14.0 MATERIAL ASSETS – WASTE MANAGEMENT

14.1 Introduction

14.1.1 Background

This Chapter of the EIAR comprises an assessment of the likely impact of the proposed Development on the waste generated from the development as well as identifying proposed mitigation measures to minimise any associated impacts.

A site-specific Construction and Demolition Waste Management Plan (C&D WMP) has been prepared by AWN Consulting Ltd to deal with waste generation during the demolition, excavation and construction phases of the proposed development and has been included as Appendix 14.1. The C&D WMP was prepared in accordance with the Environmental Protection Agency's (EPA) document *Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects* (2021) and '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 (DoEHLG)(2006).

The Chapter has been prepared in accordance with European Commissions Guidelines, *Guidance on the preparation of the Environmental Impact Assessment Report* (2017) and the *EPA Guidelines on the Information to be contained in EIAR* (2022).

These documents will ensure the sustainable management of wastes arising at the Development Site in accordance with legislative requirements and best practice standards.

14.1.2 Competency of Chapter Authors

The Material Assets – Waste Management Chapter of the EIAR was prepared by Dr Fergal Callaghan as Project Director and Chonaill Bradley as Project Manager (all of AWN Consulting Limited). Details of their experience and qualifications are provided within the following table (Table 14.1).

Reviewer	Dr Fergal Callaghan
Title	Project Director
Relevant Experience and Qualifications	Experience: **Dr. Fergal Callaghan** is the Director with responsibility for Environmental Assessment with AWN Consulting. He undertakes consultancy in all aspects of environmental assessment for major projects. He also has extensive experience of the impact of the Seveso III directive on the planning process. B.Sc. (Industrial Biochemistry) and Ph.D. Chemical Engineering (Waste and Wastewater Treatment). A Chartered Waste Manager (MCIWM), Associate Member of The Institution of Chemical Engineers (AMIChemE), Member of the Environmental Protection Subject Group, IChemE, Graduate Member of The Chartered Institute of Water and Environmental Management, a Member of the IChemE Water Group, a Member of the International Water

	Association (IWA) and a Member of the European Water Association. 30 years engineering and consultancy experience in the Irish, UK and European environmental industry. Qualifications: • BSc Industrial Chemistry University of Limerick, 1991 • PhD Chemical Engineering, University of Birmingham, 1998
Professional Membership	Member of the Royal Society of Chemistry Member of the Chartered Institute of Waste Management Associate member of the Institute of Chemical Engineers
Principal Author	Chonaill Bradley
Title	Project Manager
Relevant Experience and Qualifications	Experience: Senior Environmental Consultant with 7 years' experience (5.5 years in Waste Management) in a range of public and private sector clients, including commercial, infrastructure, retail and residential developments for operators and developers. He has extensive experience of developing a wide range of waste plans and strategies, waste auditing, waste licensing and the preparation of EIAR reports. Recent experience of EIAR reports includes the preparation of Material Assets – Waste Management Chapters and waste plans for a large Mixed- Use Development in Central Dublin, and a Warehouse Distribution Centre development in County Kildare. Qualifications: • BSc environmental Science, Griffith University Australia (2012)
Professional Membership	Associate Member, Charted Institute of Waste Management

Table 14.1: Competency of Chapter Authors.

14.1.3 Overview of Proposed Development

The proposed development seeks to extend the life of the current permitted quarry from 10 years to 25 years (as originally proposed 37L development) and proposes to develop a new dedicated quarry access road to facilitate an increase in the permitted number of HGV loads to and from the quarry from a maximum of 32 No. per day to an average of 81 No. per day (with +/-15% fluctuations in the number of loads to and from the quarry proposed to address certain demands on the quarry as and when required, equating to a maximum of 93 No. loads per day).

Access to the quarry is currently provided from the local road (Mullagh Road) that runs in a north-south direction and bounds the eastern portion of the quarry site. In order overcome the Board's concerns regarding impacts on the local community, the subject development proposes the provision of a new private road, as well as new entry / exit points onto this new road, to serve the quarry. The existing quarry access / exit point will be relocated southwards. The development will consist of the continued provision of the office, workshop, shed and car park area. In addition, to facilitate the development, it is proposed to relocate the weighbridge and wheelwash closer to the new entrance to the quarry, as well as providing a new shipping

office (29 sq m) beside the weighbridge. A new powerhouse (46 sq m) is proposed to facilitate a mains electricity supply for use by pumps, plant and machinery in the future. The bunded and covered fuel tanks, septic tank and percolation area permitted under the 37L development have not yet been implemented.

This new road will reduce the impacts on the local community by redirecting the HGVs away from Bellewstown Village. The new road will cross the Mullagh Road and fields in a northeast direction away from the quarry. The road is approximately 1,730m long starting at the Mullagh Road and has a minimum width of c. 6m increasing to up to 9.25m wide on some internal bends. The new link road will also be used by the farmer whose lands it crosses to provided internal access to their farm for agricultural purposes. We refer to Chapter 12 of this EIAR for further detail. This road will allow an average number of 81 No. daily loads from the quarry to facilitate an extraction level of approximately 450,000 tonnes per annum. The total extraction period proposed is 25 years, with an additional year required to facilitate restoration works.

The imposition of Condition No. 3 of the Board's Order in relation to the 37L development came as a result of the recommendations made in the *Quarries and Ancillary Activities Guidelines for Planning Authorities, April 2004* prepared by the Department of the Environmental, Heritage and Local Government regarding the lifespan of planning permissions. Specifically, Section 4.9 of the Guidelines states that:

> *"Where the expected life of the proposed quarry exceeds 5 years it will normally be appropriate to grant permission for a longer period (such as 10 - 20 years), particularly where major capital investment is required at the outset. In deciding the length of the planning permission, planning authorities should have regard to the expected life of the reserves within the site. The purpose of setting a finite period is not to anticipate that extraction should not continue after the expiry of that period, but rather to enable the planning authority, in conjunction with the developer and environmental authorities, to review changes in environmental standards and technology over a decade or more since the original permission was granted."*

To address any concerns regarding the environmental impacts arising from the quarry, this EIAR provides updated Mitigation and Monitoring measures (see Chapter 16). It is proposed, in the event of a grant of permission for the development proposed, that Kilsaran will develop and implement an Operational Mitigation Management Plan, reviewing this every 5 years up to the end of the quarry's 25 year life and submitting same with the Local Authority for agreement on a 5-yearly basis. Please see Appendix 3.1 for a sample Table of Contents of this Plan.

14.1.4 Contents

The remainder of the Chapter is set out as follows:

- Section 14.2 outlines the methodology pursued in undertaking the study;
- Section 14.3 describes the proposed development's receiving environment;
- Section 14.4 outlines potential impacts arising from the development;
- Section 14.5 sets out the baseline scenario;
- Section 14.6 investigates potential prevention and mitigation measures;

- Section 14.7 provides an assessment of impacts arising from the proposed development; and
- Section 14.8 addresses residual impacts.

14.2 Methodology

The assessment of the impacts of the proposed Development, arising from the consumption of resources and the generation of waste materials, was carried out taking into account the methodology specified in relevant guidance documents, along with an extensive document review to assist in identifying current and future requirements for waste management; including national and regional waste policy, waste strategies, management plans, legislative requirements and relevant reports. A summary of the documents reviewed, and the relevant legislation is provided in the C&D WMP in Appendix 14.1 and in Section 14.6 of this chapter.

This Chapter is based on the proposed Development, as described in Chapter 3 (Description of the Proposed Development) and considers the following aspects:

- Legislative context;
- Construction phase (including Demoltion site preparation and excavation); and
- Operational phase.

A desktop study was carried out which included the following:

- Review of applicable policy and legislation which creates the legal framework for resource and waste management in Ireland;
- Description of the typical waste materials that will be generated during the Construction and Operational phases; and
- Identification of mitigation measures to prevent waste generation and promote management of waste in accordance with the waste hierarchy.

Estimates of waste generation during the construction and operational phases of the proposed Development have been calculated. The waste types and estimated quantities are based on published data by the EPA in the *National Waste Reports and National Waste Statistics*, data recorded from similar previous developments, Irish and US EPA waste generation research as well as other available research sources.

Mitigation measures are proposed to minimise the effect of the proposed Development on the environment during the construction and operational phases, to promote efficient waste segregation and to reduce the quantity of waste requiring disposal. This information is presented in Section 14.6.

A detailed review of the existing ground conditions on a regional, local and site-specific scale are presented in Chapter 7 of this EIAR (Soils & Geology). Chapter 7 also discusses the environmental quality of any soils which will have to be excavated to facilitate construction of the proposed Development.

14.2.1 Legislation and Guidance

Waste management in Ireland is subject to EU, national and regional waste legislation and control, which defines how waste materials must be managed, transported and treated. The

overarching EU legislation is the Waste Framework Directive (2008/98/EC) which is transposed into national legislation in Ireland. The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended). European and national waste management policy is based on the concept of 'waste hierarchy', which sets out an order of preference for managing waste (prevention > preparing for reuse > recycling > recovery > disposal) (Figure 14.1).

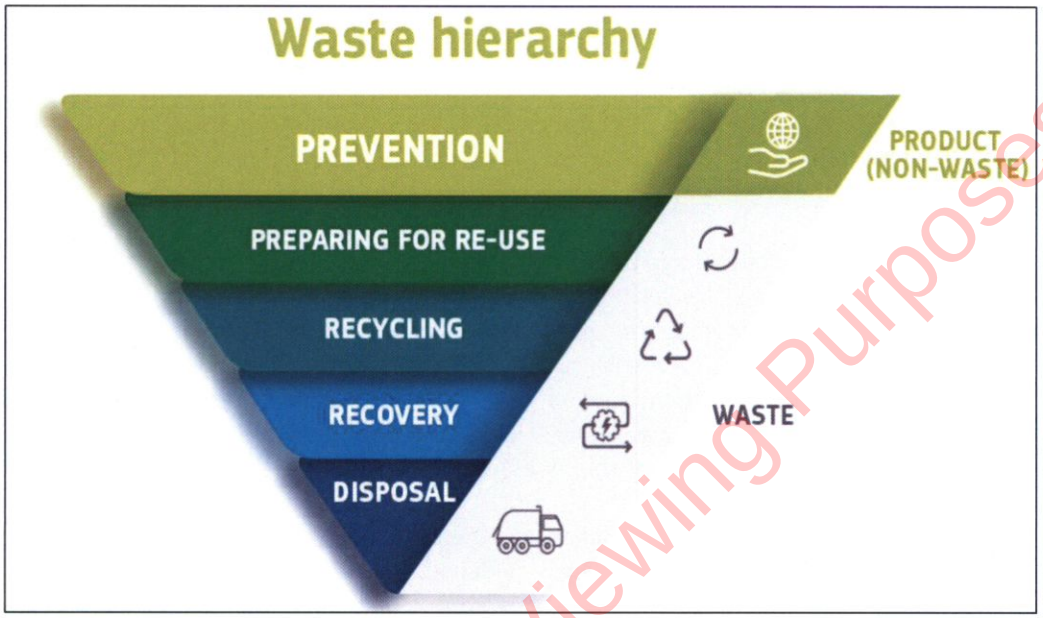

Figure 14.1: Waste Hierarchy. (Source: European Commission.)

EU and Irish National waste policy also aims to contribute to the circular economy by extracting high-quality resources from waste as much as possible. Circular Economy (CE) is a sustainable alternative to the traditional linear (take-make-dispose) economic model, reducing waste to a minimum by reusing, repairing, refurbishing and recycling existing materials and products. (Figure 14.2).

Figure 14.2: Circular Economy. (Source: Repak.)

The Irish government issues policy documents which outline measures to improve waste management practices in Ireland and help the country to achieve EU targets in respect of recycling and disposal of waste. The most recent policy document, *Waste Action Plan for a Circular Economy – Waste Management Policy in Ireland*, was published in 2020 and shifts focus away from waste disposal and moves it back up the production chain. The move away from targeting national waste targets is due to the Irish and international waste context changing in the years since the launch of the previous waste management plan, *A Resource Opportunity*, in 2014.

One of the first actions to be taken from the WAPCE was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, using Less' (2021) 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.

The strategy for the management of waste from the construction phase is in line with the requirements of the EPA's *Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects* (2021). The guidance documents, Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects and Construction and Demolition Waste Management: A Handbook for Contractors and Site Managers (FÁS & Construction Industry Federation, 2002), were also consulted in the preparation of this assessment.

There are currently no Irish guidelines on the assessment of operational waste generation, and guidance is taken from industry guidelines, plans and reports including the *Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021*, *BS 5906:2005 Waste Management in Buildings – Code of Practice*, the *Meath County Council (MCC) County of Meath (Segregation, Storage and Presentation of Household and. Commercial Waste) Bye-Laws 2018*, the *EPA National Waste Database Reports 1998 – 2018* and the EPA National Waste Statistics Web Resource.

14.2.2 Terminology

Note that the terminology used herein is generally consistent with the definitions set out in Article 3 of the Waste Framework Directive. Key terms are defined as follows:

Waste - Any substance or object which the holder discards or intends or is required to discard.

Prevention - Measures taken before a substance, material or product has become waste, that reduce:

a) the quantity of waste, including through the re-use of products or the extension of the life span of products;
b) the adverse impacts of the generated waste on the environment and human health; or
c) the content of harmful substances in materials and products.

Reuse - Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.

Preparing for Reuse - Checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.

Treatment - Recovery or disposal operations, including preparation prior to recovery or disposal.

Recovery - Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II of the Waste Framework Directive sets out a non-exhaustive list of recovery operations.

Recycling - Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

Disposal - Any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I sets out a non-exhaustive list of disposal operations.

14.3 Receiving Environment

14.3.1 Introduction

In terms of waste management, the receiving environment is largely defined by MCC as the local authority responsible for setting and administering waste management activities in the area. This is governed by the requirements set out in the *EMR Waste Management Plan 2015-2021* (currently under review to be replaced in 2022) and the *Waste Action Plan for a Circular Economy – Waste Management Policy in Ireland.*

The waste management plans set out the following 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 55% of managed municipal waste by 2025; 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.

The Plan sets out the strategic targets for waste management in the region and sets a specific target for C&D waste of "70% *preparing for reuse, recycling and other recovery of construction and demolition waste*" (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

Ireland achieved 84 per cent material recovery of such waste in 2019, and therefore surpassed the 2020 target and is currently surpassing the 2025 target. The National Waste Statistics update published by the EPA in November 2021 identifies that Ireland's current against "*Preparing for reuse and recycling of 50% by weight of household derived paper, metal, plastic & glass (includes metal and plastic estimates from household WEEE)*" was met for 2020 at 51% however they are currently not in line with the 2025 target (55%).

The *Meath County Development Plan 2021-2027* also sets policies and objectives for the MCC area which reflect those set out in the regional waste management plan.

In terms of physical waste infrastructure, MCC no longer operates any municipal waste landfill in the area. There are a number of waste permitted and licensed facilities located in the Eastern-Midlands Waste Region for management of waste from the construction industry as well as municipal sources. These include soil recovery facilities, inert C&D waste facilities, hazardous waste treatment facilities, municipal waste landfills, material recovery facilities, waste transfer stations and two waste-to-energy facilities.

There is a number of licensed, permitted and registered waste facilities in the Meath County Council Area and in the surrounding counties. However, these sites may not be available for use when required or may be limited by the waste contractor selected to service the development in the appropriate phase. In addition, there is potential for more suitably placed waste facilities or recovery facilities to become operational in the future which may be more beneficial from an environmental perspective.

The ultimate selection of waste contractors and waste facilities would be subject to appropriate selection criteria proximity, competency, capacity, serviceability, and cost.

14.3.2 Demolition Phase

There will be a quantity of waste materials generated from the demolition of some of the existing buildings and hardstanding areas on site, as well as from the excavation of the building foundations.

Further detail on the waste materials likely to be generated during the demolition works are presented in the project-specific C&D WMP in Appendix 14.1. The C&D WMP provides an estimate of the main waste types likely to be generated during the C&D phase of the proposed Development. The reuse, recycling / recovery and disposal rates have been estimated using the EPA National Waste Reports and these are summarised in Table 14.1.

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	2.4	0	0.0	85	2.0	15	0.4
Concrete, Bricks Tiles, Ceramics	13.6	30	4.1	65	8.8	5	0.7
Plasterboard	1.1	0	0.0	80	0.9	20	0.2
Asphalts	0.3	0	0.0	25	0.1	75	0.2
Metal	4.0	5	0.2	80	3.2	15	0.6
Timber	3.2	10	0.3	40	1.3	50	1.6
Total	24.5		4.6		16.3		3.6

Table 14.1: Predicted on and off-site reuse, recycle and disposal rates for demolition waste.

14.3.3 Construction Phase

During the construction phase, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete, tiles, bricks, etc. Waste from packaging (cardboard, plastic, timber) and oversupply of materials may also be generated. The appointed Contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

There will also be soil, stones and made ground excavated to facilitate construction of a new road, building foundations, underground services. The design team have estimated that c. 789 m^3 of material will need to be excavated to do so. It is currently envisaged that all of the excavated material will be able to be retained and reused onsite for berm construction, landscaping and fill. As the material is not to be removed from site and is to be reused it would not be considered a waste. These estimates will be refined prior to commencement of construction.

If any material requires removal from the site, it is deemed to be a waste, removal and reuse / recycling / recovery / disposal of the material will be carried out in accordance with the *Waste Management Act 1996* (as amended), the *Waste Management (Collection Permit) Regulations 2007* (as amended) and the Waste *Management (Facility Permit & Registration) Regulations 2007* (as amended). The volume of waste requiring recovery / disposal will dictate whether a Certificate of Registration (COR), permit or licence is required for the receiving facility. Alternatively, the material may be classed as by-product under Article 27 classification (European Communities (Waste Directive) Regulations 2011, S.I. No. 126 of 2011). For more information in relation to the envisaged management of by-products, refer to the C&D WMP (Appendix 14.1).

In order to establish the appropriate reuse, recovery and / or disposal route for the soils and stones if to be removed off-site, it will first need to be classified. Waste material will initially need to be classified as hazardous or non-hazardous in accordance with the EPA publication *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2019). Environmental soil analysis will be carried out prior to removal of the material on a number of the soil samples in accordance with the requirements for acceptance of waste at landfills (Council Decision 2003/33/EC Waste Acceptance Criteria). This legislation sets limit values on landfills for acceptance of waste material based on properties of the waste, including potential pollutant concentrations and leachability. It is anticipated that the surplus material will be suitable for acceptance at either inert or non-hazardous soil recovery facilities / landfills in Ireland or, in the unlikely event of hazardous material being encountered, be transported for treatment / recovery or exported abroad for disposal in suitable facilities.

Waste will also be generated from construction phase workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and, potentially, sewage sludge from temporary welfare facilities provided on-site during the Construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated in small volumes from site offices.

Further detail on the waste materials likely to be generated during the excavation and construction works are presented in the project-specific C&D WMP (Appendix 14.1). The C&D WMP provides an estimate of the main waste types likely to be generated during the Construction phase of the proposed development. These are summarised in Table 14.2.

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1.1	10	0.1	80	0.9	10	0.1
Timber	1.0	40	0.4	55	0.5	5	0.0
Plasterboard	0.3	30	0.1	60	0.2	10	0.0
Metals	0.3	5	0.0	90	0.2	5	0.0
Concrete	0.2	30	0.1	65	0.1	5	0.0
Other	0.5	20	0.1	60	0.3	20	0.1
Total	3.5		0.8		2.3		0.3

Table 14.2: Predicted on and off-site reuse, recycle and disposal rates for construction waste.

14.3.4 Operational Phase

The proposed development extension will give rise to a wide variety of waste streams during the operational phase, i.e. when the project is completed, open and occupied. Operational waste will be generated on a daily basis by the owner.

The main waste types that will be generated on a daily basis will be:

Waste volumes generated on site are low and primarily consist of the following waste streams that will derive from either the canteen or the maintenance of on-site mobile plant:

- LoW/EWC 20 01 08 biodegradable kitchen and canteen waste
- LoW/EWC 20 03 01 mixed municipal waste
- LoW/EWC 16 01 07* oil filters
- LoW/EWC 16 01 13* brake fluids
- LoW/EWC 16 01 99 wastes not otherwise specified
- LoW/EWC 13 05 03* interceptor sludges

Segregation of Waste Materials Onsite

All waste materials will be segregated into appropriate categories and will be stored in appropriate bins or other suitable receptacles in a designated, easily accessible areas of the site. All wastes generated by the servicing and maintenance of plant is immediately removed from site by the service contractor. Sludges from the on-site interceptor is removed on a regular basis (at least annually) by a suitably licensed operator.

14.4 Potential Impact of the Proposed Development

14.4.1 Introduction

This section of the Chapter sets out the likely Waste impact of the proposed development and includes details of likely impacts envisaged for both the construction and operational stages of the development.

14.4.2 Construction Stage

The proposed development will generate a range of non-hazardous and hazardous waste materials during site excavation and construction. General housekeeping and packaging will also generate waste materials as well as typical municipal wastes generated by construction employees including food waste. Waste materials will be required to be temporarily stored on site pending collection by a waste contractor. If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the development and on adjacent developments. The indirect effect of litter issues is the presence of vermin within the development and the surrounding areas. The effect on the local environment is likely to be **short term, not significant and negative**.

The use of non-permitted waste contractors or unauthorised waste facilities could give rise to inappropriate management of waste and result in indirect negative environmental impacts or pollution. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. However, in the absence of mitigation, the effect on the local and regional environment is likely to be **Long term, significant and negative**.

Wastes arising will need to be taken to suitably registered/permitted/licenced waste facilities for processing and segregation, reuse, recycling, recovery, and/or disposal as appropriate. There are numerous licensed waste facilities in the Eastern Midlands region which can accept hazardous and non-hazardous waste materials and acceptance of waste from the proposed development would be in line with daily activities at these facilities. At present, there is sufficient capacity for the acceptance of the likely C&D waste arisings at facilities in the region. The majority of demolition and construction materials are either recyclable or recoverable. When this is not undertaken the effect on the local and regional environment is likely to be **short term, significant and negative**.

There is a quantity of topsoil, sub-soil and made ground which will need to be excavated to facilitate the proposed development. A detailed review of the existing ground conditions on a regional, local site-specific scale are presented in Chapter 7 Soils & Geology It is anticipated that all of the excavated material will be reused onsite. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site. However, in the absence of mitigation, the effect on the local environment is likely to be **short term, not-significant and negative**.

14.4.3 Operational Stage

As the site is currently operational, and the proposed development effectively means a continuation of quarry operations on-site, operation phase impacts are anticipated to be negligible.

The Development is planned to accommodate a small office building, powerhouse and for the excavation or material. The potential impacts on the environment of improper, or a lack of, waste management during the operational phase would be a diversion from the priorities of the waste hierarchy which could lead to small volumes of waste being sent unnecessarily to landfill. However, in the absence of mitigation, significant effects are not likely. The effect is likely to be **long term, non-significant and negative**.

The nature of the development means the generation of additional waste materials during the operational phase is unavoidable. Networks of waste collection, treatment, recovery and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery. There are also facilities in the region for segregation of municipal recyclables which is typically exported for conversion in recycled products (e.g. paper mills and glass recycling).

If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the development and on adjacent developments. The knock-on effect of litter issues is the presence of vermin within the development and the surrounding areas. However, in the absence of mitigation, the effect on the local environment is likely to be long term, **non-significant and negative.**

Waste contractors will be required to service the development on a regular basis to remove waste. The use of non-permitted waste contractors or unauthorised facilities could give rise to inappropriate management of waste and result in an indirect significant negative environmental impact for example pollution of groundwater or surface water arising from leachate leakage. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. However, in the absence of mitigation, the effect on the local environment is likely to be **long term, significant and negative.**

14.5 Baseline Scenario

If the development does not proceed the existing operations will cease from October 2028 and the quarry will no longer operate. Waste will cease to be produced.

14.6 Prevention and Mitigation Measures

14.6.1 Introduction

This section outlines the measures that will be employed in order to reduce the amount of waste produced, manage the wastes generated responsibly and handle the waste in such a manner as to minimise the effects on the environment.

14.6.2 Construction Stage

The following mitigation measures will be implemented during the construction phase of the proposed development:

As previously stated, a project specific C&D WMP has been prepared in line with the requirements of the requirements of the EPA, *Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects* (2021) and the Best *Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects* (DoEHLG, 2006). and is included as Appendix 14.1.

The mitigation measures outlined in the C&D WMP will be implemented in full and form part of mitigation strategy for the site.

The mitigation measures presented in this C&D WMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the excavation and construction phases of the proposed development.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the C&D WMP (Appendix 14.1) in agreement with MCC, or submit an addendum to the C&D WMP to MCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.

- The Contractor will be required to fully implement the C&D WMP throughout the duration of the proposed construction and demolition phases.

A quantity of soil, stone and made ground will need to be excavated to facilitate the proposed development. The design team has estimated that excavated material will not need to be removed off-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

In addition, the following mitigation measures will be implemented:

- Building materials will be chosen to 'design out waste';

- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:

- Concrete rubble (including ceramics, tiles and bricks);
- Plasterboard;
- Metals;
- Glass; and
- Timber.

- Left over materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable construction materials shall be re-used on-site, where possible;
- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;
- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
- A Waste Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the demolition, excavation and construction works;
- All construction staff will be provided with training regarding the waste management procedures;
- All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;
- All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities; and
- All waste leaving the site will be recorded and copies of relevant documentation maintained.

Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product (and not as a waste), this will be done in accordance with Article 27 of the *EC (Waste Directive) Regulations (2011)*. EPA approval will be obtained prior to moving material as a by-product. However, it is not currently anticipated that Article 27 will be used.

These mitigation measures will ensure that the waste arising from the construction phase of the proposed development is dealt with in compliance with the provisions of the *Waste Management Act 1996*, as amended, associated Regulations and the *Litter Pollution Act 1997*, and the *EMR Waste Management Plan 2015 – 2021*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

14.6.3 Operational Stage

During the facilities operations, waste materials will be segregated on-site, where possible, into at least the following non-hazardous waste types:

Waste volumes generated on site are low and primarily consist of the following waste streams that will derive from either the canteen or the maintenance of on-site mobile plant:

- LoW/EWC 20 01 08 biodegradable kitchen and canteen waste
- LoW/EWC 20 03 01 mixed municipal waste
- LoW/EWC 16 01 07* oil filters
- LoW/EWC 16 01 13* brake fluids
- LoW/EWC 16 01 99 wastes not otherwise specified
- LoW/EWC 13 05 03* interceptor sludges

All waste materials will be segregated into appropriate categories and will be stored in appropriate bins or other suitable receptacles in a designated, easily accessible areas of the site. All wastes generated by the servicing and maintenance of plant is immediately removed from site by the service contractor. Sludges from the on-site interceptor is removed on a regular basis (at least annually) by a suitably licensed operator.

During the operational phase, personnel should monitor waste generation volumes against previous yearly quantities. There may be opportunities to reduce the waste receptacles, collection frequencies and equipment required where estimates have been too conservative. Reductions in equipment/bin requirements will reduce waste contractor costs. Waste legislation should also be consulted on a regular basis in case of any changes which may impact on waste management procedures.

These mitigation measures will ensure the waste arising from the development is dealt with in compliance with the provisions of the *Waste Management Acts 1996 - 2011* and associated Regulations, the *Litter Pollution Act of 1997* as amended and the *EMR Waste Management Plan 2015 - 2021*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved.

14.7 Assessment of Impacts

14.7.1 Construction Stage

A carefully planned approach to waste management as set out in Section 14.6.2 and adherence to the C&D WMP (Appendix 14.1) during the construction phase will ensure that the predicted effect on the environment will be **short-term, imperceptible and neutral**.

14.7.2 Operational Stage

During the operational phase, a structured approach to waste management as set out in Section 14.6.3 will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted impact of the operational phase on the environment will be long-term, imperceptible and neutral.

14.8 Residual Impacts

The implementation of the mitigation measures outlined in Section 14.6. will ensure that high rates of reuse, recovery and recycling are achieved at the Site of the proposed development during the construction and operational phases. It will also ensure that European, National and Regional legislative waste requirements with regard to waste are met and that associated targets for the management of waste are achieved.

14.9 Cumulative Impacts

There will be improvements necessary to the local road infrastructure arising from a successful grant of planning permission for the proposed development. The nature of these works and the design and management of any associated environmental controls will be agreed with the local authority. MCC will ensure that all due consideration is given to the receiving environment. The public roadworks envisaged are relatively small in scale and will be carried out by Kilsaran under licence from Meath County Council's and on the Local Authority's behalf in accordance with the Roads Act, 1993 (as amended) in the event of a grant of permission for the proposed development.

14.10 Monitoring

14.10.1 Introduction

The management of waste during the construction phase should be monitored to ensure compliance with relevant local authority requirements, and effective implementation of the C&D WMP including maintenance of waste documentation.

The management of waste during the operational phase should be monitored to ensure effective implementation of source segregation of waste types and appropriate storage by the facilities management team and the nominated waste team members.

14.10.2 Construction Stage

The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the construction phase where there is a potential for waste management to become secondary to progress and meeting construction schedule targets. The C&D WMP specifies the need for a waste manager to be appointed who will have responsibility to monitor the actual waste volumes being generated and to ensure that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the waste manager will identify the reasons for targets not being achieved and work to resolve any issues. Recording of waste generation during the project will enable better management of waste contractor requirements and identify trends. The data should be maintained to advise on future projects.

14.10.3 Operational Stage

During the operational phase, waste generation volumes should be monitored against the predicted waste volumes outlined in Table 14.2. There may be opportunities to reduce the number of bins, waste collections and equipment required in the WSAs where estimates have been too conservative. Reductions in bin and equipment requirements will improve efficiency and reduce waste contractor costs.

Waste legislation should also be consulted on a regular basis in case of any changes which may impact on waste management procedures.

14.11 Potential Cumulative Impacts

14.11.1 Construction Stage

There are very few permissions for development in the general area that have not been implemented (see Chapter 3 Planning and Alternatives for list) for both residential and commercial developments. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase. Due to the high number of waste contractors in the Meath region there would be sufficient contractors available to handle waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all the developments.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will minimise/mitigate any potential cumulative effects associated with waste generation and waste management. As such the effect will be **short-term, not significant and negative.**

14.11.2 Operational Stage

There are existing residential developments close by, with the majority being single house residents. There are very few permissions for development in the general area that have not been implemented. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely improve the efficiencies of waste collections in the area.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will minimise/mitigate any potential cumulative impacts associated with waste generation and waste management. As such the effect will be a **long-term, imperceptible and neutral.**

14.12 Difficulties Encountered

Until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated

from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

There is a number of licensed, permitted and registered waste facilities in the Meath County Council region and in the surrounding counties. However, these sites may not be available for use when required or may be limited by the waste contractor selected to service the development in the appropriate phase. In addition, there is potential for more suitably placed waste facilities or recovery facilities to become operational in the future which may be more beneficial from an environmental perspective.

The ultimate selection of waste contractors and waste facilities would be subject to appropriate selection criteria proximity, competency, capacity, serviceability, and cost.

14.13 References

- *Waste Management Act 1996* (No. 10 of 1996) as amended.
- BS 5906:2005 *Waste Management in Buildings – Code of Practice*.
- Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
- Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025* (2020).
- European Commission, *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (2017).
- Environmental Protection Agency (EPA) *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (2022)
- Department of Environment and Local Government (DELG) (1998). *Waste Management – Changing Our Ways, A Policy Statement*.
- Department of Environment, Communities and Local Government (DECLG) (2012*). A Resource Opportunity - Waste Management Policy in Ireland*.
- Meath County Council (MCC) *Meath County Council Development Plan 2021-2027* (2021)
- MCC, *County of Meath (Segregation, Storage and Presentation of Household and. Commercial Waste) Bye-Laws* (2018)
- Environmental Protection Agency (EPA) *Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects* (2021)
- Department of Environment, Heritage and Local Government (DEHLG) (2006). *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects.*
- *Eastern-Midlands Region Waste Management Plan 2015-2021* (2015).
- Environmental Protection Agency (EPA). *National Waste Database Reports 1998-2014*.
- EPA (2015). *Waste Classification-List of Waste & Determining if Waste is Hazardous or Non-Hazardous*.

- EPA and Galway-Mayo Institute of Technology (GMIT) (2015). *EPA Research Report 146-A Review of Design and Construction Waste Management Practices in Selected Case Studies-Lessons Learned.*
- FÁS and the Construction Industry Federation (CIF) (2002). *Construction and Demolition Waste Management-a handbook for Contractors and Site Managers.*
- Forum for the Construction Industry-Recycling of Construction and Demolition Waste.
- *Litter Pollution Act 1997* (S.I. No. 12 of 1997) as amended.
- *Planning and Development Act 2000* (S.I. No. 30 of 2000) as amended.
- *Protection of the Environment Act 2003*, (No. 27 of 2003) as amended.

APPENDIX 14.1: CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN FOR A PROPOSED QUARRY EXTENSION BELLEWSTOWN.

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CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN FOR A PROPOSED QUARRY EXTENSION

BELLEWSTOWN

Appendix 14.1

Report Prepared For

Kilsaran Concrete

Report Prepared By

Chonaill Bradley, Principal Environmental Consultant

Our Reference

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Date of Issue

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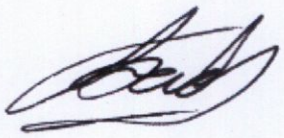
Signature		
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Date	16 May 2022	16 May 2022

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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Construction & Demolition Waste Management Plan (C&D WMP) on behalf of Kilsaran Concrete. The quarry development site is located in the townlands of Hilltown Little and Bellewstown. The site is an existing rock quarry, with associated extracted void, previously stripped reserves areas, perimeter landscaped screening mounds and ancillary facilities which includes office accommodation, workshops, weighbridge and fuel storage tanks. In an arable field to the south of the quarry a discharge water treatment facility has been constructed.

The further development of the quarry as a quarry includes a proposed extension area located to the north and west of the existing quarry. The application site comprises a number of small fields currently in an agricultural use for grazing and/or tillage.

This plan will provide information necessary to ensure that the management of C&D waste at the site is undertaken in accordance with the current legal and industry standards including the *Waste Management Acts 1996 - 2011* and associated Regulations [1], *Protection of the Environment Act 2003* as amended [2], *Litter Pollution Act 1997* as amended [3] and the *Eastern-Midlands Region Waste Management Plan 2015 – 2021* [4]. In particular, 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).

This C&D WMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the proposed development and makes recommendations for management of different waste streams. The C&D WMP should be viewed as a live document that will be update by the site construction contractor as and when changing site conditions require it to do so.

2.0 CONSTRUCTION & DEMOLITION WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998, *Changing Our Ways*[5], which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e. 2013).

In response to the *Changing Our Ways* report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled '*Recycling of Construction and Demolition Waste*' [6] concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

In September 2020, the Irish Government published a 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'* [7] (WAPCE), replaces the previous national waste management

plan, *"A Resource Opportunity"* (2012), and was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to an altered economical model, where climate and environmental challenges are turned into opportunities.

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) [8] 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.

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* [9]. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage and Local Government (DoEHLG) in 2006 [10]. The guidelines provide a practical approach which is informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project, including consideration of the deconstruction of a project. These guidelines have been followed in the preparation of this document and include the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;
- Design teams roles and approach;
- Relevant EU, national and local waste policy, legislation and guidelines;
- Waste disposal/recycling of C&D wastes at the site;
- Provision of training for Resource Waste Manager (RM) and site crew;
- Details of proposed record keeping system;
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies i.e. waste recycling companies, Local Authority, etc.

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a bespoke RWMP for developments. The new guidance classifies developments on a two-tiered system. Developments which do not exceed any of the following thresholds may be classed as Tier 1 development, which require a simplified RWMP:

- New residential development of less than 10 dwellings.
- Retrofit of 20 dwellings or less.

- New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m^2.
- Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m^2; and
- Demolition projects generating in total less than 100m^3 in volume of C&D waste.

A development which exceeds one or more of these thresholds is classed as Tier-2 projects.

This development requires a RWMP as a Tier 1development as it is not above any of the criteria.

Other guidelines followed in the preparation of this report include *'Construction and Demolition Waste Management – a handbook for Contractors and Site Managers'* [11], published by FÁS and the Construction Industry Federation in 2002 and the previous guidelines, 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' (2006).

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Regional Level

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

The *Eastern-Midlands Region Waste Management Plan 2015 – 2021* is the regional waste management plan for the MCC area published in May 2015.

The Regional Plan sets out the strategic targets for waste management in the region and sets a specific target for C&D waste of *"70% preparing for reuse, recycling and other recovery of construction and demolition waste"* (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

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 2012.*

The *Meath County Development Plan 2021 – 2027* [10] sets out a number of policies and objectives for Meath in line with the objectives of the regional waste management plan.

Policies:

- *INF POL 62: To encourage and support the provision of a separate collection of waste throughout the County in accordance with the requirements of the Waste Management (Household Food Waste) Regulations 2009, the Waste Framework Directive Regulations, 2011, the Waste Management (Commercial Food Waste) Regulations 2015 and other relevant legislation to meet the requirements of the Regional Waste Management Plan.*

- *INF POL 65: To adopt the provisions of the waste management hierarchy and implement policy in relation to the County's requirements under the current or any subsequent Waste Management Plan. All prospective developments in the County shall take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the proximity principle and the inter-regional movement of waste.*
- *INF POL 66: To ensure that hazardous waste is addressed through an integrated approach of prevention, collection, and recycling and encourage the development of industry-led producer responsibility schemes for key waste streams.*
- *INF POL 70: To encourage the recycling of construction and demolition waste and the reuse of aggregate and other materials in future construction projects.*

Objectives:

- *INF OBJ 56: To facilitate the provision of appropriate waste recovery and disposal facilities in accordance with the principles set out in the appropriate Waste Management Plan applicable from time to time made in accordance with the Waste Management Act 1996 (as amended).*
- *INF OBJ 60: To seek to ensure, in cooperation with relevant authorities, that waste management facilities are appropriately managed and monitored according to best practice to maximise efficiencies to protect human health and the natural environment.*
- *INF OBJ 65: To ensure that during the assessment of planning applications through the Development Management process that provision for household waste recycling is adequately addressed in all new residential developments.*
- *INF OBJ 66: To liaise, work with and support Irish Water in the preparation of a National Sludge Management Plan and seek to implement the recommendations of that plan.*
- *INF OBJ 67: To support the development of infrastructure necessary to meet the objectives of the Meath's Sludge Management Plan having regard to the Waste Facility Siting Guidelines (when adopted).*
- *INF OBJ 68: To require developers to prepare construction and demolition waste management plans for new construction projects over certain thresholds which shall meet the relevant recycling/recovery targets for such waste in accordance with the national legislation and national and regional waste management policy.*
- *INF OBJ 69: To support the development of facilities to cater for commercial waste not provided for within the kerbside collection system such as the WEEE, C & D type waste and hazardous materials in accordance with the requirements of the Eastern Midlands Regional Waste Management Plan.*

2.3 Legislative Requirements

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

- Waste Management Act 1996 (No. 10 of 1996) 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 [11].

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996 - 2001* 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 recycling, recovery or 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 destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of *"Polluter Pays"* whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste).

It is therefore imperative that the Quarry Operator ensures that the waste contractors engaged by construction contractors are legally compliant with respect to waste transportation, recycling, recovery and disposal. This includes the requirement that a contractor handle, transport and recycle/recover/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 and Amendments* or a Waste or Industrial Emissions 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.

3.0 DESCRIPTION OF THE DEVELOPMENT

3.1 Location, Size and Scale of the Development

The quarry development site is located in the townlands of Hilltown Little and Bellewstown. The site is an existing rock quarry, with associated extracted void, previously stripped reserves areas, perimeter landscaped screening mounds and ancillary facilities which includes office accommodation, workshops, weighbridge and fuel storage tanks. In an arable field to the south of the quarry a discharge water treatment facility has been constructed.

The further development of the quarry as a quarry includes a proposed extension area located to the north and west of the existing quarry. The application site comprises a number of small fields currently in an agricultural use for grazing and/or tillage.

The anticipated level of extraction will be 450,000 tonnes per annum giving a production life for the identified extraction area of 25 years allowing for fluctuations in demand. A further 1 year is being sought to complete the final reinstatement of the quarry to a sustainable after use.

3.2 Details of the Non-Hazardous Wastes to be Produced

There will be waste materials generated from the demolition of the existing shipping office and workshop building on site. The volume of waste generated from demolition will be more difficult to segregate than waste generated from the construction phase, as many of the building materials will be bonded together or integrated i.e. plasterboard on timber ceiling joists, steel embedded in concrete, etc.

There will be soil, stones and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed road. The development design team have estimated that c. 798 m^3 of material will need to be excavated to do so. It is currently envisaged that all material will be able to be retained and reused onsite for landscaping and fill, the remaining material, there will be no need to remove material offsite reuse on site. If material needs to be removed offsite it will be taken for appropriate offsite reuse, recovery, recycling and / or disposal.

During the construction phase there may be a surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals and tiles generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and supply of materials will also be generated. The contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

Waste will also be generated from construction workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided on site during the construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated infrequently from site offices.

3.3 Potential Hazardous Wastes Arising

3.3.1 Contaminated Soil

If any potentially contaminated material is encountered, it will need to be segregated from clean / inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled *'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* [12] using the *HazWasteOnline* application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the *EC Council Decision 2003/33/EC* [13], which establishes the criteria for the acceptance of waste at landfills.

In the event that Asbestos Containing Materials (ACMs) are found within the excavated material, the removal will only be carried out by a suitably permitted waste contractor, in accordance with *S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010.* All asbestos will be taken to a suitably licensed or permitted facility.

There was previously asbestos material found onsite and removed. The location of where this material will remain in situ and will not be disturbed as part of this development.

In the event that hazardous soil, or historically deposited waste is encountered during the construction phase, the contractor will notify MCC and provide a Hazardous /

Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal / treatment, in addition to information on the authorised waste collector(s).

3.3.2 Fuel/Oils

Fuels and oils are classed as hazardous materials; any on-site storage of fuel / oil, and all storage tanks and all draw-off points will be bunded and located in a dedicated, secure area of the site. Provided that these requirements are adhered to and the site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel / oil waste generated at the site.

3.3.3 Other Known Hazardous Substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor.

In addition, WEEE (containing hazardous components), printer toner / cartridges, batteries (Lead, Ni-Cd or Mercury) and / or fluorescent tubes and other mercury containing waste may be generated from during C&D activities or temporary site offices. These wastes, if generated, will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

4.0 Roles and Responsibilities

The *Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects* promotes that a RM should be appointed. The RM may be performed by number of different individuals over the life-cycle of the Project, however it is intended to be a reliable person chosen from within the Planning/Design/Contracting Team, who is technically competent and appropriately trained, who takes the responsibility to ensure that the objectives and measures within the Project RWMP are complied with. The RM is assigned the requisite authority to meet the objective and obligations of the RWMP. The role will include the important activities of conducting waste checks/audits and adopting construction and demolition methodology that is designed to facilitate maximum reuse and/or recycling of waste.

4.1 Role of the Client

The Client are the body establishing the aims and the performance targets for the project.

- The Client has commissioned the preparation and submission of a preliminary RWMP as part of the design and planning submission;
- The Client is to commission the preparation and submission of an updated RWMP as part of the construction tendering process;
- The Client will ensure that the RWMP is agreed on and submitted to the local authority prior to commencement of works on site;
- The Client is to request the end-of-project RWMP from the Contractor.

4.2 Role of the Client Advisory Team

The Client Advisory Team or Design Team is formed of architects, consultants, quantity surveyors and engineers and is responsible for:

- Drafting and maintaining the RWMP through the design, planning and procurement phases of the project;
- Appointing a RM to track and document the design process, inform the Design Team and prepare the RWMP.
- Including details and estimated quantities of all projected waste streams with the support of environmental consultants/scientists. This should also include data on waste types (e.g. waste characterisation data, contaminated land assessments, site investigation information) and prevention mechanisms (such as by-products) to illustrate the positive circular economy principles applied by the Design Team;
- Managing and valuing the demolition work with the support of quantity surveyors;
- Handing over of the RWMP to the selected Contractor upon commencement of construction of the development, in a similar fashion to how the safety file is handed over to the Contractor;
- Working with the Contractor as required to meet the performance targets for the project.

4.3 Future Role of the Contractor

The future demolition and construction Contractors have not yet been decided upon for this RWMP. However, once select they will have major roles to fulfil. They will be responsible for:

- Preparing, implementing and reviewing the (including the Pre-Demolition) RWMP throughout the demolition and construction phases (including the management of all suppliers and sub-contractors) as per the requirements of these guidelines;
- Identifying a designated and suitably qualified RM who will be responsible for implementing the RWMP;
- Identifying all hauliers to be engaged to transport each of the resources / wastes off-site;
- Implementing waste management policies whereby waste materials generated on site are to be segregated as far as practicable;
- Renting and operating a mobile-crusher to crush concrete for temporary reuse onsite during construction and reduce the amount of HGV loads required to remove material from site;
- Applying for the appropriate waste permit to crush concrete onsite;
- Identifying all destinations for resources taken off-site. As above, any resource that is legally classified as a 'waste' must only be transported to an authorised waste facility;
- End-of-waste and by-product notifications addressed with the 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; and
- Preparing a RWMP Implementation Review Report at project handover.

5.0 Key Materials & Quantities

5.1 Project Resource Targets

Project specific resource and waste management targets for the site have not yet been set and this information should be updated for these targets once these targets have been confirmed by the client. However, it is expected for projects of this nature that a minimum of 70% of waste is fully re-used, recycled or recovered. Target setting will inform the setting of project-specific benchmarks to track target progress. Typical Key Performance Indicators (KPIs) that may be used to set targets include (as per guidelines):

- Weight (tonnes) or Volume (m^3) of waste generated per construction value;
- Weight (tonnes) or Volume (m^3) of waste generated per construction floor area (m^2);
- Fraction of resource reused on site;
- Fraction of resource notified as by-product;
- Fraction of waste segregated at source before being sent off-site for recycling/recovery; and
- Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.

5.2 Main Construction and Demolition Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the construction activities at a typical site are shown in Table 5.1. The List of Waste (LoW) code (applicable as of 1 June 2015) (also referred to as the European Waste Code (EWC)) for each waste stream is also shown.

Table 5.1 *Typical waste types generated and LoW codes (individual waste types may contain hazardous substances)*

Waste Material	LoW/EWC Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Treated wood, glass, plastic, containing hazardous substances	17-02-04*
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
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
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

** Individual waste type may contain hazardous substances*

6.0 WASTE MANAGEMENT

6.1 Demolition Waste Generation

The demolition stage will involve the demolition of the existing shipping office and workshop building on site. The demolition areas are identified in the planning drawings provided with this application. The anticipated demolition waste and rates of reuse, recycling / recovery and disposal are shown in Table 6.1, below.

Table 6.1 *Estimated off-site reuse, recycle and disposal rates for demolition waste*

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	2.4	0	0.0	85	2.0	15	0.4
Concrete, Bricks, Tiles, Ceramics	13.6	30	4.1	65	8.8	5	0.7
Plasterboard	1.1	0	0.0	80	0.9	20	0.2
Asphalts	0.3	0	0.0	25	0.1	75	0.2
Metals	4.0	5	0.2	80	3.2	15	0.6
Timber	3.2	10	0.3	40	1.3	50	1.6
Total	**24.5**		4.6		16.3		3.6

6.2 Construction Waste Generation

Table 4.2 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA *National Waste Reports* [13] *and the joint EPA & GMIT study* [14].

Table 6.3: *Waste materials generated on a typical Irish construction site*

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
Total	**100**

Table 4.3, below, shows the estimated construction waste generation for the proposed Project based on the gross floor area of construction and other information available to date, along with indicative targets for management of the waste streams. The estimated amounts for the main waste types (with the exception of soils and stones) are based on an average large-scale development waste generation rate per m^2, using the waste breakdown rates shown in Table 4.2. These have been calculated from the schedule of development areas provided by the architect.

***Table 6.3**: Predicted on and off-site reuse, recycle and disposal rates for construction waste*

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1.1	10	0.1	80	0.9	10	0.1
Timber	1.0	40	0.4	55	0.5	5	0.0
Plasterboard	0.3	30	0.1	60	0.2	10	0.0
Metals	0.3	5	0.0	90	0.2	5	0.0
Concrete	0.2	30	0.1	65	0.1	5	0.0
Other	0.5	20	0.1	60	0.3	20	0.1
Total	3.5		0.8		2.3		0.3

In addition to the waste streams in Table 4.3, there will be c. 798 m^3 of soil, stones and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed road. Any suitable excavated material will be temporarily stockpiled for reuse as landscaping, fill or in berm construction. If excavated material is to be removed it will be taken for appropriate reuse, recovery and / or disposal.

It should be noted that until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

6.3 Proposed Resource and Waste Management Options

Waste materials generated will be segregated on- site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off- site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source, where feasible. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the County Meath region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off- site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.

During construction, some of the sub-contractors on site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (per Article 30 (1) (b) of the Waste Collection Permit Regulations 2007, as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste off- site in their work vehicles (which are not designed for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR / permit / licence.

Written records will be maintained by the contractor(s), detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits

for all waste contactors who collect waste from the site and COR / permit / licence for the receiving waste facility for all waste removed off- site for appropriate reuse, recycling, recovery and / or disposal

Dedicated bunded storage containers will be provided for hazardous wastes which may arise, such as batteries, paints, oils, chemicals, if required.

The anticipated management of the main waste streams is outlined as follows:

Soil, Stone & Made Ground

The waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the excavation phase.

If material is removed off- site it could be reused as a by-product (and not as a waste). If this is done, it will be done in accordance with Article 27 of the *European Communities (Waste Directive) Regulations 2011*, which requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received.

The next option (beneficial reuse) may be appropriate for the excavated material, pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* publication. Clean inert material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end use.

If the material is deemed to be a waste, then removal and reuse / recovery / disposal of the material will be carried out in accordance with the *Waste Management Acts 1996 – 2011* as amended, the *Waste Management (Collection Permit) Regulations 2007* as amended and the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock

While it is not envisaged that bedrock will be encountered, if bedrock is encountered, it is anticipated that it will not be crushed on site. Any excavated rock is expected to be removed off- site for appropriate reuse, recovery and / or disposal. If bedrock is to be crushed on- site, the appropriate mobile waste facility permit will be obtained from MCC.

Silt & Sludge

During the construction phase, silt and petrochemical interception will be carried out on run-off and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed off- site.

Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles and ceramics generated as part of the construction works are expected to be clean, inert material and should be recycled, where possible. If concrete is to be crushed on- site, the appropriate mobile waste facility permit will be obtained from MCC.

Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues, etc., will be disposed of in a separate skip and recycled off- site.

Metal

Metals will be segregated, where practical, and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard

There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the construction phases will be stored in a separate skip, pending collection for recycling. The site Manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical & Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages / receptacles / pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes, such as cardboard and soft plastic, are generated, these will be segregated at source into dedicated skips and removed off- site.

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip / receptacle will be examined by a member of the waste team (see Section 9.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the

cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Asbestos Containing Materials

Any asbestos or ACM found within development areas should be removed by a suitably competent contractor and disposed of as asbestos waste before the construction works begin. All asbestos removal work or encapsulation work must be carried out in accordance with *S.I. No. 589 of 2010 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010.*

Other Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and / or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

On-Site Crushing

It is currently not envisaged that the crushing of waste materials will occur on- site. However, if the crushing of material is to be undertaken, a mobile waste facility permit will first be obtained from MCC and the destination of the accepting waste facility will be supplied to the MCC waste unit.

6.4 Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by a weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project RM (see Section 9.0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the *Waste Management Acts 1996 - 2011*, *Waste Management (Collection Permit) Regulations 2007* as amended and *Waste Management (Facility Permit & Registration) Regulations 2007* and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project RM (see Section 9.0) will maintain a copy of all waste collection permits on-Site.

If the waste is being transported to another site, a copy of the Local Authority waste COR / permit or EPA Waste / Industrial Emissions Licence for that site will be provided to the nominated project RM (see Section 9.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (as the relevant authority on behalf of all Local Authorities in Ireland) and kept on-Site along with details of the final destination (COR, permits, licences, etc.). A receipt from the final destination of the material will be kept as part of the on-Site waste management records.

All information will be entered in a waste management recording system to be maintained on-Site.

7.0 ESTIMATED COST OF WASTE MANAGEMENT

An outline of the costs associated with different aspects of waste management is outlined below. The total cost of C&D waste management will be measured and will take into account handling costs, storage costs, transportation costs, revenue from rebates and disposal costs.

7.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle / recovery / disposal costs associated with the requirement for a waste contractor to take the material off-Site. Clean and inert soils, gravel, stones, etc., which cannot be reused on-Site may be used as access roads or capping material for landfill sites, etc. This material is often taken free of charge or at a reduced fee for such purposes, reducing final waste disposal costs.

7.2 Recycling

Salvageable metals will earn a rebate, which can be offset against the costs of collection and transportation of the skips.

Clean, uncontaminated cardboard and certain hard plastics can also be recycled. Waste contractors will charge considerably less to take segregated wastes, such as recyclable waste, from a site than mixed waste.

Timber can be recycled as chipboard. Again, waste contractors will charge considerably less to take segregated wastes, such as timber, from a site than mixed waste.

7.3 Disposal

Landfill charges are currently at around €130 - €150 per tonne which includes a €75 per tonne landfill levy specified in the *Waste Management (Landfill Levy) Regulations 2015*. In addition to disposal costs, waste contractors will also charge a collection fee for skips.

Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the remainder to landfill. Clean soil, rubble, etc., is also used as fill / capping material, wherever possible.

8.0 DEMOLITION PROCEDURES

The demolition stage will involve the demolition of the existing shipping office and workshop building on site. The demolition areas are identified in the planning drawings submitted as part of this application. A formal demolition plan including safety procedures will be prepared by the demolition contractor. However, in general, the following sequence of works should be followed during the demolition stage:

Check for Hazards

Prior to commencing works, buildings and structures to be demolished will be checked for any likely hazards including asbestos, ACMs, electrical power lines or cables, gas reticulation systems, telecommunications, unsafe structures and fire / explosion hazards, e.g. combustible dust, chemical hazards, oil, fuels and contamination.

Removal of Components

All hazardous materials will be removed first. All components from within the buildings that can be salvaged will be removed next. This will primarily be comprised of metal; however, may also include timbers, doors, windows, wiring and metal ducting, etc.

Removal of Roofing

Steel roof supports, beams, etc., will be dismantled and taken away for recycling / salvage.

Excavation of Services, Demolition of Walls and Concrete

Services will be removed from the ground and the breakdown of walls will be carried out once all salvageable or reusable materials have been taken from the buildings. Finally, any existing foundations and hard standing areas will be excavated.

9.0 TRAINING PROVISIONS

A member of the construction team will be appointed as the RM to ensure commitment, operational efficiency and accountability in relation to waste management during the C&D phases of the development.

9.1 Resource Manager Training and Responsibilities

The nominated RM will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid them in the organisation, operation and recording of the waste management system implemented on site.

The RM will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the RM to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The RM will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The RM will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this C&D WMP.

9.2 Site Crew Training

Training of site crew in relation to waste is the responsibility of the RM and, as such, a waste training program should be organised. A basic awareness course will be held for all site crew to outline the C&D WMP and to detail the segregation of waste materials at

source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the training program and the particular dangers of each hazardous waste will be explained.

10.0 TREACKING AND TRACING / RECORD KEEPING

Records should be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the waste arisings on Site.

A waste tracking log should be used to track each waste movement from the site. On exit from the site, the waste collection vehicle driver should stop at the site office and sign out as a visitor and provide the security personnel or RM with a waste docket (or Waste Transfer Form (WTF) for hazardous waste) for the waste load collected. At this time, the security personnel should complete and sign the Waste Tracking Register with the following information:

- Date
- Time
- Waste Contractor
- Company waste contractor appointed by, e.g. Contractor or subcontractor name
- Collection Permit No.
- Vehicle Reg.
- Driver Name
- Docket No.
- Waste Type
- EWC / LoW

The waste vehicle will be checked by security personal or the RM to ensure it has the waste collection permit no. displayed and a copy of the waste collection permit in the vehicle before they are allowed to remove the waste from the site.

The waste transfer dockets will be transferred to the RM on a weekly basis and can be placed in the Waste Tracking Log file. This information will be forwarded onto the MCC Waste Regulation Unit when requested.

Each subcontractor that has engaged their own waste contractor will be required to maintain a similar waste tracking log with the waste dockets / WTF maintained on file and available for inspection on site by the main contractor as required. These subcontractor logs will be merged with the main waste log.

Waste receipts from the receiving waste facility will also be obtained by the site contractor(s) and retained. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times and will be periodically reviewed by the RM. Subcontractors who have engaged their own waste contractors, should provide the main contractor with a copy of the waste collection permits and COR /

permit / licence for the receiving waste facilities and maintain a copy on file, available for inspection on site as required.

11.0 OUTLINE WASTE AUDIT PROCEDURE

11.1 Responsibility for Waste Audit

The appointed RM will be responsible for conducting a waste audit at the site during the C&D phase of the proposed Project. Contact details for the nominated RM will be provided to the MCC Waste Regulation Unit after the main contractor is appointed and prior to any material being removed from site.

11.2 Review of Records and Identification of Corrective Actions

A review of all waste management costs and the records for the waste generated and transported off-site should be undertaken mid-way through the construction phase of the proposed Project.

If waste movements are not accounted for, the reasons for this should be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery / reuse / recycling targets for the site. Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development.

12.0 CONSULTATION WITH RELEVANT BODIES

12.1 Local Authority

Once construction contractors have been appointed and have appointed waste contractors, and prior to removal of any C&D waste materials off-site, details of the proposed destination of each waste stream will be provided to the MCC Waste Regulation Unit.

MCC will also be consulted, as required, throughout the excavation and construction phases in order to ensure that all available waste reduction, reuse and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

12.2 Recycling / Salvage Companies

The appointed waste contractor for the main waste streams managed by the construction contractors will be audited in order to ensure that relevant and up-to-date waste collection permits and facility registrations / permits / licences are held. In addition, information will be obtained regarding the feasibility of recycling each material, the costs of recycling /

reclamation, the means by which the wastes will be collected and transported off- site, and the recycling / reclamation process each material will undergo off- site.

13.0 REFERENCES

1. Waste Management Act 1996 (No. 10 of 1996) as amended. Sub-ordinate and associated legislation includes:
   - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended.
   - Waste Management (Collection Permit) Regulations 2007 (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 2000 (S.I No. 185 of 2000) as amended.
   - European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014) as amended.
   - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) as amended.
   - 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. No. 508 of 2009) as amended.
   - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 430 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.
   - European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I. No. 324 of 2011)
   - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended
2. Protection of the Environment Act 2003, (No. 27 of 2003) as amended.
3. Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended
4. Eastern-Midlands Region Waste Management Plan 2015 – 2021 (2015).
5. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement* (1998).
6. Forum for the Construction Industry – *Recycling of Construction and Demolition Waste.*
7. Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025* (Sept 2020).
8. Department of Environment, Heritage and Local Government, *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects* (2006).
9. FÁS and the Construction Industry Federation (CIF), *Construction and Demolition Waste Management – a handbook for Contractors and* site *Managers* (2002).
10. Environmental Protection Agency (EPA) *'Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects'* Draft *(April 2021)*
11. MCC, Meath County Council Development Plan 2021-2027 (2021)

12. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended

13. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2015)

14. Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.

15. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2012.*

16. EPA and Galway-Mayo Institute of Technology (GMIT), *EPA Research Report 146 – A Review of Design and Construction Waste Management Practices in Selected Case Studies – Lessons Learned* (2015).