

**Lord Mayor SHD,
Main Street,
Swords,
Co. Dublin**

**Preliminary Construction &
Demolition Waste
Management Plan**

2118

March 2022

Issue No.3



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1 Introduction

1.1 General

It is proposed to develop the site of the former Lord Mayor's Public House in Swords Village into an apartment development. The majority of the site is greenfield however part of it is occupied by a surface carpark.

It is proposed to demolish the existing building on the site, construct a basement that extends under a podium slab in a courtyard which will be landscaped, divert the path of the existing stream away from close proximity to Church Road where possible, culvert part of the stream where it would be too deep to incorporate into landscaping and construct four separate blocks of varying height between four and seven stories.

Access to the basement carpark will be via a ramp over the stream from Church Road and into the basement.

Foul Drainage will be collected for three of the blocks into a pumping station which will pump up to high level where it will discharge into a manhole within the site adjacent the Dublin Road before discharging by gravity into an Irish Water foul sewer.

Surface Water drainage will be drained through sedum roofs and onto the podium slab where perforated drains will distribute this rainwater to the landscaping features and any excess will drain to ground. In addition, water that flows downhill across the podium that is not absorbed by planting will be collected and diverted to swales on the north side of the building facing the Ward River. Rainwater will percolate to below in these swales and will ultimately end up in the Ward River.

1.2 Preliminary Construction & Demolition Waste Management Plan

This document presents an outline plan to inform the construction of the proposed development and ensure active control, management and monitoring of waste and demolition associated with the proposed development during both the Demolition and Construction Phase of the project.

This plan will be developed by the chosen Demolition Works and Main Contractor and implemented throughout the construction phase of the project to ensure:-

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.
- To ensure that all waste materials generated by site activities are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted facilities in compliance with the Waste Management Acts 1996, 2007 & 2011.
- To manage and control any environmental impacts (noise, vibration, dust, water) that construction work activities may have on neighbouring properties and on the local receiving environment.

This Preliminary Construction and Demolition Waste Management Plan (PCDWMP) will demonstrate how it is proposed during the Construction Phase to comply with the following

relevant legislation and relevant Best Practice Guidelines:-

- *Waste Management Acts 1996 to 2011*
- *Waste Management (Collection Permit) Regulations 2007 (SI No. 820 of 2007)*
- *Waste Management (Collection Permit) Amendment Regulations 2008 (SI No. 87 of 2008)*
- *Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – July 2006.*

It is proposed that during construction the Design Team for the project will monitor the Contractors Site Management Team to ensure that all aspects of the proposed PCDWMP are adhered to and in addition will provide specialist environmental monitoring, consultancy and auditing services as required to ensure that all potential environmental impacts on the local receiving environment and on local residential amenity are controlled at source and minimised to acceptable levels and that all wastes generated by site activities are minimised, segregated, re-used, recycled or correctly disposed of by licensed / permitted waste contractors.

Each section of the Preliminary Construction and Demolition Waste Plan presents the potential, proposed methodologies based on the concept of Best Practice and the proposed mitigation measures to be implemental at the site. Reference to National and International Standards are also included where relevant.

2 Description of Proposed Development

2.1 General

The scope of works can be briefly described as follows:-

- Demolition and removal from site of the former Lord Mayor's Public House
- Removal of existing vegetation from the site
- Excavation for basement construction
- Diversion and part culverting of existing stream passing through the site
- Construction of a single level basement over part of the site
- Construction of four separate buildings varying from 4 to 7 stories
- Installation of services associated with the new apartments

2.2 Proposed Building Construction

It is proposed to construct in four separate buildings of heights from four to seven stories. Basements are proposed under three of the buildings.

For the constructions of the buildings, it is proposed to use a reinforced concrete structure however floor slabs will be precast concrete with the exception of the parts of the first floor which will be a transfer structure which will be deeper than the other slabs and will be constructed using in-situ concrete.

Stability to the buildings will be provided by lift shafts and stair cores and these will be integrated into the building structures. Facades will be constructed using brickwork and cladding panels and will be constructed simultaneously with an inner leaf of blockwork.

Surface water drainage will be dealt with on-site using a series of measures to soak the water to ground via landscaping features and planting with final surface water discharge directed to swales constructed on the northern sides of the building which will discharge the water to ground and in turn to the Ward River. Foul drainage will be collected for three of the buildings into a Pumping Station at basement level in the south west corner of the carpark (remote to the apartments) and it will be pumped up to a high level manhole adjacent the Dublin Road where it will then discharge by gravity to the Irish Water sewer. One block at the location of the former public house will discharge by gravity also to this manhole without the requirement for pumping.

2.3 Scope of Preliminary Construction & Demolition Waste Management Plan

The range of works to which this Preliminary Construction & Demolition Waste Management Plan will be integrated into during the design phase and construction phase of the site over an approximate 24 month period, are summarised as follows:-

- Demolition, clearing of the site and ground preparation works
- Site works including drainage and access points.
- Excavations on the site for a basement, pilecaps, culvert and drainage.
- Installation of basement structure and supporting piles for buildings.
- Culverting of existing stream.
- Construction of new buildings above ground in sequence most likely with the north and south buildings first followed by the east building.
- Waste Management during the Construction Phase.

It is proposed that this Preliminary Construction & Environmental Management Plan will be developed by the Contractor at the beginning of the construction phase of the works and include a detailed Sequencing and Phasing Schedule and Traffic and Parking Management Plan for the works.

3 Waste Management Plan – Construction Phase

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

The Waste Management Plan will specifically address the following points:-

- Analysis of waste arising / material surpluses
- Specific Waste Management objectives for the Project including the potential to reuse and process on-site demolished buildings for further use in the construction phase.
- Asbestos Removal
- Methods proposed for Prevention, Reuse and Recycling
- Waste Handling Procedures
- Waste Storage Procedures
- Waste Disposal Procedures
- Waste Auditing
- Record Keeping

3.1 Waste Categorisation

Typical non-hazardous and hazardous waste streams generated by construction and demolition at typical sites are shown below along with their accompanying European Waste Code (EWC) Classification.

| 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 |

3.2 Non-Hazardous Arisings

During the demolition phase an amount of materials will arise. Details on type and quantities are set out in later in this document. Materials will include glass, concrete, masonry, tiles, ceramics, plasterboard, timber, steel and tarmacadam.

The classification of materials as non-hazardous and/or hazardous will be based on the www.hazwasteonline.com web based system as well as classification using Waste Acceptance Criteria in accordance with the European Communities (EC) Council Decision 2003/33/EC, which establishes criteria for the acceptance of waste at landfills.

3.3 Hazardous Arisings

3.3.1 Contaminated Soil

The demolition work will not include the removal of the ground floor slab of the existing buildings. No soil beneath the buildings will be excavated. It is not therefore expected that there will be any contaminated soils encountered or arising as part of these enabling works.

It is noted that any soil generated as part of the works will be managed to ensure appropriate handling and disposal in accordance with Irish and EU legislative requirements. It is proposed that prior to any bulk excavation that a suitably qualified professional will be engaged to take samples

of the subject area for the excavation to test for contamination and a suitable strategy will be drawn up and submitted to detailing the method of dealing with any contaminated material found.

3.3.2 Fuels/Oils

In the event there is to be any on site storage of fuels or oils during the demolition process then all storage tanks and draw-off points will be bunded 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 Asbestos

An Asbestos survey is yet to be undertaken within the building however it will be undertaken prior to work commencing on site. It is not anticipated that asbestos material will be located due to the recent nature of the majority of eth materials used throughout the building.

The removal of asbestos must be carried out by a suitably qualified contractor in accordance with S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010. All material will be taken to a suitably licensed or permitted facility. This design note will be included in the tender for the demolition contractor.

3.3.4 Other 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.

Outline surveys of the existing buildings have been undertaken by the Client. Taking into account the age, type and nature of construction it is not expected that any paints, glues, and adhesives will be encountered.

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 demolition activities or temporary site offices. These wastes (if encountered) will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

4 Waste Management in Ireland

4.1 Legislation covering this area

The overarching legislative instruments governing waste management in Ireland are as follows:

- Waste Management Act 1996 (S.I. 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 (S.I. 126 of 2011) as amended 2011 (S.I. No. 323 of 2011) and 2016 (S.I. 315 of 2016);
 - Waste Management (Collection Permit) Regulations 2007 (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);
 - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. No. 821 of 2007) as amended 2008 (S.I. No. 86 of 2008), 2014 (S.I. No. 320 and No. 546 of 2014) and 2015 (S.I. No. 198 of 2015);

- Waste Management (Licensing) Regulations 2000 (S.I. No. 185 of 2000) as amended 2004 (S.I. No. 395 of 2004), 2010 and (S.I. No. 350 of 2010);
- Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended 2003 (S.I. No. 61 of 2003) as amended 2004 (S.I. No. 871 of 2004), 2006 (S.I. No. 308 of 2006) and 2007 (S.I. No. 798 of 2007);
- Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997);
- Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015) as amended 2011 (S.I. No. 434 of 2011) as amended 2012 (S.I. No. 221 of 2012);
- 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);
- 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) Regulation, 1998 (S.I. No. 147 of 1998);
- Waste Management (Movement of Hazardous Waste) Regulations 1998 (S.I. No. 147 of 1998);
- European Communities (Transfrontier Shipment of Waste) Regulations 1998 (S.I. No. 147 of 1998) as amended 1994 (SI 121 of 1994);
- European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015).
- Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended by Protection of the Environment (amendment) Act 2003 as amended;
- Planning and Development Act 2000 as amended (S.I. No. 30 of 2010) and 2015 (S.I. No. 310 of 2015);
- Protection of the Environment Act 1992 as amended 2003 (S.I. No. 413 of 2003) and by Planning and Development Act 2000 as amended (S.I. No. 30 of 2010).

The above Acts and Regulations transpose European Union policy and Directives into Irish law. The over-riding 'Duty of Care' principle implies that the producer is responsible for waste from the time it is generated through until its legal 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 disposal area, waste contractors will be employed to transport waste to the final waste disposal site. In addition, the 'Polluter Pays' principle means that 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 (for transportation and disposal/recovery/recycling of waste).

It is imperative then that the developer ensures that waste companies engaged by construction contractors are legally compliant with respect to waste transport and disposal/recovery/recycling. This includes the requirement that a contractor handle, transport and dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities. In this regard, a waste collection permit, issued by the National Waste Collection Permit Office (NWCPO), must be held by every waste contractor engaged on the project. Waste

receiving facilities must also be appropriately permitted or licensed to accept waste. Operators of such facilities cannot receive any waste, unless in possession of a waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments or a waste licence granted by the Environmental Protection Agency (EPA). The permit/licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled and/or disposed of at the specified site.

4.2 National Waste Management Policy

The 1998 '*Changing Our Ways*' policy document by the Irish Government 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 an initial five year period with incremental increases to at least 85% by 2013. A waste industry task force of the *Forum for the Construction Industry* released '*Recycling of Construction and Demolition Waste*' recommending the development of a voluntary construction industry programme to meet Government objectives for the recovery of C&D waste. '*A Resource Opportunity - Waste Management Policy in Ireland*' published in 2012 stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. In respect of C&D waste, the report commits to undertaking a review of specific producer responsibility requirements for C&D projects above a certain threshold.

The National Construction and Demolition Waste Council (NCDWC) published '*Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects*' in 2006 in conjunction with the 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, Dublin County Council etc.

In accordance with Section 3 of the Guidelines Construction and Demolition Waste Management plans should be submitted as part of development proposals for projects in excess of any of the following thresholds:

- New residential development of 10 units or more;
- New developments other than above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,000m²;
- Demolition/renovation/refurbishment projects generating in excess of 100m³ in volume of construction and demolition waste, and;
- Civil engineering projects in excess of 500 m³ of waste materials used for

development works on the site.

Construction and Demolition Waste Management Plan, as a minimum, should include provision for the management of all construction and demolition waste arising on site, and make provision for the re-use of said material and/or the recovery or disposal of this waste to authorised facilities by authorised collectors. Where appropriate, excavated material from development sites should be reused on the subject site.

The development requires a CDWMP under the following two criteria:

- New residential development of 10 houses or more;
- Demolition/renovation/refurbishment projects generating in excess of 100m³ in volume of waste.

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

4.3 Regional Waste Management Plans

The proposed development is located within the Fingal County Council (FCC) administrative area. A new Regional Waste Management Plan for the Eastern-Midland Region was launched in November 2014 which covers the four Dublin Councils (DCC, FCC, DRCC & SDCC) as well as Kildare, Laois, Longford, Louth, Meath, Offaly, Wicklow and Westmeath. The final Eastern-Midland Region Waste Management Plan (EMWR) was published in late May 2015 to replace the 'Waste Management Plan for the Dublin Region 2005 – 2010'. This was replaced due to changing National policy as set out in '*A Resource Opportunity: Waste Management Policy in Ireland*' and changes being enacted by the Waste Framework Directive (2008/98/EC). The Plan's implementation will be led by the new Eastern-Midlands Regional Waste Office based in Dublin City Council.

The three key objectives of the Eastern-Midlands Region Waste Management Plan are:

- Prevent waste: a reduction of one per cent per annum in the amount of household waste generated over the period of the plan.
- More recycling: increase the recycle rate of domestic and commercial waste from 40 to 50 per cent by 2020.
- Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016.

The strategic approach of the new plan is to place a stronger emphasis on preventing waste and material reuse, instead focusing on increasing the collection of quality materials to improve recycling. The plan seeks to further reduce the role of landfill in favour of higher value recovery options. The objective Eastern Midlands Region Waste Management Plan is to achieve more sustainable waste management practices in the C&D sector. The recycling rates for C&D waste adopted by the EMWR are 82%. The EC (Waste Directive) Regulations, 2011 sets a 70% target for the reuse, recycling and recovery of man-made C&D waste in Ireland by December 2020. It is reported by the EPA that this has already been achieved with a 97% waste recovery rate. This requires the following actions:-

- The development company must employ best practice at the design, planning and construction stage to ensure waste prevention and recycling opportunities are identified and implemented;
- Waste collectors are required to introduce source-separation of recyclables and introduce

- graduated charges to incentivise better site practices;
- Local Authorities will ensure the voluntary industry code is applied to development control, to regulate the collection and treatment of waste to meet the Plan objectives, and also work to develop markets for recycled materials.

5 Proposed Site Waste Management Plan

5.1 Demolition Waste

The approximate combined demolition areas of the existing structures is approximately 700 m², while the paved areas are approximately 4800m². The demolition of the existing buildings and paved areas is estimated to give rise to a total of 1800 tonnes of mixed waste as set out in the table below.

5.2 Construction Waste

Using published information available from the EPA, we are able to estimate the anticipated splits for demolition waste from the buildings to be demolished.

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

The predicted waste amounts shown in the table have been derived on this basis with amendments and additions being made for bespoke site data.

| Waste Type | Tonnes | Reuse | | Recycle/Recovery | | Disposal | |
|------------|--------|-------|--------|------------------|--------|----------|--------|
| | | % | Tonnes | % | Tonnes | % | Tonnes |
| | | | | | | | |

| | | | | | | | |
|----------------------|-------|----|-------|----|--------|----|-------|
| Mixed C&D | 594 | 10 | 59.4 | 80 | 475.2 | 10 | 59.4 |
| Timber | 504 | 40 | 201.6 | 55 | 277.2 | 5 | 25.2 |
| Plasterboard | 180 | 30 | 54 | 60 | 108 | 10 | 18 |
| Metals | 144 | 5 | 7.2 | 90 | 129.6 | 5 | 7.2 |
| Concrete | 108 | 30 | 32.4 | 65 | 70.2 | 5 | 5.4 |
| Other | 270 | 20 | 54 | 60 | 162 | 20 | 54 |
| Total | 1,800 | | 408.6 | | 1222.2 | | 169.2 |

A detailed Demolition Management Plan will be prepared by the Demolition Contractor. However, it should be noted that until final materials and methods of construction have been determined it is not possible to predict with a high level of accuracy the construction waste that will be generated.

5.3 Site Waste Management Operations

Waste materials generated will be segregated on site where it is practical. An Outline Layout Plan for a site-based waste segregation compound is shown in Figure 5 over. 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. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled.

Any soil removed off-site will be carried by contractors licensed under the Waste Management Acts 1996 - 2008, the Waste Management (Collection Permit) Regulations 2007 and Amendments and the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments.

All waste arising will be handled by an approved waste contractor holding a current waste collection permit. All waste arising requiring disposal off-site will be disposed of at a facility holding the appropriate licence or permit, as required. Written records will be maintained by the contractor(s) detailing the waste arising throughout the construction and demolition phases, the classification of each waste type, the contact details and waste collection permit number of all waste contractors who collect waste from the site and the end destination and waste facility permit or licence number for all waste removed and disposed off-site. Dedicated bunded storage containers will be provided for hazardous wastes such as batteries, paints, oils, chemicals etc., if required. The management of the main waste streams are detailed as follows:

5.3.1 Soil/Subsoil

Excavated materials

The greatest volume of materials generated will be topsoil and subsoil/stones from basement excavation and also from the culvert diversion.

It is anticipated that there will be a requirement to remove 22,240m³ from the site for the basement excavation.

The majority of this will be clean soil/stones as most of the site has never been developed previously.

In addition, approximately 1,200m³ will be excavated for the culvert and works adjoining the stream.

Site Waste Management Operations

Waste materials generated will be segregated on site where practical. An Outline Layout Plan for a site-based waste segregation compound is shown in Figure 4 overleaf. Where 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. All waste receptacles leaving site will be covered or enclosed.

The appointed waste contractor will collect and transfer the wastes as receptacles are filled. Any soil removed off-site will be carried by contractors licensed under the Waste Management Acts 1996 - 2008, the Waste Management (Collection Permit) Regulations 2007 and Amendments and the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments.

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 disposed of at a facility holding the appropriate licence or permit, as required. Written records will be maintained by the contractor(s) detailing the waste arising throughout the construction and demolition phases, the classification of each waste type, the contact details and waste collection permit number of all waste contactors who collect waste from the site and the end destination and waste facility permit or licence number for all waste removed and disposed off-site. Dedicated bunded storage containers will be provided for hazardous wastes such as batteries, paints, oils, chemicals etc., if required.

Soil removed off-site will be undertaken by Contractors licensed under the Waste Management Acts 1996 - 2011, the Waste Management (Collection Permit) Regulations 2007 and Amendments and the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments.

If any of the excavated spoil is found to be clean/inert, the site manager will investigate whether nearby construction sites may require clean fill material, to both minimise the costs of transport and to reuse as much material as possible. Any soil/subsoil deemed to be contaminated will be stored separately to the clean and inert soil/subsoil. The material will be appropriately classified as non-hazardous or hazardous in accordance with the www.hazwasteonline.com application and EC Council Decision 2003/33/EC, which establishes the criteria for the acceptance of waste at landfills, before being transported to an appropriately permitted/licensed facility by permitted contractors.

5.3.2 Bedrock

It is not anticipated that bedrock will be encountered during the works.

5.3.3 Concrete, Bricks, Tiles and Ceramics

The materials to be removed from the demolition of the former public house are all expected to be clean inert materials that can be recycled.

5.3.4 Hard Plastics

It is not expected that there will be any hard plastics encountered during the demolition process other than some limited runs of foul drainage pipes.

5.3.5 Timber

It is expected that timber will be encountered and will be free from preservatives and glues and can be recycled.

5.3.6 Metal

Limited amounts of metal are expected to be encountered however they will all be segregated into ferrous and non-ferrous metals and segregated and sent for recycling.

5.3.7 Plasterboard

Plasterboard will be removed from the former public house and sent for recycling as a specialist facility.

5.3.8 Glass

Glass materials will be removed from the former public house and sent for recycling as a specialist facility.

5.3.9 Organic Food Waste

The only organic waste expected to be produced is at the start of the project from vegetation removal and also from waste food generated by construction operatives on site.

5.3.10 Waste Electrical and Electronic Equipment (WEEE)

All electronic equipment will be removed from the building prior to demolition commencing. Remaining electrical equipment that does not contain hazardous components will be removed for recycling.

5.3.11 Non-Recycled Waste

Waste that cannot be recycled will be removed from site in dedicated skips. It will be checked prior to leaving site to ensure that no materials within the skip could be recycled.

5.3.12 Asbestos

The removal of asbestos must be carried out by a suitably qualified contractor in accordance with S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010. All material will be taken to a suitably licensed or permitted facility.

5.3.13 Other Hazardous Wastes

Given the limited extent of demolition works planned it is not expected that any hazardous wastes will be encountered. However, 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. On-site storage of any hazardous wastes produced (i.e. contaminated soil and/or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis.

6 Management & Control Systems

It will be the role of an appointed Waste Manager to try to find alternative options for demolition waste before sending it to landfill. Waste materials will be stored in the specifically designated compound. All waste collected from the site will be by a permitted waste contractor, under the Waste Management (Collection Permit) Regulations 2007 as amended. The contractor will provide the Waste Manager on site with documentation of the waste to be removed and a copy of the waste collection permit. Prior to the waste leaving the site, the Waste Manager will have documentation to show where the waste is being taken to, and that the facility is licensed to accept the particular waste. A receipt will be issued for each load that leaves the site.

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 Contractor. All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Management Acts 1996 - 2008, Waste Management (Collection Permit) Regulations 2007 and Amendments and Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project Waste Manager will maintain a copy of all waste collection permits.

Some wastes may be transported to another site for reuse on that site. The Waste Manager will be in contact with other sites to ensure that as much waste is reused as possible, such as concrete for fill purposes etc. All wastes leaving the site will be placed in appropriate containers. Any concrete, soil, gravel, or broken stone transported off site will be covered to prevent dust or particle emissions from the load.

If the waste is being transported to another site, a copy of the Local Authority waste permit or EPA Waste Licence for that site will be provided to the nominated project Waste Manager. If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) 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 (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 Financial Issues of Waste

7.1 Financial Costs

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

7.2 Reuse/Recovery

By reusing materials on site, there will be a reduction in the transport and disposal costs associated with the requirement for a waste contractor to take the material away to landfill. Clean and inert soils, gravel, stones etc. which cannot be reused on site may be used as capping material for landfill sites, or for the reinstatement of quarries etc. This material is often taken free of charge for such purposes, reducing final waste disposal costs.

7.3 Recycling

Salvageable metals will earn a rebate which can be offset against the cost of collection and transportation of the skips. Clean uncontaminated cardboard and certain hard plastics can 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.

7.4 Disposal

Landfill charges in the Leinster region are currently at around €120/tonne (includes a €75 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) 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 Training Provisions

8.1 Training Provisions for Waste Manager & Site Crew

There will be a dedicated Waste Manager appointed by the Contractor for the site to ensure commitment, operational efficiency and accountability. The 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 on the site. The Waste Manager 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 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 salvage on site.

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 the waste management on site. He/she will be also trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and know how to implement the CDWMP.

Training of the site crew is the responsibility of the Waste Manager. A waste training program will be organised. A basic awareness course will be held for all site crew to outline the CDWMP and to detail the segregation of waste materials at source. This may be incorporated into the induction course or the safety-training course. This basic course will describe the materials to be segregated, the storage methods and the location of the waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained.

9 Record Keeping & Consultation

9.1 Record Keeping

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

The Waste Manager or a member of his team will record the following:

- Waste taken for Reuse off-site (i.e. for capping of landfill cells or at another site);
- Waste taken for Recycling;
- Waste taken for Disposal;
- Reclaimed waste materials brought on-site for reuse.

For each movement of waste on- or off-site, the Waste Manager will obtain a signed docket 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 construction 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 construction waste and to highlight the successes or failures against these targets.

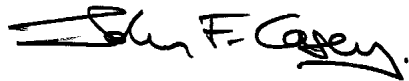
9.2 Outline Waste Audit Procedure

The appointed Waste Manager on site will be responsible for conducting a waste audit at the site. A review of all the records for the waste generated and transported on- or off-site will be undertaken. 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.

A Summary Report will be prepared and 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. Waste management costs will also be reviewed.

9.3 Consultation

Consultation and liaison between the Design Team, Main Contractor, Waste Contractors and Fingal County Council throughout the construction stage of this project will ensure best practice for waste management will be followed throughout the site.



John Casey
for
CORA Consulting Engineers