

RESOURCE & WASTE MANAGEMENT PLAN FOR A MIXED USE DEVELOPMENT

MASTERPLAN, SITE 2AB, SITE 2C AND 61 O'CONNELL STREET.

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APPENDIX 14.1

Report Prepared For

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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Resource and Waste Management Plan (RWMP) on behalf of Dublin Central GP Limited or shortened to DCGP Ltd. The Dublin Central project is an expansive (c.2.2 Ha) and complex regeneration project. It needs to be delivered in stages to overcome site and project constraints. A site wide cumulative masterplan has been prepared by 'the Applicant' to set out the overall development vision for the Dublin Central project. 'The Masterplan' area encompasses almost entirely three urban blocks. The area is bounded generally by O'Connell Street Upper and Henry Place to the east, Henry Street to the south, Moore Street to the west, and O'Rahilly Parade and Parnell Street to the north. Moore Lane extends south from Parnell Street through the centre of the masterplan area, as far as its junction with Henry Place.

The phrase 'Proposed Development' is used to describe the entire of the proposed development within 2no. separate and concurrent planning applications for Site 2 and No. 61 O'Connell Street. Site 2 is subdivided into Site 2AB and Site 2C with ACME / RKD Architects the lead Architect for Site 2AB and Grafton Architects the lead Architect for Site 2C and for the avoidance of doubt is 1no. planning application. This use of the phrase 'Proposed Development' within the EIAR should not be confused with the separate proposed development that is the subject of each of the 2no. separate and concurrent planning applications.

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

In particular, this Plan aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also seeks to provide guidance on the appropriate collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

This RWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the proposed development and makes recommendations for management of different waste streams.

2.0 C&D RESOURCE AND WASTE MANAGEMENT IN IRELAND

2.1 National Level

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

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

In September 2020, the Irish Government published a policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan, '*A Waste Action Plan for a Circular Economy*'⁷ (WAPCE), replaces the previous national waste management plan, "*A Resource Opportunity*" (2012), and was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to an altered economical model, where climate and environmental challenges are turned into opportunities.

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the Whole of Government Circular Economy Strategy 2022-2023 '*Living More, Using Less*' (2021)⁸ to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years.

The Environmental Protection Agency (EPA) of Ireland issued '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' in November 2021⁹. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage and Local Government (DoEHLG) in 2006¹⁰. The guidelines provide a practical approach which is informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project, including consideration of the deconstruction of a project. These guidelines have been followed in the preparation of this document and include the following elements:

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

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

- New residential development of less than 10 dwellings.
- Retrofit of 20 dwellings or less.
- New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m².
- Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m²; and
- Demolition projects generating in total less than 100m³ in volume of C&D waste.

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

This development requires a RWMP as a Tier 2 development as it is above following criterion:

- New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m².
- Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m²;
- Demolition projects generating in total less than 100m³ in volume of C&D waste.

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

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are

2.2 Regional Level

The proposed development is located in the Local Authority area of Dublin City Council (DCC). The *Eastern-Midlands Region Waste Management Plan 2015 – 2021* is the regional waste management plan for the DCC area published in May 2015. Currently the EMR and other regional waste management plans are under review and the Regional Waste Management Planning Offices expect to publish the final plan in early 2022.

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

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €130 - €150 per tonne of waste which

includes a €75 per tonne landfill levy introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2012*.

The *Dublin City Development Plan 2016 – 2022*¹¹ sets out a number of policies and objectives for Dublin City in line with the objectives of the regional waste management plan. The plan identifies the development of recycling in order to minimise the use of landfill as the main objective of the City Council. Waste policies and objectives with a particular relevance to the proposed development are:

Policies:

- *SI19: To support the principles of good waste management and the implementation of best international practice in relation to waste management in order for Dublin City and the region to become self-reliant in terms of waste management.*
- *SI20: To prevent and minimise waste and to encourage and support material sorting and recycling.*
- *SI21: To minimise the amount of waste which cannot be prevented and ensure it is managed and treated without causing environmental pollution.*

Objectives:

- *SIO17: To promote the re-use of building materials, recycling of demolition material and the use of materials from renewable sources. In all developments in excess of 10 housing units and commercial developments in excess of 1000 sqm, a materials source and management plan showing type of materials/proportion of re-use/recycled materials to be used shall be implemented by the developer.*
- *SIO18: To implement the current Litter Management Plan through enforcement of the litter laws, street cleaning and education and awareness campaigns.*
- *SIO19: To implement the Eastern-Midlands Waste Management Plan 2015-2021 and achieve the plan targets and objectives.*

The Draft *Dublin City Development Plan 2022 – 2028*¹² sets out a number of policies and objectives for Dublin City in line with the objectives of the National climate action policy and emphasises the need to take action to address climate action across all sectors of society and the economy. In the waste sector, policy on climate action is focused on a shift towards a 'circular economy' encompassing three core principles: designing out waste and pollution; keeping products and material in use; and regenerating natural systems. Further policies and objectives can be found within the draft development plan.

Policies:

- *CA7 F: minimising the generation of site and construction waste and maximising reuse or recycling.*
- *CA22: The Circular economy: To support the shift towards the circular economy approach as set out in 'a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, or as updated.*
- *CA23: To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.*

- *SI27: Sustainable Waste Management: To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.*
- *SI29: Segregated Storage and Collection of Waste Streams: To require new commercial and residential developments, to include adequate and easily accessible storage space that supports the separate collection of as many waste and recycling streams as possible, but at a minimum general domestic waste, dry recyclables and food waste as appropriate.*
- *SI30: To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2018 (or and any future updated versions of these guidelines produced during the lifetime of this plan).*

Objectives:

- *SIO14 Local Recycling Infrastructure: To provide for a citywide network of municipal civic amenity facilities/ multi-material public recycling and reuse facilities in accessible locations throughout the city in line with the objectives of the circular economy and 15 minute city.*
- *SIO16 Eastern-Midlands Region Waste Management Plan: To support the implementation of the Eastern-Midlands Regional Waste Management Plan 2015–2021 and any subsequent plans in order to facilitate the transition from a waste management economy towards a circular economy.*

2.3 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. Environmental Protection Act 1992 (No. 7 of 1992) as amended.
- Litter Pollution Act 1997 (No. 12 of 1997) as amended.
- Planning and Development Act 2000 (No. 30 of 2000) as amended ¹³.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996 - 2001* and subsequent Irish legislation, is the principle of “*Duty of Care*”. This implies that the waste producer is responsible for waste from the time it is generated through until its legal recycling, recovery or disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of “*Polluter Pays*” whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste).

It is therefore imperative that the client ensures that the waste contractors engaged by demolition and 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 IE licence granted by the EPA. The COR/permit/licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

3.0 DESIGN APPROACH

The client and the design team have integrated the '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' guidelines into the design workshops, to help review processes, identify and evaluate resource reduction measures and investigate the impact on cost, time, quality, buildability, second life and management post demolition and construction. Further details on these design principals can be found within the aforementioned guidance document.

The design team have undertaken the design process in line with the international best practice principles to firstly prevent wastes, reuse where possible and thereafter sustainably reduce and recover materials. The below sections have been the focal point of the design process and material selections and will continued to be analysed and investigated throughout the design process and when selecting material.

The approaches presented are based on international principles of optimising resources and reducing waste on construction projects through:

- Prevention;
- Reuse;
- Recycling;
- Green Procurement Principles;
- Off-Site Construction;
- Materials Optimisation; and
- Flexibility and Deconstruction.

3.1 Designing For Prevention, Reuse and Recycling

Undertaken at the outset and during project feasibility and evaluation the Client and Design Team considered:

- Establishing the potential for any reusable site assets (buildings, structures, equipment, materials, soils, etc.);
- The potential for refurbishment and refit of existing structures or buildings rather than demolition and new build;
- Assessing any existing buildings on the site that can be refurbished either in part or wholly to meet the Client requirements; and

- Enabling the optimum recovery of assets on site.

3.2 Designing for Green Procurement

Waste prevention and minimisation pre-procurement have been discussed and will be further discussed in this section. The Design Team will discuss proposed design solutions, encourage innovation in tenders and incentivise competitions to recognise sustainable approaches. They should also discuss options for packaging reduction with the main Contractor and subcontractors/suppliers using measures such as 'Just-in-Time' delivery and use ordering procedures that avoid excessive waste. The Green procurement extends from the planning stage into the detailed design and tender stage and will be an ongoing part of the long-term design and selection process for this development.

3.3 Designing for Off-Site Construction

Use of off-site manufacturing has been shown to reduce residual wastes by up to 90% (volumetric building versus traditional). The decision to use offsite construction is typically cost led but there are significant benefits for resource management. Some further considerations for procurement which are being investigated as part of the planning stage design process are listed as follows:

- Modular buildings as these can displace the use of concrete and the resource losses associated with concrete blocks such as broken blocks, mortars, etc.;;
 - Modular buildings are typically pre-fitted with fixed plasterboard and installed insulation, eliminating these residual streams from site.
- Use of pre-cast structural concrete panels which can reduce the residual volumes of concrete blocks, mortars, plasters, etc.;
- The use of prefabricated composite panels for walls and roofing to reduce residual volumes of insulation and plasterboards;
- Using pre-cast hollow-core flooring instead of in-situ ready mix flooring or timber flooring to reduce the residual volumes of concrete/formwork and wood/packaging, respectively; and
- Designing for the preferential use of offsite modular units.

3.4 Designing for Materials Optimisation During Construction

To ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite.. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities. This includes investigating the use of standardised sizes for certain materials to help reduce the amount of offcuts produced on site, focusing on promotion and development of off-site manufacture.

3.5 Designing for Flexibility and Deconstruction

Design flexibility has and will be investigated throughout the design process to ensure that where possible products (including buildings) only contain materials that can be recycled and are designed to be easily disassembled. Material efficiency is being considered for the duration and end of life of a building project to produce; flexible, adaptable spaces that enable a resource-efficient, low-waste future change of use; durability of materials and how they can be recovered effectively when maintenance and refurbishment are undertaken and during disassembly/deconstruction.

4.0 DESCRIPTION OF THE PROJECT

4.1 Location, Size and Scale of the Development

The Proposed Development sits within the context of the Dublin Central Masterplan which extends to c. 2.2 ha. The Dublin Central Masterplan almost entirely encompasses three urban blocks, bounded generally by O'Connell Street Upper and Henry Place to the east, Henry Street to the south, Moore Street to the west, and O' Rahilly Parade and Parnell Street to the north. Moore Lane extends south from Parnell Street through the centre of the Masterplan, as far as its junction with Henry Place.

The site of the Dublin Central Masterplan accommodates a disparate collection of single to six storey buildings of varied vintage and quality. The area is characterised by a mix of uses including retail, financial services, office, food and beverage services. It is also characterised by a number of unoccupied or underutilised buildings, plots, car parking and storage depots, service lanes and back lane workshops. Many of the buildings are afforded some level of legal heritage protection (particularly along O'Connell Street) and many others are not. There is significant potential to revitalise this central urban quarter of Dublin city centre through redevelopment and adaptive reuse, and in turn to act as a catalyst to stimulate the regeneration of the surrounding areas including the cultural quarter at Parnell Square.

For avoidance of doubt, the following properties are also excluded from the Masterplan:

- Nos. 37 – 39, the front portion of No. 59 & 60 O'Connell Street and Nos. 62 – 69 O'Connell Street.
- Nos. 31 – 35 Henry Street.
- Nos. 73 – 75 Parnell Street.
- Nos. 1 – 2 Henry Place.

For the avoidance of doubt, the only development 'proposed' at this time is that subject of the planning application for Site 2 and No. 61 O'Connell Street Upper. The detail of the Proposed Development is set out in Section 3.6 of this chapter.

Site 2 is otherwise generally bounded by Henry Place and No. 59 O'Connell Street Upper to the south, the east side of Moore Lane to the west, the west side of O'Connell Street Upper to the east and No. 42 O'Connell Street Upper to the north.

No.61 O'Connell Street Upper is otherwise generally bounded No. 62 O'Connell Street Upper to the south, the east side of Henry Place to the west, the west side of O'Connell Street Upper to the east and No. 60 O'Connell Street Upper to the north.



Figure 4.1 Extract from Google Earth showing the Proposed Development location in red.

Master Plan

As noted above, the Proposed Development sits within the context of the Dublin Central Masterplan which extends to c. 2.2 ha.

The Dublin Central project is an expansive (c. 2.2 Ha) and complex urban regeneration project. It needs to be delivered in multiple separate projects to overcome site and project constraints.

A site wide cumulative Masterplan has been prepared by the Applicant to set out the overall development vision for the Dublin Central project.

ACME Architects are the Masterplan Architect for the Dublin Central regeneration project. ACME has prepared a detail Masterplan Design Statement, which set out the design framework for the wider envisaged redevelopment at this significant, strategic location

within the heart of Dublin city centre. The Dublin Central Masterplan is accompanied by a suite of documents which help to explain how the combined Masterplan will be built and function.

The Dublin Central Masterplan represents the full development envisaged by the Applicant for the entire of these urban blocks. Those elements outside the planning application site boundaries for Dublin Central Site 2 are not completely fixed. Site 1 remain simply an aspirational part of the Dublin Central Masterplan overall vision at this time. Concurrent planning applications for Site 3, 4, and 5 were submitted to Dublin City Council (DCC) in June 2021 (DCC Reg. Ref. 2861/21, 2862,21, 2863,21 respectively refer). Planning permission was granted by DCC for Site 3 (DCC Reg. Ref. 2861/21 refers) and Site 4 (DCC Reg. Ref. 2862/21 refers) in January 2022 and for Site 5 (DCC Reg. Ref. 2861/21 refers) in June 2022. All these sites are now subject to appeals to An Bord Pleanála (ABP Ref. ABP-312603-22, ABP-312642-22 and ABP-313947-22 respectively refer).

For the purpose of making the planning applications for the Proposed Development (Site 2 & No. 61 O'Connell Street Upper), and considering the cumulative effect of the proposed and planned project, the Dublin Central Masterplan represents the interim design for Site 1 (March 2021) and Site 3, 4, and 5 as per the proposal now subject of appeals to An Bord Pleanála. This is notwithstanding that further progress on planning design continues to be worked up in the meantime and ongoing.

The Dublin Central Masterplan has been divided into seven identifiable sites (Sites 1, 2AB, 2C, 3, 4, 5 and No. 61 O'Connell Street Upper) for the purpose of making planning applications – see Figure 4.2 below.

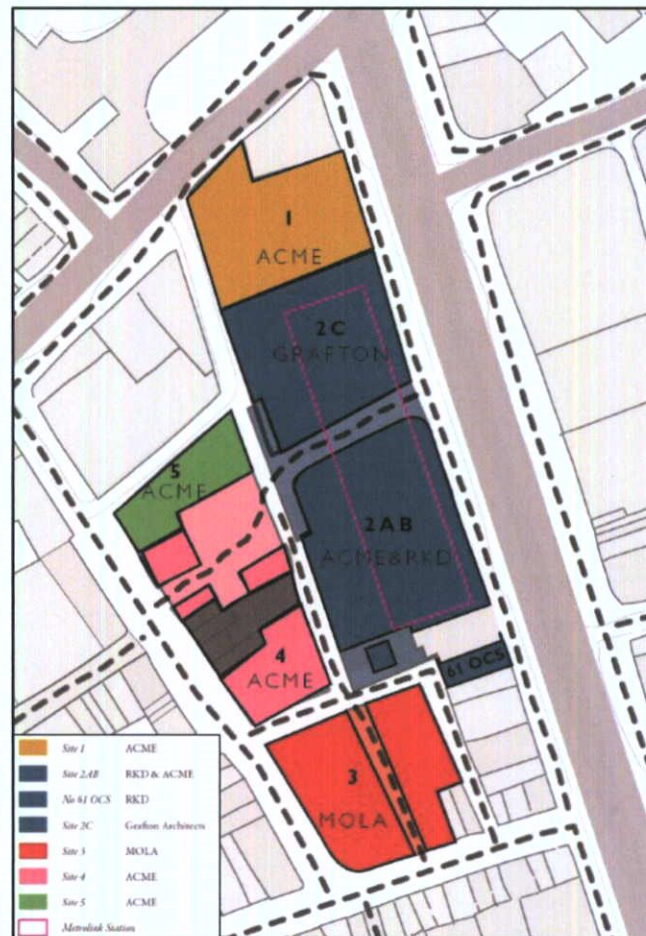


Figure 4.1 The Proposed Development (Site 2AB, 2 C, 61 O'Connell Street) shown within the context of the Dublin Central Masterplan.

Broadly each site is described as follows: -

Site 1: Located in the north east of the Masterplan. Site 1 is bounded generally by O'Connell Street to the east, Parnell Street to the north, Moore Lane to the west and Site 2C to the south. It includes Nos. 40 – 42 O'Connell Street Upper (including O'Connell Hall) and Nos. 70 – 71 Parnell Street (including Conway's pub).

Site 1 contains the following protected structures No. 42 O'Connell Street (including O'Connell Hall) and No.70 Parnell Street, and lies within the O'Connell Street ACA and partially within the Conservation Area.

Site 2: Located in the east of the Masterplan. Site 2 is subdivided into Site 2AB and Site 2C. It is bounded generally by O'Connell Street to the east (the front portion of No. 59 & 60 O'Connell Street Upper is excluded), No. 62 O'Connell Street Upper and Henry Place to the south, Moore Lane to the west and Site 1 to the north. It includes Nos. 43 – 59 O'Connell Street Upper (including the Carlton Cinema site), the rear of No. 59 & 60 O'Connell Street Upper and No. 61 O'Connell Street Upper.

The planned Metrolink Project, to be subject of a separate consent process and delivered independently by Transport Infrastructure Ireland (TII), proposes a future underground stop under the site of Site 2AB and Site 2C. The extent of the subterranean 'Station Box' as understood is outlined in pink in the figure above. Site 2AB and Site 2C will include Metro Enabling Works (MEW).

Site 2 contains the following protected facades (excluding ground floor facades): Nos. 43, 44, 52 – 54, 57, 58, and 61 O'Connell Street Upper, and lie within the O'Connell Street ACA and Conservation Area.

Site 3: Located in the southwest corner of the Masterplan, Site 3 is bounded by Henry Street to the south, Moore Street to the west and Henry Place to the north and east. Site 3 includes Nos. 36 – 41 Henry Street, Nos. 1 – 9 Moore Street and Nos. 3 – 13 Henry Place (formerly known as Nos. 2 – 13 Henry Place), Clarke's Court and Mulligan's Lane.

Site 3 lies within the O'Connell Street Architectural Conservation Area.

(DCC Reg. Ref. 2861/21 refers – currently subject appeal to An Bord Pleanála – ABP Ref. ABP-312603-22).

Site 4: Located in the west of the Masterplan, Site 4 is bounded by Moore Street to the west, Moore Lane to the east, Henry Place to the south and Site 5 to the north. Site 4 includes Nos. 10 – 13 and Nos. 18 – 21 Moore Street, No. 5A Moore Lane (also known as Nos. 15 – 16 Henry Place), Nos. 6 – 7 and Nos. 10 – 12 Moore Lane and Nos. 17 – 18 Henry Place (also known as Nos. 4 – 5 Moore Lane).

Site 4 excludes the site of the National Monument and its protection zone at No. 14 – 17 Moore Street (protected structures) and the open area to the rear at Nos. 9 & 10 Moore Lane.

(DCC Reg. Ref. 2862/21 refers – currently subject to appeal to An Bord Pleanála – ABP Ref. ABP-312642-22)

Site 5: Located in the west of the Masterplan, Site 5 is bounded by Moore Street to the west, Moore Lane to the east, O'Rahilly Parade to the north and Site 4 to the south. Site 5 includes Nos. 22 – 25 Moore Street, Nos. 1 – 8 O'Rahilly Parade and Nos. 13 – 15 Moore Lane.

(DCC Reg. Ref. 2863/21 refers – currently subject to appeal to An Bord Pleanála – ABP Ref. ABP-313947-22)

No.61: Located in the south of the Masterplan, No.61 is bounded by Henry Place to the west, O'Connell Street Upper to the east, No. 60 O'Connell Street Upper to the north and No.62 O'Connell Street Upper to the south.

No. 61 O'Connell Street Upper is a protected structure (upper front façade only) and lies within the O'Connell Street Architectural Conservation Area.

No. 61 O'Connell Street

The proposed development consists of the refurbishment of No. 61 O'Connell Street Upper as residential use (comprising 3no. 2-bed apartment units) from 1st to 3rd floor including the creation of a new covered pedestrian link through part of the ground floor connecting O'Connell Street Upper and Henry Place. 2no. café / restaurant (52 sq. m in total) units are proposed at ground floor onto O'Connell Street and Henry Place. A leisure studio / gym (c. 206 sq. m in total) is proposed at basement including the provision of 2no. changing rooms.

4.2 Details of the Non-Hazardous Wastes to be produced

There will be waste materials generated from the demolition and renovation of the existing buildings, hardstanding areas on site, as well as from the further excavation of the building foundations. The volume of waste generated from demolition will be more difficult to segregate than waste generated from the construction phase, as many of the building materials will be bonded together or integrated i.e. plasterboard on timber ceiling joists, steel embedded in concrete etc.

There will be soil, stones, clay and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed basements. The project engineers (Waterman Group) have estimated 163,490m³ of material will need to be excavated to do so. There is limited chance for reuse of material onsite and it is envisaged that all material, will need to be removed offsite due to the limited opportunities for reuse on site. This will be taken for appropriate offsite reuse, recovery, recycling and/or disposal.

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

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

4.3 Potential Hazardous Wastes Arising

4.3.1 Contaminated Soil

In 2008 an initial joint geotechnical and environmental site investigation was undertaken (by O' Callaghan Moran & Associates) comprising the excavation of trial pits, the installation of boreholes in the subsoils and bedrock and the collection and testing of soil and groundwater samples. The intrusive investigations were confined to open areas in the middle of the site and around the site parameter. It is envisaged that further site investigations and environmental soil analysis will be undertaken post demolition and prior to any excavated material being removed from site.

Three (3) samples of the fill material from BH-7, 9 and 10 were analysed for Total Petroleum Hydrocarbons (TPH), BETX (benzene, toluene, ethylbenzene and xylene), PAH (polycyclic aromatic hydrocarbons) and metals (arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, tin, selenium and zinc).

Nineteen (19) samples, of the fill and natural ground from, BH-7, 9, 10, 12, 14, 15, RC-8 and W-2, were tested for the WAC, which included Total Organic Carbon (TOC), BETX, PCBs (polychlorinated biphenyls, 7 congeners), Mineral Oil (C10 to C40) and PAH sum of 17. They were also subjected to leach testing at a liquid to solid ratio of 10:1 and the leachate analysed for arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, tin, selenium, zinc, chloride, fluoride, sulphate, phenols, dissolved organic carbon and total dissolved solids.

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

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

In the event that hazardous soil, or historically deposited waste is encountered during the construction phase, the contractor will notify DCC and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal/treatment, in addition to information on the authorised waste collector(s).

4.3.2 Fuel/Oils

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

4.3.3 Invasive Plant Species

An ecological site survey was undertaken by Scott Cawley Ecology (SCE) in June 2020. This included a site walkover survey of the entire site, and around part of the outside perimeter to search for any schedule 3 invasive species. Japanese Knotweed *Fallopia japonica*, which is listed on the Third Schedule of the Birds and Habitats Regulations, was not recorded on the site.

Japanese Knotweed (*Fallopia japonica*) is an alien invasive species listed under *schedule 3 of Regulations SI No. 355/2015*. SCE's report concludes that it is not present on this site and there was no indication that it is growing in the immediate vicinity.

4.3.4 Asbestos

Multiple asbestos refurbishment/demolition survey were undertaken by About Safety Ltd in September and October 2020 and are submitted as part of the application. The scope of the survey's were confined to all accessible areas of the existing buildings which are due for demolition and/or refurbishment in the future.

Asbestos Containing Materials (ACM) were detected in several locations within some of the buildings including but not limited to floor tiling, roof slates, roof felt, rope seals, bitumen and woven rope.

Removal of asbestos or ACMs will be carried out by a suitably qualified contractor and ACM's will only be removed from site by a suitably permitted/licenced waste 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.

4.3.5 Other known Hazardous Substances

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

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

5.0 ROLES AND RESPONSIBILITIES

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

5.1 Role of the Client

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

- The Client has commissioned the preparation and submission of a preliminary RWMP as part of the design and planning submission;
- The Client is to commission the preparation and submission of an updated RWMP as part of the construction tendering process;

- The Client will ensure that the RWMP is agreed on and submitted to the local authority prior to commencement of works on site;
- The Client is to request the end-of-project RWMP from the Contractor.

5.2 Role of the Client Advisory Team

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

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

5.3 Future Role of the Contractor

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

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

- Clarification of any other statutory waste management obligations, which could include on-site processing;
- Full records of all resources (both wastes and other resources) should be maintained for the duration of the project; and
- Preparing a RWMP Implementation Review Report at project handover.

6.0 KEY MATERIALS & QUANTITIES

6.1 Project Resource Targets

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

- Weight (tonnes) or Volume (m³) of waste generated per construction value;
- Weight (tonnes) or Volume (m³) of waste generated per construction floor area (m²);
- Fraction of resource reused on site;
- Fraction of resource notified as by-product;
- Fraction of waste segregated at source before being sent off-site for recycling/recovery; and
- Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.

6.2 Main Construction and Demolition Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the demolition and construction activities at a typical site are shown in Table 6.1. The List of Waste (LoW) code (as effected from 1 June 2015) (also referred to as the European Waste Code or EWC) for each waste stream is also shown.

Table 6.1 Typical waste types generated and LoW codes (individual waste types may contain hazardous substances)

Waste Material	LoW/EWC Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Treated wood, glass, plastic, containing hazardous substances	17-02-04*
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*
Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Gypsum-based construction material	17 08 01* & 02
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

* individual waste type may contain hazardous substances

7.0 WASTE MANAGEMENT

7.1 Demolition Waste Generation

The demolition stage will involve the demolition and renovation of multiple brick buildings onsite. The demolition areas are identified in the planning drawings provided with this application. The anticipated demolition waste and rates of reuse, recycling/recovery and disposal is shown in Table 7.1, 4.2 and 4.3 below

Masterplan**Table 7.1** *Estimated off-site reuse, recycle and disposal rates for demolition waste from the Masterplan*

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	2027.9	0	0.0	85	1723.7	15	304.2
Concrete, Bricks, Tiles, Ceramics	11491.4	30	3447.4	65	7469.4	5	574.6
Plasterboard	901.3	30	270.4	60	540.8	10	90.1
Asphalts	225.3	0	0.0	25	56.3	75	169.0
Metals	3379.8	5	169.0	80	2703.9	15	507.0
Slate	1802.6	0	0.0	85	1532.2	15	270.4
Timber	2703.9	10	270.4	60	1622.3	30	811.2
Asbestos	7.0	0	0.0	0	0.0	100	7.0
Total	22539.2		4157.2		15648.6		2733.4

Site 2**Table 7.2** *Estimated off-site reuse, recycle and disposal rates for demolition waste from Site 2.*

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	1216.2	0	0.0	85	1033.7	15	182.4
Concrete, Bricks, Tiles, Ceramics	6891.5	30	2067.5	65	4479.5	5	344.6
Plasterboard	540.5	30	162.2	60	324.3	10	54.1
Asphalts	135.1	0	0.0	25	33.8	75	101.3
Metals	2026.9	5	101.3	80	1621.5	15	304.0
Slate	1081.0	0	0.0	85	918.9	15	162.2
Timber	1621.5	10	162.2	60	972.9	30	486.5
Asbestos	2.0	0	0.0	0	0.0	100	2.0
Total	13514.7		2493.1		9384.6		1637.0

Table T61 O'Connell Street**Table 4.3** *Estimated off-site reuse, recycle and disposal rates for demolition waste from 61 O'Connell Street.*

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	3.7	0	0.0	85	3.2	15	0.6
Concrete, Bricks, Tiles, Ceramics	21.1	30	6.3	65	13.7	5	1.1
Plasterboard	1.7	30	0.5	60	1.0	10	0.2
Asphalts	0.4	0	0.0	25	0.1	75	0.3
Metals	6.2	5	0.3	80	5.0	15	0.9
Slate	3.3	0	0.0	85	2.8	15	0.5
Timber	5.0	10	0.5	60	3.0	30	1.5

Asbestos	0.1	0	0.0	0	0.0	100	0.1
Total	41.5		7.6		28.8		5.0

7.2 Construction Waste Generation

The below Table 4.4 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA *National Waste Reports*¹⁴ and the joint EPA & GMIT study¹⁵.

Table 7.4: Waste materials generated on a typical Irish construction site

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

The Tables 4.5, 4.6 and 4.7 below show the estimated construction waste generation for the development masterplan and a separate breakdown for Site 2 and 61 O'Connell Street based on the gross floor area of construction and other information available to date, along with indicative targets for management of the waste streams. The estimated waste amounts for the main waste types (with the exception of soil, stone, made ground and clay) are based on an average large-scale development waste generation rate per m², using the waste breakdown rates shown in Table 4.4. These have been calculated from the schedule of development areas provided by the architect.

Masterplan

Table 7.5: Predicted on and off-site reuse, recycle and disposal rates for construction waste

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1691.7	10	169.2	80	1353.4	10	169.2
Timber	1435.4	40	574.2	55	789.5	5	71.8
Plasterboard	512.6	30	153.8	60	307.6	10	51.3
Metals	410.1	5	20.5	90	369.1	5	20.5
Concrete	307.6	30	92.3	65	199.9	5	15.4
Other	769.0	20	153.8	60	461.4	20	153.8
Total	5126.3		1163.7		3480.8		481.9

In addition to the information in Table 4.5, there will be c.163,490m³ of soil, stones, clay and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed basement. Any suitable excavated material will be temporarily stockpiled for reuse as fill, where possible, but reuse on site is expected to be limited and all of the excavated material is expected to be removed offsite for appropriate reuse, recovery and/or disposal.

Site 2

Table 7.6: Predicted on and off-site reuse, recycle and disposal rates for construction waste

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	871.1	10	87.1	80	696.9	10	87.1
Timber	739.1	40	295.6	55	406.5	5	37.0
Plasterboard	264.0	30	79.2	60	158.4	10	26.4
Metals	211.2	5	10.6	90	190.1	5	10.6
Concrete	158.4	30	47.5	65	102.9	5	7.9
Other	396.0	20	79.2	60	237.6	20	79.2
Total	2639.7		599.2		1792.3		248.1

In addition to the information in Table 4.5, there will be c.133,565m³ of soil, stones, clay and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed basement. Any suitable excavated material will be temporarily stockpiled for reuse as fill, where possible, but reuse on site is expected to be limited and all of the excavated material is expected to be removed offsite for appropriate reuse, recovery and/or disposal.

61 O'Connell Street

Table 7.6: Predicted on and off-site reuse, recycle and disposal rates for construction waste

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	2.7	10	0.3	80	2.2	10	0.3
Timber	2.3	40	0.9	55	1.3	5	0.1
Plasterboard	0.8	30	0.2	60	0.5	10	0.1
Metals	0.7	5	0.0	90	0.6	5	0.0
Concrete	0.5	30	0.1	65	0.3	5	0.0
Other	1.2	20	0.2	60	0.7	20	0.2
Total	8.2		1.9		5.6		0.8

In addition to the information in Table 4.5, there will be a very limited quantity of soil, stones, clay and made ground excavated to facilitate construction of new foundations, underground services. Any suitable excavated material will be temporarily stockpiled for reuse as fill, where possible, but reuse on site is expected to be limited and all of the excavated material is expected to be removed offsite for appropriate reuse, recovery and/or disposal.

7.3 Proposed Resource & Waste Management Options

Waste materials generated will be segregated on site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source where feasible. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin 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 a facility holding the appropriate registration, permit or licence, as required.

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

Written records will be maintained by the contractor(s) detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contactors who collect waste from the site and COR/permit or licence for the receiving waste facility for all waste removed off site for appropriate reuse, recycling, recovery and/or disposal

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

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

Soil, Stone, Gravel and Clay

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

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

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

If the material is deemed to be a waste, then removal and reuse/recovery/disposal of the material will be carried out in accordance with the *Waste Management Acts 1996 – 2011* as amended, the *Waste Management (Collection Permit) Regulations 2007* as amended

and the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

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

Bedrock

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

Silt & Sludge

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

Concrete Blocks, Bricks, Tiles & Ceramics

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

Hard Plastic

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

Timber

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

Metal

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

Plasterboard

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

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical and Electronic Equipment (WEEE)

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

Other Recyclables

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

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip/receptacle will be examined by a member of the waste team (see Section 10.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Asbestos Containing Materials

Any asbestos or ACM found onsite should be removed by a suitably competent contractor and disposed of as asbestos waste before the demolition works begin. All asbestos removal work or encapsulation work must be carried out in accordance with *S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*.

Other Hazardous Wastes

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

Onsite Crushing

It is currently not envisaged that the crushing of waste materials will occur onsite, however if the crushing of material is to be undertaken a mobile waste facility permit will first be obtained from DCC and the destination of the excepting waste facility will be supplied to the DCC waste unit.

7.4 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 project RM (see Section 10.0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the *Waste Management Acts 1996 - 2011*, *Waste Management (Collection Permit) Regulations 2007* as amended and *Waste Management (Facility Permit & Registration) Regulations 2007* and amended. This includes the requirement for all waste contractors

to have a waste collection permit issued by the NWCPO. The nominated project RM (see Section 10.0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR/permit or EPA Waste/IE Licence for that site will be provided to the nominated project RM (see Section 10.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (as the relevant authority on behalf of all local authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

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

8.0 ESTIMATED COST OF WASTE MANAGEMENT

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

8.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle/recovery/disposal costs associated with the requirement for a waste contractor to take the material off-site.

Clean and inert soils, gravel, stones etc. which cannot be reused on site may be used as access roads or capping material for landfill sites etc. This material is often taken free of charge or a reduced fee for such purposes, reducing final waste disposal costs.

8.2 Recycling

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

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

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

8.3 Disposal

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

Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the

remainder to landfill. Clean soil, rubble, etc. is also used as fill/capping material, wherever possible.

9.0 DEMOLITION PROCEDURES

The demolition stage will involve the demolition and renovation of multiple brick style buildings onsite. The demolition areas are identified in the planning drawings. The demolition areas are identified in the planning drawings submitted as part of this application. The following sequence of works will be followed during the demolition stage.

Check for Hazards

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

Removal of Components

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

Removal of Roofing

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

Excavation of Services, Demolition of Walls and Concrete

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

10.0 TRAINING PROVISIONS

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

10.1 Resource Manager Training and Responsibilities

The nominated RM will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid them in the organisation, operation and recording of the waste management system implemented on site. The RM will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the RM to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The RM will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The RM will

also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this RWMP.

10.2 Site Crew Training

Training of site crew is the responsibility of the RM and, as such, a waste training program should be organised. A basic awareness course will be held for all site crew to outline the RWMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

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

11.0 TRACKING AND TRACING / RECORD KEEPING

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

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

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

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

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

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

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

12.0 OUTLINE WASTE AUDIT PROCEDURE

12.1 Responsibility for Waste Audit

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

12.2 Review of Records and Identification of Corrective Actions

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

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

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

13.0 CONSULTATION WITH RELEVANT BODIES

13.1 Local Authority

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

DCC will also be consulted, as required, throughout the demolition, 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.

13.2 Recycling/Salvage Companies

The appointed waste contractor for the main waste streams managed by the demolition and construction contractors will be audited in order to ensure that relevant and up-to-date

waste collection permits and facility registrations/permits/licences are held. In addition, information will be obtained regarding the feasibility of recycling each material, the costs of recycling/reclamation, the means by which the wastes will be collected and transported off-site, and the recycling/reclamation process each material will undergo off site.

14.0 REFERENCES

1. Waste Management Act 1996 (No. 10 of 1996) as amended.
2. Protection of the Environment Act 2003, (No. 27 of 2003) as amended.
3. Litter Pollution Act 1997 (No. 12 of 1997) as amended
4. Eastern-Midlands Region Waste Management Plan 2015 – 2021 (2015).
5. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement* (1998).
6. Forum for the Construction Industry – *Recycling of Construction and Demolition Waste*.
7. Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025* (2020).
8. DCCAE, *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less'* (2021)
9. Environmental Protection Agency (EPA) '*Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects*' (2021)
10. Department of Environment, Heritage and Local Government, *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects* (2006).
11. FÁS and the Construction Industry Federation (CIF), *Construction and Demolition Waste Management – a handbook for Contractors and Site Managers* (2002).
12. Dublin City Council (DCC), *Dublin City Council Development Plan 2016-2022* (2016)
13. DCC, *Draft Dublin City Council Development Plan 2022-2028* (2021)
14. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended
15. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2015)
16. Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
17. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2012*.
18. 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).

APPENDIX A

Refurbishment & Demolition Asbestos Survey



ABOUT SAFETY LTD.

ASBESTOS | LEAD BASED PAINT | MOULD | SILICA DUST | HAZMAT
SURVEYING & TESTING
RISK MANAGEMENT | PROJECT MANAGEMENT

Refurbishment & Demolition Asbestos Survey

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SURVEYING & TESTING
RISK MANAGEMENT | PROJECT MANAGEMENT

Refurbishment & Demolition Asbestos Survey

Location: *46 – 49 O’Connell Street
Moore Lane
Dublin 1*

Client: *Dublin Central GP Ltd*

Instructing Party: *Certo Management Services*

Survey Date: *29th September 2020*

Prepared by: *John Kelleher, About Safety Ltd.*

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Executive Summary

A Refurbishment and Demolition Asbestos Survey was carried out for the above property. Interim arrangements may be required to be put in place by the duty holders (not known) or each property depending on the current or proposed use of the property. Below is a summary of the survey.

Ref:	Confirmed Asbestos [Requires removal and disposal as asbestos waste by a competent asbestos contractor prior to works likely to cause disturbance. Interim arrangements may be required to be put in place by the duty holders depending on the current or proposed use of the property]
3, 12	Asbestos containing woven rope to air handling ductwork in the boiler room and in the associated plant on the roof. Intact.
5	Asbestos flue pipes from the Hoval boilers and exiting into ceiling. Good condition and intact.
6	Asbestos containing woven rope gaskets to the burner unit and the front door of the Hoval boilers. Internal areas these boilers contain woven rope and flat gaskets. Intact.
17, 30, 31, 45, 60, 71, 103, 104	Asbestos containing vinyl floor tiles (VFT's) and grey thread nosings to steps on both stairways. Intact generally.
18, 44, 59	Heat pads on the sink unit bowl and draining boards contain asbestos in the kitchenettes on all floors. Intact.
19, 22, 38, 42, 57, 58, 108, 109	Asbestos containing woven rope gaskets to all the vertical duct risers in the ladies and gent's WC's. Extends into the Chinese restaurant on the ground to 2 nd floor. Intact generally. Fibrous strings to some joints.
27, 28, 34	Asbestos containing adhesive to the VFT's in the 5 th floor kitchen and associated rooms. Intact generally.
67, 68, 69	Asbestos containing red adhesive to ductwork joints and seams. Intact.
32, 61, 64, 70	Asbestos insulation board (AIB) to the backs of the doors in the half landings on the West stairway. Fibrous edges. Not sealed.
66, 67	Asbestos containing adhesive to VFT's on the SW corner of the second floor and to the adjacent floor area on the 2 nd floor.
121	Asbestos containing string to the MMMF debris on the floor in the basement plantroom. Small amount.

Ref:	Presumed/Strongly Presumed Asbestos & Non-Accessed Areas [Requires investigation by a competent contractor prior to works likely to cause disturbance]
4	The boiler room generator flange gaskets are presumed to contain asbestos.
7	Integral areas of the Hoval boilers are strongly presumed to contain asbestos.
8	Asbestos containing gaskets are strongly presumed in the pipework flanges throughout the boiler room.
10	External window sealants and mastics are presumed to contain asbestos.
14	Lift cores and doors were not accessible and are therefore presumed to contain asbestos.
33	The dry riser hydrants are presumed to contain asbestos.
General	Fire doors throughout the building are presumed to contain asbestos unless material was identified through keyholes or damaged areas of doors.
78	The Chinese restaurant (fronting O'Connell St.) and first and second floors were not accessible during the inspection.
75	The ESB sub-station was not accessed during the inspection.
77	Occupied offices in the car park were not inspected.
78	Retail outlets on O'Connell Street were not accessible during the inspection.
89, 94	The stairway to the 1 st floor and lift lobbies are presumed to contain asbestos vinyl floor tiles.
122	The lead sealed cast-iron collars are presumed to contain asbestos woven rope packing. Network of pipework in basement and in building.
123	Construction and demolition waste piles are extensive throughout the basement and is presumed to contain asbestos materials.

Names and Addresses

Client Name:
Dublin Central GP Ltd

Instructing Party:
Certo Management Services

Contact:
Phone:

Contact: Peter McIlhagger
Phone:

Site Full Name:
46 – 49 O’Connell Street
Moore Lane
Dublin 1

Report Author:
About Safety Limited
24 Oceancrest
Arklow
Co. Wicklow

Contact: John Kelleher
Phone: 086 2208488

Asbestos Surveyor: John Kelleher

British Occupational Hygiene Society (BOHS) Asbestos Proficiency Certification

- S301: Asbestos and other Fibres
- P401: Identification of Asbestos in Bulk Samples (PLM)
- P402: Building Surveys and Bulk Sampling for Asbestos
- P403: Asbestos Fibre Counting
- P404: Air Sampling and Clearance Testing of Asbestos
- P405: Management of Asbestos in Buildings (Safe Removal & Disposal)



Introduction

About Safety Ltd. was instructed to carry out a Refurbishment and Demolition Asbestos Survey of the above property. The survey and sampling was carried out taking cognizance of the requirements of the Health and Safety Executive (UK) document, *HSG 264, Asbestos: The Survey Guide*.

Objectives

The objectives of this survey were to:

To carry out a survey to ascertain the presence of asbestos based materials.

To carry out a survey to locate and describe, as far as reasonably practicable, all asbestos containing materials prior to refurbishment/demolition.

To gain access to all areas, as necessary, to determine the extent of any asbestos that may be present.

To sample and estimate the extent and volume of any asbestos materials that may be present.

To generate asbestos material assessments where the period between the survey and event is significant i.e. more than 3 months.

To produce a report identifying areas containing asbestos to be used as a basis for tendering their removal.

To instigate asbestos removal works prior to refurbishment/demolition.

NB: The extent of asbestos containing materials if identified in this report are only approximate and should not be relied upon as a basis for tendering removal works. Contractors tendering works are expected to satisfy themselves by site visit and measurement the exact nature and extent of any works they are tendering.

Scope of Works & Site Description

General Information	<p><i>Scope of Works:</i></p> <p><i>Date of Construction:</i></p>	<p>Proposed Structural alterations, refurbishment or demolition.</p> <p>Not known. 5 storey buildings of solid construction of with flat roofs. Reinforced concrete construction.</p>
External Aspects:	<p><i>Roofs:</i></p> <p><i>Extensions:</i></p> <p><i>Other:</i></p>	<p>Flat roofs with bitumen asphalt and modern repair felt in areas.</p> <p>N/A</p>
Internal Aspects:	<p><i>Walls:</i></p> <p><i>Ceilings:</i></p> <p><i>Floors:</i></p> <p><i>Insulation:</i></p>	<p>Solid block and plasterboard internal partitions with MMMF acoustic insulation.</p> <p>Drop ceilings with lay-in ceiling tiles.</p> <p>Concrete</p> <p>Fiberglass and foamrubber to pipework.</p>
Services:	<i>M&E:</i>	<p>Air handling ductwork in vertical risers with spurs in the ladies and gent's WC's.</p>
Reservations:	<i>Access restrictions:</i>	<p>The integrity of the floors and internal linings in the Chinese were not disturbed – the restaurant is trading.</p> <p>Various small retail outlets on O'Connell Street were not accessible.</p>

Survey Limitations

All areas accessed for proposed refurbishment works were subjected to a survey taking cognisance of the requirements of HSG 264, Asbestos: The Survey Guide. The investigation consisted of an inspection of each room and area to be impacted by the works.

No report has been made on any concealed spaces, which may exist within the fabric of the building where the extent and presence of these is not evident due to inaccessibility, lack of building drawings or insufficient knowledge of the structure of the building at the time of the survey.

Inaccessible Areas: Electrical equipment such as, boiler units, water heaters, storage heaters, fuse or switch boards. Within floor or wall structures, behind wall or ceiling cladding or within blocked up chimneys. Within internal areas of fire doors unless asbestos observed from keyhole or other damaged areas. Care should always be exercised when working on any electrical equipment in particular the older styles as asbestos-containing materials may be present.

Asbestos Refurbishment & Demolition Survey: Definition

A refurbishment and demolition survey is needed before any refurbishment or demolition works is carried out. This type of survey is used to locate and describe, as far as reasonably practicable, all ACM's in the area where the refurbishment works will take place or in the whole building if demolition is planned. The survey will be fully intrusive and involve destructive inspection, as necessary, to gain access to all areas, including those that may be difficult to reach. A refurbishment and demolition survey may also be required in other circumstances, e.g. when more intrusive and maintenance and repair work will be carried out or for plant removal and dismantling.

Where the refurbishment or demolition works may not take place for a significant period after the survey (e.g. three months), then the information required for a management survey should be obtained.

Asbestos Contaminated Soils (ACS)

The first point of contact with soil or ground contaminated with asbestos will be during site investigations and exploratory ground works. This may be defined as asbestos operative related work and applies where there is a potential for sporadic or low intensity exposure. People directly involved in these preliminary works, geotechnical engineers and ground workers, should receive formal training enabling them to work safely where asbestos could be present in the ground as a consequence of legacy use issues with the land. In principle, the general tiered approach to the assessment and management of potential risks posed by ACS is the same as that for any other contaminant. However, the unique nature of asbestos means that different methods of analysis, exposure estimation and risk estimation are required. Importantly, soil and air analysis methods need to be more detailed than those currently and commonly used to demonstrate compliance with the Asbestos Regulations.

Material Assessment

No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.

Material Assessment Algorithm

In the material assessment process, the main factors influencing fibre release are given a score which can then be added together to obtain a material assessment rating. The four main parameters which determine the amount of fibre released from an ACM when subject to disturbance are:

- Product Type

- Extent of damage or deterioration
- Surface Treatment; and
- Asbestos type

Each parameter is scored between 1 and 3. A score of 1 equivalent to a low potential for fibre release, 2 = medium and 3 = high. Two parameters can also be given a nil score (equivalent to a very low potential for fibre release). The value assigned to each of the four parameters is added together to give a total score of between 2 and 12. Presumed or strongly presumed ACM's are scored as Crocidolite (i.e. score = 3) unless there is strong evidence to show otherwise.

Materials with assessment scores of 10 or more are rated as having a high potential to release fibres, if disturbed. Scores of between 7 and 9 are regarded as having a medium potential, and between 5 and 6 a low potential. Scores of 4 or less have a very low potential to release fibres.

Analytical Techniques

Asbestos Bulk Sample Analysis is conducted by using Polarised Light and Dispersion Staining Techniques. Dispersion Staining is used to describe the colour effects produced when a transparent colourless particle or fibre is immersed in a liquid having a refractive index near to that of the particle or fibre, and is viewed under a microscope using transmitted white light (based on HSE Publication, HSG 248).

Samples were returned to About Safety Ltd. Laboratory for Analysis. Photographs were taken at all of the sample locations (unless otherwise stated).

Materials of a similar type were only occasionally sampled and it was assumed that other materials visually inspected to where the sample was taken, were of a similar composition.

Each area was viewed for suspect materials thought or known to contain asbestos and samples taken where it was considered necessary.

General Caveat

This report is based on a Refurbishment & Demolition survey of an un-occupied building.

During the course of the survey all reasonable efforts were made to identify the physical presence of materials containing asbestos. It is known that asbestos materials are frequently concealed within the fabric of buildings or within sealed building voids so that it is not possible to regard the findings of any survey as being definite. It must remain a possibility that asbestos containing materials may be found during demolition activities. For reasons set out in this report, the results cannot give an assurance that all asbestos materials have been found and must not be thought to do so.

It should be noted that the term "No visible asbestos containing materials identified" was used in retail and other parts of properties which were occupied or partially occupied during the inspection. It must remain a possibility that asbestos containing materials may be entombed under existing floors, above ceilings or behind walls, fixtures and fittings. Therefore, any future works in these areas should be preceded by an invasive investigation.

This report has been written with reference to the various Guidance Notes etc, issued, and current at the date of this report and describes circumstances at the site on the date the survey took place.

Specific Notes

Legislation and Codes of Practice

The Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 to 2010, apply to work where there is or may be asbestos fibres present. These regulations apply in particular to any person or

employer working with or removing asbestos.

In addition, Safety, Health and Welfare at Work (Construction) Regulations 2013 (SI 291 of 2013) also apply to any building, installation, repair, demolition and asbestos removal work.

Information about working with material containing asbestos cement is contained in Health and Safety Authority's document "Guidelines on Working with Materials Containing Asbestos Cement".

Provision of information

It is recommended that this report is brought to the attention of any person likely to be involved in refurbishment/demolition works.

Once asbestos materials have been identified it is essential that appropriate remedial measures be introduced prior to any structural alterations, refurbishment or demolition works commencing. All the asbestos removal works should be carried out by a competent asbestos removal contractor in accordance with Asbestos at Work Regulations 2006 to 2010. Statutory notification requirements of 14 days are required under the provisions of the Asbestos Regulations for certain works involving asbestos. The contractor appointed for removal works is responsible for deciding if a 14-day notification is required and for drawing up a plan of work for any removal works.

Appendix A – Asbestos Bulk Identification Report

ASBESTOS BULK IDENTIFICATION REPORT

Report on:

Identification of asbestos content of suspected asbestos containing materials (ACM's) sampled from the following location/site:

**Fingal Co. Co.
Building and Car Park
(Excludes Ten Thousand World Takeaway and 1st and 2nd floors)**

TEST RESULT

SAMPLE NO	LAB. REF.	SAMPLE LOCATION	MATERIAL DESCRIPTION	ASBESTOS TYPE IDENTIFIED
S01	2027301	2 nd floor West stairway riser door backing	Fireboard	Amosite
S02	2027302	Boiler room Air Handling ductwork joints	Woven rope gaskets	Chrysotile
S03	2027303	Boiler room – Hoval boiler – burner unit	Woven rope gasket	Chrysotile
S04	2027304	Lift plantroom, lift motors	Brake shoes	NADIS
S05	2027305	Lift plantroom, lift motors	Brake shoes	NADIS
S06	2027306	Boiler room	Flue pipes	Chrysotile
S07	2027307	Roof plinth expansion joint	Mastic adhesive	NADIS
S08	2027308	5 th floor	Common VFT	Chrysotile
S09	2027309	5 th floor	Common VFT Evode	NADIS
S10	2027310	5 th floor ladies WC lobby riser, AH ductwork joints	Woven rope gaskets	Chrysotile
S11	2027311	5 th floor kitchenette sink unit	Heat pads	Chrysotile
S12	2027312	5 th floor stairway threads	Grey nosing	Chrysotile
S13	2027313	5 th floor at canteen	Grey VFT	Chrysotile
S14	2027314	5 th floor at canteen	Grey VFT adhesive	Chrysotile
S15	2027315	5 th floor canteen drop ceiling	Supalux ceiling tile	NADIS
S16	2027316	4 th floor kitchenette sink unit	Heat pads	Chrysotile
S17	2027317	5 th floor Stairway	Common VFT	Chrysotile
S18	2027318	5 th floor Stairway	Common VFT Evode	NADIS
S19	2027319	5 th floor East stairway	Grey nosing	Chrysotile
S20	2027320	3 rd floor wall mounted heater	Felt insert	NADIS
S21	2027321	2 nd floor SW corner	Green VFT	NADIS
S22	2027322	2 nd floor SW corner	Green VFT adhesive	Chrysotile
S23	2027323	2 nd floor East end of corridor – AH ductwork	Adhesive to seams	Chrysotile
S24	2027324	2 nd floor wall mounted radiator	Felt insert	NADIS
S25	2027325	2 nd floor stairways	Common VFT	Chrysotile
S26	2027326	2 nd floor stairways	Grey thread nosings	NADIS
S27	2029801	Basement plantroom	String to MMMF	Chrysotile
S28	2029802	Chinese restaurant 2 nd floor stairway	VFT	Chrysotile

Glossary

*NADIS = No Asbestos Detected in Sample
VFT = Vinyl Floor Tile





Chrysotile (white asbestos)

Amosite (brown asbestos)





Crocidolite (blue asbestos)

Analyst: John Kelleher





Appendix B – Schedule of Survey Sheets

Ref No.	Building	Location or Functional Space	Sample No.	Material Description, surface treatment and condition	Extent	Asbestos identified (presumed, strongly presumed or identified)	Product type	Condition	Surface treatment	Asbestos type	Material assessment score	Recommendations	Photo
1	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor lift plant room	2027304 2027305	Brake shoes		NAD							
2	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room		Electrical panel		NAD							
3	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room	2027302	Woven rope gaskets to air handling ductwork joints	NQ	Chrysotile	2	1	1	1	5	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
4	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room		Gaskets to generator		Presumed						Further inspection is required by a competent contractor prior to any disturbance.	





Key NAD = No asbestos detected NAA = Non-Accessed Area AIB = Asbestos insulation board AC = Asbestos cement VFT = vinyl floor tile NQ = Not Quantified/Quantifiable SM = Square Meters LM = Linear Meters	Confirmed Asbestos	Material Assessment Score		Risk
		Presumed/Strongly presumed ACM Or Non-Accessed Area	≤ 4	Very Low
	5 - 6		Low	
	7 - 9		Medium	
	≥ 10		High	
No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.				

Ref No.	Building	Location or Functional Space	Sample No.	Material Description, surface treatment and condition	Extent	Asbestos identified (presumed, strongly presumed or identified)	Product type	Condition	Surface treatment	Asbestos type	Material assessment score	Recommendations	Photo
5	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room	2027306	Asbestos cement flue pipes from boilers and exiting through roof.	6 LM approx.	Chrysotile	1	0	1	1	3	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
6	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room	2027303	Woven rope seals to Hoval boiler burner unit and door.	2 LM approx.	Chrysotile	2	1	1	1	5	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
7	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room		Integral areas of boilers		Strongly presumed to contain asbestos						Removal and disposal by a competent contractor prior to any works likely to cause disturbance.	
8	Fingal Co. Co. Office and Carpark Moore Lane	6 th floor boiler room		Pipework flange gaskets		Strongly presumed to contain asbestos						Dismantling and investigation by a competent contractor prior to work likely to cause disturbance.	



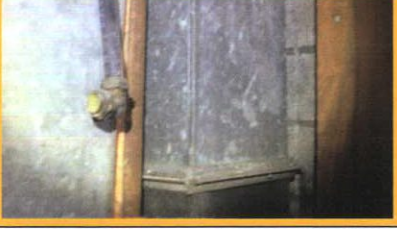

Key NAD = No asbestos detected NAA = Non-Accessed Area AIB = Asbestos insulation board AC = Asbestos cement VFT = vinyl floor tile NQ = Not Quantified/Quantifiable SM = Square Meters * M = Linear Meters	Confirmed Asbestos	Material Assessment Score		Risk
		≤ 4		Very Low
	5 - 6		Low	
	7 - 9		Medium	
	≥ 10		High	
Presumed/Strongly presumed ACM Or Non-Accessed Area		No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.		

Ref No.	Building	Location or Functional Space	Sample No.	Material Description, surface treatment and condition	Extent	Asbestos identified (presumed, strongly presumed or identified)	Product type	Condition	Surface treatment	Asbestos type	Material assessment score	Recommendations	Photo
9	Fingal Co. Co. Office and Carpark Moore Lane	Roof		Bitumen asphalt over concrete slab		NAD							
10	Fingal Co. Co. Office and Carpark Moore Lane	Building exterior East elevation		Window sealant		Presumed asbestos						Further inspection is required by a competent contractor prior to any disturbance.	
11	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor roof		Bitumen asphalt under modern roofing felt.		NAD							
12	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor roof		Rope seals to air handling ductwork	NQ.	Chrysotile	2	1	1	5	5	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	




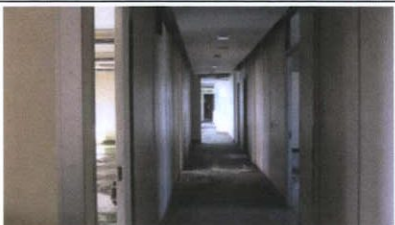
Key NAD = No asbestos detected NAA = Non-Accessed Area AIB = Asbestos insulation board AC = Asbestos cement VFT = vinyl floor tile NQ = Not Quantified/Quantifiable SM = Square Meters LM = Linear Meters	Confirmed Asbestos	Material Assessment Score		Risk	
				≤ 4	Very Low
	Presumed/Strongly presumed ACM Or Non-Accessed Area			5 - 6	Low
				7 - 9	Medium
				≥ 10	High
No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.					

Ref No.	Building	Location or Functional Space	Sample No.	Material Description, surface treatment and condition	Extent	Asbestos identified (presumed, strongly presumed or identified)	Product type	Condition	Surface treatment	Asbestos type	Material assessment score	Recommendations	Photo
13	Fingal Co. Co. Office and Carpark Moore Lane	Building exterior south elevation roof	2027307	Expansion joint putty to roof plinth		NAD							
14	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor lift lobby		Internal areas of lifts		Presumed						Further inspection is required by a competent contractor prior to any disturbance.	
15	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor lobby dry riser				NAD							
16	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor lobby		Drop ceilings with lay-in ceiling tiles under roof slab.		NAD							





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				≤ 4	Very Low
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Ref No.	Building	Location or Functional Space	Sample No.	Material Description, surface treatment and condition	Extent	Asbestos identified (presumed, strongly presumed or identified)	Product type	Condition	Surface treatment	Asbestos type	Material assessment score	Recommendations	Photo
17	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor stairway	2027308 2027309	VFT and grey thread nosings.	All	Chrysotile	1	0	0	1	2	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
18	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor Kitchenette	2027311	Sink pad	2 pads	Chrysotile	1	0	0	1	2	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
19	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor ladies WC lobby riser	2027310	Rope to air handling ductwork in dry riser	Small amount	Chrysotile	2	1	1	1	5	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
20	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor Ladies WC				NAD							

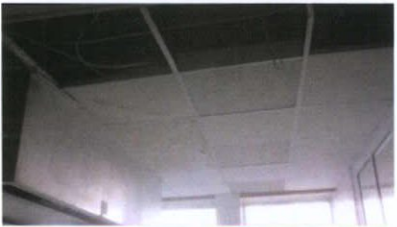



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		Presumed/Strongly presumed ACM Or Non-Accessed Area	≤ 4	Very Low
	5 - 6		Low	
	7 - 9		Medium	
		≥ 10	High	
No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.				

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21	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor cleaners store		Ceramic floor tiles		NAD							
22	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor Gents WC		Rope to air handling ductwork in dry riser	Small amount	Chrysotile	2	1	1	1	5	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
23	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor Gents WC		Ceramic tiles and toiletware		NAD							
24	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor office corridor		Plasterboard partition between individual offices.		NAD							

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		≤ 4		Very Low
	5 - 6		Low	
	7 - 9		Medium	
	≥ 10		High	
Presumed/Strongly presumed ACM Or Non-Accessed Area		No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.		

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25	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor office ceilings		Modern drop ceilings with lay-in ceiling tiles		NAD							
26	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor offices		Radiator units under windows		NAD							
27	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor kitchen and associated rooms to back.		Adhesive under lino	80 SM approx	Chrysotile	1	0	0	1	2	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
28	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor kitchen	2027313 2027314	VFT and adhesive		Chrysotile	1	0	0	1	2	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	

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Presumed/Strongly presumed ACM Or Non-Accessed Area		No condition assessment is normally necessary for refurbishment and demolition surveys but, where the period between survey and the event is significant, e.g. more than 3 months, then a material assessment should be conducted and interim management arrangements put in place.			

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29	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor kitchen	2027315	Supalux ceiling tiles		NAD							
30	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor stairway	2027317	VFT		Chrysotile	1	0	0	1	2	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
31	Fingal Co. Co. Office and Carpark Moore Lane	5 th floor stairway	2027312	Threads		Chrysotile	1	0	0	1	2	Removal and disposal as asbestos waste by a competent contractor prior to work likely to cause disturbance.	
32	Fingal Co. Co. Office and Carpark Moore Lane	4 th floor half landing		Insulation board back of riser doors	1 SM approx.	Amosite	2	2	2	2	8	Removal and disposal by a competent contractor prior to any works likely to cause disturbance.	

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	Presumed/Strongly presumed ACM Or Non-Accessed Area			5 - 6	Low
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