OPERATIONAL WASTE & RECYCLING MANAGEMENT PLAN

(OWRMP)

AT

CLONATTIN

GOREY

CO. WEXFORD

Prepared for

Axis Construction Ltd

Prepared by

Traynor Environmental Ltd

Reference Number

19.552 TE

Date of Issue

28th January 2021

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Client: Axis Construction Ltd

Traynor Env Ref: 19.552 TE

Status: Final Report

Date: 28th January 2021

Rev No	Status	Date	Writer	Reviewer
1	Final	28th January 2021	Zita Mc Cann	Nevin Traynor

Report Title:	Operational Waste & Recycling Management Plan
Doc Reference:	19.552TE
Client:	Axis Construction Ltd
Authorised By:	 *Nevin Traynor BSc. Env, H.Dip I.T, Cert SHWW, EPA/FAS Cert.* *Environmental Consultant*

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1.0 INTRODUCTION

This Operational Waste and Recycling Management Strategy (the 'Strategy') has been prepared by Nevin Traynor BSc.Env, HDIP IT, of Traynor Environmental Ltd on behalf of Axis Construction Ltd ('The Applicant') in support of the proposed strategic housing development (hereafter referred to as the 'Proposed Development') within Wexford County Council area.

The principal aim of this Strategy is to demonstrate how the Proposed Development has taken into account sustainable methods for waste and recycling management during its operation. Furthermore, with regards to waste and recycling management within the Proposed Development, this Strategy has the following aims:

- To contribute towards achieving current and long-term government, Southern Waste Region (SWR) and Wexford County Council targets for waste minimisation, recycling and re-use;
- To comply with all legal requirements for handling operational waste;
- To achieve high standards of waste management performance, through giving (and continuing to give) due consideration to the waste generated by the Proposed Development during its operation; and
- To provide the Proposed Development with a convenient, clean and efficient waste management strategy that enhances the operation of the Proposed Development and promotes recycling.

It is important to note that the Wexford County Council is part of the Southern Waste Region. The Southern Waste Region comprises the 10 local authority areas of Carlow, Clare, Cork County, Cork City, Limerick City & County, Kerry, Kilkenny, Tipperary, Waterford City & County and Wexford.

This Strategy provides a review of the requirements placed upon the Proposed Development under national legislation and implemented policy at all levels of government (i.e. national (Ireland), regional (SWR), district and local (Wexford). Consideration has also been given to requirements included in local standards and guidance documents (i.e. DoEHLG, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018) in line with the Regional Waste Management Plan and British Standard Waste Management in Buildings, Code of Practice (BS 5906:2005) so as to comply with relevant objectives and targets.

Estimate volumes of waste generated during operation of the Proposed Development have been provided in the report which also includes a breakdown of the waste management process, which details waste handling, storage area provision, and collection arrangements. All waste reduction measures are compliant with BS 5906:2005, Southern Waste Region (SWR) and Sustainable Urban Housing: Design Standards for New Apartments which are also discussed in this strategy.

2.0 LEGISLATION/ PLANNING POLICY

A summary of the national regional and local planning policy relevant to the Proposed Development is outlined in section 2.1 below. It should be noted that this summary identifies those elements of the policy or guidance applicable to waste management within the Proposed Development.

2.1 International and European Policy

The EU Waste Framework Directive (EU WFD) provides the overarching legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. It encourages the prevention and reduction of harmful waste by requiring that Member States put waste control regimes into place. These waste management authorities and plans should ensure that necessary measures exist to recover or dispose of waste without endangering human health or causing harm to the environment and includes permitting, registration and inspection requirements.

The directive also requires Member States to take appropriate measures to encourage firstly, the prevention or reduction of waste production and its harmfulness and secondly the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy. The directive also puts an end to co-disposal of waste streams.

The definition of waste for the Ireland is governed by the EU WFS as:

"Any substance or object…which the holder discards or intends or is required to discard."

It is the responsibility of the holder of a substance or object to decide whether or not they are handling waste. The European Protection Agency is the authority responsible for enforcing waste management legislation in Ireland, but where there is a disagreement as to whether or not something is waste it is ultimately a matter for the courts to decide.

The European Waste Catalogue 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 has been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* which became valid from 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, COR's, permits and licences and EPA National Waste Database.

The European Landfill Directive is in place to reduce the negative effects of land filling on the environment and health. It aims to encourage waste minimisation and increased levels of recycling and recovery; the increased costs of land filling associated with compliance with the Directive will also encourage alternative waste management methods.
The first requirement of the regulations was a ban on the co-disposal of hazardous waste with non-hazardous waste in landfills. The Directive has also imposed a ban on whole tyres going to landfill since 2003, with this ban extending to shredded tyres from July 2006, while liquid wastes were banned from landfill from October 2007.
The Directive also brings with it, tighter site monitoring and engineering standards. This is supplemented by the European Waste Catalogue, which has extended the range of materials classified as 'hazardous', and the Waste Acceptance Criteria, which has introduced potential pre-treatment requirements.

2.2 National Legislation

The Government issued a policy statement in September 1998 titled as *'Changing Our Ways'* 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. 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'*. This document also stressed the need to break the link between 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'*. 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.

The most recent policy document was published in July 2012 titled *'A Resource Opportunity.* The policy document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out a number of actions, including the following:

- A move away from landfill and replacement through prevention, reuse, recycling and recovery.

- A Brown Bin roll-out diverting 'organic waste' towards more productive uses.
- Introducing a new regulatory regime for the existing side-by-side competition model within the household waste collection market;
- New Service Standards to ensure that consumers receive higher customer service standards from their operator;
- Placing responsibility on householders to prove they use an authorised waste collection service.
- The establishment of a team of Waste Enforcement Officers for cases relating to serious criminal activity will be prioritised;
- Reducing red tape for industry to identify and reduce any unnecessary administrative burdens on the waste management industry;
- Design of waste management chute equipment and systems must be approved by the supplier;
- A review of the producer responsibility model will be initiated to assess and evaluate the operation of the model in Ireland;
- Significant reduction of Waste Management Planning Regions from ten to three.

While *A Resource Opportunity* covers the period to 2020, it is subject to a mid-term review in 2016 to ensure that the measures are set out properly and to provide an opportunity for additional measures to be adopted in the event of inadequate performance. Since 1998, the Environmental Protection Agency (EPA) has produced periodic *'National Waste (Database) Reports'* 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 2020 National Waste Statistics, which is the most recent study published, reported the following key statistics for 2017:

- Generated – Ireland produced 2.8million tonnes of municipal waste in 2017. This amounted to 577 kg of municipal waste per person. This represents a slight decrease on 2016 (581 kg per person), Ireland consistently ranks in the top tier of municipal waste producers in Europe and well above the EU average of 487 kg per person.
- Managed – Waste collected and treated by the waste industry. Over three quarters (77%) of Ireland's municipal waste was recycled or recovered in 2017, while less than one-quarter (23%) was landfilled.
- 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 44,501 t was unmanaged in 2017 compared to 44,868 in 2016.
- Recovered – the amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In 2017, almost three quarters (74%) of municipal waste was recovered, this is a decrease from 79% in 2014
- Plastic Packaging: Ireland recycled 34% of waste plastic packaging in 2017, exceeding the Packaging Directive target of 22.5%. However, the revised Packaging Directive sets significantly more ambitious plastic packaging recycling targets of 50% for 2025 and 55% for 2030.

2.3 Regional Level

The proposed development is located in the Local Authority area of Wexford County Council. The SWR is involved in the implementation of the Southern Region Waste Management Plan 2015-2021.

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 introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2015. The Wexford County Development Plan 2013 – 2019* sets out a number of objectives and actions for the Wexford area in line with the objectives of the regional waste management plan.

Waste objectives with a particular relevance to this development are:

Objectives:

- ***Objective WM01:*** *To implement the provisions of the Joint Waste Management Plan for the Southeast Region 2006-2011, and any updated version published during the lifetime of the Plan, subject to compliance with Article 6 of the Habitats Directive.*
- ***Objective WM02:*** To increase public awareness of the importance of waste management, in particular prevention and minimisation of waste. The Council will encourage local communities, schools and businesses to become involved in environmental awareness activities and community-based recycling or environmental management initiatives that will lead to local sustainable waste management practices.
- ***Objective WM04:*** *To encourage the development of waste minimisation strategies for domestic, commercial and industrial waste.*
- ***Objective WM05:*** To support the development of appropriately sited waste recycling and recovery facilities, such as bring centres, civic amenity centres, waste transfer stations, waste material facilities and authorised treatment facilities for end-of-life vehicles as a means of facilitating a reduction in the quantity of waste that goes to landfill disposal sites subject to compliance with normal planning and environmental criteria and the relevant development management standards set out in Chapter 18.

- ***Objective WM06:*** To ensure hazardous household waste is disposed of in accordance with the provisions of the National Hazardous Waste Management Plan 2008-2012, and any updated version published during the lifetime of the Plan, subject to compliance with Article 6 of the Habitats Directive.

- ***Objective WM09:*** To encourage the development of Construction and Demolition waste recycling facilities at appropriate sites subject to complying with normal planning and environmental criteria and the relevant development management standards set out in Chapter 18.

- ***Objective WM10:*** To promote the recycling and reuse of aggregates from Construction and Demolition waste.

2.5 Legislative Requirements

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

- Waste Management Act 1996 (No. 10 of 1996) as amended. Sub-ordinate legislation includes:
  - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended o Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended
  - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended
  - Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended
  - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended
  - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
  - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
  - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
  - European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
  - Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended o European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015)
  - Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended
  - Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended
  - Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998)
  - European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)

- European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended.

- Environmental Protection Act 1992 (No. 7 of 1992) as amended.
- Litter Pollution Act 1997 (No. 12 of 1997) as amended.
- Planning and Development Act 2000 (No. 30 of 2000) as amended.

2.5 Responsibilities of the Waste Producer

The waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal.) Waste contractors will be employed to physically transport waste to the final waste disposal / recovery site.

It is therefore critical that the residents, commercial tenants and the proposed management company undertake on-site management of waste in accordance with all legal requirements and 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 IED (Industrial Emissions Directive) 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.

2.6 Wexford County Council Bye-Laws

These Bye-Laws for the Storage, Presentation and Collection of Household and Commercial Waste were brought into force by Wexford County Council in January 2019. The Bye laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the Wexford functional area. Key requirements under these Bye-laws of relevance to the proposed development include the following:

a) Kerbside waste presented for collection shall not be presented for collection earlier than 07.00 pm on the day immediately preceding the designated waste collection day;

b) All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath or any other public place no later than 09:00 am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law.

Provisions affecting Multi-user Buildings, Apartment Blocks

A management company, or another person if there is no such company, who exercises control and supervision of residential and/or commercial activities in multi-unit developments, mixed-use developments, flats or apartment blocks, combined living/working spaces or other similar complexes shall ensure that:

(a) separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable household kerbside waste and residual household kerbside waste

(b) additional receptacles are provided for the segregation, storage and collection of food waste where this practice is a requirement of the national legislation on food waste,

(c) the receptacles referred to in paragraphs (a) and (b) are located both within any individual apartment and at the place where waste is stored prior to its collection,

(d) any place where waste is to be stored prior to collection is secure, accessible at all times by tenants and other occupiers and is not accessible by any other person other than an authorised waste collector,

(e) written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage and presentation prior to collection,

(f) an authorised waste collector is engaged to service the receptacles referred to in this section of these bye-laws, with documentary evidence, such as receipts, statements or other proof of payment, demonstrating the existence of this engagement being retained for a period of no less than two years. Such evidence shall be presented to an authorised person within a time specified in a written request from either that person or from another authorised person employed by Wexford County Council,

(g) receptacles for kerbside waste are presented for collection on the designated waste collection day,

(h) adequate access and egress onto and from the premises by waste collection vehicles is maintained.

2.7 Regional Waste Management Service Providers & Facilities

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

As outlined in the new regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and are all 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.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all waste/IED licenses issued are available from the EPA. Additionally, textiles and other bulky wastes can be brought to the following bring centres located in the Clonattin/Gorey area:

- 1 Oak Ridge, Clonattin Upper
- 6 Rafter Street, Gorey
- 26 Milland's, Gorey

2.8 Policy Context

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

This guidance is subject to economic and technical feasibility and environmental assessment. Council's 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.

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The proposed strategic housing development at this site in Clonattin, Gorey will include the demolition of the existing buildings and will provide 363 no. residential units, a creche, public open space, a new access road connecting to Courtown Road. All associated site development works and services provisions including parking, bin storage, substations, landscaping and all services required to facilitate the proposed development. A full description is provided in the statutory notices and in Chapter 3 of the EIAR.

Area	Number of Units					Total
	1-Bed	2-Bed	3-Bed	4-Bed	5-Bed	
Apartments (Block 1)	27	27	-	-	-	54
Apartments (Block 2)	1	11	-	-	-	12
Apartments (Block 3)	4	11	-	-	-	15
Maisonette	10	10	-	-	-	20
Houses	-	-	134	124	4	262
					Total	**363**

Table 1.0 *Residential Development Unit Mix*

Non-Residential Floor Areas	Location	Area (m^2)
Crèche	-	513
Total		**513**

Table 2.0 *Mixed Development Details Non-Residential Floor Areas*

3.2 Typical Waste Categories

The predicted waste types that will be generated at the proposed development include the following:

- **Dry Mixed Recyclables (DMR**) – includes Newspaper / General paper Magazines, Cardboard Packaging, Drink (Aluminium) Cans, Washed Food (Steel/Tin) Cans, Washed Tetra Pak Milk & Juice Cartons, Plastic Bottles (Mineral/Milk/Juice/Shampoo/Detergents), Rigid Plastics. (Pots/Tubs/Trays*)
- **Mixed Non-Recyclables (MNR) / All General Waste** – Nappies, soiled food, packaging, old candles, plasters, vacuum cleaner contents, broken delph, contaminated plastics
- **Organic (food) Waste** – Leaves, weeds and mosses (not sprayed with weed killer), Dead plants and flowers, Grass and hedge cuttings (finger sized twigs), Bread, pasta and rice, Meat, fish, poultry bones, Out of date food (no plastic packaging), Tea Bags, Coffee grounds and paper filters**.** Fruit and vegetables (cooked and uncooked). Food soiled cardboard or paper (no coated paper) Eggs and dairy products (no plastic packaging) Paper napkin

and paper towels.

- **Glass**

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

- Textiles
- Batteries
- Waste electrical and electronic equipment (WEEE)
- Chemicals (solvents, pesticides, paints, adhesives, resins, detergents, etc.)
- Fluorescent tubes and other mercury containing waste
- Furniture (and from time to time other bulky wastes)

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

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 or EWC) for typical waste materials expected to be generated during the operation of the proposed development are provided in the Table below 3.0.

Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastic	20 01 39
Metals	20 01 40
Mixed Municipal Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25/26*
Biodegradable garden and park waste	20 02 01
Textiles	20 01 11
Batteries and accumulators*	20 01 33*-34
Printer Toner / Cartridges*	20 01 27* -28
Green Waste	20 02 01
Waste electrical and electronic equipment*	20 01 35*-36
Chemicals (solvents, pesticides, paints & adhesives, detergents etc) *	20 01 13 / 19 /27 / 28 / 29* 3
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky wastes	20 03 07

Table 3.0 *LoW Codes*

3.4 Methodology

3.4.1 Residential Calculation Methodology

Waste arisings were calculated in accordance with BS5906:2005 and included a provision of 5 litres (L) of food waste per residential unit per week. These guidelines determine the minimum capacity for waste storage space to be allocated and are as follows:

- 30 litres (L) per unit + 70L per bedroom (see Table 4.0 for further details);
- Split 50:50 between MDR and residual waste; and
- 5L per residential unit for food waste.

Number of Bedrooms	Weekly Waste Arisings per Unit (L)			
	MDR	Food Waste	Residual Waste	Total
1 Bedroom	50	5	50	**105**
2 Bedrooms	85	5	85	**175**
3 Bedrooms	120	5	120	**245**
4 Bedrooms	155	5	155	**315**
5 Bedrooms	190	5	190	**385**

Table 4.0 *Weekly Waste Arisings Methodology*

3.4.2 Commercial Calculation Methodology

BS 5906:2005 provides a methodology for the calculation of waste arisings from Crèche. These calculation methodologies are outlined within Table 5.0 of this Strategy. A 50:50 split between MDR and residual waste has been assumed for the Crèche space.

Land Use Class	Waste Storage Requirements	Waste Stream Ratios
Crèche	10L per m^2 NIA	50: 50 DMR: Residual

Table 5.0 *Commercial Waste Arising Calculations (Weekly)*

4.0 ESTIMATED WASTE ARISING

A waste generation spreadsheet was developed by Traynor environmental Ltd and has been used to predict waste types, weights and volumes arising from operations within the proposed development. The spreadsheet incorporates building area and use and combines these with BS 5906:2005 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. The waste generation for the Commercial / Community units is based on waste generation rates per m^2 of floor area for the proposed area uses.

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 and is presented in table 6.0 and 7.0 below.

Waste Volume (L/week)					
Waste type	**3 Bed House**	**4 Bed House**	**5 Bed House**	**Maisonette (20 no. units)**	**Totals (L)**
Organic Waste	670	620	20	100	**1,410**
Mixed Dry Recyclables	16,080	19,220	760	1,350	**37,410**
Glass	670	620	20	100	**1,410**
Mixed Municipal Waste	16,080	19,220	760	1,350	**37,410**
Total	**33,500**	**39,680**	**1,560**	**2,900**	**77,640**

Table 6.0 *Residential Waste Prediction (L/per week)*

Waste Volume (L/week)				
Waste type	**Apartment Block 1 (54 no. units)**	**Apartment Block 2 (12 no. units)**	**Apartment Block 3 (15 no. units)**	**Totals (L)**
Organic Waste	270	60	75	**405**
Mixed Dry Recyclables	3645	1090	1135	**5,870**
Glass	270	60	75	**405**
Mixed Municipal Waste	3645	1090	1135	**5,870**
Total	**7,830**	**2,300**	**2,420**	**12,550**

Table 7.0 *Residential Waste Prediction (L/per week)*

Waste Volume (L/week)							
Non-Residential Floor Areas	**Area (sq.)**	**Area (NIA)**	**MDR**	**Food Waste**	**Residual Waste**	**Glass**	**Total (L)**
Crèche	513	395.01	1975.05	-	1975.05	-	**3950.1**

Table 8.0 *Creche Waste Prediction (L/per week)*

4.1 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 Wexford County Council. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice;
- SRWMO Waste Management Plan 2015 – 2021;
- Wexford County Council, *Presentation and Storage of Waste Bye-Laws* (2018);
- DoEHLG, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018).

4.2 Residential Waste and Recycling Management and Storage Strategy

It is required that space be provided for recycling bins to accommodate 50% of the total weekly volume. This is in line with the BS5906:2005 requirements. Residual waste (MNR) is required for 87.5% of the total weekly arising. For the purpose of the strategy Glass and Organic Waste is required for 87.5% of the total weekly arising.

Area/Block	**Number of Bins Required for a Weekly Collection**			
	MNR	**Organic**	**DMR**	**Glass**
Apartment Block 1	4 x 1100L	2 x 240L	4 x 1100L	Bottle Bank
Apartment Block 2	1 x 1100L	1 x 240L	1 x 1100L	Bottle Bank
Apartment Block 3	1 x 1100L	1 x 240L	1 x 1100L	Bottle Bank
Maisonette	2 x 1100L	1 x 240L	2 x 1100L	Bottle Bank
3 Bed House	1 x 240L	1 x 240L	1 x 240L	Bottle Bank
4 Bed House	1 x 240L	1 x 240L	1 x 240L	Bottle Bank
5 Bed House	1 x 240L	1 x 240L	1 x 240L	Bottle Bank

Table 9.0 *Storage Requirements*

Area	Number of Bins Required for a Weekly Collection			
	MNR	Organic	DMR	Glass
Crèche	2 x 1100L	2 x 240L	2 x 1100L	Bottle Bank

Table 10.0 *Crèche Storage Requirements*

4.3 Waste Storage Residential Units

4.3.1 Block 1

Residents will be expected to take all waste arisings from their units to the appropriate residential waste storage area. Residents will be required to segregate their waste into the following waste categories within their own apartment units:

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

There is 9 no. WSA's located outside to service Block 1. It is recommended that all WSAs should have secure access with either key or fob to ensure only residents may place waste in the respective WSA in Block 1.

4.3.2 Block 2

Residential tenants will be required to segregate their waste into the following waste categories within their own units:

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

There is 1 no. WSA located outside to service Block 2. It is recommended that all WSAs should have secure access with either key or fob to ensure only residents may place waste in the respective WSA in Block 2.

4.3.3 Block 3

Residential tenants will be required to segregate their waste into the following waste categories within their own units:

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

There is 1 no. WSA located outside to service Block 3. It is recommended that all WSAs should have secure access with either key or fob to ensure only residents may place waste in the respective WSA in Block 3.

4.3.4 Maisonette Units

Separate WSAs have been allocated for the maisonette residents. There is 4 no. WSA's located outside to service the Maisonette units.

The main types generated within the unit are anticipated to be DMR, MNR, glass and organic waste. Access to the WSA will be restricted to the residents and building management company personnel. As required, the residents will need to bring segregated DMR, MNR and organic waste to the dedicated WSA. Residents will be required to bring their glass to the nearest bring centre.

4.3.5 Houses

Residents will be required to segregate their waste into the following waste categories within their own house:

- DMR;
- MNR; and
- Organic waste;

Residential houses will be serviced by a three-bin system per house.

4.4 Waste Collection

There are numerous private contractors that provide waste collection services in the Wexford area who hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered/permitted/licensed facilities only.

All waste requiring collection by the appointed waste contractor will be collected from the WSAs by nominated waste contractors or facilities management depending on the agreement and will be brought to the temporary waste marshalling/collection areas. The empty bins will be promptly returned to the appropriate WSAs.

All waste receptacles presented for collection will be clearly identified as required by waste legislation and the requirements of the Wexford Waste Bye-Laws. Also, 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.

4.5 Additional Waste Materials

There is likely to be a small component of the overall waste arisings from the Proposed Development that will comprise other waste streams, such as WEEE, printer and toner cartridges, and fluorescent light tubes. Building maintenance will also give rise to materials such as paints and waste lubricating oils, which will require separate storage in dedicated sealed containers. This type of waste is termed "unique" as it will not be produced on a regular basis and therefore its management will be on special arrangement with a registered waste handler for the specific waste that is produced. However, separate space will be provided within the Proposed Development to handle and manage this waste, through battery recycling boxes, fluorescent lighting tube 'coffins', and other applicable storage containers (e.g. if a liquid is to be stored, even within its own container, this will need to be stored within a second container which holds 110% capacity of the volume of the liquid being stored). Separate arrangements will be made for the storage and safe disposal of these

waste streams, as covered by the Hazardous Waste Regulations. It is envisioned that unique waste arisings generated by the Proposed Development will be minimal.

4.6 Waste Storage Area Design

In accordance with BS 5906:2005 all waste containers will be stored under cover in specially designed waste storage rooms, or stores, which will be built to the same general standard for both domestic and commercial premises. The walls and roofs of these stores will be formed of non-combustible, robust, secure and impervious material, and have a fire resistance of one hour.

- All containers for waste, including recyclable material, will be easily accessible to both the occupier and waste collector;
- Waste stores will be designed and located in such a way as to limit potential noise disturbance to residents;
- Storage areas for waste and MDR will be clearly designated for this use only, by a suitable door or wall sign and, where appropriate, with floor markings;
- Waste storage sites will include areas for instructional signage detailing correct use of the facilities;
- The entrance of the waste storage room will be free from steps and projections;
- Where the area is to be enclosed in a roofed building, adequate ventilation will be provided. Permanent ventilators will be provided giving a total ventilation area of not less than $0.2m^2$;
- Contain electrical lighting by means of sealed bulkhead fittings (housings rated to IP65 in BS EN 60529:199 for the purpose of cleaning down with hoses and inevitable splashing. Luminaires will be low energy light fittings or low energy lamp bulbs, controlled by proximity detection or a time delay button to prevent lights being left on; and
- Gullies for wash down facilities will be positioned so as not to be in the track of container trolley wheels.

In addition to the above requirements, past experience and best practice for the storage of waste materials will include the following provisions:

- Waste storage facilities will not block any utility service points;
- Waste storage areas will not obstruct sight lines for pedestrians, drivers and cyclists, if doors open outwards they will not open onto a road or highway;
- Waste containers will be inside or at least enclosed. If bins are outside, they will be secured in a compound;
- Information packs will be provided to residents to include full information on available recycling facilities;
- Colour coding will be used for bins of different streams; and Any internal storage areas adjacent to a fire escape route will be fitted with fire doors, automatic fire detection and a sprinkler system and comply with the Building Regs.
- The facilities management company will be required to maintain the bins and their WSAs in good condition. All residents should be made aware of the waste segregation requirements and waste storage arrangements.

5.0 Waste Collection Requirements

In line with BS 5906:2005 and Wexford Bye Laws 2018 guidance, collection requirements have been designed into the Proposed Development in order to comply with all mandatory waste storage requirements.

5.1 BS 5906 2005

All paths used to transport bins from the storage area to the collection point will have a minimum width of 2m, be free from kerbs or steps, have a solid foundation and be finished with a smooth, continuous finish. Based on the clearance height and tonnage specified by the dimensions of a standard refuse vehicle have been used to undertake the swept path analysis.

Dimensions	
Width	2.53 metres
Gross vehicle weight	26 tonnes
Length	11.2 metres
Clearance Height	4.75m (Any part of a building through which a waste collection vehicle passes must have a minimum clear height of 4.75 m, to allow for overhead fixtures and fittings)
Turning Circle (diameter)	9.5 metres

Table 11.0 *Collection Vehicle Dimensions: Waste/Recycling Collection Vehicle*

6.0 SUMMARY AND CONCLUSIONS

The Proposed Development will be sustainable with high standards of waste management performance. As such, due consideration has been given to waste which will be generated by the Proposed Development during its operation. Waste management within the Proposed Development has the following aims:

- To contribute towards achieving current and long-term government, Wexford County Council and SWR targets for waste minimisation, recycling and reuse;
- To allow that all legal requirements for the handling and management of waste during the operation of the Proposed Development are complied with; and
- To provide tenants with convenient, clean and efficient waste management systems that enhance the operation of the buildings and promote high levels of recycling.

Once operational, the Development is anticipated to produce approximately 94,140L of waste of this total 90,190L will be generated by the residential elements and 3,950L will be generated by the Crèche. Residential waste storage allows for a weekly (seven day) storage capacity for MDR, food, glass and residual (i.e. nonrecyclable). Residential bins will be provided within dedicated storage rooms within the core of each residential block. On the day of collection, the waste collection company will be able to access the Site and collect refuse from dedicated collection areas.

Separate storage will be provided for commercial MDR, glass, food waste (if applicable to final land use) and residual waste within the curtilage of each unit and within dedicated combined bin stores. Additional capacity will also be provided to take into account missed collections due to bank holidays, industrial action, vehicle failure and adverse weather conditions. All waste arisings will be stored in bins proportionate to the volume of waste produced. Furthermore, the commercial waste management element of this Strategy has been developed to allow for a degree of flexibility to address any alterations in future waste arisings as a result of commercial land use changes. These provisions will result in the handling of waste produced by the Proposed Development once it is complete and operational in accordance with Wexford County Council Bye-Laws 2018, *Waste Management (Food Waste) Amendment Regulations 2015 (S.I. No. 190 of 2015)* and the *European Union (Household Food Waste and Bio-Waste) Regulations 2015 (S.I. No. 191 of 2015)*.

In summary, this OWRMP 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.