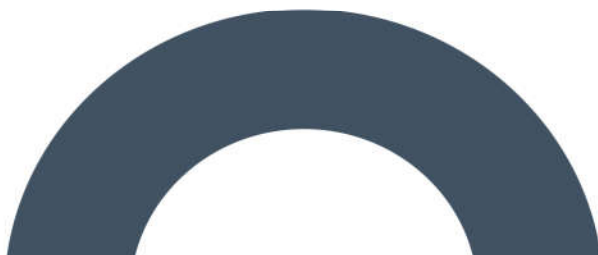
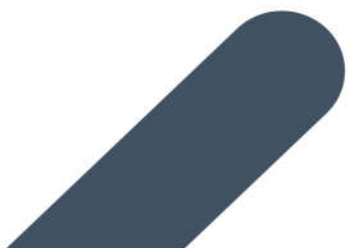


Construction and Environmental Management Plan

Clifden Public Realm
Enhancement Scheme





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1. INTRODUCTION

This Construction & Environmental Management Plan (CEMP) has been prepared by MKO on behalf of Galway County Council (GCC) for proposed public realm improvements at Clifden, Co. Galway. The Proposed Development will consist of three distinct town centre re-development projects; (i) the Town Centre Public Realm Enhancement, (ii) Harbour Park, and (iii) Beach Road Quay.

The CEMP provides the environmental management framework to be adhered to during the pre-commencement and construction phases of the proposed works 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. The CEMP has been informed by and takes account of the accompanying documents and drawings which have been prepared for the Proposed Development.

All measures identified in this CEMP, which will be finalised subsequent to any permission granted and updated prior to construction will include all mitigation measures identified to be adhered to during the pre-commencement and construction phases of the proposed works.

The CEMP to be prepared by the appointed contractor will be a single, amalgamated document that can be used during the construction phase of the project, as a single consolidated point of reference relating to all construction, environmental and drainage requirements for the developer, and contractors alike. The CEMP may evolve over further iterations as the construction works progress, but at all times must meet or exceed the standards and requirements set out in this document. It will be the contractor's current version of the CEMP, which at any point in time, will guide the construction activities on site and the implementation of which will be audited during construction.

1.1 Potential Amendment Scenarios

This CEMP may require further updating and final agreement with the various stakeholders should the Proposed Development receive planning permission, in alignment with all the conditions which apply and in order to identify, assess and satisfy the contract performance criteria. The final CEMP will also require updating by the selected contractor. Therefore, this is a working document and will be developed further prior to construction commencing.

Triggers for amendments to the CEMP will include:

- When there is a need to improve performance in an area of environmental impact;
- As a result of changes in environmental legislation applicable and relevant to the project;
- Where the outcomes from auditing establish a need for change;
- Where Work Method Statements identify changes to a construction methodology to address high environmental risk; and
- As a result of an incident or complaint occurring that necessitates an amendment.

1.2 Scope of the Construction and Environmental Management Plan

This report is presented as a guidance document for the management of construction activities and waste materials generated during the works and following completion. It outlines clearly the mitigation measures that are required to be adhered to in order to manage activities and waste materials in an appropriate manner. The report is divided into seven sections, as outlined below.

- **Section 1** provides a brief introduction as to the scope of the report detailing the targets and objectives of this plan.
- **Section 2** outlines the site and project details and 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 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. Also included in this section is the Emergency Response Procedure to be adopted in the event of an emergency in terms of site health and safety and environmental protection.
- **Section 5** consists of a summary table of all mitigation proposals to be adhered to during the implementation of the project.
- **Section 6** sets out a programme for the timing of the works.
- **Section 7** outlines the proposals for reviewing compliance with the provisions of this report.

1.3

Targets and Objectives

The construction phase works are designed to approved standards, which include specified materials, standards, specifications, and codes of practice. The design of the project has considered environmental issues, and this is enhanced by the works proposals.

The key site targets are as follows;

- Adopt a sustainable approach to construction and, ensure sustainable sources for materials supply where possible.
- Correct fuel storage and refuelling procedures to be followed.
- Construction Methods and designs will be altered where it is found there is an adverse effect on the environment.
- Good waste management and housekeeping to be implemented.
- Using recycled materials, if possible, e.g., excavated stone, soil, and subsoil material.
- Avoidance of vandalism.
- Air and noise pollution prevention to be implemented.
- Monitoring of the works and any adverse effects that it may have on the environment and,
- Provide adequate environmental training and awareness for all project personnel.

The key site objectives are as follows.

- Keep impact of construction to a minimum on the local environment and wildlife.
- Ensure construction works and activities are completed in accordance with any 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
- 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 housekeeping 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.

2. SITE AND PROJECT DETAILS

2.1 Site Location

Clifden is a coastal town in Connemara, Co. Galway (Irish Transverse Mercator (ITM) Grid Ref of approximate centre: X465879, Y750621) and is located 80 km northwest of Galway City. The town is connected to Galway City via the N59 National Road. A Site Location map is shown in Figure 2-1 below. The extent of the proposed enhancement works extends to three sites in Clifden, including the Town Centre, Harbour Park, and Beach Road Quay. To the south of the proposed works area is Clifden Bay which surrounds the works area at harbour park and beach road, and it is approximately 60m from Clifden town centre. The Owenglin River is to the southeast and is designated as part of the Twelve Bens/Garraun Complex Special Area of Conservation (SAC) [IE0002031]. To the west of the site are large open areas of bog, woodland, and scrub habitats. The site can be accessed from the north and the east via the N59, and from the west via the L1104 Sky Road. The total area of the three areas where it is proposed to carry out works is 3.83 hectares (ha). The total study area of each are defined in Section 2.2 alongside a brief description of each. A layout of the Proposed Development has been shown in Figure 2-2.

2.2 Description of Each Proposed Study Area

2.2.1 Town Centre

The Town Centre study area is located directly in the centre of Clifden Town, at the intersection of Main Street and Bridge Street. The Town Centre including the Main Street, Market Square, Bridge Street and Hulk Street has been the focal point of Clifden Town down through the years, playing a pivotal role in the administrative, commercial, cultural, and recreational functioning of the Town. The area where works are proposed in this location is approximately 1.95ha in size.

2.2.2 Harbour Park

Harbour Park is located to the west of Clifden Town Centre approximately 300m away from the town square, near the shoreline of Clifden Bay. The site is accessed via the Beach Road, from the town centre. The eastern boundary is adjacent to residential buildings. The west is bounded by town centre uses such as Clifden Town Hall, and a number of residential dwellings. The north of the site is bounded by a road and the south of the site is bounded by the banks of Clifden Bay. The study area covers an area of 1.65ha.

2.2.3 Beach Road Quay

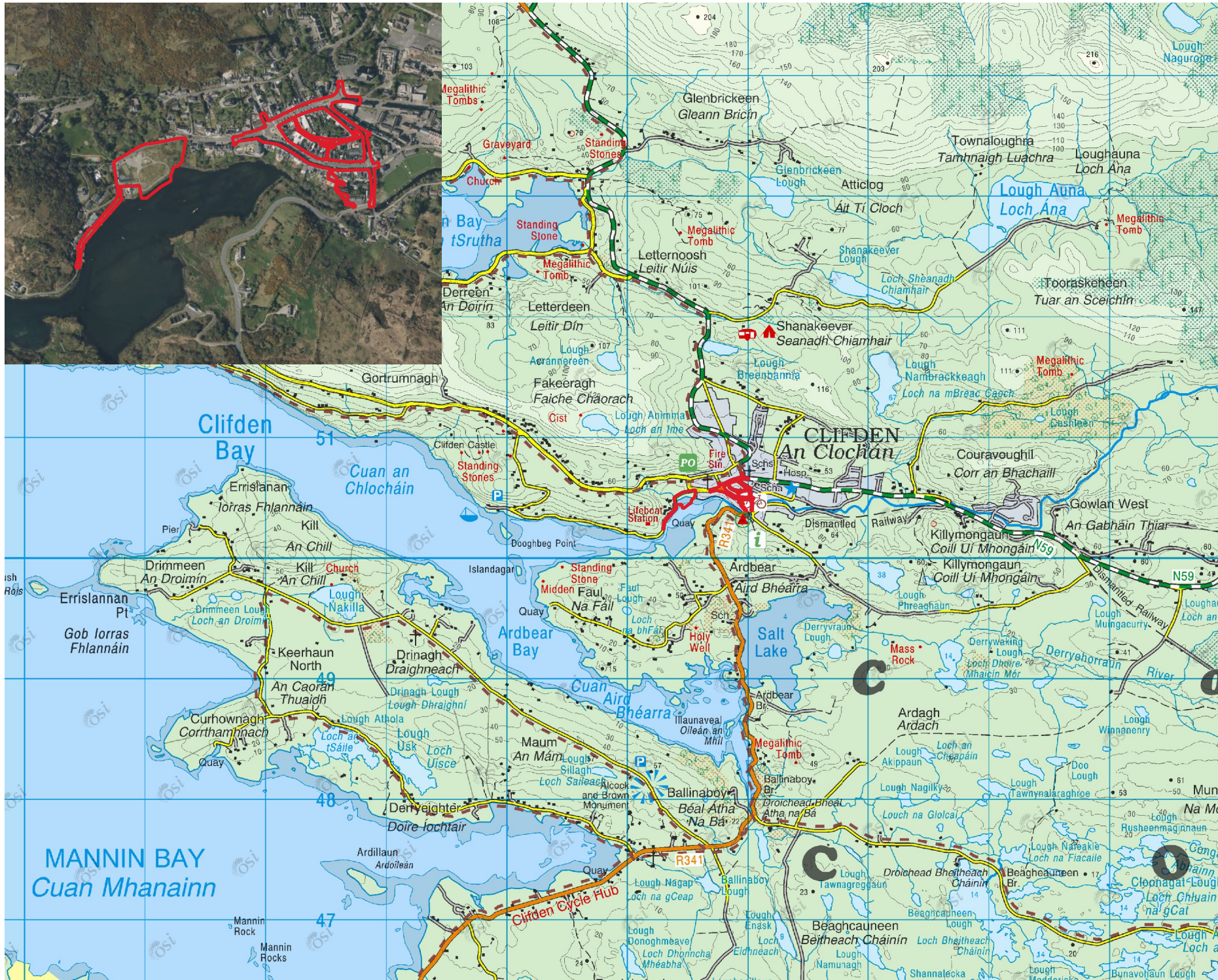
The quay in Clifden is located a short distance west of Harbour Park. The quay is currently used for moorings for leisure boats along with a commercial element in the form of fishing boats. This study area is adjacent to the Quay House Hotel and the Royal National Lifeboat Institution (RNLI) Lifeboat Station. The total area where works are proposed in this location is 0.23ha.

2.3 Proposed Development Description

The Proposed Development description is as follows:

- Alteration works to the Clifden Town Centre area on Seaview Road, Main Street, Market Street, Market Hill, Bridgewell Lane, Bridge Street, and Hulk Street comprise:

- The reconfiguration and resurfacing of roads and realignment of parking spaces including removal of 58 no. on-street parking spaces leaving a total of 155 no. on street parking spaces.
- The widening and realignment of existing footpaths, including the provision of new soft and hard landscaping,
- The installation of new and upgraded public lighting throughout the town,
- Relocation of The Beacon Statue.
- Installation of new public art,
- Alterations to and resurfacing of Beach Road Quay public realm comprising:
 - The provision of pedestrian and seating areas on the quay side of Beach Road Quay, including the installation of 6 no. seating areas, and ancillary paving and landscaping,
 - Remedial works to the quay wall (NIAH reg no. 30325017), including the resetting of dislodged stones, the removal of vegetation, and remedial masonry works,
 - The replacement of existing railings along the quay wall,
 - The installation of public lighting along the roadside.
- Redevelopment of the Harbour Park area south of Beach Road and to the west of Clifden town centre comprising:
 - The demolition of the existing playground on site, and the construction of a new park including multi-age playground areas, including the provision of:
 - Cycle Parking
 - Timber Play Furniture,
 - Picnic benches and seating areas,
 - An Amphitheatre Performance Spaces,
 - Climbing Wall
 - Pump track,
 - Running Track,
 - Car Park,
 - Sports pitch,
 - Resurfacing, paving, and hard & soft landscaping of the park area.
- All other associated and ancillary works.



Map Legend

— Site boundary



Drawing Title

Site Location

Project Title	
Clifden Town Public Realm Enhancement	
Drawn By	Checked By
RM	CM
Project No. 210327	Drawing No. Figure 2.1
Scale 1:41,034	Date 16/08/2024



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2.4 Construction Management

2.4.1 Introduction

The appointed contractor for the construction of the Proposed Development will be required to comply with this CEMP and any revisions made to this document throughout the construction phase. An overview of the anticipated Construction Methodologies is provided below.

2.4.2 Overview of Proposed Construction Methodology

The proposed construction methodology is summarised under the following main headings:

- Resurfacing of roads and realignment of landscaping and parking area.
- Widening and realigning existing footpath areas.
- Proposed Works at the Existing Playground:
 - Demolition of Existing Playground.
 - Construction Works of the New Park and Multi-Age Playground Areas.
- Development of all Other Ancillary and Components:
 - Asbestos Removals
 - Remedial masonry works;
 - Replacement of Existing Railings;
 - Landscaping.

2.4.2.1 Resurfacing and Realignment of Roads and Parking Areas

The existing roads and parking areas will be realigned and resurfaced. The construction methodology for road resurfacing is as follows:

- The area where excavations will be carried out and areas of resurfacing will be surveyed, and all existing services will be identified.
- The area of resurfacing will be marked out using ranging rods or wooden posts.
- Existing road or tarmac surfaces to be removed will be grubbed up by appropriately sized excavator or hand tools.
- Excavation depths will be down to a competent stratum as approved by the Design Engineer.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- Sub-base in the form of Type 1 aggregate material will be laid down and compacted. A geotextile woven membrane will be laid down if deemed necessary.
- Any drainage infrastructure such as channel drains or ACO drains will be installed at this point.
- Kerbings or edges if required will be installed. These will be set in concrete and allowed to set before application of the tarmac surface.
- The top layer of tarmacadam/asphalt is then added.
- The surface is then smoothed and compacted using a roller truck.

2.4.2.2 Widening and Realigning of Existing Footpath Areas

Realignment and extension of footpaths and paving areas will be carried out using the following construction methodology:

- Areas of the footpath that will be realigned or widened will be demarked.
- Areas of tarmac will be removed to allow for widening of footpaths. The top layer of tarmac will be removed using an appropriately sized excavator or hand tool.
- A layer of clause 804 gravel or other Type 1 bedding material will be laid, compacted and levelled to the appropriate thickness of a 150mm as per Drawing No. 11252-2370-06 prepared by Tobin's Consulting Engineers.
- A 100mm layer of concrete will be poured on top of the compacted bedding layer and stone paving slabs laid on top.
-

2.4.2.3 Proposed Works at the Existing Playground

2.4.2.3.1 Demolition of Existing Playground

The works entail the demolition of the existing playground. The demolition/decommissioning works which will be carried out at the existing playground will be carried out using the following methodology:

- Pre-check of the site for any hazards or existing services. These checks will be carried out by a competent person(s).
- An inventory of the waste types that will be generated by the demolition works will be carried out.
- Playground equipment or miscellaneous materials within the playground will be removed.
- Removal of all services, fixtures and supporting structures, swing sets etc.
- Demolition will be completed by trained personnel using appropriate equipment and tools and a mechanical excavator if required.
- The majority of the waste generated during the demolition and decommissioning of the playground will consist of metal, wood, and plastic. This material will be segregated from all other waste components and sent by an authorised waste collector to an authorised waste recovery facility.
- The remaining volume of waste material will not be large enough to warrant any further segregation therefore, all waste generated during the demolition of the playground will be deposited into a single skip that will be brought by a waste collector to an appropriately authorised facility.
- It is anticipated that some masonry/concrete generated during the demolition works will be reused at the site for backfilling.

2.4.2.3.2 Construction Works of the New Park and Multi-Age Playground Areas

The construction works for a new park and multi-age playground area are anticipated to utilise the following construction methodology:

- A suitable surface will be installed. As per Drawing No. 116332-LUC-HP-XX-DR-L-0002 prepared by Land Use Consultants (LUC).
- The various park and playground components will be brought on site.
- The park and playground components will be securely fastened e.g., swing set and slides.
- Prior to commissioning of the new park and playground components the appropriate safety checks will be carried out by competent personnel.

2.4.2.4 Development of all Other Ancillary and Components

2.4.2.4.1 Asbestos Management

As outlined in the preliminary Pre-Design Stage Asbestos Management Plan prepared by CACL, asbestos is present in one area of the Harbour Park. It is not proposed to excavate this material, rather it will be encapsulated, as outlined in the Asbestos Management Plan prepared by CACL. Prior to works commencing, it is proposed that the construction and demolition waste in this area will be covered first by an Asbestos warning/hazard membrane, and then by a constructed hard-capping layer and hardstanding. Representative operatives in close proximity to the asbestos containing materials will have Asbestos Awareness training.

Operatives in close proximity to the works will be required to wear suitable Personal Protection Equipment and Respiratory Protective Equipment, including Category 3, Type 5/6 Coveralls, and P3 filtered mask, work boots, gloves etc at all times. Only operatives, including those in supervisory positions, trained in working with asbestos should be involved with these works. All precautionary procedures should be followed until the defined encapsulation of the material takes place, that is the covering of the material with the concrete.

No standalone decontamination unit will be required, but there should be a designated area for decontamination, getting dressed/undressed. Suppressants should be sprayed on to the asbestos containing materials while works take place.

Mitigations with regards any potential impacts on air quality or dust are outlined in the Asbestos Management Plan prepared by CACL and also in Section 3.2 of this CEMP.

2.4.2.4.2 Remedial Masonry Works

Remedial masonry works are proposed to be carried out on the existing Quay. All remedial or repair works will be carried out by a competent stonemason with experience with such remedial works.

2.4.2.4.3 Replacement of Existing Railings

The existing railing is proposed to be removed and replaced. This process will involve the following:

- The existing railings will be removed, with the use of power tools.
- The locations for the new railings will be marked out and the appropriately sized holes will be drilled.
- Railings posts will be inserted and secured.

2.4.2.5 Landscaping

Upon completion of the construction works on the Proposed Development, the landscaping works will be carried out. The soft landscaping includes coastal feature planting, existing grass to be enhanced with coastal wildflower seeding, the introduction of ornamental planting, street tree planting. The existing soft landscape features are to be retained and protected from damage during the works.

In addition, hard landscaping will also be carried out and will consist of remedial works on structures such as existing water access step and the existing boundary wall. Additionally, the replacement of the existing railings (section 2.4.2.4.2), the installation of stone seating and installation of public lighting alongside the relocation of the beacon statue.

2.5

Construction Works Sequencing

The sequencing of construction phase works has is summarised Table 2-1. This provides a schedule of the expected sequence of operations for the works to be completed during the construction phase.

Table 2-1 Construction Works Sequence

Construction Works Sequence at Clifden Town centre Area	
No.	Construction Works
1.	Tarmac excavation
2.	Road finishes and installation and realignment of footpaths: Tarmacadam roads, parking areas and footpaths
3.	Public lighting installation
Construction Works Sequence at Beach Road Quay	
No.	Construction Works
1.	Installation of public seating
2.	Dislodgement of stones for resetting
3.	Railing removal/replacement
Construction Works Sequence at Harbour Park	
No.	Construction Works
1.	Demolition of existing playground
2.	Construction of new park and multi-age playground area
3.	Resurfacing, paving, and landscaping of the park area

2.6

Hours of Working

It is expected that construction works will occur during normal working hours:

- 08:00 and 18:00 from Monday to Saturday (inclusive);
- No works will be undertaken on Sunday; and
- Public holidays will be observed unless otherwise agreed with the local planning authority.
- Deliveries will also be scheduled to avoid peak times, i.e., avoiding rush hours and school drop off/pick up times.

3. ENVIRONMENTAL MANAGEMENT

3.1 Protecting Water Quality

The site of the Proposed development is located north of the Twelve Bens/Garraun Complex SAC [002031] and extends along the Owenglin River which passes through the southern margin of the proposed works area and flows into Clifden Bay about 160m after passing underneath the R341 Regional Road bridge. Further, a tributary of the Owenglin River flows through the western margin of Harbour Park, running partially culverted through the park into Clifden Bay.

An unmapped EPA watercourse flows through the eastern parcel of the proposed works area, running partially culverted through Clifden Town, before discharging into the Owenglin River to the southern margin of the proposed works site, which at this point is designated as part of the Twelve Bens/Garraun Complex SAC.

The proposed works area is located within the Erriff-Clew Bay Catchment and the Bunnahowna Sub catchment. The proposed works area is located within the Clifden Marbles and Clifden Castlebar Groundwater Body.

Prior to the commencement of any construction activities, the necessary mitigation measures will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby watercourses thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of run off from areas where excavation occur does not result in silt laden water entering the existing storm water network. Stockpiled material will be located away from any drains or watercourses, covered with polyethylene sheet and if deemed necessary will be surrounded by silt fencing where there is a risk of run-off during prolonged periods of rainfall.

Particular emphasis will also be placed on hazardous materials entering the surface water management system as well as spill or leaks of fuel oils. Section 4.2 provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects.

3.1.1 Prevention Pollution Control Measures

The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including watercourses/drains near the site:

Details of control measures which will be implemented at the site, if required, are included in the Plates below.

Site setup:

- Any areas where it is proposed to carry out works will be secured with fencing and markers. No construction access will be permitted outside the fenced area.
- Access routes will be clearly marked. Access during construction to any working area will be restricted to land within the outlined works areas.
- Traffic diversions and sections of roadways/footpaths may be required to be used during the course of the construction phase.

Pollution Prevention:

- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall.

- Excavated spoil will be stockpiled and contained entirely within the confines of the proposed works areas and a minimum of 50m from nearby watercourses. Silt fencing will also be utilised around these stockpiles, if necessary.
- In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The discharge area around the silt bags will have a layer of embedded silt fencing installed.
- All diesel or petrol pumps required onsite will be operated within bunded units.
- Ground disturbance will be kept to a minimum and water from excavations will be filtered. Silt fences will be installed at the site if deemed necessary. Exposed surfaces will be re-vegetated as soon as possible following construction.
- Earthworks and excavations will not be carried out during periods of heavy rainfall.

3.1.2 Cement Based Products Control Measures

Cement based products will be required over the course of the works. Due to the nature of the proposed works, significant volumes of cement are not anticipated to be required. Where cement is required, this will be delivered to the work areas by concrete trucks. The complete washing out of concrete trucks will not be permitted at the works area. Suppliers will be directed back to their own facility to complete the washout process.

The following mitigation measures are proposed to avoid release of cement leachate from the works area:

- No batching of wet-cement products will occur on site.
- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed.
- No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

3.1.3 Refuelling, Fuel and Hazardous Materials Storage

The following measures are proposed to avoid release of hydrocarbons at the site:

- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Storage/refuelling will be located in and carried out in a designated area of the works area, located a suitable distance from excavation works. This area will be underlain by concrete hard standing or another impermeable surface, and tanks will be inspected for leaks regularly. Spill kits will be supplied at these stations and staff will be trained in their use and in spill control. Drainage from these areas will be diverted for collection and not discharged into waterbodies without treatment and other best management practices.

- Fuels, lubricants, and hydraulic fluids for equipment used, will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.
- Spill control measures as outlined in Section 3.2 below will be adhered to.

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, 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 as they travel along the approach road. The measures below will also prevent construction debris arising on the public road network.

Proposed means to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as required, during dry and/or windy conditions.
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary.
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind.
- Water misting or bowsers will operate on-site if required to mitigate dust in dry weather conditions.
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary.
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph.
- Daily inspection of construction sites to examine dust measures and their effectiveness.

As outlined in the Asbestos Management Plan prepared by CACL, some asbestos containing materials are located within one section of the Harbour Park. In order to mitigate against any potential impacts on air quality, it is proposed to carry out air monitoring at strategic locations prior to, during and after the works in these areas. Baseline air monitoring should take place prior to works commencing. Further air monitoring should take place during works, and after the works have been completed. Representative personal air monitoring should also take place.

3.3

Noise & Vibration Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Noise levels shall be kept below those levels specified in the National Roads Authority – “Guidelines for the Treatment of Noise and Vibration in National Roads Schemes” or such further limits as imposed by the relevant Planning Authority. The Proposed Development shall comply with BS 5228 “Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control.” During the works, any plant introduced to the site will not be excessively

noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced.

Proposed measures to control noise include:

- Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.
- 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 will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors will 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 will be shut down during those periods when they are not in use;
- Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.

It is recommended that drivers of heavy goods vehicles (HGVs) associated with the works extend due care and courtesy to other road users. Excessive use of and unnecessary engine revving will be avoided.

The proposed construction working hours will be 08:00 – 18:00 Monday to Friday. Construction will not take place at the site on Sundays or Public Holidays.

Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority and when other relevant third parties i.e., nearby homeowners have been notified and have agreed to works taking place during such time periods.

3.4

Traffic Management Proposals

A traffic management plan will be developed by the appointed contractor and agreed with the relevant planning authority prior to the commencement of works.

The proposed traffic management measures to be adopted during the construction works are summarised below. Please note that this is not an exhaustive list, and it will be updated accordingly by the appointed contractor in consultation with the relevant planning authority:

- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations.
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes.

- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on HGVs carrying dust producing material.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds.
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures.
- A road sweeper will be employed to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works, if deemed necessary.
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol, or diesel.
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

3.5 Invasive Species Management

An invasive species survey was carried out at the site to identify the presence and location of any invasive species (listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)) by a suitably qualified ecologist.

Two invasive species listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) were recorded within the proposed works boundary. Giant rhubarb (*Gunnera tinctoria*) was recorded within the proposed works boundary, throughout Harbour Park and in the lands adjacent, and throughout Clifden Town, with extensive areas recorded within the vicinity of the unmapped EPA watercourse that flows to the eastern margin of Clifden Town. One large, well-established area of Japanese knotweed (*Fallopia japonica*) consisting of several plants located less than 7m from each other was also recorded in the south-east of Harbour Park within the proposed works boundary, and further a large, well-established area was identified in the lands adjacent, to the southeast of Harbour Park.

Due to the presence of third schedule invasive species within the works area an Invasive Species Management Plan (ISMP) has been prepared. The treatment and control of invasive alien species will follow guidelines issued by the National Roads Authority – The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads (NRA 2010) and the Environment Agency (2013) – The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites (Version 3, amended in 2013).

For the purpose of this CEMP the focus is on the management and control of Giant rhubarb (*Gunnera tinctoria*) and Japanese knotweed (*Fallopia japonica*) as both of which are present within the proposed works boundary.

An ISMP has been prepared by MKO for Giant rhubarb (*Gunnera tinctoria*) and Japanese knotweed (*Fallopia japonica*). The sections below provide a brief outline of the measures to be implemented to manage the invasive species within the site. These measures are further outlined in the accompanying ISMP.

3.5.1 Site Management

Giant rhubarb (*Gunnera tinctoria*) and Japanese Knotweed (*Fallopia japonica*) are listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural

Habitats) Regulations 2011 (S.I. 477 of 2011). These species were recorded inside the proposed works site.

As such, the construction of the Proposed Development has the potential to increase the spread of these third schedule invasive species throughout the site. Careful preparation of the site and planning of the works is crucial to successful prevention of introduction and spread of invasive species. The following list of guidelines, which is not exhaustive, shall be followed by all on-site personnel. Further detail on species specific control measures is outlined in the accompanying ISMP. Only those who have been inducted into biosecurity measures on-site may enter contaminated zones within the works areas.

3.5.2 Establishing Good Site Hygiene

The following steps will be taken to ensure that any potential for the introduction or spread of invasive species on site is minimised as much as is possible:

- Health and Safety procedures, a risk assessment and method statement must be provided by the Contractor prior to commencing works.
- Fences will be erected around areas of infestation, as confirmed by test pits, and warning signs shall be erected.
- A designated wash-down area will be created, where power-washed material from machinery can be contained, collected, and disposed of with other contaminated material. This area will contain a washable membrane or hard surface.
- Stockpile areas will be chosen to minimise movement of contaminated soil.
- Stockpiles will be marked and isolated.
- Contaminated areas which will not be excavated will be protected by a root barrier membrane if they are likely to be disturbed by machinery. Root barrier membranes will be protected by a layer of sand above and below and topped with a layer of hardcore.
- The use of vehicles with caterpillar tracks within contaminated areas will be avoided to minimise the risk of spreading contaminated material.
- Any material that is imported onto any site will be verified by a suitably qualified ecologist to be free from any invasive species listed on the 'Third Schedule' of Regulations 49 & 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). This will be carried out by searching for rhizomes and plant material.
- Any soils or subsoils contaminated with invasive species will be sent for disposal to an authorized waste facility
- A suitably qualified ecologist will be on site to monitor and oversee the implementation of invasive species remedial works

Plant and equipment which is operated within an area for the management of materials in contaminated areas will be decontaminated prior to relocating to a different works area. The decontamination procedures will take account of the following:

- Personnel may only clean down if they are familiar with the plant and rhizome material and can readily identify it.
- Decontamination will only occur within designated wash-down areas.
- Vehicles will be cleaned using stiff-haired brush and pressure washers, paying special attention to any areas that might retain rhizomes e.g., wheel treads and arches
- All run off will be isolated and treated as contaminated material and will be also sent for disposal to an authorized waste facility.

3.6

Construction Waste Management Plan

The generation of waste as a result of construction related activity will provide the majority of on-site wastes which will need to be managed under guidelines set out in this document. This section of the CEMP provides a Waste Management Plan (WMP) which outlines the best practice procedures during the construction phases of the project. This plan has been compiled based on The Department of the Environment document entitled, *'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects'* (2021).

The plan is based on the European waste hierarchy which sets out the most to least preferred options for waste management. Waste prevention and re-use are viewed as the most desirable options for managing wastes with the least desirable option considered being disposal to a licensed landfill.

This plan has a number of key objectives as outlined below:

- To set out management prescriptions that adhere to the waste management hierarchy.
- To outline the roles and responsibilities of the appointed Waste Manager.

3.6.1.1

Legislation

The Waste Management Acts 1996 (Act) and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling, and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.

The Act requires that any waste related activity has to have all necessary licenses and authorisations. It will be the duty of the Waste Manager on the site of the proposed development to ensure that all contractors hired to remove waste from the site have valid Waste Collection Permits. It will then be necessary to ensure that the waste is delivered to a licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations.

3.6.1.2

Waste Management Hierarchy

The waste management hierarchy sets out the most efficient way of managing in the following order:

Prevention and Minimisation:

The primary aim of the WMP will be to prevent and thereby reduce the amount of waste generated at each stage of the project. The prevention and minimisation of waste of this development will be developed by implementing effective on-site materials management in terms of both material acquisition and storage on site

Reuse of Waste:

Reusing as much of the waste generated on site as possible will reduce the quantities of waste that will have to be transported off site to recovery facilities or landfill. Site management will be required to encourage the appropriate reuse of materials where possible as well as identify re-use opportunities to achieve ultimate goal of waste reduction

Recycling of Waste:

There are a number of established markets available for the beneficial use of construction waste such as using waste concrete as fill for new roads. A designated Waste Storage Area (WSA) will be maintained on site which will cater for segregation and recycling of various waste streams

At all times during the implementation of the WMP, disposal of waste to landfill will be considered only as a last resort.

3.6.2 Construction Waste Management

The first significant quantity of waste to be generated during the construction phase of the project will be the reconfiguration and resurfacing of roads. This will generate a quantity of tarmac and gravel material as a result of the excavation. Although a quantity of this material will be used for landscaping, backfilling, and general restoration of excavated areas, it is anticipated that a quantity of this material will be exported off site by a licenced haulier to an appropriately licenced waste facility.

Waste generated post excavation on site will be managed in the WSA where the various waste components will be segregated into a number of waste categories in accordance with a general waste segregation policy and placed into individual skips. The categories for segregation will include timber, metal, cardboard, and plastics. This material will be removed by authorised waste collection contractors for recycling and recovery at various licensed facilities. The remaining volume of waste material which cannot be allocated to any of these four waste streams will be disposed of in a general waste skip. This waste material will be transferred to a MRF by a fully licensed waste contractor where the waste will be further sorted into individual waste streams for recycling, recovery, or disposal. This general waste will be subject to constant monitoring by site management to ensure that potential reusable and recyclable material is not being disposed of therein. Other waste mitigation measures which will be implemented at the site are as follows;

- All waste will be collected in skips and the site will be kept tidy and free of debris at all times.
- Waste oils and hydraulic fluids will be collected in leak proof containers and removed from the site for disposal or recycling. It is also essential that all empty oil containers and other hazardous wastes should be disposed of in accordance with the requirements of the Waste Management Act, 1996.
- All construction waste materials will be stored within the confines of the site, prior to removal from the site to a licensed waste facility.
- No wastewater will be discharged on-site during the construction phase.

The expected wastes arising from the works including the individual European Waste Catalogue (LoW) codes are outlined in Table 3-1.

Table 3-1 Expected waste types arising from the Construction Phase

Materials	Example	LoW Code
Concrete	Surfacing, flooring material	17 01 01
Metals	Rebar, reinforced steel joists, lead	17 04 07
Mixture of inert material	Sand, stones, plaster, rock	17 01 07
Soil & Stones	Overburden, soil, subsoil	17 05 04

Materials	Example	LoW Code
Canteen Waste	Miscellaneous waste from site staff	20 01 08

The potential for re-use of materials on the site during the works will be minimal however clean inert concrete, rubble and stones may have a re-use potential for landscaping and site restoration.

It is also essential that all waste oils, empty oil containers and other hazardous wastes should be disposed of in accordance with the requirements of the Waste Management act 1996 as amended.

3.6.3 Implementation

3.6.3.1 Roles and Responsibilities for Waste Management

Prior to the commencement of the proposed developments, a Waste Manager will be appointed by the project team. The role of Waste Manager is likely to be fulfilled by the Site Manager given the scale of the development and will be responsible for the implementation of the objectives of this plan, ensuring that all hired waste contractors have the necessary authorisations and that the waste management hierarchy is adhered to. The person nominated must have sufficient authority so that they can ensure everyone working on the proposed development adheres to the management plan. The waste manager will also be required to conduct regular waste audits in the WSA and throughout the site to ensure that the waste management plan is operating effectively.

3.6.3.2 Training

It is important for the Waste Manager to communicate effectively with colleagues in relation to the aims and objectives of the waste management plan. All employees working on site during the construction phase 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
- Identify and liaise with waste contractors and waste facility operators

3.6.3.3 Record Keeping

The WMP will provide systems that will enable all arisings, movements, and treatments of 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. Each record will contain the following:

- Consignment Reference Number
- Material Type(s) and LoW 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 transport vehicle
- > Weight of Material
- > Signature of Confirmation of Dispatch detail
- > Date and Time of Waste Arrival at Destination
- > Site Address of Destination Facility

3.6.4 **Waste Management Plan Conclusion**

The WMP will be correctly implemented and adhered to by all staff involved in the project which will be outlined within the induction process for all site personnel. The waste hierarchy will always be employed to ensure that the least possible amount of waste is produced during the construction phase. Reuse of certain types of construction wastes will cut down on the cost and requirement of raw materials therefore further minimising waste levels.

4. ENVIRONMENTAL MANAGEMENT IMPLEMENTATION AND EMERGENCY RESPONSE

4.1 Environmental Manager

The main contractor appointed to carry out the works will be required to provide a level of supervision on site in the form of an Environmental Manager who will also fulfil the role of Waste Manager. Due to the scale of activity proposed, this role can be adopted by a Site Manager/Foreman as part of their duties. In general, this Environmental Manager will maintain responsibility for monitoring the works and Contractors/Sub-contractors from an environmental perspective. The Environmental Manager will act as the regulatory interface on environmental matters by reporting directly to the client and liaising with the relevant planning authority and other statutory bodies as required. The Site Environmental Manager will report to the Site Supervisor/Construction Manager. The duties of the appointed Environmental Manager are summarised as follows:

- Maintain and update as required the Construction Phase 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.
- Generate environmental reports as required 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 Project Team and present the findings of site audits/inspections that 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 email.
- 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.
- Fulfil the role of Waste Manager and implement the objectives of the Waste Management Plan as set out in Section 3 above.

4.2 Emergency Response Plan

4.2.1 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 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.

4.2.2 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 4-1. 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 4-1. This will be updated throughout the various stages of the project and considering the scale of the development, all roles may not be applicable during the construction phase.

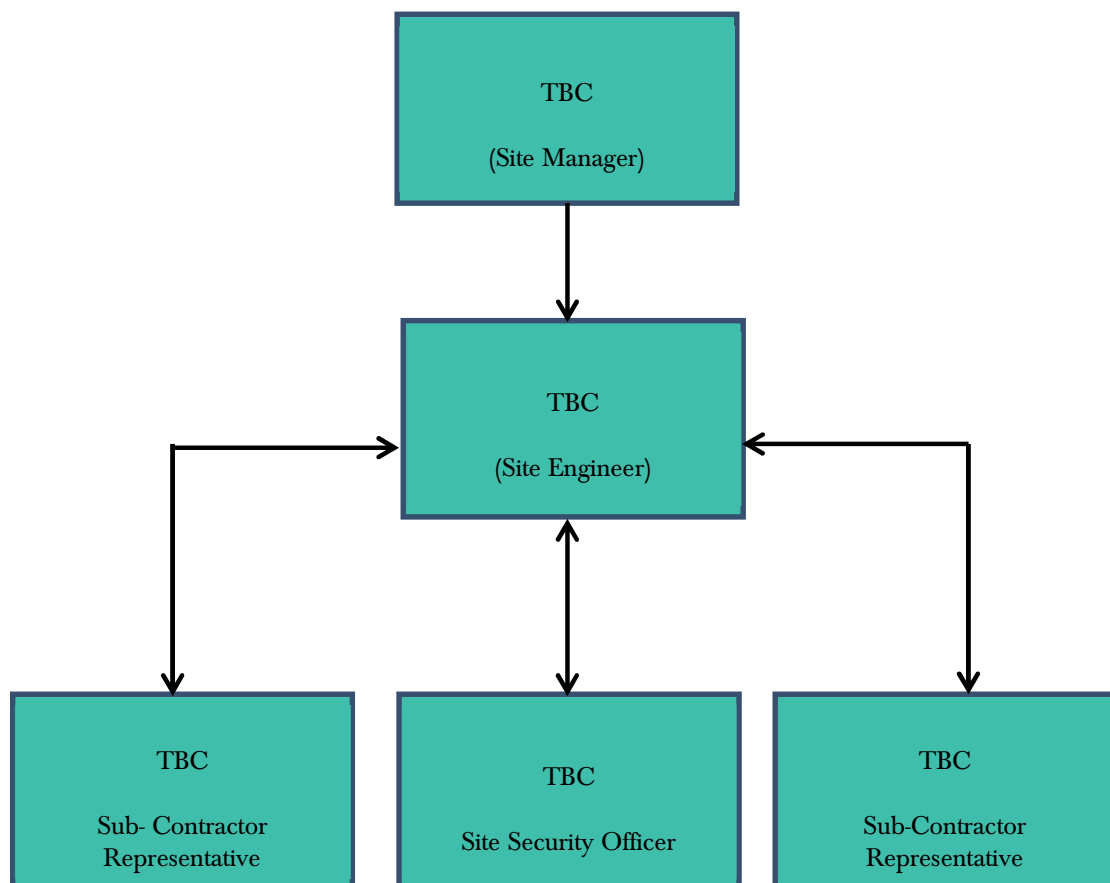


Figure 4-1 Emergency Response Procedure Chain of Command

4.2.3 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 4-1 Hazards associated with potential emergency situations

Hazard	Emergency Situation
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.
Falls from heights including falls from scaffold towers, scissor lifts, ladders, and roofs.	Injury to operative after a fall from a height.
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 4-1, the Site Manager will carry out the following:

- Establish the scale of the emergency situation and identify the number of personnel, if any, 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 4.3.1.1
- 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 4.3.1.2
- Contact the next of kin of any injured personnel where appropriate. The procedure for this is outlined in Section 4.2.6.

4.2.4 Site Evacuation/Fire Drill

A site evacuation/fire drill procedure will provide basis for carrying out the immediate evacuation of all site personnel in the event of an emergency. The following steps will be taken:

- Notification of the emergency situation. Provision of a siren or foghorn to notify all personnel of an emergency situation.

- An assembly point will be designated in the construction compound area and will be marked with a sign. All site personnel will assemble at this point.
- A roll call will be carried out by the Site Security Officer to account for all personnel on site.
- The Site Security Officer will inform the Site Manager when all personnel have been accounted for. At this time the Site Manager will decide the next course of action which will be determined by the situation that exists at that time. The Site Manager will advise all personnel accordingly.

All personnel will be made aware of the evacuation procedure during site induction. The Fire Services Acts of 1981 and 2003 require the holding of fire safety evacuation drills at specified intervals and the keeping of records of such drills.

4.2.5 Environmental Emergency Response Procedure

4.2.5.1 Spill Control Measures

It is not proposed to store any large volumes of oils/fuels for the purpose of refuelling at the various work areas. A bunded fuel tank will be stored at the construction compound which will be used for smaller plant and equipment i.e., site dumpers and teleporters. This will be stored on an impermeable surface and will be equipped with a spill kit. Onsite plant (excavator) will be refuelled by an external contractor who will call as required.

Every effort will be made to prevent an environmental incident during the construction and operational phase of the proposed works. Oil/Fuel spillages are one of the main environmental risks that will exist during the construction phase 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 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 will assist by providing any advice possible to ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The Construction Manager will notify the appropriate regulatory body such as the relevant planning authority and Environmental Protection Agency (EPA) etc. 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 that were used following the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.
- 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 and the EPA if required.

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.

4.3 Contacting the Emergency Services

4.3.1.1 Emergency Communications Procedure

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

- Stay calm. It is 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 do not get frustrated. Even though many emergencies 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 is 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 do not 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.

All staff members will know the address and location of the site as 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.

4.3.1.2 Contact Details

A list of emergency contacts is presented in Table 4-2. 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 4-2 Emergency Contacts

Contact	Telephone no.
Emergency Services – Ambulance, Fire, Gardaí	999/112
Doctor – Clifden Medical Practice	(095) 21224
Hospital –Clifden District Hospital	(095) 21301
ESB Emergency Services	1850 372 999
Gas Networks Ireland	1850 20 50 50
Gardaí – Clifden Garda Station	(095) 22500
Health and Safety Coordinator - Health & Safety Services	TBC
Health and Safety Authority	1890 289 389
Project Supervisor Construction Stage (PSCS): TBC	TBC
Client – Galway County Council	(091) 509 000

4.3.1.3 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.

4.3.1.4 Induction Checklist

Table 4-3 provides a list of items highlighted in this ERP which must be included or obtained during the mandatory site induction of all personnel that will work on the site. This will be updated throughout the various stages of the project.

Table 4-3 Emergency Response Plan Items Applicable to the Site Induction process

ERP Items to be included in Site Induction	Status
All personnel will be made aware of the evacuation procedure during site induction.	
All operatives on site without any exception will have undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.	

5.

MITIGATION PROPOSALS

The Mitigation Measures which will be implemented are presented in this section of the CEMP. The CEMP will be finalised subsequent to any permission granted by An Bord Pleanála and will be updated prior to construction to include, inter alia, any additional requirements pursuant to relevant planning conditions imposed.

By presenting the mitigation proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the future phases of the project.

Table 5-1 Mitigation Measures

Mitigation Measure	Reference	Mitigation Measure	Audit Result	Action Required
Pre-Commencement Phase				
MM1	CEMP Section 2.4	Prior to works commencing, it is proposed that the construction and demolition waste in this area will be covered first by an Asbestos warning/hazard membrane, and then by a constructed hard-capping layer and hardstanding. Representative operatives in close proximity to the asbestos containing materials should have Asbestos Awareness training.		
MM2	CEMP Section 3.1	Prior to the commencement of any construction activities, the necessary mitigation measures will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby watercourses thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of run off from areas where excavation occur does not result in silt laden water entering the existing storm water network. Stockpiled material will be located away from any drains or watercourses, covered with polyethylene sheet and if deemed necessary will be surrounded by silt fencing where there is a risk of run-off during prolonged periods of rainfall.		
MM3	CEMP Section 4.1	The main contractor appointed to carry out the works will be required to provide a level of supervision on site in the form of an Environmental Manager who will also fulfil the role of Waste Manager. Due to the scale of activity proposed, this role can be adopted by a Site Manager/Foreman as part of their duties. In general, this Environmental Manager will maintain responsibility for monitoring the works and Contractors/Sub-contractors from an environmental perspective. The Environmental Manager will act as the regulatory interface on environmental matters by reporting directly to the client and liaising with the relevant planning		

		authority and other statutory bodies as required. The Site Environmental Manager will report to the Site Supervisor/Construction Manager.		
Construction Phase				
Construction Management				
MM4	CEMP Section 3.1.2 NIS Section 2.3.2.3	➤ No batching of wet-cement products will occur on site. ➤ Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for concrete works will be used. ➤ No washing out of any plant used in concrete transport or concreting operations will be allowed. ➤ No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed. ➤ Use weather forecasting to plan dry days for pouring concrete. ➤ Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.		
Fuel and Oil Control				
MM5	CEMP Section 3.1.3	➤ Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station. ➤ On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations. ➤ Storage/refuelling will be located in and carried out in a designated area of the works area, located a suitable distance from excavation works. This area will be underlain by concrete hard standing or another impermeable surface, and tanks will be inspected for leaks regularly. Spill kits will be supplied at these stations and staff will be trained in their use and in spill control. Drainage from		

		these areas will be diverted for collection and not discharged into waterbodies without treatment and other best management practices. ➤ Fuels, lubricants, and hydraulic fluids for equipment used, will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment. ➤ Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements. ➤ All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site. ➤ Spill control measures as outlined in Section 3.2 below will be adhered to.		
MM6	CEMP Section 4.2.5.1	➤ 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 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 will assist by providing any advice possible to ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring. ➤ The Construction Manager will notify the appropriate regulatory body such as the relevant planning authority and Environmental Protection Agency (EPA) etc. if deemed necessary.		

Drainage and Surface Water Mitigation				
MM7	CEMP Section 3.1.1	- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall. - Excavated spoil will be stockpiled and contained entirely within the confines of the proposed works areas and a minimum of 50m from nearby watercourses. Silt fencing will also be utilised around these stockpiles, if necessary. - In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The discharge area around the silt bags will have a layer of embedded silt fencing installed. - All diesel or petrol pumps required onsite will be operated within bunded units. - Ground disturbance will be kept to a minimum and water from excavations will be filtered. Silt fences will be installed at the site if deemed necessary. Exposed surfaces will be re-vegetated as soon as possible following construction. - Earthworks and excavations will not be carried out during periods of heavy rainfall.		
Air Quality and Dust Control				
MM8	CEMP 3.3 NIS Section 2.3.2.6	- Any site roads with the potential to give rise to dust will be regularly watered, as required, during dry and/or windy conditions. - The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary. - Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind.		

		➤ Water misting or bowsers will operate on-site if required to mitigate dust in dry weather conditions. ➤ The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary. ➤ All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph. ➤ Daily inspection of construction sites to examine dust measures and their effectiveness.		
Noise				
MM9	CEMP 3.3	➤ Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006. ➤ 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 will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations; ➤ Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints. ➤ Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers; ➤ All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works; ➤ Compressors will 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 will be shut down during those periods when they are not in use; ➤ Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.		
Traffic Management				
MM10	CEMP Section 3.4	➤ Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations. ➤ Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes. ➤ Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on HGVs carrying dust producing material. ➤ Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds. ➤ Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures. ➤ A road sweeper will be employed to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works, if deemed necessary. ➤ All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol, or diesel. ➤ Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.		
Invasive Species Management				

MM11	CEMP Section 3.5.1	Giant rhubarb (<i>Gunnera tinctoria</i>) and Japanese Knotweed (<i>Fallopia japonica</i>) are listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). These species were recorded inside the proposed works site. As such, the construction of the Proposed Development has the potential to increase the spread of these third schedule invasive species throughout the site. Careful preparation of the site and planning of the works is crucial to successful prevention of introduction and spread of invasive species. The following list of guidelines, which is not exhaustive, shall be followed by all on-site personnel. Further detail on species specific control measures is outlined in the accompanying ISMP. Only those who have been inducted into biosecurity measures on-site may enter contaminated zones within the works areas.		
MM12	CEMP Section 3.5.2	➤ A risk assessment and method statement must be provided by the Contractor prior to commencing works. ➤ Fences will be erected around areas of infestation, as confirmed by test pits, and warning signs shall be erected. ➤ A designated wash-down area will be created, where power-washed material from machinery can be contained, collected, and disposed of with other contaminated material. This area will contain a washable membrane or hard surface. ➤ Stockpile areas will be chosen to minimise movement of contaminated soil. ➤ Stockpiles will be marked and isolated. ➤ Contaminated areas which will not be excavated will be protected by a root barrier membrane if they are likely to be disturbed by machinery. Root barrier membranes will be protected by a layer of sand above and below and topped with a layer of hardcore. ➤ The use of vehicles with caterpillar tracks within contaminated areas will be avoided to minimise the risk of spreading contaminated material. ➤ Any material that is imported onto any site will be verified by a suitably qualified ecologist to be free from any invasive species listed on the ‘Third		

		Schedule’ of Regulations 49 & 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I 477 of 2011). This will be carried out by searching for rhizomes and plant material. ➤ Any soils or subsoils contaminated with invasive species will be sent for disposal to an authorized waste facility ➤ A suitably qualified ecologist will be on site to monitor and oversee the implementation of invasive species remedial works		
MM13	CEMP Section 3.5.2	➤ A risk assessment and method statement must be provided by the Contractor prior to commencing works. ➤ Fences will be erected around areas of infestation, as confirmed by test pits, and warning signs shall be erected. ➤ A designated wash-down area will be created, where power-washed material from machinery can be contained, collected, and disposed of with other contaminated material. This area will contain a washable membrane or hard surface. ➤ Stockpile areas will be chosen to minimise movement of contaminated soil. ➤ Stockpiles will be marked and isolated. ➤ Contaminated areas which will not be excavated will be protected by a root barrier membrane if they are likely to be disturbed by machinery. Root barrier membranes will be protected by a layer of sand above and below and topped with a layer of hardcore. ➤ The use of vehicles with caterpillar tracks within contaminated areas will be avoided to minimise the risk of spreading contaminated material. ➤ Any material that is imported onto any site will be verified by a suitably qualified ecologist to be free from any invasive species listed on the ‘Third Schedule’ of Regulations 49 & 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I 477 of 2011). This will be carried out by searching for rhizomes and plant material. ➤ Any soils or subsoils contaminated with invasive species will be sent for disposal to an authorized waste facility ➤ A suitably qualified ecologist will be on site to monitor and oversee the implementation of invasive species remedial works		

MM14	CEMP Section 4.1	The main contractor appointed to carry out the works will be required to provide a level of supervision on site in the form of an Environmental Manager who will also fulfil the role of Waste Manager. Due to the scale of activity proposed, this role can be adopted by a Site Manager/Foreman as part of their duties. In general, this Environmental Manager will maintain responsibility for monitoring the works and Contractors/Sub-contractors from an environmental perspective. The Environmental Manager will act as the regulatory interface on environmental matters by reporting directly to the client and liaising with the relevant planning authority and other statutory bodies as required. The Site Environmental Manager will report to the Site Supervisor/Construction Manager. The duties of the appointed Environmental Manager are summarised as follows: ➤ Maintain and update as required the Construction Phase 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 ➤ Generate environmental reports as required 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		
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		➤ Ensure proper mitigation measures are initiated and adhered to during the construction phase ➤ Liaise with Project Team and present the findings of site audits/inspections that 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 email ➤ 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 ➤ Fulfil the role of Waste Manager and implement the objectives of the Waste Management Plan as set out in Section 3 above.		
Asbestos Management				
MM15	CEMP Section 2.4	Operatives in close proximity to the works will be required to wear suitable Personal Protection Equipment and Respiratory Protective Equipment, including Category 3, Type 5/6 Coveralls, and P3 filtered mask, work boots, gloves etc at all times. Only operatives, including those in supervisory positions, trained in working with asbestos should be involved with these works. All precautionary procedures should be followed until the defined encapsulation of the material takes place, that is the covering of the material with the concrete. No standalone decontamination unit will be required, but there should be a designated area for decontamination, getting dressed/undressed. Suppressants should be sprayed on to the asbestos containing materials while works take place.		

6. PROGRAMME OF WORKS

6.1 Construction Programme

The construction of the proposed scheme will be split over three stages taking approximately 12 - 18 months for all works to be completed. Each stage is typically broken down into several phases. An example of the programme of works is outlined in Table 6-1 below. The construction programme will be finalised on appointment of a contractor before commencement of the development. This project will be subdivided into three separate projects, however the construction programme is anticipated to be similar in each and is outlined below.

Table 6-1 Phasing Scope of Works

Phase No.	Description	Scope of works
Phase 1	Town Centre Upgrades	This occurs in month 1 to 6 and includes road resurfacing, landscaping remedial works etc.
Phase 2	Harbour Park Upgrades	This occurs from months 6 -14. It includes the demolition of the existing playground and the construction of a multi-age playground area.
Phase 3	Beach Road Quay Upgrades	This occurs from months 14-18. It involves remedial masonry works, replacement of existing railings and landscaping.

7.

COMPLIANCE AND REVIEW

7.1

Site Inspections and Environmental Audits

Routine inspections of activities will be carried out on a daily and weekly basis by the Site Environmental Manager/Construction Manager as appointed by the applicant to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place.

Environmental inspections will ensure that the works are undertaken in compliance with this CEMP. Environmental site inspections will be carried out by suitably trained staff.

7.2

Environmental Compliance

The following definitions shall apply in relation to the classification of Environmental Occurrences during the infilling works:

Environmental Near Miss

An occurrence which if not controlled or due to its nature could lead to an Environmental Incident.

Environmental Incident

Any occurrence which has potential, due to its scale and nature, to migrate from source and have an environmental impact beyond the site boundary.

Environmental Non-Compliance

Non-fulfilment of a requirement and includes any deviations from established procedures, programs and other arrangements related to the CEMP.

7.3

Corrective Action Procedure

A corrective action is implemented to rectify an environmental issue on-site. Corrective actions will be implemented by the Construction Manager, as advised by the Site Environmental manager. Corrective actions may be required as a result of the following:

- > Environmental Audits
- > Environmental Inspections and Reviews
- > Environmental Incidents
- > Environmental Complaints

A Corrective Action Notice will be used to communicate the details of the action required to the main contractor. A Corrective Action Notice is a form that describes the cause and effect of an environmental problem on site and the recommended corrective action that is required. The Corrective Action Notice, when completed, will include details of close out and follow up actions.

If an environmental problem occurs on site that requires immediate attention direct communications between the Construction Manager and the Site Environmental manager will be conducted. This in turn will be passed down to the site staff involved. A Corrective Action Notice will be completed at a later date

