



OPERATIONAL WASTE MANAGEMENT PLAN

In respect of
LANDS AT DRUMLARK, CAVAN TOWN

Prepared by
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On behalf of
DRUMLARK INVESTMENTS LIMITED

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EXECUTIVE SUMMARY

This report is an Operational Waste Management Plan prepared as part of the planning application for a Large-scale Residential Development (hereafter referred to as the 'proposed development') on lands located at Drumlark, Cavan Town.

Waste will be generated from both residential and commercial spaces in the proposed development during the operational phase.

All waste will be stored and segregated into separate fractions to facilitate the collection of dry mixed recyclables, residual waste, organic waste and glass.

A waste handling area has been identified for the storage of wheeled bins and other waste equipment at the ground level of the proposed development.

Bins will be transported for collection to a collection point located at ground level. Storage and collection of wastes will be undertaken on site in accordance with the Cavan Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019, the Cavan Development Plan 2022-2028 and the standard BS 5906:2005 Waste management in buildings — Code of Practice, as appropriate.

1 INTRODUCTION

1.1 Overview

1.1.1 This report is an Operational Waste Management Plan prepared as part of the planning application for a Large-scale Residential Development(hereafter referred to as the 'proposed development') on lands located at Drumlark, Cavan Town.

2 PROPOSED DEVELOPMENT

2.1 Drumlark Investments Limited intend to apply to the Planning Authority for permission for a Large-scale Residential Development on lands located at Drumlark, Cavan Town.

2.2 For reference Figure 1 below is an outline of the location and boundary of the proposed development.



Figure 1: Location of the proposed development

2.2.3 The proposed development involves and the construction of a Large-scale Residential Development that consists of the following works:

- (a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works.
- (b) The reprofiling of ground levels within the site and associated site works as required.
- (c) The provision of a total of 91no. residential dwellings which will consist of 25no. 2 bed units, 55no. 3 bed units and 11no. 4 bed units. The dwellings range in height from single storey to two storey.
- (d) The provision of a total of 54no. duplex apartment units consisting of 15no.1 bed units and 39no. 2bed units. The duplex apartment blocks range in height from two storey to three storey in height.
- (e) Provision of a 2 storey creche with associated parking, bicycle and bin storage.
- (f) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche and duplex apartment units.
- (g) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site.
- (h) Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities.
- (i) Creation of a new access point from the public road with associated works to include for a connections to the existing public footpath along with provision of a pedestrian crossing point with a raised table.
- (i) The provision of a new shared cycleway and footpath to serve the site.
- (j) Provision of internal access roads and footpaths and associated works to include for retaining walls and regrading of site levels as required.
- (k) Provision of residential communal open space areas to include formal play areas along with all hard and soft landscape works with public lighting, planting and boundary treatments to include boundary walls, railings & fencing.
- (l) Internal site works and attenuation systems which will include for provision of a hydrocarbon and silt interceptor prior to discharge.
- (m) Installation of culverts and headwalls to facilitate crossing over the existing watercourse aligning the site boundary with associated works.
- (m) All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks

3 PLANNING AND POLICY

3.1 Overview

3.1.1 The principal objective of sustainable resource and waste management is to use resources more efficiently, where the value of products, material and resources is maintained in the economy for as long as possible such that the generation of waste is minimised. To achieve resource efficiency there is a need to move from a traditional linear economy to a circular economy (refer to Figure 2).

3.1.2 A Waste Action Plan for a Circular Economy – Ireland’s National Waste Policy 2020 – 2025 (Department of Communications, Climate Action and Environment (DCCAE), 2020) notes that:

‘In a circular economy the value of products and materials is maintained for as long as possible; waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value.’

3.1.3 The EU Circular Economy Action Plan (European Commission, 2020) notes that:

‘the EU needs to accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes, advance towards keeping its resource consumption within planetary boundaries, and therefore strive to reduce its consumption footprint and double its circular material use rate in the coming decade.’

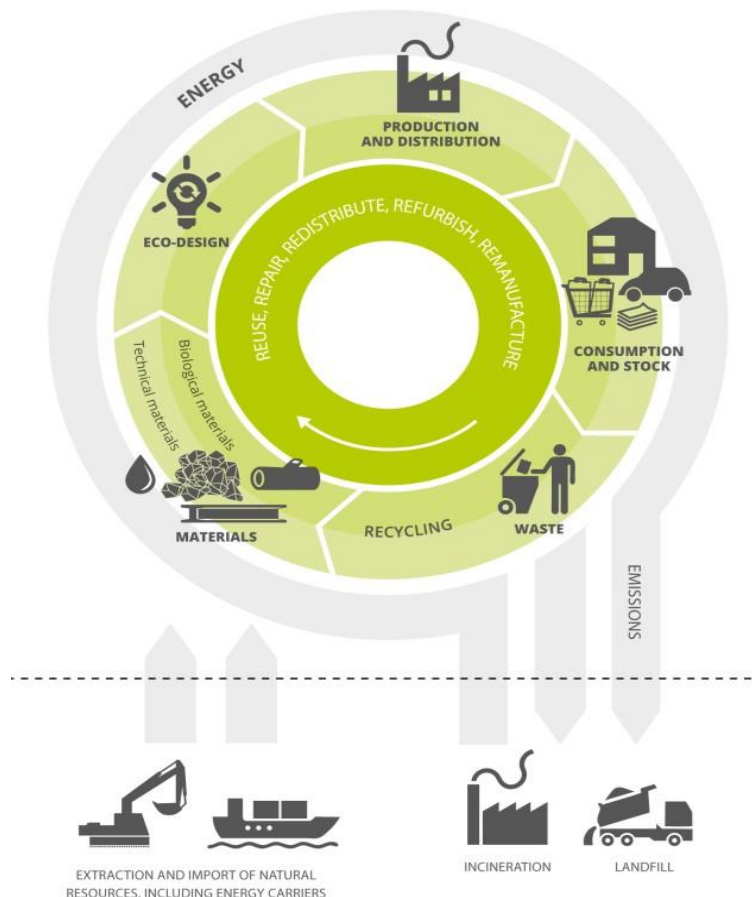


Figure 3 A Simplified Model of the Circular Economy for Materials and Energy (European Environment Agency, 2016)

- 3.1.4 Where residual waste is generated it should be dealt with in a way that follows the waste hierarchy (refer to Figure 3) and set out in Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2009 on waste and repealing certain Directives and Directive 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste.
- 3.1.5 The waste hierarchy supports the need to achieve efficient use of material resources, minimise the amount of waste produced (or otherwise increase its value as a resource) and reduce, as far as possible, the amount of waste that is disposed to landfill.
- 3.1.6 Key resource and waste management policy and planning documents were taken into account in preparing this Operational Waste Management Plan including the Eastern-Midlands Region Waste Management Plan 2015 - 2021 and the Cavan County Development Plan 2021 – 2027.

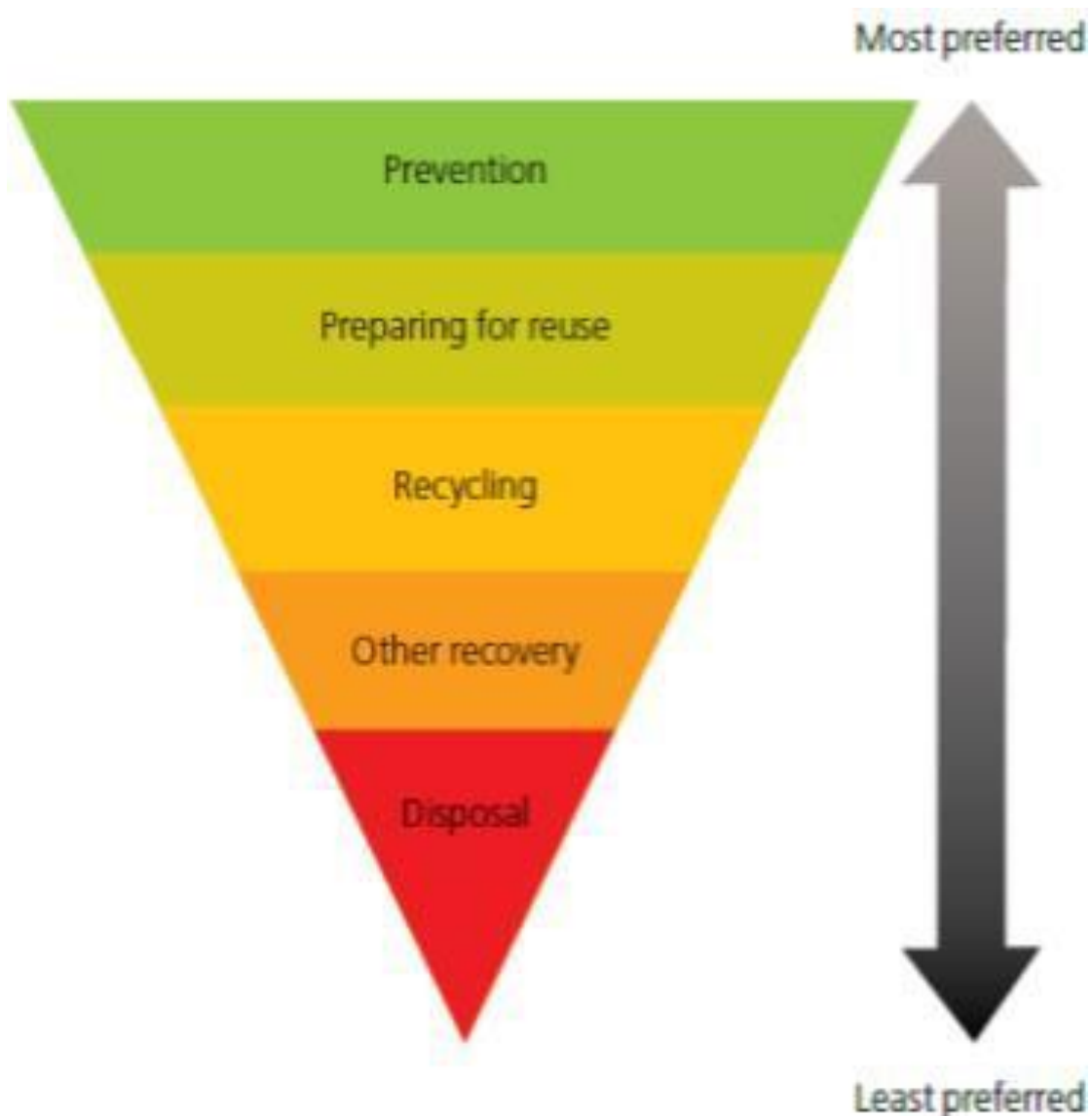


Figure 4 Waste Hierarchy

3.2 Policy Context

Eastern-Midlands Region Waste Management Plan 2015 - 2021

3.2.1 For the purposes of waste management planning Ireland is now divided into three regions: Southern, Eastern-Midlands, Connacht-Ulster. The Eastern-Midlands Region includes Cavan County Council and in terms of context the Connacht-Ulster Region Waste Management Plan 2015- 2021 launched in 2015. The strategic approach of the plan places a stronger emphasis on preventing wastes and material reuse activities. Three strategic targets have been set in the plan which include:

- Absolute decoupling of household waste from economic growth and disposable income
- Preparing for reuse and recycling rate of 60-70% of municipal waste by end of 2030; and
- Reduce and where possible eliminate landfilling of all major waste streams including municipal, industrial and construction and demolition wastes in favour of the recovery of residual wastes.

3.2.2 Going forward the plan looks to 2030 and includes a goal of reaching a recycling rate of 60%.

Cavan County Development Plan 2022 – 2028

3.2.3 The Cavan County Development Plan 2022-2028 sets out the County Council's policies and objectives for the development of the county over the plan period.

3.2.4 The Council includes waste management objectives as part of Chapter 8 'Environment, Water and Drainage' under section 8.7 and also under Chapter 13 relating to bin provision. It outlines the need for segregation of waste into dry recyclables, food waste and residual domestic waste. Also new developments must comply with this by providing a three bin system in each unit.

3.2.5 Of note section 13.4.16 of the development plan sets out the following guidelines related to bin design standards for proposed developments:

'All new residential schemes shall include appropriately sited and designed secure refuse storage areas, details of which shall be clearly shown in pre-application discussion and planning application documentation. Regard shall be had to the number of individual bins required to serve each residential unit at design stage and the requirement for segregating waste for recycling and food waste'.

4 RECEIVING ENVIRONMENT

4.1 Municipal Waste

4.1.1 Municipal waste is the waste type that will be most relevant to the operational phase of the proposed development. Municipal waste includes the following waste types:

- **Residual** (sometimes known as black bin) waste i.e. waste that cannot be recycled;
- **Recyclable** (sometimes known as green bin) waste e.g. plastic, paper and cardboard, metals;
- **Organic** (sometimes known as brown bin) waste e.g. food and garden waste;
- **Glass**
- **Bulky waste** i.e. waste that is too large to be accepted by regular waste collection e.g. furniture, mattresses, carpets, bicycles etc.; and
- **Waste Electrical and Electronic Equipment (WEEE).**

4.1.2 The most recent complete figures published by the EPA relating to municipal waste are for the year 2019 and note that 3,085,652 tonnes of municipal waste were generated in Ireland (EPA, 2021).

4.1.3 Of this 83% was recovered, which means the waste was recycled, incinerated for energy recovery or used to cover landfilled waste. 37% was recycled. 'Recycled' means the waste was broken down and used to make new items and includes the breakdown of food and garden waste to make compost. 15% of municipal waste was disposed of in 2019.

4.1.4 The figures in Table 1 below were obtained from the most recent waste characterisation surveys conducted in Ireland undertaken in 2016 and published in 2018. They should be considered as a guide only as municipal waste can vary significantly from one location to another, depending on the nature of the development and the waste management practices employed on-site.

4.1.5 The predominant waste streams in municipal waste include plastics, papers and organic waste, with these streams comprising 40% of total municipal waste composition.

Category	Composition
Plastics	17.2%
Papers	15.3%
Organic waste (non-garden)	12.5%
Cardboards	8.5%
Fines (<20mm)	8.6%
Organic waste (garden)	7.6%
Textiles excl. nappies	7.6%
Nappies	6.7%
Metals	4.2%
Unclassified Combustibles	4.3%
Glass	2.6%
Unclassified Incombustibles	1.7%
Haz Municipal Waste (excl. WEEE & Tubes)	0.9%
Composite beverage cartons	0.8%
Wood	0.8%
WEEE & Tubes	0.7%
Total	100.0%

Table 1: Composition of Municipal Waste¹

¹ EPA (2018) Household Waste Characterisation Campaign - Final Report. https://www.epa.ie/publications/monitoring--assessment/waste/national-waste-statistics/Household_Surveys_Final_Report1.pdf [Accessed: December 2021]

5 WASTE GENERATION

5.1 Residential

5.1.1 Residential waste generation from the proposed development has been estimated to enable the number of bins required for storage to be calculated. This calculation was based on the schedule of accommodation for the scheme. To demonstrate how this was calculated, the calculation for residential units is set out in this section. Residential waste storage requirements for the proposed development are presented in Section 6.2.

5.1.2 In terms of project particulars the approach to calculating bin storage areas is based solely on apartments, as residential dwellings will provide storage in-curtilage as will storage for the creche.

5.1.3 Therefore with the proposal incorporating 54 apartments the assumptions are as follows:

- A total of 54 no. duplex apartment units comprising:
 - 15 no. 1 bed apartments;
 - 39 no. 2 bed apartments.

- Also provision is to be made for the Creche with it's own independent storage area.
- Occupancy rates are assumed to be 2 persons per 1 bed apartment and 4 persons per 2 bed apartment.
- Household waste will be source separated into recyclables, residual, organic and glass waste. Wheeled bins will also be available in waste storage room for WEEE.
- It is assumed that approximately 60% of waste generated will be dry mixed recyclables (which complies with the target of the Eastern-Midlands Waste Management Plan – refer to Section 3.2.1), 30% of waste generated will be residual waste, 5% of waste generated will be organic waste and 5% of waste generated will be glass waste. The waste management system will be flexible to allow for increases in the proportion of source segregated recyclables and reduction of residual wastes in the future. This includes the European Commission's 70% target for re-use and recycling of waste by 2030.
- Weekly waste collection of residential waste is assumed for the purpose of these calculations.
- It is assumed that all waste will be delivered by householders to the ground level communal waste stores.
- The EPA reported a household waste generation rate per capita of 330kg per annum for 2019², the most recent year for which published data is available.
- Over a third (39%) of all waste collected from households was placed in the residual waste (black) bin in 2020 (722,911 t). Therefore, it is assumed that 61% of all waste is dry mixed recyclables.
- Specific assumptions, formula and calculations used are presented in Table 2 below.

Assumptions	Formula	Calculation
1 bed: 2 person occupancy rate	No of People = No. of units * occupancy rate	1 Bed: 15 units * 2 people = 22 people.
2 bed: 3/4 person occupancy rate		2 Bed: 39 units * 4 people = 156 people.
3 bed: 6 person occupancy rate		3 bed: 0 units * 6 people = 0 people
		Total = 178 people
330kg per annum waste generation	Tonnes of waste = waste per annum * No. of people	0.33 tonnes/person/year * 178 people = 58.74 tonnes / year (residential)

Table 2: Assumptions, Formulas and Calculations used – Apartments (Residential)

Container/ Equipment Type	Length (mm)	Width (mm)	Height (mm)	Clearance Required	
1,100 litre bin (residual waste and dry mixed recyclables) (note 1)	1070	1370	1450	150mm	 1100 Litre Wheeled Bin (www.ecostore.ie)
360 litre bin (organic waste) (note 2)	880	590	1100	150mm	 360 litre wheeled bin (www.ecostore.ie)
240 litre bin (glass waste) (note 2)	740	590	1100	150mm	 240 Litre Wheeled Bin (www.ecostore.ie)

Figure 5 Types of bins for reference purposes

² <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/household/> [Accessed: 18 November 2021]

Assumptions	Formula	Calculation
Density of 0.16 tonnes/m ³	Volume of waste = Tonnes/ density	58.74tonnes / 0.21 tonnes/m ³ = 279.7 m ³ per annum
1,100 litre (1.1m ³) wheeled bins will be used for communal waste collection of dry mixed recyclables and residual waste. 360 litre (0.36m ³) wheeled bins will be used for communal waste collection of organic waste. 240 litre (0.24m ³) wheeled bins will be used for communal waste collection of glass waste. Assume once weekly waste collection.	Volume per week = Total volume / 52	278 m ³ per annum / 52 weeks = 5.34 m ³ per week
Bins Required	Volume per week / 1,100 communal waste bins = total bins required	5.34 m³ per week / 1.1 m³ = 4.86 bins = 5 bins for apartments (with all provided for via 1100 litre bins)
Appropriate Bin Provision Based on the EPA assumption discussed above that 60% of all bins within the development are required for dry mixed recycling, 30% Municipal Waste & 10% for organic/glass wastes.	To include for % of dry mixed recyclables & glass = Total amount of bins	60% of 5m³/ 4 bins = 3 bins for recycling purposes & 30% of 4m³/ 4 bins = 1 bins for Municipal Waste 5% of 4m³ = 1m³ for organic waste or 4no. 360 litre brown bins 5% of 4m³ = 1m³ for glass waste or 4no. 240 litre black bins

Table 3: Assumptions, Formulas and Calculations used – Apartments (Residential)

6 WASTE MANAGEMENT AND STORAGE

6.1 Overview

- 6.1.1 This section presents information on the storage and movement of residential and commercial waste within the proposed development.
- 6.1.2 It is noted that a number of different tenants and businesses will use the waste management facilities on site. As a result, and in order to ensure the waste storage and collection facilities on site will be effectively used and managed, a facilities manager will be required to arrange both movement of waste and recyclables around the site and access to the waste management storage area. Going forward this can be addressed by planning condition as per management of the apartments.
- 6.1.3 Storage and collection of recyclables and wastes will be undertaken on site in accordance with the Cavan County Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019 (Cavan County Council, 2019), the Cavan County Development Plan 2022-2028 and the standard BS 5906:2005 Waste management in buildings — Code of practice (BSI, 2005), as appropriate.
- 6.1.4 The facilities management team will be responsible for the maintenance of the waste handling areas and will act as a single point of contact for the waste collection contractor.
- 6.1.5 BS 5906:2005 Waste management in buildings - Code of practice (BSI, 2005) notes that waste operatives should not be required to move 4 wheeled waste containers a distance of more than 10 metres. As a result the layout has been designed so that bin stores are proximate to the internal road to minimize the movement required of wheeled bins on collection days.
- 6.1.6 The waste storage rooms will be appropriately ventilated and sufficient drainage will be provided to enable a thorough wash down of all bins and the waste storage rooms.

6.2 Residential Waste

- 6.2.1 Residential waste will be source separated by householders into separate fractions to facilitate the collection of dry mixed recyclables, residual waste, organic waste, glass waste and WEEE in line with the Cavan County Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019 (Cavan County Council, 2019).
- 6.2.2 The various residential waste fractions will be delivered by householders to a designated communal waste storage room located at ground level.
- 6.2.3 All rooms containing wheeled bins should have a head height of 2m or greater and be designed in accordance with BS5906:2005 Waste Management in Buildings - Code of Practice (BSI, 2005) particularly in relation to fire risk. It is recommended that a fire engineer review the waste storage room design.
- 6.2.4 It is proposed that dry mixed recyclable and residual waste will be stored in 1,100 litre bins, while organic waste will also be stored in 1100 litre bins and glass waste will be stored in 1100 litre bins. Waste collectors operating in Cavan County Council have confirmed that these are the appropriate bin sizes to use for the respective wastes.
- 6.1.5 The number of bins required for apartments (assuming weekly collections) to cater for the volume of residential waste estimated are presented in Table 4. The numbers have been calculated using the formulas assumptions and calculations previously noted in Table 2.

6.1.6 In addition to the bin requirements for dry mixed recyclables, residual waste, organic waste and glass waste, 1 no. WEEE cage and 1 no. fluorescent tube coffin will be located in the waste storage room. The WEEE cage will be for small items only and exclude TVs and monitors. A bulky waste storage area of 2m² will also be provided in the waste storage room.

Dry Mixed Recyclable 1,100 litre bins	Residual Waste 1,100 litre bins	Organic Waste 360 litre bins	Glass Waste 240 litre bins
3	1	1	4

Table 4: Residential Waste Storage, assuming weekly collection

6.3 Commercial Waste

6.3.1 A creche facility is also proposed on-site. In addition to the residential waste provision will also be made for the creche facility via provision of the bins as per table 5 below.

Dry Mixed Recyclable 1,100 litre bins	Residual Waste 1,100 litre bins	Organic Waste 360 litre bins	Glass Waste 240 litre bins
1	1	1	1

Table 5: Commercial Waste Storage, assuming weekly collection

6.4 Waste Collection

6.4.1 Residential and commercial waste will be collected on a weekly basis from the proposed development. Dry mixed recyclables, residual waste, organic waste and glass waste will be collected on different days.

6.4.2 A marshalling area will be located at ground level. Bins will be transported from the waste storage room to the designated marshalling area for collection.

6.4.3 A facilities manager will be required to arrange movement of waste and recyclables around the site on collection days.

6.4.4 The marshalling area will be located adjacent to a waste collection vehicle set down area so that the waste operatives will not be required to move 4 wheeled waste containers a distance of more than 10 metres. This is in line with guidance specified in BS 5906:2005 Waste management in buildings — Code of practice (BSI, 2005).

6.4.5 Following appointment of a residential and commercial waste collector and prior to commencement, collection arrangements, including the proposed days of collection, will be notified to and agreed with the waste department of Cavan County Council.