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Report

Draft Construction & Demolition Waste Management Plan

Cúirt na Coiribe Refurbishment & Extension Development Project, Galway

Exeter Ireland Property III Limited

securing right **outcomes**

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1 Introduction

DCON Safety Consultants Limited has prepared this Draft Construction & Demolition Waste Management Plan (DC&DWMP) on behalf of Exeter Ireland Property III Limited for the Cúirt na Coiribe Refurbishment & Extension Development Project, Galway.

1.1 Draft plan purpose

The purpose of this Plan is to seek to provide information necessary to ensure that the management of construction and demolition (C&D) waste at the site is undertaken in accordance with current legal and industry standards including the Waste Management Acts 1996 - 2011 and associated Regulations, Protection of the Environment Act 2003 as amended, Litter Pollution Act 1997 as amended and the Eastern-Midlands Region Waste Management Plan 2015 – 2021. In particular, this Plan seeks to support 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 DC&DWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of C&D waste to be generated by the proposed development and makes recommendations for management of different waste streams.

2 Construction & demolition waste management in Ireland

2.1 National level

The Irish Government issued a policy statement in September 1998 known as *Changing Our Ways*, 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* concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

The most recent national policy document was published in July 2012, entitled *A Resource Opportunity - Waste Management Policy in Ireland*. This document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out a number of actions in relation to C&D waste and commits to undertake a review of specific producer responsibility requirements for C&D projects over a certain threshold.

The National Construction and Demolition Waste Council (NCDWC) was launched in June 2002, as one of the recommendations of the Forum for the Construction Industry, in the Task Force B4 final report. The NCDWC subsequently produced Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects 8 in July 2006 in conjunction with the then Department of the Environment, Heritage and Local Government (DoEHLG). The guidelines outline the issues that need to be addressed at the pre-planning stage of a development all the way through to its completion. 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;
- Waste disposal | recycling of C&D wastes at the site;
- Provision of training for waste manager 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, Galway County Council, etc.

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a C&DWMP for developments. This development requires a C&DWMP under the following criterion:

- New developments, other than above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,250m²; and
- Other guidelines followed in the preparation of this report include Construction and Demolition Waste Management – a handbook for Contractors and Site Managers published by FÁS and the Construction Industry Federation (CIF) in 2002.

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 Galway County Council (GCC). The Regional Waste Management Plan 2015 - 2021 is the regional waste management plan for the GCC area published in May 2015. The Regional Plan sets out the strategic targets for waste management in the region. The Waste Framework Directive goes further by setting Member States a target 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.

National policy on waste management as set out in A Resource Opportunity Waste Management Policy In Ireland 2012, established three new Waste Management Planning Regions for the provision of effective and efficient waste management services. The Connacht and Ulster Region (CUR), serving a population of 837,350, includes the administrative areas of Mayo, Donegal, Cavan, Monaghan, Leitrim, Roscommon, Sligo, Galway City and Galway County Councils. The key objective of the Connacht Ulster Regional Waste Plan, 2015-2021 is to manage waste in a sustainable and self-sufficient manner.

2.3 Regional Waste Plan targets

2.3.1 Environment and Infrastructure

- 1% reduction per annum in the quantity of household waste generated per capita over the period of the Regional Waste Plan;
- Preparing for reuse and recycling rate of 50% of municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

The Regional Waste Plan adheres to national and EU climate change policy by encouraging the waste hierarchy of prevention, recycling and processing of waste with a view to becoming resource efficient and contributing to a local carbon economy. The Council, through the use of planning conditions and obligations, will continue to ensure the sustainable management of construction and demolition (C&D) waste generated by development.

2.3.2 Regional Plan 'Policy 9.12' Waste Management

- Secure the provision of waste management facilities and infrastructure with appropriate provision for minimisation, recovery and recycling of waste and regulate waste operations in a manner which reflects the "polluter pays" and "proximity" principles with particular emphasis on large waste producers, in accordance with the objectives of the Connacht Ulster Regional Waste Plan, 2015-2021 except in relation to incineration;
- Support the objectives and targets of the Connacht Ulster Regional Waste Plan, 2015-2021 relating to Galway City and any subsequent Regional Waste Plans thereafter, except in relation to incineration;
- Ensure that adequate recycling and bring facilities are provided within the city, including where those are required in association with the layouts of new residential, industrial and commercial developments and where they comply with the requirements of the Environment Section of the Council;
- Ensure the sustainable siting of waste facilities in relation to existing and potential surrounding land-uses, transportation and environmental considerations;
- Ensure that planning proposals for new medium and large-scale developments, such as housing estates, retail and industrial developments include C&D waste management plans;
- Consider redundant quarry sites as suitable locations for the undertaking of C&D waste recovery, subject to appropriate environmental and planning considerations;
- Encourage the development of a C&D waste recycling facility and other measures in the city for the sorting and grinding of C&D waste for reuse, subject to appropriate environmental and planning considerations;
- Promote the implementation of the City Council Litter Management Plan and other litter management initiatives in order to minimise and control the extent of litter pollution in the city;
- Ensure that development on contaminated lands include appropriate remediation measures; and
- Continue to promote waste prevention and minimisation.

2.4 Legislative requirements

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

- Waste Management Act 1996 (No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No 27 of 2003) and 2011 (No. 20 of 2011). Sub-ordinate legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended 2011 (S.I. No. 323 of 2011) and 2016 (S.I 315 of 2016);
 - Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended 2008 (S.I No 87 of 2008), 2015 (S.I. No. 197 of 2015) and 2016 (S.I. No. 24 and 346 of 2016);

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- Waste Management (Facility Permit and Registration) Regulations 2007,(S.I No. 821 of 2007) as amended 2008 (S.I No. 86 of 2008) as amended 2014 (S.I No. 320 and No. 546 of 2014) and as amended 2015 (S.I. No. 198 of 2015);
- Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended 2010 (S.I. No. 350 of 2010);
- Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended 2015 (S.I No 542 of 2015);
- Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997);
- Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015);
- European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014);
- European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended 2014 (S.I. No. 349 of 2014) and 2015 (S.I. No. 347 of 2015);
- Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended 2015 (S.I. 190 of 2015) and European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015);
- Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000);
- Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended by European Communities (shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I No. 324 of 2011);
- Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998);
- The European Communities (Transfrontier Shipment of Hazardous Waste) Regulations, 1988 (S.I. No. 248 of 1988); and
- European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015)
- Planning and Development Act 2000 as amended (S.I. No. 30 of 2010) as amended (S.I. No. 310 of 2015);
- Protection of Environment Act 1992 as amended (S.I. No. 413 of 2003) as amended by the Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended; and
- Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended by Protection of the Environment (amendment) Act 2003 as amended.

These Acts and subordinate Regulations enable the transposition of relevant European Union Policy and Directives into Irish law.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the Waste Management Acts 1996 - 2011 and subsequent Irish legislation, is the principle of 'Duty of Care'. This implies that the waste producer is responsible for waste from the time it is generated through until its legal 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 Exeter Ireland Property III Limited Project Manager 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 IED 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 Description of the development

3.1 Development information

Exeter Ireland Property III Limited intend to apply for a strategic housing development at the Cúirt na Coiribe complex, Dún Na Coiribe Road, off Headford Road, Galway on a site measuring 1.414 Ha. The proposed development will consist of:

- the demolition of the two storey building (582 sq m) at the entrance to the scheme towards the eastern boundary of the site and the removal of the fifth storey (attic) level (1,123 sq m) of the main building;
- the provision of horizontal and vertical additions to and extensions of the main existing building providing 920 No. bedspaces (an additional 515 No. student accommodation bedspaces) in 868 No. bedrooms; ancillary student accommodation spaces at basement and ground floor level measuring 1,688 sq m and including gym/fitness studio, games room, library/study spaces, multi-functional spaces, café/restaurant, and student lounge spaces; all provided in a single building in 9 No. linked blocks ranging in height from 2 No. to 6 No. storeys (gross floor space of 24,521 sq m plus basement car-parking and plant (2,615 sq m)). The scheme comprises a total floor area above ground of 22,180 sq m over a basement of 4,956 sq m; and
- The scheme also proposes 59 No. car-parking spaces (43 No. basement and 16 No. surface spaces); 656 No. cycle parking spaces; 5 No. motorcycle parking spaces; external student amenity spaces; hard and soft landscaping; boundary treatments; plant; diversion of services and all associated works above and below ground.

3.2 Details of the non-hazardous wastes to be produced

Excavations will be carried out at the site in respect of the proposed development as the existing site levels are variable. Excavations of up to approximately 3,550m³. will be required for the basement and infilling will also be required. Where possible, any excavated materials will be reused on-site or removed to an infrastructure project or landfill.

During the refurbishment and extension works phase there will be a surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals and tiles generated. Plastic and cardboard waste from packaging and oversupply of materials will also

be generated. Construction workers on site for the duration of the project will also generate municipal waste in the form of organic food waste, dry mixed recyclables, mixed non-recyclables and glass mainly from staff canteens and offices. There may also be sewage sludge waste generated from the provision of welfare facilities.

3.3 Potential hazardous wastes to be produced

3.3.1 Contaminated soil

Site investigations will be carried out in the area covered by the development. Soil samples that will be obtained will be analysed against the landfill acceptance criteria for waste materials (EC Council Decision 2003/33/EC) for classification. All excavations will be carefully monitored by a suitably qualified person to ensure that potentially contaminated soil is identified and segregated, if encountered. The material will then need to be analysed against permitted limit values to determine if it is compatible for reuse on site. In the event that any potentially contaminated material is encountered and needs to be removed off-site as waste, 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* 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*.

3.3.2 Fuel | oils

As fuels and oils are classed as hazardous materials, any on-site storage of fuel | oil, all storage tanks and all draw-off points will be bunded (or stored in double-skinned tanks) and located in a dedicated, secure area of the site. Provided that these requirements are adhered to and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel | oil wastage 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 relatively small volumes only and associated waste volumes generated will be kept to a minimum.

3.4 Main C&D waste categories

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

Waste Material	LoW Code
Concrete, bricks, tiles, ceramics	17 01
Wood, glass and plastic	17 02
Bituminous mixtures, coal tar and tarred products	17 03 02
Metals (including their alloys)	17 04
Soil and stones	17 05

Gypsum-based construction material	17 08 02
Paper and cardboard	20 01 01
Biodegradable kitchen and canteen waste	20 01 08
Mixed C&D waste	17 09 04
Septic tank sludge	20 03 04
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04

4 Waste management

4.1 Construction waste generation

The breakdown of construction waste types from a typical construction site in Ireland is presented in data published in the EPA National Waste Reports 15 and in sector specific research studies. The information from one such study carried out in conjunction with the Galway Mayo Institute of Technology (GMIT) shows that waste generated on a construction site (excluding soil and stones) could be summarised below:

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

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. Notwithstanding the information provided above, there will be made ground and subsoil excavated to facilitate the construction of the building foundations, basement extensions, access routes and installation of underground services. The approximate volume of material to be excavated has been estimated by AECOM as 3,550m³.

The required excavations are summarised as: - There will be some infilling required across the proposed development site and the above excavated material will be reused where the material is shown to be suitable. However, there will be a significant surplus of excavated material generated from this project. Any stockpiled material will be subject to environmental and geotechnical testing to confirm its suitability for reuse. Where material is excavated and is not suitable for reuse on the site or within the overall development, the material will be removed off-site for recovery or reuse, where possible. In addition where there is any asphalt waste, this will be removed off-site for recovery | reuse.

4.2 Proposed 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 at licensed waste facilities. There will be skips and receptacles provided to facilitate segregation at source. 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 Galway region that provide this service.

All waste arising's will be handled by an approved waste contractor holding a current waste collection permit. All waste arising's requiring disposal off-site will be reused, recycled, recovered or disposed of at facility(s) holding the appropriate registration, permit or licence, as required. Written records will be maintained by the contractor detailing the waste arising throughout the construction phase, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and the COR, permit or licence for the receiving waste facility for all waste removed and recovered | disposed off-site.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc., if required. The management of the main waste streams are detailed as follows:

4.2.1 Soil

There will be a large volume of made ground and subsoils excavated as part of this project.

If the material is deemed to be a waste, then removal and reuse/recycling/ 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. The volume of waste removed will dictate whether a COR, permit or licence is required by the receiving facility. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

There are a number of licensed facilities in the region which are suitable to accept inert and non-hazardous excavated material. There are currently no hazardous waste disposal facilities in Ireland and in the event that any 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).

4.2.2 Bedrock

Where possible, any found excavated rock material will be reused on site or within the overall development. Where material is removed off-site for reuse as a by-product, this will be done in accordance with the requirements of Article 27. Any rock removed off-site as a waste will be done so in accordance with the relevant waste legislation as outlined previously.

4.2.3 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.

4.2.4 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.

4.2.5 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.

4.2.6 Metal

Metals will be segregated into mixed ferrous, aluminium cladding, high grade stainless steel, low grade stainless steel etc., where practical and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

4.2.7 Plasterboard

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

4.2.8 Glass

Glass materials will be segregated for recycling, where possible. Waste Electrical and Electronic Equipment (WEEE). Any WEEE will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

4.2.9 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.

4.2.10 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 contractor's waste team 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.

4.2.11 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. It should be noted that until a contractor is appointed it is not possible to provide information on the specific destinations of each waste stream. Prior to commencement of development and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to GCC by the contractor.

A detailed C&DWMP will be required to be prepared by the contractor upon grant of planning permission and prior to commencement on site. The detailed C&DWMP will be required to follow the overall guidance and requirements presented in this Draft C&DWMP unless otherwise agreed with GCC.

4.3 Waste storage (temporary onsite)

All waste materials shall be placed in the designated waste receptacles/areas on site to await collection by a permitted waste contractor for onward recycling/disposal. UN approved drums shall be used for the storage of hazardous materials. Waste storage areas shall be clearly marked within the site compound and maintained to an acceptable standard to avoid the attraction of rodents and vermin.

Soil and stone retained for re-use shall be stored in a designated area of the site or at the compound. This area shall have a sign posted labelling it as material for reuse. It will be stored in a manner so that it does not pose an environmental nuisance and shall be exempt from EPA Notification requirements (will not be retained for longer than 6 months) and Local Authority permitting or registration requirements. Where stockpiles of soil | stone are susceptible to wind or weather erosion on site they will be covered with sheeting.

The site must be kept safe and secure to avoid any vandalism and fly tipping. The site shall be maintained to an acceptable standard and free from litter. The waste storage area shall be inspected as part of the routine environmental inspections and any issues communicated to the contractor for investigation and initiation of appropriate actions.

4.4 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 weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated contractor waste manager.

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 as amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated contractor waste manager will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the GCC waste COR/permit or EPA Waste/IED Licence for that site will be provided to the nominated construction waste manager. If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from Dublin City Council (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.

5 Training provisions

A member of the construction team will be appointed as the construction waste manager to ensure commitment, operational efficiency and accountability during the construction phase of the project.

5.1 Waste manager training and responsibilities

The nominated waste manager will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid him/her in the organisation, operation and recording of the waste management system implemented on site. The waste manager will have overall responsibility to oversee, record and provide feedback to the project manager on everyday waste management at the site. Authority will be given to the waste manager 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 waste manager 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 waste manager 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 Draft C&DWMP.

5.2 Site crew training

Training of site crew is the responsibility of the waste manager and, as such, a waste training program should be organised. A basic awareness course should be held for all site crew to outline the C&DWMP 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.

6 Record keeping

Records will 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 construction waste arising's on site. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times. The waste manager or delegate will record the following:

- Waste taken for reuse off-site;
- Waste taken for recycling;
- Waste taken for disposal; and
- Reclaimed waste materials brought on-site for reuse, where applicable.

For each movement of waste off-site, a signed docket will be obtained by the waste manager from the contractor, detailing the weight and type of the material and the source and destination of the material. This will be carried out for each material type. This system will also be linked with the delivery records. In this way, the percentage of C&D waste generated for each material can be determined.

The system will allow the comparison of these figures with the targets established for the recovery, reuse and recycling of C&D waste presented earlier and to highlight the successes or failures against these targets.

7 Outline waste audit procedure

7.1 Responsibility for waste audit

The appointed waste manager will be responsible for conducting a waste audit at the site during the C&D phase of the development.

7.2 Review of records and identification of corrective actions

A review of all the records for the waste generated and transported off-site should be undertaken at regular intervals throughout the 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 construction 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.

8 Consultation with relevant bodies

8.1 Local Authority

Once a contractor has been appointed and prior to removal of any waste materials offsite, details of the proposed destination of each waste stream will be provided to GCC as required. GCC must 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.

8.2 Recycling | salvage companies

Companies that specialise in C&D waste management will be contacted to determine their suitability for engagement. Where a waste contractor is engaged, each company will be audited in order to ensure that relevant and up-to-date waste collection permits and facility COR/permits/licences are held. In addition, information regarding individual construction materials will be obtained, including the feasibility of recycling each material, the costs of recycling/reclamation and the means by which the wastes will be collected and transported off-site, and the recycling/reclamation process each material will undergo off site.

9 Waste inspections & auditing

Inspections of all works waste management practices should be carried out by the contractor. The contractor must ensure compliance with this plan during regular and monthly audits. The audit must involve a systematic study of all waste management practices and records, which have been adopted because of the works and recommendations for improvements made as the works progress.

An audit report shall be documented following all audit activities to detail current waste management activities as well as areas for improvement. Areas for improvement shall be

documented as corrective action and tracked in order to monitor their effectiveness. All non-conformances, areas for improvement and corrective actions shall be documented to facilitate environmental performance monitoring.

Spot inspections of Waste Contractors will be carried out by the contractor to ensure compliance with the Waste Contractors Waste Collection Permit. Any failing of the waste management practices shall be identified and reported through the contractor Non-Conformance Reporting system and corrective actions shall be raised and closed out in a timely manner as per the Non-Conformance Non-Compliance and internal contractor Corrective Action Procedures.

9.1 Review and update of the plan

The plan shall be reviewed on at least a quarterly basis, any changes made shall be communicated to the management team. Following an update of the waste management plan or control measures, the relevant documentation shall be updated accordingly, and the plan shall be approved and re-circulated. The revised control measures or waste management updates shall be communicated to all persons working for or on behalf of the client in the form of a toolbox talk or communication session.