

AtkinsRéalis



Outline Operational Waste Management Plan

Limerick City and County Council, in partnership
with Limerick Twenty Thirty DAC

October 2025

CLEEVES RIVERSIDE QUARTER

Notice

This document and its contents have been prepared and are intended solely as information for Limerick City and County Council, in partnership with Limerick Twenty Thirty DAC and used in relation to the Outline Operational Waste Management Plan for the Cleeves Riverside Quarter Development, Limerick.

AtkinsRéalis assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 31 pages including the cover.

Document history

Document title: Outline Operational Waste Management Plan

Document reference: 10117216DG0008

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
0	DRAFT	JS	JS	DL	-	22/08/25
1	DRAFT	JS	JS	DL	DL	05/09/25
2	FINAL	JS	JS	DL	DL	02/10/25

Client signoff

Client	Limerick Twenty Thirty DAC
Project	Cleeves Riverside Quarter Development
Job number	100117216

Client
signature/date



Contents

1.	Introduction.....	5
1.1	Aim of the Plan	5
1.2	Methodology.....	5
1.3	List of Acronyms.....	6
1.4	Site Location and Surrounding Land Use	6
2.	Project Description.....	8
2.1	Location, Nature and Scale of the Development	8
2.2	Operational Phase Waste	10
3.	Waste Management – Policies, Legislation and Guidance	12
3.1	National Level	12
3.2	Regional Level	14
4.	Waste Management.....	16
4.1	Waste Generation	16
4.2	Waste Storage Requirements.....	17
5.	References	29

Tables

Table 2-1 - Summary List of LoW Codes which may be relevant to the site during the Operational Phase (EPA, 2002).....	10
Table 4-1 - Annual Waste Quantities for the Operational Phase of the Proposed Development	16
Table 4-2 - Wheeled Bin Storage Requirements for Salesians Zone	19
Table 4-3 - Wheeled Bin Storage Requirements for O' Callaghan Strand Zone.....	19
Table 4-4 - Wheeled Bin Storage Requirements for Stonetown Terrace Zone.....	20
Table 4-5 - Wheeled Bin Storage Requirements for PBSA / Quarry Zone	20

Figures

Figure 1-1 - Cleaves Riverside Quarter development site in the context of Limerick City and hinterlands	7
Figure 2-1 - Red Line Boundary of Proposed Development	8
Figure 3-1 - Accepted Best Practice Waste Hierarchy (EPA, 2018)	12

Figure 4-1 – Proposed Layout including Refuse Storage at Salesians Zone.....	21
Figure 4-2 – Proposed Layout including Refuse Storage at O' Callaghan Strand Zone.....	22
Figure 4-3 – Proposed Layout including Refuse Storage at Stonetown Terrace Zone.....	23
Figure 4-4 – Proposed Layout including Refuse Storage at PBSA / Quarry Zone.....	24

1. Introduction

This Outline Operational Waste Management Plan (OWMP) has been prepared by AtkinsRéalis on behalf of Limerick City and County Council, in partnership with Limerick Twenty Thirty DAC, as part of the supporting documents required for a planning application for a proposed development at Cleaves Riverside Quarter' in Limerick City.

Limerick City and County Council, in partnership with Limerick Twenty Thirty DAC, intends to seek the approval of An Coimisiún Pleanála in accordance with Section 175 and 177AE of the Planning and Development Act 2000, as amended, for a mixed-use development that seeks the regeneration and adaptive reuse of a strategic brownfield site, as part of the Limerick City and County Council 'World Class Waterfront revitalisation and transformation project'.

The proposed development comprises Phase II, of an overall Masterplan with four phases of development proposed. Phase II is subsequent to ongoing stabilisation and repair of the Flaxmill protected structure (Phase I) which is being undertaken in accordance with a Section 57 Declaration. Phase III is intended to comprise an educational campus, inclusive of the adaptive reuse of the Flaxmill Building as part of that development and will be subject to a future separate application. Phase IV comprising the Shipyard site will be the final phase of development.

Two structures within the site are designated protected structures; the Flaxmill Building (PS Ref no.264 & NIAH No. 21512053) and the octagonal brick chimney (PS Ref no.265 & NIAH No. 21512059), which are to be retained.

The principal objective of this Outline OWMP is to provide a framework for the provision of waste management facilities for the operational phase of the proposed Phase II development.

1.1 Aim of the Plan

The aim of the plan is to calculate the quantities of waste that may be generated during the operational phase of the proposed development and to ensure that adequate waste storage facilities are incorporated into the design of the development at planning stage to meet all relevant waste management requirements.

1.2 Methodology

This document has been prepared in accordance with the relevant industry standard guidance documents:

- Environmental Protection Agency (EPA) National Waste Statistics: Guidance for estimating quantity of waste generated on-site (EPA, 2020);
- Waste Storage Guide for Northern Ireland (Building Control Northern Ireland, 2010);
- Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (Department of Housing Planning and Local Government, 2023);
- Organic Waste Management in Apartments prepared for the EPA (Carey. C., Phelan., W. and Boland., B. 2008); and,
- BS 5906:2005 Waste Management in Buildings – Code of Practice.

In addition, the following relevant best practice guidance documents and Development Plan have also been consulted:

- Design out Waste: Preparation of Waste Reduction Factsheets for Design Teams' (EPA, 2015); and,

- Limerick Development Plan 2022 - 2028 (LDP 2022).

1.3 List of Acronyms

The following list of abbreviations have been used within this document;

- AOD – Above Ordnance Datum
- BS – British Standard
- C&D – Construction and Demolition
- DoCCAE – Department of Communication, Climate Action and Environment
- DoHLGH – Department of Housing, Local Government and Heritage
- D0ECLG – Department of Environment, Community and Local Government
- DoEHLG – Department of Environment, Health and Local Government
- DoHPLG – Department of Housing, Planning and Local Government
- EC – European Commission
- EPA – Environmental Protection Agency
- EWC – European Waste Catalogue
- GPP – Green Public Procurement
- LCCC – Limerick City and County Council
- LDP – Limerick Development Plan
- LoW – List of Waste
- OWMP – Operational Resource and Waste Management Plan
- NWCPO – National Waste Collection Permit Office
- PSCS – Project Supervisor Construction Stage
- PSDP – Project Supervisor for the Design Process
- RWMP – Regional Waste Management Plan
- SDC – Safety Data Sheet
- LoW – List of Waste
- WAC – Waste Acceptance Criteria
- WMP – Waste Management Plan

1.4 Site Location and Surrounding Land Use

The Cleeves site has a unique location, situated on the northern bank of the River Shannon, yet also being assigned part of the City Centre Area. The location of this site can be seen in Figure 1-1. The river visually separates the site from Limerick city centre which allows it to form a stronger relationship with the immediate context west of the river, including residential neighbourhoods, educational facilities and public open space / greenfield areas, which includes the Westfield Wetlands.

The site consists of two separate parts, located north and south of North Circular Road, comprising Cleeves, a former industrial site which is located dissected by the North Circular Road; the Salesians Convent and Secondary School, which is located to the north of the Cleeves site; and St. Michaels Rowing Club, located between the river and O'Callaghan Strand.

The site is bounded by Stonetown Terrace Road to the northeast; O'Callaghan Strand to the southeast; Condell Road (R527) to the southwest; and, Salesian Primary School and the 'Fernhill' residential estate to the northwest and west respectively. The former industrial mill complex ('Cleeves') has a number of heritage buildings and mid - late ca.20th building structure additions. There are two structures within the site designated as protected structures; the Flaxmill Building (RPS Ref no.264 & NIAH No. 21512053) and the octagonal brick chimney (RPS Ref no.265 & NIAH No. 21512059). The site is currently a brownfield site, mainly comprising hardstanding and revegetating bare ground, with Salesians school dominating the north western section. The levels within the site vary significantly, sloping from northwest to southeast towards O'Callaghan Strand and the River Shannon. An old quarry is located at the centre of the site, with a reservoir formed from part of the quarry.



Figure 1-1 - Cleeves Riverside Quarter development site in the context of Limerick City and hinterlands

2. Project Description

2.1 Location, Nature and Scale of the Development

The Proposed Development is shown in **Error! Reference source not found..**

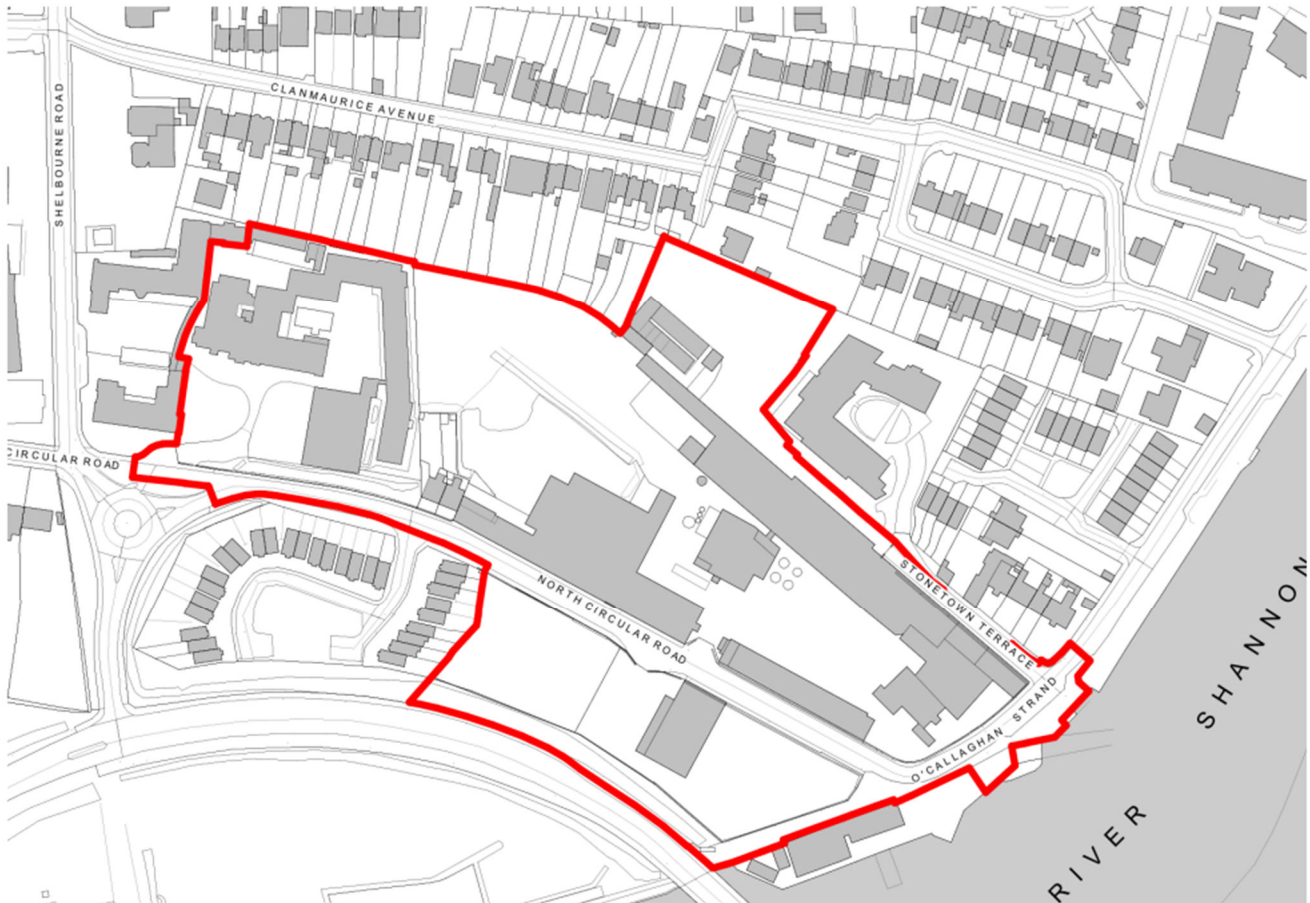


Figure 2-1 - Red Line Boundary of Proposed Development

The proposed development includes:

- A. Demolition of a number of structures to facilitate development including (i) Salesians Secondary School and Fernbank House; (ii) 2 no. houses on North Circular Road; (iii) Residual piers from the basin of the reservoir; (iv) Upper Reservoir on Stonetown Terrace comprising 2 no. concrete water tanks, pump house and liquid storage tank; (v) 1960's lean-to building structures adjoining the Cold Store (former Weaving Mill); (vi) remaining fabric of c20th rear lean-to of the Flaxmill Building; (vii) c. 1960s office building adjoining the Packing Store and Cheese Plant on North Circular Road; (viii) Cluster of buildings including altered part of the Linen Store, the former Linen Store, Storage Building, and Office/Lab building at O'Callaghan Strand / Stonetown Terrace with partial retention of existing stone wall; (ix) warehouse on the Shipyard site; and (x) partial removal

of stone boundary wall defining the Cleaves site adjoining O'Callaghan Strand / Stonetown Terrace and around the Shipyard site.

B Construction and phased delivery of:

- i. Residential Development in 4 development 'zones' within the site ranging in height from 3 – 7 storeys (with screened service plant at roof level) comprising; (a) 234 no. residential units; (b) 270 no. student bedspaces with ancillary resident services at ground floor level; (c) 299sqm of commercial floorspace; and (d) a creche. The specific development details of each proposed development zone comprise the following:
 - Salesians Zone – 1 no. building with 2 no. blocks extending to 6 and 7 storeys comprising 146 no. apartments (76 no. 1 bed; and 70 no. 2 bed); a creche; semi basement car and bicycle parking; reception area, plant rooms, and refuse storage, with screened external plant and photovoltaic panels at roof level; 20 no. 3 storey 3 bed triplex units with photovoltaic panels at roof level; and 30 no. car parking spaces for the dedicated use of the adjoining Salesians Primary School.
 - Quarry Zone – 1 no. Purpose Built Student Accommodation (PBSA) building with 3 no. blocks extending to 6 and 7 storeys comprising 270 no. bedspaces with study rooms, shared areas, exercise room, reception area, plant rooms, refuse storage and bicycle parking all at ground floor level and screened external plant and photovoltaic panels at roof level. Provision is made for telecommunication antennae on the roof top of one block. Consent is also sought for use of the PBSA accommodation, outside of student term time, for short-term letting purposes.
 - Stonetown Terrace Zone – 1 no. building extending to 4 - 5 storeys comprising 38 no. apartments (6 no. studios; 12 no. 1 beds; and 20 no. 2 beds) with plant rooms and refuse storage at ground level, ancillary infrastructure at basement level at northern end of the block, with screened external plant and photovoltaic panels at roof level; 9 no. 3 storey 3 bed townhouses with photovoltaic panels at roof level; and a dedicated secure bicycle storage facility.
 - O'Callaghan Strand Zone – 1 no. building extending to 4 / 5 storeys comprising 21 no. apartments (9 no. 1 bed and 12 no. 2 bed) with an open roof structure accommodating communal open space, plant and photovoltaic panels; and 299qm of commercial ground floorspace intended to accommodate Class 1, Class 2 and / or Class 3 uses, with provision for car parking in the undercroft.
- ii. Dedicated mobility hub with canopy and photovoltaic panels including double stacker bicycle parking; and EV Charging spaces, within the Shipyard Zone. A dedicated pedestrian/cycle link connects North Circular Road with Condell Road. The remaining area of the zone shall accommodate temporary car parking and a temporary external event space to be used on a periodic basis as the need arises, pending future redevelopment proposals as detailed in the Masterplan (Stage IV).
- iii. Extensive provision of Public Realm including creation of the Reservoir/Quarry Park, the Flaxmill Square and the Riverside Corridor. Significant areas of civic and green spaces are provided, incorporating formal and informal play space; nature based SuDs, permeability and access; and a riverside canopy with photovoltaic panels functioning as an outdoor event space and incorporating heritage interpretative panels
- iv. 3 no. dedicated bat houses;
- v. Telecommunication antennae on roof of Block 2A of the PBSA, including (a) 9 no. Support poles to support 2 no. antennae each; (b) 6 no. microwave dishes affixed to the plant screen; and (c) associated telecommunications equipment and cabinets (effectively screened). To facilitate technologically acceptable locations at the time of delivery, a micro-siting allowance of 3m is proposed on the roof top of Block 2A of the PBSA for the infrastructure.
- vi. Provision of vehicular access/egress points including (a) utilisation of existing access points to the Salesians Zone, to the Flaxmill and Quarry Zones and to the Mobility Hub on the Shipyard Site Zone; (ii) reopening an

- existing (currently blocked) access point off O'Callaghan Strand; (iii) new access points to the proposed undercroft carparking at Salesians from the North Circular Road and at the end of Stonetown Terrace road which provides access to the Stonetown Terrace Zone; and (iv) emergency access only from Stonetown Terrace to the Flaxmill Zone;
- vii. Provision of 30 no. dedicated car parking spaces to serve the Salesians Primary School; and
- viii. All ancillary site development works including (a) water services, foul and surface water drainage and associated connections across the site and serving each development zone; (b) attenuation proposals; (c) raising the level of North Circular Road between Fernhill and O'Callaghan Strand; (d) refuse collection store (e) car and bicycle parking to serve the development; (f) public lighting; (g) all landscaping works.; and (h) temporary construction measures including (i) construction access to the Quarry site including provision of a temporary access across the reservoir; and (ii) temporary use of onsite mobile crusher.

2.2 Operational Phase Waste

2.2.1 Details of the Non-Hazardous Wastes to be Produced

Waste materials generated during the Operational Phase will primarily consist of household type waste (including dry recyclables (paper, plastic etc.), glass, food and organic waste, domestic refuse) generated by residential development across four development zones (Salesians; Quarry; Stonetown Terrace; and O'Callaghan Strand) comprising a total of 234 no. residential units; 270 no. student bedspaces with ancillary resident services at ground floor level; 256sqm of commercial floorspace; and a creche. Occasional maintenance waste (i.e. general waste and green waste) will also be generated during the operational phase. Based on the proposed development use, waste produced during the Operational Phase will be non-hazardous. In the event that any hazardous materials are brought to site for maintenance purposes, the volumes of paints, varnishes, glues, adhesives etc. will be negligible, and will be removed offsite and disposed of appropriately by the relevant maintenance contractor. Hazardous wastes (such as waste fuel, oil or chemicals) will therefore not be generated onsite during the Operational Phase.

2.2.2 Summary of Potential Waste Streams (LoW/EWC Codes)

A summary of the main non-hazardous waste streams which could arise during the Operational Phase is presented below, along with the relevant List of Waste (LoW) code. The LoW code (also referred to as European Waste Catalogue (EWC) code) serves as a common method of characterising various waste streams. Assignment of waste codes will determine how and where the generated waste can be disposed of. LoW codes must be selected for each waste type – a full description of each code is available on the EPA website. It should be noted that the summary list presented in Table 2-1 is a non-exhaustive list and it will be the Developers responsibility to ensure all waste streams generated onsite during the Operational Phase of the development are appropriately characterised, managed and disposed of in accordance with all relevant waste management legislation.

Table 2-1 - Summary List of LoW Codes which may be relevant to the site during the Operational Phase (EPA, 2002)

Municipal Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastic	20 01 39

Wood	17 02 01
Metals	20 01 40
Mixed Municipal Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Biodegradable garden and park waste	20 02 01
Textiles	20 01 11
Bulky wastes	20 03 07

3. Waste Management – Policies, Legislation and Guidance

3.1 National Level

The implementation of the Waste Management Act in 1996 provided a legal basis for waste management, practice and infrastructure in Ireland. Following the implementation of this Act government policy moved from primarily relying on landfill disposal towards a more sustainable system of waste treatment through the promotion of recycling and recovery. The policy document entitled 'Changing our ways' (DoEHLG, 1998) set specific targets for recycling and consolidated the now familiar waste hierarchy of prevention, minimisation, reuse/recycling, energy recovery and disposal. This approach was supported by subsequent legislation. In 2002, the policy statement 'Preventing and Recycling Waste: Delivering Change' (DoEHLG, 2002) specifically focused on waste prevention and recycling. This document emphasised the importance of adopting a hierarchical approach, with prevention highlighted as the most desirable option. Various national waste prevention programmes and best practice guidance documents were subsequently delivered by the government.

In 2011 the revised EU Waste Framework Directive was transposed into Irish law by the European Commission (Waste Framework Directive) Regulations 2011 (SI 126 of 2011) (EC, 2008). The Waste Framework Directive focussed on sustainable and efficient materials management strategy and provides a legal basis for the waste hierarchy. Therefore, the waste hierarchy presented in Figure 3-1 - Accepted Best Practice Waste Hierarchy (EPA, 2018) should be applied as a priority in Ireland.

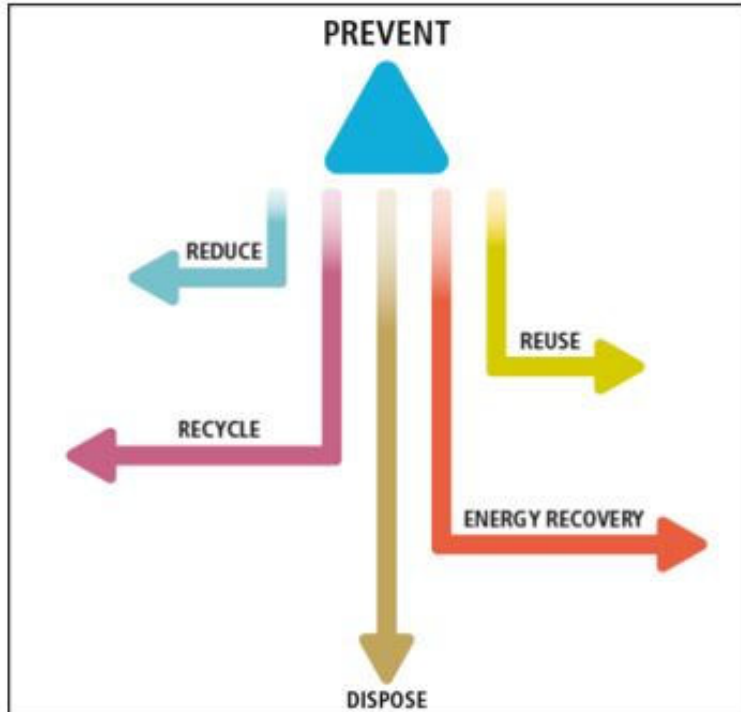


Figure 3-1 - Accepted Best Practice Waste Hierarchy (EPA, 2018)

In 2013 the Government published a new policy document entitled 'A Resource Opportunity Waste Management Policy in Ireland' (DoECLG, 2013). This document sets out the steps to be implemented on a national scale in

order to make further progress on resource efficiency and seeking the elimination of landfilling of municipal waste in Ireland. This approach is further supported by subsequent guidance including the EPA publication 'Green Procurement Guidance for the Public Sector' (EPA, 2021), which clearly states the following Core Green Public Procurement (GPP) Criteria for the Construction sector:

- Construction environmental management plan;
- Staff training;
- Management of fuel and hazardous substances;
- Use of secondary aggregate and recycled materials; and
- Waste Management.

In 2022 the Government published the document 'Design Standards for New Apartments Guidelines for Planning Authorities' (DoHLGH, 2022). This document states that provision should be made for storage and collection of waste within apartment schemes.

Refuse facilities shall be accessible to each apartment stair/lift core and designed with regard to the projected level of waste generation and types and quantities of receptacles required. Within apartments, there should be adequate provision for the temporary storage of segregated materials prior to deposition in communal waste storage and in-sink macerators are discouraged as they place a burden on drainage systems (DoHLGH, 2022).

The document highlights the fact that design considerations need to consider refuse storage facilities as follows:

- Sufficient communal storage area to satisfy the three-bin system for the collection of mixed dry recyclables, organic waste and residual waste;
- In apartment schemes, consideration should also be given to the provision of separate collection facilities for other recyclables such as glass and plastics;
- Waste storage areas must be adequately ventilated so as to minimise odours and potential nuisance from vermin/flies and taking account the avoidance of nuisance for habitable rooms nearby
- Provision in the layout for sufficient access for waste collectors, proximity of, or ease of access to, waste storage areas from individual apartments, including access by disabled people;
- Waste storage areas should not present any safety risks to users and should be well-lit;
- Waste storage areas should not be on the public street and should not be visible to or accessible by the general public. Appropriate visual screening should be provided, particularly in the vicinity of apartment buildings;
- Waste storage areas in basement car parks should be avoided where possible, but where provided, must ensure adequate manoeuvring space for collection vehicles;
- The capacity for washing down waste storage areas, with wastewater discharging to the sewer" (DoHLGH, 2022).

The Department of Communication, Climate Action and Environment recently published 'A Waste Action for a Circular Economy' report in September 2020. This document was prepared in response to the 'European Green Deal' and sets out a roadmap for a transition to a new economy where climate and environmental challenges are turned into opportunities. This report replaces the previous National Waste Management Plan 'A Resource Opportunity Waste Management Policy in Ireland' (2012). The 'Waste Action for a Circular Economy' report focuses on transition to a circular economy.

The National Waste Management Plan For a Circular Economy (2024-2030) (Local Government Ireland) was published for consultation in May 2023, with comments raised in the consultation considered within the final Plan. The Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of

materials to optimise circularity and enable compliance with policy and legislation in Ireland. The Plan notes that significant progress has been made in the management of waste in Ireland, and previous Regional Waste Management Plans have provided a framework for these advances; however challenges remain as the State seeks to transition to a more circular economy and this Plan provides a national framework which recognises the challenges, presents responses and sets out a roadmap for delivery over the next six years.

3.2 Regional Level

The relevant Regional Waste Management Plan for Limerick City and County Council (LCCC) is the Southern Region Waste Management Plan 2015-2021. It is noted that this Southern Region Waste Management Plan has now been replaced by the National Waste Management Plan for a Circular Economy 2024-2030¹. The key objectives of this plan are as follows:

- “Promote Sustainable Consumption and Prevent Waste;
- Strengthen National Waste Collection and Treatment Capacity;
- Support the Transition to a Circular Economy; and
- Deliver Action through Collaboration and Shared Ownership.”

As the National Waste Management Plan for a Circular Economy 2024-2030 had not yet been established, the overarching objectives of the Southern Region Waste Management Plan 2015-2021 have been incorporated into the latest development plan pertinent to this site, i.e., Limerick Development Plan 2022-2028, according to which the aim of the Southern Region Waste Management Plan 2015-2021 is:

‘To rethink our approach to managing waste, by considering waste streams as valuable material resources, leading to a healthier environment and creating sustainable commercial opportunities for our economy. The Waste Management Plan, provides the framework for the prevention and management of waste in a safe and sustainable manner and includes the promotion of resource efficiency and the concept of the circular economy as one of its strategic objectives.’

The Development Management Standards’ within the Limerick Development Plan 2022 - 2028 (LCCC, 2022) highlights the requirement for adequate areas of waste storage within residential developments, as follows:

‘Adequate refuse storage, recycling and composting areas shall be catered for within all residential developments. In the case of communal refuse storage provision, the collection point for refuse should be accessible both to the external collector and to the resident and be secured against illegal dumping by non-residents. In the case of individual houses, the applicant shall clearly show within a planning application the proposed location and design of bin storage to serve each dwelling (LCC, 2025).’

These considerations have been incorporated where relevant within this OWMP.

3.2.1 Statement of Policy

The Limerick Development Plan 2022 - 2028 specifically states the following with regards to waste management:

¹ <https://mywaste.ie/wp-content/uploads/2024/05/National-Waste-Management-Plan-for-a-Circular-Economy-Executive-Summary.pdf>

IN O17: Waste Management and the Circular Economy:

It is the objective of the Council to:

- a) *Support innovative, smart solutions and processes, based on the principles of the circular economy to implement the Regional Waste Management Plan for the Southern Region 2015 – 2021 and any subsequent plan, including any targets contained therein.*
- b) *Collaborate with the Regional Waste Management Office and other agencies to implement the EU Action Plan for the Circular Economy – Closing the Loop, 2015, its successor the Circular Economy Action Plan: A New Circular Economy Action Plan for a Cleaner More Competitive Europe, 2020 and the Resource Opportunity Waste Management Policy, DECLG, 2012 and any subsequent plans.*
- c) *Promote sustainable patterns of consumption and production in the areas of product design, production processes and waste management.*
- d) *Implement the provisions of the Waste Action Plan for a Circular Economy – Ireland’s National Waste Policy 2020 - 2025, DECC, 2020 in the assessment of planning applications.*
- e) *Protect existing civic amenity sites and bring sites throughout Limerick and support the development of additional sites in accordance with the Southern Regional Waste Management Plan 2015 – 2021 and any subsequent plans.*

IN O18: Waste Infrastructure:

It is the objective of the Council to:

- a) *Direct waste management facilities to appropriately zoned lands, subject to normal planning and environmental criteria and the relevant Development Management Standards as set out in Chapter 11 of this Plan.*
- b) *Maintain recycling facilities and require the provision of bring banks or other appropriate recycling facilities as part of the overall development in the case of new or extended retail centre development and commercial local/ neighbourhood centres, educational, sports and recreational facilities. These facilities shall be provided and maintained by the developers, operational management companies and occupiers.*
- c) *Use the regulatory enforcement powers available to the Council under the Planning and Development Act 2000 (as amended) and under the Waste Management Act 1996 (as amended), to address unauthorised waste facilities and the illegal disposal of waste in Limerick.*

4. Waste Management

4.1 Waste Generation

The proposed development comprises townhouses, 4no. apartment blocks, 3no. Purpose Built Student Accommodation (PBSA) blocks, creche, commercial floorspace (256sqm), dedicated mobility hub and temporary external event space, as follows:

- **Salesians Zone** – 1 no. building with 2 no. blocks extending to 6 and 7 storeys comprising 146 no. apartments (76 no. 1 bed; and 70 no. 2 bed); a creche; undercroft car and bicycle parking; reception area, plant rooms, and refuse storage, with screened external plant at roof level; 20 no. 3 storey 3 bed triplex units; and 30 no. car parking spaces for the dedicated use of the adjoining Salesians Primary School.
- **Quarry Zone** – 1 no. Purpose Built Student Accommodation building with 3 no. blocks extending to 6 and 7 storeys comprising 270 no. bedspaces with study rooms, shared areas, exercise room, reception area, plant rooms, refuse storage and bicycle parking all at ground floor level and screened external plant at roof level.
- **Stonetown Terrace Zone** – 1 no. building extending to 5 storeys comprising 38 no. apartments (6 no. studios; 12 no. 1 beds; and 20 no. 2 beds) with plant rooms and refuse storage at ground level, ancillary infrastructure at basement level at northern end of the block, with screened external plant at roof level; 9 no. 3 storey 3 bed townhouses; and a dedicated secure bicycle storage facility.
- **O’Callaghan Strand Zone** – 1 no. building extending to 4 / 5 storeys comprising 21 no. apartments (9 no. 1 bed and 12 no. 2 bed) with an open roof structure accommodating communal open space and plant; and 256qm of commercial ground floorspace intended to accommodate Class 1, Class 2 and / or Class 3 uses.
- **Dedicated mobility hub** with canopy including double stacker bicycle parking; and EV Charging spaces, within the Shipyard Zone. The zone shall accommodate temporary car parking and a temporary external event space to be used on a periodic basis as the need arises, pending future redevelopment proposals as detailed in the Masterplan (Stage IV). It is anticipated that the temporary external event space (which will be used periodically) will be serviced via. on-demand removal or skip hire by local licenced / permitted waste disposal providers, who will be engaged on an as needed basis for specific temporary events. As part of the event management planning, temporary onsite waste management services will be implemented in advance of such temporary events. Sufficient onsite bins will be provided (for both residual waste and dry recyclable waste streams) taking account of the nature, scale and duration of such temporary events.

The estimated annual waste which will be generated during the Operational phase is presented in Table 4-1.

Table 4-1 - Annual Waste Quantities for the Operational Phase of the Proposed Development

Waste Type	Salesians Zone	Quarry Zone	Stonetown Terrace Zone	O’Callaghan Strand Zone	Townhouses / Triplex units	Total (Kg / annum per waste type)
Total (Kg/ annum)	157,464	88,452	34,344	21,584	46,980	348,824

4.2 Waste Storage Requirements

The waste storage areas have been designed in accordance with the requirements of BS 5906: 2005 – Waste Management in Buildings – Code of Practice. This Code of Practice which states that ‘to calculate the storage, containment and equipment requirements for effective waste management, the following should be considered:

- Need for a temporary designated collection point;
- Volume and composition of waste;
- Frequency of collection;
- Degree of waste segregation required;
- Degree of container separation required; and
- Type of on-site treatment proposed.

Bin storage requirements in both residential and commercial areas are listed below.

4.2.1 Residential Development

4.2.1.1 Housing units

The Limerick Development Plan 2022-2028 states that ‘adequate refuse storage, recycling and composting areas shall be catered for within all residential developments....In the case of individual houses, the applicant shall clearly show within a planning application the proposed location and design of bin storage to serve each dwelling’. There is an extensive network of “Bring Bank” facilities (including recycling glass facilities) within the immediate area. Therefore, sufficient refuse storage will be required for the following waste streams and sizes of wheeled bins for each housing unit (3no. wheelie bins per housing unit in total):

- Residual waste - will be collected in 1no. 240L wheeled bins;
- Dry recyclable waste - will be collected in 1no. 240L wheeled bins; and,
- Organic waste - will be collected in 1no. 140L wheeled bins;

Townhouses / Triplex units will have their own storage areas for waste bins and therefore there is no need to calculate any additional external storage space at individual houses / Triplex units. It is expected that ground floor units will have bin storage areas within the front private amenity areas, and upper floor triplex units will have bin stores to the rear. Similarly townhouse will have bin storage areas provided within individual private amenity areas. Each housing unit will have storage capacity for 2no. 240L wheeled bins for residual waste and dry recyclable waste and 1no. 140L wheeled bin for organic waste. Waste will be collected on a one collection per fortnight basis as per the collection schedule of local waste collection companies within the Limerick region. Refer to bin storage areas for each townhouse / triplex unit presented in the planning drawings accompanying this application and replicated in Figure 4.1 to Figure 4.4.

4.2.1.2 Apartment Blocks / PBSA Blocks

The following section outlines the waste storage requirements at the 4no. apartment blocks and 3no. Purpose Built Student Accommodation (PBSA) blocks.

The Limerick Development Plan 2022-2028 states that ‘adequate refuse storage, recycling and composting areas shall be catered for within all residential developments. In the case of communal refuse storage provision, the

collection point for refuse should be accessible both to the external collector and to the resident and be secured against illegal dumping by non-residents’.

The Department of Housing Planning and Local Government (2022) Sustainable Urban Housing Design Standards for New Apartments Guidelines for Planning Authorities guidance states:

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

- *Sufficient communal storage area to satisfy the three-bin system for the collection of mixed dry recyclables, organic waste and residual waste; and,*
- *In larger apartment schemes, consideration should also be given to the provision of separate collection facilities for other recyclables such as glass and plastics;*
- *Waste storage areas should not be on the public street and should not be visible to or accessible by the general public. Appropriate visual screening should be provided, particularly in the vicinity of apartment buildings.’*

However, as previously noted, there is an extensive network of “Bring Bank” facilities (including recycling glass facilities) within the immediate area. Therefore 3no. separate bins will be required for the following waste streams for the apartment / PBSA blocks:

- Residual waste;
- Dry recyclable waste; and,
- Organic waste.

The 3no. separate bin system is in line with the DoHPLG (2022) guidelines as there will be sufficient communal storage area for the 3no. bin collection of mixed dry recyclables, organic waste and residual waste. The following assumptions have been made in relation to the calculated areas required for the storage of bins and are in line with Carey. C., Phelan., W. and Boland., B. (2008) ‘Organic Waste Management in Apartments’ report prepared for the EPA for both the apartment blocks:

- Waste is collected on a one collection per week basis as per the collection schedule of local waste collection companies within the Limerick region;
- Residual waste will be collected in 1100L wheeled bins;
- Dry recyclable waste will be collected in 1100L wheeled bins;
- Organic waste will be collected in 240L wheeled bins; and,
- The wheeled bin storage areas will be organised in an opposing row layout within each core per block and will be organised such that each bin can be moved without having to move an adjacent bin.

4.2.2 Commercial

4.2.2.1 Commercial Space and Creche

It is anticipated that for the proposed commercial area and creche within the proposed scheme, separate bins will be required for the following waste streams:

- Residual waste;
- Dry recyclable waste; and,

- Organic waste.

Commercial waste is collected on a one collection per weekly basis as per the collection schedule of local waste collection companies within the Limerick region. The commercial components of the proposed scheme comprise the following:

- 256sqm of commercial ground floorspace intended to accommodate Class 1, Class 2 and / or Class 3 uses in O'Callaghan Strand Zone;
- 1no. Creche in Salesians Zone;

The number of bins and the area of bin storage for the childcare facility has been conservatively calculated based on the approximate number of anticipated staff and children and is also based on an assumed weekly collection frequency.

4.2.3 Bin Storage Requirements

Based on the relevant design criteria and assumptions presented in section 4.2.1 and 4.2.2 communal bin storage requirements for the proposed development, are presented in Tables 4-2 to 4-4 below.

Table 4-2 - Wheeled Bin Storage Requirements for Salesians Zone

Waste Type	SALESIANS - Block A		SALESIANS - Block B		Childcare Facility	
	Area (m2)	No. of Bins	Area (m2)	No. of Bins	Area (m2)	No. of Bins
Residual (1100l Bin)	14.1	3	14.1	3	7	1
Dry Recyclable (1100l Bin)	28.2	8	28.2	8	7	2
Organic Waste (240l Bin)	5.0	5	5.0	5	3.4	2
Total	47.3	16	47.3	16	17.4	5

Table 4-3 - Wheeled Bin Storage Requirements for O' Callaghan Strand Zone

Waste Type	O' Callaghan Strand		Commercial ground floorspace (256sqm)	
	Area (m2)	No. of Bins	Area (m2)	No. of Bins
Residual (1100l Bin)	7	1	-	-
Residual (240l Bin)	-	-	3.4	2
Dry Recyclable (1100l Bin)	14.1	3	7	1
Organic Waste (240l Bin)	3.4	2	3.4	2
Total	24.5	6	13.8	5

Table 4-4 - Wheeled Bin Storage Requirements for Stonetown Terrace Zone

Waste Type	Stonetown Terrace	
	Area (m2)	No. of Bins
Residual (1100l Bin)	7	2
Dry Recyclable (1100l Bin)	14.1	4
Organic Waste (240l Bin)	3.4	3
Total	24.5	9

Table 4-5 - Wheeled Bin Storage Requirements for PBSA / Quarry Zone

Waste Type	PBSA / Quarry Zone	
	Area (m2)	No. of Bins
Residual (1100l Bin)	14.1	4
Dry Recyclable (1100l Bin)	35.2	10
Organic Waste (240l Bin)	5	6
Total	54.3	20

Refer to bin storage areas for each townhouse / triplex unit presented in the planning drawings accompanying this application and replicated in Figure 4.1 to Figure 4.4.



Figure 4-1 – Proposed Layout including Refuse Storage at Salesians Zone



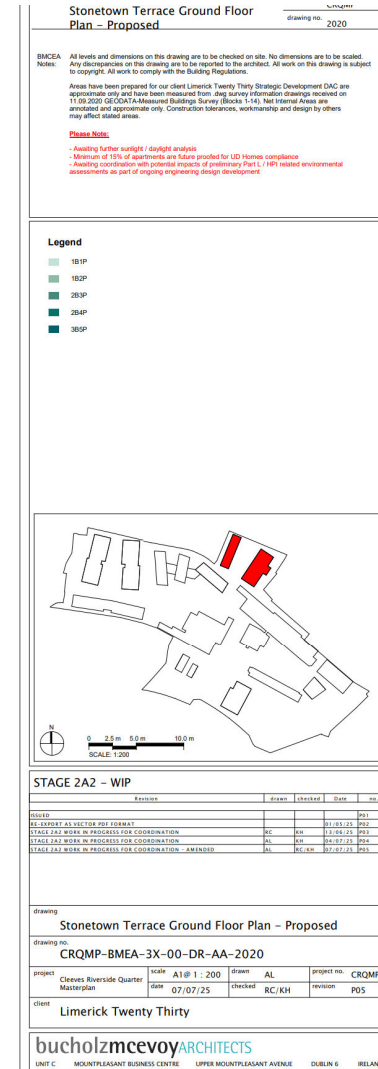


Figure 4-3 – Proposed Layout including Refuse Storage at Stonetown Terrace Zone



Figure 4-4 – Proposed Layout including Refuse Storage at PBSA / Quarry Zone

4.2.4 Local Recycling/Bring Centre Facilities

Limerick City and County Council manages an extensive network of “Bring Bank” facilities across the County areas for recycling glass, cans and textiles, as well as deposit return scheme drop off points for beverage cans and bottles. These include sites at shopping centres and public car parks, that are all provided free of charge to the public.

The closest ‘Bring Bank’ is located outside ‘Ard Scoil Ris, Lower Shelbourne Road, North Circular Road, Limerick City, V94V2NF. The facility is located ca. 200m northwest of the proposed development.² Materials accepted include wood, clean cardboard, newsprint, magazines, plastic bottles, glass, drink cans, textiles, beverage cartons.

The closest LCCC listed Civic Amenity Centre is located in Mungret, Co. Limerick, ca. 2.4km southeast of the site.³ Mungret Civic Amenity Centre is open Tuesday to Thursday from 10am to 16.45pm. Materials accepted, include clean cardboard, bricks, timber (untreated only), electrical goods, newsprint, magazines, plastic bottles, glass, drink cans, textiles and beverage cartons. It is also an electrical recycling point and lightbulb drop-off point.

Having regard to the scale of the development, the potential to provide a local bring centre as part of the scheme was considered during the preliminary design stage. However, taking account of the existing Bring Centres, Civic Amenity and Recycling Centre facilities already in place as well as deposit return scheme drop off points, and the proximity of the proposed development to these facilities, it is considered that sufficient facilities are already well established, with easy access available to the residents of the proposed development. Therefore, the provision of an onsite Recycling Centre (for textiles, drink cans, electrical items, batteries etc.) is not warranted as part of the proposed development.

4.2.5 Proposed Management Strategy for each Waste Stream Option

Waste materials will be segregated onsite into the various waste streams, via. dedicated bins and storage areas as outlined in Tables 4.2 to 4.5. All residents will be required to separate waste into different waste categories, as follows:

- Residual Waste;
- Dry Recyclables; and,
- Organic waste.

As previously noted, bin stores are included in the proposed design for the 4no. apartment blocks, 3no. Purpose Built Student Accommodation (PBSA) blocks, creche, and commercial floorspace. Each of the bins within the dedicated bin stores will be clearly labelled and colour coded to ensure that cross contamination of materials does not occur. These bins will be collected on a fortnightly basis for townhouses/ triplex units, and on a weekly basis for apartment / PBSA blocks and commercial units, as previously detailed. Bin storage areas for the apartments / PBSA blocks and commercial units will be communal facilities which will be locked (ensuring that only residents have access) to prevent the contamination of waste and any unauthorised dumping.

² <https://mywaste.ie/dispose-waste/at-home/where-you-can-take-your-recycling-waste/service/bring-bank-756/>

³ https://www.limerickrecyclingcentres.ie/?page_id=307

The document '*Organic Waste Management in Apartments*' prepared for the EPA (Carey. C. et al., 2008) recommends the following general management considerations for communal bins, specifically in relation to organic waste:

- An underground car park is not a preferred waste storage area in which to store organic waste, for a number of reasons, including health and safety, access and potential odour and vermin;
- Waste storage areas should be adequately vented to minimise odours and potential vermin/flies;
- Ground-level bin storage bays/sheds should be adequately fenced or screened off to reduce visual impact;
- Communal external areas on ground level are preferable although other issues such as access and security should be considered; and,
- Purpose-built deep collection waste bin systems may be appropriate in certain circumstances. These alternative bins are above and below ground with about two-thirds of the bin's capacity stored underground. These types of bin units have been seen to work successfully especially where space constraints are an issue. A space footprint of 5 m² can provide enough storage capacity for four different waste bins and serve 50–80 apartments. The servicing of these bins is relatively straightforward. The bin unit or internal bag is lifted out of the ground using a mechanical hoist arm attached to the waste collection vehicle. The bin or bag is held over the collection vehicle and the waste emptied into the vehicle. The emptied bag or bin is then fixed back into its position and the bin secured" (Carey. C. et al., 2008).

In addition to the typical waste materials which are generated on a daily basis from residential and commercial developments, some additional waste types will also be created on an infrequent basis. As previously outlined there are sufficient recycling / waste disposal facilities within the immediate vicinity of the proposed development for correct waste management of the following waste streams.

4.2.5.1 Waste Electrical and Electronic Equipment (WEEE)

Under the WEEE Directive 2002/96/EC and associated European Communities (Waste Electronic Equipment) Regulations, retailers are required to accept WEEE from their customers. WEEE can also be disposed of by the residents of the proposed development at the nearest recycling centre / Local Authority centre (e.g., Mungret Recycling Centre).

4.2.5.1.1 Batteries

Arising from the Waste Management (Batteries and Accumulators) Regulations 2014 (as amended), a recovery service for waste batteries and accumulators is in place; the producer of the battery is responsible for the financing of the separate collection for recycling and recovery of these products. Batteries can be disposed of by the residents of the proposed development at the nearest recycling centre / Local Authority centre (e.g., Mungret Recycling Centre).

4.2.5.1.2 Fluorescent Tubes

Fluorescent tubes can be disposed of by the residents of the proposed development at the nearest recycling centre / Local Authority centre (e.g., Mungret Recycling Centre).

4.2.5.1.3 Furniture

Furniture and other bulky waste items which may arise occasionally can be brought by the residents of the proposed development to the nearest recycling centre / Local Authority centre for recycling (e.g., Mungret Recycling Centre).

4.2.5.1.4 Chemicals

Any chemicals used on site will be generated by external contractors who carry out any maintenance works. These contractors will be responsible for the off-site removal and disposal of any waste materials that may be generated in accordance with all relevant waste management legislation.

4.2.5.1.5 Textiles

Waste textiles should be recycled or donated to a charity organisation for reuse where possible. In addition waste textiles can be brought by the residents of the proposed development to the nearest recycling centre / Local Authority centre for recycling (e.g., Ard Soil Ris, Mungret Recycling Centre).

As the proposed development is within the Southern Region (counties Clare, Cork, Kerry, Limerick, Tipperary and Waterford) the Southern Region Waste Management Plan was considered. Relevant policies include the following:

- **F4:** *Improve the consistency of local authority waste authorisations and conditions issued to waste collectors and facility operators.*
- **E3a.** *Local authorities in the region will maintain and develop their existing networks of bring infrastructure (e.g. civic amenity facilities, bring banks) to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes.*
- **E3b:** *The plan supports the development of the private sector of public bring infrastructure (e.g. civic amenity facilities, bring banks) subject to appropriate statutory approvals and in line with appropriate environmental protection criteria.*
- **E4:** *The local authorities may include as a condition of planning that developers of commercial and large-scale residential developments provide bring facilities to serve occupants and residents.*
- **E22a:** *The plan supports the primacy of kerbside source segregated collection of household and commercial waste as the best method to ensure the **quality of waste presented**.*
- **E22b:** *The plan also supports the use of authorised civic amenity facilities and bring centres as part of the integrated collection system.*
- **E23:** *In the absence of kerbside source segregated collection services and where the proximity of the civic amenity facilities and bring centres is prohibitive the plan supports localised collection solutions such as community drop-off points of pay-to-use systems subject to compliance with the household waste collection.*

4.2.6 Tracking Documentation Procedures for Off-site Waste

All waste transport and disposal / recovery must be carried out in accordance with all relevant waste management legislation and any subsequent future legislation which may apply. All of the appointed waste collection providers during the Operational Phase must hold a valid waste collection permit for the waste type they will be collecting. The facilities that these contractors use to dispose of the municipal waste must be a registered waste facility with a valid waste permit / waste licence. All waste disposal / recycled records should be maintained by the Developer/appointed maintenance company.

5. References

Department of Communication, Climate Action and Environment (DoCCA). 2020. 'A Waste Action for a Circular Economy.'

DoCCA. 2021. 'A Resource Opportunity – Waste Management Policy in Ireland.'

DoCCA. 2021. 'Waste Action Plan for a Circular Economy.'

Department of Environment, Community and Local Government (DoECLG). 2013. 'Waste Management Policy in Ireland.'

DoHPLG. 2022. 'Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities.'

Department of Environment, Health and Local Government (DoEHLG). 2002. 'Preventing and Recycling Waste: Delivering Change.'

DoEHLG. 1998. 'Waste Management: Changing Our Ways'.

Department of Housing, Local Government and Heritage (DoHLGH). 2022. 'Sustainable Urban Housing Design Standards for New Apartments: Guidelines for Planning Authorities.'

Department of the Environment, Climate and Communications 'National Waste Management Plan For A Circular Economy 2024-2030'

Environmental Protection Agency (EPA). 2020. 'National Waste Statistics: Guidance for estimating quantity of waste generated on-site'.

Environmental Protection Agency (EPA). 2008. 'Organic Waste Management in Apartments'. Prepared for EPA by Carey, C. et al.).

Environmental Protection Agency (EPA). 2015. 'Design out Waste: Preparation of Waste Reduction Factsheets for Design Teams'.

EPA, 2024. 'Circular Economy and Waste Statistics Highlights Report 2022.

EPA. 2021. 'Green Procurement Guidance for the Public Sector.'

EPA. 2002. 'European Waste Catalogue and Hazardous Waste List.'

European Commission (EC). 2011. 'S.I.126 of 2011. 'Waste Framework Directive Regulations 2011.'

EU. 2014. S.I. 149 of 2014 'European Union (Waste Electrical and Electronic Equipment) Regulations 2014

EC. 2013. S.I. 283 of 2014 'Waste Batteries and Accumulators Regulations 2014.'

Government of Ireland. 1996. 'Waste Management Act'

Limerick City and County Council (LCCC). 2022. Limerick Development Plan 2022 - 2028 (LDP 2022)

Local Government Ireland, 'National Waste Management Plan for a Circular Economy 2024-2030)

MyWaste. 'Ireland's Guide to Managing Waste.' Available at: <https://mywaste.ie> (Last accessed 31.07.2025)

Repak. 'Business Funding Recycling.' Available at: <https://repak.ie/> (Last accessed 31.07.2025).

Southern Waste Region. 2019. 'Waste Management Plan 2015-2021.'

AtkinsRéalis



AtkinsRéalis

150-155 Airside Business Park
Swords
Co. Dublin
K67 K5W4

Tel: +353 1 810 8000

© WS Atkins Ireland Limited except where stated otherwise