MWP

Construction Environmental Management Plan (CEMP)

Tomsallagh 110kV Substation and Grid Connection

WXD Energy Limited

April 2024

Project No.	Doc. No.	Rev.	Date	Prepared By	Checked By	Approved By	Status
24255	6002	A	05/04/2024	AOC/ZH	AOC	CF	**FINAL**

MWP, Engineering and Environmental Consultants
Address: Reen Point, Blennerville, Tralee, Co. Kerry, V92 X2TK
www.mwp.ie

Contents

Appendix 1

Environmental Management Plans:

EMP 1: Management of Excavation Works

EMP 2: Surface Water Runoff Control (Sediment and Erosion Control)

EMP 3: Fuel and Oils Management

EMP 4: Management of Concrete

EMP 5: Ecological Management Plan (Protection of Habitats and Fauna)

EMP 6: Invasive Species Management Plan

EMP 7: Construction Waste Management

EMP 7: Construction Traffic Management

EMP 8: Management of Archaeology

EMP 9: Construction Noise Management

EMP 10: Construction Dust Management

EMP 11: Emergency Response Plan

EMP 12: Site Environmental Training and Awareness

EMP 13: Monitoring and Auditing Procedure

EMP 14: Environmental Accidents, Incidents and Corrective Actions

EMP 15: Environmental Complaints

1. Introduction

This Construction and Environmental Management Plan (CEMP) has been prepared by Malachy Walsh and Partners (MWP) on behalf of WXD Energy Limited, a Special Purpose Vehicle Company (SPV) of Statkraft Ireland Ltd (the applicant) to accompany the submission of a planning application to Wexford County Council for the proposed construction of a 110 kilovolt (kV) air insulated switchgear (AIS) substation with overhead line (OHL) loop-in electrical connection in the townland of Tomsallagh, Ferns, Co. Wexford (the proposed development).

This CEMP has been developed specifically for this project and outlines construction practices and environmental management measures which will be implemented during the construction phase, in order to ensure that the project is constructed in accordance with best practice, with the minimum impact on the surrounding environment.

1.1 CEMP Purpose and Objectives

The purpose of a CEMP is to outline how the Appointed Contractor(s) will implement a site construction management system to meet the specified requirements which include contractual, regulatory and statutory requirements, environmental mitigation measures and planning conditions.

The principal objective of this CEMP is to avoid, minimise and control adverse environmental impacts associated with all aspects of the construction of the proposed development. In essence, this CEMP is intended to provide the Appointed Contractors with a practical guide to ensure compliance by all parties with any Planning and Environmental requirements. The CEMP achieves this by providing the environmental management framework to be adhered to during the construction phase of the proposal. It outlines the work practices, construction management procedures, management responsibilities, mitigation measures and monitoring proposals that are required to be adhered to, in order to complete the proposed development, in an appropriate environmental manner.

All site personnel will be required to be familiar with the plan's requirements as related to their role on site.

This CEMP will form the basis for the Appointed Contractors CEMP. Following planning consent, the elements outlined in this report shall be further expanded upon by the Contractor into a full Contractor CEMP. The Contractors CEMP will set out the Contractor's approach to managing environmental issues associated with the construction phase of the proposed development, outline the roles and responsibilities of those appointed on the site for the construction of the project and provide a documented account to the implementation of the environmental commitments set out in the Environmental Report associated with the proposed development (MWP report reference 24255-6001 Environmental Report), any measures stipulated in the planning conditions, and updated or new supplementary environmental reports made available to the Appointed Contractor as necessary. The CEMP remains at all times a live document, subject to amendment including the revision and addition of content throughout the works.

While this version of the CEMP provides a benchmark for good practice, where avoidance or further minimisation of risks to the environment can be demonstrated through use of alternative methods or improvements to current practices, the Contractor will implement these wherever possible.

2. Project Overview

WXD Energy Limited, a Special Purpose Vehicle Company (SPV) of Statkraft Ireland Ltd (the Applicant) is proposing to apply to An Bord Pleanála for permission to construct a 110 kilovolt (kV) air insulated switchgear (AIS) substation with overhead line (OHL) loop-in electrical connection ("proposed development") in the townland of Tomsallagh, Co. Wexford.

The proposed development (**Figure 1**) for which permission is being sought is as follows:

- A 110kV AIS loop-in substation with associated compound, including control and operational buildings, electrical plant, equipment, cabling, lighting, CCTV, lightening masts, drainage infrastructure, security palisade fencing, and all associated and ancillary works necessary to facilitate the development.
- Erection of 2 no. overhead line end masts (c. 20m high) and 2 no. lattice gantries (c. 16m high) and associated overhead cabling to enable a loop-in/loop-out grid connection to the existing Crane-Lodgewood 110 kV OHL.
- New entrance and access road from the L-6065-1 local public road.

Figure 1: Proposed Development Layout

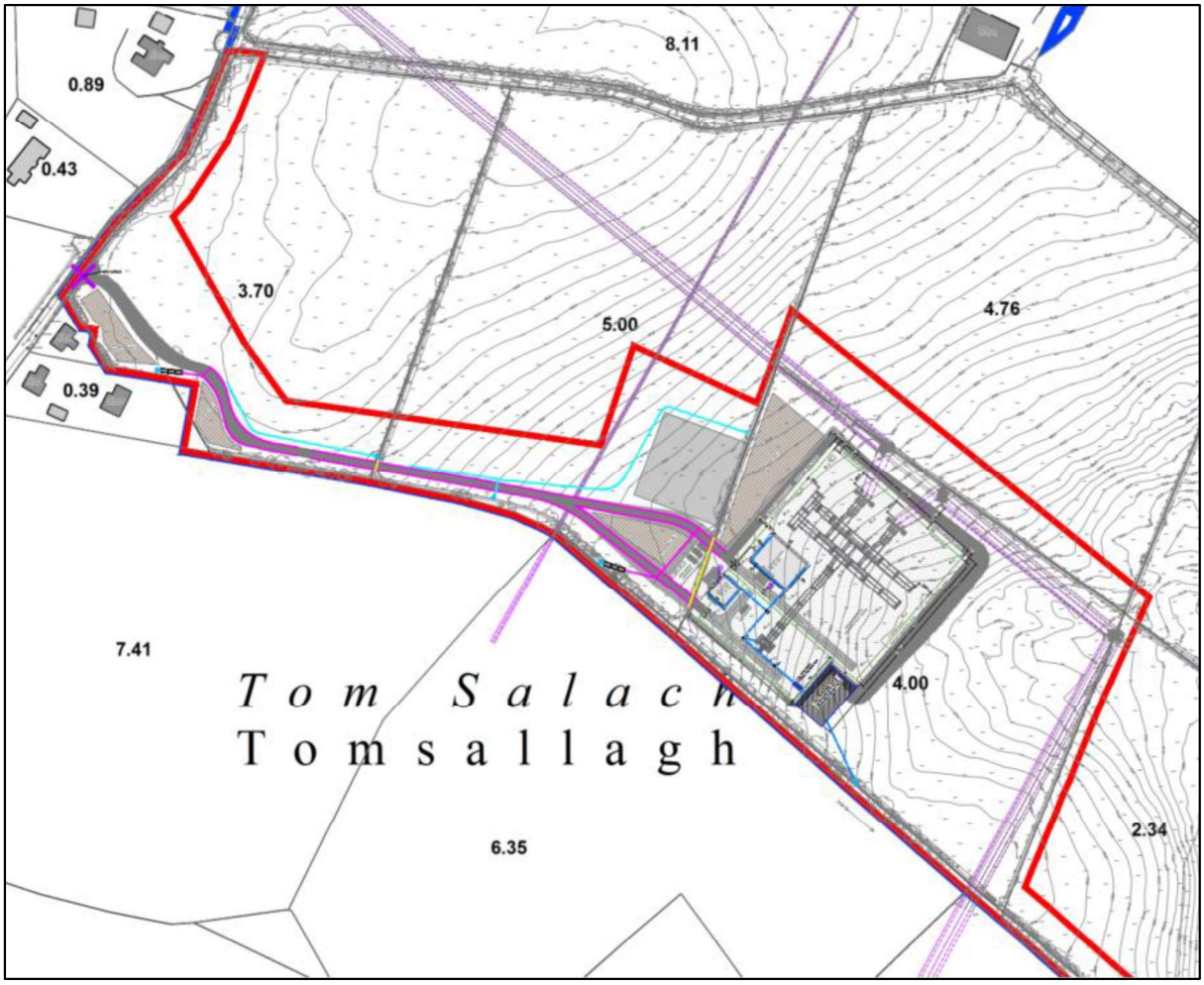
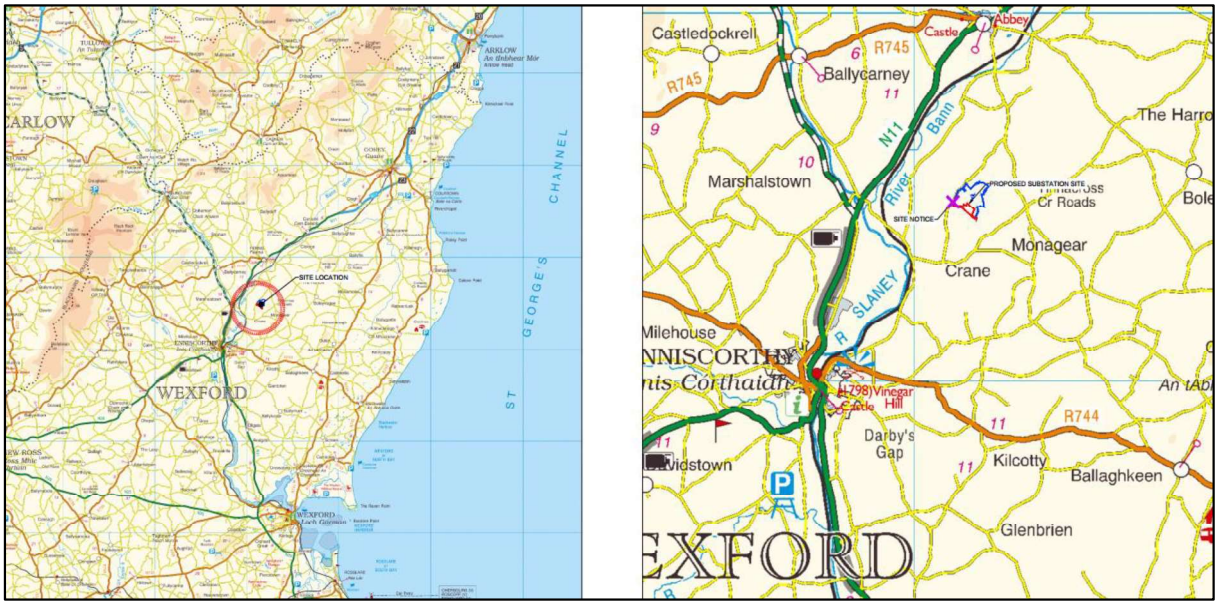


Figure 2, Figure 3 and **Figure 4** illustrates the geographical location of the proposed development.

Figure 2: Proposed Site Location



The purpose of the proposed development is to provide the necessary infrastructure to support the permanent power supply for nearby solar projects. The proposed development is located within the footprint of one such project, Tomsallagh Solar Farm (Wexford Co. Co. Planning Ref:20171275) (ABP-300427).

Figure 3: Proposed Development Site

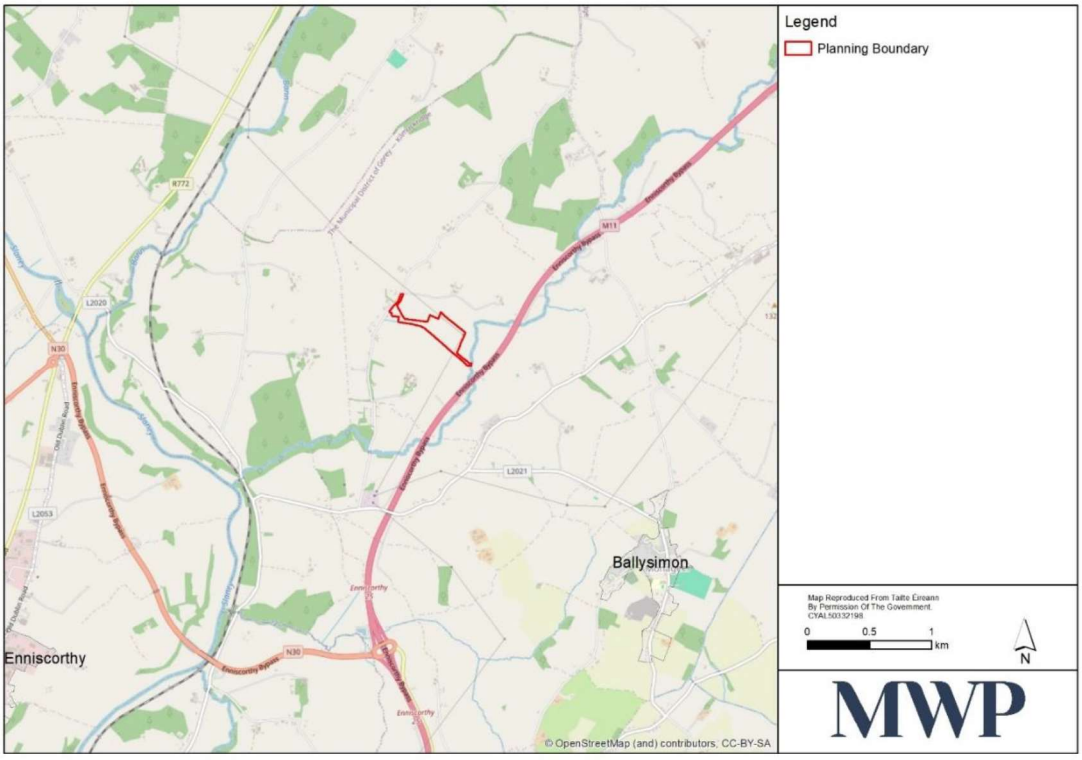


Figure 4: Aerial View Proposed Development Site

2.1 110kV Substation Compound

The footprint of the proposed onsite electrical substation covers an area of approximately 1.3ha in size. It will contain control buildings, MV switchgear building and the electrical substation components necessary to consolidate the electrical energy generated by the associated solar farms and export the electricity to the national grid.. The construction and exact layout of electrical equipment in the onsite electrical substation will be to EirGrid/ESB Network specifications. The substation will be surrounded by an approximate 2.6m high steel palisade fence and internal fences will also segregate different areas within the main substation compound. A 1.4m post and rail fence will encompass the outer perimeter boundary of the substation compound.

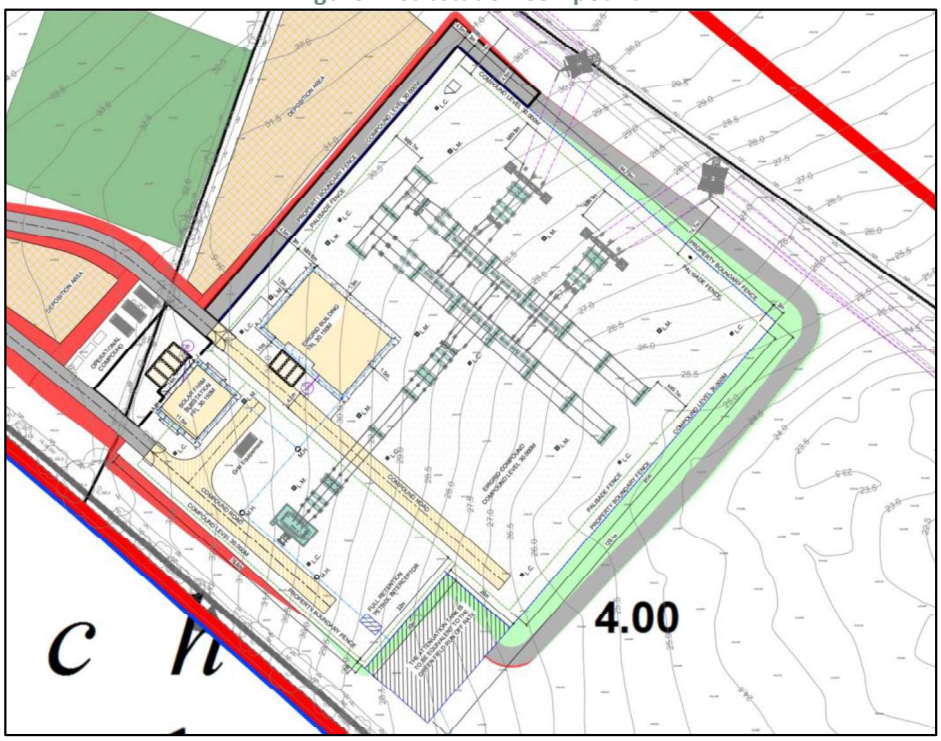
The proposed substation (**Figure 5**) includes an EirGrid compound and an Independent Power Producer (IPP) compound. Each compound will contain a control building and an outdoor electrical yard including electrical equipment such as electrical pylons, over and underground ducting & cables, busbars, disconnects, breakers, sealing ends, lightning and lighting masts. The IPP section will also contain one grid transformer within bunded enclosure with back up diesel generator and tank.

The EirGrid control building will be c. 440.2sqm in floor area and contain a control room, 5.8m in height, battery room, generator room, meeting room, welfare facilities and workshop/store and will be approximately. The IPP control building will be c. 160.2sqm in floor area and contain a control room, switchgear room, welfare facilities and storeroom and will be approximately 5.8m in height. Both buildings will be a block built single storey building with pitched roof and an external blockwork and plastered finish.

Parking will be provided within the compound area adjacent to each of the buildings.

There will be a very small water requirement for toilet flushing and hand washing and therefore it is proposed to harvest water from the roofs of the buildings. The discharge from the sanitary facilities within each building will go to separate wastewater holding tanks located within the substation compound where the effluent will be temporarily stored and removed at regular intervals by a permitted waste contractor and removed to a licensed/permitted waste facility for treatment and disposal.

Figure 1: Substation Compound



2.2 Overhead Loop-in Grid Connection

The design for the new proposed loop in grid connection to the existing Crane-Lodgewood 110kV OHL will require two new OHL interface towers which will be constructed under the existing OHL. 110kV substation will connect to the existing 110kV overhead line between Crane and Lodgewood, which traverses the site. This will require the installation of two new loop-in lattice towers (c 20m high) within the existing Crane to Lodgewood 110kV OHL. The existing OHL conductor will be terminated at these two lattice towers in order to facilitate the OHL loop-in grid connection to the proposed 110kV Tomsallagh substation, with the new connection looped through to the Tomsallagh 110kV substation via a set of terminal towers (c. 16m high) located within the substation compound.

3. Construction Works

3.1 110kV Substation

Key elements of the civil works and activities associated with the construction phase of the substation development are as follows and are discussed in the following subsections:

- Pre-commencement activities including site investigation work and pre-construction surveys.
- Site preparation and temporary construction access track.
- Site drainage systems.
- Bulk earthworks for formation of substation compound base.
- Substation compound base and equipment foundations.
- Construct of control building and install equipment within compound.
- Complete site works: lighting, security fencing, gates, signage.
- Reinstatement of drainage system.
- Demobilise offices and tidy up site.

3.2 Overhead Loop-In Grid Connection

- Pre-commencement activities including site investigation work and pre-construction surveys.
- Installation of 2 No. OHL end mast structures (c. 20m high) under the existing Crane- Lodgewood 110kV OHL.
- Installation of 2 No. lattice gantries (c. 16m high).
- Aggregate placement, grading and compaction for new access track.

3.3 Schedule of Construction Works

The proposed programme for the construction works will be approximately 14 to 18 months from initial enablement works through to commissioning. It is expected that the civil works will take approximately 4 to 6 months, with a further 6 months estimated for cable installation, jointing and testing, reinstatement and landscaping. Construction works associated with the substation will be carried out in parallel and will take approximately 14 to 18 months.

3.4 Working Hours and Personnel

Construction activities will gradually phase out from pre-construction followed by commissioning and testing of the substation and equipment. It is expected that the number of construction workers required throughout the duration of the construction phase will peak at approximately 25 persons (peak during construction). It is anticipated that the construction of the Proposed Development will be completed during normal construction hours, i.e., 07.00 and 19.00 Monday to Friday and 08.00 to 14.00 on Saturday, excluding public holidays. Emergency works and other working periods outside these hours will be agreed in writing with the planning authority.

3.5 Construction Methodology - Substation

3.5.1 Pre-Construction Activities

Before works commences a number of preparatory activities will be carried out.

All statutory consents and licences required to commence onsite construction activities will be obtained ahead of works commencing, allowing for the appropriate notice period. It will be the responsibility of the Appointed Contractor to ensure all consents and licences required are in place prior to the start of construction.

The following key works will be undertaken as part of the site preparation and pre-development activities:

3.5.1.1 Pre-Commencement Surveys

Prior to any commencement of any physical works, pre-commencement works may be required which may include:

- Demarcation works and benchmarks on site will be established.
- Ground investigations.
- Ecology surveys
- Noise surveys.

3.5.2 Enabling Works

Enabling works may include:

- Site establishment including the erection of signage and information boards for the general public, site employees and trucks transporting materials to/from the site
- Site clearance works.
- Construction of temporary site drainage including the installation of suitable protection (e.g., silt curtain) around the site boundaries to control and treat any runoff during the works.
- Bulk earthworks including excavation and removal of topsoil/soil.
- Infilling of material for internal access road, site compound and laydown area.
- Landscaping.

3.5.2.1 Site Clearance Works

The site preparation phase for the proposed development will involve site clearance, excavations and levelling of the site to the necessary base level for construction, surveying and setting out for structures and any rerouting of services/connections to services. A combination of bulldozer, excavators, trucks and other soil shifting plant will commence the main site clearance and levelling aspects.

The proposed development is anticipated to require excavation works estimated to be in the order of approximately 12,000m³, however, excavated spoil will be reused for filling and reinstatement purposes, reducing the volume of offsite import and/or disposal.

Any excess spoil not suitable and/or required for reuse on site will be removed offsite for appropriate reuse, recovery and/or disposal as reused.

3.5.2.2 Temporary Construction Compound

A construction compound of approximately 2,500m² will be located within the Proposed Development boundary.

A layer of granular material will be spread and lightly compacted within the compound to provide hardstanding for site offices and storage containers. Areas of the compound may be used as vehicle hardstanding. The compound will be built using a similar technique to the access roads.

The temporary compound will have a hard-standing surface and will be used for construction phase car parking, a secure storage area for construction materials, waste materials and also contain temporary site accommodation units to provide welfare facilities for site personnel. Facilities will include offices, meeting rooms, a canteen and a drying room.

A bunded containment area will be provided within the construction compounds for the storage of lubricants, oils and site generators etc.

A designated lined concrete wash-out area will be installed within the temporary compound to facilitate washing of concrete mixer chutes only. Washing of concrete mixer barrels will not be permitted.

The temporary construction compound will be removed on completion of the substation construction phase.

3.5.2.3 Site Entrance and Access Tracks

It is proposed to construct a new site entrance to the proposed development site from the L-6065-1. The creation of the new site entrance will require the removal of existing hedgerow (approximately 75m) but no mature trees in this area. The entrance will be suitably splayed with entrance gates set back from carriageway. A 4.5m wide compacted access track will extend from the entrance to the substation compound. The track will include a geotextile base and filter membrane and 200mm of Clause 804 sub-base.

Limited removal of some sections of existing internal field boundary hedgerows (approximately 70m) will also be required to accommodate the access road to the substation.

3.5.3 Site Drainage System

Fundamental to any construction project, is the need to keep water clean and manage all other runoff and water from construction in an appropriate manner. A site drainage system will be constructed on the site so as to attenuate runoff, guard against soil erosion and safeguard downstream water quality.

The proposed drainage system along the new access road will comprise an overground drainage system. It is proposed that runoff from the proposed new access road will be collected by roadside v-drains installed along both sides the roadway to convey runoff to settlement ponds before finally discharging by overland flow to the existing field drain along the southern boundary. Check dams will be installed at regular intervals, based on gradient, along the roadside v-drains to provide flow attenuation, slow down runoff to promote settlement and to reduce scour and erosion of the drains.

It is also proposed to install clean water cut-off drains around the perimeter of the development areas to intercept surface water runoff from catchments uphill of the proposed development works. The cut-off drains will collect and divert the collected runoff around site infrastructure to prevent it entering the site and potentially coming in contact with site runoff containing suspended solids.

Measures addressed in the drainage design include:

- Check dams will be placed at regular intervals, based on slope gradient, along all drains to slow down runoff and to encourage settlement and to reduce scour and ditch erosion.

- Consideration will be given to the use of check dams constructed in accordance with best practice utilising clean stone at points along the drainage channel during the construction phase to further mitigate against any sediment escaping to nearby watercourses.
- Low gradient drains will be provided. These reduce the velocity of flow in the drains, thus reducing soil and subsoil erosion and reducing hydraulic loading to watercourses.
- Where possible existing drains will remain untouched.
- Regular buffered outfalls that consist of numerous small drains off the main drain which end by fanning out into the surrounding vegetation by tapering drains. The drain will contain hardcore material to entrap suspended sediment.
- Drains carrying construction site runoff will be diverted into settlement ponds, which will promote sediment deposition and reduce hydraulic loading by slowing flow velocities allowing sediment to settle. Settlement ponds have been designed in the form of a three stage tiered pond system. These will be maintained by the contractor(s) to the satisfaction of Inland Fisheries Ireland for the entire construction period.
- Flow from the settlement ponds will enter the sediment traps where runoff will be cleaned further by a series of graded gravel filters. Silt traps will require regular inspection and cleaning and removed material will be disposed of at an appropriate location.
- Outfalls from silt traps will discharge at regular intervals to mimic the natural hydrology by encouraging percolation and by decreasing individual hydraulic loadings from discharge points. The drainage ditches will flow onto the existing ground by fanning out onto the surrounding vegetation via tapering drains.
- The access roads will be graded so that all runoff is directed to the dirty water drains.
- No disturbance will be permitted to the natural vegetative buffer. They can be fenced where necessary.

Best practice and practical experience on other similar projects suggests that in addition to the above outlined drainage plans there are additional site based decisions and plans that can only be made in the field. In relation to decisions that are made on site it is important to stress that these will be implemented in line with the associated drainage controls and mitigation measures outlined above and to ensure protection of all watercourses.

3.5.4 Substation Compound

3.5.4.1 Site Regrading and Formation Works

The substation compound formation operations will be achieved through a combination of excavation, fill placement, and compaction to develop the proposed grade levels.

The area of the compound will be marked out using ranging rods or wooden posts and the top soil stripped and removed to a temporary storage area for later use in landscaping.

Perimeter drains will be installed to collect surface water runoff from the substation compound which will include the installation of check dams, silt traps and level spreaders to cater for surface runoff.

A combination of bulldozer, excavators, trucks and other soil shifting plant will commence the main site clearance and levelling aspects. The use of a rock breaker and/or explosives is not proposed.

There are no anticipated contaminated materials on site, however in the event of suspected contamination, a suitable temporary storage area will be established and appropriate mitigation measures determined depending on the nature of contamination. Suspected materials will be tested and classified to and disposal to a suitably licences facility.

Once the cutting is formed and all soil removed from the area, imported gravel will be placed and compacted over the area of the compound. The compound will be brought up to the agreed formation level and fill material imported and graded to the correct level as per the detail design. Fill materials will generally be placed in layers and uniformly compacted to the satisfaction of the Engineer before the next layer is applied. The material should be compacted in accordance with Table 6/4 of with Transport Infrastructure Ireland 600 Series Earthworks Specification CC-SPW-00600.

3.5.4.2 Hardstanding

The majority of the compound will be finished with granular material. Concrete bases or plinths will be required at specified locations throughout the site to facilitate the installation of the control building, transformer, transformer bund, high voltage and low voltage equipment, lighting and ancillary equipment. Equipment plinths and building bases will be marked out, excavated down to the level indicated by the designer and appropriately shuttered and constructed using in-situ reinforced concrete or precast concrete. Provision will be made in each plinth for ducting and earth connection.

Following the construction of the equipment plinths, an earth mat will typically be installed in the compound. This will be connected to earth rings around each plinth and foundation and connected to the earth protection system as per the electrical protection design. Earth electrodes will be typically buried at a depth of approximately 0.6m to 1m below finished ground level and will be offset from structures by approximately 1m.

3.5.4.3 Building/Equipment Installation

The blockwork walls for the control building will be built up from the footings to damp-proof course (DPC) level and the floor slab constructed, having first located any ducts or trenches required by the follow on mechanical and electrical contractors.

The blockwork will then be raised to wall plate level and the gables and internal partition walls formed. Scaffold will be erected around the outside of the two buildings for this operation. The roof slabs will be lifted into position using an adequately sized mobile crane. The construction and components of the control building will be to ESB Networks specifications. The timber roof trusses at each building will then be lifted into position using a telescopic loader or mobile crane depending on site conditions. The roof trusses will then be felted, battened, tiled and sealed against the weather.

Transformers and switchgear units etc will be lifted into place using a suitably sized crane or telehandler. Any lifting operations will adhere to a specific lift plan, issued by the contractor responsible for the installation. Switchgear, electrical cabinets and control equipment will be lifted directly onto support plinths and bolted down if necessary. The installation of major electrical equipment such as transformers, switchgear etc. will typically be followed by small control equipment, lighting, low voltage electrical and communications cabling, earth installations. Following installation of electrical equipment, cable jointing and terminations will be carried out followed by testing and commissioning works.

3.5.4.4 Security Fencing

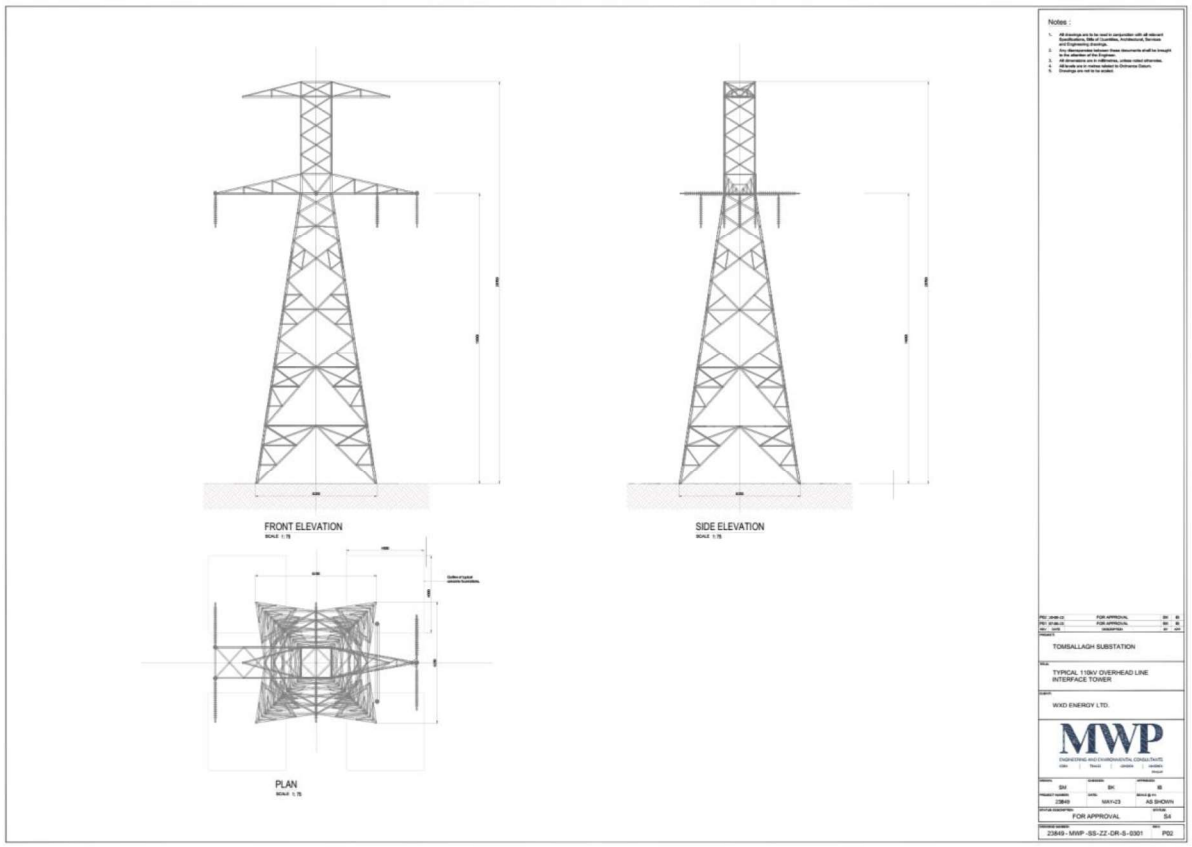
Installation of palisade fencing and stock proof fencing to perimeter of the substation compound.

3.6 Construction Methodology - Grid Connection

The design for the proposed loop in grid connection to the existing Crane-Lodgewood 110kV OHL will require two new OHL interface towers/end masts (see **Figure 6** for typical arrangement) which will be constructed under the existing OHL. The existing OHL conductor will be terminated at these two lattice towers to facilitate the grid connection to the proposed 110kV Tomsallagh substation, with the new connection looped through to the Tomsallagh 110kV substation via a set of terminal towers (c. 16m high) located within the substation compound.

The existing OHL will be terminated and new towers erected that will create two new OHL circuits. The new interface end masts locations are to be selected based on ground surveys, ground profiles, allowable angles and ruling span checks. A foundation is excavated for each tower location and the placement of excavation material is temporarily stored in designated deposition areas. Any excess excavated material can be utilised as fill material where suitable. Reinforcing bars are placed into each excavation and the body of each tower assembled adjacent to the excavation. Concrete is poured directly into each excavation and allowed to cure until a preformed metal panel is set in place. The foundations are then backfilled. At this stage the existing OHL is de-energized and construction of the two towers take place. An earth mat is laid and is a requirement for the electrical connection of the tower. A temporary hardstand area is made available for the use of a crane to guide and position each section of the towers together. Once all sections of the towers are bolted securely the conductor can be centred and installed. All other associated equipment such as down dropper conductors and shackles are positioned before the electrical circuit can be tested in both directions to confirm OHL is re-energised.

Figure 6: 110kV Overhead Line Interface Tower



3.7 Other Elements of the Construction Phase

3.7.1 Water Requirement/Water Supply

There will be a very small water requirement for toilet flushing and hand washing and therefore it is proposed to harvest water from the roofs of the buildings.

3.7.2 Wastewater Treatment/Effluent Disposal

The discharge from the sanitary facilities within each building will go to separate wastewater holding tanks located within the substation compound where the effluent will be temporarily stored and removed at regular intervals by a permitted waste contractor and removed to a licensed/permitted waste facility for treatment and disposal.

3.7.3 Waste Management

Construction phase waste may consist of surplus hardcore, stone, concrete, ducting, electrical wiring, spare steel reinforcement, metal off-cuts shuttering timber, plastic waste, packaging, and unused oil, diesel. This waste will be stored in the construction compound and collected at intervals and taken off site to be reused, recycled and disposed of in accordance with best practice procedures. All waste products (general waste, plastic, timber, etc.) arising during the construction phase will be managed and disposed of in accordance with the provisions of the Waste Management Act 1996 and associated amendments and regulations, and a Waste Management Plan (WMP) will be prepared by the Appointed Contractor prior to the commencement of construction. All waste material will be disposed of at a fully licensed facility.

3.7.4 Fuel Storage and Management

All plant will be refuelled on site e.g. excavators, dumpers etc, while rigid and articulated vehicles will be filled off site as would all site vehicles (jeeps, cars and vans). A fuel management plan will be developed in relevance to the site, and the specific plant and equipment required for construction. The plan outlined will have regard to the following elements:

- Mobile bowsers, tanks and drums will be stored in a secure, impermeable storage area, away from drains and open water.
- Fuel containers will be stored within a secondary containment system e.g. bund for static tanks or a drip tray for mobile stores.
- The fuel storage tanks shall be bunded to a volume of 110% of the capacity of the largest tank/container within the bunded area or 25% of the total capacity of all the tanks within the bund, whichever is the greater.
- Ancillary equipment such as hoses, pipes will be contained within the bund.
- Taps, nozzles or valves will be fitted with a lock system.
- Fuel and oil stores, including tanks and drums, will be regularly inspected for leaks and signs of damage.
- Only designated trained operators will be authorised to refuel plant on site.
- Adequate stocks of hydrocarbon absorbent materials (e.g., spill-kits and/or booms) shall be held onsite in order to facilitate response to accidental spills. Spill response materials shall also be stored on all construction vehicles.

- Procedures and contingency plans will be set up to deal with an emergency accidents or spills. including availability of specialist 24/7 spill contractor in case of major incident.

3.7.5 Reinstatement of Temporary Construction Compound

Once all construction works are complete, the temporary construction compound areas will be reinstated with excavated soil and either seeded out with native species, allowed to vegetate. This work will be carried out in line with any relevant measures outlined in the planning application, CEMP and planning conditions.

3.7.6 Method Statements

The appointed Contractor will provide method statements to carry out the works and risk assessments based on the outline method of works, procedures and the environmental requirements set out in this CEMP.

The following will be considered during the detailed planning of the works phase:

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA) in particular.
- Method statement for management of surface water to prevent runoff of silt or any other pollutant from the site to watercourses.
- C532 Control of water pollution from construction sites: guidance for consultants and contractors (Masters-Williams et al, 2001).
- SP156 Control of water pollution from construction sites – guide to good practice (Murnane et al, 2002).
- Requirements for the protection of fisheries habitat during construction and development works at river sites developed by the ERFB.
- Proper storage and bunding of any oils/hydrocarbons.
- Noise management measures.

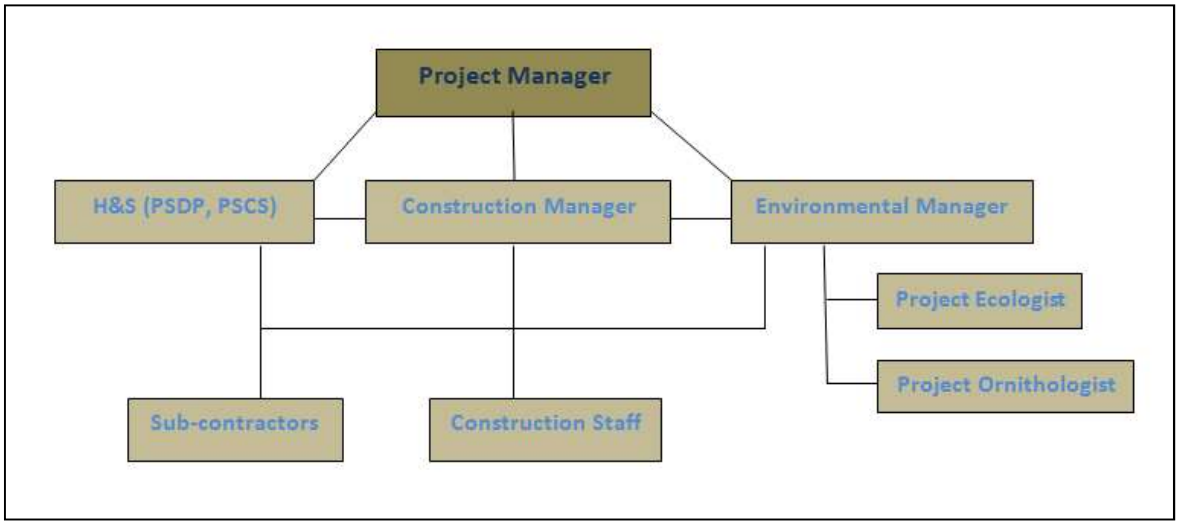
4. Organisational Structure, Duties and Responsibilities

The Appointed Contracted will be required to comply with all safety, health and welfare legislation and regulations. The Appointed Contract will also be appointed as Project Supervisor for the Construction Stage (PSCS) on the project in accordance with the Safety, Health and Welfare at Work (Construction) Regulations.

The PSCS will maintain contact with the Project Supervisor Design Process (PSDP) throughout the construction phase to communicate any health and safety related issues. The PSDP will prepare a written safety file appropriate to the characteristics of the project, containing relevant health and safety information, to be taken into account during any subsequent construction work following completion of the project.

4.1 Onsite Organisational Structure and Responsibility

The organisational structure for the Appointed Contractor's Project Team is included below. This structure will be defined by the Contractor and will include the names of the assigned personnel with the appropriate responsibility and reporting structure reflected.



4.2 Duties and Responsibilities

The general role of key people onsite implementing the CEMP will be.

- Project Manager - liaises with the Project Team in assigning duties and responsibilities in relation to the CEMP to individual members of the main contractor's project team.
- Construction Manager - liaises with the Environmental Manager when preparing site works where there is a risk of environmental damage and manages the construction personnel and general works.
- Design Engineer - undertakes and certifies the Design and supervises the standard of works, including geotechnical aspects.
- Environmental Manager - ensures that the CEMP is developed, implemented and maintained. The Environmental Manager's tasks at the construction site are described in the subsequent sections.

Other roles are outlined as follows.

- Health and Safety (PSDP and PSCS).
- Project Ecologist (as required by the Environmental Manager)
- Project Archaeologist (as required by the Environmental Manager).
- Geotechnical Engineer (as required by Design Engineer).

The roles and responsibilities outlined below are indicative and will be updated by the Appointed Contractor. Details of the personnel and their responsibilities must be added to the CEMP. The CEMP shall typically place environmental responsibilities on the key roles within the proposed development as set out below.

4.2.1 Project Manager

(To be updated upon appointment of Contractor/finalisation of CEMP)

Name: _____

A Project Manager (PM) is to be appointed on behalf of the main Contractor to manage and oversee the entire project. The PM is responsible for:

- Overall accountability for compliant environmental management operations during the works.
- Implementing of the CEMP.
- Implementing the Health and Safety Plan.
- Identify the environmental training needs of personnel under their control and arrange appropriate training programmes and ensure records are being maintained.
- Management of the construction project.
- Liaison with the client/developer.
- Liaison with the Project Team.
- Ensure timely notification of environmental incidents.
- 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.
- Ensure that the relevant environmental management plans/procedures are revised and updated as necessary.
- Assigning duties and responsibilities in relation to the CEMP.
- Production of construction schedule.
- Materials procurement.
- Maintaining a site project diary.

4.2.2 Construction Manager

(To be updated upon appointment of Contractor/finalisation of CEMP)

Name: _____

The Construction Manager manages all the works to construct the facility, on behalf of the main contractor. The Construction Manager reports to the PM. In relation to the CEMP, the Construction Manager is responsible for:

4.2.2.1 Site-Specific Method Statements

- Liaising with the Environmental Manager in preparing and updating site-specific method statements for all works activities where there is a risk of environmental damage, by incorporating relevant environmental control measures and referring to relevant environmental control measure sheets.
- Liaising with the Environmental Manager where third party agreement is required in relation to site-specific method statements, environmental control measures and/or environmental control measure sheets.

4.2.2.2 General

- Being aware of all project environmental commitments and requirements.
- Ensuring that all relevant information on project programming, timing, construction methodology, etc., is communicated from the PM to the Environmental Manager in a timely and efficient manner in order to allow pre-emptive actions relating to the environment to be taken where required.
- Programming and planning of excavation works and communicating this schedule to the Environmental Manager.
- Ensuring that adequate resources are provided to design and install any environmental interventions.
- Liaising with the Design Engineer and providing information on environmental management to the Design Engineer during the course of the construction phase.
- Liaising with the Project Team in assigning duties and responsibilities in relation to the CEMP to individual members of the main contractor's project staff.
- Ensuring that the Environmental Manager performs regular and frequent environmental site inspections.

4.2.3 Design Engineer

(To be updated upon appointment of Contractor/finalisation of CEMP)

Name: _____

The Design Engineer is appointed by the Contractor for the works.

The Design Engineer reports to the PM and is responsible for:

- Design of the works.

- Review and approval of relevant elements of the method statements – assist the Construction Manager with the overall review.
- Oversee geotechnical aspects of the works (a geotechnical engineer may be used where required).
- Participating in third party consultations.
- Liaising with third parties through the Environmental Manager.

4.2.4 Environmental Manager

(To be updated upon appointment of Contractor/finalisation of CEMP)

Name: _____

The Environmental Manager is appointed by the Contractor and reports to the PM.

The Environmental Manager is responsible for:

4.2.4.1 General

- Ensuring works are carried out in accordance with the project environmental commitments and requirements.
- Provide information on environmental management to the Design Engineer during the course of the construction phase.
- Liaising with the Project Team in assigning duties and responsibilities in relation to the CEMP to individual members of the main contractor's project staff.
- Overseeing, ensuring coordination and playing a lead role in third party consultations to fulfil best environmental management practice requirements.
- Develop and Implement the environmental procedures of the CEMP.
- Review and update the CEMP in line with all relevant guidelines, updated environmental legislation and planning consent conditions. Communicate all requirements and updates to the Project Team.
- Liaising with the client/developer in relation to environmental issues.
- Auditing the construction works from an environmental viewpoint.
- Ensure environmental records are maintained throughout the construction period.

4.2.4.2 Site-Specific Method Statements

- Liaising with the Construction Manager in preparing site-specific method statements for all works activities where there is a risk of environmental damage. These site-specific method statements should incorporate relevant environmental control measures and take account of relevant environmental control measure sheets.
- Liaising with the Construction Manager in reviewing and updating site-specific method statements for all works activities where environmental control measures and environmental control sheets have been altered.

- Liaising with the Construction Manager where third party agreement is required in relation to site-specific method statements, environmental control measures and/or environmental control measure sheets.

4.2.4.3 Licensing

- Ensuring that all relevant works have (and are being carried out in accordance with) the required permits, licences, certificates, planning permissions, etc.
- Bringing to the attention of the Project, Design and Construction Team any timing and legal constraints that may be imposed on the carrying out of certain tasks.

4.2.4.4 Waste Management Documentation

- Development of waste documentation system including details on the waste transportation agents, person(s) responsible for the recovery and disposal of wastes, destinations of waste, waste classification, tonnages and waste certificates. Holding copies of all permits and licences provided by waste contractors.
- Ensuring that any operations or activities that require certificates of registration, waste collection permits, waste permits, waste licences, etc., have appropriate authorisation.
- Gathering and holding documentation with the respect to waste disposal.

4.2.4.5 Specialist Environmental Contractors

- Identifying the need and requirements for specialist environmental contractors (including ecologists, waste contractors and spill clean-up specialists) before commencement of the project.
- Ensuring that the specialist environmental contractors are competent and have sufficient expertise to co-ordinate and manage environmental issues.
- Co-ordinating the activities of all specialists' environmental contractors on environmental matters.

4.2.4.6 Environmental Incidents/Spillages

- Prepare and be in readiness to implement an emergency response plan.
- Support any investigations of incidents related to potential environmental damage, ensure corrective actions are taken and ensure future preventative measures are put in place.

4.2.4.7 Environmental Monitoring and Inspections

- Develop and implement a programme of regular environmental inspections, monitoring, recording and reporting in accordance with procedures set out in the CEMP.
- Carrying out and document inspections of works to ensure that work is being carried out in accordance with the environmental control measures and relevant site-specific method statements, etc.
- Appending copies of the inspection reports to the CEMP.
- Liaising with the Construction Manager to organise any repairs or maintenance required following the daily inspection of the site.

4.2.5 Other Roles

4.2.5.1 Health and Safety Personnel

(To be updated upon appointment of Contractor/finalisation of CEMP)

The Health and Safety personnel for the construction project are appointed by the Contractor in line with the Construction Regulations:

- Responsible for safety induction of all staff and personnel on site.
- Implementing the Health and Safety Plan.
- Auditing and updating the Health & Safety Plan.
- All other required legal duties.

4.2.5.2 Environmental Specialists

- Review and input to the Contractors CEMP relating to biodiversity measures and mitigation.
- Attend site as required to monitor the protection of assets in accordance with the requirements of relevant legislation, the biodiversity aspect of the project and mitigation measures outlined within, planning conditions, the construction contract and the CEMP.
- Identify potential risks to wildlife and develop suitable control measures.
- Provide status reports and updates to the Environmental Manager.
- Provide advice about ecological and environmental and issues during the construction of the proposed development including advice on protected species, pollution, surface water management, material management, air quality and noise.

4.2.5.3 Site Personnel

The site personnel appointed by the Contractor are responsible for:

- Adhering to the relevant environmental control measures and relevant site-specific method statements.
- Adhering to the Health and Safety Plan.
- Reporting immediately to the Environmental Manager and Construction Manager any incidents where there has been a breach of agreed procedures including:
    - A spillage of a potentially environmentally harmful substance.
    - An unauthorised discharge to ground, water or air, damage to a protected habitat, etc.

4.3 Contacts

4.3.1 Main Safety Contacts

Position Title:	Name:	Phone:	Email:
The Client			
PSDP			
PSCS			

4.3.2 Main Contractor Contacts

Position Title:	Name:	Phone:	Email:
Project Manager			
Construction Manager*			
Environmental Manager*			
Safety (PSCS)*			
Safety Officers*			
Site Emergency Number*			
Project Ecologist			
Project Archaeologist			
Overall Project PSDP			
Project Liaison Officer			

4.3.3 Third Party Contacts

Organisation:	Position:	Location:	Phone:	Email Address:
Inland Fisheries Ireland	Senior Environmental Officer		+353 (0)1 8842 600	@fisheriesireland.ie
National Parks and Wildlife Service	District Conservation Officer		(076) 100 2625	@ahg.gov.ie
Environmental Protection Agency		EPA Headquarters	053 916 0600	
Local Authority		Wexford County Council	(053) 919 6000	
Department of Arts, Heritage and the Government	District Conservation Officer			
Health and Safety Authority			1890 289 389	wcu@hsa.ie
Emergency Services			999	
Other, as appropriate.				

5. Environmental Commitments

5.1 Environmental Management Plans (EMP)

A number of environmental management plans (EMP) have been prepared for managing the impacts of construction activities associated with the development. See **Table 2** below and refer to **Appendix 1**. These plans are to be implemented by the Project Manager and/or Appointed Contractor as relevant.

Table 2: Plans for Managing Impacts of Construction Activities

Ref:	Procedure:
EMP-1	Management of Excavations
EMP-2	Surface Water Runoff Control
EMP-3	Fuels and Oils Management
EMP-4	Management of Concrete
EMP-5	Protection of Habitats and Fauna (Ecological Management)
EMP-6	Waste Management
EMP-7	Traffic Management
EMP-8	Management of Archaeology
EMP-9	Construction Noise
EMP-10	Dust Management
EMP-11	Emergency Response Plan
EMP-12	Site Environmental Training and Awareness
EMP-13	Monitoring and Auditing
EMP-14	Environmental Accidents, Incidents and Corrective Actions
EMP-15	Environmental Complaints

5.2 Environmental Monitoring Schedule

A preliminary monitoring schedule is provided below (**Table 3**) and will be finalised pending appointment of the Contractor. The Appointed Contractor's developed daily site checklists must have the following information included at a minimum:

Table 3: Preliminary Monitoring Schedule

Aspect	Monitoring Required	Frequency	Note	Responsibility
Water	Sediment & Erosion Controls (Drainage Performance)	Daily during the construction phase as well as during and after significant rainfall events	Refer to Table 4	Environmental Manager
Water	Fuel & Oil Storage inspection	Daily	Refer to Table 4	Environmental Manager
Ecology	Material and Waste Storage	Daily	Refer to Table 4	Environmental Manager
Water	Water quality monitoring	As Required	Minimum parameters: pH, Suspended Solids, metals, nitrates, phosphates	Environmental Manager
Water	Concrete Pours	As Required	To be scheduled with pours	Environmental Manager

The Environmental Manager will monitor the construction activities on a day-to-day basis. The duties will include completing the required checklists (sample checklist included below) and coordinating with the relevant personnel (e.g. Project Ecologist, and the Design Engineer as required) ensuring all environmental monitoring is carried out.

The daily site checklists will have the following information included at a minimum:

Table 4: Site Checklist

Area of Inspection	Environmental Hazards
• Silt filters	• Missing filters • Blocked filters - build up of sediment & peat
• Roadside drains	• Damage • Silt build-up • Blockages in the pipes conveying the runoff to the settlement pond drains
• Silt fences and Drainage systems	• Damage • Silt build-up • Blockages in the pipes conveying runoff
• Site road	• Unacceptable level of sediment/silt on the road surface • Presence of waste
• Site compound – storage area	• Damage • Untidiness

• Site compound – waste collection area	• Damage • Untidiness • Full skips
Area of Inspection	**Environmental Hazards**
• Site compound – oil storage area	• Damage to containers or ancillary equipment • Leakages • Unlocked storage container
• Wastewater facilities	• Holding tank requiring emptying
• Concrete chute washout area	• Damages • Leakages • Unacceptable level of concrete washings
• Site Entrance	• Unacceptable level of sediment/silt on the road surface • Presence of waste

5.3 Environmental Performance Indicators

The Appointed Contractor will outline the key performance indicators for the site in gauging successful site management in the prevention of pollution and the protection of the environment.

Environmental performance indicators will at a minimum include:

- Number of environmental accidents logged.
- Number of environmental incidents logged.
- Breach of procedure and corrective actions.
- Number of environmental complaints received.
- Results of monthly water quality monitoring.
- Results of noise and vibration monitoring.
- Results of site audits.

The performance indicators will be finalised by the Appointed Contractor and communicated to all relevant personnel and sub-contractors. The review periods for analysing site performance indicators must also be specified.

5.4 Response Procedure

In the event of an environmental incident, or breach of procedure, or where a complaint is received, the contributing factors are to be investigated and remedial action taken as necessary. The Appointed Contractor will ensure that the following respond actions will take place:

- Respond to the incident promptly ensuring the immediate safety of personnel, plant and environment as a priority.

- Isolate the source of the incident/breach/emission.
- Notify the PM of any incident, breach of procedure and/or complaint received, and details must be recorded in the incident/complaint register.
- The PM will notify and liaise with the appropriate site personnel where required, e.g., Environmental Manager.
- If necessary, the PM will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.
- PM will conduct/co-ordinate an investigation to determine the potential influence that could have led to the non-compliance.
- The details of the incident will be recorded on an incident/complaints form which is to record information such as the cause, extent, actions and remedial measures used to follow the incident/complaint. The form will also include any recommendations made to avoid reoccurrence of the incident.
- Identify and execute measures to minimise the effects of the incident.
- Carry out environmental monitoring as required.
- Identify and implement measures to avoid reoccurrence.

5.5 Corrective and Preventative Action

Corrective action requests will be issued to ensure that prompt action is agreed and committed to, with a view to the effective resolution of any deviations from the CEMP requirements or any environmental issues.

6. Summary

This CEMP provides the information which will be contained in the Contractor-developed CEMP at the construction stage of the project. The requirement on the Appointed Contractor to update these details has been explained, and there is a particular requirement for an update to the roles and responsibilities of those appointed on the site for the construction of the project. The CEMP is a live document and will be improved upon as the project progresses as appropriate.

Appendix 1
Environmental Management Plans

EMP-1	Management of Excavations
EMP-2	Surface Water Runoff Control
EMP-3	Fuels and Oils Management
EMP-4	Management of Concrete
EMP-5	Ecological Management/Protection of Habitats and Fauna
EMP-6	Waste Management
EMP-7	Traffic Management
EMP-8	Management of Archaeology
EMP-9	Construction Noise
EMP-10	Dust Management
EMP-11	Emergency Response Plan
EMP-12	Site Environmental Training and Awareness
EMP-13	Monitoring and Auditing
EMP-14	Environmental Accidents, Incidents and Corrective Actions
EMP-15	Environmental Complaints

EMP 1: Management of Excavation Works

Purpose
To describe measures for the management of all excavations and excavated soil and rock on the site.

Procedure

General

- Machinery will not operate directly on excavated/stockpiled soils.
- Drainage will be constructed in parallel with the substation facility and OHLs. This approach will be used in combination with the installation of other drainage protection measures in advance of construction, such as the installation of silt fencing or other waterway protection measures.
- Within excavations and around excavations, pore water pressure will be kept low by avoiding loading the soil/subsoil and giving careful attention to the existing drainage and how structures could affect it.
- All temporary cuts/excavations will be carried out such that they are stable or adequately supported. Where appropriate and necessary, cuts and excavations will be protected against ingress of water or erosion by the use of field drains around the excavation works. Temporary works will be such that they do not adversely interfere with existing drainage channels/regimes.
- Plant and materials will be stored in approved locations only (such as the proposed site compounds) and will not be positioned or trafficked in a manner that would surcharge existing or newly formed slopes.
- All site excavations and construction should be supervised by a suitably experienced engineer. The Appointed Contractor's method statements for each element of work should be reviewed and approved by the engineer prior to site operations.
- The existing network of drainage within the site should be utilised whenever possible.
- Excavated topsoil and subsoil will be stored onsite for reuse or removed offsite to an appropriate facility. Temporary stockpiles of soils will not be permitted within 50m of any watercourse.

Management and Storage of Excavated Materials and Soil Management

- It is anticipated that all soils and stone generated from excavation works will be retained on site within the development boundary and reused where possible. Excavated material will used to construct screening berms along the access road and along the western boundary of the substation compound.
- Storage of excessive material will be avoided. Site management should include the checking of equipment, materials storage and transfer areas, drainage structures and their attenuation ability on a regular basis during the construction phase of the project. The purpose of this management control is to ensure that the measures in place are operating effectively, prevent accidental leakages, and identify potential breaches in the protective retention and attenuation network during earthworks operations.
- Temporary storage of soil will be carefully managed in such a way as to prevent potential negative impact on the receiving environment and the soil material will be stored away from any surface water drains. It will be necessary to designate areas within the site where stockpiles will be established in order to facilitate the efficient transfer of material within the site.
- In order to minimise the impact of the Proposed Development on local geology, where possible, excavated material will be reused on site and imported material including fill and hard standing will be obtained from local sources.

- Materials required for construction should be handled and stored in a manner which reduces unnecessary handling. Gravel and any other quarry materials should be imported from local quarries where possible and stored neatly in segregated areas.
- No permanent waste or stockpiles will be left onsite, other than those materials required for designed landscaping and construction generally.
- Excavated material that is not suitable for onsite reusewill be removed from site by the appropriate permitted contractors and taken to an authorised facility.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation.
- A traffic management plan will bn developed as part of the Appointed Contractor's CEMP. This is to manage and control vehicular movement onsite. Measures include the scheduling and covering of HGVs during construction to minimise HGV movements onsite which will reduce the impact of soil compaction and erosion. Unscheduled vehicles will not have access to the site.

Monitoring

This is to be detailed in the Appointed Contractor's Method Statements.

Responsibility

- The Environmental Manager will monitor the excavation areas and associated drainage.
- The Project Manager will oversee the phasing of the excavation, stockpiling and machinery movement across the site.
- Construction personnel will be informed of the measures to prevent pollution of water courses.
- The Design Engineer, Geotechnical Engineer and Sub-contractors will have responsibilities as appropriate.
- All responsibilities will be finalised by the Appointed Contractor.

Details of excavating materials will be finalised by Appointed Contractor

EMP 2: Surface Water Runoff Control (Sediment and Erosion Control)

Purpose

To describe measures for the management of all surface water and runoff on the site, for the protection of watercourses and in particular, sediment and erosion control.

Procedure

Drainage, Erosion and Sediment Control

- Implement erosion control to prevent runoff flowing across exposed ground and become polluted by sediments.
- Instream works are not required at any watercourse crossing.
- There will be no tracking of machinery within watercourses.
- There will be no storage of material/equipment or overnight parking of machinery inside the 15m buffer zone to the watercourse.
- Before any ground works are undertaken, double silt fencing will be placed upslope of the watercourse channel along the 15m buffer zone boundary.
- Drainage channels and streams will be clearly identified on site and shown on method statements and site plans.
- During the construction activities there will be a requirement for diverting rainwater away from the construction areas, into nearby drainage channels and streams.
- Visual inspections of roads and wheel washing at site entry/exit points will be undertaken to prevent the accumulation of dirt.
- Silt traps will be placed across the works boundary in any areas adjacent to watercourses to avoid siltation of watercourses. These will be maintained and cleaned regularly throughout the construction phase.
- Intercept and divert clean water runoff away from construction site runoff to avoid cross-contamination of clean water with soiled water.
- Implement sediment control to slow down runoff allowing suspended sediments to settle in situ particularly on roads.
- The access track will be of a permeable construction however there will be a slight increase in the area of impermeable surfaces across the site, resulting in a slight increase in surface water run-off rates. This change in flow volumes is addressed with embedded mitigation in the form of a site-specific drainage system that provides sufficient storage capacity to limit run-off from the developed catchment to that equivalent to pre-development greenfield run-off rates.
- Implement the erosion and sediment controls before starting site clearance works.
- Minimise area of exposed ground by maintaining existing vegetation that would otherwise be subject to erosion in the vicinity of the compound and keeping excavated areas to a minimum.
- Delay clearing of soil until before construction begins rather than stripping the entire site months in advance particularly during road construction.
- Avoid working near drains during or after prolonged rainfall or an intense rainfall event and cease work entirely near drains when it is evident that pollution is occurring.
- Implement sediment control measures that includes for the prevention of runoff from adjacent intact ground that is for the separation of clean and ‘dirty’ water.

- Provide recommendations for public road cleaning where needed particularly in the vicinity of drains.
- Prior to any construction activity, the site will be inspected for areas that would be prone to siltation of nearby watercourses. Where necessary, existing pollution prevention measures (check dams and silt ponds) will be maintained/upgraded to ensure optimum standard of water running into streams from the drainage adjacent to access road. Drainage, silt fences and settlement ponds will be installed where new development components are proposed. Additional silt fencing and emergency spill kits will be kept on site for use in emergencies.
- All erosion control and retention facilities will be regularly maintained during the construction phase.
- Prior to and during construction works, operations will be monitored by a competent member of the construction team on a regular basis to check if working appropriately.
- The treatment approach described below will reduce significantly any potential increase in surface water runoff as a result of the facility development.

Drains

- Maintenance of any existing vegetative land drains in order to keep them vegetated.
- Continuation of flows by natural flow paths via existing drains before entering the watercourse, providing further retention and treatment of discharges.
- Existing land drains will be utilised at the site for drainage. Maintenance of the existing vegetative land drains will ensure they stay vegetated.
- Pollution prevention measures (vegetation in drains, check dams and silt ponds) will be implemented, maintained, monitored and upgraded as required to ensure optimum standard of water running into the Tinnacross stream from the land drainage system.
- Where the drains have a gradient greater than 2.5%, check dams will be installed in the drains.
- Where each land drain exits the proposed development a double silt trap will be placed. Each silt trap will be made up of a stone or straw dam combined with a silt fence.
- Additional silt fencing and emergency spill kits will be kept on site for use in emergencies.

Dewatering

Any ground water/surface water that may enter building foundations will be removed and treated and disposed of appropriately, in accordance with best practice. Any dewatering (if/where required) will adhere to the following measures:

- Ground water/surface water will not be pumped directly into roadside drains/watercourses.
- Ground water/surface water which has become silted within the building footings will be pumped to the surface water drainage system/sediment ponds.
- In the case of heavy siltation, water will be tankered off site for disposal at an authorised waste facility or pumped to a portable onsite settlement tank for treatment.

Monitoring

- The Environmental Manager will carry out daily inspections of cross-drain pipes, dirty water drains and outlets, settlement ponds, interceptor drains and silt fences for any damage or blockages. Any damage or blockages will be repaired or cleared promptly.
- As detailed above, weather forecasts will be monitored during the construction phase. The 24 hour advance meteorological forecasting service from Met Éireann will be used.

- A surface water monitoring schedule will be developed prior to construction and agreed with the planning authority. Suspended solids monitoring will be undertaken on a weekly basis and ad-hoc if required (rainfall event for example), while monthly monitoring of pH, metals, nitrates and phosphates will also take place.

Responsibility

The Environmental Manager is responsible for ensuring that appropriate water pollution prevention measures are implemented and monitored in accordance with relevant standards. Where standards are exceeded, an investigation must be carried out in conjunction with the Construction Manager, and further samples must be taken to verify that the situation has returned to normal.

Spill kits will be readily available in vulnerable locations and that booms for watercourses are long enough and have adequate anchorage.

The Construction Manager (or a designate) is responsible for ensuring the spill kits are adequately stocked and maintained.

Details and Responsibilities for sediment and erosion control to be finalised by Appointed Contractor

EMP 3: Fuel and Oils Management

Purpose

Construction machinery and associated equipment will be the principal sources of pollutants such as oil, lubricants, fuel and hydrocarbons. The purpose of this plan is to describe measures for the management of all fuel and oils onsite for the protection of natural resources (soils and groundwater) from any spills.

Procedure

Construction Machinery and Vehicles

- Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in designated impermeable refuelling areas isolated from surface water drains.
- Refuelling will be carried out using 110% capacity double bunded mobile bowsers. The refuelling bowser will be operated by trained personnel. The bowser will have spill containment equipment which the operators will be fully trained in using.
- No servicing or repair of plant, machinery or vehicles should be undertaken onsite and the mechanical soundness of construction machinery will be checked prior to the commencement of construction works.
- All plant used on the site will be regularly maintained. An up-to-date service record will be required from the main contractor.
- Contractors supplying concrete and gravel to the site will be contractually required to supply their products using roadworthy vehicles.

Accidental Spills/Contaminated Runoff

- Good site practice [CIRIA 32 (2001)] is applied to ensure no fuels, oils, other substances or contaminated runoff are stored in a manner on site in which they may spill and enter the ground, particularly when the initial top layer is excavated. Dedicated, bunded storage areas will be used for all fuels or hazardous substances. Spill kits will be maintained on site.
- An emergency response plan will be developed and include measures to be taken in the event of spills and leaks.
- Spill kit stations will be established at a number of key locations (including site vehicles) and will be regularly checked and restocked as required.
- Should there be an oil leak or spill, the leak or spill will be contained immediately using oil spill kits. the nearby water drain outlet will be blocked with an oil absorbent boom until the fuel/oil spill has been cleaned up and all oil and any contaminated material removed from the area. This contaminated material will be properly disposed of in a licensed facility.
- The Environmental Manager will be immediately informed of the oil leak/spill and will assess the cause and the management of the clean-up of the leak or spill. They will inspect nearby drains for the presence of oil and initiate the clean-up if necessary.
- Correct action in the event of a leak or spill will be facilitated by training all vehicle/machinery operators in the use of the spill kits and the correct containment and cleaning up of oil spills or leaks. This training will be provided by the Environmental Manager at site induction.

- In the event of a major oil spill, a company who provide a rapid response emergency service for major fuel spills will be immediately called for assistance, their contact details will be kept in the site office and in the spill, kits kept in site vehicles and machinery.

Drainage and Sediment Control:

- Construction pollutants such as oil or fuel will be stored in secure bunded impermeable construction compounds away from drains and open water and inspected regularly for leaks or signs of damage.
- To help prevent the contamination of the ground and groundwater, contaminated materials (oils, fuels, chemicals etc.) will be used and stored in an appropriate manner as outlined in the relevant guidance, i.e. CIRIA (2001) and DMRB Volume 11 (1994).

Temporary Construction Compound:

- Designate a bunded storage area at the contractor's compound(s) and away from open ground and surface water gullies or drains for oils, solvents and paints used during construction. The fuel storage tanks shall be bunded to a volume of 110% of the capacity of the largest tank/container within the bunded area or 25% of the total capacity of all the tanks within the bund, whichever is the greater.
- Drainage within the temporary site compound will be directed to an oil interceptor to prevent pollution if any spillage occurs.
- The compound will be in place for the duration of the construction phase.

Responsibilities

The Construction Manager and Environmental Manager are responsible for ensuring fuel and oils are managed in line with this procedure and that spill kits are readily available in vulnerable locations.

The Construction Manager is responsible for ensuring the spill kits are adequately stocked and maintained and should inform the Environmental Manager if items have been used. The Appointed Contractor, in updating the CEMP, must designate personnel to the tasks relating to fuels and oil, as outlined.

References

Best Practice Guidelines BPGCS005 – Oil Storage Guidelines (Enterprise Ireland).

EMP 4: Management of Concrete

Purpose

The purpose of this plan is to describe measures for the management of concrete onsite for the protection of natural resources from any spillages.

Procedure

Supervision of Concrete Pours

- To reduce the potential for cementitious material entering watercourses, concrete pours will be supervised by the Construction Manager, a suitably qualified Engineer and/or the Environmental Manager.
- The Construction Manager will ensure that the area of the pour is completely drained of water before a pour commences.
- Pours will not take place during forecasted heavy rainfall.
- Incidental rainfall from light showers during the period of a pour is typically absorbed into the concrete matrix but heavier showers can result in some run off from the top surface of the concrete pour. If runoff is encountered the supervisor in charge will block the outflow from the drains to retain or treat the runoff until the pH is neutral before discharge to the drainage network.
- In the event of a spillage on site, the Environmental Manager will temporarily block the dirty water drains in the immediate area and monitor the pH levels of the water and if necessary, will adjust the pH levels using CO_2 entrainment. Any spillage will be cleared immediately and deposited in a designated chute wash down area.
- Temporary storage of cement bound granular mixtures will be on hardcore areas. Cement products are hazardous and should always be stored in a COSHH store or similar (shipping container), and only be in the open when in use. If cement products are temporarily located in the open, then they will be located within an impermeable bunded area and covered to prevent contact with rainwater. This will prevent direct drainage of cement storage areas to surface waters.

Concrete Water

- To reduce the volume of washout, concrete chutes will be washed down at a designated chute wash down area in the site compound. The wash down area will consist of a suitably sized polythene lined bunded area.

Responsibilities

- The Construction Manager and Environmental Manager will supervise all concrete pours.
- The Environmental Manager is responsible for ensuring that appropriate water pollution prevention measures are put in place and that water sampling is carried out. Where standards are exceeded, an investigation will be carried out and remedial actions taken where required. Validation sampling of remedial actions may also be required to verify that the situation has returned to normal.

EMP 5: Ecological Management Plan (Protection of Habitats and Fauna)

Purpose

The proposed development is located within 15km of the following designated sites:

- Slaney River Valley SAC.
- Wexford Harbour and Slobs SPA.

These sites are designated for the protection of Qualifying Interest (QI) aquatic habitats/species and Special Conservation Interest (SCI) bird species which are sensitive to water pollution and disturbance.

The purpose of this plan is to describe measures for the management and protection of habitats and fauna on the Site.

Procedure

- Ensuring implementation of ecological protection measures outlined below.
- Advising on re-vegetation onsite.
- Monitoring of success of revegetation.

Environmental Manager/Ecological Clerk of Works

- Periodic routine inspections of construction activity will be carried out by the Environmental Manager/ Ecological Clerk of Works (ECoW) to be employed by the Appointed Contractor to ensure all controls to prevent environmental impact are in place.
- A suitably qualified ecologist will supervise vegetation clearance to ensure ecological/environmental mitigation measures described in the CEMP are implemented in full.
- The Environmental Manager/Ecological Clerk of Works will be awarded a level of authority and will be allowed to stop construction activity if there is potential for adverse environmental effects other than those predicted and mitigated. For example, if there is a risk of contaminated surface water entering a drain, and measures are not in place to block the pathways to the Slaney River, then the project ecologist can stop the work until prescribed measures to prevent such a risk have been implemented.
- Spraying of vegetation using pesticides (herbicides, fungicides and insecticides) will not be permitted at any stage of development.

Ecological Protection Measures

General Habitats

- The extent of construction works area within the site is to be clearly marked out such that the construction zone, including extent of access for all construction plant and machinery, site compound and materials storage areas, is defined and is clearly visible to all contractor staff and machine operators.
- Movement of construction plant/construction vehicles is to be restricted as much as is practicably possible to within the extent of works footprint within the development site boundary.
- Acknowledging that works required for development are exempt from conditions stipulated in the Wildlife Acts, removal of hedgerows will be conducted where possible outside the general bird breeding season which runs from the 1st of March to the 31st of August inclusive, in accordance with Section 40 of the Wildlife Acts.
- Habitat disturbance to fauna will be limited by controlling the movement of maintenance vehicles. Construction vehicles will not encroach onto habitats beyond the proposed development footprint.

- Construction work will not take place at night unless in exceptional circumstances to reduce potential disturbance to fauna.
- Mammal access to development site will be facilitated through the provision of mammal access gates which will be located at regular intervals (every 100m) along the perimeter of fence.
- The access gates will be designed with accordance with standard guidelines for the provision of mammal access (e.g NRA 2008, DMRB 1997).
- It is not anticipated that any protected mammal breeding/resting places will be encountered as part of the proposed project based on the findings of the extensive surveys undertaken. However, should any breeding/ resting places be encountered during the pre-construction surveys, NPWS will be informed and they will be subject to exclusion procedures as outlined in the TII/NRA guidelines (2006).
- In the unlikely event that protected fauna species are found actively using the site during the construction phase, works will cease immediately, and the area will be cordoned off until advice is sought from a suitable qualified specialist.
- In the unlikely event that protected faunal species are found actively using the site for breeding/roosting during the construction phase, works will cease immediately, and the area will be cordoned off until advice is sought from a suitable qualified specialist.
- The project ecologist will be awarded a level of authority and will be allowed to stop construction activity if there is potential for adverse environmental effects other than those predicted and mitigated. For example, if there is a risk of contaminated surface water entering a drain, and measures are not in place to block the pathways to the Tinnacross stream, then the project ecologist can stop the work until prescribed measures to prevent such a risk have been implemented.

Protection of Fauna

- Duration of construction activities will be restricted to between 7:00 am and 7:00 pm, Monday to Friday and between 8am and 2pm on Saturdays. Construction work will not take place at night unless in exceptional circumstances to reduce potential disturbance to fauna.
- A pre-construction survey for badger should be undertaken prior to the commencement of any works as per NRA (2005) guidance in order to identify any changes within the site. The pre-construction survey should be undertaken no more than 10 to 12 months in advance of construction commencement. The survey should be supplemented by an additional survey immediately prior to site works commencing if a sufficient time period has elapsed since the pre-construction survey.
- Any mitigations required for badgers will be carried out under license from NPWS and using NRA Guidelines (2005) (now TII) where applicable, Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes.
- Any mitigations required for badgers will be carried out under license from NPWS and using NRA Guidelines (2005) (now TII) where applicable, Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes.
- The pre-construction survey should be undertaken 2 weeks prior to commencing during the period of suitable weather, when otters signs are visible.
- No use of heavy machinery and use smaller work parties, where otters are known to be sheltering (informed by survey). Where possible large mature trees within the river corridor should be retained.

Soft Felling

If felling of such mature trees is required, the following TII (2006) guidance will be followed:

- Immediately prior to felling, trees should be inspected for the presence of bats and/or other Bat activity by a suitably qualified Bat ecologist during daylight hours and night-time using a Bat detector. This survey should be carried out from dusk through the night until dawn to ensure Bats do not re-enter the tree.
- Where examination of the tree has shown that Bats have not emerged or returned to tree, felling may proceed the following day. Should a delay in felling be encountered, resurveying is required.
- During felling of trees, the following points will be followed:
    - Any vegetation and tree removal should be carried out during winter (December to February) to avoid impacts on bats, corresponding to a time when even best bat roost habitat recorded on site would be highly unlikely to be used as winter roosts. Winter hibernation roosts are generally restricted to places that are sheltered from extremes of temperature (Marnell et al., 2022) and trees present on site are deemed unlikely to be mature enough to provide appropriate winter roosting habitat on the basis of the habitat suitability survey carried out onsite undertaken in May 2022.

<u>Lighting during construction:</u>

Potentially lighting associated with the site works could cause disturbance/displacement of bats. During the site works, lighting will follow mitigation measures outlined by Bat Conservation Ireland in Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers (2010), Bats and lighting: Overview of current evidence and mitigation guidance (Stone, 2013) and Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25 (Kelleher & Marnell, 2006).

The following measures will be applied in relation to site lighting:

- Lighting will be provided with the minimum luminosity sufficient for safety and security purposes. Where practicable, precautions will be taken to avoid shadows cast by the site hoarding on surrounding footpaths, roads and amenity areas.
- Where possible, construction lights will be switched off when not in use.
- Lighting will be positioned and directed so that it does not to unnecessarily intrude on adjacent ecological receptors. There will be no directional lighting focused towards the boundary habitats respectively and cowling and focusing lights downwards will minimise light spillage. and
- Works will primarily take place during hours of daylight to minimise disturbance to any nocturnal mammal species.

Pre-construction mammal survey

In accordance with NRA Guidance, pre-construction mammal surveys will be undertaken to identify evidence of protected mammals (e.g. in particular otter holts and badger setts) within the works areas associated with the proposed development. The surveys will be undertaken to ensure that such protected species have not taken up residence within or close to the development footprint. Should breeding or resting places be recorded in the pre-construction surveys a site-specific mitigation plan shall be prepared prior to the commencement of works. It is not anticipated that any protected mammal breeding/resting places will be encountered as part of the proposed project based on the findings of the extensive surveys undertaken. However, should any breeding/resting places be encountered during the pre-construction surveys, NPWS will be informed and they will be subject to exclusion procedures as outlined in the TII/NRA guidelines (2006).

Responsibility

Periodic routine inspections of construction activity will be carried out by an Environmental Manager /Ecological Clerk of Works (ECoW) to be employed by the main contractor to ensure all controls to prevent environmental impact are in place. Only suitably trained staff will undertake environmental inspection at the site. A suitably qualified ecologist will attend for vegetation clearance to ensure ecological/environmental mitigation measures described in this CEMP are implemented in full.

References

- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2005a).
- Guidelines for the treatment of bats during the construction of National Road Schemes (NRA, 2005b). and
- NPWS Irish Wildlife Manuals, No. 28: Bat Mitigation Guidelines for Ireland – V2 (Marnell et al., 2022).
- NRA (2006) Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes. National Roads Authority, Dublin, Ireland.
- Bats & Lighting. Guidance Notes for: Planners, engineers, architects and developers (BCI, 2010).

Details of ecological protection to be finalised by Appointed Contractor

EMP 7: Construction Waste Management

Purpose

The purpose of the plan is to describe measures for the management of all wastes associated with construction works.

Procedure

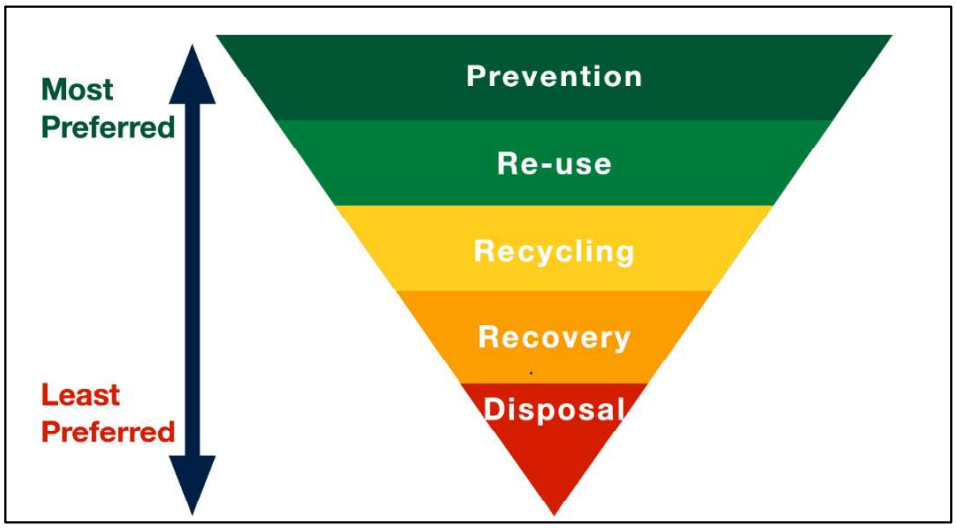
The Appointed Contractor(s) will be required to develop a Construction Waste Management Plan (CWMP) which will form part of the overall live CEMP. The waste management goal for the construction phase of the project is to manage all waste in accordance with the relevant statutory provisions and the waste hierarchy.

The CWMP will form part of the CEMP:

- Regard should be had to the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DoEHLG, July 2006) in preparing and maintaining this plan.
- National waste management policy is governed primarily by the requirements of European law, particularly the Directive 2008/98 on Waste, also known as the Waste Framework Directive. The Directive was responsible for implementing the Waste Hierarchy as show in Figure below.

The adoption of the CWMP (Appointed Contractor(s)) will abide by the waste hierarchy and will be developed in accordance with Wexford County Development Plan as well as the local and national waste management policies

- The CWMP should address the following aspects of the Project:
- Analysis of the waste arising/material surpluses.
  - Specific waste management objectives for the project.
  - Methods proposed for prevention, reuse and recycling of wastes.
  - Material handling procedures.



Any material deemed unsuitable for re-use in the works will be transported off site in trucks and disposed of under license from Wexford County Council. This will prevent any contaminated runoff to drains adjacent to access road during heavy rainfall.

As part of the record keeping procedures, the Environmental Manager will keep records provided by waste contractors of all waste being removed from site. The Environmental Manager will record waste removed from site on a quarterly basis. This information will be recorded in a standard format.

Waste to be generated during construction:

During the construction phase, the following waste will be generated:

Material Unsuitable for Reuse:

Material arising from site clearance and excavation works that is deemed unsuitable for reuse will be segregated and stored separately:

Temporary stockpiles of soil will be located in an area away from drainage ditches and will be bunded on the downgradient edges with a silt curtain or other suitable materials to reduce risk of silt runoff. Surplus topsoil or excavated material unsuitable for reuse onsite will to be transported to an approved licenced waste facility.

Domestic Waste-Water Effluent:

Wastewater from welfare facilities on site will drain to integrated wastewater holding tanks associated with the toilet units. The stored effluent will then be collected when required from site by a permitted waste contractor and removed to an appropriately authorised waste facility for treatment and disposal.

Concrete

Excess concrete will be returned to the supplier for reuse. To reduce the volume of cementitious water, only concrete truck chutes will be washed down on site. The concrete trucks will wash down their chutes at a designated chute wash down area within the site compound. The Environmental Manager will monitor the pH of the water in the chute wash down bund.

Metals

Metals will be segregated for reuse and recycling.

Timber

Timber waste will be stored separately. Any pallets will be returned to the supplier for reuse. Offcuts/trimmings will be used in formwork where at all possible. A container for waste wood, covered where possible will be located at compound/other storage areas. This waste will be collected by the waste contractor and forwarded to a suitably licenced facility for recycling.

Blocks, Bricks, and Tiles

The careful storage of these materials will significantly reduce the volumes of wastes occurring at the site. Every effort will be made to use broken blocks/off-cuts. Final quantities of these wastes generated will be stockpiled (possibly crushed/screened) and reused onsite as subbase materials for road/other suitable hardstanding locations where suitable.

Packaging/Plastic

Double handling will be avoided by segregating packaging wastes immediately after un-wrapping. Waste packaging will be segregated and in separate containers, at storage area for collection by the waste contractor for disposal to licensed facility.

Other waste

Other wastes which may be generated may include residual non-recyclable waste such as paper, cloth, some cardboards, or plastics. Others may include fibreglass and geotextiles, and polystyrene. These types of materials will be stored in a dedicated container at the site compound. All residual wastes will be dispatched to suitably licensed facility for disposal. Other construction and demolition waste will be collected and disposed of at a suitably licenced facility.

Hazardous and Other Waste

The waste types below that may be generated during the construction works. Although some waste types may be generated in locations other than the construction compound (for example if absorbent filters are required at foundation/track locations etc., such waste materials will be stored within the construction compound only). Waste materials generated outside the construction compound will be taken to the compound on a daily basis.

Common Construction Wastes					
Concrete	Wood	Cables	Ducting	Metallic packaging/tins	Cardboard Packaging
Paper packaging	Plastic packaging	Wooden packaging	Office paper	Non-hazardous detergent	Plastic containers
Plastic bottles	Mixed waste	Septic tank sludge	Ferrous metal	Non-hazardous waste electrical(s)	Food Waste

EWC Code and Waste Type/Stream	
13 02 08*: Waste oils	17 04 11: Cables
17 04 07: Mixed Metal	17 05 03*: Soil and stones containing hazardous substances
17 01 01: Concrete	17 05 04: Soil and stones
17 01 07: C&D waste	17 06 04: Insulation materials
17 02 01: Wood	17 09 04: Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
17 02 03: Plastic	20 01 01: Paper and cardboard
17 03 01*: Bituminous mixtures containing coal tar	20 03 01: Domestic waste
17 03 02: Bituminous mixtures other than those mentioned in 17 03 01	20 03 04: Domestic Wastewater
13 05 07*: Oily water from Oil/Water Separators	13 05 06*: Oil from Oil/Water Separators
13 05 08*: Mixtures of waste from grit chambers and oil/water separators	

If hazardous waste is encountered, then appropriate handling, storage, transportation, and disposal will be carried out. Prior to being removed from the site, the waste will undergo a comprehensive waste assessment and classification by suitably trained/qualified person(s), in accordance with the European Waste Catalogue hazardous waste list. At the site every effort will be made to segregate waste, and properly segregate hazardous waste from non-hazardous and inert waste arising. Hazard wastes will be identified, removed and kept separate from other wastes in order to avoid cross contamination. Specific method statement detailing the necessary mitigation measures during the excavation/handling, transportation, and disposal of hazardous materials encountered at the site will be prepared as required.

Oils, paints, adhesives and chemicals will be kept in a separate contained secured storage area. Lids will be kept on containers to avoid spillage/evaporation. Waste oils, adhesives etc will handle, and disposed of appropriately. Every effort will be made at the site for no long-term storage of hazardous materials/fuels/oils/chemicals, etc. There shall be no long-term storage of waste oils etc. at the site.

General Waste Management

- Waste generation best practice procedures in general will minimise waste generated onsite.
- Measures including good site management will be taken to limit the quantity of waste generated during construction phase.
- Access to materials will be controlled. A dedicated storage area will be provided in the site compound for building materials such as cables, geotextile matting, blocks, tools and equipment, fence posts and wire, booms, pipes etc. The site compound will be securely fenced from the outset and will be locked when there are no site personnel present.
- Waste will be stored in the construction compound and collected throughout the construction phase and taken off site to be reused, recycled and disposed of in accordance with best practice procedures at an approved facility.
- Waste materials generated will be segregated at the site compound, where it is practical. Where the onsite segregation of certain waste types is not practical, offsite segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source.
- Waste oil and waste oil drums will be collected and stored in containers and on a bunded tray within the storage container.
- All waste will be disposed of at appropriately licensed facilities.
- Domestic type waste generated by contractors will be collected on site, stored in an enclosed skip at the construction compounds and taken off site to be reused, recycled and disposed of in accordance with best practice procedures at an approved facility.

Responsibility

The Environmental Manager will be responsible for adherence to correct waste management procedures. They will also identify a waste contractor to remove waste that can be recycled or re-used.

The Environmental Manager will keep records provided by waste contractors of all waste being removed from site. The Environmental Manager will record waste removed from site regularly. This information will be recorded in a standard format. It will be the construction manager's responsibility to organise the removal of skips from their area when they are full.

The Environmental Manager will inspect waste segregation and storage areas during routine inspections.

References

Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DoEHLG, July 2006).

Details of site waste management to be finalised by Appointed Contractors.

EMP 7: Construction Traffic Management

Purpose

To describe measures for the management of construction traffic, including construction personnel traffic and oversized loads, for the minimisation of disturbance and nuisance to the local community.

Procedure

Traffic Management Plan

- A detailed Traffic Management Plan (TMP) will be prepared and submitted to the Wexford County Council for approval prior to the commencement of construction.
- The plan will include the proposed haul routes, vehicle types, anticipated traffic numbers etc, for the construction stage of the development.
- The plan will include provision for:
  - Communicating with the community, the Gardaí, and the Local Authority.
  - Details of site access and any site traffic rules, including security, parking, loading, and unloading, required speed or other relevant details.
  - Programme of maintenance and upkeep of public roads.
  - Site operating hours (including delivery) to be outlined.
- The Appointed Contractor will adopt the following principles in planning, developing, and implementing traffic management proposals:
  - Maximize the safety of the workforce and the travelling public.
  - Keep traffic flowing as freely as possible and reduce the impact of the road works to a minimum.
- The Appointed Contractor will plan and manage the construction works to ensure as far as is reasonably practicable that:
  - Works within the site and road network do not result in a safety hazard to road users or the workforce involved in the contract.
  - Any resulting increase in traffic delays and congestion is minimized.

Traffic Management Measures

At a minimum the following measures outlined below will be implemented to minimise the impacts of construction phase traffic associated with the project.

- The Appointed Contractor will survey the area for any unforeseen hazards prior to the commencement of works and set up warning signage as appropriate.
- Ensure a strict protocol for Heavy Good Vehicle (HGV) drivers to follow the designated haulage route, and timing restrictions as detailed.
- Signage relating to the proposed construction traffic will be installed at the entrance to the substation.
- A maximum speed limit would be imposed for HGVs on the local road network during the construction phase.

- In order to minimise traffic congestion during peak traffic hours, the majority of staff will either arrive onsite before or after the peak morning traffic and finish work before or after the evening peak traffic hours.
- The condition of the public road will be monitored on an on-going basis and a road sweeping vehicle would be provided as required to remove any mud that is deposited on the road network on the approach to the site.
- Enforcement of existing regulatory markings and signage would be ensured.

Road Safety Protocol

A road safety and courtesy protocol will be in place for all road users for the duration of construction. All companies delivering to site would have to sign up to this protocol as part of their supply contract. Courtesy for other road users is fundamental to the protocol. HGV traffic would give way to oncoming traffic where possible. Vehicles would always slow down or stop, as appropriate, for pedestrians and cyclists along the proposed haulage routes. Passing bays will be provided to ensure intervisibility between traffic coming from opposing directions.

Road Network Maintenance

The road condition will be inspected daily by site management to ensure that the access route road is maintained in a safe and passable condition. When necessary, potholes and ruts will be filled in and the road cleaned of any mud and rubble. Following completion of construction, the condition of the public access route road will be of at least the same standard as it was prior to commencement of construction.

Signage

Signage will be manufactured using retro-reflective material to Class Ref 2 of EN 12899. The colours, chromaticity and luminance factors will be as specified in Specification TS4 published by the Department of the Environment, Heritage, and Local Government. Specification TS4 consists of guidelines produced by the DoEHLG, Dublin.

Signage will be inspected at regular intervals by the contractor to check that it is in place, secure, unobstructed (by vegetation etc.) and cleaned when required. Warning lights will be appropriately fitted as required. Where signs could be obscured by bends, hills, or dips in the road, additional warning signs will be put in place. If traffic management controls involving traffic lights are being implemented, a contact person will be available in the event of traffic light failure outside of normal working hours.

Staff Training

The contractor will provide training to operatives in the traffic control systems being used on site. The works will be designed and maintained by a trained operative holding a current Signing Lighting and Guarding CSCS card.

The importance of traffic management, the safety of motorists, pedestrians and site staff will be emphasised to all construction staff. All personnel will be informed of the Traffic Management Plan during their induction when they first arrive on site. Toolbox talks will also be given so that all personnel are aware of traffic management controls being implemented as the work progresses. Onsite turning bays, speed limit signage, directional signage to the sub-station, site compound, delivery routes, exit routes, stores, offices, canteen, and the requirement for reverse parking, will be erected as required.

The appointed contractor will also ensure that on site personnel will be aware of environmental constraints/sensitive areas in which works are to be avoided.

Responsibility

Management of traffic on site during construction will be done by:

- Project Manager.
- Construction Manager.
- Construction personnel.
- Sub-contractors as appropriate.
- Delivery personnel

Details of Traffic Management Plan to be finalised by Appointed Contractor

EMP 8: Management of Archaeology

Purpose

There's potential for unknown subsurface archaeological features to disturbed during the construction works. The purpose of this plan is it to describe measures for the management and protection of these archaeological and features.

Procedure

The following mitigation measures will be undertaken in advance of and during the construction phase subject to the grant of planning permission:

Construction Area:

- It is recommended that that all ground disturbances across the proposed development areas be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works the Department of Culture, Heritage and the Gaeltacht will be informed immediately and a buffer zone of at least 20m will be established around the archaeological site.
- All recommendations are subject to approval by the National Monument Service of the Department of Housing Local Government and Heritage and Wexford County Council.

Responsibility

- Environmental Manager
- Construction Manager

Details of any management and protection of archaeological and cultural heritage on the site to be finalised by Appointed Contractor

EMP 9: Construction Noise Management

Purpose

The construction phase of the proposed development has the potential to increase noise levels surrounding the proposed site. Potential noise impacts from the construction phase will depend on the number and type of equipment employed during the works. The purpose of this plan is to describe measures for the management of impacts from construction noise.

Procedure

Control of Noise at Source

- Plant will be properly and regularly maintained.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers.

Construction Phase

- Best practice in the form of BS5228 –1&2:2009 + A1 2014, Code of Practice for the Control of Noise and Vibration on Construction and Open Sites will be adopted during the construction phase in order to minimise the noise generated by construction activities and nuisance to neighbours.
- All plant and equipment for use will comply with the Construction Plant and Equipment Permissible Noise Levels Regulations 1996 (SI 359/1996) and other relevant legislation.
- If construction limits are found to be exceeded, noise screens will be utilised around proposed site and machinery such as generators etc.
- All compressors and generators will be "sound reduced" or "super silent" models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers.
- Site activities shall be staggered when working in proximity to any receptor. This proposed method of working will provide effective noise management of site activities to ensure that any receptor is not exposed to unacceptably high levels of noise over extended periods.
- A nominated person from the appointed contractor will be appointed to liaise with local residents and businesses regarding noise nuisance events.
- A pre-construction commitment to managing nuisance noise will be agreed through notification and consultation with affected parties, if deemed necessary.
- Working hours at the site during the construction phase will be limited to 07.00 to 19.00 Monday to Friday and 08.00 to 14.00 Saturday. No intrusive works on Sundays or public holidays.
- Construction contractors will be required to comply with the requirements of the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations, 1988 as amended in 1990 and 1996 (S.I. No. 320 of 1988, S.I. No. 297 of 1990 and S.I. No. 359 of 1996), and the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations, 2006 (S.I. No. 371 of 2006).
- Operators of all mobile equipment will be instructed to avoid unnecessary revving of machinery (Clause 8.2.1 General).
- Use of appropriate plant and equipment where possible with low noise level generation where possible (Clause 8.2.2 Specification and substitution).
- All construction plant to be used on site should have effective well-maintained silencers (Clause 8.2.3 Modification of existing plant and equipment).

- Noise generating equipment will be located as far as possible away from local noise sensitive areas identified (Clause 8.2.5 Use and siting of equipment.
- Regular and effective maintenance of site machinery including a full maintenance schedule to ensure that all pieces of equipment are in good working order.
- Training of site staff in the proper use and maintenance of tools and equipment.
- Avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment.
- Machines that could be in intermittent use will be shut down between work periods or will be throttled down to a minimum.
- Plant start-up will be sequential rather than all together.
- Internal access tracks to be well maintained.
- Plant known to emit noise strongly in one direction will, when possible, be orientated so that the noise is directed away from noise-sensitive locations.
- Drop heights for materials such as gravels will be minimised whenever practicable.

Responsibility

- The Construction Manager will be familiar with the noise sensitive receptors and alert the Environmental Manager in good time prior to work commencing in the areas closest to any noise sensitive receptors.
- The Environmental Manager will review any relevant planning conditions in updating this plan.

References

- BS5228 –1&2:2009, Code of Practice for the Control of Noise and Vibration on Construction and Open Sites
- IOA GPG Supplementary Guidance Note 5: Post Completion Measurements (July 2014).

Details of management of noise on the site to be finalised by Appointed Contractor

EMP 10: Construction Dust Management

Purpose

The purpose of this plan is to describe the measures for the management of nuisance impacts on air quality from construction generated dust.

Procedure

A dust minimisation plan will be formulated for the construction phase of the proposed developmentt as construction activities are likely to generate some dust emissions. The potential for dust to be emitted depends on the type of construction activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. The majority of any dust produced will be deposited close to the potential source and any impacts from dust deposition will typically be within several hundred metres of the construction area.

Construction phase generated dust can be minimised by the following measures:

- The use of water as a dust suppressant, e.g., a water bowser to spray access road and compound hardcore areas during any extended dry periods when fugitive dust emissions could potentially arise.
- Public roads will be inspected regularly for cleanliness and cleaned as necessary.
- Control of vehicle speeds passing over access road within the site.
- Where necessary, site stockpiling of materials will be designed and laid out to minimise exposure to wind.
- Regular site inspections should take place to examine dust measures and their effectiveness.
- Site roads will be regularly cleaned and maintained as appropriate.
- Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- Speeds will be restricted on roads as site management dictates. Public roads in the vicinity of the site will be regularly inspected for cleanliness and cleaned, as necessary.
- A temporary vehicle wheel wash facility will be installed in proximity to the site entrance. Impose and signpost a maximum speed limit of 15 kph on surfaced and 10 kph on unsurfaced haul roads and work areas.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation.
- Use water assisted dust sweeper(s) on the access and local roads, to remove, as necessary any material tracked out. The required application rate frequency will vary according to soil type, weather conditions and vehicular use.
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface.

The dust minimisation plan will be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practice and procedures.

Construction Traffic Emissions

Construction traffic emissions can be reduced using the following measures:

- Ensure regular maintenance of plant and equipment. Carry out periodic technical inspection of vehicles to ensure they perform most efficiently.
- Implementation of the Traffic Management Plan to minimise congestion.
- All site vehicles and machinery to be switched off when not in use - no idling.

Monitoring

With respect to monitoring measures temporary dust deposition monitoring will be carried out at the facility during construction phase of the project in order to ensure the boundary levels of deposition and nuisance dust are within recommended limit which are typically less than 350mg/m^2/day.

Responsibility

The Environmental Manager is responsible for developing and reviewing the site Dust Minimisation Plan.

The Construction Manager is responsible for organising dust suppression through use of bowsers and cleaners.

References

- 'Control of Dust from Construction and Demolition Activities', UK British Research Establishment (BRE).
- 'Environmental Good Practice on Site', Construction Industry Research and Information Association (CIRA).
- 'Environmental Management Plans', Institute of Environmental Management and Assessment (IEMA).
- 'Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan' National Roads Authority of Ireland (NRA).

EMP 11: Emergency Response Plan

Purpose

To describe measures for the prevention of an emergency and the response required to minimise the impact of such an event.

Procedure

In the event of an environmental emergency, all personnel will react quickly and adhere to this procedure.

All site personnel will be inducted in the provisions of the Emergency Response Plan.

The following outlines some of the information, on the types of emergency, which must be communicated to site staff.

- Release of hazardous substance - Fuel or oil spill.
- Concrete spill or release of concrete.
- Flood event – extreme rainfall event.
- Environmental buffers and exclusion zones breach.
- Housekeeping of materials and waste storage areas breach.
- Stop works order due to environmental issue or concern (threat to archaeological or ecological feature).
- Fire on site (cross-reference site Safety Emergency Plan as appropriate).

If any of the above situations occur. the Emergency Response Plan is activated. The Construction Manager will be responsible for overseeing the Emergency Response Plan and will be prepared and ready to implement the plan at all times. The Construction Manager will be immediately informed and report to the scene. He/she must be aware of the.

- Nature of the situation – brief description of what has happened.
- Location of the incident.
- Whether any spill has been released.
- Whether the situation is under control.

The Emergency Response Plan must be completed by the appointed Contractor.

Outline Emergency Response Plan

An Emergency Response Plan (ERP) will be prepared by the Appointed Contractor and included within the CEMP. It will provide details on the procedures to be carried out in the event of an environmental or health and safety incident as well as the responsibilities of all personnel in the event of an emergency. The ERP will identify site specific key personnel and their contact details. The ERP will also include information on spill control measures and the procedure and contact information for the reporting of incidents. Information on all incidents will be recorded on an environmental incident form and will provide information such as the cause, extent, actions, and remedial measures as well as any recommendations made to avoid reoccurrence of the incident.

The following outlines steps likely to be appropriate for inclusion in such a plan:

- Establish the scale of the emergency situation and identify the number of personnel, if any, have been injured or are at risk of injury. Identify potential environmental receptors that are potentially impacts.

- Where necessary, sound the emergency siren/fog horn that activates an emergency evacuation on the site. All personnel must proceed to the assembly point if the emergency poses any significant threat to their welfare and if there are no injured personnel at the scene that require assistance.
- Make safe the area if possible and ensure that there is 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 unable to do so.
- 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.
- Contact the next of kin of any injured personnel where appropriate.
- Where relevant, the Construction Manager will report the spillage to relevant authorities.

Contacts

As an environmental control measure, the Environmental Manager will append the relevant contact details to the Emergency Response Plan document. Examples of such contact details include:

- Environmental Manager.
- Specialist oil removal Company.
- Wexford County Council.
- Inland Fisheries Ireland.
- National Parks and Wildlife Service.

Responsibility

- The appointed Contractor/Environmental Manager will prepare and finalise an ERP to be ready to respond to any incident.
- All site personnel will report any spillages of oil or chemicals to the Environmental Manager and Construction Manager immediately.
- As appropriate, the Environmental Manager will report the spillage to the Regional Fisheries Board, local authority and any other relevant authority.

Details of Emergency Response Plans to be finalised by Appointed Contractor

EMP 12: Site Environmental Training and Awareness

Purpose

To describe measures for the training of all site personnel in the protection of the environment and the relevant controls.

Procedure

Site signage will be provided at the entrance to the site to inform the public that access to the site is restricted to those directly involved in the construction works.

An initial site environmental induction and ongoing training will be provided to communicate the main provisions of the CEMP to all site personnel. Two-way communication will be encouraged to promote a culture of environmental protection.

The following outlines some of the information which will be communicated to site staff.

- Environmental procedures of the CEMP.
- Environmental buffers and exclusion zones.
- Housekeeping of materials and waste storage areas.
- Environmental Emergency Response Plan.

Housekeeping and Storage of hazardous materials

- Hazardous materials marked with the following symbols will only be stored in the secure storage container in the site compound.

- Subcontractors will provide a copy of the Material Safety Data Sheets (MSDS) for all hazardous substances brought on site.

All CEMP policies will be adhered to, in the management of fuels and oils, concrete, and installation of sediment and erosion controls and drainage features. All finalised details will be communicated with site personnel. Environmental Training including spill kit training, installation of silt fence training is to be provided by the Appointed Contractor. Environmental training records will be retained in the site office.

Responsibility
Environmental Manager
Construction Manager
All site personnel

Details of Induction and Training to be finalised by Appointed Contractor.

EMP 13: Monitoring and Auditing Procedure

Purpose

To describe measures for environmental monitoring during the construction works and audit of control measures to ensure environmental protection.

Procedure

All mitigation measures, any planning conditions and relevant construction methods will be monitored on site. The Appointed Contractor will nominate an Environmental Manager for the works who will provide Audit Checklists to ensure regular checks of the site's control measures for the ongoing protection of the environment.

At a minimum monitoring will be carried to ensure adherence with the following.

EMP-1	Management of Excavations
EMP-2	Surface Water Runoff Control
EMP-3	Fuels and Oils Management
EMP-4	Management of Concrete
EMP-5	Protection of Habitats and Fauna (Ecological Management)
EMP-6	Waste Management
EMP-7	Traffic Management
EMP-8	Management of Archaeology
EMP-9	Construction Noise
EMP-10	Dust Management

Checklists for daily, weekly or monthly site audits will be finalised by the Environmental Manager and the relevant personnel informed of their duties. Checklists will include (but are not limited to) confirmation that fuel is stored appropriately, waste management rules are adhered to, all environmental buffers are maintained, sediment and erosion control measures of the sediment & erosion/storm water control plan are in place and functioning, and concrete chute wash-out procedure is being followed. Checklists will be finalised with the Appointed Contractor's CEMP.

All environmental records, including completed checklists, will be retained at the site office.

Responsibility

Project Manager

Environmental Manager

Construction Manager

Project Ecologist

Project Archaeologist

Details of monitoring procedure and checklists to be finalised by Appointed Contractor's Environmental Manager

EMP 14: Environmental Accidents, Incidents and Corrective Actions

Purpose

To describe measures for the recording, investigating and close-out of any environmental accidents or incidents on the site.

Procedure

- The Environmental Manager and Construction Manager will be contacted as soon as possible where there is any incident that carries the possibility of negative environmental consequences (e.g. minor oil leakage or blockage of drainage pipe).
- The ERP and standard emergency procedures will be applied to get the incident under control and prevent injury or loss of life in the first instance.
- Work in the area will be halted and the Environmental Manager will be called to the scene to assess the situation and to decide on initial responses and remedial measures.
- Once the situation is under control, the environmental accident or incident will be recorded, and the cause investigated.
- Any remedial action required will be taken to mitigate any damage and prevent a reoccurrence.
- Corrective actions will be communicated to personnel and sub-contractors where relevant – particularly where it results to a change in procedure.

Example list of environmental accidents & incidents

- Accidents involving large spill of fuel or concrete from delivery truck (emergency response required).
- Spills of fuel and oil (minor).
- Waste or rubbish left around the site (not in dedicated waste areas).
- Breach of any buffers (ecological, archaeological, watercourse).
- Failure of any control measures (silt fences collapsed in a storm).
- Concrete chute wash out in a non-dedicated area.
- Unplanned vehicle movement off the access road.
- Unplanned vehicle movement within a buffer zone.

Responsibility

- Site staff will contact the Environmental Manager or Construction Manager as soon as possible where there is any incident that carries the possibility of negative environmental consequences.
- The Environmental Manager is responsible for alerting the relevant authorities.

Details of Environmental Accidents, Incidents and Corrective Actions Procedure, including a chain of responsibility, to be finalised by Appointed Contractor and communicated to all personnel and sub-contractors.

EMP 15: Environmental Complaints

Purpose

To describe measures for the recording and resolving complaints by third parties, including local residents or members of the public

Procedure

A complaints procedure will be established for the duration of the construction phase. Any complaints received regarding alleged noise or any other complaint will be investigated immediately. Details of the complainant, the complaint (time of occurrence and nature of noise/vibration/other) and follow up action will be logged in the complaints record. The Project Manager will develop and implement an appropriate queries/complaints procedure. Records will include full details of the concerns expressed and ensure that a formal assessment is commenced of the reported concern.

The Project Manager will also discuss complaints with and oversee an initial response to the person who has submitted the complaint/concern confirming its receipt. The Project Manager will liaise with the environmental manager and an investigation to assess the issue of concern will be carried out and decisions made to see what corrective and/or preventive action, or further investigation is necessary. With overall responsibility for complaints, the project manager will respond within a reasonable timescale and maintain records of all correspondence. If significant corrective action and external stakeholder involvement is required the site manager/project manager will oversee all elements of the process.

Complaints that may be received will be logged, assessed and appropriate action taken as soon as practical. It will be critical to the success of the project that key issues are properly addressed from the outset to create a good working relationship and an integrated team approach to resolving potential issues before they arise.

Responsibility

Project Manager

Environmental Manager

Construction Manager

Details of Environmental Complaints Procedure to be finalised by Appointed Contractor.