MEATH COUNTY COUNCIL

Proposed Library Development
Bettystown
Co. Meath

Construction & Demolition Waste Management Plan
(CTMP01)

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Contents:

1.0 INTRODUCTION

1.1 General

1.1.1 This preliminary Construction and Demolition Waste Management Plan (CDWMP) has been prepared by MPA Consulting Engineers at the request of our client Meath County Council as part of the planning application for a proposed library in Bettystown, County Meath.

1.1.2 This plan has been prepared with a view to outlining the procedures to be adopted on site with respect to waste management for all waste streams of demolition and construction produced at the proposed construction site.

1.1.3 The Principle Contractor will be required to prepare a detailed Construction and Demolition Waste Management Plan (CDWMP) as part of the construction project, the Contractors CDWMP will be based on the principles and procedures outlined here.

1.1.4 It takes due consideration of the Eastern–Midlands Region Waste Management Plan 2015 – 2021 with respect to its principles of prevention and re-use. There are 3 regions for the purposes of waste management planning: Southern, Eastern-Midlands and Connacht-Ulster. Meath falls under the Eastern-Midlands region.

1.1.5 The principles to be adopted at the site and those applied in producing this report, are as outlined in the Department of Environment publication “Waste Management – Changing our Ways” and also the DoE publication “Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects”.

1.1.6 The general principles of the waste hierarchy (as outlined in **Figure 1.0**) have been applied in the production of this plan.

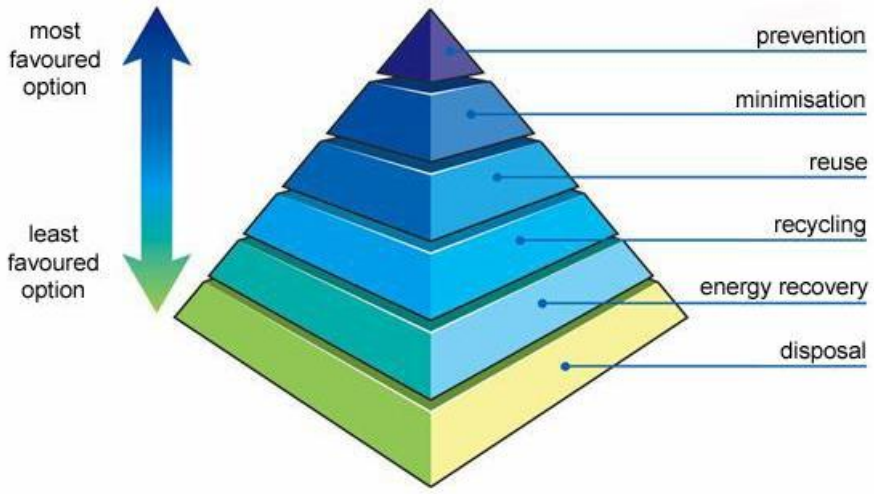

Figure 1.0 – Waste Hierarchy

1.1.7 Isues, which are covered by the plan, include Waste Management Procedures such as Waste Arisings, Waste Segregation, Prevention of waste generation through material management,

Waste Storage and Waste Actions as well as Site Management Procedures including Roles & Responsibilities, Waste Contractors, Waste Traceability/Disposal and Record Keeping.

1.2 Plan Objectives

1.2.1 The objectives of this plan are as follows;

- to ensure that a framework exists in the project to facilitate and audit the implementation of Irish Waste Management legislation;
- to promote an integrated approach to waste management throughout the project;
- to set out responsibilities in relation to waste management throughout the project; and
- to provide a framework for the designers and the Principal Contractor that they will build upon and implement within their site management plan.

1.3 Legislative Background

1.3.1 The Principal Contractor will be required to ensure that Irish Waste Management Law is adhered to in relation to the transport and disposal of wastes. This includes adherence to the Environmental Protection Agency Act 1992, the Waste Management Acts 1996 – 2011. Compliance with the Waste Management (Movement of Hazardous Waste) Regulations for transport of hazardous wastes by road will also be required for asbestos containing materials or contaminated soil waste which may arise from the site.

1.3.2 The Waste Management Acts provide for a general duty on everyone not to hold, transport, recover or dispose of waste in a manner that causes or is likely to cause environmental pollution. The Waste Management Act defines waste as something the holder of it discards, intends to discard or is required to discard.

1.3.3 Article 27 of the European Communities (Waste Directive) Regulations, 2011 allows an economic operator to decide, under certain circumstances, that a material is a by-product and not a waste. Decisions made by economic operators under article 27 must be notified to the EPA. After consultation with the economic operator and the relevant local authority, the EPA may determine whether the notified material is waste.

2.0 PROJECT OUTLINE

2.1 Site Location

2.1.1 The site is located in the northeast of Bettystown, Co. Meath on the sea front on a plot of land now known as Seaview Terrace. The proposed development site is currently a brownfield site, i.e. previously developed as residential housing with gardens and outhouses. The site as it currently stands is shown in **Figure 2.0** below.

Figure 2.0 Proposed Development Site – Seaview Terrace

2.2 Proposed Development

2.2.1 The proposed development is a four storey structure. The development consists of the construction of a library with a gross internal area (GIA) of 1,046 square metres, an adjoining lifeguard station with a GIA of 55 square metres and public toilets with a GIA of 74 square metres. **Figure 3.0** below shows an Architects image of the proposed development.

2.2.2 

Figure 3.0 View of Proposed Development

2.2.3 The The current site comprises three dwellings referred to as Seaview Terrace. These are to be demolished as part of the development. The proposed layout plan for the site is shown in **Figure 4.0**.

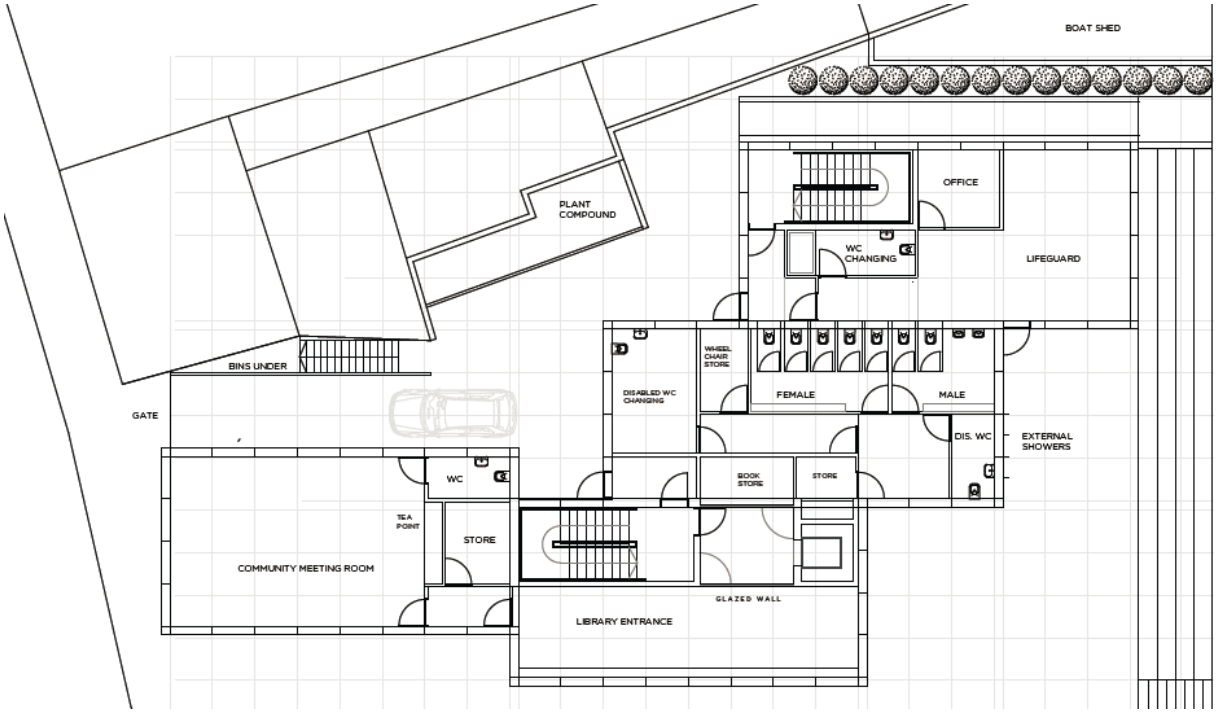

Figure 4.0 Proposed Site Plan

3.0 ROLES AND RESPONSIBILITIES

3.1 Client

3.1.1 The role of the client is to appoint a competent Principal Contractor and Design Team. The client has ultimate responsibility for waste management "cradle to grave" at all stages of the project and documentation of same.

3.2 Principal Contractor

3.2.1 The role of the Principal Contractor is to appoint a competent demolition contractor, competent and authorised waste management contractors and to appoint a Waste Manager. The Principal Contractor is responsible for the demolition/construction phase progression from outline and implementation of the construction and demolition site waste management plan.

3.3 Design Team

3.3.1 Responsible for the identification of key waste streams to ensure that their design minimises the unnecessary generation of wastes. Adequately allow for waste management in tender documentation. Provide a soil excavation plan.

3.4 Waste Manager

3.4.1 Ensure the objectives of the outline construction and demolition waste management plan and the site waste management plan area implemented. They are responsible for waste characterisation of waste streams, document control, ensure duty of care is implemented, site operative waste management training and audits and corrective action execution.

3.5 Sub-Contractors

3.5.1 Comply with the Construction and Demolition Waste Management Plan and with the Principal Contractor's Site Waste Management Plan.

4.0 PROPOSED METHODOLOGY

4.1 Site Set-Up and Management

4.1.1 The construction of this development is envisaged as being traditional construction. The site level is to be raised by 600 to 700mm to mitigate against the potential of coastal flooding. A Construction Management Plan has yet to be developed for the works however implementation will typically consist of the following elements:

- Establish Compounds
- Limited topsoil strip in garden areas
- Demolition of three dwellings and associated outhouses including existing footing removal and hardstanding removal
- Foundation construction
- Building construction
- Drainage and service/utility works
- Road / carpark construction
- Hard Landscaping

4.1.2 A construction compound will be created for the storage of plant, materials and equipment and the establishment of site offices and welfare facilities. Segregated storage facilities for waste will be located within the secured compound area.

4.1.3 Bunded fuel containers will also be sited within the secured compound area. On completion of the works all construction materials will be removed from the compounds and landscaping completed.

4.1.4 The construction site will be provided with a designated waste storage area to be identified by the Principal Contractor. This area will securely house designated skips and bins and other necessary facilities for the storage and separation of site sourced waste material. Steps will be taken to ensure the area will be secure from vandalism, vermin and pests and that it will be environmentally hygienic. This is especially important as the site is adjacent to Bettystown Beach.

4.2 Waste Minimisation

4.2.1 The following waste minimisation measures will be implemented during the course of the construction works;

1. Facilitate recycling and appropriate disposal by on site segregation of all waste materials generated during construction into appropriate categories, including:

- Top soil, subsoil, gravel hard-core;
- Concrete, bricks, tile, ceramics, plasterboard;
- Asphalt, tar and tar products;
- Metals; and
- Dry Recyclables e.g. cardboard, plastic, timber

2. All waste assessed by the Waste Manager as 'not suitable for reuse' will be stored in skips or other suitable receptacles in a designated area of the site, to prevent cross contamination between waste streams;

3. Wherever possible, leftover materials (e.g. timer off cuts) and any suitable demolition materials will be reused on-site.

4. Uncontaminated excavation material (top-soil, sub soil, etc) will be segregated, stockpiled and re-used on site in preference to importation of clean fill, where possible; and

5. Where possible, the Waste Manager will ensure that all waste leaving site will be covered.

4.3 Re-Use, Recycle, Recovery and Management of Waste

4.3.1 It is required that a duty of care in relation to the disposal of waste is executed. Facilities that accept wastes for recovery and disposal require a waste management licence from the EPA. The local authorities operate a permit system for certain waste disposal and recovery activities which do not require a licence from the EPA.

4.3.2 The collection of waste on a commercial basis requires a waste collection permit from the National Waste Collection Permit Office. The National Waste Collection Permit Office (NWCPO) maintains a register for waste facility permits and certificates of registration issued by local authorities. It will be the responsibility of the Waste Co-ordinator to obtain a copy of the waste collectors NWCPO permit and a copy of the waste management licence for the final disposal destination.

4.3.3 This NWCPO permit states which wastes the waste carrier has permission to carry. Various conditions may also be attached to the waste collection permit, e.g. the lighting at night of skips in public places or only allowing the collector to work in certain geographic areas. All relevant records shall be maintained and licences checked for validity and applicability to dates of operation and wastes.

4.3.4 The EU Waste Code System is used for the consistent identification, classification and reporting of all wastes generated in the EU and forms the basis of both national and international waste reporting obligations. Accordingly, it is reflected in EPA licences and in permits, in waste movement/tracking systems and in official documents such as the EPA's annual National Waste Reports.

4.3.5 Waste generated on this construction site will be identified as hazardous, non-hazardous or inert and segregated according to its category as described in the European Waste Catalogue (EWC Codes).

4.3.6 **Table 1.0** below lists some typical construction and demolition waste codes. This will require designated storage areas for waste to be established for eventual reuse / recycling / disposal at appropriate licensed facilities.

Table 1.0 Typical Construction and Demolition Waste Codes

Waste	EWC Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Bituminous mixtures, coal tar and tarred products	17 03 02
Metals (including their alloys)	17 04 01-07
Soil and stones	17 05 04
Gypsum-based construction material	17 08 02
Insulation Material and asbestos containing construction materials	17 06 01 &03-05
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 01-03
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30

4.3.7 Suitably sized and secure containers for each waste stream will be provided by the Principal Contractor and monitored by the Waste Co-ordinator. These will be clearly identifiable by colour and signage.

4.3.8 The number and size of the containers required for segregation will be agreed with waste collectors prior to commencement and reviewed during the course of the project. The principle of segregation of wastes at source is fundamental and results in managed waste streams which in turn lead to cost savings and environmental benefits. In addition the diversion of waste from landfill will create savings in the avoidance of landfill tax levy.

4.3.9 Waste may only be treated or disposed of at appropriately licensed facilities. The appointed contractor will be required to keep records of all waste movements. Every waste movement off site will require a waste transfer triplicate docket form with one copy to be retained on site, a copy for the transporter and a copy for the receiving facility.

4.3.10 The contractor will also be required to carry out spot checks on waste collectors and disposal sites. These records will be forwarded to the client on completion of the works for inclusion within the Safety File. The Waste Co-ordinator is obliged to ensure that all vehicles transferring waste for a particular haulier are listed on the NWCPO licence. For this reason it is good practice that a daily list of lorries entering and leaving the site and their registrations are recorded.

4.3.11 In order to prevent and minimise the generation of wastes, the contractor will be required to ensure that materials are ordered so that the timing of deliveries and storage of same is not conducive to the creation of unnecessary waste. The contractor will be required to in conjunction with the Works Programme, show estimated delivery dates and quantities for each specific material associated with each element of the works.

4.3.12 The contractor will review the C&D Waste Management Plan at monthly site meetings at which the Waste Co-ordinator will report. Minutes of these meetings will be circulated to the client.

5.0 WASTE MANAEMENT PROCEDURES

5.1 Waste Arisings

5.1.1 Given the nature of the project it is envisaged that the main waste types will be demolition wastes and general construction wastes arising from building and road construction. There will be non-hazardous and inert wastes such as concrete, wood, steel, blocks, bricks, plasterboard, plastics, packaging etc. and some hazardous wastes e.g. asbestos containing materials, oils, paints and adhesives.

5.1.2 Subject to waste acceptance classification analysis the topsoil /subsoils at the site maybe classed as inert, hazardous or non-hazardous. There will be small amounts of green waste from the existing hedgerows and planting.

5.1.3 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.

5.1.4 **Table 2.0** below shows the typical breakdown of C&D waste types produced on a typical site based on data from the EPA National Waste Reports 15 and the Galway Mayo Institute of Technology 16 research Paper (Ref 1.0).

Table 2.0 Typical Breakdown of Wastes Derived from C & D Sites in Ireland (1)

Waste Types	Percentage
Mixed Construction and Demolition	33%
Timber	28%
Plasterboard	10%
Metals	8%
Concrete	6%
Other	15%
Total	100%

5.1.5 An estimate of the quantities of the above wastes has been prepared for this site for the demolition phase. These are shown in **Table 3.0**.

5.1.6 The appointed demolition contractor will be required to prepare a detailed demolition management plan and prepare estimates of all demolition wastes.

5.1.7 The Principal Contractor will prepare the Construction Waste Management Plan including estimates of waste streams on completion of the construction drawings.

Table 3.0 Estimated Quantities of Bulk Wastes from Demolition

Waste Types	Assumptions	Volume (m3)	Conversion Factor	Metric Tonnes	%age of Total Waste Volume %	Disposal Route
Timber	Doors, skirting, roofing, floors & Miscellaneous	4.5	1.82	8.2	68	Recovery
Building Stone	Dwellings walls and garden walls. Based on 600mm thick wall. Excludes external shed walls and internal partition.	140	2.32	324	55.6	Recovery
Slates	Based on quarter inch thickness of slate	0.6	2.8	2	0.2	Recovery
Soils	Based on 200mm max depth strip in soft landscaping areas only	24.8	1.8	45	9.8	Recovery for inert, landfill for non-hazardous

						and hazardous
Concrete, brick ceramic and tiles	Hardstanding, foundations/ Floor slab, chimney brick and internal wall brick.	82	2.4	196	32.5	Recovery/ Recycle
Glass	Based 5mm thick glass	0.12	2.53	0.30	0.1	Recycle
Total		**252**		**575.5**	**100**	

5.1.8 The above table does not calculate waste volumes of metal, plasterboard or green wastes. It is thought that the quantities of these arising will be much lower than the bulk waste streams above, with the exception of glass.

5.2 Hazardous Waste Management

5.2.1 It should be noted that prior to demolition the Principal Contractor is obliged by the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 (S.I. No. 386 of 2006) and (Amendment) Regulation 2010 (S.I. No. 589/2010) and Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013), to identify all asbestos containing materials within the buildings.

5.2.2 This asbestos survey report provides an assessment of the likely volume of asbestos waste which will need to be disposed of separately. This should be removed by a specialist contractor and disposed of as hazardous waste. All waste consignment paperwork associated with this needs to be retained on file.

5.2.3 Any above or underground fuel tanks on site should be de-gassed, emptied and removed including associated pipe work. Validation testing should be carried out on the surrounding concrete or soils of subterranean tanks to determine if there were any historic hydrocarbon leaks. This also applies to above ground storage tanks where supplies pipes have leaked hydrocarbons onto the ground.

5.2.4 Any hydrocarbon impacted soils or concrete identified will require disposal as hazardous waste. If subterranean tanks are to be de-gassed and foam or concrete filled then a de-gassing certificate and record of remediation will be required for the Safety File with a plan indicating the location of the decommissioned tank.

5.2.5 Procedures for hazardous waste (i.e. the Principal Contractor) must ensure that its storage and subsequent handling are compatible with the need to protect the environment and human

health, as well as preventing environmental pollution. The Waste Co-ordinator must ensure that all carriers of hazardous waste are permitted to do so under the terms of their NWCPO licence.

5.3 Waste Segregation

5.3.1 Within the site, facilities will be available for waste segregation; these will include labelled bins and skips for the various waste streams identified for the site.

5.3.2 Putrescible food waste from the site canteen will be placed in specially designated brown wheelie bins for composting.

5.3.3 Light packaging, non-biodegradable waste from canteens and offices on site as well as litter will be stored on site in wheelie bins for onward disposal by a licensed contractor.

5.3.4 Recyclable waste will be stored on site in skips for collection by a licensed contractor approved by Meath County Council.

5.4 Waste Storage

5.4.1 The site will be provided with a dedicated bin and waste sorting and storage area to be identified by the appointed contractor. This area will provide for the storage of recyclable waste and waste for disposal in appropriate receptacles.

5.4.2 The waste storage area will generally be used to store the recyclable material for collection by the waste contractors.

5.4.3 Any hazardous waste arising should be stored in a secure area to minimise the likelihood of interference by vandals. All hazardous waste should be covered and clearly marked as hazardous waste. They should be away from working areas and areas where vehicles could accidently strike them. The standing time on site from generation of the hazardous waste to removal off site should be kept to a minimum.

5.4.4 Liquid wastes should be kept in clearly marked bunded containers.

5.5 Waste Actions

5.5.1 The principal wastes to be generated at the site are identified in **Table 4.0** below along with the proposed waste management actions.

5.5.2 It may be found following the initial construction period that there are additional waste sources and waste streams. This table will therefore be reviewed as the project proceeds.

5.5.3 Specific methods of managing particular waste streams are outlined below:

Table 4.0 - Waste Type and Waste Management Actions	
Waste Type	**Action**
Excavated Soil (Clay, Sands, Gravels)	Excavated soils will be dug and loaded onto dumper trucks and stored for re-use elsewhere on the site where possible and free from contaminants e.g. trench / foundation excavation material will be reused as fill in landscape areas. Due to the size of the site there is little scope for bulk soil storage of soils. The soils strip is likely to be limited to topsoil strip in garden areas and excavation for attenuation tank. With pre-validation testing i.e. waste classification testing done in advance it is likely that these will go off site immediately.
Concrete	Waste fresh concrete may result from the pouring of foundations, concrete surround to pipes, kerbs and arising from concrete pours etc. Where possible this surplus material will be returned to supplier for re-use. There will be no washing out of concrete lorries permitted on site. Concrete from the demolition of excavation of foundations will be removed off site for disposal. The size of the site does not allow space for crushing of concrete on site.
Metals	Residual metal waste will be source segregated for collection and recycling by licenced contractors. It is not thought that quantities of this will be great given the nature of the buildings to be demolished.
Timber	Timber waste will be segregated and stored in weather protective containers for collection and reuse / recycling by licenced contractors. It is important that all nails in waste timber are removed or hammered down.
Blocks and Bricks	Designated storage and stockpile locations will be set up on site to minimise breakages. Broken bricks and blocks will be re-used where possible on site in appropriate locations. Residual masonry wastes will be source segregated and stored in designated containers for subsequent collection and crushing / recycling by licenced contractors.
Glass	Glass breakages are inevitable on a construction site however, it is intended to minimise such breakages by ordering materials just in time and creating safe designated storage areas for same.

	Residual glass waste will be source segregated and safely stored for eventual collection and recycling by licenced contractors.
Packaging	Packaging is a source of major waste and can if uncontrolled lead to contamination of other waste streams. It is therefore proposed to segregate packaging waste immediately after unwrapping. Where possible materials with minimum or recycled packaging will be purchased or returned to supplier. Otherwise packaging waste will be segregated and stored in containers for eventual recycling / disposal by licenced contractors.
Plasterboard, Gypsum etc.	Such material will be segregated at source for eventual disposal by licenced contractors.
Food Waste	Food waste arising from site staff can create hygiene problems if not properly disposed of and therefore in accordance with Safety, Health and Welfare (Construction) Regulations designated areas for consumption of food will be set up within the site compound. Separate bins e.g. brown for foodstuffs, green for recyclables and black for remainder, will be provided at these locations. These bins will be collected by licenced waste contractors.
Paints, Oils, Adhesives etc. (Hazardous)	Oils, paints, adhesives and chemicals will be kept in separate contained storage areas which will be bunded. Waste oils, oil filters, paints, adhesives and chemicals will be sent to appropriately licensed facilities for disposal. Fuel and oils for machinery will be stored in double skinned containers or within bunds with sufficient capacity to contain spillage. All of the above containers will be clearly labelled and secured against unauthorised access.
Asbestos Containing Materials (Hazardous)	Due to the requirement for demolition of the existing houses on the site, it is likely that some hazardous waste in the form of asbestos containing material (ACM) or contaminated soils will be present on site. A pre-construction and demolition asbestos survey will be carried out in advance of demolition works on site to identify the presence or likely presence of any ACM. All ACM will be treated as hazardous waste and removed by a licenced contractor for disposal at licenced facilities.
Contaminated Soils (Hazardous)	Prior to commencement of any construction or demolition works on site a detailed site investigation will be carried out

	including as required trial holes, boreholes or window sampling. Material recovered from the investigations will be tested in an accredited laboratory to establish the Waste Acceptance Criteria (WAC) for the material i.e. inert, stable non-reactive or hazardous. The assessment and classification of the waste in accordance with the European Waste Catalogue and Hazardous Waste List will be carried out by the laboratory. If contaminated soils are present then appropriate handling, storage, transportation and disposal will be required. Prior to removal of such waste, the contractor will prepare a plan for the management of this waste stream. Specific method statements detailing the necessary mitigation measures required during excavation, handling, transportation and disposal of the encountered hazardous wastes will be prepared. Every attempt to minimise contamination of surrounding material will be made to reduce the volume of waste involved.
Electrical	Electrical waste including fluorescent tubes, electronic equipment, batteries etc. will be stored in segregated areas for Recycling / Recovery by licensed WEEE contractors.
Office Waste	Office waste from the contractor's on site facilities such as paper and light packaging will be stored for Reuse / Recycle by licensed contractors.

5.5.4 The management of the site will ensure that all staff and visitors are aware that waste should be managed in such a way as to have minimal impact on the environment and on the health and safety of all associated with the proposed development and the waste actions outlined above will be communicated as part of site inductions.

6.0 SITE MANAGEMENT PROCEDURES

6.1 General

6.1.1 In order to emphasise to staff and visitors the importance of waste management within the proposed site it is intended that this outline C&D Waste Management Plan will be finalised by the appointed contractor and circulated to all sub-contractors employed on the works. A register of those contractors that have signed up to this for the works will be maintained. Signing up to this register will be mandatory.

6.2 Training

6.2.1 Copies of the Construction & Demolition Waste Management Plan will be made available to all personnel on site. All site personnel and sub-contractors will be instructed about the objectives of the plan and the measures to achieve same. They will be trained in how to implement the above measures and their responsibilities during site induction and reminders during tool box talks. Topics to be covered will include;

- Distinguish re-usable materials from materials suitable for recycling;
- Ensure maximum segregation at source;
- Co-operate with site manager on best locations for stockpiling;
- Separate materials for recovery;
- Appropriate protection/coverage of waste areas e;.g. covered skips, double wrapped asbestos containign materials.

6.2.2 Site notices will be erected throughout the site identifying waste storage areas and reinforcing waste hierarchy message.

6.3 Waste Contractors

6.3.1 It will be required that all waste contractors involved in the site will be in adherence with the legislation referred to in section 1.3.

6.3.2 To this end the Principal Contractor will ensure that all contractors engaged to collect and dispose of waste will be licensed contractors approved by Meath County Council.

6.3.3 This will include those who collect recyclable material, general waste, hazardous waste and miscellaneous waste (as noted above). It will be the policy to verify that all contractors are licensed and are approved by Meath County Council.

6.4 Waste Traceability / Disposal

6.4.1 Waste traceability / disposal is a very important aspect of successful waste management. In order to ensure that all waste from the site is traceable to its final disposal point and disposed

of as required by current legislation it will be a policy to ensure only reputable and licensed waste/recycling contractors are employed for waste management activities.

6.4.2 In particular any hazardous waste such as contaminated soil, asbestos, oils, paints and varnishes will be managed in accordance with current legislation and best practice.

6.4.3 It will be a policy to record the transfer of waste and in particular Hazardous Waste. These records will be in the form of transfer dockets and collection and disposal logs.

6.4.4 It will be a policy that the waste contractor will confirm the quantity of waste collected, and the disposal logs will also be signed by a representative of the facility confirming the content of the waste. If hazardous waste is to go to a holding transfer station for transfrontier shipment then the final destination licence/permit and validity of the disposal facility is to be verified by the Waste Co-ordinator on behalf of the Principal Contractor.

6.5 Litter

6.5.1 During the operation of the construction site the contractor and the waste co-ordinator shall on a daily basis remove all litter from site and dispose of this to the dedicated waste bins located in the waste area on site.

6.5.2 A road sweeper will be in operation to ensure roads and gullies are free from construction related sediment wastes etc.

6.6 Records

6.6.1 The purpose of maintaining records of all waste generated, transported to waste disposal / recycling / recovery facilities is to ensure full traceability of such waste material to its final destination.

6.6.2 The Principal Contractor or delegate will record the following;

- Waste taken for reuse off-site;
- Waste taken for recycling;
- Waste taken for recovery;
- Waste taken for disposal; and
- Reclaimed waste materials brough on-site for reuse

6.6.3 For each movement of waste on or off-site, a signed docket will be obtained by the Principal Contractor from the contractor, detailing the weight and type of the material and the source and destination of the material.

6.6.4 All such records and documents are to be kept by the Waste Co-ordinator and forwarded to the client as part of the Safety File on completion of the works. Waste Movement Record forms will

be used to track each waste stream with separate record forms kept of each waste transfer that takes place.

6.6.5 The waste co-ordinator will request records from licensed waste disposal companies quantifying the exact amount and nature of waste removed from the site and percentages to landfill, re-use and recycling. Copies of licenses and permits of waste contractors are to be kept on site also. Full details of the site, contractors and sub-contractors and contact details are to be included within these records.

6.7 Outline Waste Audit Procecdures

6.7.1 It will be the responsibility of the Waste Co-ordinator to make all records available for the purpose of waste audits throughout the demolition and construction phases of the project. This audit will be overseen by the Client's Project Manager. It will allow an assessment of waste costs and address any reasons for predicted waste volumes being excessively increased or decreased in relation to the predicted volumes.

6.7.2 Corrective actions arising from these audits will be the responsibility of the Principal Contractor to address.

6.7.3 Upon completion of the construction and demolition phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling/reuse/recovery figures for Meath County Council developments.

7.0 REFERENCES

7.1 General

7.1.1 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)