Preliminary Construction & Demolition Waste Management Plan

Mixed Student Residence at 139-149 North King Street, Dublin 7 – LRD Stage 3

2340

September 2024

Issue No. 3

Structural & Civil Consulting Engineers
Behan House
10 Lower Mount Street
Dublin 2
Tel: 01- 6611100
Fax: 01-6611119
E: info@cora.ie

Table of Contents

1 Introduction

1.1 General

This document is the Construction & Demolition Waste Management Plan for the proposed Strudendt Residence at 139-149 North King Street, Dublin 7. It is intended as a Management Plan for construction and demolition wastes for the project.

The proposals involve the demolition of the buildings at Nos. 139-149 North King St., Dublin 7 and the construction of a new seven storey student residence with a ground level landscaped courtyard The existing façade facing North King St shall be retained and incorporated into the development as a key feature.

This report presents a Preliminary Construction & Demolition (C&D) Waste Management Plan (C&DWMP) for the proposed development which will address the following:

- Analysis of the waste arisings/material surpluses;
- Waste management objectives for the project;
- Methods proposed for prevention, reuse and recycling of wastes;
- Material handling procedures; and
- Proposals for training and auditing.

This Preliminary C&DWMP has been prepared in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (2021).

The proposed Development is located within the administrative area of Dublin City Council and it should be read in conjunction with the Preliminary Construction & Demolition Management Plan for the project.

1.2 Waste Management Context

The primary legislative instrument that governs waste management in Ireland is the Waste Management Act (WMA) 1996, as amended. The WMA is a key instrument which, among others, implements the EU Waste Framework Directive (Directive 2008/98/EC) in Ireland. The WMA provides for a general duty on everyone not to hold, transport, recover or dispose of waste in a manner that causes or is likely to cause environmental pollution. The WMA also sets out the provisions for the collection of waste and for its recovery/disposal.

Any person or contractor engaged in the collection of waste on a commercial basis is required to hold a Waste Collection Permit in accordance with the requirements of the Waste Management (Collection Permit) Regulations 2007, as amended. A Waste Collection Permit is issued to appropriate contractors by the National Waste Collection Permit Office (NWCPO).

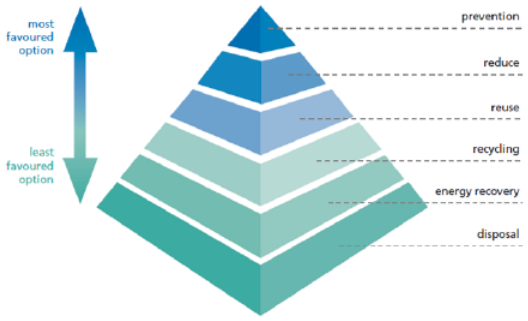
Waste materials collected by a suitably permitted waste contractor must only be transported to appropriately permitted or licensed waste facilities. Authorisation for receiving waste materials are provided in accordance with the Waste Management (Facility Permit & Registration) Regulations 2007, as amended for waste permits and certificates of registration (COR) granted by the relevant Local Authority. Waste management authorisations granted by the Environmental Protection Agency (EPA) are issued in accordance with the Waste Management (Licensing) Regulations

2004, as amended and the Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013, as amended.

1.3 Relevant Policy

1.3.1 National Policy

Ireland's waste management policy is based on the EU waste hierarchy policies and establishes a priority order for waste handling and treatment as set out below (source EPA).



The current government policy document on waste, which covers the period from 2020 – 2025, is entitled *A Waste Action Plan for a Circular Economy* and was published in June 2020. This document is Ireland's new roadmap for waste planning and management and aims to embed climate action in all strands of public policy. The Plan shifts focus away from waste disposal and looks instead to how the country can preserve resources by creating a circular economy.

The Plan outlines the contribution of the sector to the achievement of a number of other national plans and policies including the Climate Action Plan. It also matches the level of ambition being shown across the European Union through the European Green Deal which encompasses a range of actions supporting circularity and sustainability.

The key targets under the Waste Action Plan in relation to C&D waste are:

- Streamlining by-product notification and end-of-waste decision making process;
- Revision of the 2006 best practice guidelines for C&D waste; and
- Working group to develop national end-of-waste applications for priority streams.

Most notably in respect of the proposed development works, the new Waste Action Plan states that:

- C&D waste management plan guidelines will be updated and we will ensure that there is a consistent application of planning requirements.
- We will develop reuse and recovery targets for plastic from the construction and demolition sector.
- We will examine methods to encourage source segregation of waste materials on site which could include moving away from the use of mixed skips or incentivised pricing or other financial instruments to support segregation.

1.3.2 Regional Waste Management Plan

For the purposes of waste planning, Ireland has been divided into three waste regions, namely the Eastern-Midlands Waste Region, the Southern Waste Region and the Connacht-Ulster Waste Region.

The Eastern-Midlands Waste Region (EMWR) comprises of twelve Local Authority areas which are:-

- Dublin City Council
- Dun Laoghaire-Rathdown County Council
- Fingal County Council
- South Dublin County Council
- Kildare County Council
- Louth Couth Council
- Laois County Council
- Longford County Council
- Meath County Council
- Offlay County Council
- Westmeath County Council
- Wicklow County Council

Each of the three waste management regions has developed a waste management plan to provide a framework for the prevention and management of wastes in a safe and sustainable manner. The current waste plan for the EMWR is the Eastern-Midlands Region Waste Management Plan 2015 – 2021.

The strategic vision of the regional waste plan is to rethink Ireland's approach to managing wastes, by viewing waste streams as valuable material resources that can lead to a healthier environment and sustainable commercial opportunities for the economy.

Specifically, in relation to C&D waste, the regional plan identifies Irelands mandatory target under the Waste Framework Directive to achieve 70% reuse, recycling and materials recovery of non-soil and stone construction and demolition waste to be achieved by 2020. The latest EPA waste statistics (2018) 3 identify that Ireland's current rate is 77%.

The regional plan also states that "there is significant potential for recycling of the C&D waste stream given the nature of its characteristics".

The new National Waste Policy document, A Waste Action Plan for a Circular Economy, states that the three current regional waste management plans will be replaced by a new National Waste Management Plan for a Circular Economy by January 2022, which will contain targets for:

- Reuse
- Repair
- Resource consumption
- Reducing contamination levels

1.3.3 City Development Plan

The current development plan applicable to the proposed development is the Dublin City Development Plan 2022 – 2028 which sets out the local authority's commitments to provide and deliver infrastructural services which will enhance the quality of the city's environment and facilitate sustainable economic development and housing.

It is the Policy of Dublin City Council:

CA23 The Circular Economy To support the shift towards the circular economy approach as set out in a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, as updated together with The Whole of Government Circular Economy Strategy 2022-2023. https://www.gov.ie/en/publication/b542dwhole-of-government-circular-economy-strategy-2022-2023-living-moreusing-less/

CA24 Waste Management Plans for Construction and Demolition Projects To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.

Section 15.7.1 of the CDO in relation to 'Re-use of Existing Buildings' sets out that: Existing building materials should be incorporated and utilised in the new design proposals where feasible and a clear strategy for the reuse and disposal of the materials should be included where demolition is proposed

1.3.4 Dublin City Waste Bye-Laws

New Waste Bye-Laws for the functional area of Dublin City Council came into force on 15th March 2021. These are referred to as Dublin City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws 2018.

The provisions of these Waste Bye-Laws do not apply to C&D waste.

1.4 National Waste Statistics

The EPA reports on national waste generation statistics on a regular basis. The latest statistics available from 2018 provide the following information:-

- C&D waste generated increased to 6.2 million tonnes in 2018, up from 4.7 million tonnes in 2017.
- Soil and stone made up the largest fraction of C&D waste (77%) collected in 2018. The next largest waste types in 2018 were concrete, bricks, tiles and gypsum (12%) and mixed C&D (7%).
- Most of the C&D waste generated in 2018 (89%) was backfilled while only 9% of all C&D waste as recycled.

2 Waste Management Objectives

The following waste management objectives are identified for the proposed development:

- Maximise the on-site segregation of C&D wastes;
- Consider all reuse opportunities for material surpluses within the site
- Avoid oversupply of incoming construction materials which have the potential to become waste
- Engage licensed waste contractors that can provide maximum off-site reuse, recovery and recycling of waste materials in preference of disposal.

The national target for preparing for reuse, recovery and recycling of C&D waste (excluding soil and stone) is 70% and the waste industry in Ireland is currently achieving 77%.

The target set for C&D waste management for the James Place East development is the national target which is 70%.

The Main Contractor will be made aware of this requirement, and they will be required to engage suitably permitted waste Contractors that will be capable of meeting or exceeding this target.

3 Project Description

Ringline Investments Limited intend to apply for permission for development at 139-149 North King Street, Dublin 7. The development will consist of the demolition of existing structures on site, with the exception of the façade on North King Street (N) and Bow Street (E), which is a protected structure (RPS Ref. No. 8790 – north and east elevation only), which will be retained, improved and restored as part of the proposed development.

The proposal will provide a purpose-built student accommodation development in a 7-storey building over a partial existing basement with a setback at 5th floor and a further significant setback at the 6th floor level.

The proposal includes 361 no. student bedspaces, a ground level retail unit with frontage to both North King Street and Bow Street, communal facilities including a courtyard, external terrace at roof level at 5th and 6th floor and internal amenity spaces.

4 Waste Arisings

C&D waste statistics from 2018 as published by the EPA identify that the main types of waste generated in the construction industry in Ireland as set out below:-

C&D Waste Type	Tonnage	Per cent of total
Soils, stones & dredging spoil	4,786,162 (Note 1)	77.0%
Concrete, brick, tile & gypsum	755,526	12.1%
Mixed C&D waste	414,984	6.7%
Metal	179,043	2.9%
Bituminous mixtures	60,759	1.00%
Segregated wood, glass & plastic	23,068	0.4%
Total	**6,219,541**	**100%**

Note 1: As outlined in our Hazardous Waste section, the quantity of hazardous contaminated soil generated in Ireland in 2018 amounted to 93,645 tonnes.

As above, soil and stones waste typically make up a significant proportion of C&D waste generated.

Piling works will generate a small quantity of soil and stone waste to be removed from site. An initial site investigation has been carried out for the site and ground conditions are expected to be in at least the Non Hazardous criteria. Further investigations and laboratory testing can be carried out ahead of the construction process.

The existing buildings to be demolished are formed with a combination of steel frames and concrete floors with steel roof systems. Wood, plasterboard, glass and waste electronic and electrical equipment (WEEE) will also be generated from building soft strip a works.

Asbestos surveys shall be undertaken prior to the commencement of the works to assess any asbestos containing material in the buildings to be demolished.

During construction works, waste material will be generated mainly from material off-cuts and packaging. Oversupply of materials can also lead to waste generation. The typical waste materials generated again will be concrete rubble, metals, wood and plastics.

Other waste types generated in smaller quantities on construction sites may include materials such as waste oils, resins, paints and adhesives. Some of these materials may be hazardous and will require specific handling procedures. It is expected that waste quantities of these materials will be small.

4.1 Demolition Waste

Preliminary calculations on the quantities of waste to be generated from the demolition of the existing buildings have bene undertaken by ourselves, and are outlined below.

Waste Type	Tonnes
Reinforced Concrete	350
Structural Steelwork	150
Reinforcement steel bars	125
Brickwork & Blockwork	295
Glass	21
Timber	12
Aluminium	15
Plasterboard	40
WEEE	26
Total	1034

Prior to commencement of demolition works, the appointed Demolition Contractor will undertake a detailed assessment to confirm the above assessments.

4.2 Excavation Works

Shallow excavations shall be required for pile caps and other foundation systems. All material is expected to meet the Non-Hazardous criteria subject to further waste classification testing.

It is anticipated that excavated soil, stone and weathered rock would be circa 4000 tonnes.

4.3 Construction Waste

Based on published information from the EPA which undertook a number of case studies to establish both the anticipated quantities and breakdown of C&D wastes generated by a construction project, the estimated construction waste volumes based on the proposed building floor area is as follows:-

Waste Type	Tonnes
Mixed C&D Waste	373
Timber	232
Plasterboard/Gypsum	120
Metals	96
Concrete	103
Other Waste (packaging, insulation etc)	112
Total	933

5 Waste Handling

5.1 On-Site Waste Materials

To ensure that waste management is given adequate consideration throughout the demolition and construction phases, the main contractor will appoint a Waste Manager who will have overall responsibility for implementing this C&DWMP, ensuring that the project remains in compliance with waste legislation and striving to achieve, and exceed, the waste management targets as set out in Section 2.

As a primary measure, waste generation will be avoided, where possible, by ensuring that an excess supply of building materials is not delivered to the site and that only the minimum materials required to meet the construction schedule are available on-site. This will reduce the potential for damage and re-ordering materials which will save on project costs. The 'Just-in-time' delivery concept will be applied, where possible, to minimise waste creation.

The Waste Manager will liaise with procurement teams to ensure that minimal and unnecessary packaging is not brought on-site or is removed from site by delivery vehicles. In particular, timber pallets will be returned with deliveries where possible.

Maximum segregation of waste materials on-site will be carried out to increase the off-site potential for reuse and recycling of materials. Skips of varying sizes will be provided strategically at the site to promote source segregation and avoid rubbish build-up and potential for off-site littering. Where there is sufficient space on the site, a waste compound should be set up such that skips are located close together which helps promote source segregation and aids collection of skips by the waste Contractor.

All skips will be maintained in good condition and clearly labelled so that there is no confusion as to what materials are to be placed in which skip. The main contractor will appoint an employee to keep the area around the skips clean and to ensure skips are not overflowing with waste. Waste materials such as gypsum, WEEE, batteries or hazardous waste may require covered skips or containers to prevent contaminated run-off in the event of getting wet. Dedicated bunded storage areas will be provided for storage of liquid wastes such as resins, oils, paints etc.

There will be limited opportunities for reuse of excavated materials within the site due to the built-up nature of the site location. Piling and excavation works will be monitored, and environmental sampling carried out to classify the material for off-site recovery or disposal. Clean uncontaminated material will be kept separate from contaminated (or potentially contaminated) materials so as to avoid cross contamination and reduce the quantity of contaminated material requiring off-site treatment.

5.2 Off-Site Waste Management

The main contractor will appoint a suitably permitted waste contractor(s) to collect waste from the site and transfer to appropriately permitted or licensed waste facilities. It is not possible at this point to identify who the waste contractor(s) will be or to provide their waste collection permit number(s). Similarly, the appointed waste contractor(s) will typically determine the facilities where C&D waste will be taken to. Upon appointment of a waste contractor, details of the waste collection permit(s) and chosen waste facilities will be provided to DCC. Written confirmation of the acceptance of the material at the chosen facilities will also be obtained and provided to DCC.

There are numerous waste transfer stations and treatment facilities in the Greater Dublin Region that can accept C&D waste for reuse, recycling and recovery.

Excavated soil and stone material will be tested to provide a classification for off-site recovery or disposal in accordance with the EPA requirements set out in the Waste Classification publication7. Alternatively, the EPA approved HazWasteOnline application can be used to classify the excavated material as hazardous or non-hazardous. Waste facilities permitted for acceptance of waste materials for landfilling will also require the classification of waste in accordance with the Waste Acceptance Criteria (WAC) set out in EC Council Decision 2003/33/EC 8. It is anticipated that excavated soil and stone will be transferred off-site in rigid trucks and will be covered to prevent dust deposition off-site.

Uncontaminated soil and stones can be recovered as engineering fill in landfill facilities or used for ground improvement in soil recovery facilities. As a last resort, excavated materials can be disposed of to landfill. Where appropriate, uncontaminated soil and stones may be classified as a by-product (and not as a waste) in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011, as amended subject to meeting specific requirements as set out in the Regulations and guidance issued by the EPA9. A by-product classification on the excavated materials would permit the use of the material in non-waste licenced or permitted sites.

The main construction waste materials such as concrete rubble (including ceramics and bricks), metals, plastics, plasterboard, glass and wood are widely recyclable and will be segregated on site into separate skips insofar as is possible with the space available on-site. These materials will be transferred off-site using dedicated skip lorries to appropriate facilities. It is anticipated that bulk concrete rubble and metals from demolition works will be transferred off-site in rigid 30T trucks.

Any WEEE generated will be stored separately (under cover if required) and transferred to suitable facilities for processing and onward recycling of components. Similarly, where possible, cardboard packaging will be segregated to maximise recycling potential off-site.

A mixed C&D waste skip will be required for non-recyclable wastes or where site constraints do not permit segregation into all of the above waste types. The appointed Waste Manager will monitor site segregation to ensure recyclable materials are placed in dedicated skips, where provided, and not placed in the mixed C&D waste skip. This material will be transferred off-site for processing and further removal of recoverable materials.

Off-site facilities for processing of C&D waste typically generate a ‘fines’ material which can be recovered as an engineering material in landfill facilities. The Waste Manager will liaise with the waste contractors to ensure maximum diversion of waste from disposal to landfill as per the target set out in Section 2.

Hazardous waste will only be removed from site by waste contractors permitted to handle hazardous waste. Waste oils, resins and paints may be suitable for off-site recovery and this will be explored with waste contractors.

If ACMs are identified on site which are required to be removed, only asbestos registered waste Contractors will be permitted to collect and remove the material.

6 Record Keeping

Once a Waste Contractor has been appointed, the Waste Manager will request copies of their waste collection permits which will be held on file at the site office. The waste collection permits must include an up-to-date list of approved vehicle registrations associated with the permit which can be spot checked by the Waste Manager. The waste contractor will also be requested to identify where waste materials will be taken to and copies of waste licences/permits for each facility will be requested to hold on file in the site office. The Waste Manager will confirm that the waste collection permits and facility licences/permits are appropriate for the waste types proposed.

A waste log will be set up by the Waste Manager to record all outgoing waste movements from the site. The waste collection vehicle driver will be required to supply an individual signed waste docket (waster transfer form for hazardous waste) for each waste movement off-site which must specify the waste collection permit number, waste type, list of waste code, waste treatment, source of the waste and waste destination. The docket provided by the driver may also include the weight of waste where the collection vehicle is equipped with a load cell or the weight of waste is known. Alternatively, the weight of the waste may be determined from a weighbridge at the receiving facility and the weight of waste provided to the Waste Manager as soon as possible after receipt at the off-site facility. Regardless, the waste contractor must be able to provide an accurate measurement of the waste tonnage to the Waste Manager. The waste contractor will also be required to provide feedback on waste collected identifying the percentage of waste recovered and disposed of.

The waste log will be used to identify the main waste types being generated and can be linked to delivery records to identify the percentage of waste from incoming building materials. The Waste Manager will be able to analyse these records to improve efficiency and seek to reduce wastage. The Waste Manager can also use the information to determine the success of the project against the target set out in Section 2 of this Report.

7 Training, Responsibilities & Auditing

The main contractor will include the waste management objectives outlined in Section 2 as part of the site induction for all new employees on the site. The importance of source segregation and maintaining a clean site will be highlighted and the locations of skips on the site will be provided.

The appointed Waste Manager will be trained in setting up the waste log and checking waste dockets as described in the previous section. The Waste Manager will also be given responsibility for providing toolbox talks on waste management, organising specific training where required and educating workers throughout the project. The Waste Manager will also liaise with DCC to provide details on the waste facilities to be used and provide waste data as required. It is also beneficial for the Waste Manger to provide feedback on waste statistics to the project team on a regular basis to acknowledge good performance or identify areas for improvement.

The Waste Manager will be familiar with the content of this document and will ensure compliance with the measures set out herein for the duration of the project. Where appropriate, the Waste Manager may delegate responsibility to others for management of waste in particular areas of the site or may seek appointment of Waste Mangers for specific sub-contracts.

The Waste Manager will also establish an audit checklist to inspect skips and waste containers across the site and identify contamination of skips or other waste related issues which may arise.

A review of waste records held for each movement of waste off-site should also be carried out. The waste log should be cross-checked with hard copy dockets and any missing details filled in. Depending on the nature of the wastes generated, the Waste Manager may also carry out an audit of the receiving waste facilities to confirm that the waste sent from the site is being treated as described on the waste dockets.

The costs associated with waste management should also be reviewed during the project and highlighted to the Project/Site Manager as to where savings can be made, if any. Typically, maximum on-site segregation of waste reduces the costs associated with mixed C&D waste collection which is required to be processed off-site.

8 Communication with other Organisations

The Waste Manager will ensure coordination with relevant bodies throughout the project. This will include compliance with any construction traffic management requirements identified by the project team or imposed by DCC.

The Waste Manager will provide details to DCC on the destinations of waste materials from the site and will provide waste records to DCC as required. The Site Manager contact details will also be provided to DCC.