

APPENDIX 3





Outline Construction and Environmental Management Plan

for the

Re-development of Red Barn

at

Skerries Mills
Skerries
Co. Dublin

Document Issue and Control

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This Outline Construction and Environmental Management Plan has been prepared based on information from and discussions with the Contracting Authority and third parties associated with this project. Every effort is made to ensure the accuracy of the information provided in this document. However, should errors or omissions be identified, please notify us so that appropriate measures can be taken to rectify same.

Failure to follow the information and guidance in this document as well as failure to adhere to ABN safety procedures and policies, site safety procedures and policies, and suppliers/manufacturers guidance could result in increased risk and potential harm to individuals.

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1. Introduction

1.1 General Introduction

This Construction and Environmental Management Plan (CEMP) has been developed for The Red Barn Re-Development Project at Skerries Mills, Millers Lane, Skerries, Co. Dublin.

This report provides the environmental management framework to be adhered to during the pre-commencement, construction and operational phases of the proposed development and it incorporates the mitigating principles to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur.

This CEMP identifies for the incoming Contractor, the key planning and environmental considerations that must be adhered to and delivered during site construction. This report is intended as a single, amalgamated document that can be used during the future phases of the project, as a single consolidated point of reference relating to all construction, environmental and drainage requirements for the Planning Authority, Developer and Contractors alike.

1.2 Scope of Construction and Environmental Management Plan

This report is presented as a guidance document for the construction phase of the Red Barn Construction Project. The CEMP outlines clearly the mitigation measures that are required to be adhered to in order to complete the works in an appropriate manner. The report is divided into five sections, as outlined below.

Section 1 provides a brief introduction as to the scope of the report.

Section 2 outlines the Site and Project details, detailing the targets and objectives of this plan along with providing an overview of construction methodologies that will be adopted throughout the proposed project.

Section 3 sets out details of the environmental controls on site which looks at noise and dust controls. Site drainage measures, peat/ground stability monitoring measures and a waste management plan are also included in this section.

Section 4 sets out a fully detailed implementation plan for the environmental management of the proposed project outlining the roles and responsibilities of the project team.

Section 5 outlines the Emergency Response Procedure to be adopted in the event of an emergency in terms of site health and safety and environmental protection.

2 Site and Project Details

2.1 Site Location

The proposed construction works will be undertaken at Skerries Mills, Millers Lane, Skerries, Co. Dublin. A site location map is presented in Appendix 1 with the site location highlighted in red.

2.2 Description of the Proposed Development

The project involves the demolition of the existing barn apart from the wall closest to the stream on site and the construction of a new multi-purpose assembly building similar in form to the existing barn building; including associated drainage, mechanical & electrical installations, fit out and landscaping works.

2.3 Targets and Objectives

The key site targets are as follows:

- Ensure construction works and activities are completed in accordance with industry standard best practice measures e.g. CIRIA 2001 and CIRIA 2010."
- Ensure construction works and activities are completed in accordance with all planning conditions for the development.
- Ensure construction works and activities have minimal impact/disturbance to local landowners and the local community;
- Ensure construction works and activities have minimal impact on the Natural Environment;
- Adopt a sustainable approach to construction; and,
- Provide adequate environmental training and awareness for all project personnel.

The appointed Contractor must comply with and implement all relevant Irish and EU safety, health and environmental legislation. The Contractor shall be responsible for ensuring that any developments or changes to regulation and environmental legislation are complied with, even if they are not noted within this outline CEMP.

The key site objectives are as follows:

- Using recycled materials if possible, e.g. excavated stone, clay and peat/soil material;
- Ensure sustainable sources for materials supply where possible;
- Avoidance of any pollution incident or near miss as a result of working around or close to existing watercourses and having emergency measures in place;
- Avoidance of vandalism;
- Keeping all watercourses free from obstruction and debris;
- Keep impact of construction to a minimum on the local environment, watercourses and wildlife;
- Correct fuel storage and refuelling procedures to be followed;
- Good waste management and house-keeping to be implemented;
- Air and noise pollution prevention to be implemented; and,
- Monitoring of the works and any adverse effects that it may have on the environment;
- Construction Methods and designs will be altered where it is found there is an adverse effect on the environment;
- Comply with all relevant water quality legislation;
- Ensure a properly designed, constructed and maintained drainage system appropriate to the requirements of the site is kept in place at all times.

2.4 Construction Methodologies Overview

2.4.1. Introduction

An experienced main contractor (PSCS) will be appointed for the construction phase. The appointed PSCS will consult with the client, PSDP and associated stakeholders to agree site arrangements including hoarding, traffic management, pedestrian management, waste management and the management of construction activities.

The main contractor will be required to comply with this CEMP and any revisions made to this document. An overview of the proposed Construction Methodologies phases is prepared below under the following main headings.

Phase 1 – Site Set Up and Enabling Works

Perimeter hoarding will be provided around the site area to provide a barrier against unauthorised access from the public areas. The hoarding will be well maintained and be painted or covered with graphics portraying project information. Prior to any works on-site the recent utility surveys identifying existing services shall be reviewed and if required, updated surveys undertaken to identify all existing services. All services are to be fully isolated and tested as having no residual energies before work commences. Only approved electrical / mechanical contractors who have all the required competencies are to be used. An asbestos survey must be carried out to ascertain if there are any Asbestos Containing Materials present.

Phase 2 – Demolitions

Taking into account the design statement from the Project Engineer, see appendix, the existing structures on site will be demolished apart from a section of the wall that runs along the boundary adjacent to the outlet stream from the existing mill.

As the existing building was constructed and in use over a period when asbestos was widely used in buildings, a detailed asbestos survey shall be carried out prior to the commencement of demolition works.

The demolition shall be in full compliance with BS 6187 “Demolition in Buildings” and all measures necessary shall be taken to protect the adjoining buildings from damage and persons from injury. Prior to the demolition works a Construction and Demolition Waste Management Plan in accordance with the “Department of the Environment Heritage and Local Government Best Practice Guidelines on the preparation of Waste Management Plans for construction and demolition projects” shall be prepared by the Contractor. A structural engineer will be required to be consulted on these works, as any temporary works must be signed off by a competent designer prior to the execution of any works that may interfere with the structural integrity of the existing structures.

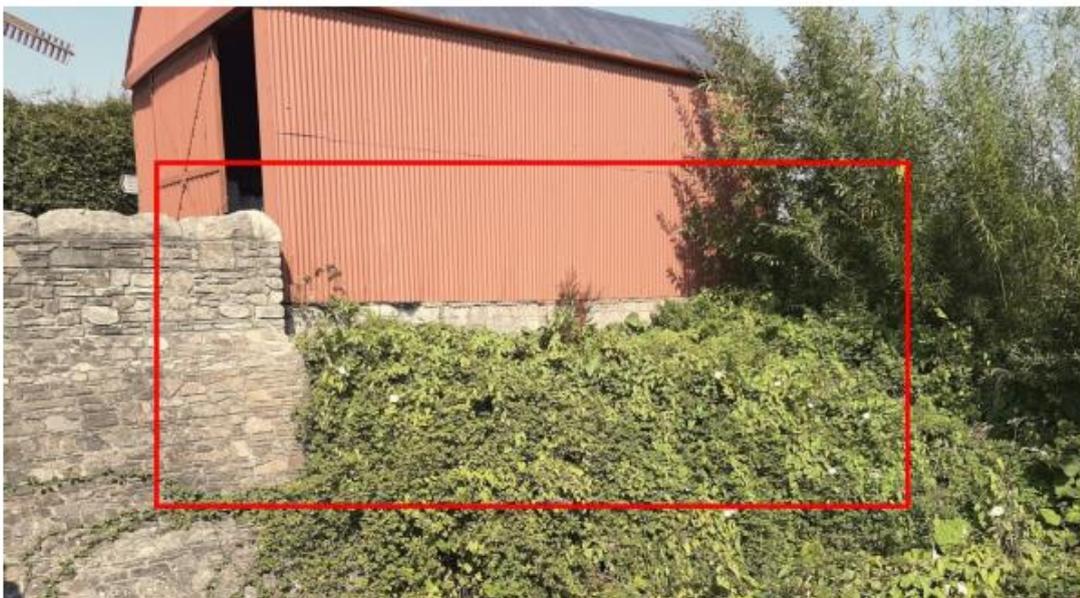
The demolition will commence with the removal of any hazardous materials by an appropriately qualified contractor for disposal at an appropriate licensed waste collection facility. All non-structural items will then be removed segregated for re-use or re-cycling where possible. The remainder of the building structure will be removed in an approved sequence outlined in a Method Statement prepared by the Contractor.

Phase 3 - Foundations

The foundations of the proposed structure will be driven piles with concrete ground beams spanning between the driven piles. Driven piles have been selected as these limit the amount of disturbed soil coming to the surface.

There is an existing wall, indicated in Figure 2.4, which will not be demolished due to its close proximity to the stream. In the temporary condition, the existing wall will be propped from within the footprint of the existing building. In the permanent condition, a line of piles with a ground beam on top will be constructed inside the existing wall. The existing wall will be tied into the ground beam with a sliding support which will prevent the wall from moving laterally. The ground floor slab will be constructed with precast concrete ‘wideslab’ with a structural screed on top. The external deck area will also be constructed utilising a precast concrete slab on ground beams and piles.

Fig 2.4



Phase 4 - Installing Structural Supports

A steel frame with a steel truss roof and blockwork infill will be constructed.

The steel frame will be designed to be self-supporting and the blockwork will not be part of the lateral stability of the structure.

This self-supporting steel structure is necessitated by the extent of window openings on the south elevation. The infill blockwork will be tied into the steel frame to ensure the blockwork can take the applied wind loading.

The prefabricated steel frame removes a substantial amount of on-site construction time which reduces the risk of environmental contamination.

The lifting and erection of structural steel elements require the use of a mechanical lifting device or crane. The PSCS must ensure that the associated safe system of works shall include as a minimum the following;

- The method of delivery to be used for the lift and structural elements (steel, roof trusses, glazed units, temporary accommodation) to site;
- The process to be used in the lifting and installation;
- The competence of the mechanical lifting device/crane operator and the banksman;
- The operating parameters with regard to weather for the works;
- The appropriate test certificates for the mechanical lifting device/crane, banksman, etc.

Phase 5 – Install Roof & Cladding

Roofing and cladding to be installed as per the design specification. The PSCS shall ensure that appropriate safe systems of work are in place prior to commencement of any works at height. The PSCS is to ensure that only trained operatives are authorised to work at heights. All work at height equipment must be certified as required and inspected before use, with weekly GA3 forms completed and inspected by CSCS qualified operatives.

All authorised and trained MEWP operators must operate the equipment in accordance with their training and the specific machine operations manual. Where work at height is ongoing exclusion zones must be setup t ground level and work at height operatives shall store tools in tool bags. All work at height equipment to have required certification and relevant statutory GA3 forms to be completed weekly.

Phase 6 – First Fix to Electrical, Mechanical and Carpentry

PSCS to ensure the competence of all contractors working on this site. This includes having the appropriate safety documentation and insurances for the works that they engage in, having the appropriate training for the works that they engage in and having the appropriate equipment for the works that they engage in. The PSCS must also ensure that appropriate storage arrangements are in place as well as operating a clean as you work system with all construction workers. Electrical works to be carried out as per National Rules for Electrical Installations, Fourth Edition, ET101:2008 (Old Standard) and new standard; 5th Edition National Rules for Electrical Installations, IS 10101:2020.

Phase 7 – Install Fixtures and Fittings

PSCS to ensure the competence of all contractors working on this site. This includes having the appropriate safety documentation and insurances for the works that they engage in, having the

appropriate training for the works that they engage in and having the appropriate equipment for the works that they engage in. The PSCS must also ensure that appropriate storage arrangements are in place as well as operating a clean as you work system with all construction workers.

Phase 8 – Painting and Decoration

PSCS to ensure the competence of all contractors working on this site. This includes having the appropriate safety documentation and insurances for the works that they engage in, having the appropriate training for the works that they engage in and having the appropriate equipment for the works that they engage in. The PSCS must also ensure that appropriate storage arrangements are in place as well as operating a clean as you work system with all construction workers.

Phase 9. – Second Fix to Electrical, Mechanical and Carpentry

The PSCS shall ensure that appropriate safe systems of work are in place prior to commencement of any works involving energising new services.

The PSCS is to ensure that services are only to be made live during allocated testing periods in which all personnel are made aware of the risks.

All other activities should be stopped until testing is completed, and services are confirmed as having been isolated after testing. Only competent certified electricians shall be used.

Electrical works to be carried out as per National Rules for Electrical Installations, Fourth Edition, ET101:2008 (Old Standard) and new standard; 5th Edition National Rules for Electrical Installations, IS 10101:2020.

Phase 10 – External Finishes

PSCS to ensure the competence of all contractors working on this site. This includes having the appropriate safety documentation and insurances for the works that they engage in, having the appropriate training for the works that they engage in and having the appropriate equipment for the works that they engage in. The PSCS must also ensure that appropriate storage arrangements are in place as well as operating a clean as you work system with all construction workers.

3. Environmental Management

3.1.1. Site Drainage

The protection of the watercourses within and surrounding the site, and downstream catchments that they feed is of utmost importance in considering the most appropriate drainage proposals for the site of this proposed development. The proposed development's drainage design has therefore been proposed specifically with the intention of having no negative impact on the water quality of the site and its associated rivers and lakes, and consequently no impact on downstream catchments and ecological ecosystems. No routes of any natural drainage features will be altered as part of the proposed development.

3.1.2. Surface Water Drainage Pipes

Drainage pipes are typically installed in short sections, thereby minimising the amount of ground disturbed at any one time and minimising the potential for drainage runoff to pick up silt or suspended solids. Each short section of trench is excavated, pipe installed and bedded, trench backfilled and the area reinstated before work on the next section commences.

Any excavated material not reused as part of site reinstatement will be removed off-site and sent to an authorised waste recovery facility. Any stock piling of material pending reuse will be short term which will reduce the potential for any silt run-off being generated.

3.1.3. Surface Water Mitigation Measures

A constraints zone will be identified and implemented at the construction area adjacent to the stream. The purpose of the constraint zone is to:

- Avoid physical damage to surface water channels;
- Provide a buffer against hydraulic loading by additional surface water run-off;
- Avoid the entry of suspended sediment and associated nutrients into surface waters from excavation and earthworks;
- Provide a buffer against direct pollution of surface waters by pollutants such as hydrocarbons; and,
- Construction plant materials used during construction and chemicals or waste associated with temporary on-site sanitary facilities.

Given both the scope of the works and the complexity associated with working within a restricted environment, the PSCS will be required to put in place an experienced project management team to deliver this project.

General Pollution Prevention Measures will also include:

- No stockpiling of construction materials will take place within the constraints zone. No refuelling of machinery or overnight parking of machinery is permitted in this area;
- No concrete truck chute cleaning is permitted in this area;
- Works shall not take place at periods of high rainfall, and shall be scaled back or suspended if heavy rain is forecast;
- Plant will travel slowly across bare ground at a maximum of 5km/hr.
- Machinery deliveries shall be arranged using existing road infrastructure;

- All machinery operations shall take place from the stream bank;
- Any excess construction material shall be immediately removed from the area and sent to an authorised waste recovery facility;
- Spill kits shall be available in each item of plant required;
- Silt fencing will be erected on ground sloping towards watercourses if required.

3.1.4. Refuelling, Fuel and Hazardous Materials Storage

Mitigation measures proposed to avoid release of hydrocarbons at the site are as follows:

- Oils, fuel and all potentially harmful materials will be stored within an impermeable proprietary container;
- Mobile storage such as fuel bowsers will be bunded to prevent spills. Tanks for bowsers and generators shall be double skinned;
- Refuelling will only take place at distances greater than 50 metres from nearest water courses;
- No hazardous substance shall be permitted to be left unattended at any time when taken outside the secured storage;
- Potential impacts caused by spillages etc., during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site;
- All construction vehicles will be regularly checked and maintained prior to arrival at the site to prevent hydrocarbon leakage;
- Hoses and valves will be checked regularly for signs of wear and will be closed and securely locked when not in use;
- Fuels, lubricants and hydraulic fluids for equipment used on the construction site should be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment in accordance with current best practice;
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling;
- All pumps using fuel or containing oil will be locally and securely bunded where there is the possibility of discharge to waters;
- Refuelling will only be carried out by trained personnel;
- Oil booms and oil soakage pads will be kept on site to deal with any accidental spillage.

3.2 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, sand, overburden, etc., and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust.

Proposed measures to control dust include:

- The roads adjacent the site will be regularly inspected by the Site Environmental Manager for cleanliness, and cleaned as necessary;
- The transport of soils or other material, which has significant potential to cause dust, will be undertaken in tarpaulin-covered vehicles where necessary;
- When necessary, sections of the site will be swept using a road cleaner and/or damped down with water.

3.3 Noise and Vibration Control

The operation of plant and machinery, including construction vehicles, is a source of potential impact that will require mitigation at all locations within the site. Proposed measures to control noise include:

- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts;
- Plant and machinery with low inherent potential for generation of noise and/or vibration shall be selected. All construction plant and equipment to be used on-site shall be modern equipment complying with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Regular maintenance of plant will be carried out in order to minimise noise emissions.
- All vehicles and mechanical plant shall be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors shall be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machines, which are used intermittently, shall be shut down during those periods when they are not in use;
- Vibration monitors shall be put in place before rock breaking commences;
- Vibrations shall be monitored and kept to readings below the required levels;
- If readings are above the required levels then smaller excavators with rock breakers shall be used.
- Training will be provided by the Site Environmental Manager to drivers, to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.

3.4 Waste Management

This section of the CEMP provides a Waste Management Plan (WMP) which outlines the best practice procedures during the excavation and construction phases of the project. The WMP will outline the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage. Disposal of waste will be seen as a last resort.

3.4.1. Legislative Requirements

The Irish Government issued a policy statement in September 1998 known as ‘Changing Our Ways’, 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’ concerning the development and implementation of a voluntary construction industry programme to meet the Government’s objectives for the recovery of C&D waste.

The most recent national policy document was published in July 2012, entitled ‘A Resource Opportunity - Waste Management Policy in Ireland’. This document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The

document sets out a number of actions in relation to C&D waste and commits to undertake a review of specific producer responsibility requirements for C&D projects over a certain threshold.

The National Construction and Demolition Waste Council (NCDWC) was launched in June 2002, as one of the recommendations of the Forum for the Construction Industry, in the Task Force B4 final report. The NCDWC subsequently produced 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' in July 2006 in conjunction with the then Department of the Environment, Heritage and Local Government (DoEHLG). The guidelines outline the issues that need to be addressed at the pre-planning stage of a development all the way through to its completion. These guidelines have been followed in the preparation of this document and include the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;
- Waste disposal/recycling of C&D wastes at the site;
- Provision of training for waste manager and site crew;
- Details of proposed record keeping system;
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies i.e. waste recycling companies, Fingal County Council, etc.

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a C&D Waste Management Plan for developments. This development requires a C&D WMP under the following criterion:

- Demolition/renovation/refurbishment projects generating in excess of 100m³ in volume, of waste.

Other guidelines followed in the preparation of this report include 'Construction and Demolition Waste Management – a handbook for Contractors and Site Managers' published by FÁS and the Construction Industry Federation in 2002. 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 minimised and maximum levels of waste recycling are achieved.

The project will follow the "EU Construction and Demolition Waste Management Protocol 2016". Based on volume, construction and demolition (C&D) waste is the largest waste stream in the EU – it represents about third of all waste produced, proper management of C & D waste and recycled materials – including the correct handling of hazardous waste.

This protocol fits within the construction 2020 strategy, as well as the communication on resource efficiency opportunities in the building sector. It is also part of the more recent and ambitious circular economy package that the European Commission has presented, which includes revised legislative proposals on waste to stimulate Europe's transition towards a circular economy to boost global competitiveness, foster sustainable economic growth and generate new jobs. The proposed actions will contribute to reaching the Waste Framework Directive target of 70% of C&D waste being recycled by 2020, closing the loop of product lifecycles through greater recycling and re-use and bring benefits for both the environment and the economy.

The overall aim of this protocol is to increase confidence in the C&D waste management process and the trust in the quality of C&D recycled materials. This will be achieved by:

- Improved waste identification, source separation and collection;

- Improved waste logistics;
- Improved waste processing;
- Quality management;
- Appropriate policy and framework conditions.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the Waste Management Act 1996 as amended 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 legal disposal (including its method of disposal). 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 incorrect management of waste produced, including the actions of any contractors engaged (e.g.: for collection and transport of waste/permits).

Each waste contractor must comply with the provisions of the Waste Management Act 1996 as amended and associated regulations. This includes the requirement that a contractor handle, transport waste to a facility, must have a waste collection permit appropriate to the waste type being transported and dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities. Waste receiving facilities must also be appropriately licensed. Operators of such facilities are not permitted to receive any waste, unless in possession of a waste permit/licence.

3.4.2. Waste Arising from the Demolition Process

Special attention will be paid to the sorting/segregation arrangements employed to separate the existing structure into individual material fractions. In addition, the transportation and reception arrangements associated with the movement of materials to the predetermined licenced/permited waste facilities for reuse or recycling will also be taken into consideration.

Health and Safety procedures will be adhered to in accordance with the requirements of the relevant authorities in the removal of hazardous waste (especially Asbestos waste) material during the soft stripping and demolition process.

3.4.3. Waste Identification, Source Separation and Collection per EU Protocol

Improved waste identification, separation and collection at source are at the start of the demolition waste management process. Improved waste identification requires clear and unambiguous definitions, it also requires good-quality pre-demolition audits and waste management plans to be prepared and executed by the contractor. A crucial part of the source separation is the elimination of hazardous waste such as asbestos, as well as the separation of materials that hamper recycling, including fixation materials. Improved collection of goods for re-use and recycling requires selective demolition, as well as appropriate on-site operations.

3.4.4. Protocols for Waste

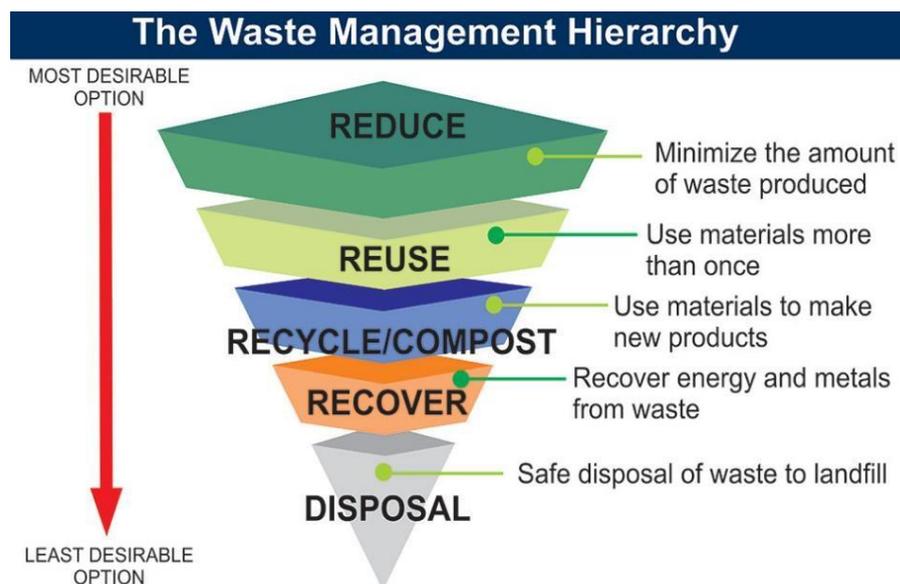
The protocol consists of 5 components, all of which contribute to the overall aim. In conjunction with the EU Construction and Demolition Waste Management Protocol 2016.

- Waste Identification, source separation and collection;
- Waste Logistics;
- Waste Processing;
- Quality Management;
- Policy and Framework conditions.

3.4.5. The Waste Hierarchy

Besides the requirements that the off-site handling of waste generated by this project are subject to the required statutory authorisations under the Waste Management Act, there is also a necessity that it conforms to the Waste Hierarchy. The Waste Hierarchy only applies to material that is defined as “waste”.

This means that it does not apply to the proportion of the material that is handled on-site in conformity with the statutory exclusions. The Waste Management Hierarchy will become activated for any material which does not satisfy exclusions.



Construction Phase Waste Management Plan

The waste types arising from the construction phase of the proposed development are outlined in Table 3.1 below.

Waste Description	EWC Code	Source of Waste
Concrete	17 01 01	Demolition of walls and floors
Inert Materials	17 01 07	Sand, stones, plaster, rock, blocks
Timber	17 02 01	doors, timber structures
Metals	17 04 07	Steel girders, building sheeting.
Plastic	17 02 03	Packaging with new materials
Glass	17 02 02	Windows (if applicable)
Soil and Stones	17 05 04	Soil and Stones
Electrical wiring	17 04 11	Throughout buildings
Hazardous materials (asbestos)	17 06 05	Asbestos (if applicable)
General Waste/Mixed Municipal Waste	17 09 03 20 03 01	Throughout the different areas
Gypsum Based Construction	17 08 01 17 08 02	Walls/ceilings
Paper/Cardboard	15 01 01 20 01 01	Packaging materials

PROPOSALS FOR MINIMISATION, REUSE AND RECYCLING OF C&D WASTE

The primary aim of this DWMP is to ensure that the wastes generated in the course of the demolition project are managed in a systematic manner in accordance with the governing Waste Management Legislation and guidelines.

Wastes generated on the site shall be identified and segregated according to their category as described by the European Waste Catalogue (EWC). In order to affect this, designated Waste Storage Areas (WSA's) will be created at the site for the storage of segregated wastes prior to transport for recovery/disposal at suitably licensed / permitted facilities.

Employees will be made aware of the various waste streams arising from soft stripping and demolition and this will ensure that wastes will be segregated appropriately. The demolition project needs to be well planned and managed. This brings about important cost benefits, as well as environmental and health benefits and carbon savings. Such preparatory activities are particularly crucial for larger buildings.

Under the Waste Management (Collection Permit) Regulations 2007, as amended a waste collection permit, for the appropriate EWC code (s) and destinations, is required by waste hauliers to transport waste from one site to another. Compliance with the Waste Management (Movement of Hazardous Waste) Regulations is also required for the transportation of hazardous waste by road. All Companies who will be used for the transportation of waste from the site shall be permitted. The export of waste from Ireland is subject to the requirements of the Waste Management (Shipment of Waste) Regulations, 2007. The main Contractor must ensure that the transport and movement of all wastes are carried out in compliance with these requirements.

Waste may only be treated or disposed of at facilities that are licensed to carry out that specific activity, for a specific waste type. Records of all waste movements and associated documentation will also be held, on-site.

3.4.6. Reuse

- Many construction materials can be reused a number of times before they have to be disposed of:
 - Soil can be used for backfilling and levelling out site areas;
 - Plastic packaging etc., can be used to cover materials on site or reused for the delivery of other materials.

3.4.7. Recycling

If a certain type of construction material cannot be reused on site, then recycling is the most suitable option. All waste that is produced during the construction phase including dry recyclables will be sent directly for subsequent segregation at a remote facility. The low volume of such material that is anticipated to be generated at the proposed development is the justification for adopting this method of waste management.

3.4.8 Wastewater

The removal and disposal of wastewater from site welfare facilities, will be carried out by a fully permitted waste collector holding valid Waste Collection Permits as issued under the Waste Management (Collection Permit) Regulations, 2007. Information on the appointed permitted contractor and evidence of a maintenance contract having been submitted to the Planning Authority prior to any construction works taking place, shall be made available to pertinent parties.

3.4.9. Training

It is important for the Construction Waste Manager to communicate effectively with colleagues in relation to the aims and objectives of the WMP. All employees working on site during the construction phases of the project will be trained in materials management and thereby, should be able to:

- Distinguish reusable materials from those suitable for recycling;
- Ensure maximum segregation at source;
- Co-operate with site manager on the best locations for stockpiling reusable materials;
- Separate materials for recovery; and
- Identify and liaise with waste contractors and waste facility operators.

3.4.10. Record Keeping

The WMP will provide systems that will enable all arisings, movements and treatments of construction waste to be recorded. This system will enable the contractor to measure and record the quantity of waste being generated. It will highlight the areas from which most waste occurs and allows the measurement of arisings against performance targets. The WMP can then be adapted with changes that are seen through record keeping.

The fully licensed waste contractor employed to remove waste from the site will be required to provide documented records for all waste dispatches leaving the site of the proposed development. Each record will contain the following:

- Consignment Reference Number
- Material Type(s) and EWC Code(s)
- Company Name and Address of Site of Origin
- Trade Name and Collection Permit Ref. of Waste Carrier
- Trade Name and Licence Ref. of Destination Facility
- Date and Time of Waste Dispatch
- Registration No. of Waste Carrier Vehicle
- Weight of Material
- Signature of Confirmation of Dispatch Detail
- Date and Time of Waste Arrival at Destination
- Weight of Material
- Site Address of Destination Facility

4. Implementation

4.1 Roles and Responsibilities

The Construction Manager is the project focal point relating to construction-related environmental issues. In general, the Construction Manager will maintain responsibility for monitoring the works and Contractors/Sub- contractors from an environmental perspective. The Construction Manager will act as the regulatory interface on environmental matters by reporting to and liaising with local authority for the relevant jurisdiction and other statutory bodies as required. An Ecological Clerk of Works (ECow) will visit the site as necessary and report to site management. The ECoW will be a Chartered Environmentalist or Chartered Ecologist and a member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

4.1.1. Construction Manager

The Construction Manager will have overall responsibility for the organisation and execution of all related environmental activities as appropriate, in accordance with regulatory and project environmental requirements. The duties and responsibilities of the Construction Manager will include:

- Ensure that all works are completed safely and with minimal environmental risk;
- Approve and implement the Project CEMP and supporting environmental documentation, and ensure that all environmental standards are achieved during the construction phase of the project;
- Be aware of the relevant legislation, codes of practice, guidance notes and good environmental working practice relevant to their work;
- Ensure compliance through audits and management site visits;
- Ensure timely notification of environmental incidents; and,
- Ensure that all construction activities are planned and performed such that minimal risk to the environment is introduced.

4.1.2. Environmental Manager

Due to the size of the site the Construction Manager will also act as the Environmental Manager (EM) and will be required to monitor all site works and to ensure that prescribed methodologies and mitigation are followed throughout construction to avoid negatively impacting on the receiving environment.

The responsibilities and duties of the EM will include the following:

- Preparation of the CEMP and supporting environmental documentation and review/approval of contractor method statements;
- Undertake inspections and reviews to ensure the works are carried out in compliance with the CEMP;
- Monitor the implementation of the CEMP, particularly all proposed/required Environmental Monitoring;
- Implement a programme of water quality monitoring which will include continuous turbidity monitoring of surface water and laboratory analysis;
- Generate environmental reports to show environmental data trends and incidents and ensure environmental records are maintained throughout the construction period;
- Advise site management/contractor/sub-contractors on:
 - Prevention of environmental pollution and improvement to existing working methods;
 - Changes in legislation and legal requirements affecting the environment;
 - Suitability and use of plant, equipment and materials to prevent pollution;
 - Environmentally sound methods of working and systems to identify environmental hazards;
 - Ensure proper mitigation measures are initiated and adhered to during the construction phase;
- Liaise with the Ecological Clerk of Works to ensure regular site visits and audits/inspections are completed;
- Ensure adequate arrangements are in place for site personnel to identify potential environmental incidents;
- Ensure that details of environmental incidents are communicated in a timely manner to the relevant regulatory authorities, initially by phone and followed up as soon as is practicable by e-mail;
- Support the investigation of incidents of significant, potential or actual environmental damage, and ensure corrective actions are carried out, recommend means to prevent recurrence and communicate incident findings to relevant parties;
- Identify environmental training requirements and arrange relevant training for all levels of site-based staff/workers; and
- The level, detail and frequency of reporting expected from the EM for the developer's project manager, and local authorities or other agencies, will be agreed by all parties prior to commencement of construction, and may be further adjusted as required during the course of the project.

4.1.3. Environmental Induction

The Environmental Induction will be integrated into the general site induction on a case-by-case basis for each member of staff employed on-site depending on their assigned roles and responsibilities on site. Where necessary, the Environmental Induction will as a minimum include:

- A copy of the Environmental Management Site Plans and discussion of the key environmental risks and constraints;
- An outline of the CEMP structure;
- A discussion of the applicable Works Method Statement;
- The roles and responsibilities of staff, including contractors, in relation to environmental management; and,
- An outline of the environmental Incident Management Procedure.

4.1.4 Toolbox Talks

Toolbox talks should be held by the Site Environmental Manager/Construction Manager at the commencement of each day, or at the commencement of new activities. The aims of the toolbox talks are to identify the specific proposed work activities that are scheduled for that day or phase of work. In addition, the necessary work method statements and sub plans would be identified and discussed prior to the commencement of the day's activities.

Site meetings would be held on a regular basis involving all site personnel. The objectives of the site meetings are to discuss the coming weeks proposed activities and identify the relevant work method statements and sub plans that will be relevant to that week's activities. Additionally, any non-compliance identified during the previous week would also be discussed with the aim to reduce the potential of the same non-compliance reoccurring.

5. Emergency Response Plan

5.1. Emergency Response

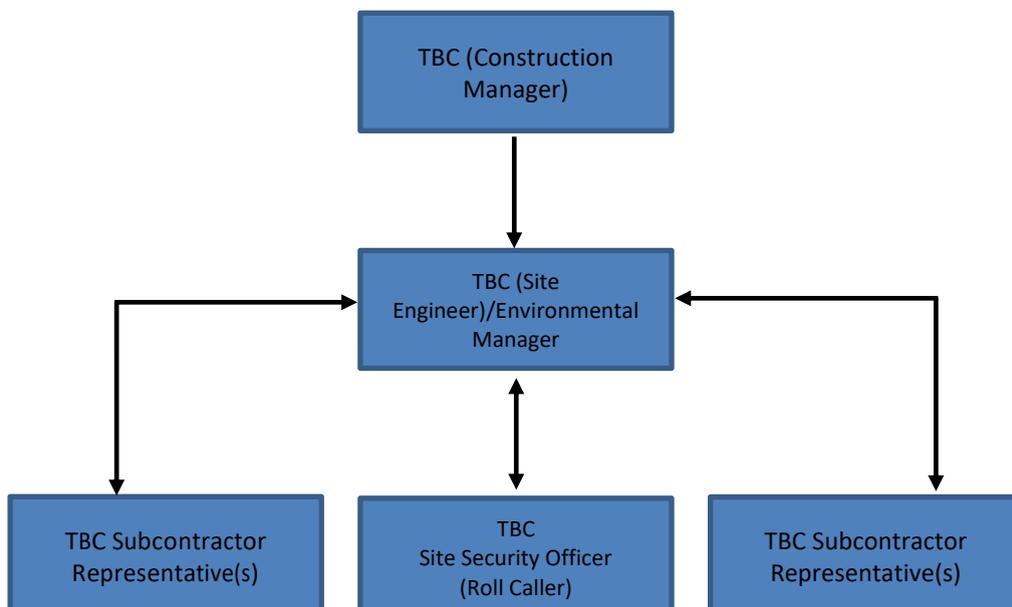
The Emergency Response Plan (ERP) is presented in this section of the CEMP. It provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection. The site ERP includes details on the response required and the responsibilities of all personnel in the event of an emergency. The ERP will require updating and submissions from the contractor/PSCS and suppliers as the proposed project progresses. Where sub-contractors that are contracted on site are governed by their own emergency response procedure a bridging arrangement will be adopted to allow for inclusion of the sub-contractor's ERP within this document.

This is a working document that requires updating throughout the various stages of the project.

5.1.1. Roles and Responsibilities

The chain of command during an emergency response sets out who is responsible for coordinating the response. The Site Manager will lead the emergency response which makes him responsible for activating and coordinating the emergency response procedure. The other site personnel who can be identified at this time who will be delegated responsibilities during the emergency response are presented in Figure 5.1. In a situation where the Site Manager is unavailable or incapable of coordinating the emergency response, the responsibility will be transferred to the next person in the chain of command outlined in Figure 5.1. This will be updated throughout the various stages of the project.

Figure 5.1.1 Emergency Response Procedure Chain of Command



5.1.2. Initial Steps

In order to establish the type and scale of potential emergencies that may occur, the following hazards have been identified as being potential situations that may require an emergency response in the event of an occurrence.

Table 5.1.2 Hazards associated with potential emergency situations

Construction Vehicles: dump trucks, tractors, excavators, cranes, etc.	Collision or overturn which has resulted in operator or third-party injury
Abrasive wheels / portable tools	Entanglement, amputation or electrical shock associated with portable tools
Contact with services	Electrical shock or gas leak associated with an accidental breach of underground services
Fire	Injury to operative through exposure to fire
Sickness	Illness unrelated to site activities of an operative e.g., heart attack, loss of consciousness, seizure

In the event of an emergency situation associated with, but not restricted to, the hazards outlined in Table 5.1 the Site Manager will carry out the following:

- Establish the scale of the emergency situation and identify the number of personnel, if any that have been injured or are at risk of injury;
- Where necessary, sound the emergency siren/foghorn that activates an emergency evacuation on the site;
- Make safe the area if possible and ensure that there no identifiable risk exists with regard to dealing with the situation e.g. if a machine has turned over, ensure that it is in a safe position so as not to endanger others before assisting the injured;
- Contact the required emergency services or delegate the task to someone if he is unable to do so. If delegating the task, ensure that they follow the procedures for contacting the emergency services as set out in Section 5.2;
- Take any further steps that are deemed necessary to make safe or contain the emergency incident e.g. cordon off an area where an incident associated with electrical issues has occurred;
- Contact any regulatory body or service provider as required e.g. ESB Networks the numbers for which as provided in Section 5.2.2;
- Contact the next of kin of any injured personnel where appropriate. The procedure for this is outlined in Section 5.2.3;

5.1.3. Spill Control Measures

Every effort will be made to prevent an environmental incident during the construction and operational phase of the proposed project. Oil / fuel spillages are one of the main environmental risks that will exist on the proposed site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident.

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers;

- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident;
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill;
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats;
- If possible, clean up as much as possible using the spill control materials;
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited;
- Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action;
- The Environmental Manager will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring;
- The Environmental Manager will notify the appropriate regulatory body, i.e. local authority, The Department of Communications, Climate Action and Environment and the Department of Housing, Planning and Local Government, if deemed necessary.

Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The Environmental Manager must be immediately notified;
- If necessary, the Environmental Manager will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident;
- The details of the incident will be recorded on an Environmental Incident Form which will provide information such as the cause, extent, actions and remedial measures used to follow the incident. The form will also include any recommendations made to avoid reoccurrence of the incident;
- If the incident has impacted on an ecologically sensitive receptor, such as a sensitive habitat, protected species or designated conservation site (pSPA or cSAC), the Environmental Manager will liaise with the Project Ecologist;
- If the incident has impacted on a sensitive receptor such as an archaeological feature the Environmental Manager will liaise with a Project Archaeologist;
- A record of all environmental incidents will be kept on file by the Environmental Manager and the Main Contractor. These records will be made available to the relevant authorities.

The Environmental Manager will be responsible for any corrective actions required as a result of the incident e.g. an investigative report, formulation of alternative construction methods or environmental sampling, and will advise the Main Contractor as appropriate.

5.2 Contacting the Emergency Services

5.2.1. Emergency Communications Procedure

In the event of requiring the assistance of the emergency services the following steps should be taken:

Stay calm. It's important to take a deep breath and not get excited. Any situation that requires 999/112 is, by definition, an emergency. The dispatcher or call-taker knows that and will try to move things along quickly, but under control.

Know the **location** of the emergency and the number you are calling from. This may be asked and answered a couple of times but don't get frustrated. Even though many emergency call centres have enhanced capabilities meaning they are able to see your location on the computer screen they are still required to confirm the information. If for some reason you are disconnected, at least emergency crews will know where to go and how to call you back.

Wait for the call-taker to ask questions, then answer clearly and calmly. If you are in danger of assault, the dispatcher or call-taker will still need you to answer quietly, mostly "yes" and "no" questions.

If you reach a recording, listen to what it says. If the recording says your call cannot be completed, hang up and try again. If the recording says all call takers are busy, WAIT. When the next call-taker or dispatcher is available to take the call, it will transfer you.

Let the call-taker guide the conversation. He or she is typing the information into a computer and may seem to be taking forever. There's a good chance, however, that emergency services are already being sent while you are still on the line.

Follow all directions. In some cases, the call-taker will give you directions. Listen carefully, follow each step exactly, and ask for clarification if you don't understand.

Keep your eyes open. You may be asked to describe victims, suspects, vehicles, or other parts of the scene. Do not hang up the call until directed to do so by the call taker.

Due to the relative remoteness of the site, it may be necessary to liaise with the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This should form part of the site induction to make new personnel and sub-contractors aware of any such arrangement or requirement if applicable.

5.2.2. Contact Details

A list of emergency contacts is presented in Table 6.2. A copy of these contacts will be included in the Site Safety Manual and in the site offices and the various site welfare facilities.

Table 5.2 Emergency Contacts

Contact	Telephone no.
Emergency Services – Ambulance, Fire, Gardaí	999/112
Hospital – Beaumont Hospital, Beaumont Road, Dublin	01 809 3000
ESB Emergency Services	1850 372 999
Gas Networks Ireland	1850 20 50 50
Garda Station	01 849 1211
Health and Safety Coordinator - Health & Safety Services	TBC
Health and Safety Authority	1890 289 389
Project Supervisor Construction Stage (PSCS): TBC	TBC
Project Supervisor Design Stage (PSDS):	ABN multi-disciplinary

5.2.3. Procedure for Personnel Tracking

All operatives on site without any exception will have to undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.

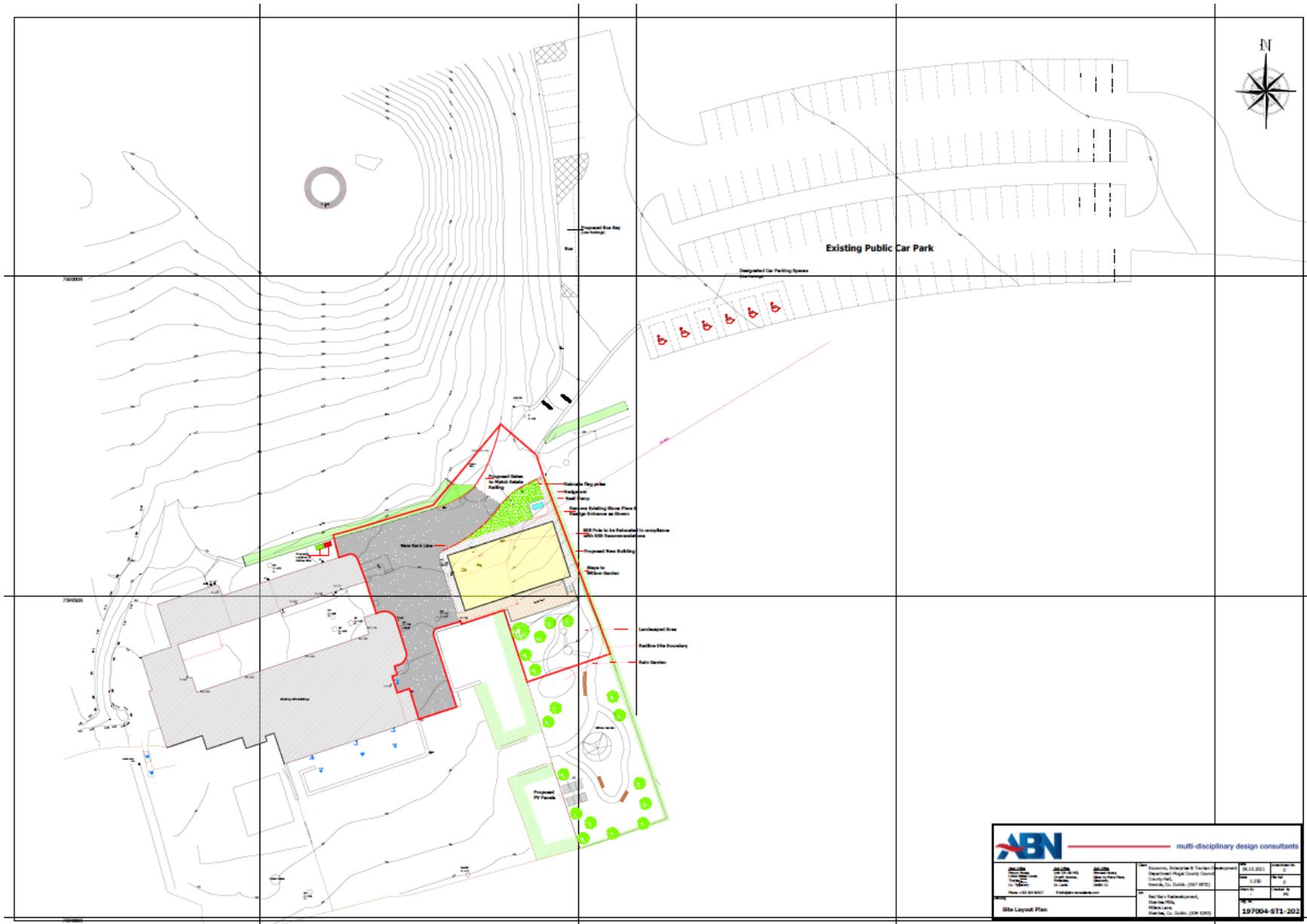
In the event of a site operative becoming involved in an emergency situation where serious injury has occurred, and hospitalisation has taken place, it will be the responsibility of the Site Manager or next in command if unavailable to contact the next of kin to inform them of the situation that exists.

Appendix 1: Site Drawings
[Site Location](#)



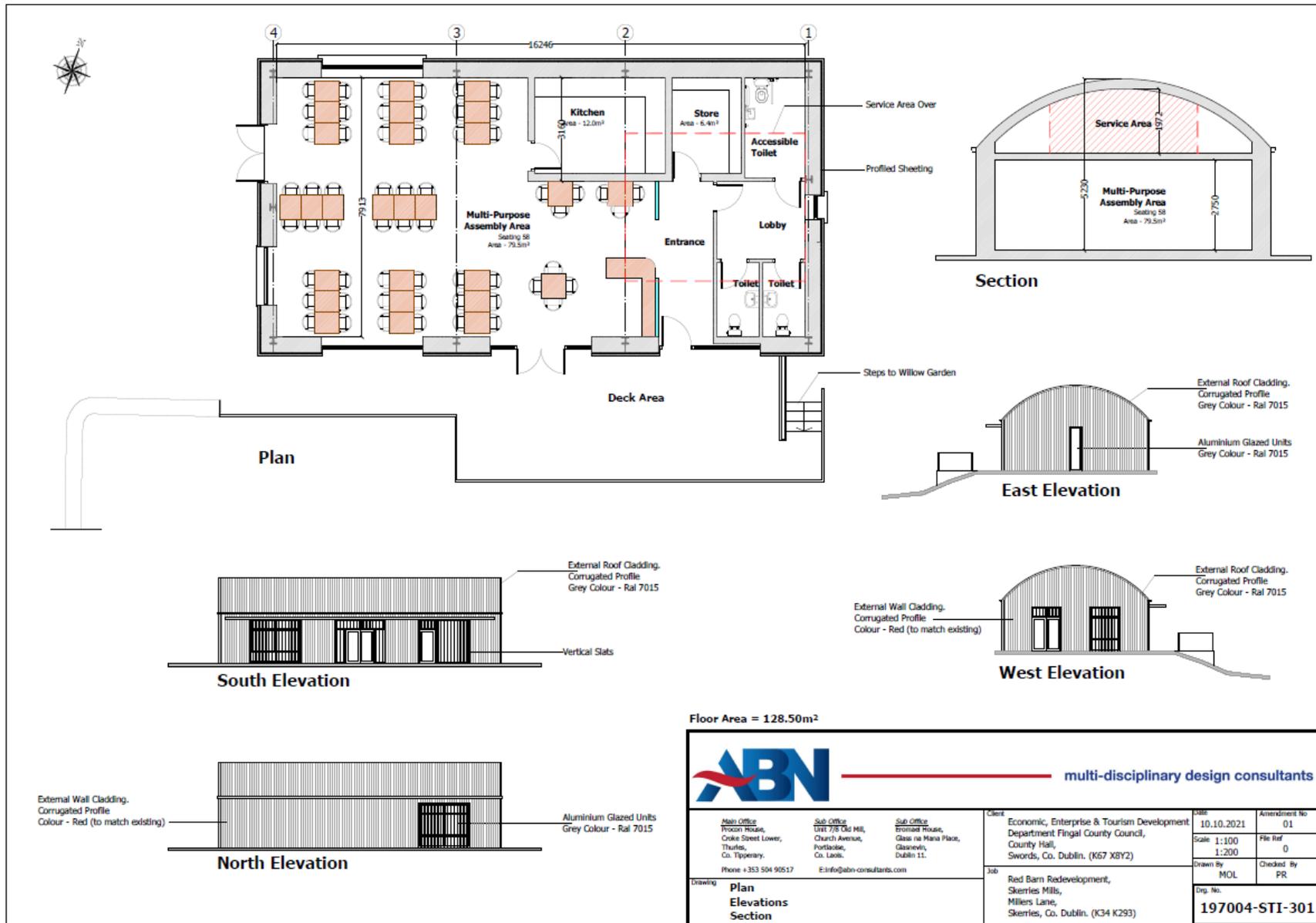
Re-development of Red Barn at Skerries Mills

Site Layout



Re-development of Red Barn at Skerries Mills

Floor Plan



Re-development of Red Barn at Skerries Mills