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RESOURCE & WASTE MANAGEMENT PLAN (RWMP)

OMNI PLAZA SHD

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1.0 INTRODUCTION

1.1 Purpose of Resource Waste Management Plan

The following Resource & Waste Management Plan (RWMP) forms part of a Planning Application for a proposed new development at a site located in Santry, Dublin.

The proposed development will consist of the demolition of all existing buildings on site and the construction of a mixed-use development comprised mainly of residential apartments with commercial and amenity spaces located at ground floor. An underground basement will provide car parking as well as plant rooms and lifts to service the development.

This report has been prepared in order to assess the impacts arising from the generation of waste materials during the demolition, construction. The final RWMP will be prepared by the appointed contractor/Management Company in accordance with the measures detailed in this report.

This report sets out typical arrangements and measures to promote recovery, re-use and recycling of waste to minimise the volumes transferred to landfill as much as possible as well as measures which may be undertaken in order to mitigate and minimise disruption/disturbance to the area around the site during demolition, construction and operational phases of the project. The plan aims to provide information necessary to ensure that the management of waste produced by the site is carried out in accordance with all current legal and industrial standards including:

- The Waste Management Act (1996) (and all subsequent amendments and sub-ordinate legislation)
- Litter Act 1997 (and all subsequent amendments)
- Planning and Development Act 2000 (and all subsequent amendments)
- Environmental Protection Act 1992 (No. 7 of 1992) (and all subsequent amendments)
- Waste Management (Packaging) Regulations (2007)
- Waste Management (Collection Permit) Regulations (2007) (and all subsequent amendments)
- Waste Management (Shipments of Waste) Regulations (2007)
- Waste Management (Food Waste) Regulations (2009)
- Department of Environment, Heritage and Local Government guidelines including:
    - Waste Management: Changing Our Ways (1998)
    - Waste Management: Delivering Change – Preventing Recycling Waste (2002)
    - Waste Management: Taking Stock and Moving Forward (2004)
    - National Strategy on Biodegradable Waste (2006)
    - Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects (2021)
- Eastern Midlands Region (EMR) Waste Management Plan 2015-2021
- A Waste Action Plan for a Circular Economy – Ireland's National Waste Policy 2020–2025

- Environmental Protection Agency (EPA) Waste Classification – List of Waste and Determining if Waste is Hazardous or Non-Hazardous (2015)
- European Union (Household Food Waste and Bio-Waste) Regulations (2013)
- European Communities (Waste Directive) Regulations (2011)
- Dublin City Development Plan 2016-2022
- Draft Dublin City Development Plan 2022-2028

The Contractor/Management Company will need to ensure that best practices and all legal obligations, including Local Authority requirements and Health and Safety legislation, are complied with. This document should be read in conjunction with the other documents accompanying the planning application.

2.0 THE SITE AND SURROUNDING ENVIRONS

2.1 Site Location

The location of the proposed development is identified in red in Figure 1 below.

Figure 1 Subject Site Location

The site is located in Santry, Dublin. The site is bounded on the north by an existing industrial estate, on the west by residential houses, and on the south and east by the Omni Park Shopping Centre development.

2.2 Site Access

The subject site is currently accessed via a private industrial road that connects to the Swords Road to the east of the site.

3.0 THE PROPOSED DEVELOPMENT

3.1 Project Description

Permission for a 7-year duration is sought by Serendale Limited for a Strategic Housing Development which comprises the demolition of the existing industrial / warehouse buildings northwest of Omni Park Shopping Centre, Santry, Dublin 9 and the construction of 457 no. apartments across 4 no. blocks, ranging in height from 4-12 storeys (over basement). The proposal includes 2 no. retail/café/restaurant units, 1 no. community building, 1 no. childcare facility, 1no. residential amenity space and 5 no. ESB substations.

The development also provides for a basement carpark of 213 no. spaces and 7 no. motorcycle spaces with 7 no. creche drop-off parking spaces and 6 no. carshare parking spaces located in newly reconfigured surface carpark. The proposal provides for 768 no. bicycle parking spaces.

The proposal includes the provision of a new public open space plaza, with consequential revisions to existing commercial car parking areas, to integrate the proposals with the wider District Centre.

The proposal includes the provision of pedestrian and cycle connections and improvements through Omni Park Shopping Centre, including a plaza and cycle/pedestrian link substantially in the form permitted as part of the Omni Living Strategic Housing Development (Ref. ABP-307011-20).

Access to the proposed 213 no. basement car parking spaces is via the existing Omni Park Shopping Centre. A secondary servicing and emergency access is via the existing service road to the rear of existing retail premises at Omni Park Shopping Centre and accessed from the Swords Road.

The development provides for all associated and ancillary site development, demolition and clearance works, hoarding during construction, revisions to car parking within the Omni Park Shopping Centre, soft and hard landscaping, public realm works, public lighting and signage, ancillary spaces, plant including photovoltaic panels, water infrastructure, utilities, and services.

The application is accompanied by an Environmental Impact Assessment Report.

A full description of the development is contained within the public notices, architectural drawings and accompanying application documents.

4.0 RESOURCE & WASTE MANAGEMENT

4.1 Waste Management Guidelines

The Environmental Protection Agency (EPA) of Ireland issued 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' in November 2021. The guidelines replace the previous 2006 guidelines 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Waste Projects'.

Since the publication of the 2006 guidelines, waste policy in Europe has shifted from the established linear economic model to a circular model. Circular economy-inspired interventions focus not only on increasing recycling quantitatively but also on:

- Reducing the use of virgin resources.
- Keeping materials in the economy as long as possible.
- Maintaining their intrinsic value/quality as high as possible; and
- Reducing hazardous substances in products and waste.

Ireland's national waste policy is 'A Waste Action Plan for a Circular Economy – Ireland's National Waste Policy 2020–2025'. The policy is intended to move Ireland toward the circular economy seen around Europe. The policy aims to shift focus away from waste disposal, favouring circularity and sustainability by identifying and maximising the value of material through improved design, durability, repair and recycling. Extending the time resources are kept within the local economy could result in both environmental and economic benefits.

The approaches presented are based on international principles of optimising resources and reducing waste on construction projects through:

- Prevention.
- Reuse.
- Recycling.
- Green Procurement Principles.
- Off-Site Construction.
- Materials Optimisation.
- Flexibility and Deconstruction.

4.2 Roles & Responsibilities

Under the Directive and in accordance with the polluter-pays principle, there is a legal requirement that the costs of disposing of waste must be borne by the holder of waste or by the producers of the product from which the waste came, thereby placing the legal obligation for the management of the waste on the Client.

4.2.1 Client

The Client is responsible for the following:

- Establishing the ambition and the performance targets for the project.
- Set out these commitments and targets in relation to prevention and minimisation in the project brief, tendering documentation including pre-qualification requirements, invitation to tender, etc.
- Require the preparation and submission of an RWMP as part of the design and planning submission, even if not requested by the planning authority for planning.
- Require the preparation and submission of an updated RWMP as part of the construction tendering process.
- Ensure that the RWMP is agreed and submitted to the local authority prior to commencement of works on site
- Request the end-of-project RWMP from the Contractor.

4.2.2 Client Advisory Team (Design Phase)

The client's advisory team (architects, consultants, engineers etc.) are responsible for the following:

- Drafting and maintaining the RWMP through the design, planning and procurement phases of the project.
- Appointing a Resource Manager (RM) to track and document the design process, inform the Design Team and prepare the RWMP.
- Include details and estimated quantities of all projected waste streams. This should also include data on waste types.
- Incorporate relevant conditions imposed in the planning permission into the RWMP.
- Handover of the RWMP to the Contractor at commencement of construction for the development of the RWMP in a similar fashion to how the safety file is handed over to the Contractor.
- Work with the Contractor as required to meet the performance targets for the project.

4.2.3 Planning Regulator

Local Authority or An Bord Pleanála as the planning regulator is responsible for the following;

- Ensuring that any RWMP submitted with planning complies with the requirements of the Resource & Waste Management Plans for Construction & Demolition Projects 2021 guidelines.

4.2.4 Contractor (Construction Phase)

The principal Contractor procured by the Client to undertake the construction operations is responsible for the following:

- Preparing, implementing, and reviewing the RWMP through construction (including the management of all suppliers and sub-contractors) as per the requirements of the Resource & Waste Management Plans for Construction & Demolition Projects 2021 guidelines.
- Identifying a designated and suitably qualified Resource Manager (RM) who will be responsible for implementing the RWMP.
- Identifying all hauliers to be engaged to transport each of the resources / wastes off-site. Note that any resource that is legally a 'waste' must only be transported by a haulier with a valid Waste Collection Permit.
- The movement of hazardous waste material off-site falls under the European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011. Each shipment of hazardous waste material off-site is to be legally accompanied by a Waste Transfer Form. Hazardous wase such as asbestos should only be handled by competent persons with appropriate training and expertise.
- Identifying all destinations for resources taken off-site. As above, any resource that is legally a 'waste' must only be transported to an authorised waste facility
- End-of-waste and by-product notifications addressed with EPA where required;
- Clarification of any other statutory waste management obligations, which could include on-site processing;
- Full records of all resources (both wastes and other resources) should be maintained for the duration of the project.
- Preparing a RWMP Implementation Review Report at project handover.

4.3 Construction and Demolition Waste Streams

The main non-hazardous and hazardous waste streams that could be generated by the demolition and construction activities at a typical site are shown in Table 1. The List of Waste (LoW) code (also referred to as the European Waste Code or EWC) for each waste stream is also shown.

Waste Material	LoW/EWC Code
Non-Hazardous	
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*

Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Gypsum-based construction material	17 08 01* & 02
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Hazardous	
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
Insulation containing asbestos and asbestos-containing construction materials and other insulation containing hazardous substances	17-06-01*, 03* & 05*
Treated wood, glass, plastic, containing hazardous substances	17-02-04*

Table 1 Typical Waste Types Generated and EWC

4.4 Demolition Waste Generation

The site is currently occupied by a disused warehouse and two ancillary buildings which occupy a combined footprint of approximately 6,473m^2. The warehouse is constructed mainly from blockwork, steel frame, metal cladding and roofing sheets. The ancillary buildings are constructed mainly from blockwork, steel frame, metal cladding and metal roof cladding. The external areas of the site are concrete access routes/hardstanding areas.

Demolition wastes will typically include:

- Concrete

- Steel cladding
- Steel beams
- Gypsum
- Metals
- Plastic
- Wood
- Glass
- Waste electronic and electrical equipment (WEEE)
- Asbestos containing materials
- Concrete storage bays
- Existing pipe network

The following tables provide a preliminary estimate of the main demolition waste items which will be generated during the works;

Material	Area (m^2)	Perimeter (m)	Height (m)	Width (m)	Material Quantity (m3)	Density of material (kg/m^3)	Tonnage (t)
Concrete Floor	5,860	-	0.200	-	1172 m^3	2400	2812t
Concrete Wall	-	325	8.000	0.200	520m^3	2400	1248t
Foundation	-	325	0.45	1.0	146 m^3	2400	350t
Steel Frame	5,860			-	22 m^3	30kg/m^2*	176t
Roof Cladding	5,860	-	0.0065	-	29.3 m^3	2000	89t
Concrete Hardstanding	7,750	-	0.150	-	1163m^3	2400	2790t

Table 2 Estimated Demolition Waste from Main Warehouse

*** 30 kg/m^2 is used to estimate tonnage during preliminary portal frame design.**

Material	Combined Building Area (m^2)	Combined Building Perimeter (m)	Material Height (m)	Material Width (m)	Total Material Quantity	Density of material (kg/m^3)	Tonnage (t)
Concrete Floor	613	-	0.200	-	122 m3	2400	294t
Concrete Wall	-	125	2.5	0.200	62.5m3	2400	150t
Foundation		125	0.45	1.0	56.25	2400	135t

Wall Cladding	-	125	4.95	0.005	3 m3	8000	24t
Roof Cladding	613	-	-	0.005	3.1 m2	8000	25t

Table 3 Estimated Demolition Waste from Ancillary Buildings

4.5 Construction Waste Generation

The bulk of the waste material generated during the construction phase will be from the excavation of subsoil to accommodate the structural foundations, basement, surface water attenuation tank and site services. During construction activities, waste will also be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete tiles, glass etc. Packaging waste is also expected.

Composition figures for Construction and Demolition waste in Ireland documented in the latest National Waste Statistics Report (2018) are as follows:

Waste	**%**
Soil and Stones	77
Mixed C&D Waste	7
Concrete, bricks, tiles, plastics etc	12
Metals	3
Bituminous Mixtures	1
Segregated wood, glass and plastic	0.4
TOTAL WASTE	**100**

Table 4 Waste Materials generated on a typical Irish Construction Site

Notwithstanding the information in Table 4 the development is expected to result in the excavation of approximately 44,213m^3 of soil foundations, sub-structures, and the basements. Any suitable excavated topsoil material will be temporarily stockpiled for reuse if possible. In order to reduce the impact of the generation of surplus material the following principles will be considered:

- Careful separation of builder's rubble packaging and contaminated waste from re-usable material. This will assist with reducing the volume of material disposal of to landfill.
- Re-use of surplus clean insert material (subject to appropriate testing and classification) as fill material in other construction projects or engineering fill for waste licensed sites.

4.6 Hazardous Waste

The current site contains a disused warehouse and ancillary buildings. Site investigations were carried out by Ground Investigations Ireland Ltd. in May 2019 on the proposed site. GII in May 2019 concluded that all samples were classified as non-hazardous with the exception of an isolated area in the north west of the site which was classified as hazardous between ground level and 1.0m. The hazardous classification was assigned due to the presence of high levels of hydrocarbons (TPH). The area was previously used as a vehicle wash area and houses an interceptor. In accordance with the relevant regulations soil will be removed from site and taken to a suitably licensed/permitted waste facility.

An inspection of the site shall be made by the Contractor for hazardous substances including an Asbestos Survey, prior to commencement of demolition. If any additional substances are encountered during the course of construction or demolition, then works must be halted. The project supervisor for construction stage (PSCS) and the responsible Statutory Authority shall be informed immediately.

Where encountered, the removal of asbestos and asbestos containing material (ACM) will be carried out by a suitably qualified contractor. In accordance with the relevant regulations ACMs will only be removed from site by a suitable licensed waste contractor and taken to a suitably licensed/permitted waste facility.

4.7 On-site Waste Management Operations

The Contractor shall manage and carry out the works in accordance with the best environmental practise and in accordance with the requirements of the Local Authority, EPA and all requirements specified in this document. The Contractor is encouraged to reuse and recycle any waste materials as much as reasonably practicable.

Waste will be separated on site in accordance with the categories detailed previously. The site waste storage area will have skips and recycling containers for all recyclable material. These will be sized and collected as required. Non-recyclable materials will be transferred by suitable means to a licensed landfill.

The purchasing manager shall ensure that the materials are ordered so that the quantity delivered and the timing of the delivery is efficient and does not encourage long term storage which may lead to unnecessary waste.

The Contractor shall prepare a detailed inventory of construction and demolition (C&D) based hazardous waste generated, such as tars, adhesives, sealants and other dangerous substances and these will be kept segregated from other non-hazardous waste to prevent possible contamination. Arrangements shall be made for such substances to be disposed in a safe manner to an authorized disposal site or by means acceptable to the relevant Authority.

The Contractor shall ensure that the excavation works are carried out in accordance with best standard practise and excavation materials are well segregated to minimize any potential cross-contamination. The Contractor shall carry out appropriate environmental chemistry testing, including Waste Acceptance Criteria testing in order to determine the waste classification of the soils that are to be excavated. The test regime shall be agreed with the receiving landfill operator and the testing shall be carried out by an accredited laboratory. Should excavation materials be assessed to be hazardous, the Contractor shall carry out pre-

treatment of the waste soils to a methodology that is agreed with the receiving landfill operator and in accordance with EPA guidance.

In respect of any liquid disposal including groundwater, the Contractor shall carry out appropriate chemical testing in order to determine whether the liquid is contaminated or not. The test regime shall be agreed with the receiving disposal facility and the testing carried out by an accredited laboratory. Waste mixtures containing dangerous substances will be classified as hazardous waste. This will not be used as fill on the site and only disposed of at licensed hazardous waste facilities.

During the construction phase, mitigation measures are incorporated into the project-specific Construction & Environmental Management Plan (CEMP) and the project specific Resource Waste Management Plan (RWMP). These specific measures will provide protection to the receiving soil and water environments during the construction phase. The CEMP and RWMP provide for work practices that are industry best practice measures that will be applied during the construction phase, and they are in no way included to avoid or reduce potential harmful effects (if any) to European sites(if any), which is a matter that is the subject of separate assessment

4.8 Off-site Waste Management Licensing/Permitting

All C&D waste materials shall be considered for re-use. Where waste materials cannot be re-used they shall be disposed of offsite, under the appropriate Duty of Care and subject to approval/consents from relevant statutory bodies.

It is the responsibility of the Contractor to ensure that any company to whom waste is transferred is legally permitted to receive waste and that the facility they bring the waste to is licensed to handle that type of waste as outlined in the Waste Management Act (1996) (and all subsequent amendments). The Waste Collection Permit Register, in accordance with the Waste Management (Collection Permit) Regulations (2007) will be consulted to ensure that waste carriers hold the appropriate permit.

Any wastes that is to be disposed/recycled off site will be transported to the nearest appropriate facility in order to comply with the proximity principle and reduce the associated emissions from the transportation of waste. The EPA holds details of waste facilities which will be consulted where necessary.

4.9 Appointment of Resource Manager during construction

A Resource Manager (RM) shall be appointed by the Contractor and shall have overall responsibility for the implementation of the project Waste Management Plan (WMP) during the construction phase. The RM will be appropriately trained and assigned the authority to instruct all site personnel to comply with the specific provisions of the WMP. At the operational level, a designated person from the Contractor and from each Sub-Contractor on the site shall be assigned the direct responsibility to ensure that the operations stated in the WMP are performed on an on-going basis. Copies of the Waste Management Plan will be made available to all relevant personnel on site.

All site personnel and sub-Contractors will be informed of the objectives of the Waste Management Plan and their roles and responsibilities under the plan. Where source segregation, selective demolition and material reuse techniques apply, each staff member will be given instructions on how to comply with the

Waste Management Plan. Posters will be designed to reinforce the key messages within the Waste Management Plan and will be displayed prominently for the benefit of site staff.

4.10 C&D Record Keeping

Details of volumes, movement and treatment of C&D waste shall be recorded as part of the waste auditing process. The RM ensure that necessary licences have been obtained as needed. Each consignment of C&D waste taken from the site shall be documented in Transportation Dockets which will indicate the following information:

- Site Origin and Date
- Type of Material Being Transported
- Quantity of material being transport
- Name of carrier
- Destination
- Proposed use/treatment

4.11 Construction Waste Management Auditing

An Audit Plan will be prepared by the RM at the outset of the works to assess the effectiveness of the project WMP throughout the duration of the works.

Audits will focus on material inputs and waste outputs for each site operation and identify any opportunities for further waste reduction, re-use and recycling.

Performance targets will be set and compared against recorded figures. Any corrective actions required to achieve reduction, re-use and recycling targets will be identified and implemented.

Weekly inspections of waste storage areas and any remedial actions required will be undertaken. A Final Waste audit will be prepared upon completion of works and will identify the quantity, nature and composition of material inputs, re-use and recycling figures and waste outputs.

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