

Appendix 5A
Construction Environmental Management Plan (CEMP)

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SSE Tarbert Next Generation Power Station

Environmental Impact Assessment Report (EIAR)
Volume II
Appendix 5A Construction Environmental Management Plan (CEMP)
SSE Generation Ireland Limited

November 2023

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Executive Summary

This document, a Construction Environmental Management Plan (CEMP), has been prepared on behalf of the SSE Generation Ireland Limited (SSE) (“the Applicant or SSE”).

The CEMP will be revised by the contractor appointed by the Applicant to undertake the construction of the Proposed Development, as necessary, to address the requirements of any relevant planning conditions, in consultation with the planning authority. By implementing the measures set out in the following sections, the CEMP will help to manage environmental issues appropriately during construction. These measures should therefore be considered as agreed embedded mitigation that will be implemented in full to reduce or avoid the environmental effects of construction of the Proposed Development.

Section 1 provides an overview of the Proposed Development, the Applicant and a description of the Site.

Section 2 details the anticipated construction programme, including construction facilities, delivery routes for construction materials, construction lighting and recycling and disposal measures for construction waste.

Section 3 gives an indication of the project specific information which will be included by the Contractor under each sub-section within the CEMP. This includes a table summarising the potential impacts for each environmental topic (Air Quality, Cultural Heritage, Biodiversity, Landscape and Visual, Noise and Vibrations, Water Environment, Land and Soils, Traffic and Transport, Population and Human Health, Material Assets, Climate, Waste Management and Major Accidents and Disasters) reported in the Environmental Impact Assessment Report (EIAR), Volume I (AECOM, 2023). Mitigation and enhancement measures described in the EIAR to address construction impacts are also presented. Monitoring requirements for mitigation measures are described where these have been proposed in the EIAR and the responsibilities for implementation are to be confirmed in the CEMP. Submission and approval of the updated CEMP prior to commencement of construction is proposed to be secured by a condition.

1. Introduction

1.1 Overview

This Construction Environmental Management Plan (CEMP) has been prepared by AECOM Ireland Ltd. on behalf the SSE Generation Ireland Limited (“the Applicant” or “SSE”).

The Applicant is seeking approval for the proposed Open Cycle Oil Turbine (OCGT) power plant, administrations building and workshop, and ancillary plant, site works and services on land (as described in more detail in EIAR Volume I Chapter 5) (herein referred to as the “Proposed Development”). The Site (herein referred to as “the Site”) is located within the boundary of the existing SSE Tarbert Site (‘SSE Tarbert’) in Tarbert, County Kerry (Co. Kerry).

1.2 The Applicant

The Applicant, is an SSE Thermal Generation Holdings Limited company, wholly owned by SSE plc. SSE plc’s purpose is to provide energy needed today while building a better world of energy for tomorrow. SSE plc is a leading generator of renewable electricity in the UK and Ireland and one of the largest electricity network companies in the UK. SSE plc develops, owns, and operates low carbon infrastructure to support the zero-carbon transition. This includes onshore and offshore wind, hydro power, electricity transmission and distribution grids, and efficient conventional generation, alongside providing energy products and services for businesses and homes. SSE plc plans to invest up to £40bn over the next decade, to deliver cleaner, secure, and more affordable energy. SSE plc is UK listed, is accredited under real Living Wage and Fair Tax Mark and in Ireland holds the Business Working Responsibly mark. SSE plc entered the Irish market in 2008 through the acquisition of Airtricity and has expanded through organic growth and a number of acquisitions, now employing almost 1,000 people on the island of Ireland and a key participant in the all-island Single Electricity Market. SSE’s activities in Ireland include:

- SSE Renewables owns 784MW of onshore wind capacity across 22 windfarms on the island, and operates a total of over 1,000MW. This includes Galway Wind Park, Ireland’s largest and best performing onshore wind farm (co-owned with Greencoat Renewables). SSE Renewables is currently constructing additional onshore wind capacity in Ireland, and is actively developing solar and battery projects, as well as additional onshore and offshore wind projects.
- SSE Airtricity supplies electricity and oil to over 700,000 home and business customers across the island and delivers home energy upgrades through its one stop shop, the Generation Green Home Upgrade, which aims to deliver 50,000 home energy upgrades by the end of the decade (2030).

SSE Thermal operates an industry-leading fleet of flexible generation and energy storage assets. SSE Thermal believes flexible and efficient thermal energy will play a critical role in the transition to a net zero future, complementing renewable generation and maintaining security of supply. In terms of thermal power generation assets, SSE Generation Ireland Ltd operates an industry leading fleet of flexible generation assets in Ireland:

1. 620MW Tarbert Power Station (oil) is situated on the Shannon Estuary in Tarbert, Co. Kerry. The station comprises two 60MW and two 250MW oil-fired turbines. The existing units are required to cease generation by the end of 2023 in line with the station's Industrial Emissions Licence.

2. Great Island Power Station is a 464MW Combined Cycle Oil Turbine (CCGT) (oil), located on the shores of Waterford Harbour at Great Island, Co. Wexford. The oil-fired station entered commercial operation in 2015, replacing the former oil-fired station at the site. It is now one of the cleanest and most-efficient power stations on the island of Ireland, generating enough electricity to power half a million Irish homes.

3. Rhode Power Station is a 104MW OCGT plant (gas/oil) situated at Rhode, Co. Offaly. It commenced commercial operation in 2004.

4. Tawnaghmore Power Station is a 104MW OCGT (gas/oil) plant situated south of Killala in Co. Mayo. It commenced commercial operation in 2003.

SSE's vision is to become the leading provider of flexible thermal energy in a net-zero world, and therefore has an important role in accelerating the transition to net zero. The Applicant is looking at opportunities to decarbonise and enable the transition to net zero across the SSE thermal assets in Ireland.

1.3 Overview of the Proposed Development

The Proposed Development will consist of the following main components:

- OCGT power plant (350MW) and associated building (40m x 57m x 30m high) including air intake.
- Emissions stack 55m in height (external diameter 9m) with continuous emissions monitoring systems (CEMS) platform.
- Selective Catalytic Reduction (SCR) with air intake filters, dilution fans, and skid.
- Generators fin fan coolers (OCGT) (23m x 6.4m x 6m high).
- Lube oil fin fan coolers (7m x 7.5m x 5m high).
- One unit transformer and one grid transformer with a firewall (20m x 0.6m x 15m high) separating.
- Fire suppression skid.
- Aqueous ammonia tank (2.5m diameter x 5m length).
- Propane gas tank and compound (2m diameter x 4.6m length).
- Demineralised water treatment plant (15m x 30m x 12m high).
- Demineralised water tanks (23m diameter x 18m high) (2 No. x 7,500m³ capacity).
- Raw water and fire storage water tank (21m diameter x 17 high) (5,900m³ capacity).

- Fire water module (10m x 10m x 8m high).
- HVO fuel storage tanks 3 No. tanks in total, 1 x 1500m³ capacity (14m diameter by 10m high) and 2 x 4,400m³ capacity (20m diameter x 14m high) with two unloading bays.
- Fuel polishing and transfer system building (20m x 15m x 8m high).
- HVO pipework (approximately 200m) underground in culverts
- Electrical connections from main transformer (unit) to an existing 220Kv substation (75m overhead cables).
- New wastewater treatment plant (underground).
- Administration building and workshop (40m x 13m x 5m high).
- Stores (25 x 12.5m x 10m high).
- Carparking (eight x spaces to the front of the administration and workshop building totalling 100m²).
- Flood defence wall and gates; and
- Demolition works.

In connection with and in addition to the above, the following infrastructure will be included as part of the Proposed Development:

- Internal roads.
- CCTV.
- external lighting, including lighting columns (6m in height).
- security fencing (2.4m high) and gates (1.15m high); and
- utilities, pipes, cables and surface water drainage connecting to existing outfalls.

Refer to the following Drawings (included within EIAR Volume III) submitted with this application, for an overview of the Proposed Development:

- 60695232-TBT-DR-001 – Proposed Site Plan
- 60695232-TBT-DR-002A – Proposed existing site elevations
- 60695232-TBT-DR-002B – Proposed site elevations A, B, C, D
- 60695232-TBT-DR-002C – Proposed site elevations (without flood wall) – A, B, C, D
- 60695232-TBT-DR-004 – Existing site plan – proposed building to be demolished
- 60695232-TBT-DR-005 – Site services layout
- 60695232-TBT-DR-009 – Proposed admin building, workshop, plan, elevations and sections
- 60695232-TBT-DR-011 – Proposed Demin water plant, plan, elevations and sections
- 60695232-TBT-DR-013 – Gas turbine unit, plan, section and elevations.

- 60695232-TBT-DR-015 – Fuel tanks, plan, elevations and sections
- 60695232-TBT-DR-016 – HV connection and transformers, plan and elevations
- 60695232-TBT-DR-019 – Proposed flood defence sections
- 60695232-TBT-DR-020 – Proposed flood defence structures
- 60695232-TBT-DR-022 – Proposed Lighting overall plan

The Proposed Development will operate to support the electricity supply system at times of peak demand and at times when other electricity generation sources are not sufficient to meet demand. It is likely therefore that the OCGT will remain on stand-by for the majority of the time and will be run mainly as required to complement the Country's renewable power generation technology.

An OCGT has been selected for the development as it is able to respond to changes in electricity demand by starting up quickly and achieving full output within a short period of time.

In addition to exceeding the electrical efficiency requirements specified by Best Available Techniques published for the energy sector, OCGT produces the least NOx emissions of the power generating technologies available for fast response plant (*European Commission (2017), Best Available Techniques (BAT) Reference Document for Large Combustion Plants*).

1.4 Location of the Proposed Development

The Site is situated at the SSE Tarbert site, in the townland of Tarbert Island, Co. Kerry, Ireland (Irish Grid Reference X; 475237; Y: 5826671). The entire SSE Tarbert site is located within the administrative area of Kerry County Council (KCC). The Proposed Development Site is bordered to the north, east and west by the Shannon Estuary. The existing Tarbert HFO Power Station, the island tank farm and a section of the 220Kv electrical substations are within the Proposed Development Site. The TEG Site and a National Oil Reserves Agency (NORA) mainland tank farm are located to the west and south-west of the Proposed Development Site boundary.

The Proposed Development is located off the N67 National Road which forms the route from Galway to Tarbert via the Tarbert – Killimer ferry crossing and connects the Site to the N69 Tralee / Limerick, located approximately 1.8km to the south. The Site is approximately 1.8km north of the town of Tarbert.

1.4.1 Surrounding Area

The location of the Site is shown in Plate 1.1. Within the wider area the Site is surrounded by the following features:

- Within – Areas of hardstanding, outbuildings which vary between storage sheds and workshops, the existing Tarbert HFO Power Station, the island tank farm, staff car parking and visitor's car parking area, the northern and southern site entrances, part of the EirGrid 220kV electrical transmission substation, and the power station reservoir.
- North – Tarbert Lighthouse and the Shannon Estuary.
- East – the N67 National Secondary Road and the Shannon Estuary.

- South-east –the Tarbert – Killimer ferry terminal, the N67 National Secondary Road and residential receptors.
- South – the TEG Site, a lagoon draining the Shannon Estuary and agricultural lands further south of the mainland.
- South-west – the TEG Site and the National Oil Reserves Agency (NORA) tank farm; and
- West – the Shannon Estuary.

The Site is zoned for 'Economic Development' (KCDP 9-25 Shannon Estuary) in the Kerry CDP (Kerry CDP) 2022-2028.



Plate 1.1: Location of the Site for the Proposed Development¹

1.4.2 Residential Receptors

There are two residential receptors adjacent (0m) to the Proposed Development Site (refer to Figure 7.4 in EIAR Volume III). The measurements are taken from the closest section of the Site boundary to the perimeter of the receptor (i.e., fence/ hedgerow). These properties comprise:

- Dwelling located off the N67 adjacent to the south of the Site boundary (0m distance).
- Dwelling located off the N67 adjacent to the south of the Site boundary (0m distance); and
- Dwelling located off the N67 approximately 260m south of the Site boundary.

¹ Source: OpenStreetMap, 2022 - Annotations Added

1.4.3 Designated Nature Conservation Sites

There are seven European sites located within the Zone of Influence (Zol) of the Proposed Development:

- River Shannon and River Fergus Estuaries SPA (004077) – 0km – SPA within Site boundary.
- Lower River Shannon SAC (002165) – 0km – immediately adjacent to Site boundary
- Stack's to Millaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) – 6.6km south-east
- Moanveanlagh Bog SAC (002351) – 13.9km south
- Blasket Islands SAC (002172) – 89km south-west, 95km hydrological connection
- Kilkieran Bay and Islands SAC (002111) – 70km north, 117km hydrological connection
- Slyne Head Islands SAC (000328) – 106km north-west, 134km hydrological connection.

1.5 Purpose and Structure of this Document

This CEMP sets out a series of proposed measures that will be implemented in full by the Contractor to ensure effective planning, management, and control during construction to reduce or avoid potential effects on the environment.

This CEMP has been produced in conjunction with the EIAR (AECOM 2023) (Volume I) and the *Natura Impact Statement* (NIS)² for the Proposed Development, with the aim of ensuring that design and mitigation measures reported in the EIAR are implemented in full and are effective, together with any additional mitigation measures required under any planning conditions to reduce or avoid significant adverse effects within the parameters in this CEMP. Site-specific controls, which will be included within the CEMP, would be developed in accordance with the measures set out in this CEMP. The CEMP will be a key contract document that the contractor will be required to implement in full.

The Contractor will comply, as a minimum, with applicable environmental legislation at the time of construction, together with any additional environmental controls imposed by KCC. The CEMP will, therefore, ensure compliance with relevant environmental legislation, the mitigation measures set out within the EIAR, the NIS and this CEMP, and any planning approval conditions (should planning approval be granted). Any additional construction licences, permits or approvals that are required will be obtained by the contractor, including any environmental information submitted in respect of them.

Further guidance on specific areas, such as soil handling and dust management, are taken from industry best practice guidance documents, as set out in each discipline section of this CEMP. The references to guidance documents are not intended to be exhaustive.

The structure of this CEMP, is as follows:

² AECOM (2023).

- **Section 2** provides the proposed construction arrangements that have been assessed in the EIAR.
- **Section 3** presents additional information that will be included under each sub-section within the CEMP as implemented by the Contractor, which includes:
 - environmental impacts.
 - impact avoidance or reduction of measures to be applied. Including any measures identified during the detailed design or construction phase.
 - any other additional mitigation measures.
 - additional surveys or monitoring considered necessary pre-construction or during construction in order to confirm the status of receptors, and the effectiveness of impact avoidance / mitigation measures.
 - corrective action procedure to be applied, where necessary; and
 - links to other complementary plans and procedures.

In summary, the CEMP will identify how commitments made during the assessment (and reported in the EIAR) will be translated into actions on-site.

The Contractor will be responsible for working in accordance with the environmental controls documented in the EMP, which will allocate responsibilities for environmental performance. The overall responsibility for implementation of the CEMP will rest with the Applicant.

2. Construction Phase Arrangements

2.1 Indicative Programme

A ten-year planning permission is being sought from An Bord Pleanála (ABP). Subject to receipt of planning permission, the construction phase will commence in Q2 2024 with the projected completion of the Proposed Development by Q3 2026. The construction phase of the Proposed Development will be up to 29 months.

2.1.1 Pre-Construction Phase

The pre-construction phase of the development includes preparatory works and consultation with statutory bodies (Health and Safety Authority (HSA), Environmental Protection Agency (EPA)). Pre-construction phase works will involve establishing the Site (i.e., materials / plant compounds), site clearance and preparation works, erection of fencing, installation of pollution control measures / pre-earthworks drainage, and setting-up of traffic management measures. Pre-construction activities will include, but not limited to the following works within the Site:

- Site levelling.
- Removal of landscaping and shrubs, including roots.
- Removal of lighting masts, etc.

- Removal of redundant underground cables, pipes and other services.
- Removal of concrete footpaths, internal roads etc.
- Connection of services / facilities to contractor's offices.
- Site perimeter fencing.

During the pre-construction works period, assessment of the buildings and structures proposed for demolition will be undertaken to determine they are clear of hazardous materials, refer to Section 2.2. The Site has been in use for electricity generation for many years and its history of use is well known and documented. Some areas of the Site will require excavation for construction purposes.

Construction Compounds

The proposed location of the construction compounds will be entirely within the Site of the Proposed Development, refer to Section 2.3.1.1.

2.2 Demolition Phase

As part of the construction phase and site preparation, the works will include the demolition and removal of ancillary buildings/structures associated with the existing Tarbert HFO Power Station (but not the Tarbert HFO Power Station building) as follows, refer to Plate 2.1:

- Carpenters workshop (1200m³).
- Boiler ash and brickwork
- Water treatment plant (9500m³).
- Wastewater treatment plant
- Demin tank
- Fuel lines
- Contractor / Canteen building (3300m³).
- Boiler wash open top storage tank (5,500m³).
- Mechanical workshop
- Chemical storage bund(175m³).
- Shot blasting shed.
- Lube oil store (2800m³); and
- Site toilets (300m³).

Tarbert HFO Power Station is due to close by the end of 2023 as it selected the Limited Lifetime Derogation under the Industrial Emission Directive (IED). As the Tarbert HFO Power Station is an EPA licenced facility, a site closure and restoration/aftercare plan is required to be in place and be to the satisfaction of and agreed with the EPA. The site closure plan falls under the remit of the existing Tarbert HFO Power Station Industrial Emissions Licence (IEL).

Although the presence of asbestos is unknown in the buildings fabric, a full Refurbishment Demolition Asbestos Survey (RDAS) and report will be undertaken prior to any demolition works being carried out.

Where asbestos is found in the buildings, an Asbestos Management Plan will be implemented. Asbestos containing material (ACM) identified will be removed. Asbestos will be disposed of under licence in suitable manner.

In addition, oversight inspection for ACM by qualified personnel will be undertaken throughout the demolition works.

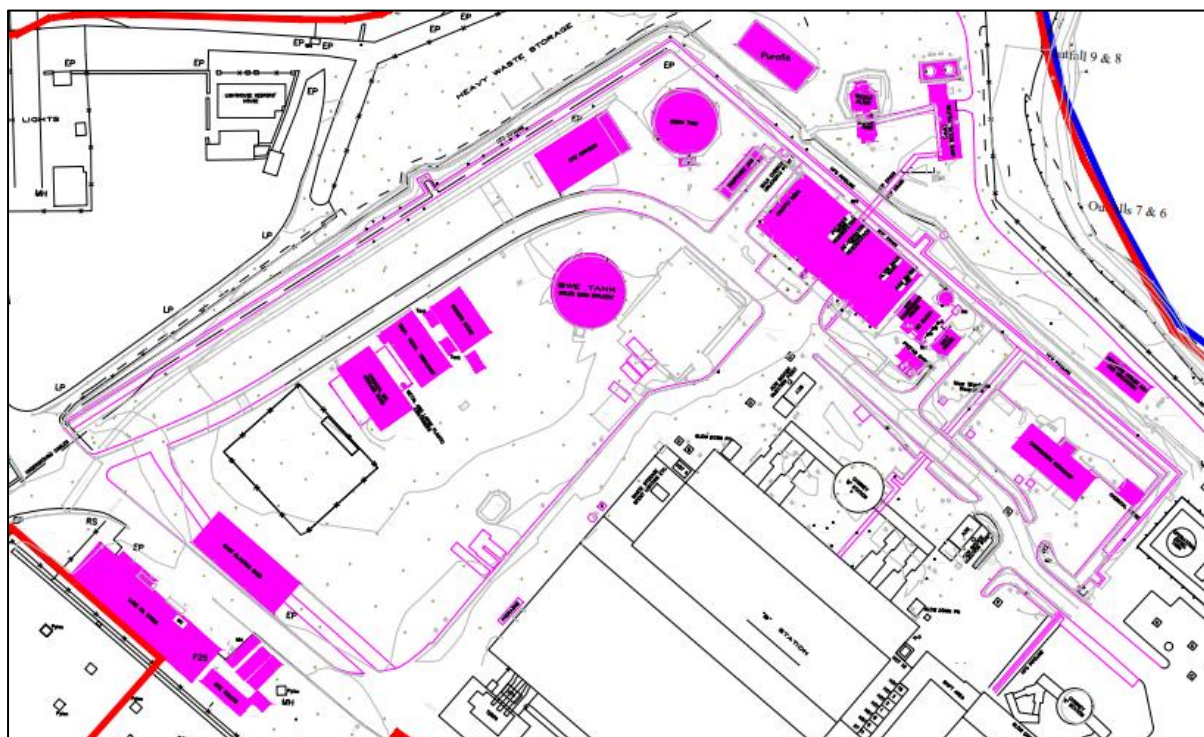


Plate 2.1: Location of Structures for demolition (Drawing 60695232-TBT-DR-004).

It is anticipated that the demolition works will involve the following activities:

- Installation of temporary supports as designed and specified by a Chartered Civil and Structural Engineer.
- Careful isolation of building structures from any adjacent structures.
- Demolition of non-load bearing elements such as masonry infill walls, masonry partition walls, steel access platforms, etc.
- The careful and sequential removal of roofs and wall cladding.
- Controlled demolition of the structural frame of each building from roof to ground level, including ground floor slabs, strip footings, ground beams and pile caps if found.
- Existing foundations, substructures and services which will affect the construction of the plant will be excavated and demolished and diverted where required.

All materials will be segregated, classified and disposed of off-site in line with the existing Industrial Emissions licence for the station.

2.3 Construction Phase

Whilst the construction sequence as proposed is the anticipated sequence, the Contractor will ensure that the sequence will be in accordance with the commitments provided in the EIAR subject to compliance with any planning conditions. The Site will be secured so that it is always left in a safe manner.

2.3.1 Construction Activities and Programme

Construction activities will progress from site set-up and preparation to construction of the various components, followed by commissioning and testing of the Proposed Development.

The Applicant will appoint a Contractor for the main constructions works and this contractor will appoint subcontractors to undertake the specific construction works and civil works. The construction phase of the Proposed Development will comprise:

- temporary construction and laydown areas (hardstanding).
- install temporary services.
- open storage areas, temporary facilities and plant storage areas.
- construction compound to include the staff office and welfare facilities.
- temporary vehicle parking facilities.
- security fencing / gates; and
- lighting and signage.

The construction phase of the Proposed Development will be up to 29 months. The appointed Contractor will indicate the duration of construction works in the Contractor's CEMP. The CEMP will be agreed with KCC.

Table 2.1 shows the estimated development programme.

Table 2.1: Development Programme

Site Action	Time Period
Mobilisation and Site Prep	1-7 Months
Demolition works	3-8 Months
Construction Works	7-27 Months
Fuelling and Commissioning	25-29 Months

2.3.1.1 Construction Compounds

As noted, the location of the construction compounds will be entirely within the Proposed Development Site. The construction compounds will be secured with temporary fencing and will include additional laydown facilities, staff welfare facilities and temporary services on the Proposed Development Site.

Access to the construction compounds will be security controlled and all visitors will be required to sign in on arrival and sign out on departure.

The construction compounds will not be for long-term storage of materials, and storage but will be for the duration of the construction phase only. The existing Tarbert HFO Power Station building will be utilised for office space, storage and laydown were possible.

Foul water from welfare facilities during the construction phase will be either connected to the existing site wastewater treatment system or collected and periodically removed from the Site by road tanker.

For the duration of the construction phase, mobile plant will be returned to a secure overnight plant storage area on the Site, at the end of each shift. Drip trays will be utilised under the various types of plant.

Storage areas will be provided for flammable / toxic / corrosive materials, in a separate location that will be locked, impermeable, bunded and fenced off. Material data sheets will be used for all these materials.

2.3.1.2 Site Access

The Proposed Development construction traffic will use two existing entrances, both located off the N67, which also serve the existing Tarbert HFO Power Station.

It is anticipated that the extent of Heavy-Duty Vehicle (HDV) movements will vary throughout the construction phase works, in response to the specific construction activities taking place.

2.3.1.3 Security

The Site will be separated from the existing Tarbert HFO Power Station during the construction phase and the Contractor will control all aspects of Site security.

The Proposed Development will be securely fenced and monitored at all times by CCTV surveillance.

2.4 Working Hours

Construction phase works will take place between the hours of 07:00 to 19:00 (Monday to Friday) and 08:00 to 15:00 (Saturday). No works will take place on Sundays or Bank Holidays.

Construction works outside these hours may only take place in exceptional circumstances (i.e., for specific engineering works e.g., concrete pours, commissioning, and testing, etc.), and this will be agreed in advance with KCC. It is likely that some construction phase works, such as concrete pours will also be for 24 hours works, for limited durations. In these exceptional cases, KCC may permit works to proceed outside the above times / days. This will be subject to written agreement with KCC, prior to such works commencing. Work conducted outside of core hours, will comply with any restrictions agreed with the planning authorities, in particular regarding the control of noise and traffic.

2.5 Environmental Training

2.5.1 Site Induction

All personnel working on the Proposed Development will attend a site induction. Personnel attending such an induction will complete a site induction record acknowledging attendance and confirming that they understand and agree to comply with the requirements of the Site. Copies of all certificates of competency, licences and other qualifications as deemed necessary by the Contractor will be copied and documented. The environmental induction will run concurrently with safety awareness training.

The induction will include:

- overview of the goals and objectives of the environmental policy and CEMP.
- awareness in relation to the environmental risk associated with the Proposed Development and methods of avoiding environmental risks as identified within the CEMP, the planning conditions, and any other relevant plans, documents, or reports.
- awareness of roles and individual responsibilities and environmental constraints to specific jobs.
- location of any sensitive receptors on or adjacent to the Site.
- location of habitats and species to be protected during construction, how activities may affect them and methods necessary to avoid impacts, controls to minimise noise and the importance of pollution prevention measures to protect nearby watercourses and sensitive receptors including residential properties.
- information on the environmental emergency response procedure to be followed onsite, should an environmental emergency occur, including contact details for key Site personnel to contact in an emergency; and
- information on the storage locations of spill kits across site and on the correct use of spill kits.

2.5.2 Daily Pre-Work Briefings, Toolbox Talks and Training

All supervisors are required to carry out daily briefings at the commencement of each shift to ensure environmental issues specific to the work being performed are being understood, evaluated and addressed. All personnel involved with site works will be briefed and sign onto the daily briefing form prior to commencing activities.

Toolbox Talks will be conducted prior to the start of specific work elements where there is a substantial environmental risk or when required to reinforce ongoing environmental issues and will be repeated as necessary over the duration of the relevant works. Any toolbox talk training conducted will ensure that relevant information is communicated to the workforce and that feedback can be provided on issues of interest or concern.

Personnel and sub-contractors working on environmentally sensitive sites will be provided with environmental training to achieve a level of awareness and competence appropriate to their assigned activities. Targeted environmental awareness training may be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. Environmental training will be recorded, and the records will be available for inspection upon request.

All personnel and staff involved in the construction of the Proposed Development will be briefed on the ecological risks present and ecological sensitivities of the Site and its environs through 'Toolbox Talks' and provision of clear information about protected species and restricted areas and activities and will be made aware of the presence of ecological features (including the Qualifying Interests (QI) / Special Conservation Interests (SCI) features of European sites) in the vicinity of the Proposed Development and the mitigation measures and working procedures which must be adopted. Toolbox Talks will also cover legal requirements and working arrangements necessary to comply with legislation. All staff (including sub-contractors) will receive regular updated talks and briefings.

Clear instruction on hazardous wastes and the particular dangers of each hazardous waste will be incorporated into training. Table 2.2 summarises the indicative environmental training that is proposed to be undertaken as a minimum as part of the Proposed Development.

Table 2.2: Summary of Training Requirements

Training	Target	Frequency	Record
Site Induction	All Site personnel	Prior to working onsite	Induction Record Form
Daily Pre-working Briefings	All Site personnel	Prior to commencing daily works	Briefing Record Form
Toolbox Talks	Personnel relevant to the topic	As required	Toolbox Record Form
Project Management Meeting	Project Managers Engineers and Site Supervisors	Monthly	Meeting Minutes Record
Environmental Training	Personnel relevant to the activity	Quarterly or more frequently as required	Training Attendance Form
Environmental Bulletin	All company and Project personnel	As required	Environmental Bulletin Form

2.6 Complaints

A Complaints Register for internal communication and for receiving, documenting and responding to environmental complaints from external parties will be established and will be maintained.

When a complaint is received (telephone calls and letters of complaint etc.), the following information will be taken as a minimum:

- Date and time of the complaint are recorded.
- Name of complainant (if provided).
- Nature of the complaint.

A mechanism for managing stakeholders' questions, concerns, and grievances from local residents and stakeholders' will be implemented, appropriate conflict resolution processes will be implemented to ensure any issues are heard by the developer. All complaints received from external sources and incidents will be reported to the project's Community Liaison Officer, Construction Environmental Management Plan Co-ordinator (CEMPC) / Environmental Site Officer, and the appropriate site personnel. Measures will include but will not be limited to:

- Complying with the requirements of the Data Protection Act, and other relevant legislation, the Community Liaison Officer in conjunction with the Contractor will record all Complaints, Comments and Queries (correspondence) received during construction. Stored data will be secured against theft, intrusion, or modification by malicious third parties in-line with current best practice.
- The Community Liaison Officer in conjunction with the Contractor will record any actions, including further correspondence, taken in respect of any Complaint, Comment or Query.
- The following timescales will apply in the Community Liaison Officer's management of correspondence following submission:
 - within eight working hours from receiving the complaint, an acknowledgement will be sent to the correspondent; and
 - within 72 hours, the Community Liaison Officer will issue a response to any correspondence detailing further actions to be undertaken.
- The Community Liaison Officer in conjunction with the Contractor will aim to have completed and implemented their actions within seven working days of receiving correspondence.

2.7 Communication

The project Community Liaison Officer together with the Contractor will:

- develop and implement a stakeholder communications plan that includes community engagement before work commences on-site.
- display the name and contact details of the Community Liaison Officer accountable for complaints and / or queries on the Site boundary during working hours; and
- display the name and contact details of the person(s) accountable for complaints and / or queries on the Site boundary outside of regular workings hours.

2.8 Site Housekeeping

Good housekeeping is an important part of good environmental practice and helps to maintain a more efficient and safer site. The Site will be tidy, secure, and have clear access routes that are well signposted. The appearance of a tidy, well-managed site can reduce the likelihood of theft, vandalism, complaints and / or specific hazards that could affect the safe operation of the other businesses in the area, such as bird hazards and wind-blown litter.

As outlined in the fourth edition of Construction Industry Research and Information Association's (CIRIA's) '*Environmental good practice on site guide*' (C741), when considering good housekeeping, the Contractor will implement the following steps:

- Adequately plan the Site with designated areas of materials and waste storage.
- Segregate and label different types of waste as it is produced and arrange frequent removal.
- Keep the site tidy and clean.
- Ensure that no wind-blown litter or debris leaves the site, use covered skips to prevent wind-blown litter.
- Keep hoarding tidy - repair and repaint when necessary, removing any fly posting or graffiti.
- Frequently brush-clean wheel washing facilities and keep haul routes clean from site derived materials.
- Keep roads free from mud by using a road sweeper.
- Ensure the Site is secure.

2.9 Traffic Management

A Construction Traffic Management Plan (CTMP) has been prepared as part of this planning application, refer to Appendix 14B, Volume II of the EIAR. The CTMP ensures the proposed work activities in, near or having impact upon the public highway, are undertaken safely and with minimal impact on traffic movement and existing infrastructure throughout the works programme.

Prior to commencement of construction works the Contractor will draw up detailed Method Statements which will be informed by this proposed Construction Methodology, environmental protection measures included within the planning application, measures proposed within the CTMP, and the guidance documents and best practice measures to be implemented in full during the construction phase.

During construction, the Contractor will ensure that the impacts from construction traffic on the local community (including local residents and businesses and users of the surrounding transport network) are minimised, by implementing the measures set out in the CTMP, Appendix 14B, Volume II of the EIAR.

The Contractor will make existing residential premises aware of the proposed works which will be undertaken in the Site. Therefore, the Contractor will accommodate and make provision for access and egress to these premises paying particular attention to the provision of pedestrian / disabled / cyclist safe access and egress. The CTMP will include measures to limit the amount of queuing required by

construction vehicles outside the Site boundaries (refer to Section 1.10 of Appendix 14B in Volume II of this EIAR).

Section 1.5 of the CTMP (refer to Appendix 14B, EIAR Volume II) states that all such construction traffic will arrive via the N69 and the N67.

It is anticipated that most major equipment deliveries will travel to the Site from Foynes Port, which is located approximately 25km east, off N69. Fuel deliveries and deliveries of smaller materials are expected to be transported from various locations across ROI and deliveries of materials will come from a range of different local sources (exact locations to be confirmed once a Contractor is appointed).

As set out in the Construction Traffic Management Plan (CTMP) (refer to Appendix 14B, EIAR Volume II), all construction traffic (HDVs) associated with the Proposed Development (heavy haul, general deliveries, and site operatives) will arrive via the N69 and the N67 and other National/ Regional Roads where possible.

All abnormal loads associated with the Proposed Development will be informed and agreed by An Garda Síochána, KCC and other affected local authorities in advance of any abnormal load movement (longest components up to 20m in length) as these may require road closures or other temporary measures. An abnormal loads report will be undertaken by the Contractor to assess the suitability of each abnormal load route and the proposed timing of travel.

The appointed Contractor will provide detail of any HDV routing in the CTMP. As previously noted, these routes will follow National and Regional Roads where possible. This will consider deliveries from any other locations.

The majority of construction staff will arrive before 07:00 each working day (weekday) and before 08:00 on Saturdays. Due to the nature of the work and the various shifts that staff will be scheduled for, the departure times will vary on the length of shift that the personnel undertake on any given day. It is anticipated that most staff will undertake a 12-hour shift (departing at 19:00) and a small proportion will complete an 8-hour shift, departing from the Site at approximately 15:00. Staff on Saturday will undertake a 7-hour shift. The exact scheduling and staff shift numbers will be confirmed by the appointed Contractor. The employment levels will vary throughout the construction phase of the Proposed Development. Months 12 to 22 will observe the highest number of staff vehicle arrivals on the Site with a maximum of 200 staff on Site at once.

Based on observations at other similar construction sites, there is a common car occupancy of two staff. For this development a car occupancy of 1.5 has been used to account for some site management movements which will require individual travel. When applying this to the peak employment period, it is calculated that there will be 133 staff vehicles (LDVs) arriving to the Site each day during the peak months (266 LDV two-way trips).

Other LDVs will also arrive to the site with peak arrivals also during the same Months 12 to 22. Therefore, during these months a total of 139 LDVs will arrive to the site (278 two-way trips – staff and other LDVS).

HDV movements are expected to peak in Months 28 -29 with a total of 22 HDV arrivals each day (44 two-way trips).

However, to allow for a worst-case assessment, the peak LDV trips during Months 12-22 (278 two-way trips) will be assessed alongside the peak HDV trips from Months 28-29 (44 two-way trips).

Staff vehicles and other LDVs/HDV's are not expected to arrive at the same time each day. It is forecast that construction phase HDV's will arrive in a relatively uniform pattern throughout the day e.g., 22 movements over 12-hours produces a maximum of two HDV arrivals per hour to the Site. The same applies to 'other' LDV movements, resulting in a maximum of one 'other' LDV arrival per hour. This results in a two-way flow of four HDV's and two LDV's per hour throughout normal 07:00 to 19:00 construction weekday working hours.

Some abnormal loads may be delivered at off peak times due to the nature of the load and the space the load takes on the road network. In these exceptional cases, KCC may permit works to proceed outside the above times / days. This will be subject to written agreement with KCC, prior to such works commencing. Work conducted outside of core hours, will comply with any restrictions agreed with the planning authorities, in particular regarding the control of noise and traffic.

The Contractor will distribute the HDV routing plan to all HDV drivers during their induction. It will be a condition of contract between the Applicant and the Contractor to require that all construction HDV deliveries must use the designated routes to access and egress the Site. Sanctions will be put in place to deal with non-compliance.

The Contractor will erect temporary signage on Site to appropriately direct all HDV traffic relating to the Proposed Development (both accessing and egressing the Site), any signage the Contractor wishes to erect outside of the Site will require the necessary approvals from local authorities. The Contractor will be required to maintain all the HDV route signage.

The CTMP will be updated by the Contractor in consultation with KCC prior to the commencement of work on-site to include any planning conditions or requirements of KCC. No works will commence until such time that the CTMP is updated in accordance with any planning conditions or requirements of KCC.

2.10 Parking Provisions

Employment levels will vary throughout the construction phase, and it is expected that peak staffing levels will occur from months 12 to 22, when 200 no. staff will be required, equating to 278 two-way LDV trips.

Areas will be designated for staff parking within the Site.

Where works are to take place at off peak times, sufficient on-site parking will be available for staff and visitors.

2.11 Wheel Cleaning Facility

In the interests of highway safety, wheel cleaning facilities will be installed at the Site, near to the Site compound from the start of the construction phase. All HDV will be required to use the wheel wash prior to exiting the Site.

2.12 Road Sweeper

If required as identified by routine visual inspections, a mechanical road sweeper will be employed to clean the public roads adjacent to the Site of any residual debris that may be deposited on the public roads leading away from the construction works.

2.13 Site Lighting

Construction work outside daylight hours will be undertaken using adequate site lighting to ensure safe working conditions. Outdoor lighting will be minimised to that required to meet health and safety requirements. Site lighting during construction will be designed to avoid light spill and will be pointed down at a 45-degree angle and away from sensitive receptors.

Lighting will consist of LED luminaires due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. A warm white spectrum will be adopted to reduce blue light component. Light spill will be controlled by the use of luminaires with an upward light ratio of 0% and with good optical control.

Lighting will be designed so as not to cause a nuisance outside of the Site in relation to views from residential receptors or light disturbance to ecological receptors. The Site compound will have external lights for safety and security.

The temporary lighting will be fitted with directional cowls to prevent light spill to the surrounding area.

- Construction lighting will be designed so as to be sensitive to the potential presence of bats and will adhere to the following guidance:
 - Bats & Lighting: Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Trust (2010)).
 - Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals (2011)).
 - Bats and Lighting in the UK - Bats and the Built Environment Series (Bat Conservation Trust UK (2008)).
 - Guidance Note 01/21 The Reduction of Obtrusive Light (Institution of Lighting Professional, 2021).

All lighting systems will be designed to minimise nuisance through light spillage. Shielded, downward directed lighting will be used wherever possible, and all non-essential lighting will be switched off during the hours of darkness.

2.14 Recycling and Disposal of Waste

To control the waste generated during the site preparation and construction phase, the Contractor will minimise the creation of waste, maximise the use of recycled materials and assist the collection, separation, sorting, recycling and recovery of waste arisings, as far as reasonably practicable. The waste hierarchy outlines that waste prevention and minimisation are the priority in managing wastes, followed by waste reuse and recycling, with disposal being considered as a last resort.

A Resource and Waste Management Plan (RWMP) has been prepared in line with best practice guidelines such as the EPA '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction and Demolition Waste Projects*' 2021. The RWMP will be developed to control construction activities to minimise, as far as reasonably practicable, impacts on the environment and will specify the waste streams to be estimated and monitored and will set goals with regards to the waste produced. An RWMP is included in Appendix 18A, Volume II of the EIAR.

2.15 Best Practice Measures

Construction industry guidance (e.g., from the CIRIA) will be adopted as far as reasonably practicable to assist in reducing the potential for pollution and nuisance. This will be achieved by employing best practice measures.

2.16 Soil Management

Impacts relating to the handling, movement and temporary storage of soils, will be controlled as set out in this CEMP. Measures that will be implemented in full include:

- a method statement for the works to include soil handling and storage proposals.
- a restoration specification (where applicable); and
- a post-works survey to confirm condition (where applicable).

Soils will be managed in accordance with the *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites* (September 2009)³ to minimise impacts on soil structure and quality.

The Contractor will develop a Soil Resource Plan (Soil / Sediment Control Plan) in accordance with relevant legislation and guidance. The plan will include information / details on such topics as:

- soil handling procedures, legislation and guidance used.
- good practice and general principles of soil handling.
- methods of stripping, stockpiling and stockpile maintenance, resspreading and include an outline of the machinery to be used.
- haul routes to be used.
- the location and content of each soil stockpile.
- schedule of volumes of each material.
- expected after use / disposal of material (in line with all relevant legislation).
- roles and responsibilities including a list of responsible personnel for soil management supervision.
- seasonal working constraints.
- testing of soil conditions.

³ [Code of practice for the sustainable use of soils on construction sites - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

- importing soil to the Site; and
- transport of soil to and from Site.

3. Impact Avoidance and Mitigation Measures Implementation Plan

3.1 Overview

This section sets out the embedded impact avoidance and additional mitigation, enhancement and management measures. It also illustrates where confirmatory surveys will be carried out, either pre-construction or during construction. It describes how the monitoring strategy will be implemented in order to assess the effectiveness of mitigation measures, monitor the impact of construction works and take other actions necessary to enable compliance.

The Contractor will identify the responsible party for each mitigation, enhancement measure or monitoring requirement.

3.1.1 Air Quality

Table 3.1: Air Quality

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>The movement and handling of potentially dusty materials, such as soil, sand and hardcore.</p> <p>Dust emissions and subsequent deposition and soiling at sensitive locations have the potential to harm the amenity of the users of that sensitive land use and or harm vegetation by affecting the rate of photosynthesis.</p> <p>Particulates emissions at sensitive locations is associated with increased risk of human health.</p> <p>Pollutants associated with combustion will be emitted to air from onsite construction plant and Non-Road Mobile Machinery (NRMM) operations during construction.</p> <p>Emissions have the potential to affect air quality and give rise to air quality impacts, typically in the form of exposure to increased short-term concentrations of pollutants at nearby sensitive receptors.</p> <p>Due to the distance between the construction Site boundary (and works within) and the nearest air quality sensitive receptor (on the Site boundary)), and the temporary and intermittent nature of such emissions, it is considered that Site plant and NRMM emissions impacts will not have a significant effect on local air quality.</p> <p>No significant effects are predicted based on the application of appropriate control measures.</p>	<p>Dust Mitigation</p> <ul style="list-style-type: none"> • The IAQM guidance relevant to the construction dust assessment⁸ lists measures that should be applied, if practical, relative to the risk identified. In this instance, a low risk of dust impacts was identified. Therefore, the list of IAQM recommended mitigation measures provided below is proportionate to the risk identified. • Of the recommended IAQM dust (and particulate matter) mitigation measures for low-risk sites, those to be implemented during the works are as follows: <ul style="list-style-type: none"> – Inclusion of a comprehensive list of dust control measures within the CEMP by the contractor. – Record any exceptional incidents that cause dust and / or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook. – Undertake daily onsite and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. – Avoid site runoff of water or mud. – Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on-site. If they are being re-used on-site cover as described below. – Cover, seed or fence long-term stockpiles to prevent wind whipping. – Ensure all vehicles switch off engines when stationary - no idling vehicles. – Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. – Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. 	<p>Dust monitoring or recording will be undertaken as a minimum as set out below and further measures as agreed with KCC.</p> <p>In the event that significant or unacceptable dust effects on receptors arise from an activity – due to dry weather and high winds for example – activities will cease, and additional mitigation measures applied.</p> <p>Monitoring will be carried out as follows:</p> <ul style="list-style-type: none"> • undertake daily on-site and off-site inspections, where receptors (including roads) are adjacent to monitor dust, record inspection results and make the log available to KCC when asked. • carry out regular site inspections, record inspection results and make an inspection log available to KCC when asked. 	<p>Roles and responsibilities will be confirmed in Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> - Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. - Make the complaints log available to the local authority when asked. - <p>Additional site-specific measures that will be implemented in full include:</p> <ul style="list-style-type: none"> - Cutting and grinding operations, if required, will be conducted using equipment and techniques that reduce emissions and incorporate appropriate dust suppression measures. - Damping down of dust-generating equipment and vehicles within the Site and the provision of dust suppression in all areas of the Site that are likely to generate dust. - Use water suppression and regular cleaning during earth moving activities. - Materials stockpiles likely to generate dust enclosed or securely sheeted, damped down or stabilized as appropriate. - Covering materials, deliveries or loads entering and leaving the construction site. - Mixing of grout or cement-based materials will be undertaken using appropriate techniques / mitigation. - Measures will be taken to keep roads and accesses clean; and - Vehicle, plant and equipment maintenance records will be kept on-site and reviewed regularly. 	<ul style="list-style-type: none"> • increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions; and <p>if required, agree dust deposition, dust flux or real-time PM₁₀ continuous monitoring locations with Kerry County Council. Where possible commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences. The guidance by IAQM for monitoring will be adhered to.</p>	
	<p>A wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable) will be implemented as follows: The contractor will ensure that there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.</p>		

3.1.2 Cultural Heritage

Table 3.2: Cultural Heritage

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>A total of eight designated cultural heritage assets, comprising two Protected Structures and one National Monument, were considered to be potentially sensitive to change from the Proposed Development.</p> <p>Construction of the Proposed Development has the likelihood to impact heritage assets in the following ways:</p> <ul style="list-style-type: none"> • Partial or total removal of heritage assets during Site Clearance and construction of the Proposed Development and associated features and infrastructure within the existing SSE Tarbert site. This includes the erection of a 55m tall emissions stack which will be constructed on the northern side of the Proposed Development. • Impact of any landscaping, soil regarding and planting on the setting of heritage assets, and damage caused by associated planting or earthwork embankments. • Change to the setting of heritage assets, including visual and noise intrusion, and changes in traffic levels (construction phase only). 	<ul style="list-style-type: none"> • Toolbox talks will be undertaken when necessary to inform construction supervision staff and site operatives of the requirements. • Appropriate measures will have been implemented at construction phase to avoid or reduce adverse visual impacts. 		
<p>No significant effects are predicted based on the application of appropriate control measures.</p>			

3.1.3 Biodiversity

Table 3.3: Biodiversity

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Potential broad categories of impact which could arise during the construction phase:</p> <ul style="list-style-type: none"> • Permanent and / or temporary loss or degradation of habitats during construction, and potentially decommissioning also. • Airborne pollution as a result of emissions during construction, operation and / or decommissioning of the Proposed Development. • Disturbance of animal species during the construction, operation and / or decommissioning due to increased noise, vibration, lighting, or the presence of personnel, plant and / or machinery. • Damage or destruction of the resting places of protected or notable animal species. • Displacement of animal species during all phases of the Proposed Development. • Injury or mortality of plant or animal species during construction and decommissioning. • The spread of invasive non-native plant species during construction and decommissioning. <p>Loss and disturbance to other notable habitats within the Site.</p> <p>Disturbance effects upon SCI / protected / notable species from increased / changes to</p>	<p>Embedded Mitigation (as outlined in the NIS)</p> <p>Embedded mitigation is otherwise known as 'design mitigation'. It refers to the particular aspects of the design of a project which act to avoid or minimise negative impacts on receptors, including the Qualifying Interests/ Special Conservation Interests (QI / SCI) of European sites. Embedded design measures which will help to avoid significant effects from the Proposed Development on the QI / SCI of European sites include:</p> <ul style="list-style-type: none"> • there will be no works directly within the boundary of any European site; and • the majority of the Proposed Development footprint is within an area of existing hardstanding to the north of the existing SSE Tarbert Site. Existing roads and access routes will be used. This avoids the loss of a large amount of semi-natural habitats as a result of the Proposed Development and minimises potential for disturbance of QI / SCI species. <p>Sediment contamination / Contaminated run-off</p> <ul style="list-style-type: none"> • Excavations will only remain open for the shortest possible time to reduce groundwater ingress. Silt traps will be placed around the Site to reduce silt loss, and these will be inspected and cleaned or replaced regularly. • Run-off from spoil heaps will be prevented from entering watercourses by diverting it through settlement ponds and removing material off-site as soon as possible to designated storage areas. • Silt traps will be placed at any crossing points to avoid siltation of drainage channels and, silt fences will be used during the course of works in order to reduce the potential for pollution of watercourses as and when appropriate. These will be maintained and cleaned regularly throughout the construction phase. • Good construction practices will also be used during the construction phase, such as wheel washers and dust suppression on-site roads and at the Site access points. • Surface water run-off from working areas will not be allowed to discharge directly to Lower Shannon Estuary. To achieve this, the drainage system will be constructed prior to the commencement of major site works. 	<p>Ongoing monitoring for protected species will be carried out by the ECoW as required, for the duration of the construction phase.</p>	<p>Roles and responsibilities will be confirmed in Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>noise, lighting or changes in site conditions influencing species movements / dispersal / foraging.</p> <p>Other Protected Mammals: There will be a very minor loss of scrub and grassland habitat within laydown areas of likely value to hedgehog and Irish hare.</p> <p>Breeding Birds: There is a high likelihood (without mitigation) of accidental destruction of active nests during the construction phase through clearance of habitat.</p> <p>Dust can extend up to a distance of 50m from construction works.</p> <p>No significant effects are predicted based on the application of appropriate control measures.</p>	<p>Accidental Spills and Leaks</p> <ul style="list-style-type: none"> The contractor will designate a bunded storage area at the Contractor's compound(s) and away from surface water gullies or drains for oils, solvents and paints used during construction. The fuel storage tanks will be bunded to a volume of 110% of the capacity of the largest tank / container within the bunded area. Drainage from the bunded area will be diverted for collection and safe disposal. All containers within the storage area will be clearly labelled so that appropriate remedial action can be taken in the event of a spillage. When moving drums from the bunded storage area to locations within the Site, a suitably sized spill pallet will be used for containing any spillages during transit. 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. Spill kit facilities will be provided at the fuelling area in order to provide for any accidental releases or spillages in and around the area. Any used spill kit materials should be disposed of via a hazardous waste contractor. Where mobile fuel bowzers are used on the Site in the event of a machine requiring refuelling outside of the designated area, fuel will be transported in a mobile double skinned tank. Any flexible pipe, tap or valve will be fitted with a safety lock where it leaves the container and locked shut when not in use. Each bowser will carry a spill kit and each bowser operator will have spill response training. No refuelling will be allowed within 50m of Lower Shannon Estuary. Adequate stocks of hydrocarbon absorbent materials (e.g., spill-kits and / or booms) will be held on-site in order to facilitate response to accidental spills. Spill response materials will also be stored on all construction vehicles. <p>Environmental Clerk of Works</p> <ul style="list-style-type: none"> An Ecological / Environmental Clerk of Works (ECoW) will be employed for the duration of the construction of the Proposed Development. The ECoW will advise on and monitor implementation of ecological mitigation measures and compliance with legislative requirements in relation to ecological features. The ECoW will also carry out pre-works checks for protected and / or notable species and provide other ecological advice as necessary. 		
	<p>Training</p>		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> • All personnel involved in the construction and decommissioning of the Proposed Development will be made aware of the ecological features (including the SCI species of River Shannon SAC and River Shannon and River Fergus Estuaries SPA) within the zone of influence (Zol) of the Proposed Development and the mitigation measures and working procedures that must be adopted. • This will be achieved as part of the induction process and through the delivery of Toolbox Talks, where required. • In addition, as required, briefings will also be provided in advance of works which are considered to present an increased risk of impacting ecological features. <p>Construction Compounds</p> <ul style="list-style-type: none"> • Construction compounds will be fenced to prevent encroachment of personnel, machinery and materials onto adjacent habitats. • The temporary stockpiling of materials will be restricted to predetermined locations, such as compounds, and will not be done on undisturbed adjacent habitats. • Construction works will take place only within the Site boundary. <p>Air Quality</p> <ul style="list-style-type: none"> • Measures to minimise dust will be implemented during the construction and phase. <p>Noise and Vibration</p> <ul style="list-style-type: none"> • Measures to minimise noise generated during the construction phase of the Proposed Development will be implemented to minimise potential disturbance of SCI species. <p>The following 'best practice measures' (BPM) will be adopted as standard working practice:</p> <ul style="list-style-type: none"> • plant will be maintained in good working order so that extraneous noise from mechanical vibration, creaking and squeaking is kept to a minimum. • vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers, maintained in good and efficient working order, and operated in such a manner as to minimise noise emissions. • machines in intermittent use will be shut down or throttled down to a minimum when not in use. Vehicles shall not remain stationary on the site with engines running. • pneumatic percussive tools will be fitted with mufflers or silencers; and 		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> all compressors and generators shall be 'sound reduced' models fitted with properly lined and sealed acoustic covers or enclosures, which shall remain closed whenever the machines are in use. <p>All construction and decommissioning personnel will be instructed on BPM measures to limit noise and vibration as part of their induction training and as required prior to specific work activities. The ECoW will carry out regular inspections to ensure that BPM measures are being adopted and that noise levels are being minimised as far as possible. The ECoW will report any non-compliance to the contractor(s) and ensure that corrective actions are taken immediately.</p> <p>Other Mitigation</p> <ul style="list-style-type: none"> Prior to the commencement of construction, a survey for protected or notable species will be carried out to check for any changes to the baseline conditions described in this Biodiversity chapter (see EIAR Volume I, Chapter 9), in particular with regard to the locations of resting sites used by protected species such as badger. This will be completed not more than six months prior to the commencement of construction. The results will be reported and communicated to the appointed Contractor and appropriate avoidance / mitigation measures implemented, as required where there has been a change in the baseline conditions. <p>Construction Environmental Management Plan (CEMP)</p> <ul style="list-style-type: none"> A Contractor's CEMP will be prepared prior to commencement of construction. During all phases of the Proposed Development (construction), pollution prevention measures will be adopted including the following: <ul style="list-style-type: none"> controls and contingency measures will be provided to manage run-off from construction areas and to manage sediment. all oils, lubricants or other chemicals will be stored in an appropriate secure container in a suitable storage area, with spill kits provided at the storage location and at places across the Site. All outfalls and interceptors / separators will be inspected and confirmed to be in suitable working order prior to any development commencing on the Site; and in order to avoid pollution impacts to soils and vegetation during construction, all refuelling and servicing of vehicles and plant will be carried out in a designated area which is bunded and has an impermeable base. <p>Lighting</p> <p>Any artificial lighting required for construction works will be directional or minimise light spill. Habitats / Fauna</p>		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> • Sightings of protected or notable species within the Site during the construction phase will be recorded. If any evidence or sightings of protected species is found within 30m of works, then works in that area will stop immediately and the ECoW will be contacted for further advice. • Any excavations will be left with a method of escape for any animals that may enter overnight and will be checked at the start of each working day to ensure no animals are trapped within them. • Any pipes will be capped or otherwise blocked at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped. • As far as possible, works will be carried out in daylight to minimise the risk of disturbing protected species such as foraging / commuting bats and badger. • Any artificial lighting required for construction works will be directional to avoid or minimise light spill. <p>Birds</p> <ul style="list-style-type: none"> • As far as possible, works that will directly impact upon areas of vegetation that could be used by nesting birds will be undertaken outside of the breeding season, this being taken to be between March and August, inclusive. • Should vegetation clearance works be required during the breeding season, a pre-works check for active nests will be carried out by the ECoW or other suitably experienced ornithologist. • Such checks will be completed no more than 72 hours in advance of clearance works taking place as nests can be quickly established. • Where any active nests are identified, suitable species-specific exclusion zones will be implemented and maintained until the breeding attempt has concluded. <p>Protected Species Licensing</p> <ul style="list-style-type: none"> • No licensing is currently considered necessary as there will be no impacts on the resting sites of protected species. However, if the ECoW should subsequently find new resting places of protected species (such as bat roosts) during pre-commencement surveys, that will be damaged, destroyed or disturbed by works, then derogation license(s) may be required for those works to proceed. The ECoW will advise accordingly if this situation arises. <p>Precautionary Methods of Working for Protection of Reptiles</p> <ul style="list-style-type: none"> • There is considered to the potential for common lizard to occur on-site. Scrub vegetation to be removed will be inspected by the ECoW to check for the presence of common lizard before removal. • If any common lizards are found by the ECoW, they will be returned to sections of similar retained habitat 		

3.1.4 Landscape and Visual

Table 3.4: Landscape and Visual

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Landscape Effects: Direct and long-term change will occur locally where the Proposed Development will be physically located.</p>	<p>Considering the location and nature of the site adjacent to the existing Tarbert HFO Power Station and along the shore edge of the Shannon Estuary, landscape mitigation measures are not proposed as they will not be effective in screening the Proposed Development.</p>	<p>On-going monitoring for protected species will be carried out by the ECoW (Ecological Clerk of Works), as required, for the duration of the construction phase.</p>	
<p>Outside of the Proposed Development Site, indirect effects of construction work will not result in the permanent loss of key features.</p>	<p>The principal visual mitigation measures for the Overall Proposed Development is therefore inherent in the design of its architecture and its colour scheme. The proposed colour scheme will help to take the attention away from individual buildings and roofscapes and help blending-in the proposed built structures better with the landscape in available view from local residences, the public road network, including (elevated) scenic routes and from the estuary itself.</p>		
<p>Seascape Effects: The Proposed Development is located onshore and will result in direct effects on the seascape character area and type during the Construction Phase. Construction works will be located adjacent to existing industrial components (Tarbert HFO Power Station) of the Shannon Estuary and will intensify locally the industrial nature of the seascape character.</p>			
<p>Outside of the site boundary, the seascape character of either designation will not alter due to the nature, scale and location of the Proposed Development and the associated construction works.</p>			
<p>Visual Effects: During the construction stage, visual effects will be experienced in the vicinity of the site,</p>			

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>from locations with open views of sections of the Proposed Development, including views across the Shannon Estuary from the Tarbert – Killimer Ferry, along locations of the northern shores and the associated elevated landscapes of County Clare, as well as the southern shore towards Glin in County Limerick, west of the existing Tarbert HFO Power Station along the shores of County Kerry, and along the local road network where construction traffic will travel.</p> <p>Visual effects and their significance / quantity at construction phase will cause a noticeable change in existing views over a wide area. The construction of the Proposed Development will slightly intensify the existing visual industrial character of the site and will be most noticeable within close to middle distance view within approximately 4km distance from the boundary of the Proposed Development.</p>			

3.1.5 Noise and Vibration

Table 3.5: Noise and Vibration

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Noise levels are expected to vary depending on the work being carried out.</p> <p>Noise levels will likely be highest during the initial enabling period whilst louder activities such as earthworks and piling take place.</p> <p>As the construction phase develops, noise levels are expected to reduce as less noisy works (plant installation, internal works within structures) take over.</p> <p>During months 25 to 29 of the construction phase, there will be scheduled testing and commissioning of the Proposed Development. It is likely some noise sources associated with operation will occur concurrently with construction activities.</p> <p>No significant effects are predicted based on the application of appropriate control measures.</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> • To ensure noise levels are kept to a minimum and to reduce the risk of cumulative effects, the following measures will be adopted during the construction phase, as a minimum: <ul style="list-style-type: none"> – Good community relations will be maintained throughout the construction process. This will include informing residents on progress and ensuring measures are put in place to minimise noise and vibration impacts. – Fixed and semi-fixed ancillary plant such as generators, compressors and pumps will be located away from sensitive receptors wherever possible. – All plant used onsite will be regularly maintained, paying attention to the integrity of silencers and acoustic enclosures. – All noise generating construction plant will be shut down when not in use. – The loading and unloading of materials will take place away from residential properties, ideally in locations which are acoustically screened. – Materials will be handled with care and placed rather than dropped where possible. Drop heights of materials from lorries and other plant will be kept to a minimum. – Modern plant will be selected which complies with the large combustion plant (LCP) BATc. Electrical plant items (as opposed to diesel powered plant items) to be used wherever practicable. All major compressors to be low noise models fitted with properly lined and sealed acoustic covers. All ancillary pneumatic percussive tools to be fitted with mufflers or silencers of the type recommended by the manufacturers. – Site operations and vehicle routes will be organised to minimise the need for reversing movements, and to take advantage of any natural acoustic screening present in the surrounding topography. – No employees, subcontractors and persons employed on the Site will cause unnecessary noise from their activities e.g., excessive 'revving' of vehicle engines, music from radios, shouting and general behaviour etc. – All staff inductions at the Site will include information on minimising noise and reminding them to be considerate of the nearby residents. 	<p>A scheme for the provision of information to the relevant planning authority and local residents will be established to advise of potential noisy works that are due to take place and for monitoring of noise complaints and reporting to the KCC or immediate investigation and action.</p>	<p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<p>As far as practicable, noisier activities will be planned to take place during periods of the day which are generally considered to be less noise sensitive <i>i.e.</i>, not particularly early or late in the day.</p> <p>Measures to be put in place to ensure that employees know that minimisation of noise will be important at the Site:</p> <ul style="list-style-type: none">- Construction traffic from this and other concurrent development will be coordinated to minimise traffic and site noise impacts where possible.- Any noise complaints received during the construction phase will be investigated thoroughly. The results of the investigation, including measured noise and vibration levels at the time of the complaint, on-site activities and any corrective action taken, will also be reported to relevant stakeholders.		

3.1.6 Water Environment

Table 3.6: Water Environment

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>The main potential impacts associated with construction of the Proposed Development include:</p> <p>Pollution of water bodies by uncontrolled site run off: Vegetation removal, site stripping, vehicle movements and bulk earthworks as part of the construction would leave topsoil and superficial deposits exposed to erosion by wind and rain.</p> <p>Accidental pollution of water bodies by spillages:</p> <p>Any construction activities carried out close to surface waters involve a risk of pollution due to accidental spillage and leaks.</p> <p>While liquids such as oils, lubricants, paints, bituminous coatings, preservatives and weed killers present the greatest risk, fuel spillages from machinery operating close to watercourses also present a risk.</p> <p>The refuelling of general construction plant also poses a significant risk of pollution.</p> <p>Changes to groundwater levels, flows and contributions to GWDTEs by dewatering:</p> <p>Likely to arise from potential dewatering activities required to facilitate excavations for the HVO pipeline and underground electrical connections as well as any foundations required for the development.</p> <p>Changes to flood risk:</p> <p>Increase in site run-off leaving the Site during construction can lead to an increase in flood risk from pluvial sources.</p>	<p>General Surface Water Management</p> <ul style="list-style-type: none"> The existing surface water management system, such as drains, settlement ponds, outfalls and interceptors / separators, will be inspected and confirmed to be in suitable working order prior to any development associated with the Proposed Development commencing on the Site. Additional new drainage installations will be installed in early stages of construction, alongside the remaining existing drainage facilities, can be used to treat runoff for silt and hydrocarbons early on in the programme. Daily weather forecasting will also be used to inform the works schedule, ensuring excavation works do not coincide with high intensity or extreme rainfall events. The proposed surface water management system, including existing and proposed infrastructure, will be inspected and confirmed to be sufficient capacity to treat any additional water generated by the Proposed Development, including runoff from dust suppression, prior to discharge. Washout from power cleaning of drainage lines, oil interceptors or any other pipework which may contain pollutant will be collected and treated. No contaminated washout will be allowed enter any water body or be discharged to ground. There will be regular monitoring and prompt maintenance of the overall surface water management system throughout the construction works for the Proposed Development. This will ensure that the drainage system continues to function as designed. There will be no direct discharge to any water body at any time during the demolition, construction or decommissioning phases. All surface water run-off within the Site will be directed to this drainage system. <p>Sedimentation of Surface Waters</p> <ul style="list-style-type: none"> Excavations will only remain open for the shortest possible time to reduce groundwater ingress. Silt traps will be placed around the Site to reduce silt loss, and these will be inspected and cleaned or replaced regularly. 	<p>Weekly checks will be carried out to ensure surface water drains are not blocked by silt, or other items, and that all storage is located at least 50m from surface water receptors.</p> <p>A regular log of inspections will be maintained, and any significant blockage or spill incidents will be recorded for root cause investigation purposes and updating procedures to ensure incidents do not reoccur.</p> <p>All personnel working on the Site will be trained in the implementation of the procedures. This CEMP will be implemented in accordance with best practice.</p>	<p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> • Run-off from spoil heaps will be prevented from entering watercourses by diverting it through settlement ponds and removing material off-site as soon as possible to designated storage areas. • Silt traps and silt fences will be used if the need arises during the course of works in order to reduce the potential for pollution of watercourses. These will be maintained and cleaned regularly throughout the construction phase. • Good construction practices will also be used during the construction phase, such as wheel washers and dust suppression on-site roads and at the Site access points. • Surface water run-off from working areas will not be allowed to discharge directly to Cork Harbour. To achieve this, the drainage system will be constructed prior to the commencement of major site works. • All design and construction will be carried out in accordance with <i>CIRIA C532 Control of Water Pollution from Construction Sites Guidance for Consultants and Contractors</i>. • Dewatering fluids will be pumped via settlement tanks or collection basins where any solids in the water will settle out. 		
	<p>Fuel and Chemical Handling</p> <ul style="list-style-type: none"> • The Contractor will designate a bunded storage area at the Contractor's compound(s) and away from surface water gullies or drains for oils, solvents and paints used during construction. The fuel storage tanks will be bunded to a volume of 110% of the capacity of the largest tank / container within the bunded area. • The fuel storage tanks will be bunded to a volume of 110% of the capacity of the largest tank / container within the bunded area. • Drainage from the bunded area will be diverted for collection and safe disposal. • All containers within the storage area will be clearly labelled so that appropriate remedial action can be taken in the event of a spillage. • When moving drums from the bunded storage area to locations within the Site, a suitably sized spill pallet will be used for containing any spillages during transit. • 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. 		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> • Spill kit facilities will be provided at the fuelling area in order to provide for any accidental releases or spillages in and around the area. • Any used spill kit materials will be disposed of via a hazardous waste contractor. • All equipment and machinery will be checked for leaks and other potential sources of contaminants before arriving on-site and on a daily basis. Any equipment or machinery likely to introduce to contaminants will not be brought on-site or will be removed from the Site immediately if any leak is discovered. Spill kits will be available to machine operators, and they will be trained in their use. • The safe and secure storage of hazardous substances will be necessary during construction to reduce the potential for pollution from these sources. • No refuelling will be allowed within 50m of a waterbody and will only take place in designated areas, on hardstanding by appropriately trained personnel. • Adequate stocks of hydrocarbon absorbent materials (e.g., spill-kits and / or booms) will be held on-site in order to facilitate response to accidental spills. Spill response materials will also be stored on all construction vehicles. <p>Control of Concrete and Lime</p> <ul style="list-style-type: none"> • No wash-down or wash-out of ready-mix concrete vehicles during the construction works will be carried out at the Site within 20m of an existing surface water drainage point. Washouts will only be allowed to take place in designated areas with an impervious surface. • The principal Contractor will manage and mitigate concrete works ensuring that no concrete is laid during wet weather I achievable, so to reduce the risk of concrete being washed off Site and into the surface water drains or water bodies. • The mixing and pouring of concrete will take place within a designated impermeable area, at least 10m away from a water body or surface water drain to reduce the risk of runoff entering a water body, or the sub-surface, or groundwater environment. <p>Accidental Spillage, Flooding or Other Emergencies:</p> <ul style="list-style-type: none"> • Leaking or empty oil drums will be removed from the Site immediately and disposed of by an appropriately licensed waste disposal contractor. 		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none"> • Spill kits and oil absorbent material will be carried by mobile plant and located at vulnerable locations (e.g., near oil fired equipment). Booms will be held on-site for works near water body / drains. Spill kits will contain a breakable tie to show use and indicates whether it needs to be replenished. The Site Manager and Environmental Site Representative (ESR) will be responsible for replenishing spill kits. • An Emergency Response Plan will be prepared by the appointed Contractor and included in the CEMP and construction workers trained to respond to spillages. • A copy of the Emergency Response Plan will be kept in the Site Emergency Information File (along with other safety emergency preparedness plans) together with the results of any test of the plan. • Oil interceptors will be installed for refuelling areas; runoff from washing area that contains detergents which may prevent interceptors from working correctly will be prevented from entering oil separators by providing separate designated areas for washing and refuelling. • Discharge with oils and chemicals from vehicle washing areas will be considered as trade effluent and therefore will be disposed off-site. • The installation of protective bunds along all water body boundaries and drains during construction will filter contaminants and prevent adverse runoff. • Any plant, machinery or vehicles will be regularly inspected and maintained to ensure they are in good working order and clean for use. • Any site welfare facilities will be appropriately managed, and all foul waste disposed of by a licenced contractor to a suitably permitted facility. • During the construction phase, the Contractor will monitor weather forecasts on a monthly, weekly, and daily basis, and plan works accordingly. The Contractor will describe in the Emergency Response Plan the actions it will take in the event of a possible flood event. These actions will be hierarchical meaning that as the risk increases the Contractor will implement more stringent protection measures. This is important to ensure all workers, the construction site and third-party land, property and people are adequately protected from flooding during the construction phase. 		

3.1.7 Soils and Geology

Table 3.7: Soils and Geology

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>The potential impacts to land and soils include the following:</p> <ul style="list-style-type: none"> Accidental spills and leaks of oils and chemicals, which could impact soils and groundwater. Excavation and infilling of ground, which may lead to exposure of potentially contaminated subsoils, increased rainwater infiltration and the mobilization of contaminants to groundwater. The depletion of non-renewable natural resources to be imported as aggregates and fill materials. The use of concrete and lime in construction works, which has the potential to impact the pH of groundwater. <p>Accidental Spills and Leaks</p> <p>During the construction phase of the Proposed Development, there is a risk of accidental pollution incidents from the following sources:</p> <ul style="list-style-type: none"> Spillage or leakage of chemicals stored and used on-site as part of construction works. Spillage or leakage of oils and fuels from construction machinery or site vehicles. Spillage of oil or fuel from refueling machinery on-site. <p>Accidental spillage of fuels or chemicals could potentially result in the impact of soils and groundwater underlying the Site if inappropriately handled or stored, during construction.</p> <p>Potential contaminants could migrate through the subsoils and impact underlying groundwater.</p> <p>Groundwater wells have been identified within a 2km radius of the Site. However, it is noted that the</p>	<p>Fuel and Chemical Handling, Transport and Storage</p> <p>The following mitigation measures will be taken to prevent any spillages to ground of fuels and prevent any resulting soil and / or groundwater quality impacts:</p> <ul style="list-style-type: none"> designation of bunded re-fueling areas on the Site (if required). provision of spill kit facilities across the Site. where mobile fuel bowsers are used the following measures will be taken: <ul style="list-style-type: none"> any flexible pipe, pump, tap or valve will be fitted with a lock and will be secured when not in use. all bower units to carry a spill kit and operatives will have spill response training; and portable generators or similar static operation fuel containing equipment will be placed on suitable drip trays. <p>Excavation and Infilling</p> <ul style="list-style-type: none"> The Proposed Development will incorporate the; reduce, reuse and recycle approach in terms of soil excavations on-site. The construction will be carefully planned to ensure only material required to be excavated will be excavated, with as much material left in-situ as possible. All excavation arisings will be reused on-site where possible / if suitable. The effects of soil stripping and stockpiling will be mitigated through the implementation of an appropriate earthworks handling protocol during construction. It is anticipated that only local / low level of stockpiling will occur as the bulk of the material will be excavated either straight into trucks for transport off site or will be reused in other areas of the Site as fill. Dust suppression measures (e.g., damping down during dry periods), vehicle wheel washes, road sweeping, and general 	<p>Water discharge monitoring will likely be required under any Discharge License (Section 16 License)</p> <p>The Applicant's environmental consultant will audit the sampling and analysis results as required to ensure conformance to the discharge licence limits and testing frequency requirements.</p>	<p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Proposed Development is located on an island and groundwater flow direction is therefore likely to be towards the Shannon Estuary, so the identified wells are not likely to impact wells on the mainland.</p> <p>Excavation and Infilling</p> <p>Excavation earthwork impacts will mainly relate to removal of topsoil and shallow subsoils, while infill earthwork will mainly relate to the import and compaction of acceptable fill material to achieve the required engineering design and grades.</p> <p>The Proposed Development will have a negative net cut / fill balance of up to 38,053 tonnes of fill material during the first six weeks of construction.</p> <p>Stockpiling of unsuitable soils will be undertaken prior to removal from the Site. In the absence of mitigation, this would have the potential to impact on soil and groundwater, through the leaching of contaminants.</p> <p>The removal of hard standing during construction works may also expose potentially contaminated shallow soils to rainwater infiltration, increasing the potential for leaching of contaminants to groundwater.</p> <p>Previous Site investigation soil sample analysis results did not indicate any significant soil contamination at the Site with the potential to be leached and mobilised, indicating a low risk of potential impact to groundwater quality or to the Shannon Estuary via groundwater flow.</p> <p>Use of Natural Resources</p> <p>Aggregates are natural non-renewable resources and their use results in depletion of the national stock of these resources.</p> <p>Use of natural resources is therefore considered a permanent direct impact of neutral quality which will be</p>	<p>housekeeping will ensure that the surrounding environment are free of nuisance dust and dirt on roads.</p> <p>Export of Surplus Material from Site</p> <ul style="list-style-type: none"> Where material cannot be reused offsite, it will be sent for recovery / disposal at an appropriately permitted / licensed site however, as indicated in Chapter 18 (Waste Management). Provisions of possible off-site management of excavation waste will be outlined in a CEMP and Resource Waste Management Plan (RWMP) to be finalised by the appointed Contractor prior to works starting on-site. <p>Control of Water during Construction</p> <ul style="list-style-type: none"> Earthwork operations will be carried out such that surfaces, as they are being raised, will be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. Care will be taken to ensure that exposed soil surfaces are stable in order to minimise erosion. All exposed soil surfaces will be within the main excavation site, which limits the potential for any offsite impacts. Any run-off will be prevented from directly entering into any watercourses. Should any discharge of construction water be required during the construction phase, discharge to foul sewer will be regulated under a Discharge Licence obtained from the Regulator (Irish Water) issued under the Water Pollution Act. Attenuation, pre-treatment and monitoring of discharge water will likely be required under any Discharge Licence (Section 16 Licence). Pre-treatment and silt reduction measures on-site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks) and hydrocarbon interceptors. Active treatment systems such as Siltbusters or similar may be required depending on turbidity levels and discharge limits. Qualitative and quantitative monitoring will be implemented as per the Conditions of any Discharge Licence. <p>Sources of Fill and Aggregates for the Proposed Development</p>		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>imperceptible on the quality or character of the wider environment but is certain to occur and irreversible.</p> <p>Concrete and Lime</p> <p>Lime and concrete (specifically, the cement component) is highly alkaline and any spillage which migrates through subsoil could impact groundwater quality.</p> <p>The activities most likely to result in contamination include concreting during foundation construction and laying of services.</p>	<ul style="list-style-type: none"> • All fill and aggregate for the Proposed Development will be sourced from reputable suppliers as per the project Contract and Procurement Procedures. All suppliers will be vetted for: <ul style="list-style-type: none"> – Aggregate compliance certificates / declarations of conformity for the classes of material specified for the Proposed Development. – Environmental management status. – Regulatory and legal compliance status of the suppliers. <p>Potential local sources of aggregates include:</p> <ul style="list-style-type: none"> • Listowel Quarry (Shale, GSI ID 179, Quarry Number KY006, 17km from Site) • Michael O'Donovan Quarries, Knockbweeheen, Co. Limerick (Shale, GSI ID 189, Quarry Number LK005, 20km from site) • Knockbowheen Quarry, Knockbweeheen, Co. Limerick (Shale, GSI ID 188, Quarry Number LK004, 20km from site) • Roadstone Barrigone Quarry, Askeaton, Co. Limerick (Limestone, GSI ID 115, Quarry Number LK008, 22km from site) • Hogan's Quarry, Foynes, Co. Limerick (Limestone, GSI ID 125, Quarry Number LK009, 22km from site) • Creeves Quarry, Shanagolden, Co. Limerick (Limestone, GSI ID 122, Quarry Number LK010, 22km from site) <p>Control of Concrete and Lime</p> <ul style="list-style-type: none"> • Ready-mixed concrete will be brought to the Site by truck. • A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated water to the underlying subsoil and groundwater. • The pouring of concrete will take place within a designated area protected to prevent concrete runoff into the soil / groundwater media. Washout of concrete transporting vehicles will take place at an appropriate facility, offsite where possible. Alternatively, where wash out takes place on-site, it will be carried out in carefully managed designated on-site wash out areas. 		

3.1.8 Traffic

Table 3.8: Traffic

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Severance and intimidation associated with increased construction traffic, HDV and abnormal loads.</p> <p>Decrease in highways safety and increase in driver delay.</p> <p>Increased traffic flows, including HDV, on the roads leading to the Site.</p> <p>There is very little likelihood of significant air quality effects during construction based on the distances to receptors, the activities proposed, and the use of industry standard control measures.</p> <p>No significant effects are predicted based on the application of appropriate control measures.</p>	<ul style="list-style-type: none"> • A CTMP has been prepared as part as this planning application, refer to Appendix 14A, Volume II of the EIAR and Resource and Waste Management Plan (RWMP), refer to Appendix 18A Volume II. • The CTMP will be updated by the appointed Contractor in consultation with KCC, SSE and other stakeholders should consent be granted. The CTMP includes but is not limited to the following: • A road sweeper will be employed to clean the public roads adjacent to the Site of any residual debris that may be deposited on the public roads leading away from the construction works. • All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol, or diesel. Spill kits will be available on Site. All scheduled maintenance carried out off-site will not be carried out on the public highway. • Arrangements for regular road cleaning, e.g., road sweeping in the vicinity of the Site access point as necessary, wheel cleaning / dirt control arrangements. • On Site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the Site, to remove any potential debris on the local roads, The following list of measures will be adopted to minimise the impacts associated with the construction phase upon the peak periods on the surrounding road network: <ul style="list-style-type: none"> • Logistic manager will be put in place. • Potential hazards associated with the interaction of road traffic and work site personnel have been eliminated by excluding such traffic from entering the Site. • Traffic control will be in place for all vehicles entering and exiting the Site. • Parking will be allowed only in designated parking areas onsite. • Segregated pedestrian walkways will be introduced within the Site. • Public pedestrian access will be prohibited through the proposed works. • Access to the Site will be strictly controlled with all personnel being required to have a Safe Pass and to have undergone a specific Sisk Site Safety Induction before being allowed into the Site. 	<p>The Contractor will undertake such monitoring as is necessary to assess the effectiveness of the measures included in the CTMP to control the routing and impact of construction traffic including HDV. This will include the maintenance of records of construction HDV entering and leaving the Site, which will be available to the Applicant on request.</p> <p>Monitoring measures will provide a firm basis upon which to answer queries and complaints.</p>	<p>CTMP Co-ordinator to oversee management, monitoring and implementation of the individual measures within the CTMP.</p> <p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<ul style="list-style-type: none">• Traffic on the Site will remain on hardcore areas wherever possible. Where this is unavoidable, traffic exiting the Site will go through a wheel wash.• All construction vehicles will be fitted with flashing amber warning lamps and hazards lights and will be required to have reversing alarms for operations within the work Site.• Speed limit of 15km/h will be put in place on the construction Site.• Safe working procedures will be followed by plant and vehicles required to enter and leave the Site into trafficked lanes.• All workers will be required to wear high visibility reflective protective clothing.• Site foreman and supervisors will be in two-way communication with each other and the traffic controllers for the duration of the work shift.• The Construction Health and Safety Plan will set out how health and safety is to be managed during the construction stage.• Site equipment within the work area that may have an impact on any emergency services requiring access to an incident will be cleared from the area as quickly as possible.• HDV trips will be planned to arrive and depart the Site at a uniform rate throughout the day, to avoid pressure on the morning and evening peak hour periods.		

3.1.9 Population and Human Health

Table 3.9: Population and Human Health

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Traffic: HDV traffic, general delivery traffic and site operatives will all be required to travel to and from the Site. The transport assessment finds that although construction activity will cause an increase in traffic, it will not lead to congestion.</p> <p>Employment: Employment opportunities will be created as a result of the works. Jobs will be temporary in nature, but they represent a positive economic impact.</p> <p>Air Quality: Potential to impact human health as a result of changes in local air quality, climate and noise.</p> <p>The assessment finds that there is a low risk of dust impacts occurring during construction which could affect human health due to the limited number of receptors in close proximity to dust sources.</p> <p>Noise: An assessment of noise generation caused by traffic. The assessment predicts that there will be no significant impacts due to the presence of construction phase traffic.</p> <p>Climate Change: An assessment of the likely climate change effects arising from the construction activities was undertaken. However, a 'minor adverse' increase in GHG emissions is expected as a result of the construction of the Proposed Development. The impact of the Proposed Development in terms of climate change as a determinant of human health and well-being during construction is assessed to be negative (-) and not significant.</p>	<p>Demolition works will be in accordance with the following guidelines and legislation:</p> <ul style="list-style-type: none"> • BS 6187:2000: Code of Practice for Demolition. • Health and Safety Authority Safe System of Work Plan 2005. • S.I. 504 Safety, Health & Welfare at Work (Construction) Regulations 2013. • Air Pollution Act 1987 (as amended). • Environmental Protection Agency Act 1992 (as amended). • BS 5228:2009 Part 1: Noise Control on Construction & Open Sites. <p>The Contractor will revise this CEMP, as necessary, to comply with any planning conditions. The Contractor will ensure that there are no impacts on any vector that would pose a risk to human health.</p> <p>An CTMP has been prepared as part as this planning application, refer to Appendix 14B, Volume II of the EIAR.</p>	<p>To be confirmed in the Final CEMP.</p>	<p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
No significant effects are predicted based on the application of appropriate control measures.			

3.1.10 Material Assets

Table 3.10: Material Assets

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Risk to the environment from accidental pollution incidents.</p> <p>No significant effects are predicted based on the application of appropriate control measures.</p>	<ul style="list-style-type: none"> • An up-to-date utilities plan will be produced and provided to the Contractor prior to construction showing all utilities present on the existing SSE Tarbert site. • Works during the construction phase, including service diversions and realignment will be carried out in accordance with relevant guidance documents, including Oil Networks Ireland’s publication ‘<i>Safety advice for working in the vicinity of natural oil pipelines</i>’; the ESB’s <i>Code of Practice for Avoiding Danger from Overhead Electricity Lines</i>’, and the Health and Safety Authorities (HSA) ‘<i>Code of Practice for Avoiding Danger from Underground Services</i>’. • The Contractor will put measures in place during the construction phase to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with the relevant service provider and local authority. • When service suspensions are required during the construction phase, reasonable prior notice will be given to the residents in the area. • The disruption to services or outages will be carefully planned so the duration is minimised. • The timing of local domestic connections will be addressed between the Contractor and the local community at the detailed design stage. <p>Wastewater Services</p> <ul style="list-style-type: none"> • Refer to Water section, Table 3.6 for mitigation measures related to surface water. • Foul water during the construction phase will be collected and periodically removed from the Site by road tanker to a licensed water treatment plant. As this control measure will be incorporated into the Site set-up, additional specific mitigation measures are therefore not required. 	<p>To be confirmed in the Final CEMP.</p>	<p>To be confirmed in the Final CEMP.</p>

3.1.11 Climate

Table 3.11: Climate

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Climate Change Risk</p> <p>The climate change risk assessment identified three risks related to construction.</p> <p>Of the risks identified, two were related to extreme temperatures, one was associated with flooding.</p>	<p>Embedded Controls – Climate Change</p> <ul style="list-style-type: none"> • Contractor to monitor weather forecasts (including receiving Environmental Protection Agency (EPA) flood alerts) and plan works accordingly. • Suitable storage and bunding of pollutants will be implemented. • Site Emergency Response Plan will be in place as a part of the Environmental Management System (EMS). • Appropriate surface water drainage and attenuation will be provided for the construction phase to manage the risk of flooding. 	<p>Inspection of vulnerable construction assets after a hot day.</p>	<p>To be confirmed in the Final CEMP.</p>
<p>GHG Emissions</p> <p>No significant effects are predicted based on the application of appropriate control measures.</p>	<ul style="list-style-type: none"> • A register of vulnerable construction assets will be prepared. • The following measures will be implemented to combat extreme heat conditions (e.g., avoid working on hot summer days, appropriate sun protection, training for identifying heat illness and for working in hot conditions, work in shaded areas, plan major activities for cooler parts of the day, wear loose fitting/breathable clothing). • In extreme rainfall forecasts, ensure construction plant and equipment are secure and stored at higher ground levels where possible. • Critical construction equipment will be stored at higher ground levels. 		

3.1.12 Waste Management

Table 3.12: Waste Management

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Estimated construction waste generation is approximately 891 tonnes.</p> <p>Estimated demolition waste generation is approximately 37,161 tonnes.</p> <p>The precise composition and waste management route of this waste is dependent on several factors and will be further informed by the appointed Contractor, based on their experience of similar developments. It is anticipated that all construction waste will require off-site management.</p> <p>Hazardous waste arisings are expected to comprise small quantities of oils, chemicals and similar materials typically used as part of construction activities. Procedures for the storage and management of these wastes will be further detailed in the Contractor's RWMP.</p> <p>The waste management facilities to be utilised during demolition / construction are proposed as set out in the waste chapter (refer to Volume I, Chapter 18 of this EIAR).</p> <p>Since it is not possible to estimate the exact composition of construction waste at this time a total material</p>	<p>Environmental Design and Management</p> <ul style="list-style-type: none"> Design and construction measures that apply the waste hierarchy principles and minimise effects on waste will be implemented. These include: <ul style="list-style-type: none"> Planning for the temporary on-site storage of soils, excavated materials and other materials to facilitate reuse. Reusing excavated materials within the construction of the Proposed Development, where possible, to minimise the need to import and export material. Considering the importation to site of recycled aggregate material, as an alternative to primary aggregate, and establishing procedures to ensure it is uncontaminated. <p>Establishing Key Performance Indicators (KPIs) for monitoring and reporting data on waste arising and diversion from landfill.</p> <p>Resource Waste Management Plan (RWMP)</p> <ul style="list-style-type: none"> During the construction phase, the Proposed Development will generate a range of non-hazardous and hazardous waste (e.g., oils and chemicals) materials during construction. Waste materials will be temporarily stored on-site pending collection by a waste contractor. The appointed Contractor will ensure that material is reused or recovered offsite insofar as is reasonably practicable or disposed of at authorised facility. Appendix 18A of the EIAR, is an RWMP, which sets out measures relating to waste management will be implemented during construction of the Proposed Development. Contractors will be required to develop a detailed RWMP that complies with the requirements of the RWMP and updated in accordance with the EPA 'Best Practice Guidelines for the Preparation of Resource Management Plans for Construction and Demolition Waste Projects'. The Contractor will regularly review and update where required the assumptions on waste arisings and management and record and implement procedures for assessing, managing and recording waste arising on-site. Opportunities for on-site and off-site reuse, recycling and recovery of excavated material and waste will be identified where feasible. Where required, an Article 27 by-product notification will be prepared and submitted for the necessary approvals prior to the commencement of construction works. <p>Prevention and Preparing for Reuse</p>	<p>The RWMP (Appendix 18A, Volume II of the EIAR) sets out monitoring to be undertaken during the construction phase to ensure that the mitigation measures embedded in the Proposed Development, and those considered essential to mitigate the effects of construction activities, are appropriately implemented.</p>	<p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>recovery rate in line with the national performance of 78% (reported for 2020) is anticipated to be achievable for non-hazardous construction waste (excluding naturally occurring soil and stones (Waste Code 17 05 04)).</p> <p>The Proposed Development is therefore likely to achieve 60-89% or 90-99% overall material recovery / recycling (by weight) of non-hazardous CDW excluding naturally occurring material defined in category 17 05 04 in the List of Wastes.</p> <p>Total waste arising from the construction phase of the Proposed Development would account for less than 0.1% of annual national construction and demolition waste collected.</p> <p>It is assumed that this waste would have a high recovery rate and is likely to be recovered rather than sent to landfill.</p>	<p>To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Proposed Development as a whole, the Contractor will apply the principles of the Waste Hierarchy and adopt best practice measures (BPM) which go beyond statutory compliance.</p> <p>This may include BPMs set out in construction industry guidance for example, guidance from the Considerate Constructors Scheme (CCS), Waste and Resources Action Programme (WRAP) and Construction Industry Research and Information Association (CIRIA).</p> <p>As outlined in the RWMP Guidelines the Resource Manager (RM) will engage with team or individuals tasked with procurement of materials and services to ensure best practice procedures are employed to prevent residual resources at the Site. The range of good practice measures will be implemented as follows:</p> <ul style="list-style-type: none"> • Select procurement routes to minimise unnecessary packaging, e.g., applying ‘Just-in-Time’ (JIT) delivery processes to minimise material spoilage. • Use of ‘consolidation centres’ to support JIT delivery – these are strategically-located storage and distribution facilities where materials can be stored prior to JIT delivery to sites. • Implement ordering procedures and supply chain systems that avoid waste, i.e., no over-ordering, use of take-back schemes for packaging, material surplus and offcuts. • Plan the work sequence to reduce the potential for on-site residual resource generation. <p>The following approaches will be implemented, where practicable, to further minimise the quantity of waste arising and requiring disposal:</p> <ul style="list-style-type: none"> • Reuse of materials on-site wherever feasible, e.g., reuse of excavated soil for landscaping, recycling of demolition materials into aggregates. • Off-site prefabrication, where practical, including the use of prefabricated elements. • Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling. • Off-site reuse, recycling and recovery of materials and waste where reuse on-site is not practical, e.g., through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site. 		
	<p>Recycling</p> <p>The aim is to reuse materials won on-site by recycling them into an alternative form that can be used for construction purposes (for example crushing concrete, brick or other inert wastes to produce aggregate material). By recycling on-site, as far as practicable, the quantity of waste requiring off-site management is reduced and carbon emissions associated with transportation are eliminated.</p> <p>Recycling may also be achieved by utilising materials with a recycled content, such as recycled aggregates produced off-site.</p>		

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
	<p data-bbox="539 316 656 347">Recovery</p> <p data-bbox="539 352 1599 472">This generally aims to recover energy from waste which cannot otherwise be reused or recycled. This may include waste materials such as hazardous liquids or solids that can be sent to energy from waste facilities. Recovery may also include the beneficial use of materials on land for restoration (backfilling operations).</p> <p data-bbox="539 520 645 552">Disposal</p> <p data-bbox="539 560 1599 616">The least preferred option in the Waste Hierarchy is a final disposal route such as landfill. Some waste streams will inevitably end up with such a solution.</p> <p data-bbox="539 628 1599 684">When placing waste disposal contracts, the Contractor will consider the implications of long-distance travel in terms of health and safety risk, commercial terms and increased emissions from vehicles.</p>		

3.1.13 Major Accidents and Disasters (MA&Ds)

Table 3.13: Major Accidents and Disasters

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Potential MA&Ds during construction considers the substances which will be present, and the typical activities associated with the works, such as ground preparation, excavation, construction of buildings and process structures including bulk storage tanks and bunding.</p> <p>Construction materials such as liquid concrete: This material can be harmful to human health and the environment and will present in significant quantities during construction where it is used to construct buildings, site surfacing, equipment supports and other assets.</p> <p>Acetylene or nitrogen: These materials, contained in compressed oil cylinders, may be present on-site to carry out welding during construction activities.</p> <p>The main risks involved with demolition works includes falling debris, premature collapse of structures, release of hazardous dust (including asbestos), and failure to properly decommission / clean out the plant before demolition which could lead to release of substances toxic to the environment or flammable materials subsequently igniting.</p> <p>Construction activities include works required to connect electrical power generated at high voltage (HV) at the</p>	<ul style="list-style-type: none"> • A detailed chemical inventory and risk assessments for all materials handled on-site will be produced in accordance with the requirements of the Chemical Agents legislation. • The Proposed Development will comply with the requirements of all relevant health, safety and environmental legislation including COMAH, which requires operators to take all measures necessary to prevent major accidents. • The design, construction and operation of the Proposed Development in accordance with international, national and established industry codes, standards and practice, such as the specification of pipework materials, design of structures etc. • All fuels and chemicals stored on-site will be subject to The Chemical Agent Regulations 2001 (as amended) compliance with the requirements of REACH. • Regular maintenance and inspection of all facilities will be carried out to reduce the potential for equipment failures which could lead to a loss of containment. In particular, systems containing pressurised natural oil will be subject to the requirements of the Pressure Equipment Regulations. <p>Emergency Management</p> <ul style="list-style-type: none"> • An Emergency Response Plan (ERP) will be developed to cover the Proposed Development in accordance with legislative requirements including COMAH and IE Licence, which will include a fire strategy and appropriate training procedures. • Procedures will be in place to clearly detail the responsibilities, actions and communication channels for operational staff and personnel on how to deal with emergencies should they occur. Staff will also receive the level of training required for their role and position. This will include dealing with events such as fires, spillages, flooding etc. Such measures will be included in the site operating and management system and regulated by EPA through the IE Licence. 	<p>To be confirmed in the Final CEMP.</p>	<p>To be confirmed in the Final CEMP.</p>

Potential Impact	Mitigation / Enhancement Measures	Monitoring / Additional Survey Requirements	Responsibility
<p>Proposed Development to the transmission system via equipment such as transformers and switchgear.</p>	<p>General demolition and construction activities such as excavation, deconstruction / construction of buildings and other structures will require the use of vehicles and tools. The hazards associated with activities include the potential for vehicle impact, particularly during reversing and vehicle overturning. The controls around this work will be carefully managed via risk assessment to control the risks to people, the environment and also to the existing operational areas.</p>		

3.2 Implementation and Operation

3.2.1 Roles and Responsibilities

The Contractor will employ a suitably experienced and qualified Construction Environmental Management Plan Co-ordinator (CEMPC) / Environmental Site Officer to undertake co-ordination of monitoring of the works' impacts and implementation of the Contractor's proposals, in respect of all environmental requirements.

A CEMPC / Environmental Site Officer will be present onsite for the duration of the Proposed Development. The CEMPC / Environmental Site Officer will be the point of contact for dealing with environmental issues for the Contractor's employees, sub-contractors, relevant authorities / environmental bodies, and members of the public. The CEMPC / Environmental Site Officer will also be responsible for controlling the construction impacts arising from the activities of the Contractor and sub-contractors in accordance with the CEMP.

The CEMPC / Environmental Site Officer will prepare, implement, manage, review and revise the CEMP with the sole purpose of ensuring that the environment is safeguarded at all times from anticipated or unexpected adverse impacts during construction.

Within the Contractor's team, the CEMPC / Environmental Site Officer will have the authority to ensure that the CEMP is effectively implemented.

In general, the duties of the CEMPC / Environmental Site Officer will include the following:

- implementation of the CEMP procedures.
- routine environmental monitoring, recording and reporting.
- maintaining and auditing the CEMP and documents that underpin it.
- environmental training including daily Toolbox Talks to site staff and design staff.
- liaison with statutory authorities as required.
- assist in liaison with the relevant authorities / environmental bodies and local community; and
- any other activities that may be necessary in order to protect wildlife and the environment during the works.

Proposed contractor team roles and responsibilities have been identified within Table 3.14. The Contractor will confirm the roles in the CEMP, including:

- an organogram showing team roles, names and responsibilities.
- training requirements for relevant personnel on environmental topics.
- information on-site briefings and Toolbox Talks that will be used to equip relevant staff with the necessary level of knowledge to follow environmental control procedures.
- measures to advise employees of changing circumstances as work progresses.
- communication methods (e.g., updates via the Applicant's website).

- document control; and
- environmental emergency procedures.

All construction works associated with the authorised development will be carried out in accordance with the approved CEMP unless otherwise agreed with the planning authority.

Table 3.14: Key Contractor Team Roles and Responsibilities (indicative)

Role	Responsibilities
Contractor's Project Director	<ul style="list-style-type: none"> ▪ Assign specific environmental duties to competent members of the Contractor's Team. ▪ Identify the environmental training needs of personnel under their control and arrange appropriate training programmes and ensure records are being maintained. ▪ Ensure that significant environmental aspects identified for the Proposed Development are managed. ▪ Promote the continual improvement of environmental performance.
CEMP Coordinator (CEMPC) / Environmental Site Officer	<ul style="list-style-type: none"> ▪ Develop, maintain and audit the CEMP (and supporting documents/plans) to ensure all aspects, impacts and statutory requirements etc. are reflected in the CEMP. ▪ Develop and implement a programme of regular environmental inspections, monitoring, recording and reporting by the Environmental Site Representative(s) in accordance with procedures set out in the CEMP. ▪ Ensure that the works are constructed in line with the CEMP. ▪ Liaise with statutory authorities. ▪ Attend regular construction meetings to ensure environmental issues are discussed and addressed by the Contractor's Team. ▪ Liaise with relevant authorities / environmental bodies and the local community as required. ▪ Comply with duties under relevant legislation and company procedures in relation to environmental incident investigation and reporting. ▪ Provide support and training to the workforce with regard to understanding environmental aspects, impacts, regulatory requirements, best practice, constraints and methods of working. ▪ Nominate the Environmental Site Representative(s). ▪ Appoint environmental specialists as required. ▪ Ensure identified environmental specialists are in attendance onsite as required by the CEMP. ▪ Review non-conformance reports provided by the Environmental Site Representative(s) and / or the Inland Fisheries Ireland (IFI) Environmental Advisors to identify any underlying issues or patterns to identify suitable ameliorative measures.
Contractor's Project Manager	<ul style="list-style-type: none"> ▪ Ensure that the CEMP is produced, maintained, implemented and distributed to all relevant parties. ▪ Provide an on-call 24hr resource as a first point of contact for environmental issues / incidents. ▪ Monitor the completion of corrective actions by the Site Manager and act as required to expedite completion. ▪ Provide regular reports to the Applicant on environmental performance, including details of any identified incidents or non-conformances and corrective actions. ▪ Ensure that all personnel for whom they are responsible are aware of the CEMP and implement the relevant requirements. ▪ Evaluate the competence of all subcontractors and suppliers and ensure that they are made aware of and comply with the CEMP and associated procedures. ▪ Establish a consultation and communication system, including employees, partners, sub-contractors, designers and third parties, etc., where relevant.
Site Manager	<ul style="list-style-type: none"> ▪ Ensure that all personnel undergo suitable and sufficient environmental induction before starting work on the Proposed Development, and periodic refresher environmental awareness training throughout the construction. ▪ Ensure staffs attend the appropriate environmental courses that are organised by the Environmental Manager (CEMPC). Ensure the Environmental Manager is maintaining records of training delivered to Site staff.

Role	Responsibilities
	<ul style="list-style-type: none"> ▪ Monitor the performance of personnel and activities under their control and ensure arrangements are in place so that all personnel can work in a manner which minimises risks to them and to the environment. ▪ Undertake a programme of regular environmental inspections in liaison with the Environmental Site Representative(s). ▪ Complete any corrective actions identified by the Environmental Site Representative(s) and provide status reports as required to Kerry Co. Co. ▪ Assist and support the Environmental Manager (CEMPC) and statutory bodies in the investigation of any incidents. ▪ Notify the Environmental Site Representative(s) of all environmental issues or incidents arising over the course of operations.
Environmental Specialists (i.e. Ecological Clerk of Works (ECoW) and Environmental Clerk of Works (EnvCoW))	<ul style="list-style-type: none"> ▪ Attend site as required to monitor the protection of asset in accordance with the requirements of relevant legislation, mitigation as outlined within the ER, NIS and any other reports produced for the Proposed Development), mitigation measures as 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 Site Representative(s) in the completion of their activities. ▪ Provide advice about ecological and environmental and issues during the construction of a development including advice on protected species, pollution, surface water management, material management, air quality and noise. ▪ ECoW and EnvCoW roles can be carried out by the same person once they are adequately qualified.

3.3 Checking and Corrective Action

3.3.1 Monitoring

Environmental focused monitoring and inspection activities will be carried out throughout the lifetime of the Proposed Development. The frequency of these monitoring and inspection activities will be agreed in advance of construction with KCC, and confirmed in the CEMP and will be in line with planning conditions. Additional monitoring and inspection will take place outside of the agreed frequency where an environmental incident occurs or where activities that can have a significant environmental impact are occurring.

As part of the monitoring process, the Contractor will allocate a designated CEMPC / Environmental Site Officer(s), who would be present on-site throughout the construction, including when new activities are commencing. The Environmental Site Officer will observe site activities and report any deviations from the CEMP in a logbook, along with the action taken and general conditions at the time. The KCC will be informed of any deviations from the CEMP as soon as possible following identification of such issues. The CEMPC / Environmental Site Officer will also assist the Applicant with day-to-day contact with regulatory agencies such as the EPA.

During construction, the CEMPC / Environmental Site Officer will conduct regular walkover surveys to ensure all requirements of the Final CEMP are being met and to monitor compliance. It is anticipated that a daily visual check and a detailed weekly check will be carried out and these records will be available upon request. Action from these surveys will be documented on an Environmental Action Schedule, discussed with the Site foreman for programming requirements and issued weekly for actioning.

The CEMPC / Environmental Site Officer will arrange regular formal inspections to ensure the requirements of the final CEMP are being met. After completion of the works, the Environmental Site Officer will conduct a final review.

During the construction phase the following monitoring measures will be implemented at a minimum:

- regular inspection of surface water run-off and sediments controls.
- soil sampling to confirm disposal and short-term storage options for excavated soils.
- regular inspection of construction / mitigation measures will be undertaken e.g., concrete pouring, refuelling etc.
- dust monitoring and monitoring of dust control measures.
- noise and vibration monitoring and monitoring of noise and vibration control measures.
- surface water monitoring (if required); and
- daily monitoring of general housekeeping on-site.

3.3.2 Auditing

Planned and documented audits (including waste and environmental audits) aimed at evaluating the conformance of the Proposed Development will be carried out throughout the construction phase. The frequency of the audits will be agreed in advance with the Applicant. As a minimum this would include:

- Weekly site walkover with results presented at the Contractors' regular meetings with the Applicant.
- Dedicated waste audits will be carried out at a frequency agreed in advance with the Applicant. All waste types and records would be available for review upon request.

The CEMP will be reviewed and audited every six months as a minimum and updated in line with current guidance and legislation.

3.3.3 Consents and Licences

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 Contractor to ensure all consents and licences required are in place prior to the start of construction.

These will include, but are not limited to:

- Site notices.
- Construction commencement notices.
- Licence to connect to existing utilities (inc. water) and mains sewers, where required.
- Abstraction and/or discharge licenses; and
- Road opening/closure licences (if applicable).

3.3.4 Records

The CEMPC / Environmental Site Officer will retain records of environmental monitoring and implementation of the final CEMP. This will allow provision of evidence that the final CEMP is being implemented effectively. These records will include:

- an Environmental Action Schedule.
- records of licences, permits and approvals.
- results of inspections.
- other environmental surveys and investigations; and
- environmental equipment test records.

The CEMP will be a live document and as such updated to comply with planning conditions and any additional site-specific measures required from the confirmatory surveys, with a full review on at least a quarterly basis throughout construction.

3.4 Management Review

The CEMP will be signed off on completion of the construction works.

The SSE Tarbert Environment Management System (EMS) will be amended to include the Proposed Development. The EMS will set out the requirements and procedures required to ensure that the Proposed Development is operating to appropriate standards.

Environmental monitoring (including analysis of pollutants) will be carried out, where required, including monitoring of exhaust emissions levels using Continuous Emission Monitoring Systems (CEMS) prior to discharge from the emissions stack, in accordance with the IE Licence.

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