Ardshanavooly, Killarney, Co. Kerry

Housing Development at
Killarney, Co. Kerry

Preliminary Operational Waste Management Plan

December 2025

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Consulting Engineers

Document Control Sheet

Client	Wrightwood Development Ltd
Project Title	Proposed Development at Ardshanavooly, Co. Kerry
Document Title	Preliminary Operational Waste Management Plan
Document No.	24078TT_Doc02_OWMP_R02
Job No.	24078TT

Rev.	Status	Author	Reviewed By	Approved By	Date
R01	Internal Draft	C O'Connor	J Daly		29th Aug 2025
R02	S247 Issue	C O'Connor	J Daly		23rd September 2025
R03	LRD Issue	J Daly	J Daly	J Daly	18th Dec 2025

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1.0 INTRODUCTION

1.1 Overview

MHL has prepared this Preliminary Operational Waste Management Plan (OWMP) on behalf of Wrightwood Development, for planning permission to Kerry County Council for a proposed housing development.

The proposed development comprises of the construction of 124 no. dwellings in a mix of duplex, maisonette and apartment typologies comprising 16 no. 1 bed apartments, 6 no. 2 bed apartments, 16 no. 1 bed duplex apartments, 16 no. 2 bed duplex maisonettes, 33 no. 2 bed duplex apartments, 33 no. 3 bed maisonettes and 4 no. 3 bed terrace houses, all in building heights ranging from 2 to 4 storeys.

This OWMP provides a strategy for segregation (at source), storage and collection of the wastes generated within the development during the operational phase of the development, including dry mixed recyclables, organic waste, mixed non-recyclable waste, as well as providing a strategy for management of other wastes including glass, batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil and furniture.

This document aims to provide an overview of the proposed operational waste management strategy to be implemented by the scheme's management company.
The plan provides detail on the expected waste arisings which will be generated during the operational phase of the development and details of the methods and locations to be employed for the prevention, minimisation, recovery, and disposal of this material.

In summary, this OWMP presents a waste strategy that complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage area has been incorporated into the development design.

This OWMP aims to ensure maximum recycling, reuse, and recovery of waste with diversion from landfill, wherever possible. The OWMP also seeks to provide guidance on the appropriate collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil or water resources). The plan estimates the type and quantity of waste to be generated from the proposed development during the operational phase and provides a strategy for managing the different waste streams.

2.0 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National & Regional Waster Policy

Currently, there are no specific guidelines in Ireland for the Operational Waste Management Plans. Therefore, this document was prepared according to the national and regional waste policy, legislation, and other guidelines.

Development Plan policy generally sets out guidelines for waste management which conform to the European Union and National Waste Management Hierarchy as follows:

- Waste prevention
- Minimisation
- Re-use
- Waste recycling
- Energy recovery
- Disposal

The Waste Management Strategy is firmly grounded in EU and National policy and can be summarised by the waste hierarchy of prevention, recycling, energy recovery and disposal.

The scheme's predicted waste types will be segregated into the Dry Mixed Recyclables, Mixed Non-Recyclables, General, Organic, and other waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible

The implementation of this OWMP will ensure that the waste management during the operational phase of the proposed development is undertaken in accordance with current legal and industry standards listed below:

- Kerry County Development Plan 2022-2028
- The Waste Management Act 1996 - 2020, Amendments & Associated Regulations
- Planning and Development Act (2000) (as amended)
- Environmental Protection Act 1992 as amended
- Protection of the Environment Act 2003 as amended
- The Litter Pollution Act 1997 as amended
- BS 5906:2005 Waste Management in Buildings - Code of Practice; and
- Presentation and Collection of Household and Commercial Waste 2013

The plan may be subject to review. Any material changes in the proposed operational strategy will be subject to agreement with Kerry County Council Waste Regulation Unit at the project construction stage.

Pending appointment of the successful Contractor(s) they will need to adopt and adapt this report issuing further levels of required information.

The effective implementation of this OWMP will ensure maximum reuse, recycling and recovery of waste with a diversion from landfill wherever possible and provides guidance on the appropriate collection and transport of waste.

The OWMP is designed so as to ensure the highest possible levels of waste reduction, waste reuse and waste recycling are achieved for the proposed development. Specifically, the OWMP aims to achieve "Sustainably manage waste generation, invest in different types of waste treatment and support circular economy principles, prioritising prevention, reuse, recycling and recovery, to support a healthy environment, economy and society."

2.2 Prevention of Waste Management

Preventing the generation of excessive levels of waste through will be encouraged on an individual basis and is preferable to any form of waste management detailed in the following sections.

2.3 Segregation of Waste

All residential units will be required to segregate their waste into the following waste categories within their units:

- Dry Mixed Recyclables (DMR)
- Mixed Non-Recyclables (MNR)
- Organic (food and garden, i.e. plant) waste
- Glass (segregated by colour)

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated in small quantities which will need to be managed separately, including:

- Green/garden waste may be generated from internal plants or external landscaping
- Batteries (both hazardous and non-hazardous)
- Waste electrical and electronic equipment (WEEE) (both hazardous and non- hazardous)
- Printer cartridges/toners
- Chemicals (paints, etc.)
- Light bulbs (Fluorescent Tubes, Long Life, LED bulbs etc.)
- Textiles
- Waste cooking oil
- Furniture (and from time-to-time other bulky wastes)

The Environmental Protection Agency's (EPA) Household Food Waste and Bio-Waste regulations are designed to promote the segregation and recovery of household food waste. Adherence to the EPA's guidance notes on the segregation of domestic waste will be recommended.

Reuse or Recycling of Items to Avoid Landfill

The reuse and recycling of items will be encouraged as the preferred option for disposal. This action is well supported by existing reuse and recycling infrastructure in the local area - in the form of charity shops and local bring centres.

Use of Brown Bins for Organic Waste

The Compositing Association of Ireland has prepared a recommended list of acceptable materials for household brown bins to standardise household brown bin schemes across the country.

Encouraging the appropriate use of brown bins in the scheme to encourage the diverting of 'organic waste' towards more productive uses.

Kerry County Council Bye-Laws 2019

Bye-Laws for the Storage, Presentation and Collection of Household and Commercial Waste were brought into force by KCC in April 2019. The Bye-Laws set a number of enforceable requirements on waste holders and collectors with regard to storage, separation, presentation and collection of waste within the KCC functional area. Key requirements under these bye-laws are:

- Segregation of organic waste (Brown Bin) is required for holders of household & commercial waste
- Compliance with Waste Management (Food Waste) Amendment Regulations 2015 (S.I. 190 of 2015) and the European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. 191 of 2015

3.0 SITE DESCRIPTION AND DEVELOPMENT OVERVIEW

3.1 Site Location

The existing green flied site is located within the Town Boundary of Killarney. The site is bounded to the North by the Deerpark Pitch & Putt Course, to the east by a green field site and to the west and south by existing Housing Developments.

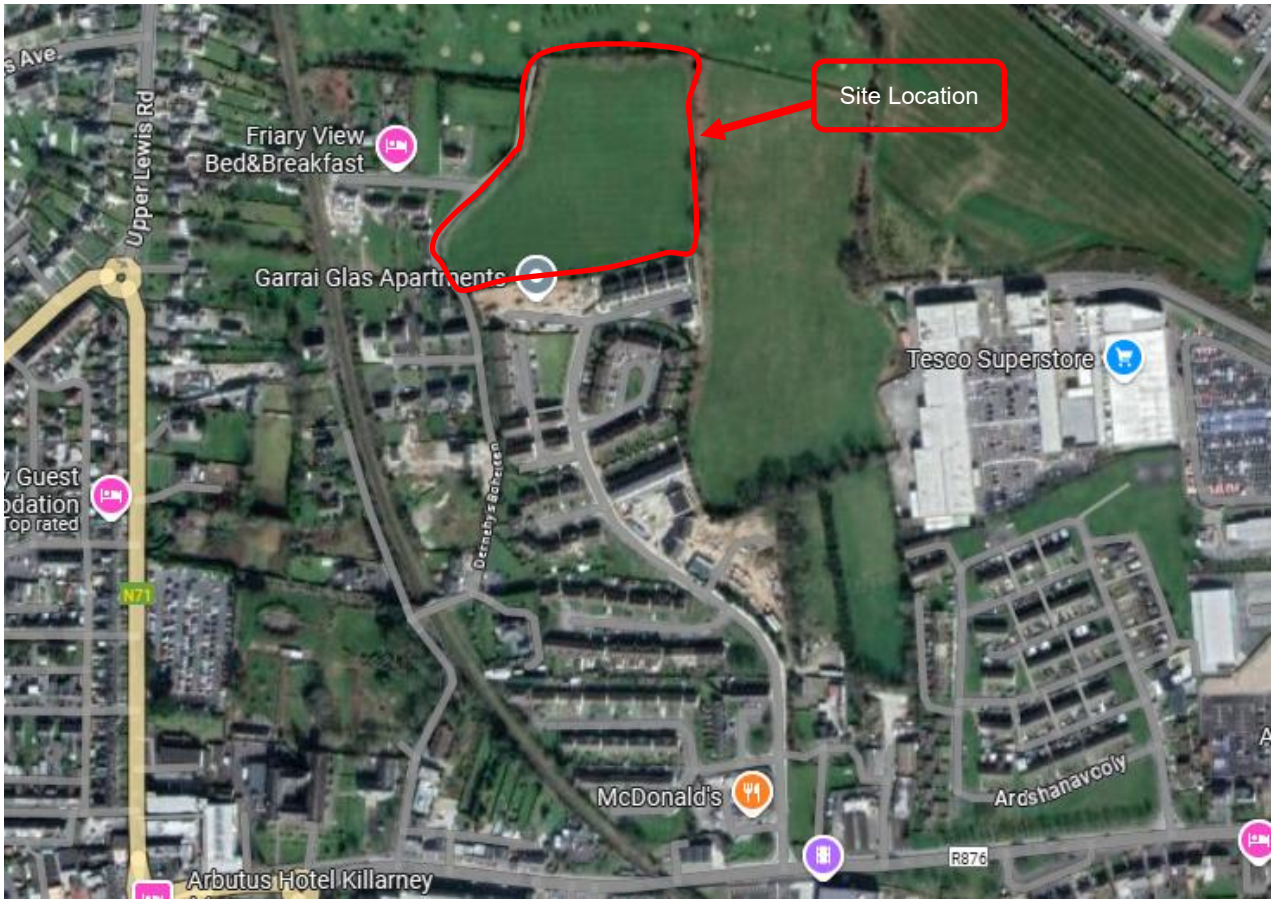

Figure 3.1: Site Location (boundary in red)

3.2 Scope

The subject development seeks planning permission for the following principal components:

- The proposed development comprises of the construction of 124 no. dwellings in a mix of duplex, maisonette and apartment typologies comprising 16 no. 1 bed apartments, 6 no. 2 bed apartments, 16 no. 1 bed duplex apartments, 16 no. 2 bed duplex maisonettes, 33 no. 2 bed duplex apartments, 33 no. 3 bed maisonettes and 4 no. 3 bed terrace houses, all in building heights ranging from 2 to 4 storeys.

The following figure presents the proposed site layout the subject of this planning application:

Figure 3.2: Proposed Site Layout

4.0 WASTE MANAGEMENT STRATEGY

The operational waste management strategy proposed is based on a number of factors, including:

- final permission granted, and conditions attached to permitted development
- compliance requirements with Kerry County Council plan policy
- requirements by other state bodies
- waste infrastructure availability in the locality
- concerns raised by residents and neighbours affected by the work

Waste storage was considered at the initial design stage to ensure access for all (including people with disabilities) would be provided in a brightly lit, safe and well-designed bin storage area, spacious enough for easy manoeuvrability. Good ventilation and ready access, if required for the control of potential vermin, were also considered during design.

This integrated waste management strategy will form part of a larger operational Complex management programme which will safeguard its implementation. Implementation of this plan will ensure that waste management during the operational phase of the proposed development is undertaken according to current legal and industry standards as listed in Section 2.1.

This plan aims to ensure maximum recycling, reuse, and recovery of waste with diversion from landfill, wherever possible. The plan also seeks to provide guidance on the appropriate storage, handling, collection, and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil or water resources). The plan estimates the type of waste to be generated from the proposed development during the operational phase and provides a strategy for managing the different waste streams.

4.1 Local Waste Management Infrastructure

There is an existing network of waste management infrastructure in the local area and used by the existing housing developments within Killarney is run by Killarney Waste Disposal (KWD). The network operates in conjunction with public civic amenity sites including one at Coolcaslagh Civic Amenity Site, Coolcaslagh Killarney Co. Kerry. The Opening Hours are shown below in Figure 4.1.

OPENING HOURS – COOLCASLAGH KILLARNEY CIVIC AMENITY SITE			
CLOSED FOR LUNCH – MONDAY – FRIDAY 12.15 PM – 1.00 PM LAST ADMISSION 15 MINUTES BEFORE LUNCHTIME & EVENING CLOSURES			
Monday	8.30 am – 12.15 pm	&	1.00 pm – 5.00 pm
Tuesday	8.30 am – 12.15 pm	&	1.00 pm – 5.00 pm
Wednesday	8.30 am – 12.15 pm	&	1.00 pm – 5.00 pm
Thursday	8.30 am – 12.15 pm	&	1.00 pm – 5.00 pm
Friday	8.30 am – 12.15 pm	&	1.00 pm – 5.00 pm
Saturday	8.30 am – 1.00 pm		
Sunday & Bank Holidays - **CLOSED**			

Figure 4.1: Opening Hours for Coolcaslagh Civic Amenity Site

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5.0 WASTE CATEGORIES

5.1 Typical Waste Categories

The typical non-hazardous and hazardous wastes that will be generated at the proposed development will include the following:

- Dry Mixed Recyclables (DMR) - includes wastepaper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins, and Tetra Pak cartons
- Organic waste - food waste and green waste generated from plants/flowers
- Glass
- Mixed Non-Recyclable (MNR)/General Waste

5.2 European Waste Codes

In 1994, the European Waste Catalogue and Hazardous Waste List were published by the European Commission. In 2002, the EPA published a document titled the European Waste Catalogue and Hazardous Waste List, which was a condensed version of the original two documents and their subsequent amendments. This document was replaced by the EPA' Waste Classification - List of Waste & Determining if Waste is Hazardous or Non-Hazardous', which became valid from the 1st of June 2015.

This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database. Under the classification system, different types of waste are fully defined by a code. The List of Waste (LoW) code (also referred to as the European Waste Code or EWC) for typical waste materials expected to be generated during the operation of the proposed development is provided in Table 5.1.

European Waste Catalogue/ List of Waste	
Type of Waste	**EWC/LoW**
Mixed Non-recyclable Waste	20 03 01
Paper and cardboard	20 01 01
Plastics	20 01 39
Biodegradable Kitchen Waste	20 01 08
Glass	20 01 02
Edible oil and fat	20 01 25
Biodegradable kitchen and canteen waste	20 01 08
WEEE	20 01 35-36

Table 5.1: EWC/LoW

5.3 Additional Waste Categories

In addition to the typical waste materials that will be generated daily, there will be some additional waste types generated in small quantities which will need to be managed separately by the residents, including:

- Green/garden waste may be generated from external landscaping
- Batteries (both hazardous and non-hazardous)
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous)
- Printer cartridges/toners
- Chemicals (paints, adhesives, resins, detergents, etc.)
- Fluorescent tubes and other mercury containing waste
- Textiles (rags)
- Waste cooking oil
- Furniture (and from time-to-time other bulky wastes).

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6.0 WASTE GENERATION FIGURES

The National Waste Prevention Programme (NWPP) is playing an important enabling role in that necessary transformational change by supporting businesses, households and the public sector to be more resource efficient.
The BS5906:2005 Waste Management in Buildings – Code of Practice was considered in the calculations of waste estimates.
Extract from 2013 'EPA Publication, National Waste Prevention Programme' The typical wastes generated at a residential development are as follows:

- Dry Mixed Recycling;
- Mixed Non-Recycling;
- Organic Material.

In addition to the common waste type outlined above, a residential development generally also generates the following wastes in small quantities:

- Glass;
- Electrical Waste: Electronic Equipment such as televisions, printers, radios, mobile phones and batteries;
- Chemicals: Paints, glues, resins, detergents;
- Textiles;
- Furniture.

Green garden waste from trimmings and cuttings will be dealt with by the landscaping contractor.

6.1 Accommodation Schedule

The occupancy rates for Accommodation units have been predicated and are displayed on the schedule of Accommodation in Table 6.1

Block Name	Block A	Block B	Block C	Block D	Block E	Block F	Block G	Block H	Block J	Block K	Block L	Block M
Person Equivalent Occupancy	45	24	45	45	27	63	36	42	36	24	30	54

Table 6.1: Schedule of Accommodation

Table 6.2 below shows the overall volume of waster generated per block

Waste Type		m3 per week											
	Baseline Waste Per person Equivalent	Block A	Block B	Block C	Block D	Block E	Block F	Block G	Block H	Block J	Block K	Block L	Block M
Organic Waste	***0.01***	0.45	0.24	0.45	0.45	0.27	0.63	0.36	0.42	0.36	0.24	0.3	0.54
DMR	***0.07***	3.15	1.68	3.15	3.15	1.89	4.41	2.52	2.94	2.52	1.68	2.1	3.78
Glass	***0.0015***	0.0675	0.036	0.0675	0.0675	0.0405	0.0945	0.054	0.063	0.054	0.036	0.045	0.081
MNR	***0.035***	1.575	0.84	1.575	1.575	0.945	2.205	1.26	1.47	1.26	0.84	1.05	1.89
Total per Block		**5.2425**	**2.796**	**5.2425**	**5.2425**	**3.1455**	**7.3395**	**4.194**	**4.893**	**4.194**	**2.796**	**3.495**	**6.291**

Table 6.2: Estimated Waste Generation

7.0 WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the development will be stored and how the waste will be collected from the development. This has been prepared with due consideration of the proposed site layout as well as best practice standards, local and national waste management requirements including those of KCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings - Code of Practice
- EMR Waste Management Plan 2015 - 2021
- KCC Kerry County Council Household Waste Bye-Laws (2019)

The waste receptacles from WSAs will be collected directly from the WSAs by the waste contractor and taken to the vehicle for emptying, waste receptacles will be promptly returned to the WSAs.

Using the estimated waste generation volumes in Table 6.2, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSAs. These are presented in Table 7.1.

		Block A	Block B	Block C	Block D	Block E	Block F	Block G	Block H	Block J	Block K	Block L	Block M
Waste Type	Bin Size	No of Bins											
Organic Waste	240	2	1	2	2	1	3	2	2	2	1	1	2
DMR	1100	3	2	3	3	2	4	2	3	2	2	2	3
Glass	240	1	1	1	1	1	1	1	1	1	1	1	1
MNR	1100	2	2	2	2	2	2	2	2	2	2	2	2

Table 7.1: Estimate of Bin Requirements

The waste receptacle requirements have been established from distribution of the total weekly waste generation estimate into the holding capacity of each receptacle type.

Waste storage receptacles as per Table 7.1 above (or similar appropriate approved containers) will be provided by the facilities management company in the commercial WSAs.

The types of bins used will vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSAs are shown in Figure 7.1 & 7.2 below. All waste receptacles used will comply with the IS EN 840 2012 standard for performance requirements of mobile waste containers, where appropriate.

Commercial Customers

At KWD Recycling we have an extensive range of equipment to suit your business needs. To determine the equipment best suited to your requirements and ultimately the best price offered, one of our representatives can visit your business and carry out a completely free survey & recommend the most suitable and economical system suitable to your situation.

We pride ourselves on offering the most efficient and reliable service possible while constantly monitoring any changes in the industry that may improve price and service to our customers. We collect all types of waste and recycling material while billing can be made to your preference, monthly, yearly or even pay per empty basis - whilst new customers can be added to our schedule immediately if needed.

The Range

We offer a complete range of bins including 140ltr, 240ltr, 360ltr, 660ltr and 1100ltr which come colour coded for either landfill waste or recycling materials.

Green Bins

Our Green General Waste Bins will take all general landfill waste you produce, which we can collect at the most competitive rates on the market.

Blue Bins

Our Blue Dry Recycling Bins will take the following material: Cardboard, paper, plastic, aluminium and tin cans mixed, making it easier for the customer and reduce your disposal costs.

All material should be clean, loose and dry in the recycling bin so that it can be segregated and recycled at our Materials Recycling Facility

Figure 7.1

Compost Bins

We also provide a Brown Compost Bin so you can reduce the amount of material going into the general waste bin and this in turn reduces waste disposal charges for our customers.

It is now law that any commercial premises dealing with food (eg restaurant, cafes, canteens etc) must segregate their food waste into a separate bin.

Glass Bins

We supply 3 separate bins for you to segregate your green, white and brown glass waste.

Cardboard

We also collect bags, bins, and bales of cardboard and plastic at great rates.

Figure 7.2

7.1 Waste Storage

The future residents will be required to segregate waste within the development into the following main waste types:

- DMR
- MNR
- Organic waste
- Glass

Using the receptacles outlined in Table 7.1, it is anticipated that DMR, MNR, organic waste and glass will be collected on a weekly basis.

7.2 Waste Collection

The existing waste collection service provider will be retained and informed about the additional waste disposal requirements. The waste contractors servicing the proposed development must hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered/permitted/licensed facilities only.

The residents waste receptacles from the housing development will be collected directly from their properties and taken to the waste vehicle for emptying, receptacles will be promptly returned to the WSAs.

The facility management or waste contractor (depending on the existing agreement) will ensure that empty bins are promptly returned to the WSAs after collection/emptying.

It is recommended that bin collection times/days are staggered to reduce the number of bins required to be emptied at once and the time the waste vehicle is onsite. This will be determined during the process of appointment of a waste contractor.

7.2 Additional Waste Materials

In addition to the typical waste materials that are generated on a daily basis, there will be some additional waste types generated from time to time that will need to be managed separately. A non-exhaustive list is presented below.

Green waste

Green waste may be generated from external landscaping and internal plants/flowers. Green waste generated from landscaping of external areas will be removed by external landscape contractors. Green waste generated from gardens internal plants/flowers can be placed in the organic waste bins.

Batteries

A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the Waste Management Batteries and Accumulators Regulations 2014 as amended. In accordance with these regulations' consumers are able to bring their waste batteries to their local civic amenity centre or can return them free of charge to retailers which supply the equivalent type of battery, regardless of whether or not

the batteries were purchased at the retail outlet and regardless of whether or not the person depositing the waste battery purchases any product or products from the retail outlet.

Waste Electrical and Electronic Equipment (WEEE)

The *WEEE Directive 2002/96/EC* and associated Waste Management (WEEE) Regulations have been enacted to ensure a high level of recycling of electronic and electrical equipment. In accordance with the regulations, consumers can bring their waste electrical and electronic equipment to their local recycling centre. In addition, consumers can bring back WEEE within 15 days to retailers when they purchase new equipment on a like for like basis. Retailers are also obliged to collect WEEE within 15 days of delivery of a new item, provided the item is disconnected from all mains, does not pose a health and safety risk and is readily available for collection.

Chemicals (solvents, paints, adhesives, resins, detergents etc)

Chemicals (such as solvents, paints etc) are largely generated from building maintenance works. Such works are usually completed by external contractors who are responsible for the off-site removal and appropriate recovery/recycling/disposal of any waste materials generated.

Light Bulbs (Fluorescent Tubes, Long Life, LED and Filament bulbs)

Waste light bulbs may be generated by lighting at the properties. It is anticipated that residents will be responsible for the off-site removal and appropriate recovery/disposal of these wastes. Facilities management may arrange collection depending on the agreement.

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse.

Furniture (and other bulky wastes)

Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the residents. The collection of bulky waste will be arranged as required by the residents.

8.0 Conclusions

In summary, this OWMP presents a waste strategy that complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

Implementation of this OWMP will ensure a high level of recycling, reuse, and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus achieving the targets set out in the *EMR Waste Management Plan 2015 - 2021.*

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the *SDCC Waste Bye-Laws.*

The waste strategy presented in this document will provide sufficient storage capacity for the estimated quantity of segregated waste. The designated area for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy