Preliminary Construction & Environmental Management Plan

Student Residence at 139-149 North King Street, Dublin 7 – Stage 3 LRD

2340

September 2024

Issue No. 2

Structural & Civil Consulting Engineers
Behan House
10 Lower Mount Street
Dublin 2
Tel: 01- 6611100
Fax: 01-6611119
E: info@cora.ie

Table of Contents

1 Introduction

1.1 General

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

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

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

This Preliminary Construction & Environmental Management Plan will demonstrate how it is proposed during the Construction Phase to comply with the following relevant legislation and relevant Best Practice Guidelines:-

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

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

Each section of the Preliminary Construction & Environmental Management Plan presents the potential environmental impacts, proposed monitoring methodologies, limit values where applicable, based on the concept of Best Practice and the proposed mitigation measures to be implemental at the site. Reference to National and International Standards are also included where relevant.

2 Description of Proposed Development

2.1 General

Ringline Investments Limited intend to apply for permission for development at 139-149 North King Street, Dublin 7. The development will consist of the demolition of existing structures on site, with the exception of the façade on North King Street (N) and Bow Street (E), which is a protected structure (RPS Ref. No. 8790 – north and east elevation only), which will be retained, improved and restored as part of the proposed development.

The proposal will provide a purpose-built student accommodation development in a 7-storey building over a partial existing basement with a setback at 5th floor and a further significant setback at the 6th floor level.

The proposal includes 361 no. student bedspaces, a ground level retail unit with frontage to both North King Street and Bow Street, communal facilities including a courtyard, external terrace at roof level at 5th and 6th floor and internal amenity spaces.

2.2 Scope of Construction Management Plan

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

- Demolition of the buildings at 139-149 North King St.
- Retention of the Protected Masonry Façade on North King St.
- Site works including drainage and landscaping.
- Excavations on the site for foundations within the basement and for drainage runs.
- Installation of piling
- Construction of new seven storey building.
- Waste Management during the Construction Phase.

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

2.3 Access to the Works and Traffic Management

It is proposed that access to the site will be from Brown Street North via North King Street. This will allow safe and proper segregation of vehicular movement from local residents and business and the site shall be managed so that vehicle movements do not conflict with the local area.

This approach is taken to ensure that access is maintained at all times for adjoining local residents, business and schools.

A full detailed Part 8 Construction Traffic Management Plan will be developed by the selected Contractor prior to commencement of site works for submission to Dublin City Council (DCC) for their review. It is envisaged that the Contractor will meet with DCC to agree all details prior to submission after a consultation with all stakeholders.

This will include, but not be limited to, agreement on the height and line of closed board hoarding, associated pedestrian routes, exact location of access and delivery gates etc. It is envisaged that there will be at a minimum of 2 No. dedicated gate personal provided by the Contractor at all times during site operations to manage logistical operations in accordance with the Construction Traffic Management Plan. A '*Just in Time'* approach will have to be employed on site for all deliveries and cart-away material exiting site given storage will be limited given site restrictions. The main Contractor will agree with DCC its methodology to ensure that all approach roads and the environs are free at all times from any Demolition and Construction waste including the use of Road Cleaning Machines.

All sub-contractors and supply chain members will be issued with the relevant section of the Construction Traffic Management Plan including preferred agreed approach routes, specific site logistic, and delivery hours in accordance with permitted working hours etc prior to their appointment by the Main Contractor.

2.4 De-Construction and Enabling Works

It is proposed that prior to demolitions of the existing buildings on the site that a Waste Management Plan will be drawn up by the appointed Contractor which will be based on the principles as set out in this document.

It is proposed that all buildings to be demolished shall be surveyed prior to any works taking place once current tenants have vacated the building. These surveys will include an updated Type 3 Asbestos Survey of the buildings.

The pre-commencement surveys will identify all materials and products that can be recycled and separated prior to demolition, examples would be:-

- Windows and glass
- Timber
- Metals such as copper wiring, water piping & cylinders
- Electrical items
- Plasterboard/gypsum products
- Soft Furnishings
- Masonry/concrete/concrete roof tiles
- Reinforcement bars in concrete

After the identification of these items in surveys, the demolition and sequence of works can be programmed by the Contractor taking into account the measures which follow in this document.

2.5 Proposed Building Construction

It is proposed to construct a new structural frame on the site while temporary works shall retina the façade to North King St, which shall be incorporated into the new structure. The existing basement shall also be incorporated into the new development and minimal works are required save for new foundations to rising structures locally.

The new structural frame shall be formed with in-situ reinforced concrete columns, flat slabs, stair and lift core walls.

3 Waste Management Plan – Construction Phase

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

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

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

3.1 Waste Minimisation

Construction Waste minimisation and prevention shall be the primary responsibilities of the Purchasing Manager and the Project Manager for the Contractor during construction of the buildings and they shall ensure the following:-

- Materials will be ordered on a 'just in time' basis to prevent over supply and site congestion.
- Materials shall be correctly stored and handled to minimise the generation of damaged materials.
- Materials shall be ordered in appropriate sequence to minimise materials stored on site.
- Sub-contractors will be responsible for similarly managing their wastes.

In addition, as the useable area for construction is confined the Contractor will need to carefully manage storage of materials on site.

For details of volumes and quantities of materials to be generated and removed off site, see Construction & Demolition Waste Management Plan also prepared for this development.

3.2 Programme of Waste Management for Construction Works

The Project Manager for the Contractor will determine the best methods for waste minimisation, reduction, reuse, recycling and disposal as the construction phase progresses and waste materials are generated in accordance with procedures outlines in the Waste Management Plans.

3.3 Construction Waste Disposal Management

It is proposed that from the outset of construction activities, a dedicated and secure compound within the site containing segregated bins and/or skips, into which all waste materials generated by construction site activities will be established at the site.

In order to ensure that construction staff correctly segregate waste materials, it will be the responsibility of the Site Construction Manager to ensure all staff are informed by means of clear signage and verbal instruction and made responsible for ensuring site housekeeping and the proper segregation of construction waste materials.

It will be the responsibility of the Project Manager or his/her delegate that a written record of all quantities and natures of wastes exported off-site are maintained in a Waste File at the Project office and that all contracted waste haulage drivers hold an appropriate Waste Collection Permit for the transport of waste loads.

It is proposed that waste materials generated by the demolition of existing structures and the construction of new structures will be collected and stored in separate clearly labelled skips in a predefined waste storage area in the site compound and that these materials will be collected by a Permitted Waste Contractor holding an appropriate Waste Collection permit in compliance with *Waste Management (Collection Permit)Regulations 2007 (SI No. 820 of 2007) and Waste Management (Collection Permit)Amendment Regulations 2008 (SI No. 87 of 2008)* and that they will be sent for recycling and reuse to appropriately Permitted / Licensed Waste Facilities in compliance with *Waste Management (Facility Permit and Registration) Regulations S.I. No. 821 of 2007and the Waste Management (Facility Permit and Registration) Amendment Regulations S.I. No. 86 of 2008.*

Prior to the commencement of the Project, the Construction / Project Manager shall identify permitted Waste Contractor(s) who shall be employed to collect and dispose of all wastes arising from the project works. In addition, the Construction / Project Manager shall identify all waste licensed / permitted facilities that will accept all expected waste exported off-site and will maintain copies of all relevant Waste Permits / Licences as required.

3.4 On-Site Waste Reuse and Recycling Management

It is proposed that construction waste material generated by the demolition of the existing buildings that is deemed by the project Engineer to be suitable for reuse on the Project site for fill material during the temporary phase, such as infill piling matts and haul ramps etc, will be re-used as directed. This initiative shall provide a positive environmental impact to the construction phase as follows:-

- Reduction in the requirement for virgin aggregate materials from quarries
- Reduction in energy required to extract, process and transport virgin aggregates
- Reduced HGV movements associated with the delivery of imported aggregates to the site
- Reduced noise levels associated with reduced HGV movements

- Reduction in the amount of landfill space required to accept C&D waste

The employing of the above is in line with the LEED accreditation which the new building will attain.

3.5 Inert Wastes

Waste materials that will be generated from the site include excavated inert material and spoil concrete, and some timber waste materials. At the end of the works, the timber, concrete and hoarding that will be erected will be removed from the site and recycled off site. In addition, local excavations that are required for pad foundations and drainage pipe runs will generate excavated materials in the form of clays and weathered (loose) rock. These will also be required to be removed off site although their quantity will be small.

The waste material generated by construction works will be mixed Construction & Demolition (C&D) waste, comprising of concrete, tiles, ceramics, bricks and blocks. Material will be sorted and separated on site into different classifications for removal off site which is considered standard procedure.

All wood waste generated by site works will be inspected and examined and will be segregated as re-useable wood and scrap wood waste.

3.6 Hazardous Wastes

While it is not anticipated to encounter hazardous wastes on the site, all material removed off site will be tested and disposed of to a relevant licensed facility creating a traceable disposal chain managed by the main contractor in line with the terms of a LEED development. The management of all hazardous waste arising (such as but not limited to asbestos and lead) if they occur, shall be coordinated in liaison with Health and Safety Management systems by the main contractor set out by the HSA.

3.7 Asbestos

Prior to full demolition, an Asbestos Survey will be undertaken once the building is vacated by tenants as required by current Regulations (Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010 to identify if any further Asbestos Containing Material (ACM) is present.

Site demolition works that include the handling of removal of hazardous materials such as asbestos (if identified) will only be conducted by specialist hazardous waste contractors that specialise in the handling of such material. All waste asbestos will be immediately removed off-site following the correct regulated procedures by an appropriately Permitted Waste Contractor holding an appropriate Waste Collection permit and that this hazardous material will be sent for appropriate disposal to an appropriately Permitted / Licensed Waste Facility.

3.8 Contaminated Soil

While it is not anticipated that there will be contaminated soil on the site – However, should contamination be discovered in whatever form during the foundation and drainage installation, the following principals will be followed:-

Where it is discovered that existing grounds including top and sub soils may be contaminated by fuel oil hydrocarbons, these areas of ground will be isolated, tested for contamination, and pending the results of laboratory testing, will be excavated and exported off-site by an appropriately Permitted Waste Contractor holding an appropriate Waste Collection permit and that this hazardous material will be sent for appropriate treatment / disposal to an appropriately Permitted / Licensed Waste Facility. It is the responsibility of the Project Manager or his/her delegate that a written record of all quantities and natures of wastes reused / recycled during the project are maintained in a Waste File at the Project office.

It is the responsibility of the Project Manager or his/her delegate that a written record of all quantities and natures of wastes reused / recycled including the disposal of all classifications of soil exiting the site during the project are maintained in a Waste File at the Project office.

Prior to commencement on site, it is proposed to undertake a site investigation of the site including a Waste Classification Analysis (WAC Report). As part of this, soils will be tested for potential contaminates will be classified in a Waste Classification Report. The results of this Report will be used to assess the locations where soil being excavated from the site can be directed to.

4 Environmental Management Plan

The Environmental Management Plan (EMP) will be implemented to ensure that potential impacts relating to noise nuisance and disturbance, dust deposition nuisance, surface water and vibrational impacts are effectively minimised, controlled and monitored to ensure that the site construction activities do not have an adverse or unacceptable impact on local receptors, adjacent property, adjacent users and human health or on the wider receiving environment.

4.1 Environmental Aspects & Impacts

The following section describes the environmental aspects and impacts that are relevant to the construction phase of the proposed development and form the basis of the proposed environmental management and monitoring programme.

Definitions of Environmental Aspects and Impacts:-

Environmental Aspect:	Element of an activity, products or service that can interact with the existing environment.
Environmental Impact:	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an activity, products or services.
Direct Impacts:	Those impacts associated directly with the environmental aspect (e.g. increased noise and dust levels).
Indirect Impacts:	Those impacts associated indirectly with the environmental aspect (e.g. ‘disposal of waste’ and ‘fumes emitted during transportation to landfill contributing to the greenhouse effect’ impact.

Normal Situations: The project programme is progressing as planned.
Abnormal Situations: The project programme is not progressing as planned because of unforeseen and unpredictable circumstances.
Emergency Situations: An unplanned and unwanted situation or activity has occurred (e.g. fire, explosion, malicious damage).

4.2 General Site Works – Construction Phase

4.2.1 Construction Phase Operating Hours

The proposed operating hours for the project are proposed to be as follows:-

07:00hrs – 18:00hrs Monday to Friday
07:00hrs – 14:00hrs Saturdays
Site closed on Sundays / Public Holidays

Compliance with these strict noise controls will be verified by the programme of construction and demolition phase noise monitoring proposed in this CDMP.

4.2.2 Temporary Works

There will be temporary works associated with the retention of the North King St façade and other minot temporary works during the demolition process

There will also be temporary works associated with propping and construction of the building which are all normal construction techniques.

All temporary works shall be designed by the main contractor.

4.2.3 Demolition Works on the Site

The works can be defined as follows:-

- Strip out of all existing services and finishes
- Demolition of steel framed industrial units on the site and the suspended concrete slabs.
- Demolition of below ground slabs and columns but retention of perimeter retaining walls.

4.2.4 Excavations on the Site

Excavations on the site will be for new foundation systems, local drainage and other shallow excavations.

4.2.5 Construction of Additional element of the Buildings

It is proposed to construct the building using a mixture of types of constructions:-

- Concrete structural frame – vertical structural, floor slabs & stairs elements

- Precast concrete – staircases
- Blockwork – internal walls and walls between fire compartments
- Glazing – facades to buildings.
- Façade Panels – various materials all prefabricated into panels on site.

Using these forms of construction – as most of the elements are prefabricated off site – will help reduce the construction time of the project.

4.2.6 Provision for loading and unloading materials

See Section 2.3 of this Report which details that all access will be via Browne St North.

4.2.7 Storage of plant, materials and operatives vehicles

In addition to minimising materials on site, it is proposed that all plant, materials and operatives vehicles shall be stored in dedicated compound areas within the site in order to minimise the interaction that each element may have on the other. That is, the separation of operative vehicles from aggregate material stockpiles will minimise the potential for vehicle movements to generate dust. All plant shall be stored in a dedicated area following the cessation of site activities at the end of each working day or during periods when the plant is not being utilised. It is recommended that a specific area on site shall be delineated.

Site vehicles and mobile plant (e.g. Generators) have the potential to contaminate soil and groundwater by leaking oil or fuel. The storage of these items of plant in a suitable dedicated area on mobile bunded units and drip trays will serve to minimise the potential for contamination as any leaks, oil spills or stains on the ground will be more readily identifiable and will better ensure that an immediate or more timely response.

The Site Manager shall conduct a daily visual inspection of the site to identify any signs of ground contamination from plant storage areas and that where a spill is identified, the source shall be identified and the appropriate repair / maintenance be conducted. All daily visual inspections shall be recorded by the site manager or his/her delegate on a “Daily Site Inspection Sheet”. All fuels, oils and liquid materials shall be stored in a dedicated bunded area or within a dedicated impermeable storage unit to minimise the potential for soil and groundwater contamination. Storage units containing all fuels oils and liquid material must be locked and secured overnight so as to prevent against pilferage and vandalism.

A policy of “zero tolerance” shall be applied at the site in relation to the dumping of empty or partially empty oil, lubricant, fuel, or any other non solid material in the vicinity of the site. All empty containers must be stored in a dedicated area designed to prevent the contamination of soil and groundwater as a result of leaking drums or containers prior to the proper disposal off site to a suitably licensed waste disposal facility.

4.3 Dust Management Programme

Construction site activities have the potential to generate fugitive emissions of dust levels as a result of demolition works and vehicle movement on unsealed site surfaces, windblown dusts from aggregate / fine material stockpiles, angle grinding of concrete and stone, crushing activities if required and the movement and deposition of aggregates, soils / clay and other materials at the site.

4.3.1 Proposed Dust Monitoring Programme

Dust deposition levels will be routinely monitored in order to assess the impact that site activities may have on the local ambient air quality and to demonstrate that the environmental control measures in place at the site are effective in minimising the impact of construction site activities on the local receiving environment.

4.3.2 Dust Management and Suppression / Abatement Techniques

It shall be the responsibility of the Site Manager to ensure that dust emissions generated by site activities are controlled and minimised and as such will implement appropriate dust suppression techniques as appropriate. Appropriate techniques will include water spraying of stockpiles and haul roads and temporarily curtailing specific operations when unfavourable weather conditions are prevailing (e.g. during dry, windy weather when the prevailing winds may cause dust to be blown towards local receptors).

A road sweeper vehicle shall be used to clean soiled roads in the vicinity of the site when required. This will also ensure that the potential for elevated concentrations of particulate matter entering any surface water drain will be minimised.

The Site Manager shall maintain a complaints log and in the event of a complaint relating to dust nuisance, an investigation shall be initiated.

5 Liaison with Local Community & Neighbours

It is recognized that there will be concerns among the local Community & Residential neighbours and adjoining offices about the impacts of construction. In addition, to developing this Preliminary Plan and setting out clear and thorough procedures for the management of the project the Contractor will be required to:

- Appoint a Community Liaison Officer as a single point of contact to engage with the community and respond to concerns.
- Ensure specific construction tasks such as large deliveries and standard material deliveries are pre-planned and scheduled to minimize disruption where possible in particular to James Place East.
- Keep local residents and neighbours informed of progress and the timing of particular construction activities that may impact on them.

Kevin O'Mahony
for
CORA Consulting Engineers