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CIVIL & STRUCTURAL
CONSULTING ENGINEERS

Outline Construction & Environmental Management Plan

Project: 24.284

Drogheda Thrive Project,
West Gate House

DOCUMENT CONTROL

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Contents

1. INTRODUCTION

This document has been prepared as an Outline Construction Environmental Management Plan (OCEMP) considering the proposed works associated with the construction of the proposed development at Westgate House, West Street, Drogheda, Co.Louth.

The OCEMP provides a framework from which a more detailed CEMP will be developed by the appointed Contractor to implement the mitigation measures described below and any other requirements of the planning permission conditions.

This OCEMP sets out the overall management strategy for demolition, excavation and construction works for the proposed development. The OCEMP aims to ensure the management of all construction activity is carried out in a planned, structured and considerate manner which minimises the impacts of the works on the local environment, residents and commercial activities in the vicinity of the site. Due to the nature of construction works, there may be unforeseen events which occur at the site and the project team will actively manage any changes and where required, discuss with the relevant authorities. The OCEMP should be viewed as a live document that will be updated as the development progresses and if any circumstances change.

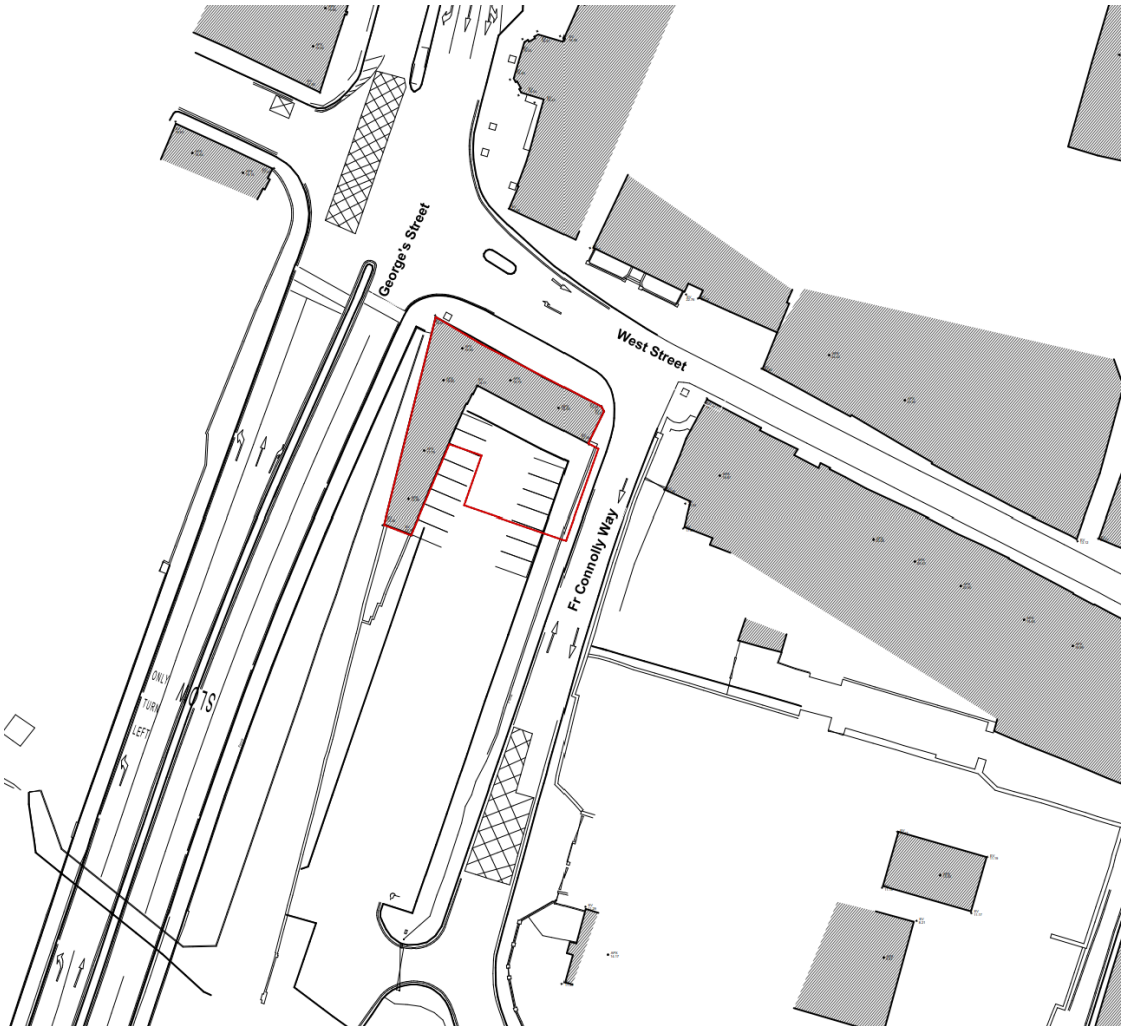

Figure 1: Site Location Map

The project team are committed to ensuring that the construction activities to be carried out are pro-actively managed so as to minimise potential impacts. The appointed Contractor shall be responsible for the overall management of the site for the duration of the proposed works and

must undertake their works with reasonable skill, care, diligence and to proactively manage the works in a manner to ensure the safety and welfare of those carrying out the construction works. The Contractor shall comply with all relevant and latest Statutory requirements such as 2005 Safety Health and Welfare at Work Act, the Construction Regulations (SI 291 of 2013) etc. (and any amendments thereof).

In addition, the Contractor shall comply with all of the safety requirements of the Client, the Project Supervisor for the Design Process (PSDP) and the Project Supervisor for the Construction Stage (PSCS).

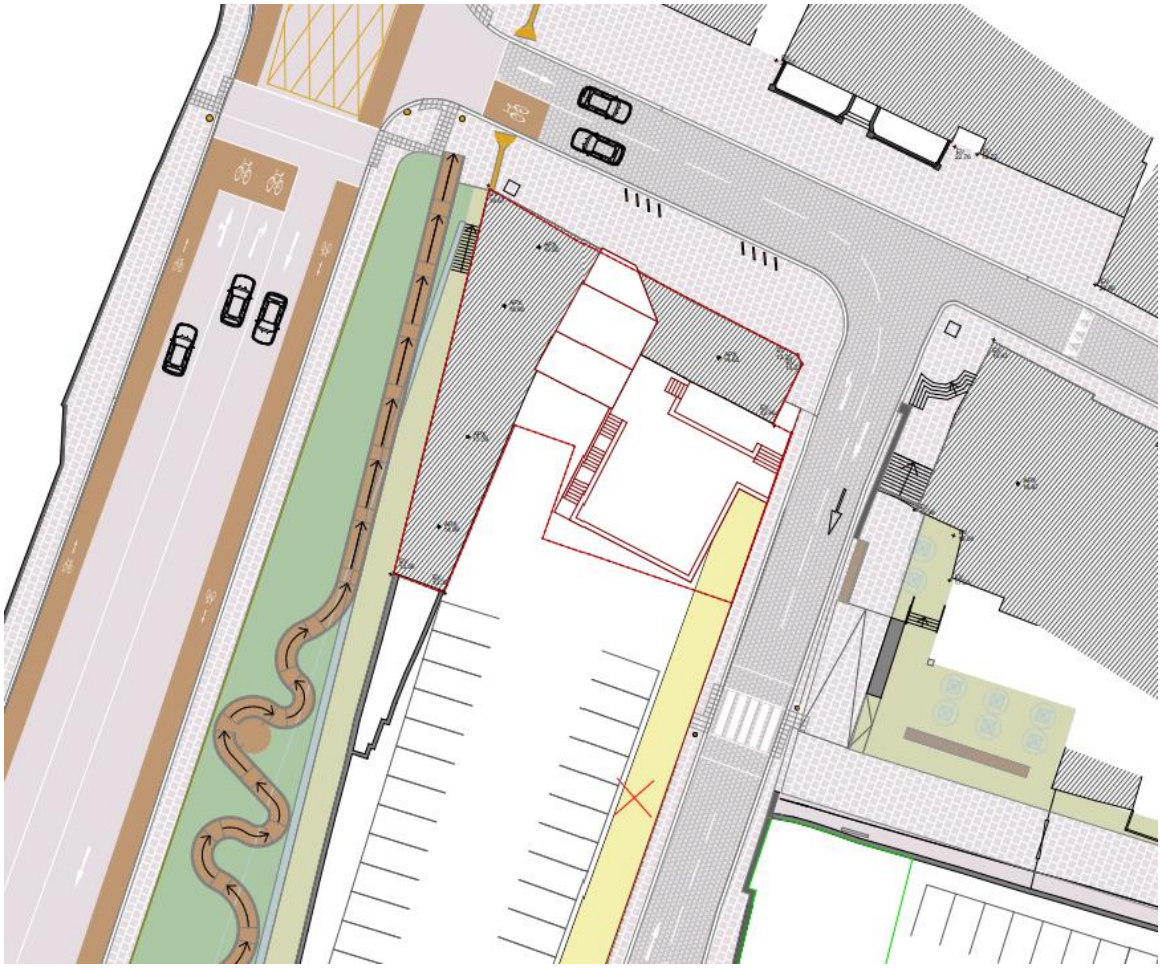

Figure 2: Site Layout

The subject site consists of a collection of existing buildings around Westgate House which itself is located on West Street, bounded to the south and east by Father Connolly Way and to the west by George's Street.

The development will consist of:

- Refurbishment of the existing Westgate House which is currently in very poor condition throughout. Due to the condition of the building no physical internal access has been possible to date and surveys have been undertaken using drone. The following primary structural works are proposed to ensure the building has long term stability:
    - Assessment of the existing building foundations.

- Assessment of existing internal timber floors. Provision of supplementary structure to ensure floors have adequate capacity for intended use.
- Tying of internal timber floors to the building perimeter walls to ensure floor diaphragms are provided and the walls are adequately supported.
- Assessment of existing masonry walls in general, at lintels over door and window openings and at junctions between perpendicular walls to ensure the masonry is tied and stable. Unstable lintels will be replaced. Cracks between perpendicular walls will be addressed by provision of stainless steel ties inserted into the mortar joint layers in the wall.
- Strengthening of internal timber stair members to ensure adequate capacity for intended use.
- Assessment of the timber roof structure – repairs of defective elements to ensure the building is adequately weathered.

- Refurbishment of adjacent single storey over two storey basement building adjoining the east gable end of Westgate House. It is expected that the works outlined above for Westgate House will also be required for this building.

- Construction of a new rear extension to the above building to provide a large performance / exhibition space. The roof of this new extension will be finished with landscape finishes to form a new external area accessed from Father Connolly Way. It is expected the works for the extension will involve as follows:
  - Provision of mini-pile foundations to limit excavations for new foundations. Construction of pilecaps / ground beams spanning between mini-piles to provide support for new ground floor and rising elements.
  - Construction of new ground floor.
  - Erection of new steel single storey structure to form the primary stability frame. The frame will in turn support precast concrete floor to form the roof over the area.
  - Completion of the roof structure and construction of blue roof attenuation storage layer below paving and soft landscaping finishes.

2. OUTLINE DEVELOPMENT PROGRAMME

As the development is subject to the planning application process, it is not possible to confirm exact dates against a timeline at this stage. However, key project milestones are outlined below in general chronological order.

Based on other developments of a similar scale and complexity, it is considered that the construction works will take approximately 12 months upon commencement.

A more detailed programme will be developed by the Contractor once appointed and included in the updated version of this plan.

2.1 SITE SET-UP

Prior to commencing on site the Contractor will arrange all necessary statutory licences.

The Contractor will establish the extent of the site, erect a perimeter hoarding and establish the site welfare area and site compound /storage areas – see section 3.2 below for further detail.

As part of the perimeter hoarding works, all pedestrian and vehicle access points to the site will be formed along with security arrangements at each location.

Any exclusion zones around existing trees or vegetation will be established.

2.2 SURVEYS & SITE CLEARANCE

Prior to the commencement of any demolition or site clearance works, it will be necessary for the Contractor to carry out a number of surveys:

- A review of all buried services survey information with localised on-site investigations to establish exact locations of all live buried services.
- Asbestos surveys on any existing buildings to be demolished / or buildings to be retained within the subject site.
- A condition survey and detailed photographic record of surrounding boundary structures, surrounding roads and footpaths.
- A condition survey of relevant adjacent properties.

Once these surveys have been completed, issued and agreed with relevant third parties, the site clearance works can commence.

2.3 EXISTING BUILDINGS – REFURBISHMENT WORKS

As outlined in Section 1.0 above, extensive works are proposed to ensure that all internal structural members are firstly assessed based on condition and structural capacity and then supplemented with additional structure e.g. doubling up of timber joists to ensure the structural elements have sufficient capacity for the intended use.

It is expected that the contractor will carry out works at roof level initially to properly weather the building before continuing works on the internal floors.

2.4 NEW EXTENSION WORKS

It is expected that the contractor will proceed with the extension works in tandem with the refurbishment of the existing two buildings.

2.5 FIT-OUT WORKS

Once the structural repair works to the two existing buildings and the new structural frame for the extension have been completed, the internal fit-out works will commence.

2.6 EXTERNAL FINISHES / LANDSCAPING

Following completion of the various buildings, the external finishes including installation of paving, road surfaces and soft landscaping will commence.

3. SITE MANAGEMENT

3.1 HEALTH & SAFETY

The primary aim of planning for safety is ensuring the safety of site operatives and visitors within the site and all pedestrians, road users, neighbours and members of the public in the vicinity and affected by the development.

The works will be carried out by a very reputable Contractor with a proven track record of skilled resources and management skills to deliver the project to the quality required within the expected timeframe and budget and the minimisation of disruption in so far as practical.

The Contractors will utilise best practices and most appropriate techniques to deliver the works in an efficient manner with the minimum nuisance created to the locality and environs of the site.

All works which are intended to be carried out will be reviewed in advance and detailed method statements provided to ensure that the site management team have taken into consideration all factors and all foreseen potential safety issues that can be mitigated against.

The requirements of the Safety and Health Acts and Regulations will be taken into consideration and, as is required under law, a Project Supervisor Construction Stage will overview the safety arrangements which will cover both the site and the external environs of the work area.

3.2 SITE DELINEATION

Following the appointment and mobilization of the Contractor, they will take possession of the site and set up with perimeter hoarding and internal site compound for site operative offices and welfare facilities. The indicative Contractor's site set up is shown in Figure 3 below.

The initial work on site will include the erection of an appropriate standard hoarding/security fence around the entirety of the site to secure the site perimeter and prevent access from members of the public. The boundary to the site will be maintained at all times.

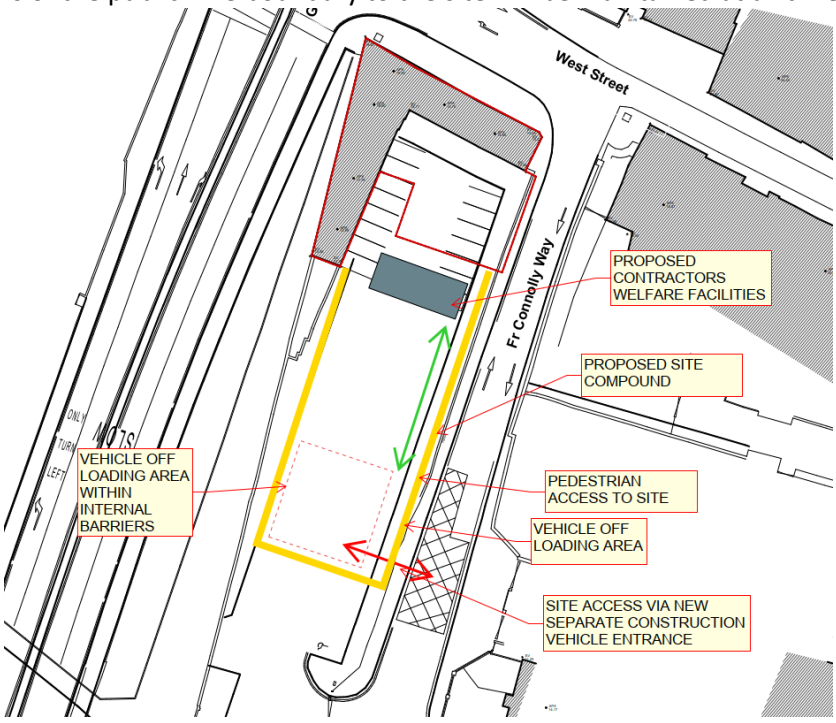

Figure 3: Indicative Contractor's Site Setup

3.3 PRE-COMMENCEMENT CONDITION SURVEYS

A Visual Condition Survey (VCS) will be carried out by the Contractor on all shared boundaries and surrounding streets prior to any site works commencing.

3.4 SITE OFFICES & COMPOUND

The Contractor will provide and maintain an area within the site for construction and management personnel offices, operative's welfare facility, canteen and for the storage of construction materials.

The compound may be moved or altered dependent on construction needs over the course of the project.

The pedestrian and vehicle routes from the site offices and compound area to the remainder of the site areas will be formed as segregated routes to separate pedestrian site operatives from construction vehicles.

3.5 PEDESTRIAN ACCESS

It is expected that the Contractor will manage pedestrian access to the site at various stages during the project via Father Connolly Way.

Pedestrian access to the site will be strictly controlled via the Contractor's security personnel. Only Safe Pass accredited personnel will be permitted on site and daily in-out attendance records will be maintained.

Visitors will only be allowed to enter the site via designated access gates and must report to the site security office to sign-in and for obtaining any additional PPE required. Visitors will be expected to attend a specific site safety briefing and be accompanied by a member of the site team at all times.

3.6 CONSTRUCTION VEHICLE ACCESS

Vehicular access to the site will be via Fr. Connolly Way only and will be strictly managed and controlled by the Contractor's security staff.

Construction vehicle traffic will access the site via a temporary gated access as indicated in Fig. 4 below, permitting access from the south along Fr. Connolly Way into the site. Vehicles leaving the site will either be directed south along Fr. Connolly Way or north to West Street where the R132 George's Street can be accessed for further travel north or south.

It is noted that no construction vehicles will be permitted to stop at the front of the site on West Street.

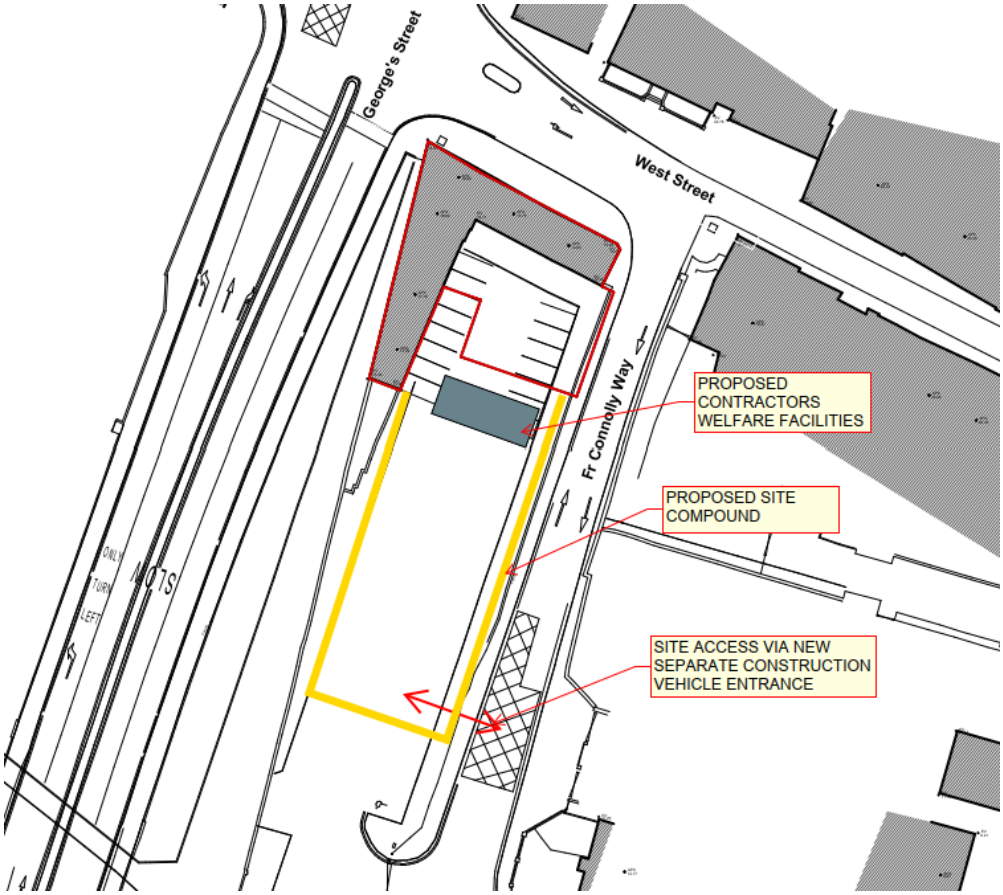

Figure 4: Construction Vehicle Access Route to Site

3.7 ON-SITE PARKING

Taking into consideration the need to balance the promotion of sustainable travel against the risk of over spill parking, appropriate and limited on-site provision will be made for car parking by site construction personnel.

Adequate numbers of cycle parking will be provided for site personnel and they will be encouraged to use public transport which is available in the surrounding area.

A limited number of spaces will be provided for critical use such as the delivery of materials, tools etc. to prevent overspill parking onto the local road network. All vehicular access will be controlled at the gate where all access and egress will be recorded. All site personnel and delivery drivers will have to undergo site induction.

3.8 WORKING HOURS

Working hours will be restricted to 07:00 to 19:00 Monday to Friday & 08:00 to 14:00 on Saturdays – subject to any alterations of these times as stipulated in the grant of planning permission.

Out of hours working will be only permitted by arrangement of the Contractor's on-site management and subject to agreement and approval by Louth County Council (LCC).

The Project Supervisor Construction Stage (PSCS) will liaise with the Local Authority to agree specific arrangements for activities outside of normal working hours that will minimise the risk and disruption to residents and members of the public. All reasonable precautions will be taken

for the operation of plant and equipment to avoid nuisance and excess noise impact on the surrounding residents.

3.9 ESTIMATED PERSONNEL NUMBERS

Based on the scale of the development it is considered that the construction works will take approximately 12months upon commencement requiring a peak daily number of c.40 construction personnel on site.

3.10 MATERIAL STORAGE & HANDLING

All materials will be delivered to the site compound for initial storage before use on site. The Contractor will maintain a tidy site and will operate a "just in time" policy for the delivery and supply of materials for the works, particularly the final phase of the works when on site storage will be at a minimum.

All materials will be stored on site so as to minimise the risk of damage. A teleporter will be used for general unloading during the works. Unloading over the public roadway and path will be avoided.

3.11 DUST

Dust control will be best achieved at sources and activities will be carried out in a manner that removes or minimizes dust generation.

Refer to section 5.5 for further details of Site Management and Dust Control Measures that will be implemented on the site.

3.12 DIRT

The work involves limited excavation works and hence the risk of dirt leaving the site should be limited.

A road sweeper will also be utilised as required on the public road at vehicular access / egress points.

3.13 NOISE

Noise levels will be controlled as set out below to ensure that the construction is managed in a way that minimises detrimental impact to the amenities of local residents.

During the construction of the works the following codes and regulations will be adhered to:

- BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 Code of Practice for
- Noise and Vibration Control on Construction and Open Sites,
- Safety, Health and Welfare at Work (General Application) Regulations
- 2007 to 2016, Part 5 Noise and Vibration

The noise limits to be applied for the duration of the construction works are those specified in Category B of BS 5228 which are deemed appropriate with reference to BS5228, section E.2 which advises that noise levels should not exceed "70 decibels in rural, suburban and urban areas away from main road traffic and industrial noise".

The BS 5228 Category B limits are summarised below and will be applied at the nearest sensitive receptors to the works.

- Day (07.00 – 19.00) = 70dB (LAeq, T=1hr)
- Evening (19.00 – 22.00) = 60dB (LAeq, T=1hr)

- Night (22.00 – 07.00) = 45dB* (LAeq, T=1hr)
- Saturday Day (07.00 – 14.00) = 65dB (LAeq, T=1hr)

Note: * The higher of 45dB or the ambient level.

Noise levels will be monitored continuously and where noise levels exceed the thresholds, adequate steps will be taken by the site management to review works and implement additional mitigation measures.

The general mitigation principles and methods will include;

- Avoidance of unnecessary revving of engines and switching off of equipment when not required;
- Keeping internal haul roads well maintained;
- Minimise drop heights of materials;
- Start-up plant sequentially rather than together;
- Where practical enclose noise sources;
- Keep site equipment away from sensitive receptors such as surrounding residences.
- Regular maintenance of plant and equipment.

No heavy construction equipment/machinery (to include pneumatic drills, construction vehicles, generators, etc.) shall be operated on or adjacent to the construction site before 07.00 or after 19:00 Monday to Friday, and before 08:00 and after 14:00 on Saturdays – in accordance with the working hours permitted in the grant of planning permission.

No activities shall take place in site on Sundays or Bank Holidays. No activity, which would reasonably be expected to cause annoyance to residents in the vicinity, shall take place on site between the hours of 19:00 and 07:00. No deliveries of materials, plant or machinery shall take place before 07:00 in the morning or after 19:00 the evening.

3.14 VIBRATION

The Contractor will be required to assess and monitor vibration levels during all works activities to identify any risks of vibration impacts at nearby receptors.

Table 1 below sets out the vibration threshold levels applicable at nearby soundly constructed buildings to avoid cosmetic damage to the building.

Property Type	***Allowable vibration (peak particle velocity) at the closest part of the relevant building to the source of vibration, at a frequency of***		
	Less than 10Hz	**10Hz to 50Hz**	**50Hz and above**
Residential or light commercial building	15mm/s	20mm/s	50mm/s

Table 1 Allowable maximum vibration levels during construction

4. SAFETY, HEALTH & ENVIRONMENTAL CONSIDERATIONS DURING CONSTRUCTION WORKS

4.1 GENERAL

Construction works will be carried out in such a way as to limit, as far as practicable, adverse environmental impact.

Works will be carried out in accordance with the following general provisions:

- Planning approvals from the Local Authority;
- Requirements of the Local Authority.

As part of the Construction Method Statement, the process will ensure that construction techniques and materials used are a fundamental consideration of the detailed design and intended long-term use, so that the aims are achieved:

- Design for durability and low maintenance.
- Design for flexibility and adaptability.
- Use of materials from sustainable sources.
- Use of local materials where possible.

Safety, health and environmental issues are a primary consideration in the construction methods adopted. The Contractor's team will develop detailed health and safety plans, specific environmental, fire and accident procedures to suit the construction sequence of the development. Contractors involved in the development will ensure that all non-English speaking employees are provided with relevant Health and Safety information in their native language.

All contractors will be required to adopt the relevant skills certification required for that element of the works.

A site-specific Safety Statement and a detailed Construction Stage Safety & Health Plan will be compiled prior to any works on site and will be in accordance with the Health & Safety Authority and Local Authority guidelines.

4.2 CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH

The strategy for controlling all substances and all work processes that may generate hazardous substances will have to be addressed and control measures put in place. Some of the control measures to be employed include the following:

- All fuel and chemicals to be stored in designated bunded areas, with deliveries of hazardous materials supervised.
- Storage tanks and container facilities will be appropriately bunded.
- In the case of spills or discharges, remedial action will be taken as soon as possible in accordance with company procedures.
- Personal protective equipment (PPE) suitable to the relevant substance will be used by all site personnel.

4.3 ENVIRONMENTAL, EMERGENCY & ACCIDENT PROCEDURE

Measures will be carried out and management systems put in place to avoid environmental incidents. However, if any incident should occur, it must be reported to the responsible person in the construction team as per the Contractor's Accident and Emergency Procedure.

4.4 WORK IN PROXIMITY TO TREES

In order to minimise the risk of accidental damage to trees within the site the following measures will be implemented:

- All trees marked for retention as identified in the Landscaping proposals will be fenced off at the outset and for the duration of the construction to avoid damage to the trunk, branches or root systems of the trees.
- The locations of the fencing around retained trees will match the Root Protection Area (RPA) as defined on the Landscaping proposals. This area will be designated as a construction exclusion zone (CEZ) and it will not be permitted to park vehicles, store materials or place spoil materials such as topsoil in these areas.
- The project Arborist will review the Contractor's Method Statements for any works in proximity to existing trees.

4.5 AIR QUALITY

This section describes the site policy with regard to dust management and the specific mitigation measures which will be put in place during construction works. The objective of dust control at the site is to ensure that no nuisance occurs at nearby sensitive receptors.

In order to develop a workable and transparent dust control strategy, the measures set out below have been formulated by drawing on best practice guidance from Ireland, the UK and the US, such as:

- Department of Environment, Heritage and Local Government (DOEHLG*), Quarries and Ancillary Activities, Guidelines for Planning Authorities* (2004).
- US Environment Protection Agency (USEPA*), Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition* (periodically updated) (1986).
- The Scottish Office – Development Department*, Planning Advice Note PAN50 Controlling the Environmental Effects Of Surface Mineral Workings Annex B: The Control of Dust at Surface Mineral Workings* (1996) and
- Institute of Air Quality Management (IAQM), *Guidance on the Assessment of Dust from Demolition and Construction (2014).*

4.5.1 Site Management

The site activities will be undertaken with due consideration of the surrounding environment and the close proximity of sensitive receptors such as residents and pedestrians. Dust management during the construction phase will be the most important aspect in terms of minimising the impacts of the project on the surrounding air quality. The following measures will also be implemented to ensure impacts are minimised:

- Complaint registers will be kept detailing all telephone calls and letters of complaint received in connection with construction activities, together with details of any remedial actions carried out;
- Equipment and vehicles used on site will be in good condition such that emissions from diesel engines etc. are not excessive; and
- Pre-start checks will be carried out on equipment to ensure they are operating efficiently and that emission controls installed as part of the equipment are functional.

Dust deposition levels will be monitored on a regular basis in order to assess the impact that site activities may have on the local ambient air quality. The following procedure will be implemented:

- The dust deposition rate will be measured by positioning Bergerhoff Dust Deposit Gauges at strategic locations near the boundaries of the site. Monitoring should be conducted as required during periods when the highest levels of dust are expected to be generated i.e., during site preparation works and soil stripping activities.

- The exact locations will be determined after consideration of the requirements of Method VDI 2119 with respect to the location of the samplers relative to obstructions, height above ground and sample collection and analysis procedures.
- After each 30 (+/- 2 days) exposure period, the gauges will be removed from the sampling location, sealed and the dust deposits in each gauge will be determined gravimetrically by an
- accredited laboratory and expressed as a dust deposition rate in mg/m2/day in accordance with the relevant standards.
- Technical monitoring reports detailing all measurement results, methodologies and assessment of results shall be subsequently prepared and maintained by the Contractor's Site Manager.
- A limit value of 350 mg/m2/day as a 30-day average will be imposed. If this limit is exceeded, the Contractor will review the dust control measures implemented over the previous monitoring period and alter work practices as required to mitigate the risk of further exceedances of the limit.

4.5.2 Dust Control Measures

The aim is to ensure good site management by avoiding dust becoming airborne at source.

This will be done through good design, planning and effective control strategies. The siting of construction activities and the limiting of stockpiling will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for dust nuisance.

In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs.

- During working hours, technical staff will be available to monitor dust levels as appropriate; and
- At all times, the dust management procedures put in place will be strictly monitored and assessed.

The dust minimisation measures should be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust generation. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed, and procedures implemented to rectify the problem. Specific dust control measures to be employed are presented below.

Site Routes

Site access routes (particularly unpaved areas) can be a source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25% to 80%.

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles or delivery vehicles within the vicinity of the site;
- Bowsers will be available during periods of dry weather throughout the construction period. Research shown found that the effect of surface watering is to reduce dust emissions by 50%. The bowser will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use; and
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced areas shall be restricted to essential site traffic only.

Demolition/Excavation

Demolition and excavation works during periods of high winds and dry weather conditions can be a source of dust.

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust;
- During periods of very high winds (gales), activities likely to generate dust emissions should be postponed until the gale has subsided.
- Prior to demolition of the existing buildings, the interiors will be soft stripped with the walls and windows retained in place to provide a barrier against dust.
- During the demolition process, water suppression will be used.
- The movement of truck containing materials with a potential for dust generation to an off-site location will be enclosed or covered.
- Provision of water sprays in dust sensitive locations will be introduced, e.g. concrete cutting etc;
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.
- Burning of materials is prohibited.

Stockpiling

The location and moisture content of stockpiles are important factors which determine their potential for dust emissions. The following measures will be put in place:

- Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site,
- Regular watering will take place during dry/windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust;

Site Traffic on Public Roads

Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered at all times to restrict the escape of dust;
- Any hard surface site roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.
- A power washing facility or wheel cleaning facility (see Section 3.13) will be installed near to the site compound for use by vehicles exiting the site when appropriate, and
- Road sweepers will be employed to clean the site access route as required.

General

The pro-active control of fugitive dust will ensure that the prevention of emissions, rather than an inefficient attempt to control them once they have been released, will contribute towards the satisfactory management of dust by the construction contractor.

4.6 CONSTRUCTION PLANT

Construction plant can be a source of emissions although control measures can be implemented to minimise any adverse impacts. The following measures will be employed:

- Site plant and equipment will be serviced regularly and maintained in good condition and in accordance with the manufacture's specifications.
- Plant will not be left running when not in use;
- Plant with dust suppression equipment will be used where practicable.

4.7 SITE SUB-SOILS

Archaeological and Architectural Heritage

Should archaeological features or material be uncovered during archaeological testing or any phase of construction, ground works will cease immediately and the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht will be informed. Time must be allowed for a suitably qualified archaeologist to inspect and assess any material. If it is established that archaeological material is present, the National Monuments Service may require that further archaeological mitigation be undertaken.

Existing Subsoil Conditions

Site geotechnical investigations will be carried out in advance of works on site to determine subsoil conditions. This is likely to involve a drilling of 2/3no. boreholes, trial pits and soak-away tests and potential environmental testing by others.

In advance of the site bulk excavation period, it will be necessary for an Environmental Engineer to classify the existing site subsoils in advance of disposal off-site. 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'* 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*, 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*. 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 LCC 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).

Strategy

The strategy for controlling and mitigating potential adverse environmental or health and safety effects during construction will be to adopt the procedures and methods set out within this OCMP.

Operation Control

The strategy for controlling and mitigating potential adverse environmental or health and safety effects during construction will include the following, as appropriate:

- Ground investigation for signs of any potential contamination to be concluded prior to the start of any excavation works;
- Minimisation of potential risks to site workers as required by the Safety, Health and Welfare (Construction Regulations);
- Testing and sampling of excavated soils in order to assess the suitability of materials for re-use on site;
- Dust suppression from any contaminated soils by the regular use of water spray during any dry conditions, sheeting ofhaulage vehicle loads;
- Stockpiling of contaminated materials will be avoided where possible;

- Stockpiles will be treated to prevent windblown dust;
- Adequate drainage will be designed and installed during construction work to manage surface water runoff;
- The handling and storage of any potentially hazardous liquids on site, e.g. fuels and chemicals, will be controlled. Storage tanks/container facilities will have appropriate bunding within the designated area;
- If hazardous liquids escape, remedial action will be taken immediately;
- Where unforeseen contamination is identified during the course of the work, specific investigations will be carried out in the areas in question and appropriate health and safety
- procedures will be implemented during the removal of the material. A strategy will be prepared to identify, analyse, segregate and control existing contaminated materials on site.

4.8 WASTE

All works carried out as part of these works will comply with all Statutory Legislation including the Waste Management Act 1996, as amended, & Local Government (Water Pollution) Acts, the National Waste Management Plan for a Circular Economy 2024-2030 and the contractor will co-operate in full with the Environmental Section of the Local Authority.

The disposal of waste generated during construction, including bulk excavation, will be managed to maximise the environmental and development benefits from the use of surplus materials and to reduce any adverse effects of disposal. In general, the principle of waste management hierarchy, which favours waste minimisation, re-use material and recycle over disposal to landfill will be favoured.

4.9 WATER RESOURCE

The works will be carried out and working methods adopted to ensure that construction activities do not adversely affect surface water and ground water quality, the most damaging being concrete leachate, oils and chemicals and suspended solids.

4.9.1 Measures to Protect Surface Water Quality during Construction

The construction contractor will be required to implement the following specific mitigation measures for release of hydrocarbons, polluting chemicals, sediment/silt and contaminated waters control:

- Use of silt fences and silt bags to contain surface water run-off from the site;
- Discharge to public sewers – only after prior agreement with the local authority;
- The existing storm water drainage system will be retained where possible during construction, with modifications as necessary to prevent ingress of debris;
- Control of spoil and other materials to prevent spillage;
- Oils/Fuels/Hazardous Wastes will not be stored on site. in bunded areas or in bunded.
- Washout from concrete trucks will be prohibited on site;
- All temporary drainage arrangements will be determined in consultation with the Local Authority;
- Surface water as arising during excavation works will be discharged initially to settlement tanks in advance of discharge to the surface water system;
- Sediment control via use of settlement and silt trap tanks will be implemented where surface water is contaminated with silt.

Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation site which limits the potential for any offsite impacts.

No dewatering will be required during the construction phase which would result in the localised lowering of the water table. There may be localised pumping of surface run-off from the excavations during and after heavy rainfall events to ensure that the excavation is kept relatively dry.

The following measures will be put in place during the construction phase to ensure protection of surface waterbodies. Surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed development is complete. A temporary drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction.

Pollution Control

Management of Suspended solids in run-off

Any temporary storage of spoil, hardcore, crushed concrete or similar material will be stored as far as possible from any surface water drains and also stored in receptacles where possible. In order to minimise the risk of contamination, the stockpiled material will be removed off-site as soon as possible. Surface water drain gratings in areas near or close to where stockpiles are located will be covered by appropriate durable polyurethane covers or similar.

There are no watercourses present on the site and the nearest surface water receptors are the River Boyne located *c.* 100m south of the proposed development. There will be no direct pumping of silty water from the works to any watercourse.

Concrete Run-off

No wash-down or wash-out of ready-mix concrete will be permitted on site.

Accidental Spills and Leaks

No bulk chemicals will be stored within the active construction areas. Temporary oil and fuel storage tanks will be kept in the material storage area in suitable containers and will be appropriately bunded as required. Refuelling of vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in designated areas of the site which will be kept away from surface water drains.

Spill protection equipment such as absorbent mats, socks and sand will be available to be used in the event of an accidental release during refuelling. Training will be given to appropriate site workers in how to manage a spill event.

The following mitigation measures will be taken at the construction site in order to prevent any spillages to ground of fuels during machinery activities and prevent any resulting soil and/or groundwater quality impacts:

- Refuelling will be undertaken off site where possible;
- Where mobile fuel bowsers are used the following measures will be taken: Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use;
- The pump or valve will be fitted with a lock and will be secured when not in use;
- All bowsers must carry a spill kit;

- Operatives must have spill response training; and
- Portable generators or similar fuel containing equipment will be placed on suitable drip trays.

Monitoring

Weekly checks will be carried out to ensure surface water drains are not blocked by silt, or other items, and that all storage is located at least 10m from surface water receptors. A regular log of inspections will be maintained, and any notable blockage or spill incidents will be recorded for root cause investigation purposes and updating procedures to ensure incidents do not reoccur.

4.9.2 Measures to Protect Surface Water Quality during Operation

The proposed development primarily involves forming an extension to an existing building and it is noted that there is very limited external space at ground level (on grade) where SUDS elements could be appropriately located. Also these elements are not suitable to be located in close proximity to existing buildings and therefore have been discounted at grade level.

The proposed surface water drainage design for the proposed development comprises various SuDS measures at new podium level to reduce the quantity and improve the quality of water discharging into the receiving environment.

The SuDS measures incorporated into the overall design of the proposed development include:

- Green blue roof over new works area (new rear extension) will provide initial rainfall retention, and rainfall filtration prior to discharge;
- Green blue roof will also provide attenuation storage/treatment of run-off.

4.10 ECOLOGY

The key strategies to be undertaken to minimise impact on the local flora and fauna during site clearing and construction are as follows.

- All site clearance works will comply with current legislative requirements and best practice;
- Taking measures to limit the working area during the construction phase will reduce the impacts of the development on adjacent areas. The construction area will be clearly delimited by the site boundary and machinery should operate only within this allocated site area;
- All re-fuelling of plant, equipment and vehicles will be carried out off site and minimized on site. All fuels, chemicals, liquid and solid waste will be stored in areas bunded in accordance with established best practice guidelines at the construction compound also; and Provision of spill kits;
- Provision of a water and sediment management plan, providing for means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local water courses or drains; and
- The measures outlined in Section 4.9 will ensure that silt run-off and potential flooding risks are minimized.

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