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OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED HEALTH CENTRE DEVELOPMENT

Report Prepared For

Quintain Developments Ireland Limited

Report Prepared By

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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Quintain Developments Ireland Limited. The Proposed Development will consist of the change of use of existing 4 storey office building to a health centre, including associated minor internal layout revisions on a site of approximately 0.22 Ha located in Development Area 9 – Adamstown Square, in the Adamstown SDZ Planning Scheme.

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed development is undertaken in accordance with the, 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* South Dublin County Council (SDCC) *County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws (2018)* [5]. In particular, this OWMP aims to provide a robust strategy for storing, handling, collection and transport of the wastes generated at site.

In addition, the following guidelines were consulted for healthcare specific waste management practice in relation to the proposed health centre use and supporting medical care:

- Health Service Executive (HSE), *Waste Management Awareness Handbook* (2011) [6]; and
- HSE and Department of Health and Children (DOHC), *Healthcare Risk Waste Management: Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste, 4th Edition* (2010) [7].

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 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 titled as *'Changing Our* The Irish Government issued a policy statement in September 1998 entitled *'Changing Our Ways'* [8], 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 [9]. 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'* [10]. 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'* [11]. 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 Irish Government published 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'* [12] (WAPCE), 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).

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

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 was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021) [13] to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic *'National Waste (Database) Reports'* [14] 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 *2019 National Waste Statistics*, which is the most recent study published, along with the national waste statistics web resource (November 2021) reported the following key statistics for 2019:

- **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 South Dublin County Council (SDCC).

The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the SDCC area published in May 2015. Currently the EMR and other regional waste management plans are under review and the Regional Waste Management Planning Offices expect to publish the final plan in early 2022.

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 *South Dublin County Council Development Plan 2016 – 2022* [13] sets out a number of objectives and actions for the South Dublin area in line with the objectives of the waste management plan.

Waste objectives and actions with a particular relevance to the proposed development are as follows:

Objectives:

- **IE5 Objective 1:** To support the implementation of the Eastern–Midlands Region Waste Management Plan 2015-2021 by adhering to overarching performance targets, policies and policy actions.
- **IE5 Objective 2:** To support waste prevention through behavioural change activities to de-couple economic growth and resource use.
- **IE5 Objective 3:** To encourage the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources.

- **IE5 Objective 8:** To secure appropriate provision for the sustainable management of waste within developments, including the provision of facilities for the storage, separation and collection of such waste.

Actions:

- Support and facilitate the separation of waste at source into organic and non-organic streams or other waste management systems that divert waste from landfill and maximise the potential for each waste type to be re-used and recycled or composted and divert organic waste from landfill, in accordance with the National Strategy on Biodegradable Waste (2006).
- Implement the objectives of the National Waste Prevention Programme at a local level with businesses, schools, householders, community groups and within the Council's own activities.
- Promote an increase in the amount of waste re-used and recycled consistent with the Regional Waste Management Plan and Waste Hierarchy and facilitate recycling of waste through adequate provision of facilities and good design in new developments.
- Implement the South Dublin Litter Management Plan 2015 - 2019.

The *Draft South Dublin County Development Plan 2022 – 2028* [14] will supersede the current development plan and is due to be complete and come into effect in August 2022. The following policy and objectives have thus far been incorporated into the draft plan:

Policy and Objectives

Policy IE6: Waste Management

Implement European Union, National and Regional waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.

- **IE6 Objective 1**
  To encourage a just transition from a waste management economy to a green circular economy to enhance employment and increase the value, recovery and recirculation of resources through compliance with the provisions of the Waste Action Plan for a Circular Economy 2020 – 2025 and to promote the use of, but not limited to, reverse vending machines and deposit return schemes or similar to ensure a wider and varying ways of recycling.
- **IE6 Objective 2**
  To support the implementation of the Eastern Midlands Region Waste Management Plan 2015-2021 or as amended by adhering to overarching performance targets, policies and policy actions.
- **IE6 Objective 4**
  To provide for and maintain the network of bring infrastructure (e.g. civic amenity facilities, bring banks) in the County to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes.
- **IE6 Objective 7**
  To require the appropriate provision for the sustainable management of waste within all developments, ensuring it is suitably designed into the development, including the provision of facilities for the storage, separation and collection of such waste.
- **IE6 Objective 8**
  To adhere to the recommendations of the National Hazardous Waste Management Plan 2014-2020 and any subsequent plan, and to co-operate with other agencies including the EPA in the planning, organisation and supervision

of the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects.

Policy Objective EI14: Hazardous Waste

It is a Policy Objective to adhere to the recommendations of the 'National Hazardous Waste Management Plan 2014-2020' and any subsequent plan, and to co-operate with other agencies, to plan, organise, authorise and supervise the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects.

2.3 Legislative Requirements

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

- Waste Management Act 1996 -2021 (No. 10 of 1996) as amended;
- 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 [15]

These Acts and subordinate Regulations enable the transposition of 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 health centre operator undertakes 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.

2.3.1 South Dublin County Council Waste Management Bye-Laws

The SDCC *"County of South Dublin (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)"* came into effect in December 2018. These Bye-laws repeal the previous SDCC bye-laws; *South Dublin County Council Household Waste Bye-Laws 2012* and *South Dublin County Council (Storage, Separation at Source, Presentation and Collection of Commercial Waste) Bye-Laws*

2007. 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 SDCC functional area. Key requirements under these Bye-laws are:

- Kerbside waste presented for collection shall not be presented for collection earlier than 8.00pm on the day immediately preceding the designated waste collection day;
- 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 8:00am on the day following the designated waste collection day;
- Neither recyclable household kerbside waste nor food waste arising from households shall be contaminated with any other type of waste before or after it has been segregated; and
- 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:
    - 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;
    - 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;
    - 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;
    - 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,
    - written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage and presentation prior to collection; and
    - 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 South Dublin County Council.

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

2.4 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the commercial sector in the Dublin 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.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all waste/IE licenses issued are available from the EPA.

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The proposed development is on a site of approximately 0.22 Ha located in Development Area 9 – Adamstown Square, in the Adamstown SDZ Planning Scheme.

The proposed development comprises:

- Change of use of existing 4 storey office building to health centre, including associated minor internal layout revisions.
- Alterations to the façade of the existing building.
- Bin store.
- Bicycle parking.
- Alterations to existing Adamstown Boulevard Road consisting of relocation of cycle lane and footpath to allow for creation of emergency vehicle set down area and laybyarea, and all associated ancillary site development and landscape works.

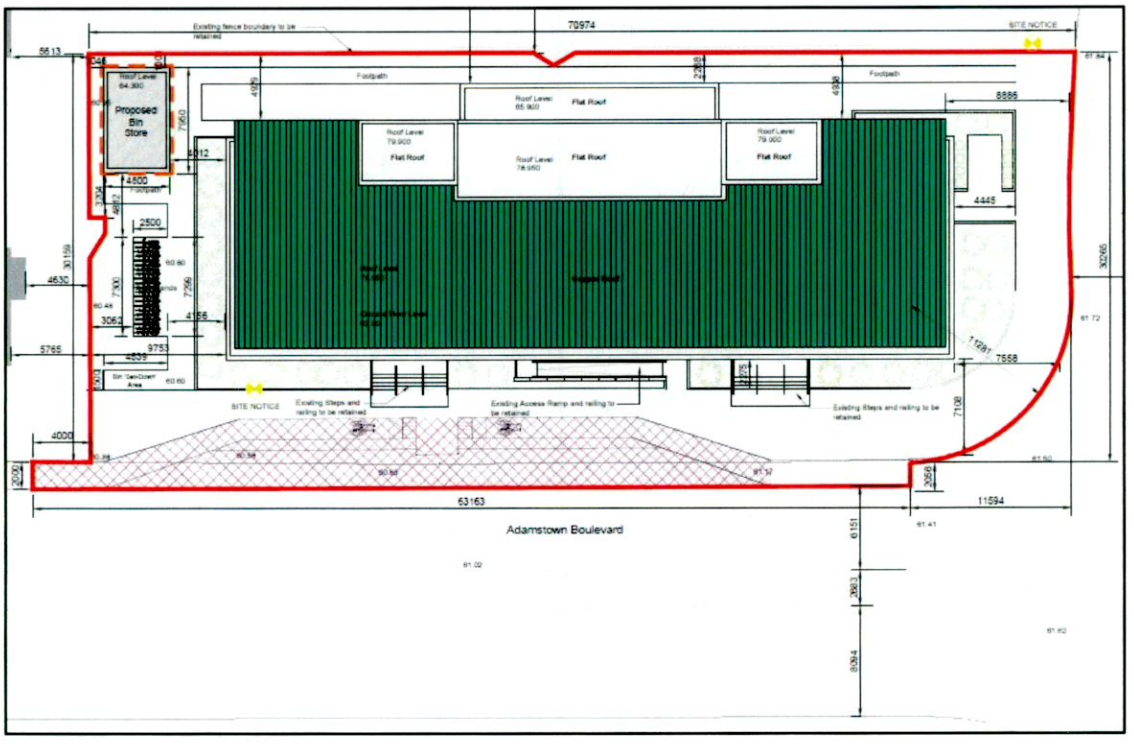

Figure 3.1 Proposed site layout

3.2 Typical Waste Categories

The typical non-hazardous and hazardous wastes that will be generated at the 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 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 in small quantities which will need to be managed separately including:

- Green/garden waste may be generated from internal plants/flowers;
- 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.) ;
- Lightbulbs;
- Textiles (rags);
- Waste cooking oil;
- 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.

3.2.1 Healthcare Waste from the Health Centre

Healthcare waste is defined in the HSE and DOHC *Healthcare Risk Waste Management* publication as *"solid or liquid waste arising from healthcare"*. Waste materials generated will fall into two main categories, namely healthcare non-risk waste (i.e. non-clinical healthcare waste) and healthcare risk waste (hazardous) as illustrated in Figure 3.2. Hazardous waste has been further subdivided in this plan into non-clinical hazardous waste and clinical/risk waste.

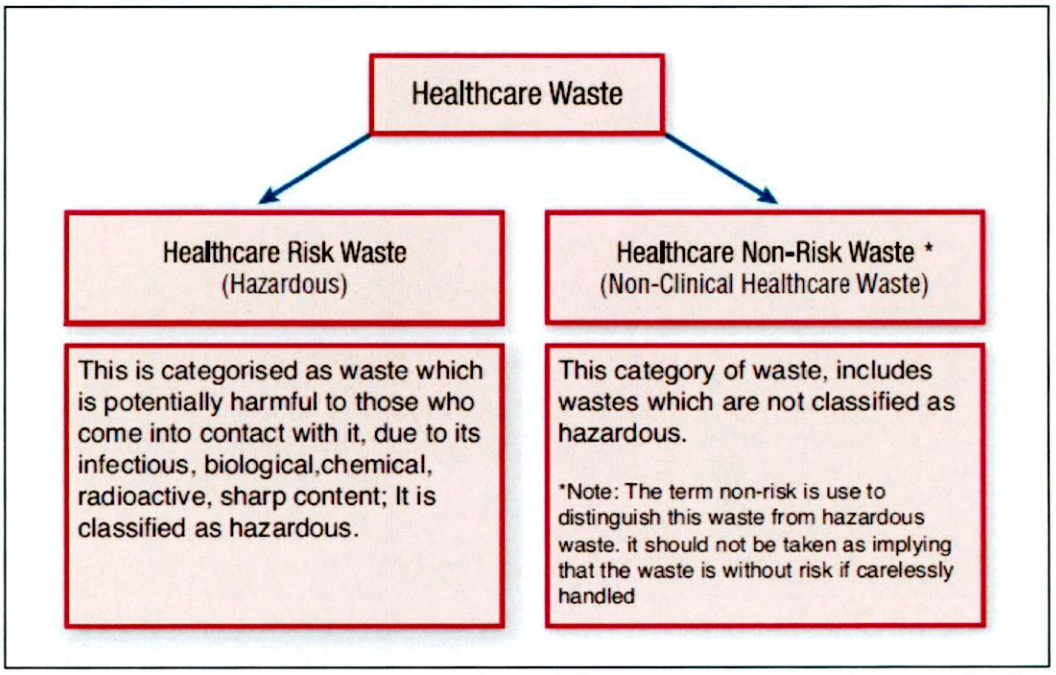

Figure 3.2 Healthcare Waste Categories (Source: HSE, *Waste Management Awareness Handbook* (2001)

Non-Risk/Non-Clinical Non-Hazardous Waste

The typical non-risk/non-clinical non-hazardous waste streams that will be generated will include the following typical waste categories:

- Dry Mixed Recyclables (DMR) – includes cardboard, non-confidential paper, newspaper, leaflets plastic packaging and bottles, aluminium cans, tins and Tetra Pak cartons;
- Confidential paper;
- Mixed Non-Recyclable /General Waste (MNR);
- Organic (food/catering) waste; and
- Glass.

In addition to the typical non-risk/non-clinical non-hazardous waste materials that will be generated on a daily basis, there will be some additional wastes generated on a regular basis that will need to be managed separately including:

- Green/garden waste from landscaping activities;
- Textiles;
- Batteries (non-hazardous) *note: hazardous batteries may also be generated which are referred to in Section 3.2.2*;
- WEEE including computers, printers and other ICT equipment (non-hazardous) *note: WEEE containing hazardous components may also be generated which are referred to in Section 3.2.2*; and
- Furniture (and from time to time other bulky wastes).

Non-Clinical Hazardous Waste

The typical non-clinical hazardous waste streams that will be generated will include the following:

- Printer/toner cartridges;
- Batteries (hazardous) *note: non-hazardous batteries may also be generated which are referred to in Section 3.2.1*;
- WEEE including computers, printers and other ICT equipment (containing hazardous components) *note: WEEE not containing hazardous components may also be generated which are referred to in Section 3.2.1*;
- Cleaning chemicals (solvents, pesticides, paints, adhesives, resins, detergents, etc.); and
- Light bulbs (Long Life, LED and Lilament bulbs).

Healthcare Risk Waste (Hazardous)

Healthcare risk waste will be generated from the treatment of clients and from contaminated projects associated with treatment. Figure 3.2 over shows the classification and colour coding of healthcare risk waste as presented in the HSE guidance document.

Not all of the waste types listed in Figure 3.2 will be generated at the health centre as the centre will provide care services only and will not carry out significant surgical procedures or cancer care services.

The healthcare risk waste generated at the care centre will comprise waste disposed of in yellow bags (such as dressings, swabs, bandages, gloves, nappies etc.) and yellow sharps buckets (for waste such as needles, syringes, razors, stitch cutters etc.).

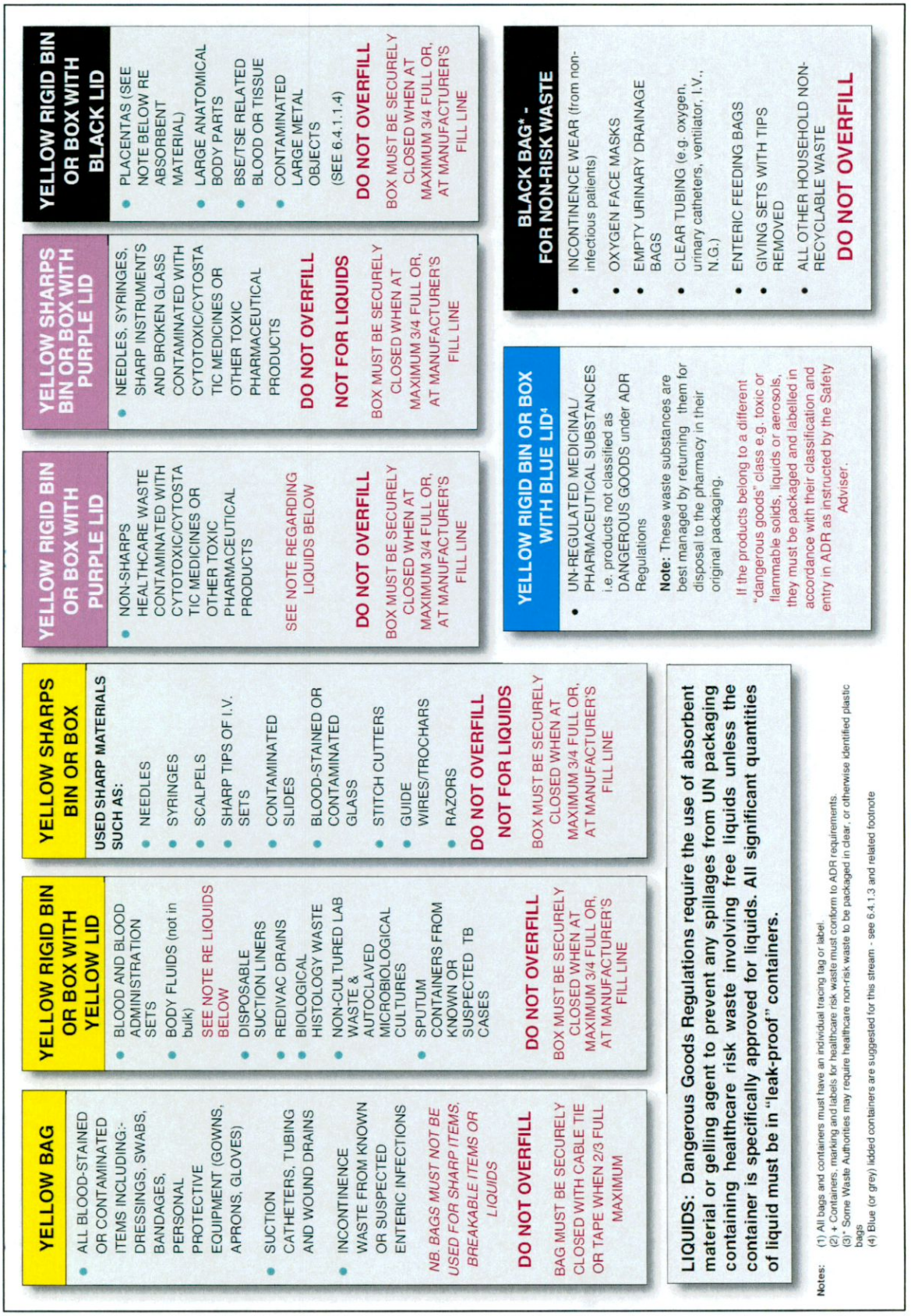

Figure 3.2 Segregation of Healthcare Risk Waste (Source: HSE and DOHC, *Healthcare Risk Waste Management* (2010) and HSE, *Waste Management Awareness Handbook* (2011))

3.3 European Waste Codes

In 1994, the *European Waste Catalogue* [18] and *Hazardous Waste List* [19] were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* [20], 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*' [21] 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.

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 development are provided in Table 3.1 below.

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.*

Table 3.1 Typical Waste Types Generated and LoW Codes

4.0 ESTIMATED WASTE ARISINGS

A waste generation model (WGM) developed by AWN, has been used to predict waste types, weights and volumes arising from operations within the 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 development has been determined based on the predicted usage of the development. The waste generation estimates for the are based on waste generation rates per m^2 floor area for the health centre.

The total estimated waste generation for the development for the main waste types is presented in Table 4.1 and is based on the uses and areas as advised by the project architects (Quinn Architects).

The estimated waste generation for the development for the main waste types is presented in Table 4.1.

Waste type	Waste Volume (m^3/week)
	Health Centre
Organics	0.08
DMR	1.69
Glass	0.02
MNR	0.91
Confidential Paper	0.74
Medical Waste	1.01
Total	4.45

Table 4.1 Estimated waste generation for the development for the main waste types

The BS5906:2005 Waste Management in Buildings – Code of Practice [20] was considered in the estimations of the waste arising. It has been assumed the centre will be operating over a 7-day period.

5.0 WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the development will be stored and collected. This has been prepared with due consideration of the development layout as well as best practice standards, local and national waste management requirements, including those of SDCC. 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;*
- SDCC County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws (2018);
- HSE, Waste Management Awareness Handbook; and
- HSE and DOHC, Healthcare Risk Waste Management: Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste.

1 no. (one) general Waste Storage Area (WSA) has been allocated within the development design. The WSA has been located at ground level, at an external location, on the western side of the development. The WSA will spilt between normal waste and hazardous medical waste via an internal segregation cage and locked bins

The location of the WSA can viewed on the drawings submitted with the planning application or in figure 3.1

Using the estimated waste generation volumes in Table 4.1, the waste receptacle requirements for MNR, DMR and organic waste and glass have been established for the developments WSAs based on a *weekly* collection. These are presented in Table 5.1.

Table 5.1 Waste storage requirements for the proposed development

Area/Use	Bins Required				
	MNR[1]	DMR[2]	Organic	Glass	Additional
Health Care Waste	1 x 1100L	2 x 1100L	1 x 120L	1 x 120L	1 x 770L Medical Waste 1 x Roll Cage

Note: * = *Mixed Non-Recyclables*
** = *Dry Mixed Recyclables*

Table 5.1 Waste storage requirements for the development

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 facilities management company in the shared commercial 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 SIST EN 840-1:2020 and SIST EN 840-2:2020 standard for performance requirements of mobile waste containers, where appropriate.

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

5.1 Waste Storage – Health Centre

The health centre unit occupants(s) will segregate waste into the following main waste streams:

- DMR;
- MNR;
- Organic waste;
- Glass;
- Confidential Paper; and
- Medical waste

Waste will be generated from a wide variety of activities throughout the proposed health centre. Health care risk wastes (HCRW) will typically be generated in the clinical treatment and consultation rooms. DMR and MNR waste will be generated throughout the building. Confidential and non-confidential paper waste will mainly be generated in offices and staff workstations.

Some green waste and construction type wastes may be generated from ongoing maintenance and landscaping activities but these are likely to be generated and managed by contractors.

Appropriate colour coded, labelled and secured receptacles will be required for HCRW generated in the building as set out in the HSE, *Waste Management Awareness Handbook* (and illustrated in Figure 3.2). The required HCRW receptacles will be:

- Yellow bags (stored in rigid bins e.g. 60L pedal bin)
- Yellow rigid buckets with yellow lid

These waste receptacles will be stored in designated clinical treatment and consultation rooms. Facilities or cleaning staff will transfer the risk waste bags/buckets

on a regular basis to a dedicated medical risk WSA in the service yard. This WSA will have 1 no. 770 litre yellow clinical waste bin and 1 no. roll cages.

In addition, clinical waste bags and sharps buckets may be temporarily transferred to utility stores located across the building during the day prior to transfer to the healthcare risk WSA. Where required, these temporary storage locations should have 60/80 litre pedal bins for yellow risk waste bags and shelf storage for sharps buckets. Facilities or cleaning staff will transfer this waste to the dedicated healthcare risk WSA on a daily basis.

Non-risk waste receptacles for DMR and MNR will be strategically positioned in the treatment rooms, consulting rooms and offices as necessary.

Where suitable, it is proposed that office and work station areas will utilise area waste stations (AWSs) for non-risk waste streams as opposed to using individual receptacles at desks. AWSs should be conveniently located within 10-15m of workstations, where possible, and would typically include:

- 1 no. 60/80 litre receptacle for dry mixed recyclables;
- 1 no. 60/80 litre receptacle for mixed non-recyclables; and
- 1 no. 60/80 litre receptacle for confidential paper.

In addition, smaller bins or caddies for organic and glass waste should be located in the micro kitchen areas. In addition, smaller bins or caddies for organic and glass waste should be located in the micro kitchen areas. Containers for storage of waste electrical and electronic equipment (WEEE), waste batteries and light bulbs may also be provided in an internal non-risk waste storage area.

Furniture and other bulk items may be generated infrequently in the health centre. The health centre staff will be required to identify suitable temporary storage areas for these waste items within the health centre and dispose of them appropriately. Further details on additional waste types can be found in Section 5.3.

5.2 Waste Collection

There are numerous private contractors that provide waste collection services in the South Dublin 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.

The bins of segregated waste/recyclables will be conveyed by facilities management or the waste contractor from the WSA, out to Adamstown Boulevard for collection emptying. From this location the bins will be collected/emptied by the nominated waste contractor(s). The location of the collection area is such that it will not obstruct traffic or pedestrians as is recommended in the Design Manual for Urban Roads and Streets (2019) [23].

BIN STORE

Following emptying by the waste contractor in conjunction with facilities managment, waste receptacles will be promptly removed from the service yard and returned to the respective WSAs.

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 suitable waste contractor. Times will also be coordinated as to not conflict with the collection and drop off time s for the neighbouring College.

5.3 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 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
Waste batteries must be separately stored and returned to retailer or collected for recycling and recovery of resources and the operator (s) are responsible for arranging this. Waste batteries generated by the operator may be returned to any retail outlet where similar batteries are sold, regardless of whether they were originally purchased in that outlet. The operator will be required to store batteries within the WSA or within their own unit. Facilities management or operator will arrange for return to retailers or collection by an authorised waste contractor, as required.

Waste Electrical and Electronic Equipment (WEEE)
WEEE must be separately stored and returned to manufacturer/retailer or collected for recycling and recovery of resources and the operator (s) are responsible for arranging this. The *WEEE Directive 2002/96/EC* and associated *European Union (WEEE) Regulations 2014* as amended have been enacted to ensure a high level of recycling of electronic and electrical equipment. It is the manufacturers' responsibility to take back the WEEE, regardless of whether a replacement product is purchased or not and retailers are required to take back WEEE where a similar product is purchased. Operator will be required to store WEEE within the WSA or their own unit, facilities management or the operator will arrange for return to retailers or collection by an authorised waste contractor, as required.

Printer Cartridge/Toners
It is recommended that a printer cartridge/toner bin is provided at the print/copy stations in the library, confrence room or other areas where appropriate. operator will be required to store this waste within the WSA or their own unit, facilities management or operator will arrange for return to retailers or collection by an authorised waste contractor, as required.

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.

Any waste cleaning products or waste packaging from cleaning products generated in the development that is classed as hazardous (if they arise) will be appropriately stored within the operators own space. Facilties management or the operator will arrange collection as required.

Light Bulbs (Fluorescent Tubes, Long Life, LED and Lilament bulbs)
Waste light bulbs may be generated by lighting in the development. It is anticipated that the operator will be responsible for the off-site removal and appropriate recovery/disposal of these wastes. Facilties management or the operator will arrange collection as required.

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

Waste Cooking Oil
If the operator uses cooking oil, waste cooking oil will need to be stored within the unit on a bunded area or spill pallet and regular collections by a dedicated waste contractor will need to be organised as required.

Furniture (and other bulky wastes)
Furniture and other bulky waste items (such as carpet etc.) may occasionally be generated by the operator. The collection of bulky waste will be arranged as required by the operator. These collections will be subject to approval with facilities management.

COVID-19 Waste
Any waste generated by within the health centre generated by individuals who 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.

5.4 Waste Storage Area Design

The WSA will 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.

Access to the Healthcare Risk WSA will be restricted to authorised staff, be sufficient to allow a 1100 litre bin to pass easily into and out of the room for transfer via the walkway to the waste collection zone.

In accordance with the HSE publication *National Hospital Office – National Cleaning Manual Appendices*, the following specifications are also required:

- The waste receptacle including all component parts should be clean and well-maintained with no blood or body substances, rust, dust, dirt, debris and spillages.
- Bins should be emptied as appropriate, with fresh liners fitted in accordance with local and national policy. Bags should be removed and labelled/tagged when no more than ¾ full and stored appropriately in a secure location.
- There should be an agreed schedule in operation for replacement of sani-bins in place.
- The sani-bin/nappy bin, including all component parts should be clean and well-maintained with no blood or body substances, rust, dust, dirt, debris and spillages.

The facilities management company will be required to maintain the waste storage areas in good condition as required by the SDCC 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 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 *Development Plan* and *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.

7.0 REFERENCES

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