TOBIN

Kilkenny County Council

IDA Belview Infrastructure Development Co. Kilkenny

Construction Environmental Management Plan

BUILT ON KNOWLEDGE

Document Control Sheet	
Document Reference	Construction Environmental Management Plan
Client:	Kilkenny County Council
Project Reference	12001

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
D0	Planning Issue	AO	01/08/2025	MF	01/08/2025	MG	01/08/2025
D1	Planning Issue	NC	21/01/2026	MF	21/01/2026	MG	21/01/2026

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1. INTRODUCTION

Kilkenny County Council proposes to carry out road upgrade works at Belview, Co. Kilkenny (see Figure 1.1). TOBIN prepared this Construction Environmental Management Plan for the proposed development.

The subject site is located in South Kilkenny approximately 3 km east of Waterford and north of IDA Science and Technology Business Park. The development shall comprise of an access road with a river crossing.

The L3412 Road forms the northern boundary of the subject site. To the south of the site are Tirlan Belview, Kilkenny Cheese, and Celtic Anglian Water.

The Rathpatrick Stream flows southward through the subject site and converges with the River Suir, which is situated approximately 1km south of the site and flows in an easterly direction.

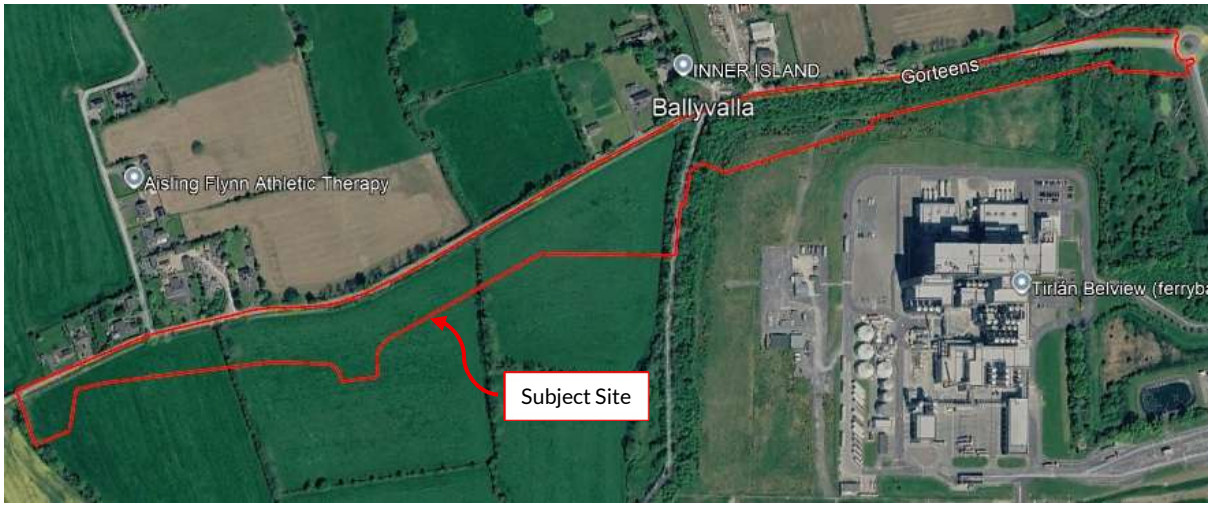

Figure 1-1: Site Location

This CEMP has been prepared to outline the proposed management and administration of site activities for the Construction Phase of the proposed development, to ensure that all construction activities are undertaken in an environmentally responsible manner. This CEMP summarises the environmental commitments in the construction of the proposed development, and the measures to ensure compliance with legislation and the requirements of statutory bodies.

This CEMP will be a live document and will be reviewed and updated, as necessary. Upon appointment, the Main Contractor for construction of the proposed development shall update this document to produce a Final CEMP which will account for any additional requirements set out in relevant Planning Conditions or agreed upon with the Planning Authority or other relevant Bodies.

The following relevant guidance has been referenced in the preparation of this CEMP:

- Environmental Protection Agency (EPA), *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (May 2022)
- Department of Housing, Planning and Local Government (DoHPLG), *Draft Revised Wind Energy Development Guidelines* (December 2019)

- Department of Agriculture, Environment and Rural Affairs (NI), *Guidance on the Information required in an Outline Construction Environmental Management Plan*

1.1 PROPOSED DEVELOPMENT

The proposed works consist of upgrade works to the local road L3412 and ancillary site development works which will provide access to the IDA Ireland land bank at Kilmurry, Slieverue and Gorteen, Belview, Co. Kilkenny (Fig. 1-2). The proposal will provide an upgrade of local road L3412 from the existing eastern IDA Ireland roundabout to the IDA Ireland land bank at Kilmurray and will tie back into the existing L3412 to the west via a new roundabout. The upgrade will be taken online on the existing road and offline on adjoining land.

The works will consist of the following items:

- Widening and realignment of the existing road,
- Construction of cycle tracks and footpaths,
- Construction of new roundabout,
- Construction of a new culvert at the existing watercourse,
- Drainage works incorporating SuDS measures and interceptors as required,
- Landscaping including amendments to the existing screening berm,
- Ancillary road works including public lighting, signs and road markings,
- Construction of a new watermain,
- All associated site works.

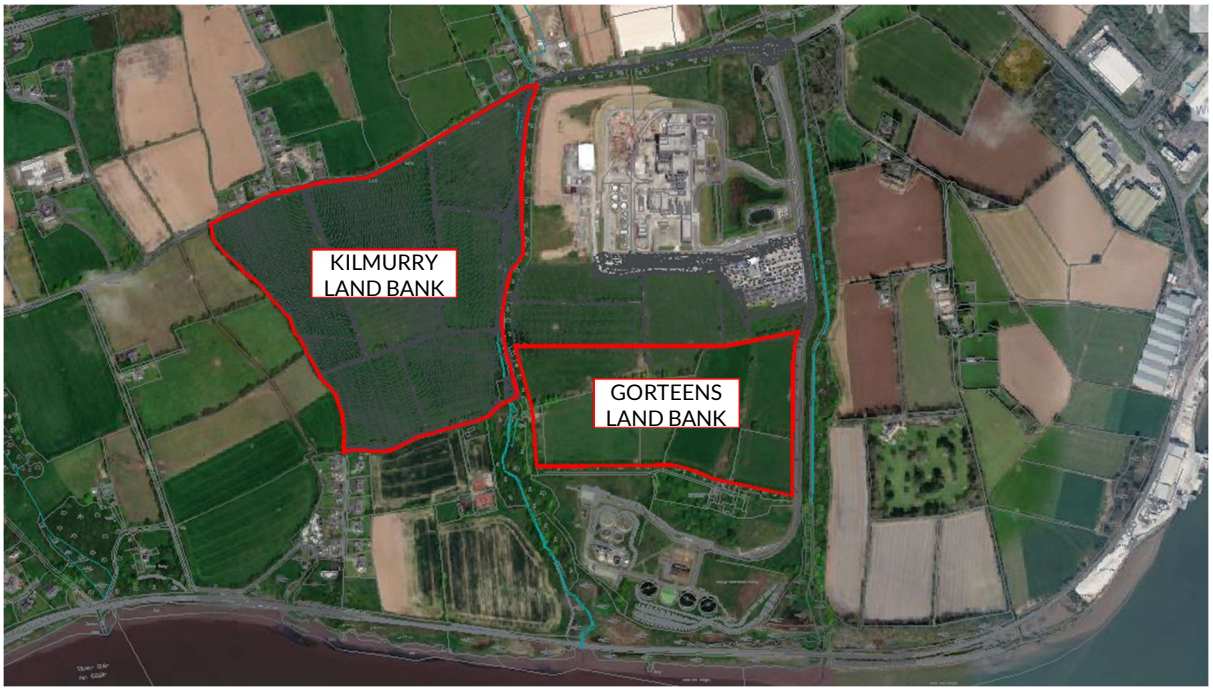

Figure 1-2 Kilmurry and Gorteens Land Bank

1.2 SCOPE OF THIS CEMP

This CEMP addresses all relevant environmental aspects of the management of site preparation and construction work within the proposed development works area as set out in Section 1.1. The scope of this CEMP includes:

- All construction works required for the upgrade works of local road L3412 and ancillary development works which will provide access to the IDA Ireland land bank at Kilmurry, Belview, Co. Kilkenny.
- The proposed implementation and management of environmental controls and mitigation measures during each phase of construction works; and
- A documented process to ensure measures identified through the planning phase of the proposed development will be applied in practice.

The Final CEMP, incorporating any measures identified post planning approval, will contain:

- A statement of the environmental aims and objectives for the construction of the proposed development.
- Roles and responsibilities of key individuals.
- Environmental management and reporting structure.
- Site management and construction activity details.
- Environmental management and mitigation measures.
- Environmental awareness training programmes.
- Environmental monitoring programmes and monitoring specifications, including those outlined in any grant of planning and subsequent consultations.
- Inspection and auditing programmes; and
- Emergency response plans and procedures for any environmental incidents.

This CEMP should be read in conjunction with the Ecological Impact Assessment (EcIA), Appropriate Assessment Screening (AAS), Natura Impact Statement (NIS) and all other supporting documentation relevant to the proposed works. In the unlikely event of any contradiction between this CEMP and the EcIA, AAS and/or NIS, the EcIA, AAS and/or NIS shall take precedence.

1.3 Implementation of the CEMP

Key to the implementation of this CEMP is the delegation of responsibility for the CEMP to the Construction Environmental Manager/Safety, Health, Environment and Quality (SHEQ) Officer, or other suitably qualified appointed person on behalf of the Contractor, who will regularly liaise with and update the project developer on all environmental issues relating to the project during the construction phase. As part of the appointment of a Contractor and agreement of Contracts, the project developer will determine the lines of communication for environmental compliance with the local authorities and relevant stakeholders.

In terms of overall environmental responsibility, everyone on-site is responsible for ensuring that their actions constitute good environmental practice and will be provided with site specific information to ensure compliance as part of the site induction. All site personnel are charged with following good practice and encouraged to provide feedback and suggestions for improvements. All site personnel are also required to ensure compliance with the requirements of this CEMP and subsequent revisions thereof.

1.4 Aims and Objectives

The key project aims are:

- To ensure the project is undertaken in accordance with best practice guidance for the management of the environment during construction works.
- To ensure that mitigation measures to protect potential impacts on designated sites as set out in the NIS are put in place.
- To ensure that construction activities are carried out in accordance with all planning conditions for the proposed development; and
- To carry out the proposed works with minimal impact on the environment.

The primary objectives to ensure the above aims are achieved are:

- Appointment and delegation of responsibility to an individual for monitoring environmental compliance and adherence to this CEMP.
- Updating the Final CEMP on a continuous basis to account for relevant stakeholder requirements and current site conditions.
- Providing adequate environmental training and awareness to all project personnel.
- Establishing documented schedules and records for monitoring and inspections.
- Establishing reporting procedures for any incidents on site with potential to impact on the environment.
- Providing opportunities for community feedback and submission of complaints; and
- Adopting a sustainable and socially responsible approach to construction.

1.5 REVISIONS OF THE CEMP

This document will be viewed as a live document, to be updated following the grant of planning permission and prior to commencement of any construction works. The CEMP will be subject to continual review to address, for example:

- Any conditions stipulated in the Planning Permission.
- To ensure it reflects best practice guidelines at the time of construction.
- To ensure it incorporates the findings of any pre-construction site investigations or surveys; and
- To accommodate the working practices and procedures of the appointed Contractor.

The appointed Contractor is required to include further details and/or confirmation in the Final CEMP under the following headings. This list is non-exhaustive and is subject to post-planning submission compliance and stakeholder requirements:

- Details of working hours and days.
- Details of emergency plan including contact numbers.
- Details of fuel storage areas (including location and bunding).
- Truck wheel wash facilities (including measures to reduce and treat run-off).
- Dust management to prevent nuisance.
- Surface water run-off management.
- Noise and vibration control.
- Construction lighting details.
- Site and traffic signage; and
- Works method statements.

1.6 ENVIRONMENTAL TRAINING AND AWARENESS

In order to ensure that environmental awareness and compliance is communicated effectively at the start and throughout the construction works, this CEMP and its contents will be communicated to all site personnel, including management staff, operatives and sub-contractors. The key elements of this CEMP will form part of the site induction which will be mandatory for all employees, contractors and visitors attending the site.

Environmental toolbox talks will be provided to all site personnel and sub-consultants on a regular basis. These will be targeted at particularly sensitive environmental issues such as:

- Protection of sensitive vegetation and impacts on key ecological receptors.
- Works close to water bodies.
- Water pollution and silt control.
- Water pollution in relation to cement and concrete handling.
- Spill prevention and control.
- Dust management.
- Sensitive archaeological sites; and
- Waste management.
- Invasive Species.

2. OVERVIEW OF THE EXISTING SITE

2.1 SITE LOCATION

The proposed development area is located within the townlands of Kilmurry and Gorteens, County Kilkenny, not far from the Kilkenny-Waterford border. The site comprises a c. 1.2km stretch of the L3412 road which runs approximately west-southwest to east-northeast. This stretch of road is situated c. 800m north of a railway line and the River Suir (which acts as the Waterford-Kilkenny County border). The site is bound by open fields and scattered linear development to the north, and by open fields and the IDA Belview Science and Technology Park to the south. The site is c. 1.3km from Belview Port.

2.2 EXISTING ECOLOGICAL ENVIRONMENT

An EcIA, AAS and NIS have been prepared in respect of the proposed development. A detailed assessment of the existing ecological environment is presented in these reports and is summarised here.

2.2.1 Habitats

A walkover survey of the site was conducted on the 06th of May 2025. The NRA publication Ecological Surveying Techniques for Protected Flora and Fauna were used as a guide for surveying. Habitats were classified according to the information in A Guide to Habitats in Ireland (Fossit 2000) and correlated with any Annex I habitats if applicable.

The application site features an existing road (BL3). There are hedgerows (WL1) and periodic treelines (WL2) bordering this existing road. A stream (FW2) flows through the site under an existing bridge along the road. Agricultural fields (GA1) are to the south of the site where the proposed road realignment will be constructed. A small, wooded area (WD1) is within the centre of the site adjacent to the north of the IDA Science & Technology Park. There is a grassland area (GS2) to the west of the existing roundabout to the east of the site.

The vegetation noted throughout the hedgerows and treelines include Hawthorn (Crataegus monogyna), Blackthorn (Prunus spinosa), Brambles (Rubus fructicosus), Alder (Alnus glutinosa), Sycamore (Acer pseudoplatanus), Common Gorse (Ulex europaeus) and Scots pine (Pinus sylvestris).

Flora Species noted on site include Bluebells (Hyacinthoides non-scripta), Herb robert (Geranium robertianum), Common Daisy (Bellis perennis), Dock leaves (Rumex Obtusifolius), Common nettle (Urtica dioica), and Ivy (Hedera hibernica).

Habitats classified according to Fossits within the site include

- BL3 Buildings and artificial surfaces
- WL1 Hedgerows
- WL2 Treelines
- FW2 Depositing/lowland rivers
- GA1 Improved agricultural grassland
- WD1 (Mixed) broadleaved woodland

- GS2 Dry meadows and grassy verges

There are no habitats within the footprint or the immediate vicinity of the proposed route that are either Annex I listed habitats or qualifying interests for the Lower River Suir SAC.

2.2.2 Fauna

Bats

A desktop survey was carried out on 08th of April 2025. A desk-study of the proposed site shows that there is high suitability for all species of Irish bats within the hectad. The site is located outside the lesser horseshoe foraging ranges

A transect bat survey was undertaken on the 06th of May 2025. Four bat species were identified in the surrounding area.

A Static survey took place from the 06th of May 2025 to the 13th of May 2025. 1115 No. of passes were recorded during the survey. A bat pass is defined by the Bat Conservation Trust as *"two or more bat calls in a continuous sequence; each sequence or pass is separated by one second or more in which no calls are recorded"* (BCT Good Practice Guidelines 2nd Ed 2012).

Mammal Survey

A wildlife camera was placed on the site from 06th of May 2025 until the 13th of May 2025. The wildlife camera was placed at the stream and the banks adjacent to the stream that flows beneath the existing road to observe if any otters are commuting throughout this area and if there were any mammals within this area.

No species, including otters, badgers, hedgehogs or stoats, were observed on the wildlife camera commuting throughout this area.

The hedgerows and treelines on the site were inspected during the site visit on the 13th of May 2025 for any potential species, including badgers. No wildlife tracks/ mammal prints were observed in these areas throughout this survey.

Eurasian Badger (*Meles meles*) – No impacts are predicted on this species. No badger indicators were noted throughout the site including setts, latrines and prints. No badgers were recorded on the wildlife camera. The species was recorded in 2004 on the National Biodiversity Data Centre website. Therefore, no impacts are predicted.

Irish Stoat (*Mustela erminea subsp. hibernica*) – No impacts are predicted on this species. No indicators were noted on the site including tracks and scat. This species was not seen on the wildlife camera during time of recording. Therefore, no impacts are predicted.

Birds

Bird species recorded on site during the site visits were European robin (*Erithacus rubecula*), Eurasian wren (*Troglodytes troglodytes*), Blackbird (*Turdus merula*), Song thrush (*Turdus philomelos*), Goldcrest (*Regulus regulus*), European greenfinch (*Chloris chloris*), and White

wagtail (*Motacilla alba*). A Mallard (*Anas platyrhynchos*) was recorded in the river on the wildlife camera.

No Qualifying interests of the Lower River Suir SAC and the River Barrow and River Nore SAC were recorded on site. During the site visit, no wetland habitats were recorded on site, such as wet grassland, marshy areas or waterlogged areas of the field. It is also noted that no vegetation on site indicated these habitats.

2.2.3 Archaeology

An Archaeological and Cultural Heritage Assessment has been prepared for the project, to study the impact, if any, on the archaeological and cultural heritage resource of a proposed road upgrade at Gorteens and Kilmurry townlands, Co. Kilkenny. The assessment is included in the planning documentation.

The proposed works might have a negative impact on existing archaeological features found on site; therefore, the mitigation measures are proposed for the development.

2.3 Appropriate Assessment

Appropriate Assessment Screening Report and Natura Impact Statement are included in planning documentation.

2.3.1 Appropriate Assessment Screening

An Appropriate Assessment Screening Report was prepared by Enrivoplan. The Screening Report evaluated whether the proposed development, either individually or in combination with other plans and projects, is likely to result in significant adverse effects on Natura 2000 sites, based on the best available scientific knowledge and the conservation objectives of the sites.

The screening exercise examined impacts on the Lower River Suir SAC and River Barrow and River Nore SAC Natura 2000 sites. Construction phase activities could indirectly impact the Lower River Suir SAC and River Barrow and River Nore SAC.

There is a stream flowing through the site. Therefore, indirect impacts/effects cannot be ruled out during the construction phase of development due to potential silt-laden surface water run-off entering the stream. This may result in water quality deterioration in the Lower River Suir SAC and River Barrow and River Nore SAC.

The AA Screening revealed that effects on the qualifying interests or conservation objectives of the surrounding Natura 2000 sites are expected, as a result of the proposed development in question, alone or in combination with the other plans and projects in the area, and therefore that a Natura Impact Statement was required in this case.

2.3.2 Natura Impact Statement

The Natura Impact Statement (NIS), prepared by Enviroplan, assessed whether the construction and operation of the proposed development, either individually or in combination with other plans or projects, would adversely affect the integrity of the Lower River Suir SAC and the River Barrow and River Suir SAC. The NIS incorporated environmental protection and control measures designed to avoid, reduce, or offset potential negative impacts. It concluded that,

provided the mitigation measures outlined in the NIS are fully implemented, there would be no significant adverse effects on the integrity of the designated sites, in view of their conservation objectives. Furthermore, the conservation status of the habitats and species within these sites will not be compromised by the proposed development, whether directly, indirectly, or cumulatively.

The appointed Contractor will be contractually obligated to implement all specified mitigation measures

2.3.2.1 Mitigation Measures

2.3.2.1.1 Site Set-Up

All construction activities will be strictly confined to the approved site boundary to avoid impacts beyond the development footprint. Measures will include wheel-washing facilities at the site entrance to prevent mud and debris on public roads, and the installation of continuous silt fencing along the on-site stream and to the west of the site to protect downstream water bodies. Silt fences will be made of permeable filter fabric, installed in line with manufacturer guidance, inspected regularly, and logged throughout construction, with increased checks during heavy rainfall. Additional sediment control will be provided through the use of sedimats along the stream. A suitably qualified Ecological Clerk of Works will oversee all works to ensure protection of fauna and watercourses. Works affecting the stream, including bridge construction, will be timed outside the salmon and trout season and carried out in accordance with Inland Fisheries Ireland Guidelines (2016).

2.3.2.1.2 Earthworks and Invasive Species

Earthworks will be carefully timed to avoid periods of prolonged or heavy rainfall to limit sediment mobilisation. All soil; sand and gravel stockpiles will be located on level ground and covered when necessary to prevent runoff. Imported fill material will be confirmed free of invasive species. Any invasive species present on site will be removed and treated by appropriately licensed specialists prior to the commencement of construction, preventing their spread during works.

2.3.2.1.3 Air Quality, Dust and Emissions

Dust, odours and emissions will be controlled throughout construction through good site management and the use of appropriate suppression measures. The site will be damped down during dry or windy conditions, and dust suppression equipment will be used where point-source emissions may occur. Burning of materials on site will be prohibited, and care will be taken to minimise the deposition of debris on surrounding roads.

2.3.2.1.4 Refuelling, Fuel and Hazardous Materials Storage

All personnel will receive training in spill prevention and response. Spill kits and protection equipment will be readily available across the site. Fuel and other petroleum products will be stored within bunded areas to contain any accidental releases and prevent environmental contamination.

2.3.2.1.5 Environmental Approvals and Licences

All required waste permits and licences will be obtained in advance and retained by the supervising engineer. These will form part of the demolition and waste disposal records, ensuring that all waste is managed, transported and disposed of in compliance with regulatory requirements.

2.3.2.1.6 Groundwater Protection and Contamination Prevention

Direct discharge of pollutants to groundwater will be prohibited. Machinery will be fitted with drip trays that are properly sized and regularly monitored, while all storage areas will be located on impermeable surfaces within secondary containment systems. Spill kits will be maintained close to storage areas, and staff will be trained in their correct use. Any damaged or leaking containers will be removed immediately and disposed of by licensed contractors. Concrete wastes and wash water will be prevented from entering soil or watercourses. Surface water runoff will be collected, treated and attenuated as part of the site drainage system, and all works will comply with Inland Fisheries Ireland Guidelines (2016).

2.3.2.1.7 Drainage and Water Quality

Construction activities will be planned and carried out in accordance with Environmental Protection Agency guidance to protect surface and groundwater quality. Wash water from concrete mixers and vehicles will be disposed of off-site at appropriate facilities. Measures will be in place to prevent the release of silt-laden water into local watercourses, including the use of downstream earth bunds, silt traps and settlement areas. Water from excavations will be allowed to settle or treated before discharge. Concrete works will be undertaken in dry conditions, within contained areas, and allowed sufficient curing time. Refuelling will be carried out away from watercourses, cut vegetation will be removed promptly from streams, and all culvert works will be supervised by the Ecological Clerk of Works and limited to the permitted July–September period.

2.3.2.1.8 Noise Control

While some increase in noise levels is unavoidable during construction, measures will be implemented to minimise disturbance. Noise-generating activities will be managed to reduce concurrent operation, and machinery will be turned off when not in use. Noise dampening will be applied where feasible, and works will follow EPA guidance on noise management. Clear communication channels will be maintained between the contractor, local authority and nearby residents throughout the construction period.

3. OVERVIEW OF THE CONSTRUCTION WORKS

3.1 DURATION AND PHASING OF THE PROPOSED DEVELOPMENT

It is anticipated that the overall construction phase of the proposed development will take approximately 18 months. It is intended that the works will commence in Q4 2026.

The existing bund located to the northwest of the Tirlan site will be partially removed and reinstated over a period of 6 months.

Vegetation screening located to the north of the existing IDA Ireland roundabout to the east of the subject will be temporarily removed to accommodate construction of the proposed road upgrade.

Once construction is complete this will be reinstated. The screening will be removed for a period of no more than 6 months.

The detailed scheduling of works will be incorporated into the Final CEMP by the Contractor.

3.2 CONSTRUCTION HOURS

Construction operations shall be agreed on with Kilkenny County Council prior to commencement of works.

3.3 EMPLOYMENT

It is anticipated that approximately 20 persons will be directly employed on-site during peak construction activities.

3.4 ROLES AND RESPONSIBILITIES

An indicative organisational chart is provided below which identifies the typical roles and associated responsibilities for the construction of the proposed development. This will be subject to specific contractual agreements upon appointment of a contractor and any additional/further appointments required in compliance with a grant of permission.

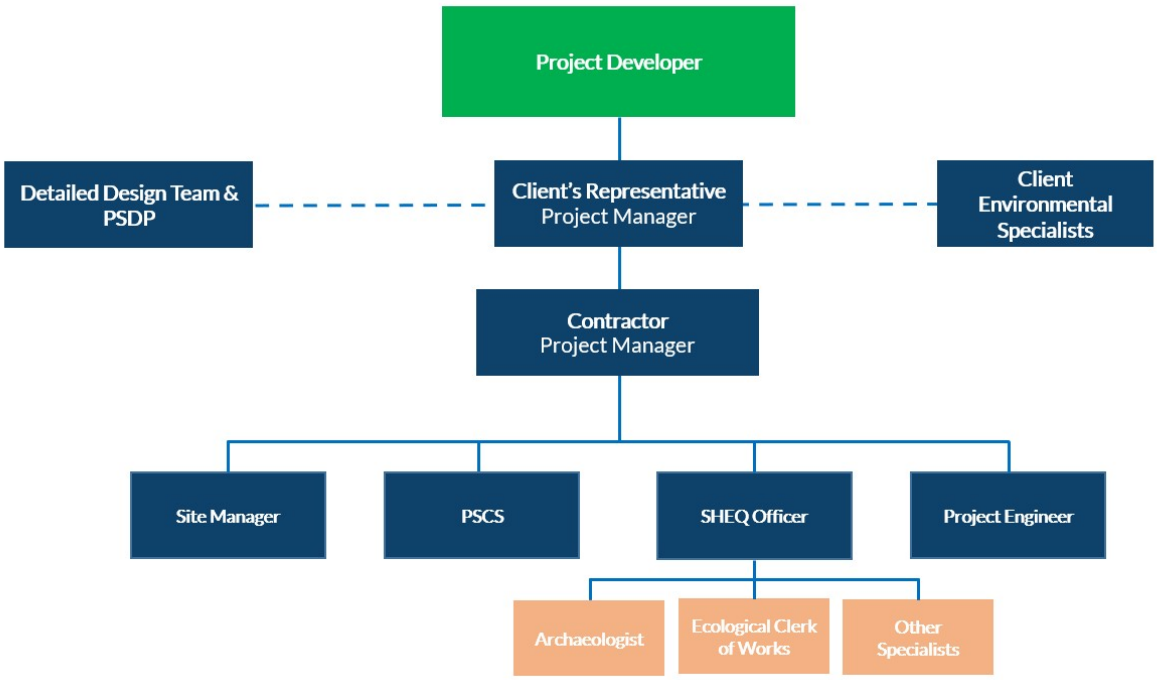

Figure 3-1 Consents, Licences, Notifications and Permissions

All personnel involved in the project are accountable for ensuring compliance with the requirements of the Construction Environmental Management Plan (CEMP). An overview of the indicative roles and responsibilities for those participating in the proposed construction works is provided in Table 1.

Table 1: Roles and responsibilities of the personnel involved in the development project

Role	Roles & Responsibilities
Applicant	The applicant will hold primary responsibility for ensuring compliance with the CEMP. They will be tasked with appointing personnel, including the Client Representative and contractors, to implement various aspects of the development and will oversee all site activities
Contractor	Contractors will be engaged to undertake all on-site works. These activities will be supervised by the Client Representative, with day-to-day oversight provided by the site manager. All contractors are required to adhere fully to the provisions of the CEMP.
Site Manager & HSQE Manager	The Site Manager or HSQE Manager will be responsible for the daily operations on site, ensuring that all personnel comply with the CEMP, as well as overseeing Health and Safety, Environmental, and Quality requirements.
All Staff and Subcontractors	All staff and subcontractors are responsible for adhering to the CEMP, including implementing on-site environmental procedures to minimise impacts and prevent pollution, such as noise and dust. They must also respond promptly and effectively to any incidents to mitigate environmental harm. All incidents must be reported immediately to the Site Manager or HSQE Manager

The key consents, licences, notifications and permissions likely to be required for the project are summarised as:

- Planning permission and associated planning compliance.
- Road opening licences for any works in the public road.
- Archaeological excavation licence, as required.

- OPW Section 50 Consent for drain culverting works.
- Inland Fisheries Ireland (IFI) method statement approval for works adjacent to watercourses; and
- Discussion with Kilkenny County Council, and licensing if required, in the event of encountering sensitive species and/or their habitats, resting or breeding places which have not already been identified.

The consents, licenses, notifications and permissions listing will be reviewed prior to construction works commencing and regularly thereafter to ensure that any further consents are identified as early as possible and do not impact on the construction programme.

Additional method statement and monitoring programme submissions may be required by the Local Authority as part of the grant of planning.

4. CONTRACTOR FACILITIES, SAFETY AND SITE SECURITY

4.1 CONSTRUCTION COMPOUND AND FACILITIES

At the commencement of the works, a construction compound will be established (Fig. 4:1). Access to Construction Compound) will be through the L3412.

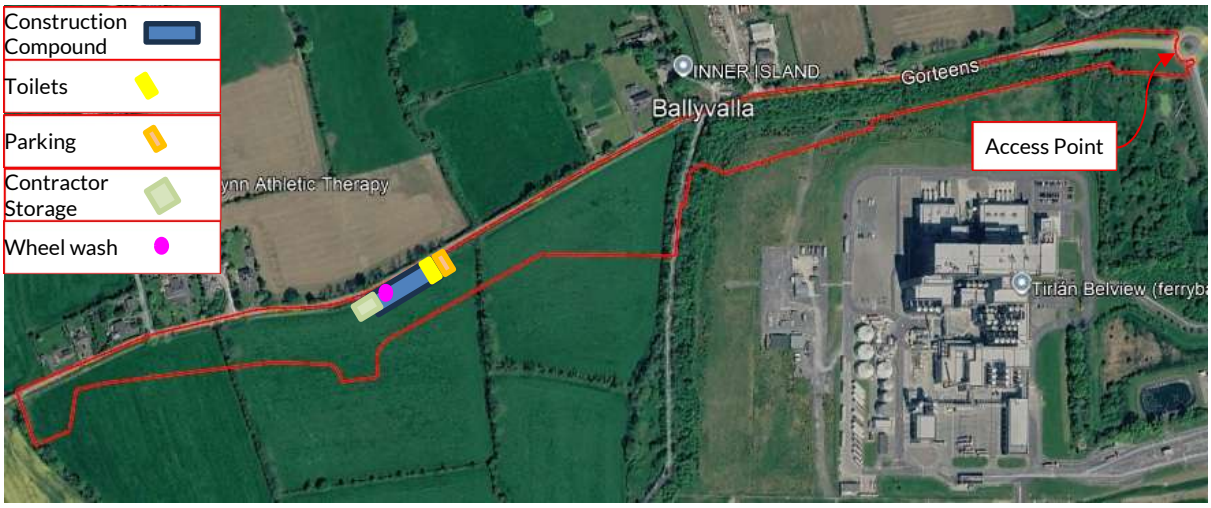

Figure 4-1: Construction Compound Location

The construction compounds will provide office space, welfare facilities and material laydown areas. The site accommodation is likely to consist of temporary porta-cabins constructed on an unbound, levelled, hardcore platform. Soil covering will be stripped within the compound area and stockpiled locally for future reinstatement. Broken stone and appropriate capping aggregate will be used to create the storage areas and bases for welfare facilities at suitable levels.

Temporary water storage tanks will be provided to supply water for the welfare facilities in the compounds during the construction works or, alternatively, non-potable water will be provided from rainwater harvesting tanks and potable water will be supplied to the site in bottles.

Wastewater generated at the welfare facilities in the construction compounds will be managed by means of a temporary sealed storage tank, with all wastewaters being tankered off-site by a permitted waste collector to a wastewater treatment plant. The proposed temporary wastewater storage tank will be fitted with a notification system that will provide sufficient notice that the tank requires emptying.

Storage of fuels, oils, lubricants and other hazardous liquids required for maintenance of equipment during the construction phase will be kept to the minimum required. Any hazardous liquids will be stored on a dedicated impermeable bunded storage platform in the compound and any refuelling of equipment in the compound will be carried out with suitably sized drip trays and spill control equipment present.

For larger plant and equipment, where it is not feasible to bring the plant or equipment to the compound area, a double-skinned fuel bowser will be brought to site. Further detail is provided in Section 5.5.

A road sweeper will be available if any section of the surrounding roads becomes soiled by vehicles associated with the proposed development.

4.2 SAFETY AND SECURITY

All activities carried out by the appointed contractor on the proposed development will be in accordance with the requirements of the *Safety, Health and Welfare at Work Act 2005* as amended and Regulations made under this Act.

The scale and scope of the proposed development will require the appointment of a Project Supervisor Design Process (PSDP) and Project Supervisor Construction Stage (PSCS) in accordance with the provisions of the *Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2103)*, as amended. These persons will be appointed by the Developer and notified to the Health and Safety Authority (HSA) prior to commencement of detailed design works (in the case of the PSDP) and prior to commencement of construction (in the case of the PSCS). The PSDP will prepare a Preliminary Health and Safety (H&S) Plan which will identify any particular risks, residual risks and particular sequences of work that are envisaged during the design of the works.

Prior to commencement of construction, a Preliminary H&S Plan will be provided to the Contractor and the PSCS will further develop the document to prepare a Construction Stage H&S Plan addressing all aspects of the construction process and providing relevant contact details and emergency response procedures for the project. The H&S Plan will be developed at the procurement stage and developed further at construction stage to the satisfaction of the Developer. The H&S Plan will identify the potential safety hazards associated with the site and the works and assess the associated risks. Mitigation and control measures will be implemented to minimise the identified risks.

Evidence of completion of construction safety training, typically in the form of a Safepass Card, will be required for all construction personnel prior to commencing on site. A record of Safepass Cards and personnel approved for entrance to site is typically completed as part of a site induction process. The Contractor's H&S Plan will detail the site induction and access requirements. Where relevant, equipment operators or specialist works will require personnel to hold a valid Construction Skills Scheme Card. The project developer will ensure that only competent contractors are appointed to carry out the construction works on the site.

Public safety will be addressed by restricting site access during construction works and by erecting perimeter security fencing surrounding the construction works areas. The access to the construction compound will be through L3412 Road.

Entrance gates to the sites and works areas will be securely locked outside of construction hours to prevent unauthorised entry and will be monitored during construction hours to regulate access to the site.

4.3 SIGNAGE

Warning signs will be erected along perimeter security fencing surrounding the construction works areas clearly stating that construction works are underway (see Figure 4.2). A notice

board will be erected at the site entrances with information on the contact details for site management, Personal Protective Equipment (PPE) requirements for the site and any other information deemed necessary in accordance with the H&S Plan.

Signage will be erected on the L3412 Gorteens Road at suitable distances either side of the site entrance.

Road signage on the public road will be in accordance with the current *Traffic Signs Manual*[1] Chapter 8 and associated best practice guidelines. Signage in respect of traffic management is discussed in traffic and transport in Section 5.7 and will take cognisance of the Local Authority recommendations and relevant planning conditions. Signage will also be erected as a reminder to concrete delivery drivers that concrete truck wash-out is not permitted on-site.

Figure 4-2: Indicative Safety Signage (Source: safetysigns.ie)

4.4 EMERGENCY RESPONSE PLAN

The appointed Contractor will be responsible for developing an Emergency Response Plan (ERP) for the proposed works, to cover health and safety emergencies as well as environmental emergencies, as part of the H&S Plan. This ERP shall be activated in the event of an emergency such as an accident, fire, spillage, collapse etc. and will provide details on the immediate response procedures, who is required to be notified, first aid facilities and closest hospitals, amongst other details.

The ERP must include contact names and telephone numbers for the relevant local authorities (all sections/departments) including ambulance, fire brigade, An Garda Síochána and the HSA. Reporting of environmental emergencies to the local authority will be required as well as other relevant stakeholders such as Kilkenny County Council, IDA Ireland and the EPA.

4.5 FUELS AND OILS MANAGEMENT

Construction vehicles will be refuelled off-site, wherever possible. This will primarily be the case for road vehicles such as vans and trucks. However, for construction machinery that will be based on-site continuously (such as excavators and dumpers), it will not be practical to move

[1] Department of Transport, Tourism and Sport, *Traffic Signs Manual – Chapter 8: Temporary Traffic Measures and Signs for Roadworks* (August 2019)

machinery off-site for refuelling. On-site refuelling of machinery will only be carried out using a mobile double skinned fuel bowser typical of that shown in Figure 4.3. Refuelling will be carried out at least 50m from any watercourse. The fuel bowser will be re-filled off-site and will be towed as required within the site by a 4x4 vehicle to where machinery is located. The 4x4 vehicle will also carry fuel absorbent material and pads in the event of any accidental spillages. Only the required amount of fuel will be brought onto site in the fuel bowser, and the bowser will be removed from site once refuelling is complete. The fuel bowser will not be permitted to be stored at the construction compounds.

Figure 4-3: Typical mobile fuel bowser (Source: Clarke Machinery Group)

Oils, lubricants and other hazardous liquids which are essential for maintenance of equipment during the construction phase will be stored on the dedicated impermeable bunded storage platform in the construction compounds. Small quantities of fuel for equipment such as generators, lights, vibratory compaction plates etc., where required, will also be stored in the bunded storage area. Hazardous liquids will be stored within contained areas fitted with locks so that their use is controlled. Only designated trained and competent operatives will be authorised to refuel equipment on site.

New clean ancillary machinery equipment such as hoses, pipes and fittings can be stored appropriately on-site, however used or damaged parts are not permitted to be stored on-site and will be removed immediately. Any repair works required on machinery involving fuel and oil control will be carried out off-site where practical, or in the construction compound over an impermeable surface. Where unavoidable, repair works carried out in the field where machinery is operational will use spill trays and absorbent materials to prevent release of contaminants to the ground. Maintenance and repair works will be carried out at least 50m from any watercourse.

Daily checks prior to start-up of plant and machinery will minimise the risk of break-down and associated contamination risks for on-site repairs. Records of daily pre-start checks will be maintained and kept in the site office. A clean site policy and diligent housekeeping will also reduce the potential of hydrocarbon or contaminant release on site.

4.6 Spill Control and Response

Emergency spill kits with oil boom and absorbent materials will be kept on-site in the event of an accidental spill. Spill kits will be kept in the construction compound at both site locations, the 4x4 vehicle transporting the fuel bowser and smaller spill control kits will be kept in all construction machinery. All construction personnel will be notified of where the spill kits are located as part of the site induction and will be trained on the site procedures for dealing with spills.

In the event of a leak or a spill in the field, the spill kits will be used to contain and absorb the pollutant and prevent any further potential contamination. The absorbed pollutants and contaminated materials will be placed into leak proof containers and transferred to a suitable waste container for hazardous materials in the compounds. Where a leak has occurred from machinery, the equipment will not be permitted to be used further until the issue has been resolved.

The SHEQ Officer (or equivalent appointed person) will be notified of any spills on site and will determine the requirement to notify the authorities as set out in Section 4.7. Detailed measures for spill control will be included in the H&S Plan and form part of the ERP as discussed in Section 4.4.

4.7 Incidents

All safety or environmental incidents associated with the project will be reported and investigated in line with the ERP. Typically, the following procedures will be followed in the event of an incident:

- Works will stop immediately where safe to do so.
- The SHEQ Officer will be contacted.
- The size of the incident will be assessed and determined if it can be controlled by site staff or if emergency services are required to attend.
- The appropriate enforcing authority will be contacted.
- The SHEQ Officer will investigate after the incident.
- The findings will be sent to the appropriate authority; and
- An action plan will be prepared to set out any modifications to working practices required to prevent a recurrence.

4.8 Complaints

This section sets out a procedure to manage and resolve any complaints received from members of the public during the construction phase of the proposed development. The following measures will be adopted and refined, as necessary, taking account of any relevant planning

conditions. The following measures will be implemented to deal with complaints, and the Final CEMP will contain more specific details with regard to phone numbers to contact:

- Clearly display a notice board at the site entrances so that the public know whom to contact if they have a complaint or comment.
- Personnel on site, including sub-contractors are required to perform their duties in accordance with this CEMP, and in such a way as to minimise the risk of complaints from third parties.
- All complaints received regarding the construction works will be recorded and categorised (e.g. noise, property damage, traffic, dust etc.) within a central Site Complaints Log. This complaints log will include the following key details:
    - Name, address and contact details of the complainant (with the complainant's permission).
    - Brief outline of the complaint.
    - Date of Complaint.
    - Name of person receiving complaint details; and
    - Agreed timeline for response to complaint.
- All complaints will be communicated to the Site Manager and Developer immediately.
- All complaints will be followed up and resolved; and
- The complainant, Developer and other stakeholders will be kept informed of the progress in resolving the complaint.

5. ENVIRONMENTAL MANAGEMENT

As part of the development of this CEMP, an EcIA, an AAS and NIS report have been prepared to ensure appropriate environmental management of specific aspects of the proposed works. The reports have been prepared through the observations and data collected via desk study and by field surveys carried out on site. The outcomes of the reports and conclusions provided are in accordance with best practice measures. The particular requirements outlined within the following plans are a summary of key implementation constraints, site specific obligations and best practice requirements with which the Contractor shall comply. The list is non exhaustive and must be read in conjunction with both the EcIA and AAS and NIS with consideration of the best practice guidelines outlined. This CEMP has been prepared by TOBIN at the planning stage of the proposed development.

Construction of the proposed development will be carried out in line with best practice guidance in all areas of potential environmental impact and specific guidance documents are identified within the following sections. Across the full project duration, the Contractor will utilise the general guidelines set out in the CIRA C741 publication *Environmental Good Practice on Site (4th Edition)*[2].

Following grant of planning for the proposed development, the appointed Contractor will further develop this CEMP into a Final CEMP which will incorporate any specific measures identified in Planning Conditions for the management of the environment during the construction works. The Final CEMP will include an updated and refined construction phase programme of works and will set out specific timings and requirements for ongoing monitoring and surveying throughout the construction works. The Final CEMP will be a dynamic document and will be continuously reviewed and updated throughout the construction works to ensure it takes account of all necessary environmental management requirements.

5.1 SITE SET-UP

The following mitigation measures are to be followed during site set-up:

- No works will take place outside the red line boundary to prevent damage to areas outside the necessary development footprint.
- Wheel washers/judder bars to clean off vehicles will be placed at the entrance of the site prior to the commencement of works.
- A silt fence shall be erected prior to any construction, earthworks or groundworks operations on site, along the stream within the site. This silt fence shall remain in place for the entirety of the construction phase of the road.
- Silt fences will be constructed using a permeable filter fabric and not a mesh. Silt fencing will be installed as per the manufacturer's guidelines.
- Once installed, the silt fences will be inspected regularly during construction and on an increased basis during heavy rainfall.

[2] CIRA *Environmental Good Practice on Site (4th Edition)* (C741) (2015)

- A silt fence shall also be erected to the west of the site as a precautionary measure to ensure no silt enters the Luffany river waterbody further to the west of this area. This silt fence shall remain in place for the entirety of the construction phase of the road.
- Silt fences will be monitored via a silt inspection log during the construction period.
- A suitably qualified Ecological Clerk of Works will be assigned by the contractor prior to commencement of any works on this site. The Ecological Clerk of Works will oversee the works on site to ensure no impacts to fauna or the watercourse during the construction phase.
- Sedimats will be placed along the existing stream as an additional precautionary measure, these sedimats are to remain in place for the entirety of the construction phase.
- Construction of the road over the stream is to take place outside of the salmon and trout season, October to the end of February. Works will adhere to the Inland Fisheries Guidelines 2016.

5.2 EARTHWORKS / INVASIVE SPECIES

The following mitigation measures are to be implemented during earthworks:

- Works such as soil excavations, soil depositing or soil stripping shall not take place immediately following periods of heavy or prolonged rainfall.
- All stockpile areas of sand, gravel, and soils shall be stored on level terrain and shall be covered during heavy rainfall periods in order to prohibit the mobilisation of sediments.
- Any infill being brought onsite ensure that the source is free of invasive species such as Japanese Knotweed, *Gunnera* and *Rhododendron*.
- Any invasive species identified within the application site are to be removed and treated by a licensed and trained specialist to prevent the spread of invasive species. This measure is to be carried out prior to any construction work on the application site

5.3 NOISE AND VIBRATION

The Contractor will be required to have regard to BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites*[3], which sets out detailed guidance on the control of noise and vibration from construction activities.

The following general measures for control of noise from construction works will be implemented:

[3] British Standards Institute (BSI), *BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites* (2008)

- A copy of the EPA 'Guidance Note for Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' will be available on site for the duration of the works and will be referred to as required during the works.
- Machines shall be turned off when not in use.
- Noise shall be dampened where possible.
- Construction working hours are limited to those set out in Section 3.2 to avoid noise or vibration generation during unsociable hours.
- Duration of works which create high levels of noise or vibration will be limited and staggered to prevent constant annoyance.
- Communication channels will be established between the Developer/Contractor/Local Authority and local residents to inform of upcoming works which may generate higher than normal construction noise or vibration and provide a means for local residents to register complaints with regard to noise and vibration.
- The SHEQ Officer (or other site representative) will be appointed to address complaints relating to noise and vibration.
- Internal roadways will be maintained in good condition to minimise noise and vibration generation from heavy goods vehicles

The Contractor will be required to select plant and equipment with a low inherent potential for generation of noise and/or vibration in lieu of noisier alternatives. Where possible, contractors will use noise dampers or other attenuation methods for particularly noisy operations. If selected for use on site, compressors will be attenuated models, fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. Any noisy plant, such as generators or pumps, which may be required to operate outside of the typical working hours (for safety lighting etc.), will be surrounded by an acoustic enclosure or portable screen. Regular maintenance of plant and equipment will be carried out to ensure that the equipment is operated efficiently and generating minimal noise emissions. Plant or equipment which is not in use will be shut down while not required.

5.4 AIR QUALITY & CLIMATE

The Contractor will have due regard to relevant guidance such as *The Control of Dust and Emissions during Construction and Demolition* published by the Greater London Authority (GLA) in 2014 and *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* published by the National Roads Authority (NRA) (now Transport Infrastructure Ireland (TII)) in 2011.

During the construction phase, dust or air pollutants generated from the proposed development will typically arise from:

- Movement of construction vehicles.

- Transportation of construction materials to and within the site.
- Excavation, movement and placement of soil and aggregate stockpiles; and
- Wind generated dust from stockpiles, exposed unconsolidated soils and roads.

In order to minimise emission of pollutants from plant and equipment, the following measures will be implemented during the construction works:

- The site shall be dampened down as necessary to minimise windblown dust when necessary or during periods of dry weather.
- Dust suppression equipment must be used when point source emissions are likely.
- No Burning of materials will be allowed onsite.
- Care will be taken from the commencement of the project that the deposition of debris on local roads is kept to a minimum.
- Regular maintenance of plant and equipment will be carried out to ensure that the equipment is operated efficiently and generating minimal air emissions; and
- Plant or equipment will not be left running unnecessarily and low emission fuels will be used.
- The greatest potential impact on air quality during the construction stage will be from dust emissions associated with the construction works. The proactive control of fugitive dust, rather than an inefficient attempt to control dust once released will ensure the prevention of significant emissions.

A Dust Management Plan (DMP) has been prepared which sets out the measures that will be implemented by the Contractor to minimise and control dust emissions. This DMP will be updated by the Contractor in the Final CEMP to account for any additional measures identified in Planning Conditions or by the Local Authority post planning submission.

5.4.1 Dust Management Plan (DMP)

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 200m of the construction area.

In order to ensure mitigation of the effects of dust nuisance, a series of measures will be implemented. Site access tracks shall be regularly cleaned and maintained as appropriate; dry sweeping of large areas shall be avoided. Hard surface access tracks shall be swept to remove mud and aggregate materials from their surface while any un-surfaced access tracks shall be restricted to essential site traffic only. Furthermore, any road or path that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.

Vehicles using site access tracks shall have their speeds restricted where there is a potential for dust generation. Vehicles delivering material with dust potential to an off-site location shall be always enclosed or covered with tarpaulin to restrict the escape of dust. Access gates to the site entrance at the construction site shall located at least 10m from residential receptors which will prevent dust nuisances from vehicles exiting the site.

Public roads outside the site areas shall be regularly inspected for cleanliness on a daily basis and cleaned using a street sweeper, as necessary (See Figure 5.1). Before entrance onto public roads, trucks shall be adequately inspected to ensure no potential for dust emissions. On-site tracks shall be inspected for integrity and necessary repairs to the surface instigated as soon as reasonably practicable. Records shall be kept of all inspections of the access routes and any subsequent action(s) in a site logbook.

Figure 5-1: Typical Road Sweeper (Source: CMP Road Planning)

The following measures shall be implemented to prevent significant dust emissions from material stockpiles. Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. Sand and other aggregates will be stored in bunded areas and not allowed to dry out unless this is required for a particular process, in which case appropriate additional control measures will be put in place. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

At all times, the procedures put in place shall be strictly monitored and assessed by SHEQ Officer on behalf of the Contractor. In the event of dust nuisance occurring outside the site boundary, appropriate procedures shall be implemented to rectify the problem.

This DMP shall 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 practices and procedures. The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on a notice board at the site entrance. Community engagement before works commence on site shall be put in place, including a communications plan. All dust and air quality complaints shall be recorded, and causes identified, along with the measures taken to reduce emissions. Daily on and off-site inspections

shall occur for nuisance dust and compliance with this DMP. This shall include regular dust soiling checks of surfaces such as street furniture, windows, and cars in close proximity to the site boundary. Cleaning shall be provided if necessary.

5.4.2 Climate

There is the potential for a number of embodied greenhouse gases (GHGs) and GHG emissions during the construction phase of the development. Construction plant, generators etc., may give rise to CO_2 and N_2O emissions as well as the quantities of material such as stone, concrete and steel that will be required for the proposed development. The Institute of Air Quality Management (IAQM) document *Guidance on the Assessment of Dust from Demolition and Construction* (2014) states that site traffic and plant is unlikely to make a significant impact on climate.

To minimise climate impacts associated with delivery of construction materials to the site, the Contractor will source quarry materials as close to the site location as possible and to use local builder's providers where possible. In some cases, it will not be possible to locally source building materials due to the technical nature of parts and equipment required.

5.5 Surface Water and Hydrogeology

The Contractor will employ the best practice measures outlined in CIRIA C532 publication *Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors*.

To avoid/reduce the release of suspended solids/pollutants into the surface water environment via surface water run-off, the following measures will be implemented:

- The works shall be planned and executed in accordance with Environmental Protection Agency Guidelines.
- Wash water from on-site mixers or lorries shall be disposed of appropriately off site.
- The contractor must ensure that operations do not give rise to the discharge of large quantities of dirty water into the water courses. Measures must be in place to ensure that silt will not be allowed to enter the water system.
- To prevent run off from stripped ground, banks are to be placed on the downstream side of stockpiles.
- Water from excavations shall be pumped to land and allowed to settle, or passed through silt traps, before returning into the watercourse.
- Good site management will ensure that surface water and groundwater will be protected from accidental contamination.
- Washing out of concrete trucks will not be permitted within the site and must be conducted in hard standing areas.
- Works with concrete shall be done during dry conditions for a period sufficient to cure the concrete (at least 48 hours).

- Concrete pours shall occur in contained areas.
- Portable toilets and sanitary facilities will be provided for site use.
- Plant will be re-fuelled away from watercourses.
- All site operatives will have immediate access to spill kits when machinery is being used.
- The Ecological Clerk of Works will oversee the construction of the new culvert at the existing watercourse.
- The culverting of the stream will only occur outside of the Annual Close Season during the permitted summer period of July-September inclusive.
- No direct discharge of sediments shall occur within the stream.
- All cut vegetation must be removed from the watercourse to avoid de-oxygenation of the water during decay, and blockage of downstream structures.
- Excavation works will not be carried out during or following heavy rainfall. Excavations will be covered during heavy rainfall to avoid the creation of surface water with high concentrations of suspended solids that would require dewatering. During lighter rain periods, the time period over which excavations are left open will be reduced insofar as is reasonably practicable.
- Proposed discharge shall only be constructed once the upstream network has been completed to minimise the risk of silt entering the watercourse, this shall include the installation of the interceptor and silt trap.
- The stockpiling of materials will be minimised on-site and will be situated where surface water percolates freely into groundwater and >50m from any watercourse/drainage ditch.
- Silt fences will be constructed using a permeable filter fabric and not a mesh. Silt fencing will be installed as per the manufacturer's guidelines and shall be maintained until vegetation on the disturbed ground has been re-established. The fencing will be installed between the proposed development area and any watercourse/drainage ditch. Once installed, the silt fence will be inspected regularly during construction and on an increased basis during heavy rainfall.
- Dewatering of excavations will be minimal and will be avoided, where possible. If required, dewatering will be carried out by pumping excess water to temporary settlement tanks or filtration systems located within the construction works area. These will be monitored at least twice daily and discharged to existing drains when water is within the prescribed water quality limits. Environmental Quality Standards (EQS) as set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended, will be applied for reference unless otherwise directed by the Local Authority or Statutory Bodies. Silt de-watering bags or temporary

settlement tanks will be used when water is being discharged and discharge pumping rates will be controlled to a maximum of 2 litres/second (l/s);

- In the absence of a significant source, a minor spill can be addressed effectively and efficiently on-site using existing best practice pollution control procedures. The measures set out in Section 4.6 will be followed to deal with any spills occurring.
- Fuel and oil handling as well as refuelling of plant and equipment will be carried out in accordance with the measures described in Section 4.5;
- Wastewater generation from the welfare facilities will be discharged to an enclosed tank and removed off-site for treatment as required; and
- On completion of the works, all apparatus, plant, tools, offices, sheds, surplus materials, waste and temporary erections or works of any kind will be removed from the site.

Temporary control measures implemented during construction works may include silt fences, silt bags, temporary settlement tanks and run-off attenuation, as required. Examples of silt fences, silt bags and temporary settlement tanks are shown in Figures 5.2, 5.3 and 5.4.

Figure 5-2: Silt fencing measures (Source: Hy-Tex (UK) Ltd. (left) and Thrace Group (right)

Figure 5-3: Silt/Dewatering bag (Source: Hy-Tex (UK) Ltd.)

Figure 5-4: Temporary site settlement tanks (Source: Siltbuster)

The surface water management measures will be regularly inspected during construction works to ensure that it is working optimally. Where issues arise, construction works will be stopped immediately, and the source of the issue will be investigated. Records of all maintenance and monitoring activities associated with the surface water network will be retained by the Contractor on-site, including results of any discharge testing.

There is potential for earthworks to lead to the release of suspended solids to surface water bodies. The main factors influencing the rate of soil erosion and subsequent sediment release includes:

- Climate.
- Length and steepness of slopes.
- Soil erosion potential.
- Soil Vegetation/cover.
- Duration and extent of works; and
- Erosion and sediment control measures.

Erosion and sediment control measures include, but are not limited to:

- During the side casting of spoil, silt fences and/or biodegradable geogrids will be used to control surface water run-off from material storage areas.

Dewatering silt bags (Figure 5.3) allow the flow of water through them while trapping any silt or sediment suspended in the water. The silt bags provide a passive non-mechanical method of removing silt from silt-laden water collected from works areas within a construction site.

5.5.1 Groundwater Contamination

The following measures must be implemented in order to prevent groundwater contamination:

- All direct discharges of pollutants into groundwater are prohibited.
- Drip trays shall be utilized for all machinery on site and monitoring undertaken to ensure that there is no risk of overflowing and that they are adequately sized to deal with the specific element of machinery that they are protecting against.
- Site storage will be on an impervious base within a secondary containment system such as a bund.
- A spill kit with sand or earth shall be kept close to storage areas. Staff will be trained on how to use spill kits correctly.
- Damaged, or leaking drums shall be removed from site immediately and disposed of via a registered waste disposal contractor.
- No concrete or cleaning water will enter soil or the adjacent waterway.
- Construct systems to collect, convey, treat, and attenuate the surface water runoff generated by the proposed development.
- All construction shall be carried out in line with the Inland Fisheries Ireland 2016 Guidelines.
- Construct systems to collect, convey, treat and attenuate the surface water runoff generated by the proposed development

5.5.2 Concrete Handling

In the event of in-situ concrete pouring required on-site, the following measures will be followed.

Only ready-mixed concrete will be used during the construction phase, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. The use of ready-mixed concrete deliveries will eliminate any potential environmental risks of on-site batching. Concrete trucks will be washed out fully at the batching plant, where facilities are already in place, and will not be permitted to wash-out at the site. The Contractor will establish this agreement with suppliers in advance of commencement of the works.

Measures to prevent contamination from concrete pouring on-site will include:

- Using weather forecasting to assist in planning concrete pours and avoiding pours where prolonged periods of heavy rain is forecast.
- Restricting concrete pumps and machine buckets from slewing over watercourses while placing concrete.
- Ensuring that excavations are sufficiently dewatered before concreting begins and that dewatering continues while concrete sets.
- Ensuring that covers are available for freshly placed concrete to avoid the surface washing away in heavy rain; and
- Disposal of surplus concrete after completion of a pour off-site.

5.6 Land, Soils and Geology

Works such as soil excavations, soil depositing or soil stripping shall not take place immediately following periods of heavy or prolonged rainfall. All stockpile areas of sand, gravel, and soils shall be stored on level terrain and shall be covered during heavy rainfall periods in order to prohibit the mobilisation of sediments. No concrete or cleaning water will enter soil or the adjacent waterway.

As discussed in Section 4.1, a temporary wastewater holding tank will be used to store wastewater generated from the welfare facilities in the construction compounds. This will eliminate the need for any wastewater treatment and percolation at the site. No concrete wash-out will be permitted at the site either so as to protect the existing ground conditions. The management and handling of fuels, oils and lubricants will be in accordance with the measures set out in Section 4.5 so as to reduce the potential for spillage or contamination of the existing soils.

Surface water management measures as set out in Section 5.5 will be put in place from commencement of construction to ensure that surface water run-off does not cause erosion of exposed surfaces or generate sediment laden discharge.

Excavated material will not be stored in excessive mounds on the site. Seeding of the work affected areas with indigenous species will be carried out only where natural revegetation or the reuse of the upper vegetated layer is unsuccessful. The re-vegetation of these areas will promote stability, reduces desiccation, run-off erosion and susceptibility to freeze/thaw action.

5.7 Refuelling, Fuel and Hazardous Materials Storage

The following mitigation measures shall be followed regarding refuelling, fuel and hazardous materials storage

- All site workers are to be trained in how to manage a spill event.
- Spill protection equipment will be available to all workers on site in the event of an accidental spill.
- All petroleum products are to be bunded during the construction stage of the development.

5.8 Biodiversity

The best practice measures set out in the sections above, particularly in respect of prevention of pollution of watercourses, will have the additional effect of minimising the potential impacts on the local and regional flora and fauna.

The project as planned will not adversely affect the integrity of any European site. During the assessment, pathways for potential significant indirect impacts/effects on Lower River Suir SAC and the River Barrow and River Nore SAC, were identified due to the presence of a stream through the site. A Natura Impact Statement report has provided an assessment of all potential pathways for direct impacts/effects and indirect impacts/effects on European Sites. Surface water runoff must be monitored and controlled for the entirety of the construction phase. For additional mitigation measures and best practice measures please see Section 5.5 above. Any identified potential pathways for impacts/effects are robustly blocked through the mitigation and best practice measures proposed, avoiding the potential for any adverse impacts via any of the pathways identified.

The NIS concluded that:

- There will be no negative direct impacts or reduction in Annex I habitat area or Annex II species within any European Site.
- There will be no reduction in key habitats supporting populations of Annex II species and no reduction in the populations of any Annex II species.
- Any potential pathways for impact have been blocked through good design, mitigation measures and a suitability assessment of the lands for development of this type.
- The works themselves will involve little disturbance or disruption to the ecological processes in the area during construction, operation, or decommissioning.
- The predicted indirect impact/effect of groundwater contamination will be mitigation through the measures implemented in Section 6 of the NIS.

5.9 Waste Management

All waste generated from the proposed will be managed in accordance with the provisions of the *Waste Management Act* as amended and associated Regulations.

Excavated topsoil, subsoils and rock will be reused within the site boundary insofar as possible. Any excess material which cannot be reused in creating berms or landscaping features will be transferred off-site to a licensed waste facility. Where possible, off-site reuse opportunities for soils and rock will be sought and the potential for classification of the material as a by-product in accordance with Article 27 of the *European Communities (Waste Directive) Regulations 2011*, as amended, will be explored.

Typical waste streams (including material-related streams such as metals, paper and cardboard, plastics, wood, rubber, textiles, bio-waste and product-related streams such as packaging, electronic waste, batteries, accumulators and construction waste) will be managed, collected, segregated and stored in separate areas at the construction compounds and removed off site by a licensed waste management contractor at regular intervals during the works. Skips and bins of appropriate sizes will be stored in the construction compounds and used to maximise source segregation of waste materials at the site. This will include food and packaging waste from welfare facilities. Appropriate control of food waste in the compound will minimise the potential for pests and rodents to visit the area.

The Contractor will encourage all project teams to minimise waste generation and to maximise the segregation of waste at source. Material wastage will be avoided by delivering only the required quantities of material to site and utilising off-site manufacturing of concrete materials and other infrastructure as much as possible. The Contractor will establish 'just-in-time' deliveries to avoid excess material storage at the site which can lead to waste generation. Delivery drivers will be encouraged to remove any excess packaging from materials delivered to site and remove unused timber pallets where possible. Opportunities for material reuse across the site will be sought by the Contractor.

Any contaminated materials used for spill clean-up and equipment maintenance works will be separately stored in a suitable container for collection by an authorised hazardous waste contractor.

5.10 Traffic and Transport

A detailed Traffic Management Plan will be agreed with Kilkenny County Council prior to commencement of works.

5.11 Cultural Heritage

Archaeological and Cultural Heritage Assessment that was undertaken for the site. It outlines mitigation measures proposed for the site including archaeological monitoring and written and photographic record.

6. RECORD KEEPING

The Site Manager will appoint a competent person(s) to act as Project Environmental Manager and carry out environmental monitoring and maintain records for the duration of the works. The appointed person(s) will be familiar with the environmental mitigation and monitoring measures outlined in this CEMP and will carry out the relevant inspections and assessments on a regular basis. The Project Environmental Manager will report to the Site Manager.

Daily inspections of the silt fences and watercourses will be logged and recorded in a site folder. Any water sampling results from field testing and laboratory testing will also be maintained in the site folder.

A record of all waste movements from the site will also be maintained and copies of the waste transfer dockets will be held on site. The Project Environmental Manager will ensure that all waste haulage vehicles are identified on the waste collection permit and that the waste description and associated List of Waste code stated on the waste transfer docket are correct.

Any incidents resulting in a potential negative impact on soils or groundwater will be notified immediately to the Project Environmental Manager and the Site Manager. Spill kits will be used where possible to clean up any release and measures taken to ensure that any release does not reach a watercourse or surface water drain. Meath County Council will be notified of any such incident which has the potential to cause a negative impact.

A record of any complaints received in relation to construction works will also be maintained and categorised (e.g., noise, property damage, traffic, dust etc.) within a central Site Complaints Log. The log will include the following key details:

- Name, address and contact details of the complainant (with the complainant's permission).
- Brief outline of the complaint.
- Date of complaint.
- Name of person receiving complaint details; and
- Agreed timeline for response to the complaint.

Any complaints made will be notified to the Site Manager and the Project Environmental Manager immediately and a plan put in place to investigate and seek to resolve the complaint. The Site Manager will also notify the Developer of complaints received. The complainant, Developer and other stakeholders will be kept informed of the progress in resolving the issue.

Hard copy folders will be maintained on site for inspection by the planning authority at any time.

7. CONCLUSION

This Construction Environmental Management Plan (CEMP) presents a summary of the overall proposed development works, the management of the site during the construction works and the mitigation measures required to ensure the proposed works do not have a significant effect on the environment. This document is prepared in accordance with Best Practice documents as set out above and in both the EcIA, AAS and NIS.

Prior to commencement of construction, the appointed Contractor will be required to update this document with site specific details including the location of spill kits on the site, the layout of the construction compounds, machinery pre-start checklists and provide details on the persons responsible for environmental management for the duration of the works. This updated CEMP will also be required to include any specific construction phase environmental management procedures identified in the grant of planning for the development or subsequent to the planning submission. The Final CEMP document will be agreed with the developer prior to commencement of works and submitted to the planning authority. It will be a live document and updated accordingly throughout the project.

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