OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED DEVELOPMENT

AT

"THE FORMER HEITON BUCKLEY SITE AT CASTLE STREET, BRAY, CO. WICKLOW"

Report Prepared For

Silverbow Limited

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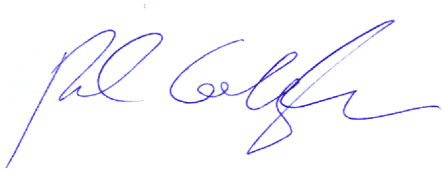
Signature		
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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Silverbow Limited. The proposed Development will principally consist of the demolition of the existing vacant commercial and residential buildings and the construction of a mixed-use residential and commercial scheme in 2 blocks ranging in height from 1 to 7 storeys set around a central amenity space at the former Heiton Buckley site at Castle Street, Bray, Co. Wicklow. The site includes No. 20 Dwyer Park and St. Anthony's, Dwyer Park.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the development is undertaken in accordance with current legal and industry standards including, the *Waste Management Act 1996 – 2011* as amended and associated Regulations [1], *Protection of the Environment Act 2003* as amended [2], *Litter Pollution Act 2003* as amended [3], the *'Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021'* [4] and the Wicklow County Council (WCC) *Bye-Laws for the Segregation, Storage and Presentation of Household and Commercial Waste (2018)* [5]. In particular, this OWMP aims to provide a robust strategy for storing, handling, collection and transport of the wastes generated at site.

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.

At present, there are no specific guidelines in Ireland for the preparation of OWMPs. Therefore, in preparing this document, consideration has been given to the requirements of national and regional waste policy, legislation and other guidelines.

2.0 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Government issued a policy statement in September 1998 entitled *'Changing Our Ways'* [6], which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. A heavy emphasis was placed on reducing reliance on landfill and finding alternative methods for managing waste. Amongst other things, *Changing Our Ways* stated a target of at least 35% recycling of municipal (i.e. household, commercial and non-process industrial) waste.

A further policy document, *'Preventing and Recycling Waste – Delivering Change'* was published in 2002 [7]. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled *'Making Irelands Development Sustainable – Review, Assessment and Future Action'* [8]. This document also stressed the need to decouple economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document *Changing Our Ways*, a review document was published in April 2004 entitled *'Taking Stock and Moving Forward'* [9]. Covering the period 1998 – 2003, the aim of this document was to assess progress to date with regard to waste management in Ireland, to consider

developments since the policy framework and the local authority waste management plans were put in place, and to identify measures that could be undertaken to further support progress towards the objectives outlined in *Changing Our Ways*.

In particular, *Taking Stock and Moving Forward* noted a significant increase in the amount of waste being brought to local authority landfills. The report noted that one of the significant challenges in the coming years was the extension of the dry recyclable collection services.

In September 2020, the government released a new policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan *'A Waste Action Plan for a Circular Economy'* [10], was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to a new economy, where climate and environmental challenges are turned into opportunities, replacing the previous national waste management plan *"A Resource Opportunity"* (2012).

It aims to fulfil the commitment in the Programme for Government to publish and start implementing a new National Waste Action Plan. It is intended that this new national waste policy will inform and give direction to waste planning and management in Ireland over the coming years. It will be followed later this year by an All of Government Circular Economy Strategy. The policy document shifts focus away from waste disposal and back up the production chain. To support the policy, regulation is already in place (Circular Economy Legislative Package) or in the. The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken is the development of a high-level, whole of Government Circular Economy Strategy to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity. This strategy was issued for public consultation in April 2021.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic *'National Waste (Database) Reports'* [11] detailing, among other things, estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery and disposal of these materials. The *2018 National Waste Statistics*, which is the most recent study published, along with the national waste statistics web resource (August 2020) reported the following key statistics for 2018:

- **Generated –** Ireland produced 3,085,652 t of municipal waste in 2019. This is almost a 6% increase since 2018. This means that the average person living in Ireland generated 628 kg of municipal waste in 2019.
- **Managed –** Waste collected and treated by the waste industry. In 2019, a total of 3,036,991 t of municipal waste was managed and treated.
- **Unmanaged –**Waste that is not collected or brought to a waste facility and is, therefore, likely to cause pollution in the environment because it is burned, buried or dumped. The EPA estimates that 48,660 t was unmanaged in 2019.
- **Recovered –** The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In 2019, around 83% of municipal waste was recovered – a decrease from 84% in 2018.
- **Recycled –** The waste broken down and used to make new items. Recycling also includes the breakdown of food and garden waste to make compost. The recycling rate in 2019 was 37%, which is down from 38% in 2018.
- **Disposed –** Less than a sixth (15%) of municipal waste was landfilled in 2019. This is an increase from 14% in 2018.

2.2 Regional Level

The proposed development is located in the Local Authority area of Wicklow County Council (WCC).

The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the WCC area published in May 2015.

The regional plan sets out the following strategic targets for waste management in the region:

- A 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan;
- Achieve a recycling rate of 50% of managed municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €130 - €150 per tonne of waste which includes a €75 per tonne landfill levy specified in the *Waste Management (Landfill Levy) Regulations 2015.*

The *Wicklow County Development Plan 2016 – 2022* [12] sets out a number of policies for the Wicklow area in line with the objectives of the waste management plan.

Waste policies with a particular relevance to the development are as follows:

Policy Objective WE1*: to require all developments likely to give rise to significant quantities of waste, either by virtue of the scale of the development or the nature of the development (e.g. one that involves demolition) to submit a construction management plan, which will outline, amongst other things, the plan for the safe and efficient disposal of waste from the site.*

Policy Objective WE2*: to require all new developments, whether residential, community, agricultural or commercial to make provision for storage and recycling facilities (in accordance with the standards set out in Development & Design Standards of this plan).*

Policy Objective WE3*: to facilitate the development of existing and new waste recovery facilities and in particular, to facilitate the development of 'green waste' recovery sites.*

Policy Objective WE4*: to facilitate the development of waste-to-energy facilities, particularly the use of landfill gas and biological waste.*

Policy Objective WE5*: to have regard to the Council's duty under the 1996 Waste Management Act (as amended), to provide and operate, or arrange for the provision and operation of, such facilities as may be necessary for the recovery and disposal of household waste arising within its functional area.*

Policy Objective WE6*: to facilitate the development of sites, services and facilitates necessary to achieve implementation of the objectives of the Regional Waste Management Plan.*

The *Draft Wicklow County Development Plan 2022 – 2028* [13] sets out a number of policies and objectives for Wicklow County in line with National, Regional and County Objectives. The goals around waste aim to are to contribute to the three pillars of

'sustainable healthy communities', 'climate action' and 'economic opportunity'. The Solid Waste Management Objective are:

CPO 15.1 *To require all developments likely to give rise to significant quantities of waste, either by virtue of the scale of the development or the nature of the development (e.g. one that involves demolition) to submit a construction management plan, which will outline, amongst other things, the plan to minimise waste generation and the plan to protect the environment with the safe and efficient disposal of waste from the site.*

CPO 15.2 *To require all new developments, whether residential, community, agricultural or commercial to make provision for storage and recycling facilities (in accordance with the standards set out in Development & Design Standards of this plan).*

CPO 15.3 *To facilitate the development of existing and new waste prevention and recovery facilities and in particular, to facilitate the development of 'green waste' recovery sites.*

CPO 15.4 *To facilitate the development of waste-to-energy facilities, particularly the use of landfill gas and biological waste.*

CPO 15.5 *To have regard to the Council's duty under the 1996 Waste Management Act (as amended), to provide and operate, or arrange for the provision and operation of, such facilities as may be necessary to promote reuse or for the recovery and disposal of household waste arising within its functional area.*

CPO 15.6 *To facilitate the development of sites, services and facilities necessary to achieve implementation of the objectives of the Regional Waste Management Plan.*

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the proposed Development are:

- Waste Management Act 1996 (No. 10 of 1996) as amended 2001
- Environmental Protection Act 1992 (S.I. No. 7 of 1992) as amended;
- Litter Pollution Act 1997 (Act No. 12 of 1997) as amended and
- Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended [13]

These Acts and subordinate Regulations transpose the relevant European Union Policy and Directives into Irish law.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the Waste Management Act 1996 - 2011 and subsequent Irish legislation, is the principle of "Duty of Care". This implies that the waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal.) As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final disposal area, waste contractors will be employed to physically transport waste to the final waste disposal site.

It is, therefore, imperative that the residents, commercial tenants and the proposed building management company undertake on-site management of waste in accordance with all legal requirements and that the facilities management company employ suitably permitted / licenced contractors to undertake off-Site management of

their waste in accordance with all legal requirements. This includes the requirement that a waste contactor handle, transport and reuse / recover / recycle / dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007, as amended, or a Waste or Industrial Emissions (IE) Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and / or disposed of at the specified site.

2.3.1 Wicklow County Council Draft Waste Bye-Laws

The *"County of Wicklow (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2018"* were released on the 3rd of December 2018 and replace all previous waste bye-laws. The *waste 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 WCC functional area. Key requirements under these bye-laws are:

- A holder shall not cause or permit the storage of waste to endanger health, create a risk of injury to pedestrians or traffic, harm the environment or create a nuisance through noise, odours or litter;
- A service provider shall not collect overloaded waste containers;
- A holder shall ensure that the lid of an appropriate waste container is firmly closed when that container is presented for collection; and
- A holder shall not present waste for collection before 6 p.m. on the day before the approved time

The full text of the draft Waste Bye-Laws is available from the WCC website.

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the residential sector in the WCC region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and all are operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second in Poolbeg in Dublin.

There is a WCC Recycling Centre (Bray Recyling Centre), Beechwood Close, Boghall Road, Bray, located c.2.2 km to the south of the Development Site, which can be utilised by the residents of the proposed Development for other household waste streams while a bottle & textile bank can be found c. 900 m to the north west at the Little Bray Community Centre.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all Waste / Industrial Emissions Licenses issued are available from the EPA.

3.0 DESCRIPTION OF THE DEVELOPMENT

3.1 Location, Size and Scale of the Development

Silverbow Limited, intend to apply to An Bord Pleanála for permission for a strategic housing development at the former Heiton Buckley site on Castle Street; St. Anthony's Dwyer Park and No. 20 Dwyer Park, Bray, Co. Wicklow (Eircodes A98 V973, A9 XW31 and A98 YC44).

The proposed Strategic Housing Development will consist of the following:-

1. Demolition of all existing vacant commercial and residential buildings and sections of boundary wall;
2. Construction of a mixed-use residential and commercial development in 2 blocks ranging in height from 1 to 7 storeys set around a central podium level amenity space and a separate single storey pavilion building;
3. The residential element will accommodate 139 no. apartments comprising 33 no. 1-bedroom units, 91 no. 2-bedroom units and 15 no. 3-bedroom units, with associated balconies;
4. Block A (3-7 storeys) will accommodate 93 no. apartments and a creche at ground floor;
5. Block B (1-6 storeys) will accommodate 46 no. apartments, 2 no. commercial units fronting Castle Street and a communal resident's room;
6. The pavilion building will accommodate a community facility on Castle Street;
7. Vehicular access from Castle Street to 59 no. undercroft car parking spaces and 3 no. creche drop-off spaces;
8. Pedestrian access from Castle Street and Dwyer Park;
9. New surface water sewer along Castle Street from the site to Bray Bridge;
10. The development will include landscaped communal open spaces, boundary treatments, substation, plant rooms, bin stores, bicycle parking, signage and all associated site works and services.

3.2 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 waste paper (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 internal plants / flowers;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

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 less frequently / in smaller quantities which will need to be managed separately 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.);
- Light bulbs;
- Textiles;
- Waste cooking oil (if any generated by the residents and tenants);
- Furniture (and, from time to time, other bulky wastes); and
- Abandoned bicycles.

Wastes should be segregated into the above 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.

3.3 European Waste Codes

In 1994, the *European Waste Catalogue* [14] and *Hazardous Waste List* [15] were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* [16], which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* [17], applicable since the 1st 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, CORs, permits and licences and the EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code (also referred to as European Waste Code (EWC)) for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3.1, below.

Table 3.1 Typical Waste Types Generated and LoW Codes

Waste Material	LoW/EWC Code
Paper and Cardboard	20 01 01
Plastics	20 01 39
Metals	20 01 40
Mixed Non-Recyclable Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25
Textiles	20 01 11
Batteries and Accumulators*	20 01 33* - 34
Printer Toner/Cartridges*	20 01 27* - 28
Green Waste	20 02 01
WEEE*	20 01 35*-36
Chemicals (solvents, pesticides, paints & adhesives, detergents, etc.) *	20 01 13*/19*/27*/28/29*30
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky Wastes	20 03 07

* *Individual waste type may contain hazardous materials*

4.0 ESTIMATED WASTE ARISINGS

A waste generation model (WGM) developed by AWN has been used to predict waste types, weights and volumes expected to arise from operations within the proposed

Development. The WGM incorporates building area and use and combines these with other data, including Irish and US EPA waste generation rates.

The estimated quantum / volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units. While the floor area usage (m^2) has been used to estimate the waste arising from the creche and commercial units.

The waste generated from the residential amenity areas has been included in the waste figures below.

The estimated waste generation for the proposed Development for the main waste types is presented in Tables 4.1.

Table 4.1 *Estimated Waste Generation for the Residential Blocks*

Waste Type	Waste Volume (m^3 / week) Residential			
	Residential	**Creche**	**Commercial 1**	**Commercial 2**
Organic Waste	2.21	0.02	0.21	0.42
Dry Mixed Recyclables	15.66	0.79	0.49	0.98
Glass	0.43	0.01	0.01	0.01
Mixed Non-Recyclables	8.23	0.35	0.64	0.98
Total	**26.53**	**1.17**	**1.35**	**2.69**

BS5906:2005 Waste Management in Buildings – Code of Practice[18] has been considered in the calculations of waste estimates. AWN's modelling methodology is based on recently published data and data from numerous other similar developments in Ireland and is based on AWN's experience, it provides a more representative estimate of the likely waste arisings from the proposed Development.

5.0 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 WCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice;
- WCC, Wicklow County Development Plan 2016 – 2022; and
- WCC, County of Wicklow (Segregation, Storage & Presentation of Household & Commerical Waste) Bye-Laws, 2018.
- EMR Waste Management Plan 2015 – 2021; and
- DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2020) [19].

Waste Storage Areas

Locations of all Waste Storage Areas (WSAs) can be viewed on the drawings submitted with the planning application under separate cover.

Residential Block

Two (2 no.) shared communal WSAs have been allocated within the development design for the residential units in this development to share. These WSA have been strategically located at ground level, in close proximity to the cores of Block A and Block B.

Creche and Commercial Units

One (1 no.) shared commercial WSA has been allocated within the development design for the commercial units in the development to use. This has been strategically located at ground level, at Block B.

Waste Storage Requirements

Estimated waste storage requirements for the operational phase of the proposed Development are detailed in Table 5.1, below.

Table 5.1 *Waste storage requirements for the proposed development*

Area/Use	Bins Required			
	MNR[1]	DMR[2]	Glass	Organic
Commercial	2 no. 1100 L	3 no. 1100 L	1 no. 240 L	3 no. 240 L
Residential	8 no. 1100 L	15 no. 1100 L	2 no. 240 L	10 no. 240 L

Note: 1 = Mixed Non-Recyclables
2 = Dry Mixed Recyclables

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 5.1, above, (or similar appropriate approved containers) will be provided by the building management company in the residential WSA.

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 5.1. All waste receptacles used will comply with the IS EN 840 2012 standard for performance requirements of mobile waste containers, where appropriate.

Figure 5.1 *Typical waste receptacles of varying size (240 L and 1100 L)*

5.1 Waste Storage – Residential Units

Residents will be required to segregate waste into the following main waste streams:

- DMR;
- MNR;
- Glass; and
- Organic waste.

Residents will be required to take their segregated waste materials to their designated WSA and deposit their segregated waste into the appropriate bins. The location of the WSAs are illustrated in the drawings submitted with the planning application under separate cover.

Space will be provided in the residential units to accommodate 3 no. bin types to facilitate waste segregation at source.

Each bin / container in the WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin.

Access to the apartment block WSAs will be restricted to authorised residents, facilities management and waste contractors by means of a key or electronic fob access.

Using the estimated figures in Table 4.1 DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as textiles, batteries, printer toner / cartridges, light bulbs and WEEE may be generated infrequently by the residents. Residents will be required to identify suitable temporary storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.2 Waste Storage – Creche

Staff at the creche will be required to segregate their waste into the following waste categories within their own units:

- DMR;
- MNR;
- Organic waste; and
- Glass.

As required, the staff will need to take segregated DMR, MNR, glass and organic waste to the allocated commercial WSA.

Each bin / container in the WSA will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin.

Using the estimated figures in Table 4.1 DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as textiles, batteries, WEEE, lightbulbs, cooking oil and printer toner / cartridges may be generated infrequently by the tenants. Tenants will be required to identify suitable temporary storage areas for these waste items within the creche and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.3 Waste Storage –Commercial Units

The Commercial tenants will be required to segregate waste within their own unit into the following main waste types:

- DMR;
- MNR;
- Organic waste; and
- Glass.

Tenants will be required to take their segregated waste materials to their designated commercial WSA and dispose of their segregated waste into the appropriate bins. Locations of all WSAs can found on the plans submitted with the application.

Suppliers for the tenants should be requested by the tenants to make deliveries in reusable containers, minimize packaging or to remove any packaging after delivery where possible, to reduce waste generated by the development.

If any kitchens are allocated in unit areas, this will contribute a significant portion of the volume of waste generated on a daily basis, and as such it is important that adequate provision is made for the storage and transfer of waste from these areas to the WSA.

If kitchens are required it is anticipated that waste will be generated in kitchens throughout the day, primarily at the following locations:

- Food Storage Areas (i.e. cold stores, dry store, freezer stores and stores for decanting of deliveries);
- Meat Preparation Area;
- Vegetable Preparation Area;
- Cooking Area;
- Dish-wash and Glass-wash Area; and
- Bar Area.

Small bins will be placed adjacent to each of these areas for temporary storage of waste generated during the day. Waste will then be transferred from each of these areas to the appropriate waste store within their unit.

All bins/containers in the tenants areas as well as in the WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which wastes can be put in each.

Using the estimated figures in Table 4.1 DMR, MNR, organic waste and glass will be collected on a weekly basis.

Other waste materials such as textiles, batteries, WEEE, lightbulbs, cooking oil and printer toner / cartridges may be generated infrequently by the tenants. Tenants will be required to identify suitable temporary storage areas for these waste items within their units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.4 Waste Collection

There are numerous private contractors that provide waste collection services in the Wicklow County area. All 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.

Bins from the development will be brought to collection point / bin staging area located on the southeast side of the development, where bins can be stored on the hardstanding area while awaiting collection. This will be undertaken by the waste contractor or facilities management, immediately prior to collection. The ground level carpark is insufficient in height for a waste truck to access; therefore, all waste will be collected from the new loading bay on Dwyer Park. The location for collection / staging

can be viewed on the drawings submitted with the planning application under separate cover.

A trolley / tug or suitable vehicle may be required to convey the bins to and from the collection area. The building management or waste contractor will ensure that empty bins are promptly returned to the WSAs after collection / emptying.

Suitable access and egress has been provided to enable the bins to be moved easily from the WSA to the waste collection vehicles on the appropriate days. Waste will be collected at agreed days and times by the nominated waste contractors.

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the WCC *Waste Bye-Laws*. Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

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

5.5 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 gardens, 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.

The commercial tenants cannot use the civic amenity centre. They must segregate their waste batteries and either avail of the take-back service provided by retailers or arrange for recycling / recovery of their waste batteries by a suitably permited / licenced contractor. Facilties management may arrange collection, depending on the agreement.

Waste Electrical and Electronic Equipment (WEEE)

The WEEE Directive (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.

As noted above, the commercial tenants cannot use the civic amenity centre. They must segregate their WEEE and either avail of the take-back / collection service provided by retailers or arrange for recycling / recovery of their WEEE by a suitably permited / licenced contractor. Facilties management may arrange collection, depending on the agreement.

Printer Cartridge / Toners

It is recommended that a printer cartridge / toner bin is provided in the commercial unit, where appropriate. The commercial tenants will be required to store this waste within their unit and arrange for return to retailers or collection by an authorised waste contractor, as required.

Waste printer cartridge / toners generated by residents can usually be returned to the supplier free of charge or can be brought to a civic amenity centre.

Chemicals

Chemicals (such as solvents, paints, adhesives, resins, detergents, 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.

Any waste cleaning products or waste packaging from cleaning products generated in the commercial tenants units that is classed as hazardous (if they arise) will be appropriately stored within the tenants' own space. Facilties management may arrange collection, depending on the agreement.

Any waste cleaning products or waste packaging from cleaning products that are classed as hazardous (if they arise) generated by the residents should be brought to a civic amenity centre.

Light Bulbs

Waste light bulbs (fluorescent, incandescent and LED) may be generated by lighting at the commercial units. It is anticipated that the commercial tenants will be responsible for the off-site removal and appropriate recovery / disposal of these wastes. Facilties management may arrange collection, depending on the agreement.

Light bulbs generated by residents should be taken to the nearest civic amenity centre for appropriate storage and recovery / disposal.

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. The commercial tenants and residential tenants will be responsible for disposing of waste textiles appropriately.

Waste Cooking Oil

If the commercial tenants use cooking oil, waste cooking oil will need to be stored within their units on a bunded area or spill pallet and regular collections by a dedicated waste contractor will need to be organised as required. Under sink grease traps will be installed in any cooking space.

If the residents generate waste cooking oil, this can be brought to a civic amenity centre or placed in the organic waste bin.

Furniture & Other Bulky Waste Items

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

as required by the tenant. If residents wish to dispose of furniture, this can be brought a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership. Abandoned bicycles should be donated to charity if they arise or Facilties management willmay arrange collection by a licensed waste contractor.

Covid-19 Waste

Any waste generated by residential and commercial tenants that have tested positive for Covid-19 should be manged in accordance with the current Covid-19 HSE Guidelines at the time that that waste arises. At the time this report was prepared, the HSE Guidelines require the following procedure for any waste from a person that tests positive for Covid-19:

- Put all waste (gloves, tissues, wipes, masks) from that person in a bin bag and tie when almost full;
- Put this bin bag into a second bin bag and tie a knot;
- Store this bag safely for 3 days, then put the bag into the non-recyclable waste / general waste wheelie bin for collection / emptying.

Please note that this guidance is likely to be updated by the time the proposed Development is open and occupied and the relevant guidance at the time will need to be reviewed.

5.6 Waste Storage Area Design

The WSAs should be designed and fitted-out to meet the requirements of relevant design Standards, including:

- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system for internal WSAs;
- Provide suitable lighting – a minimum Lux rating of 220 is recommended;
- Be easily accessible for people with limited mobility;
- Be restricted to access by nominated personnel only;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have appropriate signage placed above and on bins indicating correct use;
- Have access for potential control of vermin, if required; and
- Be fitted with CCTV for monitoring.

The building management company, tenants and residents will be required to maintain the resident bins and storage areas in good condition as required by the WCC Waste Bye-Laws.

6.0 CONCLUSIONS

In summary, this OWMP presents a waste strategy that addresses all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the proposed 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 contributing to 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 *WCC Waste Bye-Laws.*

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

7.0 REFERENCES

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5. Wicklow County Council (WCC) (Segregation, Storage & Presentation of Household & Commercial Waste) *Draft Bye-Laws* (2018).
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7. Department of Environment, Heritage and Local Government (DoEHLG) *Preventing and Recycling Waste - Delivering Change* (2002)
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14. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended 2010 (S.I. No. 30 of 2010) and 2015 (S.I. No. 310 of 2015).
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18. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2015)
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