.8	2.4	
Pharmaceutical Waste	19.6	2.8	

Waste Type	**kg/week**	**kg/day**	
Food Preparation/Spoilage Waste	189	27	
Plate/Consumer Waste	173	25	

Figure 4.4 Commercial waste types estimate

4.6 Generated Waste Types and Quantities- Primary Care Centre

Facility Type	Source / Guidance	Typical Clinical Waste Generation Rate
Residential / Nursing / Care Homes	UK NHS Estates & HSE (Ireland)	0.25 – 0.5 kg per resident per day
Hospitals (general / acute)	UK NHS Estates & HSE (Ireland)	~0.4 – 0.7 kg per patient per day
Residential / Nursing / Care Homes	Irish HSE, Health Facility Waste Management Guidelines (2008)	~0.3 kg per resident per day (standard planning assumption)
Acute Hospitals	Irish HSE, Health Facility Waste Management Guidelines (2008)	≥0.5 kg per bed per day (depending on procedures)

Figure 4.5 Clinical waste types estimate

To estimate the quantity of clinical waste generated, a rate of 0.3 kg per resident per day has been assumed.

Waste Type		kg/ week	kg/ day
Totals		380	54

Figure 4.6 Clinical waste types per day/week

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4.7 Waste Storage Capacity Requirements – Residential Apartments and Townhouse /Duplex

To determine the needed bin storage capacity for apartment and townhouse/duplex buildings, it's essential to compute it based on the total number of units and the number of bedrooms within each unit.

The capacity requirements have been determined based on a worst-case scenario, assuming full occupancy and collections of bins every week. It's important to note that this approach allows for flexibility, as it leaves room for increased frequency of collections, if necessary, in the future. This ensures that the waste management system can adapt to changing needs and demands effectively.

The British Standard BS5906:2005 Waste management in buildings — Code of practice offers guidance on waste generation for both domestic and commercial units, assisting in determining the necessary storage, containment, and equipment requirements for effective waste management. Utilising calculations outlined in this British Standard, the waste storage capacity requirements for the apartments and townhouse/duplex units in this proposed development have been computed. The following figure provides a breakdown of the Schedule of Accommodation for apartments and townhouse/duplex units. The number of bedrooms is essential for completing the calculations of waste volumes generated as per BS 5906:2005 Waste management in buildings — Code of practice.

The following figures below present the waste generation calculations, computed using the formula specified in the BS 5906:2005 Waste management in buildings — Code of practice. They outline the required number of bins to accommodate the waste generated. The formula assumes a volume of 70L per bedroom for waste arising, with an additional 30L allocated to each dwelling for every calculation. This additional volume is intended to account for adequate storage capacity during periods of seasonal variations, resulting in higher waste generation.

4.8 Waste Storage Arrangements – Apartments and Townhouse / Duplex

Each communal amenity space includes several dedicated shared waste stores to cater to the needs of the apartment and townhouse/duplex units. These bin stores are strategically positioned to ensure both security and convenient access for residents across the development.

Residents of apartments and townhouse/duplex units will be instructed to separate waste into the following categories:

- Municipal Solid Waste
- Dry Mixed Recyclables
- Glass
- Organic (Food) Waste

The layout and design of the apartments and townhouse/duplex units should ensure sufficient space for the temporary storage of segregated materials before they are deposited in communal waste storage areas. Adequate room is allocated in the kitchen area to accommodate a three-compartment bin for waste segregation at the source. In-sink macerators will not be provided in the apartments and townhouse/duplex units.

The Management Company will distribute leaflets to all new tenants, encouraging proper waste segregation, along with pictorial information detailing the waste streams suitable

for each bin. Additionally, clauses supporting waste segregation targets will be included in relevant legal documents, such as tenancy agreements whenever feasible.

Several bin compound areas are designated for apartment and townhouse/duplex residents. It will be the residents' responsibility to transport their segregated waste to these areas and deposit it into appropriately labelled bins. Each bin will be clearly marked to indicate the types of waste allowed and prohibited, with pictorial labels for clarity.

The pathway leading to the bin compound area and the area itself will be wheelchair accessible, well-lit, and properly ventilated. Residents will have secure access to the bin compound area through the use of a pin code or fob key, preventing unauthorised access by the general public. Any additional household wastes such as bulky waste, WEEE, batteries, textiles etc. must be brought to a local recycling facility.

4.9 Apartments and Townhouse / Duplex Bin Compound Areas

The Department of Housing, Planning, and Local Government released guidelines in March 2018 titled "Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities." These guidelines outline the requirements for the storage and collection of waste materials in apartment complexes. They have been carefully considered in the design of the waste compound area for this development.

The bin compounds for the residential apartments and townhouse/duplex units are strategically located throughout the development to serve each block effectively. These compounds will feature the following minimum provisions:

1. Accessibility: The bin compounds will be designed to be accessible for individuals with mobility impairments.
2. Lighting: Adequate lighting will be installed in the bin compounds, utilising energy-saving fixtures operated by sensors to ensure safety and prevent waste disposal in poorly lit areas.
3. Spillage & Drainage: Non-slip surfaces will be implemented to prevent slips or falls, and the compounds will have proper drainage directed to the foul sewer system.
4. Security: Access to the bin compounds will be restricted to tenants and residents only, preventing unauthorised access by the general public.
5. Ventilation: Natural ventilation will be provided, with all vents ducted to external openings to prevent odour nuisances and ensure comfort for nearby habitable rooms.
6. Signage: Pictorial signage will be installed to inform residents and tenants about proper waste disposal practices for each bin. This signage will be provided by the appointed management company, as stipulated in their agreement.
7. Environmental Nuisance: The bin compounds will be enclosed to prevent environmental nuisances such as litter. Regular waste collections will be essential to prevent odour or vermin issues, with the management company responsible for ensuring adequate vermin control.
8. Vehicular Access: The development's design ensures safe access for waste collection vehicles to collect the bins, with vehicular access included in the traffic management plan.

Apartments and townhouses/duplex units will be equipped with shared bin stores containing a standard three-bin wheelie bin system.

4.10 Clinical Waste Storage

The external clinical waste storage area shall be designed to incorporate specific controls to ensure the safe handling and containment of healthcare risk waste. All clinical waste will be stored in a secure, segregated section of the overall waste storage area, with receptacles kept within a covered enclosure such as a secure container or bunker unit. Appropriate warning signage indicating the presence of healthcare risk waste or biohazards shall be displayed at the entrance to the clinical waste area. In addition, suitable spill kits shall be maintained within the clinical waste storage area to facilitate effective response to any accidental releases.

4.11 Oil (Cooking)

Waste oils arising from plant maintenance and kitchen food preparation will be collected and managed separately. These oils can be processed, recycled, and reused by specialist waste contractors such as ENVA. All maintenance and cooking oils shall be stored in secure, dedicated containers to ensure safe handling and collection.

4.12 Other Waste Materials

Occasional waste materials like bulky items, textiles, printer toner/cartridges, WEEE (Waste Electrical and Electronic Equipment), batteries, and other household hazardous wastes might be generated by residents of the residential units. It will be the responsibility of residents to store these wastes appropriately within their own dwellings and dispose of them properly at nearby bring centres or civic amenity facilities. Information regarding nearby recycling centres and bring banks can be accessed through the Repak.ie website. The management company will provide all occupants with information about the location of recycling facilities in the area.

4.13 Recycling Rates & Targets

Waste collection areas will be equipped with receptacles and signage aimed at achieving a waste composition rate of 30% non-recyclable municipal solid waste (MSW) and 70% recyclable waste streams. Recyclable waste streams will encompass dry mixed recyclables (including packaging, papers, cardboards, plastics, aluminium, metals, and tin), glass, and food waste.

All MSW collected will be transported for further recovery, with none directed to landfill. It will either undergo mechanical waste recovery or be consigned to a facility for energy recovery.

Upon assessment of bin usage by the appointed Management Company, MSW bins may be substituted with additional bins for food waste or mixed dry recyclables to enhance waste segregation at its source.

This bin ratio aligns with the European Commission's proposal to achieve a 70% plus reuse and recycling target for municipal waste by 2030. Furthermore, this waste collection plan offers a flexible waste management solution capable of accommodating future targets and legislative requirements.

4.14 Bin Weight Limits & Dimensions

The Cork City Council Byelaws stipulate that waste presented for collection must not be overloaded. Given the capacity of the bins provided, they will adhere to this requirement.

For the residential shared bin storage areas, 1,100-liter bins measuring approximately 1300mm x 1000mm x 1300mm, with a load capacity of no more than 240kg, will be utilised for dry recyclables and mixed municipal waste. Additionally, 240-liter bins measuring 1100mm x 740mm x 660mm will be used for food waste and glass. All bins will be color-coded and labelled to prevent cross-contamination: green for dry

recyclables, brown for organic waste, black for mixed non-recyclable waste, and blue for glass waste, aligning with the Waste Action Plan for Circular Economy.

Access to the waste storage area in the apartments and townhouse/duplex buildings will be restricted to residents and waste contractors. The area will not be visible to the public and will adhere to the requirements outlined in BS 5906:2005 – Waste Management in Buildings – Code of Practice.

Residents of the apartments and townhouse/duplex will likely be subject to a service management charge, which will include waste management fees.

4.15 Waste Management Duties of the Facility Management Company

4.15.1 Waste Management (Internal and External)

The Facilities Management Company will be responsible for transferring all clinical and non-clinical waste from within the building to the external waste storage area, and for maintaining both the internal and external waste storage facilities.

4.15.2 Waste Management and Record Keeping

The Facilities Management Company shall maintain a weekly register recording the quantities and breakdown of all clinical and non-clinical waste removed from the development.

4.15.3 Vistor Waste Management

The Facilities Management Company shall maintain -bin waste segregation systems throughout the building.

4.15.4 Waste Storage Area Design

The waste storage area shall be adequately sized to accommodate all clinical and non-clinical waste receptacles and to allow safe and unobstructed access for waste collection vehicles.

5 WASTE COLLECTION

All waste collections must adhere to the conditions specified in the waste contractor's Waste Collection Permit for the region and comply with Local Authority by-laws and the Waste Management (Waste Collection Permit) Regulations 2007, as amended. Residents are legally obligated to utilise the waste management service and adhere to local By-Laws and Statutory Instruments regarding waste presentation for collection. Waste collection for a three-bin system service will commence from the time of first occupancy, regardless of the occupancy status of all dwellings.

A waste collection service will be accessible to all occupants from the commencement of occupancy, regardless of the occupancy status of all units. Waste collection vehicles will service the bins in all cases, and the emptied bins will be returned to the waste storage areas. Bins will never be left outside the development's curtilage. Access and egress of waste collection vehicles will adhere to the Traffic Management Plan for the facility, ensuring unimpeded movement throughout the development. Consideration has been given to BS 5906:2005 – Waste Management in Buildings – Code of Practice when determining vehicular access and egress for waste collection purposes.

The management company for the development will maintain records of collections from residential blocks, including reports from the facilities where waste is deposited. All bins in 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 and to assist waste management operatives in wheeling out and replacing bins during collections if necessary.

6 MANAGEMENT SYSTEM

6.1 Communication

The designated management company will furnish written instructions to each tenant or occupant regarding waste separation, segregation, storage, and presentation prior to collection. This information package will also include details about nearby recycling facilities. Additionally, new occupants of properties within the development will receive these instructions through informational booklets.

It will be a contractual obligation for the appointed management company to ensure that all residents receive an information pack from the waste collection provider. This pack will outline the types of waste suitable for the provided bins in the waste compound, promoting active waste segregation, and clearly specify the collection schedule.

Furthermore, a contractual clause will be established with the waste collection provider to guarantee the provision of this information pack to new residents.

6.2 Waste Management Contracts

Any management contract for the development will include a requirement for sufficient budgets to cover all necessary waste management services. This encompasses the establishment of a three-bin system for the separate collection of organic waste, mixed dry recyclables, and general residual waste from the buildings.

Additionally, apart from the stipulations outlined, the appointed Management Company will be tasked with ongoing monitoring of the waste management system's performance. This entails regular visual inspections of the bin compound area to ensure that all collected bins are returned and that the area is well-maintained to prevent environmental disturbances. These inspections will also assess the condition of bins, with replacements arranged for any identified damage.

The contract with the waste management contractor will incorporate provisions for bin cleaning services or the replacement of clean bins as necessary. Furthermore, the Management Company will scrutinise annual waste reports from the appointed Waste Collection Company to verify compliance with European recycling targets. In cases of subpar recycling rates, informational leaflets containing recycling guidelines and legal obligations will be redistributed to all residents. If required, additional communication strategies will be implemented to promote effective waste management practices among tenants and owner-occupiers.

Contingency policies will be established to ensure uninterrupted service provision in unforeseen circumstances.

6.3 Waste Storage Areas

Adequate waste storage facilities will be provided to accommodate the storage, segregation, and recycling of waste for this residential development. Regarding the communal refuse storage provision, the refuse collection point will be accessible to both external collectors and residents, while also being secured against illegal dumping by non-residents.

The communal Waste Storage Areas (WSAs) provided will adhere to relevant design standards. For the duplex blocks, the WSAs will be situated externally with open access. WSAs located internally typically feature:

- A non-slip floor surface
- Effective ventilation to minimise odours.
- Sensor-controlled lighting with a minimum Lux rating of 400

- Accessibility for individuals with limited mobility
- Clear signage, including labels indicating allowable content on bins.
- Provision of water and power supply for power washers, with a sloped floor for runoff
- Secure doors enabling controlled access for both external collectors and residents.
- CCTV for monitoring purposes

The building management company and their appointed operator will be responsible for maintaining the communal waste storage areas in good condition.

7 CONCLUSION

In conclusion, the Preliminary Operational Waste Management Plan (POWMP) present an appropriate strategy to achieve high levels of recycling, reuse, and recovery at the development site. By emphasising source segregation of recyclables and organic waste, the plan aims to reduce the quantity of residual waste materials requiring off-site recovery or disposal. Furthermore, adherence to the guidelines outlined in the Sustainable Urban Housing: Design Standards for New Apartments ensures that the design of the waste storage area meets regulatory requirements and promotes efficient waste management practices.

Through the implementation of the POWMP, the development endeavours to align with European targets for waste management and contribute to the objectives outlined in the Southern Region Waste Management Plan 2015-2021. By prioritising sustainable waste management practices, the project not only minimises its environmental footprint but also fosters a culture of responsible resource utilisation. Overall, the POWMP represents a proactive approach to waste management, reflecting our commitment to environmental stewardship and regulatory compliance.

The waste storage and collection strategy outlined in this plan ensures ample storage capacity for the estimated quantity of segregated waste. Designated areas for waste storage are tailored to accommodate the required receptacles as detailed in the plan.

Recyclable materials will be sorted at the source to minimise waste operator expenses and decrease the volume of material sent to landfills. Both communal and individual waste storage areas are appropriately sized and configured to meet the storage needs for segregated waste. Depending on the collection frequency, these areas will accommodate the necessary bins.

The layout of the proposed development allows unimpeded movement for refuse vehicles during waste collection from both private and communal Waste Storage Areas (WSAs).

The proposed Primary Care Centre will be designed and operated to provide the necessary waste management infrastructure to minimise the production of unsegregated domestic waste and to maximise the segregation and recycling of non-clinical waste streams. Clinical waste will be managed, stored, and transported off-site in accordance with the Health Service Executive (HSE) Waste Management Awareness Handbook (2014).

8 REFERENCES

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- Waste Management: Changing Our Ways, The Department of the Environment and Local Government, 1998.
- National Waste Management Plan for the Circular Economy 2024-2030

9 APPENDIX

9.1 Bin Stores (Typical)

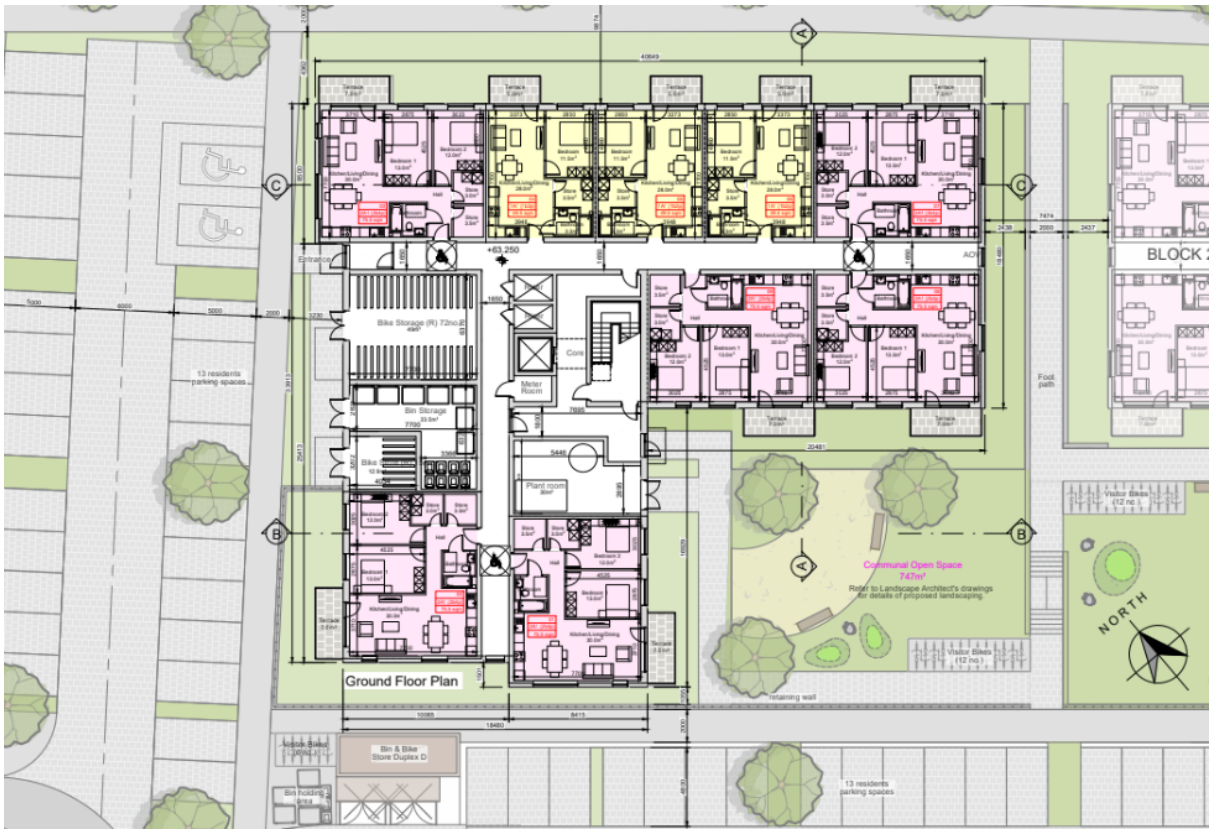


Figure 9.1 Proposed Bin stores (c: CCK)

9.2 Non medical waste bin



Figure 9.2 Typical 240Litre bins

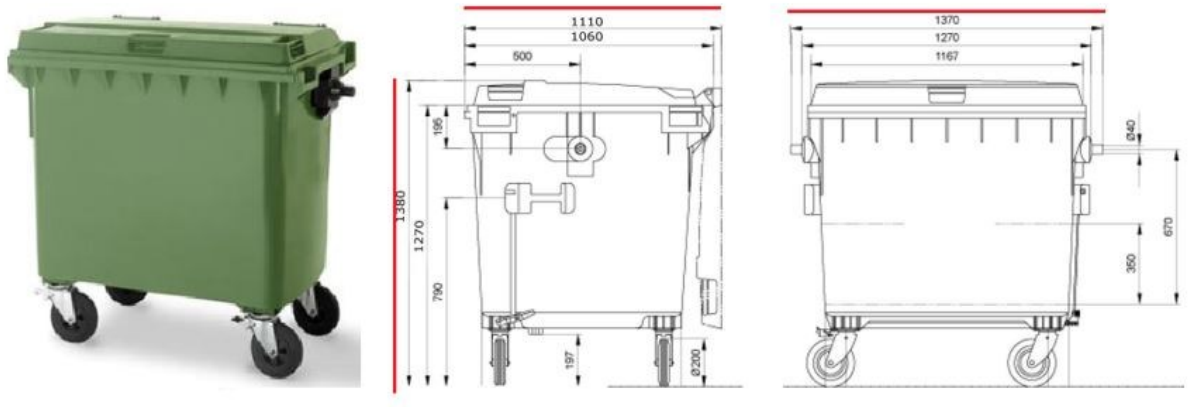


Figure 9.3 Typical 1100 Litre bins



Figure 9.4 Office waste segregation bin system

9.3 Medical Waste bins



Figure 9.5 Clinical Waste bins for PCC

9.3.1 Segregation & Packaging of Healthcare Non-Risk Waste



9.3.2 Segregation & Packaging of Healthcare -Risk Waste

RISK WASTE

YELLOW BAG



- All blood-stained items and all items soiled with body fluids assessed as infectious
- Suction catheters & tubing
- Incontinence waste from known or suspected enteric infections

*** NO SHARPS OR FREE LIQUIDS**

YELLOW SHARPS BIN (with blue or red lid)



- Needles, Syringes & Scalpels
- Contaminated slides & glass
- Sharps tips of clear IV giving sets
- Blood stained glass
- Stitch cutters
- Guide wires/trocars
- Razors

*** NO FREE LIQUIDS**

YELLOW 30/60 LITRE RIGID BIN (with yellow lid)



- Blood administration sets (never disconnect line from bag)
- Contained blood and body fluids
- Non-cultured laboratory waste (including autoclaved microbiological cultures)
- Disposable suction liners
- Redivac drains (ensure drain closure sealed)
- Sputum containers
- Chest drains

*** NO SHARPS OR FREE LIQUIDS**

RISK WASTE

YELLOW 30/60 LITRE RIGID BIN (with purple lid)



- Cytotoxic drugs including infusion lines, left over drug preparations and personal protective equipment used.
- Small quantities of residual medicines or pharmaceuticals left over after administration to patients.

*** NO SHARPS OR FREE LIQUIDS**

YELLOW SHARPS BIN (with purple lid)



- Contaminated cytotoxic sharps, needles, syringes, sharp instruments and broken glass

*** NO FREE LIQUIDS**

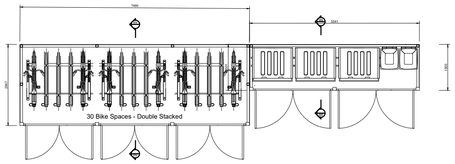
YELLOW RIGID BIN (with black lid)



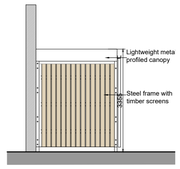
- Non-autoclaved microbiological cultures
- Large / recognisable anatomical body parts
- Placentas with additional leak proof containment
- Large solid metal objects and instruments

*** NO SHARPS OR FREE LIQUIDS**

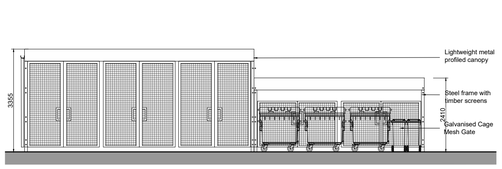
Duplex A - Combined Bin + Bike Store



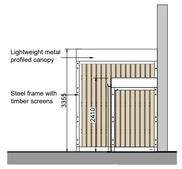
Communal Bicycle/Bin Store Plan



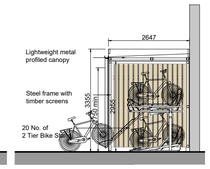
Communal Bicycle/Bin Store
Side Elevation



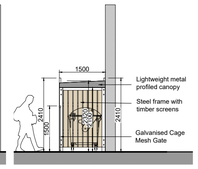
Communal Bicycle/Bin Store
Front Elevation



Communal Bicycle/Bin Store
Side Elevation

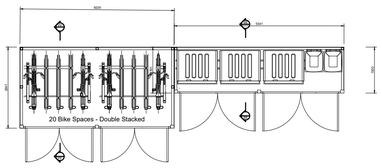


Communal Bicycle/Bin Store
Section A-A

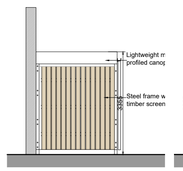


Communal Bicycle/Bin Store
Section B-B

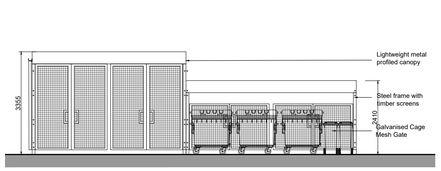
Duplex B + C - Combined Bin + Bike Store (Handed for Duplex Block C)



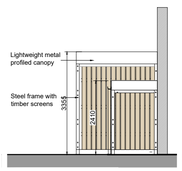
Communal Bicycle/Bin Store Plan



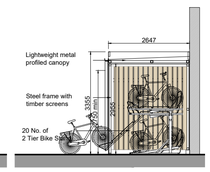
Communal Bicycle/Bin Store
Side Elevation



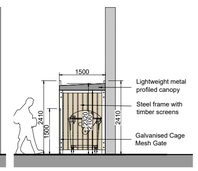
Communal Bicycle/Bin Store Front Elevation



Communal Bicycle/Bin Store
Side Elevation

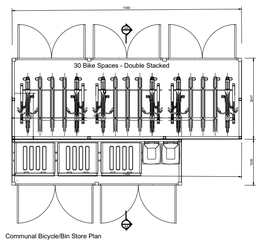


Communal Bicycle/Bin Store
Section A-A

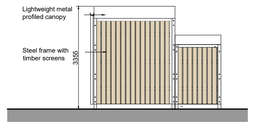


Communal Bicycle/Bin Store
Section B-B

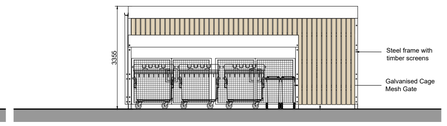
Duplex D - Combined Bin + Bike Store



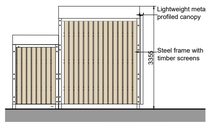
Communal Bicycle/Bin Store Plan



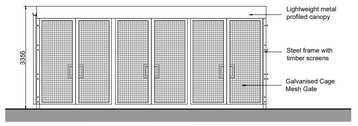
Communal Bicycle/Bin Store
Side Elevation



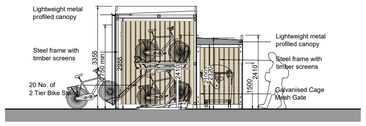
Communal Bicycle/Bin Store
Front Elevation



Communal Bicycle/Bin Store
Side Elevation

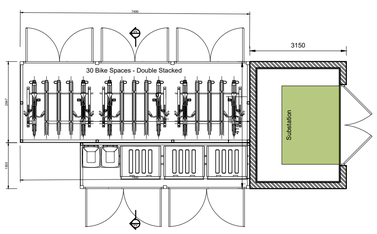


Communal Bicycle/Bin Store
Rear Elevation

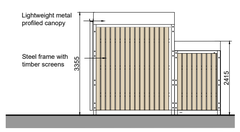


Communal Bicycle/Bin Store
Section A-A

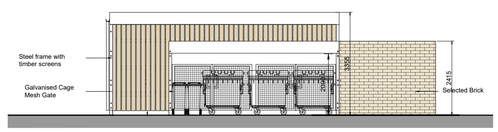
Duplex E - Combined Bin + Bike Store



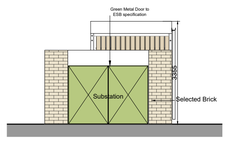
Communal Bins/Bike Store Plan



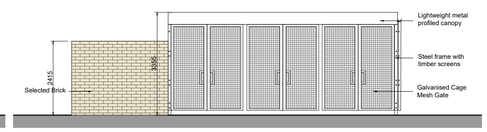
Communal Bicycle/Bin Store
Side Elevation



Communal Bicycle/Bin Store
Front Elevation



Communal Bicycle/Bin Store
Side Elevation

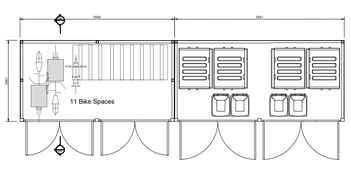


Communal Bicycle/Bin Store
Rear Elevation

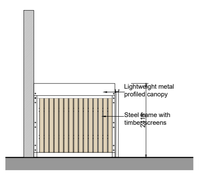


Communal Bicycle/Bin Store
Section A-A

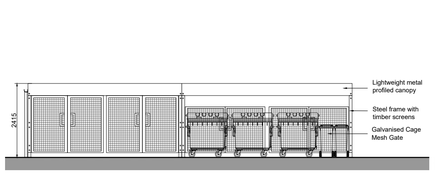
Primary Care Centre - Combined Bin + Bike Store



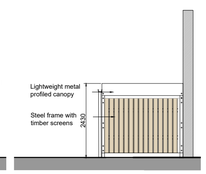
Communal Bins/Bike Store Plan



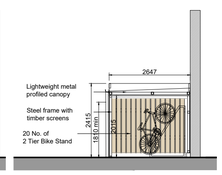
Communal Bins/Bike Store
Side Elevation



Communal Bin/Bike Store
Front Elevation

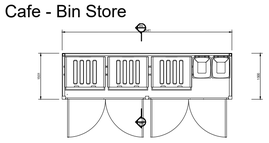


Communal Bin/Bike Store
Side Elevation

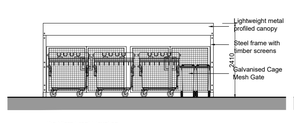


Communal Bin/Bike Store
Section A-A

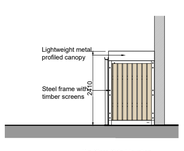
Cafe - Bin Store



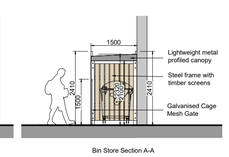
Bins Store Plan



Bin Store Front Elevation



Bin Store Side Elevation



Bin Store Section A-A

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1 Do not scale this drawing.
2 Errors and omissions to be immediately notified to Architect.
3 All dimensions to be checked on site.
4 To be read with relevant Engineers drawings.

N

Refer to Site Layout
for specific orientation

revisions date inls

description

Proposed

Bin + Bike Stores

cad ref: BLR-2-02-SW-ZZZ-DR-CCK-AR-500

drawing no.

rev'n.

job

Development at
Ringwood
Shean Upper
Blarney, Co Cork

scale 1:100@A1

date Dec '25

drawn JK

checked

client

Clockstrike Ltd

issue

Planning

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