CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN

Project: **Dunlo SHD, Ballinasloe, Co. Galway**

Client: **Limehill Esker Ltd.**

Our Ref: **2521/WMG/RG**

Your Ref: **Dunlo SHD**

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1.0 INTRODUCTION

This document is a Site-Specific Construction, Environmental & Waste (Construction & Demolition) Management Plan which has been prepared for submission with a Stage 3 SHD planning application to An Bord Pleanála. for the development of 167 no. residential units on lands at Dunlo & Pollboy, Ballinasloe, Co. Galway.

Item 16 contained within the Notice of Pre Application Consultation Opinion from An Bord Pleanála requests that a Site-Specific Construction & Demolition Waste Management Plan should be submitted with the documents that could result in them constituting a reasonable basis for an application for strategic housing development.

The proposed development would be undertaken on land within the townlands of Dunlo & Pollboy, Ballinasloe, Co. Galway, as outlined in red below:

The site has been previously disturbed during the original retail park development c. 2008, some road bases, footpaths and underground services are present, though no existing structures are present, thus no demolition activities would be envisaged for the proposed development.

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2.0 AIMS & OBJECTIVES

The following key project activities and impacts would have to be considered in the provision of the proposed development in this case:

- Site supervision, management, and control
- Demolition methods
- Construction Methods
- Prevention of nuisance
- Demolition and construction waste management
- Access and traffic management.

This preliminary plan will be used as a template for developing the construction phase safety and health plan and associated method statements as required during the execution of the project.

The purpose of the waste management section of this plan is to provide information necessary to ensure that the management of construction and demolition (C&D) waste at the site is undertaken in accordance with current legal and industry standards including the Waste Management Acts 1996 - 2011 and associated Regulations 1, Protection of the Environment Act 2003 as amended with EPA Acts 1992 to 2013 2, Litter Pollution Act 1997 as amended 3 and the relevant Waste Management Plans and 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 environmental standards.

3.0 SITE MANAGEMENT

A site-specific Demolition and Construction Management Plan shall be prepared by the building contractor in consultation with the applicant. The management team on site shall include the Site Supervisor and the PSCS.

The Main Contractor shall have sole responsibility for ensuring that all matters pertaining to compliance with The Safety, Health and Welfare at Work Act 2005 and all the relevant Regulations made thereunder.

3.1 SITE LAYOUT

The site is located on lands in the ownership of Limehill Esker Ltd and is bounded to the north by the existing Dunlo Retail Park and the Eiscir Riada development (under construction: pl. ref. 19/1978) consisting of 78 residentials units, creche and office units.

The site is partially bounded to the west, south and east by the existing residential developments of Esker Hills, Beechlawn Heights and Dun Esker respectively.

3.2 SITE MANAGEMENT

The Site Supervisor shall be suitably qualified and experienced to deal with a project of this nature and have the following duties:

- Establish policies arising from consultation with material suppliers and subcontractors regarding potential nuisance risks to third parties and others that may be affected by the works.
- Establish method statements for the various elements of the works.
- Ensure that all work-related activities are carried out within the curtilage of the site.
- Ensure that the public thoroughfare is not obstructed by the works.
- Respond to and document any query or concerned raised by a member of the public or the local authority. Ensure that all concerns are addressed expeditiously.

3.3 HOURS OF OPERATION

The hours of operation shall be restricted to the following:

Monday to Friday	0800 to 1800 (8:00 AM to 6:00 PM)
Saturday	0900 to 1300 (9:00 AM to 1:00 PM)
Sunday	No construction work permitted.
Bank Holidays	No construction work permitted.

3.4 SITE SECURITY

The site is enclosed by a variety of boundary types consisting of, hedgerows, ditches, block walls and fences .The construction site shall be secured by the provision of harris fencing to prevent access and casual trespass onto the site.

Access to the site shall be controlled during the hours of operation of the construction works. The access gate to the site shall be locked outside of site operating hours.

3.5 PUBLIC PROTECTION CONTROLS

The site is located in adjacent to residential areas on the outskirts of Ballinasloe Town. is a pedestrian thoroughfare at all times. Control measures must be implemented to protect the public from being exposed to construction site risks.

Effective protective control will be afforded by the following measures:

- Ensure and maintain the site fencing at all times.
- Ensure that access to the site is monitored at all times during construction activity.
- Provide a banksman to guide all vehicle or equipment movements onto or off the site.
- Ensure that the surface of the public thoroughfare on the access road through the retail park is maintained in a clean and safe condition for members of the public.

4.0 PREVENTION OF NUISANCE

The Environmental impacts of the construction phase of the proposed development are as follows:

- Pollution Potential
- Noise
- Airborne Dust

4.1 POLLUTION PREVENTION

The following pollution prevention measures should be implemented by the contractor on site:

- Hazardous materials shall not be stored on site.
- Covered skips shall be maintained on site to contain all rubbish.
- A water spray shall be used to suppress dust and the road surface shall be regularly damped and swept.
- There shall be a policy of keeping the site in a neat and tidy condition at all times.

4.2 NOISE AND VIBRATION

The principal of controlling noise at source shall be implemented at the site.

The adjacent residential areas are the closest noise sensitive receptors to the site. There are also noise sensitive receptors at the surrounding commercial enterprises.

Best practice mitigation techniques as specified in *BS 5228:2009+A1 2014 – Noise and Vibration Control on Construction and Open Sites* shall be implemented during the construction phase.

All plant used on the project shall be low noise rated, and sound attenuated to the greatest extent possible.

High noise activities such as pneumatic hammering or steel/concrete cutting shall not occur before 08:00hrs and not after 18:00hrs Mondays to Fridays and not before 08:00hrs and not after 12:00hrs on Saturdays.

If rock breaking or other high vibration activities are required, structural vibration monitoring shall be conducted during the course of the works as required in order to ensure that site construction activities are conducted to minimise the vibration impacts on the receiving environment.

Previous site investigations conducted on the site have demonstrated deep stratum of glacial till type soils with no outcropping bedrock present, thus it is not anticipated that a significant amount of vibration causing activities would be required for this development. For this reason and the lack of directly adjoining/proximate structures it is not proposed that continuous vibration monitoring shall be required to minimise the vibrational impacts on nearby

structures. The transient vibration guide value for cosmetic damage as specified in *BS 7385: Evaluation and measurement for vibration in buildings, Part 2 1993 Guide to damage levels arising from ground borne vibration* is 15 mm/sec Peak Component Particle Velocity at 4 Hz increasing to 20 mm/sec at 15 Hz. This limit value rises to 50 mm/sec at frequencies of 40 Hz and greater.

Vibration monitoring will be conducted on the closest properties to any particular phase of the foundation works if there are any activities that have the potential to generate high levels of ground vibrations.

4.3 AIRBORNE DUST

It is not anticipated that large amounts of dust will be generated during the construction phase of the project. The external face of all scaffolding shall be lined with netting to mitigate against the transfer of dust, especially at the higher levels.

The German Federal Government Technical Instructions on Air Quality Control – TA Luft specifies an emission value for the protection against significant nuisances or significant disadvantages due to dustfall. This limit value is 350 mg/m2-day and it is to this limit value that all measured dust deposition levels are usually assessed. This limit value is also commonly specified by Local Authorities at construction sites.

However, the construction activities necessary to execute the proposed project in this case will not generate dust deposition levels of this magnitude.

5.0 WASTE MANAGEMENT

The waste material generated by site construction works will be mixed Construction & Demolition (C&D) waste, comprising of soil and stone, mass concrete, precast concrete, concrete blocks, slates, ceramics, timber, and plasterboard products.

Waste materials generated by the construction and demolition activities will be managed according to the *Department of the Environment, Heritage and Local Government's 2006 Publication - Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects.*

This section has been prepared in accordance with the 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' document produced by the National Construction and Demolition Waste Council (NCDWC) in conjunction with the Department of the Environment, Heritage and Local Government in July 2006. 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 include European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended;
- 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;
- 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.

One priority of the Waste Management plan shall be to promote recycling, reuse and recovery of waste and diversion from landfill wherever possible. Guidance will also be given to ensure appropriate method of transportation of waste is used to prevent littering or other serious environmental pollution. This plan aims to ensure maximum recycling, reuse, and recovery of waste with diversion from landfill, wherever possible. It also seeks to provide guidance on the appropriate collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

5.1 LEGISLATIVE REQUIREMENTS

It shall be the responsibility of the Site Supervisor to ensure that all waste haulage Contractors hold an appropriate Waste Collection Permit for the transport of waste loads and that all waste materials are delivered to an appropriately licenced or permitted waste facility in compliance with the following relevant Regulations:

- The Waste Management Act, 1996
- Waste Management (amendment) Act 2011
- Waste Management (Collection Permit) Regulations 2007 (SI No. 820 of 2007)
- Waste Management (Collection Permit) Amendment Regulations 2008 (SI No. 87 of 2008)
- Waste Management (Facility Permit and Registration) Regulations S.I.821 of 2007, and
- Waste Management (Facility Permit and Registration) Amendment Regulations S.I.86 of 2008.

The range of construction waste materials likely to be encountered during the demolition and construction phases of the project are referenced by their EWC Codes in the table below:

17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	**wood, glass and plastic**
17 02 01	wood
17 02 02	glass
17 02 03	plastic
17 02 04*	glass, plastic and wood containing or contaminated with hazardous substances

17 04	**metals (including their alloys)**
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 09*	metal waste contaminated with hazardous substances
17 04 10*	cables containing oil, coal tar and other hazardous substances
17 04 11	cables other than those mentioned in 17 04 10

5.2 DEMOLITION WASTE

No Structures are present on the site excepting some underground services, road bases and footpaths from the unfinished 2008 retail park development, thus it is not envisaged that any significant demolition waste shall be generated by the proposed development. Any demolition waste that is generated shall be transported off site.

Waste soils shall be classified as inert, non-hazardous, or hazardous, prior to being exported off-site, in accordance with the *EPA Waste Classification Guidance – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* to ensure that the waste material is transferred by an appropriately permitted waste collection permit holder and brought to an appropriately permitted or licensed waste facility.

5.3 CONSTRUCTION PHASE WASTE

The bulk of waste material generated will be from the excavation of subsoil to accommodate the construction of the foundations, roads and services.

Additional waste as part of construction activities is expected. This waste will be produced from surplus materials such as broken or cut-offs of concrete blocks, bricks, gypsum plaster products, timber joists, steel reinforcement etc.

Waste from packaging and oversupply of materials is also expected and shall be recycled.

6.0 CONSTRUCTION METHODS

6.1 DEMOLITION METHODS

As previously stated, no demolition is expected as part of the proposed development.

Any demolition waste that is generated shall be processed and transported in accordance with the waste management strategy outlined in Section 5.1 of this document.

6.2 CONSTRUCTION PROJECT METHODS

A comprehensive site investigation has been conducted on the adjacent site (pl ref. 19/1978) that is currently under construction. The geotechnical conditions present are largely suitable for raft foundation substructure types, consisting of sandy, gravelly clay with cobbles and occasional boulders underlain by a carboniferous bedrock formation.

Current experience of the soil conditions present in the under construction 19/1978 lands indicate that raft foundation substructure types shall be suitable for all proposed structures on the SHD lands.

The main structure of all buildings shall be comprised of blockwork cavity walls, engineered timber joist floors, precast hollowcore concrete floors (as separating floors between dwellings in multi-unit buildings) and prefabricated timber roofs.

Site management and welfare facilities, as well as materials storage, can be located within a dedicated site compound located.

All construction waste generated shall be processed and transported in accordance with the waste management strategy outlined in Section 5.2 of this document.

7.0 TRAFFIC MANAGEMENT

A Site-Specific Traffic Management Plan (TMP) will be prepared by the Main Contractor for the project in accordance with the principles set out below and shall comply at all times with the requirements of;

- *Department of Transport Traffic Signs Manual 2010 - Chapter 8 "Temporary Traffic Measures and Signs for Roadworks"*
- *Department of Transport Guidance for the Control and Management at Road Works (2010)*

Special consideration shall be given in the traffic management plan for the interaction of construction activity related traffic and light vehicles/pedestrians on the public roadway near the entrance to Tesco and Aldi. Coordination and scheduling of construction traffic to and from the site shall be managed to cause the least amount of disruption to local residents and businesses.

Specific haul routes and associated procedures will be agreed between the Main Contractor and Galway County Council and incorporated into the traffic management plan to ensure minimal impact on the town centre environment, where this site is located, and on users of the public realm in the vicinity of the site.

The Construction traffic will consist of the following:

- Construction vehicles e.g., excavation plant, dump trucks, concrete trucks etc
- Materials delivery vehicles involved in site development.

Special provision shall be made by the Main Contractor for on-site accommodation of private vehicles owned and driven by site staff and management. Pedestrian walkways from car parks and welfare facilities shall be fenced off from construction traffic with any crossing points clearly marked and appropriate safety measures kept in place at all times.