

33.

## SCHEDULE OF MITIGATION AND MONITORING PROPOSALS

All mitigation measures relating to the pre-construction, construction, operational and decommissioning phases of the Offshore Site are set out in the relevant chapters of this EIAR.

All mitigation which will be implemented during the various phases of the Project are presented in Table 33-1 below. The mitigation measures have been grouped together according to their EIAR Chapter and Project phase and are presented under the following headings:

- > Pre-Construction Phase
- > Construction Phase
- > Operational Phase
- > Decommissioning Phase

The mitigation proposals in the below format provides an easy to audit list that can be reviewed and reported on during each phase of the Project. The proposal for site inspections and environmental audits are set out in the Offshore Environmental Management Plan (OEMP) (and related appendices) which are included as Appendix 5-2 of this EIAR. The tabular format in which the below information is presented, can be further expanded upon during each Project phase to provide a reporting template for site compliance audits.

It is intended that the OEMP will be updated where required prior to the commencement of construction to include all mitigations and monitoring measures, planning conditions and or alterations to the EIAR and application documents should they emerge during the course of the planning process and will be submitted to the Planning Authority for written approval prior to the commencement of development.

33.1

## Offshore Schedule of Mitigation Measures

Table 33-1 EIAR Offshore Mitigation Measures

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>EIAR Chapter 7: Marine Physical and Coastal Processes</b>					
<b>Pre-construction Phase</b>					
MM1	Mitigation by design	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ Cable burial: Cable route surveys have been undertaken to identify presence of sensitive features (e.g. habitats and species), morphological features of interest and seabed characteristics, to inform cable routing.</li> <li>➤ Implementation and monitoring of cable protection (via cable burial or external protection where burial is not possible) with any damage, destruction or decay of cables notified to appropriate regulatory bodies no later than 24 hours after discovered.</li> </ul>		
MM2	Mitigation by design	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ Seabed reinstatement: Where possible and appropriate the seabed would be reinstated following construction activities. This is particularly relevant in the landfall installation using trenchless technologies, where the excavated exit pit will be reinstated using the side cast sediment berm adjacent to the exit pit.</li> </ul>		
<b>Construction Phase</b>					
MM3	7.6.3.1 Change to seabed levels due to construction activities	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ Where dredging will be undertaken, any material dredged during the construction phase will be deposited within the disposal area, which have been selected to minimise the potential for harm to sensitive habitats and species. This will ensure that the footprint of deposition of dredged material is limited as far as practicable. Furthermore, any clearance will aim to minimise the dispersion extent of sediment, such as using controlled flow excavator (CFE) that minimises the sediment dispersal.</li> <li>➤ The use of trenchless technologies, e.g. horizontal directional drilling (HDD), and the reinstatement of the seabed following the landfall installation works will ensure that changes to seabed levels are temporary and restored in the wake of landfall activities. Mitigation by reduction will also be employed in terms of implementing an optimal</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>subtidal HDD exit depth, such as to limit discernible changes to water depth (e.g. associated with the sediment berms), while being feasible for Offshore Site.</p> <ul style="list-style-type: none"> <li>➤ An additional pre-construction cable route survey will directly inform the potential presence of morphological features of interest in addition to requirement of seabed preparation activities, this will reduce as far as practicable the scale of clearance thereby reducing the effect on seabed levels and minimise the extent of cable protection.</li> <li>➤ Mitigation by reduction through the implementation and adherence to an Environmental Management Plan prior to construction, which provides guidance on marine pollution responses, vessel operations and waste management.</li> </ul>		
MM4	7.6.3.2 Change to sediment properties due to construction activities	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ The use of GBS fixed-bottom foundations avoids the need for drilling of foundations which causes deeper sediments to be brought to the surface. Consequently, disturbance associated with the Offshore Site is limited to the surficial sediments which are more consistent across the area. Should dredging be undertaken, any material dredged during the construction phase will be deposited within the disposal area. This will ensure that the footprint of deposition of dredged material is limited as far as practicable. Furthermore, any clearance will aim to minimise the dispersion extent of sediment, such as using a fall pipe for clearance operations using a trailing suction hopper dredger (TSHD) or implementing CFE that minimises the disturbance.</li> <li>➤ A pre-construction cable route survey will directly inform the potential presence of morphological features of interest in addition to requirement of seabed preparation activities, including boulder clearance requirements. Boulder relocation will be constrained to areas similarly characterised by boulders thereby limiting local changes to sediment properties, however boulders will not be removed from the Offshore Site area. Information from the completed survey, will also help reduce as far as practicable the scale of seabed clearance, thereby reducing the opportunity for elevated SSC and subsequent deposition and minimise the extent of cable protection.</li> <li>➤ Mitigation by reduction through the implementation and adherence to an Environmental Management Plan prior to construction.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	7.6.3.3 Change to suspended sediment concentrations due to construction activities	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ The use of GBS fixed-bottom foundations avoids the need for drilling of foundations which can cause localised high suspended sediment concentration (SSC). Therefore, the highest concentrations are limited to the use of CFE for seabed preparation and the release at 5 m above the seabed by a TSHD, as discussed above. Disposal locations for dredged material have been identified at least 5 km from the nearest SAC with protected seabed features, to further reduce the effect of SSC on these features.</li> <li>➤ A pre-construction cable route survey will directly inform the potential presence of morphological features of interest in addition to requirement of seabed preparation activities, will also help reduce as far as practicable the scale of seabed clearance, thereby reducing the opportunity for elevated SSC.</li> <li>➤ The use of trenchless technologies at the landfall location, such as HDD, will minimise the extent of seabed disturbance, thereby reducing elevated SSC in the water column.</li> <li>➤ The implementation and adherence to an Environmental Management Plan prior to construction will also serve as mitigation in ensuring that the discharges at the landfall popout are suitable for release into the marine environment.</li> </ul>		
MM5	7.6.3.5 Change to coastal landfall morphology	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ Mitigation by reduction will be employed in terms of implementing an optimal exit depth, such as to limit discernible changes to water depth (e.g. associated with the sediment berms), while being feasible for Project.</li> <li>➤ Mitigation by reduction in the form of reducing the effect through the implementation and adherence to an Environmental Management Plan prior to construction to ensure the discharges at the HDD popout are suitable for release into the marine environment.</li> </ul>		
<b>Operational Phase</b>					
MM6	7.6.4.1 Change to the tidal, wave	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ The minimum separation distance between wind turbine generators (WTG) will be at least 1,000 m, which reduces the coalescence of effects between WTGs, with the potential recovery in conditions in-between.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	and sediment transport regimes		➤ Seabed modification (e.g. rock placement) will be minimised where possible, reducing physical changes to the seabed character.		
MM7	7.6.4.4 Introduction of scour, including edge scour	EIAR Chapter 7	➤ The WTG and offshore 220kV Electrical Substation (OSS) stonebeds and associated scour protection have been included in the Project Description, with the installation of any required protection at the construction phase, which therefore negates the introduction of scour.		
MM8	7.6.4.5 Changes to water column structure with impact to stratification	EAIR Chapter 7	➤ The minimum separation distance of at least 1,000 m between WTGs reduces the coalescence of effects between WTGs, with the potential recovery in conditions in-between.		
<b>Decommissioning Phase</b>					
MM8	7.6.5.1 Change to seabed levels due to decommissioning	EIAR Chapter 7	➤ Mitigation by design has been incorporated throughout the Offshore Site through the implementation and adherence to a Decommissioning Plan, as described in section 7.4.4.4 and in Chapter 5: Project Description. The decommissioning phase entails removing Project infrastructure with no additional infrastructure placed on the seabed. Removal of WTGs and GBS fixed-bottom foundations will reduce any hydrodynamic effects introduced by the presence of these structures. Furthermore, best practice and the approach of decommissioning installed rock material in situ will mean minimal disturbance of the seabed.		
MM9	1.6.5.2 Change to sediment properties due to decommissioning	EIAR, Chapter 7	➤ Mitigation by design has been incorporated throughout the Offshore Site through the implementation and adherence to the OEMP and Decommissioning Plan, as described in section 7.4.4.4 and in Chapter 5: Project Description. The decommissioning phase entails removing Project infrastructure with little to no additional infrastructure placed on the seabed. Therefore, there will be no additional change to the seabed properties.		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM10	7.6.5.3 Change to suspended sediment concentrations due to decommissioning	EIAR, Chapter 7	<ul style="list-style-type: none"> <li>Mitigation by design has been incorporated throughout the Offshore Site through the implementation of the OEMP and Decommissioning Plan, as described in section 7.4.4.4 and in Chapter 5: Project Description. The decommissioning phase entails removing Project infrastructure with little to no additional infrastructure placed on the seabed. Furthermore, best practice and the approach of decommissioning installed rock material in situ will mean minimal disturbance of the seabed.</li> </ul>		
<b>EIAR Chapter 8: Water and Sediment Quality</b>					
<b>Pre-construction Phase</b>					
MM11	Mitigation by Design	EIAR Chapter 8	<ul style="list-style-type: none"> <li>Offshore Environmental Management Plan (OEMP): implementation and adherence to the OEMP (see Appendix 5-2). The OEMP annexes include: <ul style="list-style-type: none"> <li>A Marine Pollution Contingency Plan (MPCP) that details pollution prevention measures such as: <ul style="list-style-type: none"> <li>Storage of chemicals in secure designated areas in line with appropriate regulations and guidelines;</li> <li>Adherence to vessel regulations such as MARPOL to reduce potential for vessel pollution;</li> <li>Disposal of waste e.g. sewage, oil or litter at an authorised disposal facility.</li> </ul> </li> <li>A Marine Invasive Non-Native Species Management Plan (MINNSMP) which details control measures to safeguard biosecurity such as compliance with the EU Invasive Alien Species Regulation 1143/ 2014 and all vessels commissioned will be required to comply with international regulations (e.g. the International Maritime Organization (IMO) International Convention for the Control and Management of Ships' Ballast Water and Sediments ('BWM Convention')</li> <li>A Waste Management Plan which details the provisions for waste management for project components in line with the waste management hierarchy.</li> </ul> </li> <li>Emergency Response and Co-operation Plan (ERCoP): An ERCoP has been developed as an annex to the OEMP. The ERCoP will be complied with, in the</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>unlikely event of an emergency such as a major pollution event (such as per the Sea Pollution Act 1991) and detail responsibilities and / or cooperation with the Irish Coastguard and other key authorities during the construction, operation and maintenance or decommissioning of the Offshore Site.</p> <ul style="list-style-type: none"> <li>➤ WTG and OSS design: the WTG and OSS topsides are designed and constructed to contain leaks, thereby reducing the risk of spillage into the marine environment. Details on control measures for reducing the risk of accidental leaks and spills are detailed within MPCP.</li> <li>➤ Adherence to the International Convention for the Prevention of Pollution from Ships (MARPOL) and Ballast Water Management (BWM) Conventions: The risk of marine pollution will be minimised through compliance with MARPOL and BWM convention requirements. Control measures and shipboard oil pollution emergency plans (SOPEP) will be established and adhered to, as required under MARPOL Annex I for all Project and contractor vessels.</li> <li>➤ Dredge Disposal Method and Locations: The Project has committed to reducing SSCs through using a fall pipe located at 5 m above the seabed, instead of disposal from the sea surface, for disposal of dredged material.</li> <li>➤ Dredge Disposal Licence: A Dumping at Sea permit will be obtained for the disposal of dredge material within the Offshore Site as required by the Dumping at Sea Act 1996, as amended.</li> </ul>		
<b>Construction Phase</b>					
MM12	8.6.2.1 Changes in water quality due to increased suspended sediment concentrations	EIAR Chapter 8	<ul style="list-style-type: none"> <li>➤ Mitigation by design has been incorporated throughout the Offshore Site. The use of GBS fixed-bottom foundations avoids the need for drilling of foundations which can cause localised high SSC. Therefore, the highest concentrations are limited to the use of CFE and the surface release of dredged material by a dredger hopper, as discussed above. Nonetheless, the Project has committed to releasing dredged material through a fall pipe at a height of 5m above the seabed (rather than at sea surface) which significantly reduces the potential for dispersion of sediment and resettlement time. In</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>addition, disposal locations were selected to ensure no significant effect on sensitive areas.</p> <ul style="list-style-type: none"> <li>➤ A pre-construction cable route survey will be completed informing opportunities for optimisation of the Project Design and construction methodologies, to further reduce the potential for impacts. The completed survey will also help reduce as far as practicable the scale of seabed clearance, thereby reducing the opportunity for elevated SSC.</li> <li>➤ The use of trenchless technologies at the landfall location will minimise the extent of seabed disturbance, thereby reducing elevated SSC in the water column. The implementation of the OEMP prior to and during construction to will also serve as mitigation in ensuring that the discharges at the pop-out location are suitable for release into the marine environment.</li> </ul>		
MM13	8.6.2.2 Changes in WSQ due to accidental release of contaminated sediment	EIAR Chapter 8	<ul style="list-style-type: none"> <li>➤ Mitigation by design has been incorporated throughout the Offshore Site. Although there are no areas of high risk identified in the WSQ Study area a number of design measures aid the reduction of a potential effect. The use of GBS fixed-bottom foundations avoids the need for drilling of foundations which could result in increased seabed disturbance and release of potential contaminants. The Project has also committed to releasing dredged material through a fall pipe at a height of 5m above the seabed which significantly reduces the dispersion extents of potential contaminated sediment. This activity will also be subject to a separate permit which will safeguard the potential for contaminated material to be released.</li> <li>➤ The use of trenchless technologies at the landfall location will minimise the extent of seabed disturbance. Additionally, PLONOR drilling fluids will be used and therefore reducing the potential for release of potentially contaminated sediment.</li> </ul>		
MM14	8.6.2.3 Changes in WSQ due to routine and accidental discharges from	EIAR Chapter 8	<ul style="list-style-type: none"> <li>➤ As per the embedded mitigations (as detailed in Section 8.4.5), support and installation vessels operating during the construction phase will operate in accordance with best practice and maritime conventions including the MARPOL and BWM conventions. Adherence to these conventions seek to avoid, prevent and reduce the likelihood that vessel operations result in pollution events to the marine environment, including from routine discharges which is prohibited, except when the ship has in</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	vessels during construction		<p>operation an approved sewage treatment plant or when the ship is discharging comminated and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land as per MARPOL IV. Additionally, control measures and SOPEPs will be established and adhered to, if required, under MARPOL Annex I.</p> <p>➤ Furthermore, the Project has developed and will adhere to the OEMP and its annexes which include MPCP and INNS management plans in order to reduce the likelihood of pollution events and to ensure procedures are in place should an accidental release occur. These protocols will ensure potential pollution is contained and rectified quickly. Additionally, emergency response procedures will be in place for the Offshore Site, should an emergency situation occur, including any pollution incidents.</p>		
<b>Operational Phase</b>					
MM15	<p>8.6.3.1 Effects on water quality status of designated waters due to increased suspended sediment concentrations</p> <p>8.6.3.2 Changes in WSQ due to accidental release of contaminated sediment</p>	EIAR Chapter 8	<p>➤ Cable surveys will be conducted throughout the operational stage to determine if intervention is needed. These surveys will ensure that maintenance is targeted to necessary areas reducing the need for large scale works where appropriate. This will reduce disturbance of the seabed and suspended sediment generation.</p>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM16	8.6.3.3 Changes in WSQ due to routine and accidental discharges from vessels and WTGs during operations and maintenance	EIAR Chapter 8	<ul style="list-style-type: none"> <li>As detailed for the construction stage, the mitigations proposed are considered sufficient to reduce the residual effects to not significant levels (see Section 8.6.2.3.4). These measures include vessels adhering to MARPOL and BWM conventions during the operations and maintenance phase. Additionally, control measures and SOPEPs will be established and adhered to, as required under MARPOL Annex I. Furthermore, the Project has developed and will adhere to the OEMP which includes MPCP and Marine Invasive Non-Native Species Management Plan (MINNSMP) in order to reduce the likelihood of pollution events and to ensure procedures are in place to safeguard biosecurity. An emergency response procedure will also be in place for the Offshore Site, should an emergent situation occur, including any large-scale pollution incidents.</li> <li>Additionally, the WTG including the nacelle, tower, and rotor and OSS structures are designed to contain any potential leaks. The containment design of the WTG / OSS structures will therefore significantly reduce the risk of potential spills contaminating the marine environment. Additionally, for the planned oil transfers the transfer of potential pollutants to WTG's/OSS will be meticulously planned and will follow all relevant guidelines as stated by the MPCP.</li> </ul>		
<b>EIAR Chapter 9: Benthic Ecology</b>					
<b>Pre-construction Phase</b>					
MM17	Mitigation by Design	EIAR Chapter 9	<ul style="list-style-type: none"> <li>Landfall Installation: trenchless methods (e.g. HDD) will be undertaken at the Landfall to avoid any direct effects to the intertidal area.</li> <li>Cable burial: Cables will be sufficiently buried to a target depth. Where burial is not achieved, external cable protection will be used (e.g. cast-iron shell, rock placement, concrete mattresses, rock bags and/or grout bags) to ensure sufficient distance from sensitive receptors to thermal and electromagnetic field (EMF) effects.</li> <li>Management Plans: A MINNSMP has been developed for this project. The MINNSMP is presented as an annex to the OEMP that describes specific measures to reduce introduction of INNS. This includes compliance with the EU Invasive Alien</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>Species Regulation 1143/ 2014 and all vessels commissioned will be required to comply with international regulations (e.g. the International Maritime Organization (IMO) International Convention for the Control and Management of Ships' Ballast Water and Sediments ('BWM Convention').</p> <p>➤ Avoidance of Sensitive Features: Environmental survey data collected through the site surveys carried out for the Offshore Site has been used to inform cable routing and placement of GBS fixed-bottom foundations and other infrastructure on the seabed, with emphasis on avoiding the most sensitive features to direct disturbance.</p>		
<b>Construction Phase</b>					
MM18	9.6.3.1  Temporary habitat or species loss / disturbance	EIAR Chapter 9	<p>➤ Mitigation by design which includes avoidance where possible of sensitive features. Specifically, the layout of WTGs, OSS, inter-array cables (IAC) and offshore export cable (OEC) has been designed to avoid exposed rock as much as possible and known locations of sensitive species such as sea fan (which are largely outside of the OAA area) were avoided</p> <p>➤ The first choice of cable protection will be burial. The sufficient burial of cables in subtidal sands and muds is anticipated to be achieved and therefore will mitigate against the requirement for long-term placement of rock protection.</p>		
MM19	9.6.3.2  Long-term loss or damage to benthic habitats and species	EIAR Chapter 9	<p>➤ The first choice of cable protection along the offshore export cable corridor (OECC) will be burial. The sufficient burial of cable in subtidal sands and gravels habitat is anticipated to be achieved along the majority of the OECC and therefore will mitigate against (or significantly reduce) the requirement for long-term placement of rock protection in the sands and gravels habitat.</p> <p>➤ The Project is also looking at ways to reduce the volume of rock berms for cable protection within the OAA, although details will be subject to further studies and commitments to these cannot be made at the time of writing.</p>		
MM20	9.6.3.3	EIAR Chapter 9	<p>➤ Mitigation by design such that the deposition of dredged material will be confined to the defined disposal areas through the use of a fall pipe for precision placement; and</p>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Increased suspended sediment concentrations and associated deposition		<ul style="list-style-type: none"> <li>➤ Mitigation by avoidance as the disposal areas selected are those that are sedimentary in nature and will limit potential effects on stony and bedrock reef by avoiding the habitat.</li> <li>➤ Mitigation by design as environment survey data has been used to inform the location and spatial extent of Project activities (including disposal areas) such that there will be no direct effects to maerl beds.</li> <li>➤ Mitigation by avoidance such that the deposition of dredged material will be confined to the defined disposal areas through the use of a down pipe for precision placement (i.e. TSHD selected for dredging activity to enable controlled deposition in disposal area).</li> <li>➤ The defined disposal areas are considerable distance from the known location of maerl beds (approximately 2.5 km ENE) and therefore reduce further the magnitude of any associated effect</li> <li>➤ The IACs within the array area closest to the maerl beds will not be buried but will be located within rocky substrata and rock protected, which will limit the potential to suspend sediments in the vicinity of the maerl beds.</li> </ul>		
MM21	9.6.3.4  Increased risk of introduction and spread of invasive non-native species	EIAR Chapter 9	<ul style="list-style-type: none"> <li>➤ There will be mitigation by reduction through the implementation of the OEMP which includes measures for pollution prevention, biosecurity assessment and waste management;</li> <li>➤ A MPCP and a MINNSMP are included as part of the OEMP. These management plans detail the measures being taken to avoid the introduction and spread of INNS, including adherence to the BWM Convention and other applicable international regulations, as well as containment procedures in the unlikely event that INNS are found;</li> <li>➤ Standard mitigation will be undertaken, including for swapping out ballast water, cleaning hulls, floating structures, etc.</li> </ul>		
Operational Phase					

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM22	9.6.4.3 Temporary habitat or species loss / disturbance	EIAR Chapter 9	<ul style="list-style-type: none"> <li>Mitigation by design and mitigation by avoidance has been incorporated as the footprint during the operational phase will significantly less than that of the construction phase. The use of environmental survey data to inform cable routeing and placement of gravity-based fixed-bottom foundations and other infrastructure on the seabed during construction, with an emphasis on avoiding the most sensitive features will ensure that key sensitivities will be avoided during the operational phase of the wind farm.</li> </ul>		
MM23	9.6.4.5 Colonisation of hard structures	EIAR Chapter 9	<ul style="list-style-type: none"> <li>Cable burial will be the first choice of protection for the OEC which will reduce the quantities of rock required for protection along the OECC where sediment habitats are more prominent.</li> </ul>		
MM24	9.6.4.6 Effect of cable thermal load or EMF on benthic ecology	EIAR Chapter 9	<ul style="list-style-type: none"> <li>There will be mitigation by reduction in the form of reducing exposure to the effect as cables will be buried as the first choice of protection to a target depth of 1.0 m, acting as a barrier between benthic habitats and species and the source of effects; and</li> <li>Cast iron shells will be used on surface cable in which EMF will be within background levels.</li> </ul>		
<b>Decommissioning Phase</b>					
MM25	9.6.5.1 Removal of hard substrate during decommissioning	EIAR Chapter 9	<ul style="list-style-type: none"> <li>Structures used for seabed preparation, including stonebeds, will be decommissioned in situ. IACs will be decommissioned <i>in situ</i> where buried; unburied and accessible IACs will be cut and removed. Rock berms will remain undisturbed, as this method is likely to result in the lowest environmental effect; and</li> <li>The implementation and adherence to the Decommissioning Plan (Appendix 5-18)</li> </ul>		
<b>EIAR Chapter 10: Fish and Shellfish Ecology</b>					

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Pre-construction Phase</b>					
MM26	Mitigation by Design	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ The use of cable protection will be minimised as far as practicable, and only used where required. Additional external cable protection (e.g. rock placement) will only be used where the minimum target burial depth cannot be achieved, for example in areas of hard ground or at third-party crossings.</li> <li>➤ Implementation and compliance with the Offshore Environmental Management Plan (OEMP)), including MINNSMP, and a MPCP. These plans include a commitment to measures to mitigate against pollution events, biosecurity measures, waste management, measures to avoid the introduction and spread of Invasive Non-Native Species, adherence to the BWM Convention and other applicable international regulations, as well as containment procedures.</li> <li>➤ Marine pollution prevention under the International Convention for the Prevention of Pollution from Ships (MARPOL) convention requirements will be followed during construction, operation and maintenance and decommissioning.</li> <li>➤ The Project has completed pre-construction benthic survey and habitat mapping to inform habitat distribution and identify potential spawning or nursery habitats. This information has been taken into account for cable route refinement within the OECC to reduce the habitat loss or disturbance of potential spawning or nursery habitats, in particular for the most vulnerable species, such as herring and Nephrops.</li> <li>➤ Low order techniques for unexploded ordnance (UXO) clearance will be utilised wherever practicable to reduce underwater noise effects. See chapter 12: Marine mammals and other megafauna for further details on this.</li> <li>➤ Implementation of, and adherence to, a Decommissioning Plan, to be updated throughout the Project lifespan. The Decommissioning Plan has been prepared for the Project (see Chapter 5: Project Description) the details of which will be agreed with the local authority prior to any decommissioning.</li> <li>➤ Vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds. This will reduce sound emissions relative to high-speed transiting.</li> <li>➤ Implementation and compliance with a Vessel Management Plan (VMP).</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Construction Phase</b>					
MM27	10.6.2.1 Disturbance or Damage to Fish and Shellfish due to Underwater Noise Generated from Construction Activities	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Use of GBS fixed-bottom foundations which avoids the requirement for impact piling, which generates high-amplitude impulsive sound which would have far greater effects on acoustically sensitive species than those predicted for the Offshore Site;</li> <li>➤ Low order deflagration will be the preferred clearance method used, where clearance of any size of UXO is done using a special donor charge of 0.5 kg which vaporises the explosive material without explosion (see Chapter 12: Marine Mammals and other Megafauna for further details on this);</li> <li>➤ Vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds. This will reduce sound emissions relative to high-speed transiting and reduce the underwater noise effects associated with vessel sounds;</li> <li>➤ Implementation and compliance with a VMP.</li> </ul>		
MM28	10.6.2.2 Temporary Habitat Loss or Disturbance	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Pre-construction benthic survey and habitat mapping has been undertaken to inform habitat distribution and identify potential spawning or nursery habitats. This information has been taken into account for cable route refinement within the OECC to reduce the habitat loss or disturbance of potential spawning or nursery habitats, in particular for the most vulnerable species, such as herring and Nephrops.</li> </ul>		
MM29	10.6.2.3 Long-term Habitat Loss	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Pre-construction benthic survey and habitat mapping has been undertaken to inform habitat distribution and identify potential spawning or nursery habitats. This information has been taken into account for cable route refinement within the OECC to reduce the habitat loss or disturbance of potential spawning or nursery habitats, in particular for the most vulnerable species, such as herring and Nephrops.</li> </ul>		
MM30	10.6.2.4 Temporary Increase in SSC	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Mitigation by design has been incorporated throughout the Offshore Site. The use of gravity base fixed-bottom foundations avoids the need for drilling of foundations which can cause localised high SSC. Therefore, the highest concentrations are limited to the use of CFE and the surface release of dredged material by a dredger hopper, as discussed above. Nonetheless, the Project has committed to releasing dredged material through a fall pipe at a height of 5m above the seabed (rather than at sea surface)</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>which significantly reduces the potential for dispersion of sediment and resettlement time.</p> <ul style="list-style-type: none"> <li>➤ Pre-construction benthic survey and habitat mapping has been undertaken to inform habitat distribution and identify potential spawning or nursery habitats. This information has been taken into account for cable route refinement within the OECC to reduce the habitat loss or disturbance of potential spawning or nursery habitats, in particular for the most vulnerable species, such as herring and Nephrops.</li> <li>➤ The use of trenchless technologies at the landfall location will minimise the extent of seabed disturbance, thereby reducing elevated SSC in the water column. The implementation of an OEMP prior to construction will also serve as mitigation in ensuring that the discharges at the exit point are suitable for release into the marine environment.</li> </ul>		
MM31	10.6.2.5 Accidental Release of Pollutants	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Project activities will comply with marine pollution prevention measures required under the International Convention for the Prevention of Pollution from Ships (MARPOL) convention (see Chapter 8: Water and Sediment Quality for further information). The Project will adhere to the OEMP which describes measures for pollution prevention, biosecurity assessment and waste management, and a MPCP. The OEMP and MPCP will be implemented during construction. These documents will cover mitigation regarding waste management, and biosecurity.</li> </ul>		
<b>Operational Phase</b>					
MM32	10.6.3.1 Habitat Creation and Fish Aggregation 10.6.3.2	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Pre-construction benthic survey and habitat mapping has been undertaken to inform habitat distribution and identify potential spawning or nursery habitats. This information has been taken into account for cable route refinement within the OECC to reduce the habitat loss or disturbance of potential spawning or nursery habitats, in particular for the most vulnerable species, such as herring and Nephrops.</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Temporary Increase in SSC				
MM33	10.6.3.3 Electromagnetic Field effects	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ The key mitigation by design to reduce the EMF effects on fish and shellfish receptors is cable burial to a minimum depth of 1.0 m, where possible, and the installation of cable protection. There will be a degree of separation of fish and shellfish receptors from the source of EMF emissions, minimising the field strength likely to be encountered. Where cables are not buried, additional protection will be used in the form of cast-iron shells.</li> </ul>		
MM34	10.6.3.4 Thermal Emissions from Operational Cables	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ The key mitigation by design to reduce the thermal emissions on fish and shellfish receptors is cable burial to a minimum depth of 1.0 m, where possible, and the installation of cable protection. There will be a degree of separation of fish and shellfish receptors from the source of thermal emissions.</li> </ul>		
MM35	10.6.3.7 Ghost Fishing	EIAR Chapter 10	<ul style="list-style-type: none"> <li>➤ Ongoing communication with the fishing industry (e.g. Notices to Mariners) to provide notice of any operation and maintenance activity, and 500 m safety zones will be in place during major maintenance works;</li> <li>➤ Additionally, there will be ongoing monitoring of cable protection so that notices will be issued within 24 hours of any damage, destruction or decay of cables that could result in exposed cable;</li> <li>➤ There will be procedures in place for dropped objects and claim processes for loss or damage of fishing gear;</li> <li>➤ Guard vessels and a Fisheries Liaison Officer (FLO; where required) will be on-site, where appropriate, during major maintenance works to aid offshore communications and warnings of any hazards.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>EIAR Chapter 11: Marine Ornithology</b>					
<b>Pre-Construction, Construction and Operational Phase</b>					
MM35	11.8.3 Mitigation by Design – Air Gap	EIAR Chapter 11	<ul style="list-style-type: none"> <li>➤ Minimum air gap between lower blade tip and sea level was designed to be greater than 30 m LAT in order to minimise collision impacts on flying birds.</li> </ul>		
MM36	11.8.3 Mitigation by Design – Vessel Speeds	EIAR Chapter 11	<ul style="list-style-type: none"> <li>➤ Vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds and using consistent routes between ports and the OAA. This will reduce disturbance to offshore ornithology receptors relative to high-speed transiting.</li> </ul>		
MM37	11.8.3 Mitigation by Design – Project Plans	EIAR Chapter 11	<ul style="list-style-type: none"> <li>➤ Develop and implement a Project Offshore Environmental Management Plan (OEMP), and Invasive Non-Native Species Management Plan, a Code of Construction Practice (CoCP) and a Marine Pollution Contingency Plan (MPCP).</li> <li>➤ These plans will include a commitment to measures to mitigate against pollution events, biosecurity measures, waste management, measures to avoid the introduction and spread of Invasive Non-Native Species, adherence to the BWM Convention and other applicable international regulations, as well as containment procedures.</li> </ul>		
MM38	11.8.3 Mitigation by Design – Cable Protection	EIAR Chapter 11	<ul style="list-style-type: none"> <li>➤ The use of cable protection will be minimised as far as practicable, and only used where required. Additional external cable protection (e.g. rock placement) will only be used where the minimum target burial depth cannot be achieved, for example in areas of hard ground or at third-party crossings.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM39	11.8.3 Mitigation by Design – Decommissioning Programme	EIAR Chapter 11	<ul style="list-style-type: none"> <li>Development of, and adherence to, a Decommissioning Programme prior to construction and updated throughout the Project lifespan. A Decommissioning Plan has been prepared for the Project (see Chapter 5: Project Description) the details of which will be agreed with the local authority prior to any decommissioning.</li> </ul>		
<b>Decommissioning Phase</b>					
MM40	11.8.7.1 Rehabilitation Schedule	EIAR Chapter 11	<ul style="list-style-type: none"> <li>A Rehabilitation Schedule has been prepared for the Project (see Appendix 5-18), the details of which will be agreed with the local authority prior to any decommissioning. The Rehabilitation Schedule will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and will be agreed with the competent authority at that time.</li> <li>Rock protection used for cables and/or seabed preparation material (e.g. stonebeds) is assumed to be left <i>in situ</i>. All rock berms will remain undisturbed. This method has the lowest environmental impact.</li> </ul>		
<b>EIAR Chapter 12: Marine Mammals and Other Megafauna</b>					
<b>Pre-Construction Phase</b>					
MM41	Mitigation by Design	EIAR Chapter 12	<ul style="list-style-type: none"> <li>Cable burial: Cable burial to increase distance between cable and electro-sensitive species to EMF. However, where burial is not possible; cable protection, rock placement or other similar established techniques, increases the distance between marine species sensitive to EMF and the EMF source. The use of cable protection will be minimised as far as practicable, and only used where required. Additional external cable protection (e.g. rock placement) will only be used where the minimum target</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>burial depth cannot be achieved, for example in areas of hard ground or at third-party crossings.</p> <ul style="list-style-type: none"> <li>➤ Marine Mammal Mitigation Protocol (MMMP): Implementation and adherence to a Marine Mammal Mitigation Protocol during construction in accordance with NPWS (2014) guidance. This MMMP describes measures which will reduce impacts to marine mammals during activities that generate high-amplitude underwater sound, including UXO clearance and geophysical surveys. These measures include the use of visual observers to ensure no marine mammals are nearby at the commencement of activities, and the use of Acoustic Deterrent Devices to deter animals from the zone of greatest risk. The intention is to reduce the risk of injury to zero, and to limit disturbance to only incidental levels.</li> <li>➤ VMP: Implementation and adherence to the VMP during all phases of the Project. This VMP describes measures which will reduce environmental impacts (including impacts to marine mammals) during Project activities involving vessels. Additionally, vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds. This will reduce sound emissions relative to high-speed transiting. All vessels associated with the Project will comply with the provisions of the International Regulations for the Prevention of Collision at Sea (COLREGs) and the International Regulations for the Safety of Life at Sea (SOLAS).</li> <li>➤ Reducing habitat loss: The Project has completed a pre-construction benthic survey and habitat mapping to inform habitat distribution and identify potential spawning or nursery habitats. Particularly sensitive habitats have been avoided during cable route and WTG location selection.</li> <li>➤ UXO clearance: A preliminary assessment has been undertaken to be able to avoid UXO during Project planning. The preliminary assessment has not identified any UXO throughout the Offshore Site. Should a UXO be identified during further pre-construction surveys, the primary mechanism to mitigate impacts is to avoid the necessity to clear the UXO (e.g. avoidance within the cable corridor). Should avoidance not be possible, the preferred method of clearance would be low-order deflagration, which results in reduced sound levels compared to high order clearance.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			The assessment presented in sections 12.6.2.1.3 and 12.6.2.1.4 reflects the very low risk of encountering and subsequently needing to clear a UXO in situ.		
<b>Construction Phase</b>					
MM42	12.6.2.1  Acoustic effects associated with construction (including pre-construction)	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Injury to marine mammals from construction sound: Injury will be fully mitigated during activities generating high amplitude sounds through the strict implementation of the National Parks and Wildlife Service (NPWS) guidelines (NPWS, 2014). The design selection of GBS fixed-bottom foundations at the OAA results in significantly lower emissions of underwater sound than would occur if piling was employed during the construction, because piling generates high-amplitude impulsive sound which can have a far greater potential for effects on marine mammals. The mitigation measures agreed as part of the Project's Foreshore Licences (FS007161 and FS007543) for site investigations also apply as measures during construction, for relevant and similar geophysical/geotechnical site investigation activities.</li> <li>➤ Disturbance to marine mammals from construction sound: the risk of disturbance will be mitigated through the strict implementation of measures including visual observations described within the NPWS guidelines and implemented and adhered to through Marine Mammal Mitigation Protocol, and through good environmental practices with respect to vessel movements which are described in detail in VMP. The use of GBS fixed-bottom foundations at the OAA results in significantly lower emissions of underwater sound than would occur if impact pile driving was employed during the construction, which generates high-amplitude impulsive sound which can have far greater effects on marine mammals. The mitigation measures agreed as part</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>of the Foreshore Licence for site investigations also apply as measures during construction.</p> <ul style="list-style-type: none"> <li>➤ Injury and disturbance to marine mammals from UXO clearance: Marine Mammal Mitigation Protocol (MMMP) will be strictly adhered to during both low-order and high-order UXO clearance. This MMMP contains mitigation measures including the use of visual observers to avoid injury and disturbance to marine mammals and has been developed with full regard to the NPWS (2014) Guidelines and industry good practice from other jurisdictions (UK Government, 2022). The MMMP describes the protocol for the use of acoustic deterrent devices to temporarily displace animals away from the highest risk (injury) zones, and marine mammal visual and acoustic observers to ensure that there are no marine mammals in close proximity (1,000 metres) of the UXO being cleared.</li> </ul>		
MM43	12.6.2.2 Indirect effects of construction sound on the prey species of marine mammals and megafauna	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Use of GBS fixed-bottom foundations which avoids the requirement for impact piling, which generates high-amplitude impulsive sound which would have far greater effects on acoustically sensitive species than those predicted for the Offshore Site;</li> <li>➤ If UXO are not avoidable, low order deflagration will be the preferred method used for UXO clearance, reducing the effects from underwater sound; and</li> <li>➤ Vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds. This will reduce sound emissions relative to high-speed transiting and reduce the underwater sound effects associated with vessel sounds.</li> </ul>		
MM44	12.6.2.3 Disturbance due to the physical presence of vessels	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Vessel movements will be managed in a way that will mitigate the negative effects to marine mammals and megafauna. These measures are described in detail in VMP, including vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds. This will reduce sound emissions relative to high-speed transiting and reduce the underwater sound effects associated with vessel sounds; and vessels will follow prescribed routes (non-random movement).</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM45	12.6.2.5 Impacts associated with effects upon marine water quality, particularly due to any disturbed sediments affecting turbidity	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Mitigation by design has been incorporated throughout the Offshore Site. The use of GBS fixed-bottom foundations avoids the need for drilling of foundations which can cause localised high SSC. Therefore, the highest concentrations are limited to the use of CFE for seabed preparation and the surface release by a dredger hopper, as discussed above.</li> <li>➤ A pre-construction cable route survey has been completed informing opportunities for optimisation of the Project Design and construction methodologies, to further reduce the potential for impacts. The completed survey has directly informed the potential presence of morphological features of interest in addition to requirement of seabed preparation activities, will also help reduce as far as practicable the scale of seabed clearance, thereby reducing the opportunity for elevated SSC.</li> <li>➤ Disposal of dredged material from the TSHD will use a downpipe method to deposit spoil as close to the seabed as possible, thus reducing the potential sediment plume.</li> <li>➤ The use of trenchless technologies at the landfall location, such as HDD, will minimise the extent of seabed disturbance, thereby reducing elevated SSC in the water column.</li> </ul>		
MM46	12.6.2.6 Impacts associated with effects upon marine water quality due to any accidental release of pollutants	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Support and installation vessels operating during the construction phase will operate in accordance with best practice and maritime conventions including the MARPOL and BWM conventions. Adherence to these conventions seek to avoid, prevent and reduce the likelihood that vessel operations result in pollution events to the marine environment, including from routine discharges which are prohibited as per MARPOL IV. Additionally, control measures and SOPEPs will be established and adhered to, if required, under MARPOL Annex I.</li> <li>➤ Mitigation by prevention will be implemented to ensure that the potential release of contaminants and pollutants is minimised, including through the implementation of an Offshore Environmental Management Plan, comprising inter alia a VMP and MPCP. These plans describe measures for compliance with international requirements of MARPOL, as well as best practice for works in the marine environment (e.g. preparation of SOPEP). In this manner, accidental release of potential contaminants</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			from operation and maintenance vessels will be strictly controlled and procedures will be in place to minimise the effect of any accidental release if it occurs.		
<b>Operational Phase</b>					
MM47	12.6.3.4 Disturbance due to the physical presence of vessels  12.6.3.5 Risk of injury resulting from collision of marine mammals and megafauna with operations and maintenance vessels	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Vessel movements will be managed in a way that will mitigate the negative effects to marine mammals and megafauna. These measures are described in detail in the VMP, including: <ul style="list-style-type: none"> <li>➤ Vessels engaged in construction works will typically be travelling at slow (&lt;6 kts) speeds. This will reduce sound emissions relative to high-speed transiting and reduce the underwater sound effects associated with vessel sounds; and</li> <li>➤ Vessels will follow prescribed routes (non-random movement).</li> </ul> </li> </ul>		
MM47	12.6.3.6 Risk associated with electromagnetic fields (EMFs) associated with subsea cabling	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Mitigation by design has been incorporated through cable burial, where the cable will be buried to a minimum depth of 1 m, or through the use of cable protection measures (including CIS), therefore increasing the distance between the receptor and the cable and reduces the potential for exposure to high strength magnetic fields.</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM48	12.6.3.7 Impacts associated with effects upon marine water quality due to any accidental release of pollutants	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Vessels operating during the operation and maintenance phase will operate in accordance with best practice and maritime conventions including the MARPOL and BWM conventions. Adherence to these conventions seek to avoid, prevent and reduce the likelihood that vessel operations result in pollution events to the marine environment, including from routine discharges which are prohibited as per MARPOL IV. Additionally, control measures and SOPEPs (for oil tankers of 150 gross tonnage and above and all vessels of 400 gross tonnage and above) will be established and adhered to, if required, under MARPOL Annex I.</li> <li>➤ Mitigation by prevention will be implemented to ensure that the potential release of contaminants and pollutants is minimised, including through the implementation of an Offshore Environmental Management Plan comprising <i>inter alia</i> a VMP and MPCP. These plans describe measures for compliance with international requirements of MARPOL, as well as best practice for works in the marine environment (e.g. preparation of SOPEP). In this manner, accidental release of potential contaminants from operation and maintenance vessels will be strictly controlled and procedures will be in place to minimise the effect of any accidental release if it occurs.</li> </ul>		
MM49	12.6.3.7.2 Accidental release from WTGs and OSS	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ The WTG including the nacelle, tower, and rotor and OSS structures are designed to contain any potential leaks. The containment design of the WTG / OSS sections will therefore significantly reduce the risk of potential spills contaminating the marine environment. Additionally, for the planned oil transfers the transfer of potential pollutants to WTG's/OSS will be meticulously planned and will follow all relevant guidelines.</li> </ul>		
MM50	12.6.3.8 Habitat change, including the potential for	EIAR Chapter 12	<ul style="list-style-type: none"> <li>➤ Mitigation measures are in place to reduce the habitat loss or disturbance to fish and shellfish spawning or nursery habitats. This includes pre-construction benthic survey and habitat mapping that have been undertaken to inform habitat distribution and identify potential spawning or nursery habitats. This information has been taken into</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	change in foraging opportunities		account during cable route refinement within the OECC, including the avoidance of sensitive habitats and the minimisation of cable installation over reef-like rocky habitat.		
<b>EIAR Chapter 13: Commercial Fisheries</b>					
<b>Pre-Construction Phase</b>					
MM51	Mitigation by Design	EIAR Chapter 13	<ul style="list-style-type: none"> <li>➤ Development and adherence to a VMP.</li> <li>➤ All vessels associated with the Project will comply with the provisions of the International Regulations for the Prevention of Collision at Sea (COLREGs) and the International Regulations for the Safety of Life at Sea (SOLAS).</li> <li>➤ Proactive consultation with key stakeholders within the fishing industry will adhere to best practice guidance.</li> <li>➤ Development and adherence to a Fisheries Management and Mitigation Strategy (FMMS).</li> <li>➤ Appointment of a Fisheries Liaison Officer (FLO) and the use of guard vessels and Offshore Fisheries Liaison Officers (OFLOs) where required.</li> <li>➤ Notifications (prior to construction) will be given in a Notice to Fishermen (Notice to Mariners (NtMs)) which will be published in the relevant fishing journals and online portals (e.g., The Marine Times, The Irish Skipper, Kingfisher Fortnightly Bulletin).</li> <li>➤ Procedures for dropped objects and claim processes for loss/damage of fishing gear/vessels – mitigation by prevention.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Development of cooperation agreements through discussions with affected fishers in line with the findings of the Seafood ORE Working Group and best practice guidance (e.g., FLOWW, 2015).</li> </ul>		
<b>Construction Phase</b>					
MM53	13.7.2.1 Loss of access to fishing grounds	EIAR Chapter 13	<ul style="list-style-type: none"> <li>Mitigation by design has been incorporated as the cable was routed through an area with low density of burrows and very low level of fishing activity to lessen potential effects on commercial fisheries receptors;</li> <li>The works will be completed in a very short period of time; and</li> <li>There will be mitigation by reduction through appointment of an FLO. Communication with local vessels will be maintained prior to works via NtMs, the FLO, and the use of guard vessels and OFLO where required (i.e. potential hazards).</li> <li>Mitigation by design measures as detailed in Section 13.4.3.4;</li> <li>Communication with local vessels will be maintained prior to works via NtMs and the FLO. During periods where no construction works are underway, if required, the site will be marked or guard vessels will be present around potential hazards (e.g. unprotected infrastructure), which may further restrict access; and</li> <li>There will be development of cooperation measures through discussions with affected fishers to ensure co-existence during the construction phase. This will be in line with the outcome of the discussions currently underway for the ORE Seafood Working Group.</li> </ul>		
MM54	13.7.2.2 Displacement of fishing activity into other areas	EIAR Chapter 13	<ul style="list-style-type: none"> <li>Development of cooperation agreements through discussions with affected fishers in line with the findings of the Seafood ORE Working Group and best practice guidance (e.g. FLOWW, 2015)</li> <li>Communication with local vessels will be maintained prior to works via NtMs, the FLO, and the use of guard vessels and OFLO where required (i.e. potential hazards).</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Communication with local vessels will be maintained prior to works via NtMs and the FLO. During periods where no construction works are underway, if required, the site will be marked, or guard vessels will be present around potential hazards (e.g. unprotected infrastructure); and</li> <li>➤ There will be development of cooperation measures through discussions with affected fishers to ensure co-existence during the construction phase. This will be in line with the outcome of the discussions currently underway for the ORE Seafood Working Group.</li> </ul>		
MM55	13.7.2.3  Interference to fishing activity due to increased vessel traffic	EIAR Chapter 13	<ul style="list-style-type: none"> <li>➤ Mitigation by prevention as a VMP, NSP and FMMS will be developed to further reduce any potential effects from the increased vessel traffic during construction and decommissioning;</li> <li>➤ Additionally, guard vessels and an OFLO will be on site where appropriate to aid in communications and warn of any hazards within the Offshore Site. There will be ongoing liaison with the fishing industry through the FLO. Prior to any construction works there will be promulgation of information through NtMs and all relevant channels; and</li> <li>➤ There will be development of cooperation measures through discussions with affected fishers to ensure co-existence during the construction phase. This will be in line with the outcome of the discussions currently underway for the ORE Seafood Working Group.</li> <li>➤ There will be mitigation by reduction as there will be ongoing liaison with the fishing industry through the FLO. Prior to any construction works there will be promulgation of information through NtMs and all relevant channels, including the presence of safe routes will be marked out for vessels to navigate around the OAA during construction dependent on vessel size (e.g. routes for smaller and larger vessels).</li> </ul>		
MM56	13.7.2.4	EIAR Chapter 13	<ul style="list-style-type: none"> <li>➤ There will be ongoing consultation with the fishing industry via the FLO, and communication will be maintained offshore through use of OFLO and guard vessels as necessary to inform of hazards; and</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Safety issues for fishing vessels		<ul style="list-style-type: none"> <li>➤ Additionally, as part of the mitigation by design, there will be procedures for dropped objects and claim processes for loss or damage of fishing gear / vessels.</li> <li>➤ Temporary advisory safety clearance ranges will be implemented around objects under construction</li> </ul>		
<b>Operational Phase</b>					
MM57	13.7.3.1 Loss of access to fishing grounds	EIAR Chapter 13	<ul style="list-style-type: none"> <li>➤ Mitigation by reduction as there will be ongoing communication with fishers prior to works (e.g. NtMs, Kingfisher Bulletin) so that vessels can plan around the localised, temporary maintenance activities; and</li> <li>➤ Additionally, there will be mitigation by prevention as there will be cable monitoring throughout the operational life of the Project to monitor for damage, destruction or decay of cables, and the appropriate regulatory bodies will be notified within 24 hours of discovery any issues.</li> <li>➤ Mitigation by reduction as there will be ongoing communication with fishers prior to works so that vessels can plan around the localised, temporary maintenance activities;</li> <li>➤ There will be development of cooperation measures through discussions with affected fishers to ensure co-existence during the operational phase during major maintenance works. This will be in line with the outcome of the discussions currently underway for the ORE Seafood Working Group.</li> </ul>		
MM58	13.7.3.3 Interference to fishing activity due to increased vessel traffic.	EIAR Chapter 13	<ul style="list-style-type: none"> <li>➤ Mitigation by prevention as a VMP, NSP and FMMS will be developed to further reduce any potential effects from the increased vessel traffic during operation; and</li> <li>➤ There will be ongoing liaison with the fishing industry through the FLO during maintenance. Prior to any maintenance activities there will be promulgation of information through NtMs and all relevant channels. Additionally, guard vessels and an OFLO will be on site where appropriate to aid in communications and warn of any hazards within the Offshore Site.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM59	13.7.3.5 Increased steaming times	EIAR Chapter 13	<ul style="list-style-type: none"> <li>There will be mitigation by reduction as there will be ongoing liaison with the fishing industry through the FLO. Prior to any maintenance works there will be promulgation of information through NtMs and all relevant channels.</li> </ul>		
MM60	13.7.3.6 Safety issues for fishing vessels	EIAR Chapter 13	<ul style="list-style-type: none"> <li>There will ongoing communication with the fishing industry (e.g. NtMs) to provide notice of any operation and maintenance activity, and 500 m advisory safety clearance ranges will be in place;</li> <li>Additionally, there will be ongoing monitoring of cable protection so that notices will be issued within 24 hours of any damage, destruction or decay of cables that could result in exposed cable;</li> <li>There will be procedures in place for dropped objects and claim processes for loss or damage of fishing gear; and</li> <li>Guard vessels and an OFLO (where required) will also be onsite, where appropriate, during major maintenance works to aid offshore communications and warnings of any hazards.</li> </ul>		
<b>EIAR Chapter 14: Shipping and Navigation</b>					
<b>Pre-construction Phase</b>					
MM61	Mitigation by Design		<ul style="list-style-type: none"> <li>Advisory safe passing distances: Advisory safe passing distances will be implemented around a construction, maintenance, or decommissioning vessel undertaking ongoing work, as well as operational wind farm assets (i.e. WTG, OSS). It is anticipated that these will include recommended safe clearance of 50m from installed structures, and 500m from construction works or major maintenance activities. It is noted that there is no mechanism for deployment of statutory safety zones in Irish waters and therefore the application of advisory safe passing distances is considered a suitable alternative means of mitigating risk.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Buoyed construction area: A buoyed construction (or decommissioning) area around the array area will be implemented during the construction phases in agreement with Irish Lights.</li> <li>➤ Cable protection: Cable protection (via burial or external protection where burial is not possible) will be implemented and monitored, with any damage, destruction, or decay of cables notified to appropriate regulatory bodies no later than 24 hours after being discovered.</li> <li>➤ Compliance with MGN 654 and its annexes: The Project will be compliant with UK MGN 654 (MCA, 2021) noting that, as per Section 14.2.3, draft guidance has been published by the DoT for OREIs in Irish waters and closely resembles MGN 654.</li> <li>➤ Decommissioning Plan: A Decommissioning Plan has been developed and will be updated prior to the start of decommissioning works. This includes details of how the subsea cables and associated protection (left in situ) will be routinely monitored post-decommissioning to ensure that there is no further change to under keel clearance or increased risk of anchor interaction.</li> <li>➤ Guard vessel(s): Where appropriate, guard vessels will be used to ensure adherence with advisory passing distances.</li> <li>➤ Liaison with IRCG in relation to SAR resources: The Applicant will liaise with the IRCG in relation to SAR resources to ensure suitable emergency response plans and procedures are in place, with consideration of the National SAR Plan (Government of Ireland, 2019).</li> <li>➤ Lighting and marking: Lighting and marking of the array will be in compliance with IALA Recommendation O-139 and Guideline G1162 (IALA, 2021b/2021a) and agreed with Irish Lights</li> <li>➤ Marine coordination for project vessels: Marine coordination will be implemented to manage project vessel movements.</li> <li>➤ MPCP: An MPCP has been developed in accordance with MARPOL requirements outlining procedures to protect personnel working and safeguard the environment should a pollution event occur.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Marking on nautical charts: There will be appropriate marking of all offshore infrastructure associated with the Offshore Site on UKHO Admiralty charts.</li> <li>➤ Minimum blade clearance: There will be a minimum blade clearance of 27.5 m above Highest Astronomical Tide (HAT) which is in line with MGN 654 and RYA recommendations (RYA, 2019).</li> <li>➤ Project vessel compliance with international marine regulations: All project vessels will comply with international marine regulations as adopted by the Flag State including the COLREGs (IMO, 1972/77) and SOLAS (IMO, 1974).</li> <li>➤ Promulgation of information: Information for vessel routes, timings and locations, advisory safe passing distances will be circulated principally via Notices to Mariners but also via any other appropriate media including the Fisheries Liaison Officer (FLO).</li> </ul>		
<b>Construction and Decommissioning Phase</b>					
MM62	14.6.2.1 Displacement of Third-Party Vessels and Resulting Increased Collision Risk	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Advisory safe passing distances;</li> <li>➤ Guard vessel(s);</li> <li>➤ Lighting and marking;</li> <li>➤ Marking on nautical charts; and</li> <li>➤ Promulgation of information.</li> </ul>		
MM63	14.6.2.2 Collision Risk Between Third-Party Vessels and Project Vessels	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Advisory safe passing distances;</li> <li>➤ Buoyed construction area;</li> <li>➤ Guard vessel(s);</li> <li>➤ Lighting and marking;</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Marking on nautical charts;</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Pollution planning;</li> <li>➤ Project vessel compliance with international marine regulations; and</li> <li>➤ Promulgation of information.</li> </ul>		
MM64	14.6.2.3 Reduced Access to Local Ports	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Lighting and marking;</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Marking on nautical charts;</li> <li>➤ Project vessel compliance with international marine regulations; and</li> <li>➤ Promulgation of information.</li> </ul>		
Operational Phase					
MM65	14.6.2.1 Displacement of Third-Party Vessels and Resulting Increased Collision Risk	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Advisory safe passing distances;</li> <li>➤ Guard vessel(s);</li> <li>➤ Lighting and marking;</li> <li>➤ Marking on nautical charts; and</li> <li>➤ Promulgation of information.</li> </ul>		
MM66	14.6.2.2 Collision Risk Between Third-Party Vessels and Project Vessels	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Advisory safe passing distances;</li> <li>➤ Buoyed construction area;</li> <li>➤ Guard vessel(s);</li> <li>➤ Lighting and marking;</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Marking on nautical charts;</li> <li>➤ Pollution planning;</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Project vessel compliance with international marine regulations; and</li> <li>Promulgation of information.</li> </ul>		
MM67	14.6.2.3 Reduced Access to Local Ports	EIAR Chapter 14	<ul style="list-style-type: none"> <li>Lighting and marking;</li> <li>Marine coordination for project vessels;</li> <li>Marking on nautical charts;</li> <li>Project vessel compliance with international marine regulations; and</li> <li>Promulgation of information.</li> </ul>		
MM68	14.6.2.4 Creation of Third-Party Allision Risk	EIAR Chapter 14	<ul style="list-style-type: none"> <li>Advisory safe passing distances;</li> <li>Buoyed construction area;</li> <li>Compliance with MGN 654;</li> <li>Lighting and marking;</li> <li>Marine coordination for project vessels;</li> <li>Marking on nautical charts;</li> <li>Minimum blade clearance;</li> <li>Pollution planning; and</li> <li>Promulgation of information.</li> </ul>		
MM69	14.6.2.7 Reduction in Emergency Response Capability	EIAR Chapter 14	<ul style="list-style-type: none"> <li>Compliance with MGN 654 and its annexes;</li> <li>Guard vessel(s);</li> <li>Marine coordination for project vessels;</li> <li>Pollution planning; and</li> <li>Project vessel compliance with international marine regulations.</li> </ul>		
MM70	14.6.2.5 Reduction in Under-Keel	EIAR Chapter 14	<ul style="list-style-type: none"> <li>Cable protection;</li> <li>Compliance with MGN 654 and its annexes;</li> <li>Decommissioning Plan;</li> <li>Marking on charts;</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Clearance due to Cable Protection		<ul style="list-style-type: none"> <li>➤ Pollution planning; and</li> <li>➤ Promulgation of information.</li> </ul>		
MM71	14.6.2.6 Anchor Interaction with Subsea Infrastructure	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Cable protection;</li> <li>➤ Compliance with MGN 654 and its annexes;</li> <li>➤ Decommissioning Plan</li> <li>➤ Marking on nautical charts; and</li> <li>➤ Promulgation of information.</li> </ul>		
<b>Decommissioning Phase</b>					
MM72	14.6.2.5 Reduction in Under-Keel Clearance due to Cable Protection	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Cable protection;</li> <li>➤ Compliance with MGN 654 and its annexes;</li> <li>➤ Decommissioning Plan;</li> <li>➤ Marking on charts;</li> <li>➤ Pollution planning; and</li> <li>➤ Promulgation of information.</li> </ul>		
MM73	14.6.2.6 Anchor Interaction with Subsea Infrastructure	EIAR Chapter 14	<ul style="list-style-type: none"> <li>➤ Cable protection;</li> <li>➤ Compliance with MGN 654 and its annexes;</li> <li>➤ Decommissioning Plan</li> <li>➤ Marking on nautical charts; and</li> <li>➤ Promulgation of information.</li> </ul>		
<b>EIAR Chapter 15: Civil and Military Aviation</b>					
<b>Pre-construction Phase</b>					

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM74	Mitigation by Design	EIAR Chapter 15	<ul style="list-style-type: none"> <li>➤ A Lighting and Marking Plan (LMP) has been prepared which sets out specific requirements in terms of aviation lighting to be installed on the wind turbine generator. The LMP will be further developed in consultation with the Irish Aviation Authority (IAA), Department of Defence (DoD) and Irish Coast Guard (IRCG). It will take into account DoD's requirement that wind turbine generators are observable to night vision equipment. The LMP is included in Appendix 5-9: Lighting and Marking Plan.</li> <li>➤ IAA and IRCG will be consulted on the final layout of the Project to ensure compatibility with search and rescue (SAR) helicopter operations in the event of rescue missions within the site.</li> <li>➤ A minimum spacing of 500 m shall be maintained between blade tip to blade tip of all WTGs.</li> <li>➤ An Emergency Response and Cooperation Plan (ERCoP) will be in place for the Project. The ERCoP will refer to the marking and lighting of the wind turbine generators and will consider helicopters undertaking SAR operations when rendering assistance to vessels and persons in the vicinity of the Project. An ERCoP is included in Appendix 5-4: ERCoP. The LMP is also included as Appendix 5-9</li> <li>➤ The IAA will be informed of the locations, heights and lighting status of the wind turbines generators, including estimated and actual dates of construction and the maximum heights of any construction equipment to be used, prior to the start of construction, to allow inclusion on aviation charts and in the IAA Integrated Aeronautical Information Publication (IAIP).</li> <li>➤ All structures &gt; 90 m amsl in height will be charted on aeronautical charts and reported to the IAA at least three months prior to construction, for input into the IAA's database of tall structures in Ireland.</li> <li>➤ Any temporary obstacles associated with wind farms which are of more than 90 m in height are to be alerted to aircrews by means of the Notice to Aviation (NOTAM) system.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Operational phase</b>					
MM75	Mitigation by Design	EIAR Chapter 15	<ul style="list-style-type: none"> <li>During the operational phase, the operator of the Project will issue, as necessary, requests to the IAA to submit Aeronautical Information Circulars in the event of any failure of aviation lighting. Any light which fails shall be repaired or replaced as soon as is reasonably practicable. An alerting system for light failure will be put in place, such as remote monitoring or other suitable method agreeable to the IAA.</li> </ul>		
<b>EIAR Chapter 16: Seascape and Landscape Visual Impact Assessment</b>					
<b>Construction Phase</b>					
MM76	16.7.1.2.1 Mitigation by design – SCA5 - Atlantic North Mayo and Galway	EIAR Chapter 16	<ul style="list-style-type: none"> <li>Vessel traffic and activities within the OECC and OAA will be noticeable from this SCA but only from the coastline and sea area south of Slyne Head where the construction activities and incremental installation of the WTGs will be visible in long-shore views to the southeast. These views are generally flanked and backed by coastline and the offshore Aran Islands rather than impacting on the open sea horizon to the south and west. In this respect the activities are contained by coastal landform rather than located within the wild and windswept setting of the Atlantic Ocean where the sense of scale, distance and openness might be diminished.</li> <li>The largest scale construction related effects will be associated with the OWF and the emerging WTGs and OSS and these will occur between 15km and 21km from the nearest point of this SCA – a considerable distance where water surface activity may be screened by earth curvature.</li> <li>An undersea OEC will be placed across the seabed and will be buried or laid on the seabed with rock armour protection as appropriate in different sections, but they will not be visible and will not have an impact on the Seascape. Only the cable laying vessels will be potentially visible during the construction stage and at a considerable</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>distance of 20km+ as the OEC will be laid in a southerly direction from the OAA in the opposite direction to this SCA.</p> <ul style="list-style-type: none"> <li>➤ The context of construction stage offshore activities is a coastal environment containing some commercial shipping into Galway Port and Rossaveel Harbour. There are also passenger ferry routes and local fishing fleets contributing to productive maritime activity, modest in scale and intensity, but it is commonplace and contributes to baseline seascape character.</li> </ul>		
MM77	16.7.1.2.1 Mitigation by design – SCA 6 - Atlantic Galway Bay and Islands	EIAR Chapter 16	<ul style="list-style-type: none"> <li>➤ An undersea OEC will be placed across the seabed and will be buried or laid on the seabed with rock armour protection as appropriate in different sections, but the OEC will not be visible and will not have an impact on the Seascape.</li> <li>➤ The cable laying vessel will be noticeable as it makes its way south from the OAA around the western end of Inishmore Island on the way to the Clare coastline west of Doonbeg. This will be a temporary and transient operation undertaken by a vessel which will not appear as an ambiguous or even conspicuous feature in this seascape setting.</li> </ul>		
MM78	16.7.1.2.1 Mitigation by Design – Landscape Character Area	EIAR Chapter 16	<ul style="list-style-type: none"> <li>➤ Vessel traffic and activities within the OECC and OAA are unlikely to be noticeable from this SCA given the viewing distances involved as well as intervening landform from the lower lying West Connemara bog and South Connemara uplands.</li> <li>➤ The incremental installation of the WTGs will be seen in clear viewing conditions, but at considerable remove from this inland landscape. The emerging WTGs will introduce tall built features into the distant aspects of the coastal views afforded from here and will serve as a distant focal point. This will increase the scale and intensity of built development within the broader setting of this landscape, which is otherwise characterised by small scale / low intensity development of a traditional nature. Nonetheless, the emerging WTGs will be perceived as discrete from the upland landscape area.</li> </ul>		
Operational Phase					

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM79	16.7.1.2.3 Mitigation by Design - SCA5 – Atlantic North Mayo and Galway	EIAR Chapter 16	<ul style="list-style-type: none"> <li>➤ According to the ZTV maps, the WTGs will be openly visible from limited parts of this SCA and principally from the coastline and sea area south of Slyne Head. The WTGs will also be visible at greater distances from north of Slyne head where the westernmost coastline and offshore islands are afforded visibility across Slyne Head as well as from the southern side of more elevated peninsulas and promontory headlands just back from the coastline.</li> <li>➤ These views are generally flanked and backed by complex coastline and the offshore Aran Islands rather than intruding on the open sea horizon to the south and west. In this respect the WTGs are contained by coastal landform rather than located within the wild and windswept setting of the Atlantic Ocean where the sense of scale, distance and openness might be diminished.</li> <li>➤ Although new to the seascape to the south, the development is not an ambiguous feature as there will be a perceptual connection between the remote windswept setting and the WTGs which have been placed to take advantage of that exposure. There will be a sense that the WTGs are peripheral and discrete to this Seascape Area, which predominately relates to the coastal setting to the north of Slyne Head.</li> </ul>		
MM80	16.7.1.2.3 Mitigation by Design - SCA 6 - Atlantic Galway Bay and Islands	EIAR Chapter 16	<ul style="list-style-type: none"> <li>➤ According to the ZTV maps, the WTGs will be openly visible from parts of this SCA and principally from the sea and exposed coastline of central and south Connemara from Slyne Head to the north Clare coastline, including the Aran Islands. Many areas contained within indented bays and inlets without a clear view of open sea are also excluded from views of the WTGs.</li> <li>➤ From the north and south of the Offshore Site, these views are generally flanked and backed by complex coastline and the offshore Aran Islands rather than intruding on the open sea horizon to the west. The viewing context of the OAA is more directly offshore from Mweenish and Gorumna, albeit still framed by coastal headlands and islands.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ In this respect the WTGs are somewhat contained by coastal landform rather than located within the wild and windswept setting of the open Atlantic Ocean where the sense of scale, distance and openness might be diminished.</li> <li>➤ Although new to this host seascape, the development is not an ambiguous feature as there will be a perceptual connection between the remote windswept setting and the WTGs which have been placed to take advantage of that exposure. The OAA will be a prominent focus of offshore views from within the nearest portions of this seascape unit, but more peripheral and discrete relative to the coastal setting of Galway Bay and the north Clare seascape beyond the Aran Islands.</li> </ul>		
MM81	16.7.1.2.3 Mitigation by Design – Landscape Character Area	EIAR Chapter 16	<ul style="list-style-type: none"> <li>➤ The WTGs will range between fully and partially visible as well as fully screened from this SCA given the viewing distances involved. The OAA will be seen in clear viewing conditions, but at considerable remove from this inland landscape.</li> <li>➤ The WTGs will introduce tall built features into the distant aspects of the coastal views afforded from here and will serve as a distant focal point. Nonetheless, the WTGs will be perceived as discrete from the upland landscape area.</li> </ul>		
<b>EIAR Chapter 17: Marine Archaeology and Cultural Heritage</b>					
<b>Pre-construction Phase</b>					
MM82	Embedded Mitigation/Mitigation by Design	EIAR Chapter 17	<ul style="list-style-type: none"> <li>➤ Committed to trenchless installation methods, i.e. HDD or direct pipe. at the proposed Landfall.</li> <li>➤ All geophysical surveys, geotechnical surveys, archaeological dive surveys, ROV surveys, hand-held metal detection surveys and intertidal surveys will be licensed under the National Monuments Acts 1930-2014, results will be assessed and reported by a suitably qualified archaeologist.</li> <li>➤ All marine geophysical surveys will be carried out in compliance with the UAU guidance General Requirements for Geophysical Survey for Archaeological Purposes, and the results will be assessed and reported by a suitably qualified archaeologist.</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ As part of the continued survey of the development area, geoarchaeological assessments of deposits of archaeological potential, following an approved method statement will be undertaken, results will be assessed and reported by a suitably qualified archaeologist. Archaeological Exclusion Zones (AEZ) around known wrecks and potential receptors, as identified in the archaeological assessment of baseline and geophysical data will be put in place. All activities interfering with the seabed during all Project phases must be micro sited to avoid the AEZs which may be altered, increased, reduced, or removed as more information on the receptor becomes available. General interference with wrecks over 100 years old and archaeological objects underwater is prohibited under Section 3 of the National Monuments (Amendment) Act 1987.</li> <li>➤ An Archaeology Management Plan document summarising the responsibilities and commitments of all parties involved in the protection of marine archaeology will be produced and agreed.</li> <li>➤ The implementation of a Protocol of Archaeological Discovery (PAD) facilitating dialogue between on-site offshore development contractors, the developer, the archaeological curators, and the retained archaeologist mitigating the impact on unexpected archaeological discoveries.</li> <li>➤ If any Project activities are necessary within the established AEZs, the Department for Culture Heritage and Gaeltacht (DCHG) will be informed prior to any works being undertaken as a detailed archaeological investigation may be required prior to or during such works. In such case, a full method statement detailing any planned developmental and archaeological works will be submitted to the DCHG before any works commence.</li> <li>➤ Where relevant, and if impact to marine archaeology receptors is anticipated during intrusive activities or if material will be moved or removed from the seabed a watching brief (undertaken by an appropriately qualified and approved archaeologist) may be required.</li> <li>➤ Monitoring activities may be undertaken during, and following construction, in those cases a monitoring plan will be developed, all relevant activities will be licensed under</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>the National Monuments Acts 1930-2014 and the results will be assessed and reported by a suitably qualified archaeologist.</p> <p>➤ An Offshore Decommissioning Plan will be submitted with the application. Underwater archaeology mitigations will be reviewed and updated prior to decommissioning activities taking place.</p>		
<b>Construction Phase</b>					
MM83	<p>17.5.4.1</p> <p>Removal of sediment containing undisturbed archaeological contexts during seabed preparation</p> <p>17.5.4.2</p> <p>Compression of stratigraphic contexts containing archaeological material from combined weight of foundation,</p>	EIAR Chapter 17	<p>➤ Locations on the seabed of potential and confirmed Historic Environment receptors are informed by the archaeological assessment of geophysical and geotechnical data and AEZs will be put in place, ensuring mitigation by avoidance.</p> <p>➤ Mitigation by avoidance aims to ensure that there is no direct, indirect or permanent impact on Historic Environment within the Marine Archaeology Study Area.</p> <p>➤ Where avoidance is not possible or in case of not yet located Historic Environment further mitigation and archaeological works are detailed in the AMP.</p>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	<p>transition piece, tower, and WTG</p> <p>17.5.4.3</p> <p>Disturbance of sediment containing potential marine archaeology receptors (material and contexts) during the laying of inter-array cables and offshore export cable laying operations</p> <p>17.5.4.4</p> <p>Penetration and compression effects of jack-up vessels and anchoring of construction vessels during WTG, sub-station,</p>				

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	or cable installation				
Operational Phase					
MM84	<p>17.5.5.1</p> <p>Scour effects caused by the presence of WTG and substation foundations, causing, or accelerating loss of the receptor</p> <p>17.5.5.2</p> <p>Exposure and replacement of inter-array and offshore export cable activities or the use of cable protection measures (such as remedial cable burial)</p>	EIAR Chapter 17	<p>➤ Locations on the seabed of potential and confirmed Historic Environment receptors are informed by the archaeological assessment of geophysical and geotechnical data and AEZs will be put in place, ensuring mitigation by avoidance. Mitigation by avoidance aims to ensure that there is no direct, indirect or permanent impact on Historic Environment within the Marine Archaeology Study Area</p>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	17.5.5.3 Penetration and compression effects caused by corrective and preventative operation and maintenance activities (via jack-up vessels or anchors)				
<b>Decommissioning Phase</b>					
MM85	17.5.6.1 Draw-down of sediment into voids left by removed WTG foundations leading to loss of sediment, causing, or accelerating loss of the receptor.  17.5.6.2	EIAR Chapter 17	<ul style="list-style-type: none"> <li>➤ Locations on the seabed of potential and confirmed Historic Environment receptors are informed by the archaeological assessment of geophysical and geotechnical data and AEZs will be put in place, ensuring mitigation by avoidance.</li> <li>➤ Mitigation by avoidance aims to ensure that there is no direct, indirect or permanent impact on Historic Environment within the Marine Archaeology Study Area</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Penetration and compression effects of jack-up vessels and anchoring of decommissioning vessels.				
<b>ElAR Chapter 18: Other Users of the Marine Environment</b>					
<b>Pre-construction Phase</b>					
MM86	Embedded Mitigation	ElAR Chapter 18	<ul style="list-style-type: none"> <li>➤ Dissemination of information (including a Notice to Mariners (NtM), Kingfisher notifications and navigational warnings): Information on Project location and activities will be shared with key stakeholders prior to the commencement of any works through NtM, Kingfisher notifications and navigational warnings. Statutory and advisory safe clearance ranges to be implemented around Project vessels will also be advertised prior to the mobilisation of Project vessels. Ongoing consultation with key asset owners and recreational users of the marine environment (as identified through a Community Liaison Officer (CLO)) will be undertaken throughout the lifecycle of the Project, with advanced notice given of any potential obstruction or interference with existing operations and activities.</li> <li>➤ Crossing and proximity agreements: Crossing and proximity agreements with existing submarine cable operators and asset owners will be established prior to the commencement of any construction works. Ongoing consultation will be undertaken throughout the lifecycle of the Project with all relevant third parties.</li> <li>➤ Implementation and adherence to a Lighting and Marking Plan: Vessel and infrastructure lighting and marking will be in place to facilitate any required Search and Rescue (SAR) operations</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Charting of infrastructure: All installed infrastructures will be detailed on nautical and admiralty charts and within relevant publications. The requirements for charting of infrastructures will be agreed with Irish Lights, the Marine Survey Office and the Irish Aviation Authority.</li> <li>➤ Compliance with the National Maritime Oil &amp; HNS Spill Contingency Plan (NMOSCP): The NMOSCP includes a number of guidance documents and standard operating procedures and their appendices which address key elements of effective preparedness and response.</li> <li>➤ NMOSCP establishes a national framework and strategy to coordinate marine pollution preparedness and response. It addresses all oil and HNS pollution whether it originates from ships, harbours, offshore units or oil/HNS handling facilities and land-based sources. All operations will be undertaken in compliance with the NMOSCP.</li> </ul>		
<b>Construction Phase</b>					
MM87	18.6.2.2 Obstruction to cable installations	EIAR Chapter 18	<ul style="list-style-type: none"> <li>➤ The development of a Cable Plan will include a cable crossing methodology, including the need for any cable protection measures. Any crossing and /or proximity agreements will be agreed between the Applicant and Farice to ensure no damage or detrimental interference occurs to this asset or the Project Offshore Export Cable(s). The cable route has been designed so that the crossing will be perpendicular to reduce overlap in so far as possible.</li> </ul>		
MM88	18.6.2.3 Obstruction to Marine Recreational Users	EIAR Chapter 18	<ul style="list-style-type: none"> <li>➤ Mitigation by consultation: Where there is the potential for disruption to marine recreational activities, embedded mitigation measures will be adopted, including the dissemination of information to all marine recreational users in advance of any construction activities. Throughout the construction phase of the Project, ongoing engagement will be undertaken with key stakeholders (including scuba diving and snorkelling centres, Blue Flag beach operators and local ports and marina) to ensure that any activities associated with the construction of the Offshore Site, including the type of construction vessels required, their location within the marine environment and</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			their period of activity, is clearly conveyed prior to the commencement of any construction activities.		
MM89	18.6.2.4.2  Potential effects on aquaculture sites relating to changes in water quality	EIAR Chapter 18	<ul style="list-style-type: none"> <li>➤ SSC and release of contaminated sediment: Mitigation by design (avoidance/prevention) has been incorporated throughout the Offshore Site. The use of GBS fixed-bottom foundations avoids the need for drilling of foundations which can cause localised high SSC and release of contaminated sediment. Therefore, the highest concentrations are limited to the release of dredged material by a dredger hopper, as discussed above. Nonetheless, the Project has committed to releasing dredged material through a fall pipe at a height of 5m above the seabed (rather than at sea surface) which significantly reduces the potential for dispersion of sediment and resettlement time. The use of trenchless technologies at the landfall location, such as HDD, will minimise the extent of seabed disturbance, thereby reducing elevated SSC in the water column. The implementation and adherence to an OEMP for construction will also implement measures to ensure that the discharges at the trenchless landfall pop-out are suitable for release into the marine environment.</li> <li>➤ Vessel pollution: Mitigation by avoidance/prevention has been incorporated throughout the offshore site. The embedded mitigations, and installation vessels operating during the construction phase will operate in accordance with best practice and maritime conventions including the International Convention for the Prevention of Pollution from Ships (MARPOL) and The Ballast Water Management Convention (BWM) conventions. Adherence to these conventions seek to avoid, prevent and reduce the likelihood that vessel operations result in pollution events to the marine environment, including from routine discharges which is prohibited, except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminated and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land as per MARPOL IV. Additionally, control measures and Shipboard Oil Pollution Emergency Plan (SOPEPs) (for oil tankers of 150 gross tonnage and above and all vessels of 400 gross tonnage and above) will be established and adhered to, if required, under MARPOL</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			Annex I. Furthermore, the Project has developed and will adhere to the EMP and its annexes which include a Marine Pollution Contingency Plan (MPCP) and Invasive Non-Native Species (INNS) management plan in order to reduce the likelihood of pollution events and to ensure procedures are in place should an accidental release occur. These protocols will ensure potential pollution is contained and rectified quickly. Additionally, emergency response procedures will be in place for the Offshore Site, should an emergency situation occur, including any pollution incidents.		
MM90	18.6.2.7 Obstruction to spoil disposal activities	EIAR Chapter 18	<p>➤ Mitigation by consultation: The potential temporary anchorage of Project infrastructure within the Shannon Estuary will be coordinated by Shannon Foynes Port. Through this, any works associated with the temporary anchorage of infrastructure and the operations of Project vessels within the Shannon Estuary will be managed by the Harbour Authority to reduce any potential impacts to spoil dumping operations within the Shannon Estuary.</p>		
<b>Operational Phase</b>					
MM91	18.6.3.1 Obstruction to offshore renewable energy developments as a result of operational activities	EIAR Chapter 18	<p>➤ As detailed in the embedded mitigations proximity agreements will be developed and agreed between parties to safeguard the OEC and infrastructure/activities associated with the Project Saoirse array within the OECC.</p>		
MM92	18.6.3.2	EIAR Chapter 18	<p>➤ The crossing of the IRIS cable will be facilitated and informed by a pre-established proximity and crossing agreements. The crossing agreement will be informed by</p>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Obstruction to cable installations		engagement with Farice and will be agreed prior to the commencement of any construction works.		
MM93	18.6.3.3  Obstruction to marine recreational users	EIAR Chapter 18	<ul style="list-style-type: none"> <li>➤ Mitigation by consultation: Marine recreational users will be informed in advance of any routine maintenance or ad-hoc repair works required for the Offshore Site prior to the commencement of any works. Throughout the operation and maintenance phase of the Offshore Site, ongoing engagement will be undertaken with key stakeholders (including scuba diving and snorkelling centres, Blue Flag beach operators and local ports and marina) to ensure that any activities associated with the operation and maintenance of the Offshore Site, including the type of maintenance vessels required, their location within the marine environment and their period of activity, is clearly conveyed prior to the commencement of any maintenance activities. All installed infrastructure within the marine environment will be detailed on nautical and admiralty charts and within relevant publications.</li> </ul>		
MM94	18.6.3.4.2  Potential effects from an increase in SSC and release of sediment bound contaminants and vessel pollution	EIAR Chapter 18	<ul style="list-style-type: none"> <li>➤ Cable surveys will be conducted during the operational stage to determine if intervention is needed. These surveys will ensure that maintenance is targeted to necessary areas reducing the need for large scale works where appropriate. This will reduce disturbance of the seabed and suspended sediment generation.</li> <li>➤ For vessel pollution, as detailed for the construction stage the mitigations proposed are considered sufficient to reduce the residual effects to not significant levels (see Section 8.6.2.3.4). These measures include vessels adhering to MARPOL and BWM conventions during the operations and maintenance phase. Additionally, control measures and SOPEPs will be established and adhered to, as required under MARPOL Annex I. Furthermore, the Project will adhere to the OEMP which includes a MPCP and an INNS management plan in order to reduce the likelihood of pollution events and to ensure procedures are in place to safeguard biosecurity. An emergency response procedure will also be in place for the Offshore Site, should an emergent situation occur, including any large-scale pollution incidents.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Additionally, the WTG including the nacelle, tower, and rotor and OSS structures are designed to contain any potential leaks. The containment design of the WTG / OSS sections will therefore significantly reduce the risk of potential spills contaminating the marine environment. Additionally, for the planned oil transfers the transfer of potential pollutants to WTG's/OSS will be meticulously planned and will follow all relevant guidelines as stated by the MPCP. Pre-construction benthic survey and habitat mapping has been undertaken to inform habitat distribution and identify potential spawning or nursery habitats.</li> </ul>		
<b>ELAR Chapter 19: Offshore Air Quality and Airborne Noise</b>					
<b>Pre-construction Phase</b>					
MM95	Mitigation by Design	ELAR Chapter 19	<ul style="list-style-type: none"> <li>➤ Implementation and compliance with the measures outlined in the Offshore Environmental Management Plan (OEMP): Implement the OEMP which includes measures for pollution prevention and the control of noise and vibration during construction. With respect to airborne noise and air quality, this includes advisory speed restrictions on vessels operating within the Offshore Site.</li> <li>➤ Compliance with the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 as amended: The regulations implement the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI in Ireland and establish controls on marine engines and marine fuel to limit emissions, in particular NOx and SOx. All vessels associated with the Offshore Site will require the appropriate International Air Pollution Prevention Certification (IAPP) to be in place.</li> <li>➤ Compliance with the VMP: the VMP describes the mitigation measures to be adopted by the Project throughout the construction, operation and maintenance and decommissioning phases of the Project.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Construction Phase</b>					
MM96	19.8.1.1 Impacts to Mace Head Atmospheric Research Station	EIAR Chapter 19	<p>➤ Following extensive consultation with NUIG, the research institution operating the Mace Head Atmospheric Monitoring Station, as a means of mitigating the potential effects of the construction and operation of Sceirde Rocks Offshore Wind Farm, Fuinneamh Sceirde Teoranta will provide for the relocation of relevant measurement equipment to a location which will not be affected by the presence of the Offshore Site. This will require a period of dual monitoring between the existing and new monitoring locations, to ensure continuity in the atmospheric measurement records. There is an agreement in place between the Applicant and the University to ensure continuity of the excellent research associated with this institution and its contribution to global knowledge of atmospheric conditions and climate trends. This collaborative approach will effectively mitigate the effect in the long term.</p>		
MM97	19.8.1.2 Airborne noise and vibration generated from construction vessel movements and Project construction activities	EIAR Chapter 19	<p>➤ Vessels operating within the Offshore Site will do so in adherence with the VMP which describes measures to restrict speed to &lt;6 knots. These speed restrictions will reduce the level of noise associated with vessel operations.</p>		
MM98	19.8.1.3	EIAR Chapter 19	<p>➤ Support and installation vessels operating during the construction phase will operate in accordance with maritime best practice and conventions including the MARPOL convention. Adherence to these conventions, as described in detail within the VMP</p>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Exhaust emissions from Offshore Site vessels		seek to minimise the likelihood that vessel operations result in pollution events to the marine environment.		
<b>Operational Phase</b>					
MM99	19.8.2.1 Impacts to Mace Head Atmospheric Research Station	EIAR Chapter 19	<ul style="list-style-type: none"> <li>➤ Increased emissions from the presence of vessels associated with the operational phase: Following extensive consultation with NUIG, the research institution operating the Mace Head Atmospheric Monitoring Station, as a means of mitigating the potential effects of the construction and operation of Sceirde Rocks Offshore Wind Farm, Fuinneamh Sceirde Teoranta will provide for the relocation of relevant measurement equipment to a location which will not be affected by the presence of the Offshore Site. This will require a period of dual monitoring between the existing and new monitoring locations, to ensure continuity in the atmospheric measurement records. There is an agreement in place between the Applicant and the University to ensure continuity of the excellent research associated with this institution and its contribution to global knowledge of atmospheric conditions and climate trends. This collaborative approach will effectively mitigate the effect in the long term.</li> <li>➤ Disruption of meteorological conditions from the presence of WTGs: Following extensive consultation with NUIG, the research institution operating the Mace Head Atmospheric Monitoring Station, as a means of mitigating the potential effects of the construction and operation of Sceirde Rocks Offshore Wind farm, Fuinneamh Sceirde Teoranta will support the relocation of some of the measurement equipment to a location which will not be affected by the presence of the Offshore Site. This will require a period of dual monitoring between the existing and new monitoring locations, to ensure continuity in the atmospheric measurement records. There is an agreement in place between the Applicant and the University to ensure continuity of the excellent research associated with this institution and its contribution to global</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			knowledge of atmospheric conditions and climate trends. This collaborative approach will effectively mitigate the effect in the long-term residual effects following mitigation.		

## 33.2 Onshore Schedule Mitigation Measures

All mitigation and monitoring measures relating to the pre-construction, construction, operational and decommissioning phases of the Onshore Site are set out in the relevant chapters of this EIAR.

All mitigation which will be implemented during the various phases of the Project are presented in Table 33-2 below. The mitigation measures have been grouped together according to their EIAR Chapter and Project phase and are presented under the following headings:

- > Pre-construction Phase
- > Construction Phase
- > Operational Phase
- > Decommissioning Phase

The mitigation proposals in the below format provides an easy to audit list that can be reviewed and reported on during each phase of the Project. The proposal for site inspections and environmental audits are set out in the Onshore Construction and Environmental Management Plan (Onshore CEMP) which is included as Appendix 5-4 of this EIAR. The tabular format in which the below information is presented, can be further expanded upon during each Project phase to provide a reporting template for site compliance audits.

All monitoring measures which will be implemented during the pre-construction, construction, operational and decommissioning phases of the Project are outlined in Table 33-3. All monitoring measures were set out in the relevant chapters of this EIAR. The monitoring proposals are presented in terms of the monitoring requirement, frequency of monitoring and the mechanism for reporting results where applicable. By presenting the monitoring proposals in the below format, it is intended to provide a monitoring schedule that can be reviewed and tracked during all phases of the Project to ensure all the required monitoring is completed as required.

It is intended that the CEMP will be updated where required prior to the commencement of construction to include all mitigations and monitoring measures, planning conditions and or alterations to the EIAR and application documents should they emerge during the course of the planning process and would be submitted to the Planning Authority for written approval prior to the commencement of development.

Table 33-2 EIAR Onshore Mitigation Measures

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
EIAR Chapter 20 – Terrestrial Biodiversity					
Pre-construction Phase					
MM1	20.5.2 Fauna	EIAR Chapter 20	<p><b>Badger:</b></p> <p><b>Disturbance, Mortality</b></p> <ul style="list-style-type: none"> <li>➤ A pre-construction badger survey will be carried out by a qualified ecologist to identify the presence of any setts that may have been established in the intervening period. The requirement for a pre-construction survey does not represent a <i>lacuna</i> in the survey assessment but is fully in line with industry best practice.</li> <li>➤ Any setts identified within 50m of the Onshore Site infrastructure will subsequently be monitored for a minimum period of 2 weeks using remote cameras in order to ascertain use by badgers and levels of activity. If an active badger sett is identified and works can be undertaken safely (as to avoid sett collapse) then an exclusion zone will be set up around the sett as follows:</li> <li>➤ Exclusion zone fencing and appropriate signage will be put in place between working areas and badger sett exclusion zones to ensure that there will be no encroachment of the badger sett exclusion zones by construction activities.</li> <li>➤ If a newly established and active sett was identified within an area where works could not avoid direct impacts on the sett then the sett would likely need to be excluded, with the provision of a derogation licence from NPWS, prior to works commencing. This would involve the erection of one-way fencing, only allowing egress from the sett and would need to be undertaken in line with current guidelines by an appropriately qualified ecologist in advance of construction works commencing. Based on the findings of the surveys and current information regarding the Onshore Site, a derogation will not be required.</li> </ul>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p><b>Otter:</b></p> <p><b>Disturbance, Mortality</b></p> <ul style="list-style-type: none"> <li>➤ Due to time that can elapse between the original surveys, any future planning consent and construction, a pre-construction otter survey will be carried out by a qualified ecologist to identify the presence of any breeding sites up and downstream of the crossing points, that may have been established in the intervening period. The requirement for a pre-construction survey does not represent a lacuna in the survey assessment but is fully in line with industry best practice.</li> <li>➤ Any holts identified within 50m of the Onshore Site infrastructure will subsequently be monitored for a minimum period of 2 weeks using remote cameras in order to ascertain use by otter and levels of activity. If an active otter holt is identified and works can be undertaken safely then an exclusion zone will be set up around the sett as follows:</li> <li>➤ Exclusion zone fencing and appropriate signage will be put in place between working areas and otter holt exclusion zones to ensure that there will be no encroachment of the breeding site exclusion zones by construction activities.</li> <li>➤ If a newly established and active holt was identified within an area where works could not avoid direct impacts on the holt, the holt would likely need to be exclude, with the provision of a derogation licence from NPWS, prior to works commencing. This would involve the erection of one-way fencing, only allowing egress from the holt and will be undertaken in line with current guidelines by an appropriately qualified ecologist in advance of construction works commencing. Based on the findings of the surveys and current information regarding the Onshore Site, a derogation will not be required.</li> </ul>		
MM2	20.5.2 Bats	EIAR Chapter 20	<p><b>Loss of, or Damage to, Roosts</b></p> <p>Taking a precautionary approach, the following pre-construction mitigations will be followed:</p>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Any works undertaken on bridges identified as having bat roosting suitability will be subject to a pre-construction inspection to ensure that no roosting bats are present.</li> <li>Any potential felling of trees along the Onshore site with suitable roosting features will be carried out with the assumption that bats may be present. Therefore, a pre-construction survey will be undertaken on trees to be felled by a qualified ecologist to ensure there are no roosting bats. The requirement for a pre-construction survey does not represent a lacuna in the survey assessment but is fully in line with industry best practice.</li> <li>Trees with suitable potential roost features proposed for felling will be checked by a suitably qualified arborist at the time of felling. Further best practise measures will be prescribed by the ecologist following inspection as deemed necessary.</li> </ul> <p>With regard to the felling of trees which have been assessed as offering <i>Negligible</i> roosting potential for bats, the following mitigations will be implemented on a precautionary basis:</p> <ul style="list-style-type: none"> <li>Following industry best practice, a pre-construction survey will be undertaken on trees to be felled/pruned by a qualified ecologist to assess any changes in the baseline environment since the 2023 and 2024 surveys. The requirement for a pre-construction survey does not represent a lacuna in the survey assessment but is fully in line with industry best practice. Whilst no roosts have been identified within the Onshore Site and significant impacts are not anticipated, if a bat roost is identified within any of the trees to be removed/pruned or bridges during the pre-construction surveys, a bat derogation licence will be obtained from the NPWS, prior to felling and the felling activity will be supervised by a qualified ecologist. Based on the findings of the surveys and current information regarding the Onshore Site, a derogation will not be required.</li> <li>The pre-construction survey will either involve a dawn re-entry survey of the trees to be felled, and/or an inspection of the potential roosting features, depending on</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>access availability and time of the year. Due to the potential for opportunistic use at any time of the bat activity season, and potential use during winter, the following precautionary measures are also recommended.</p> <ul style="list-style-type: none"> <li>➤ Trees will be nudged two or three times prior to felling or limb removal, with a pause of 30 seconds in between, to allow potential bats to wake and move.</li> <li>➤ Felled trees will be left in-situ for a minimum of 24 hours prior to sawing or mulching, to allow any bats present to escape (National Roads Authority, 2006).</li> </ul> <p><b>Disturbance/Displacement</b></p> <p>With regard to the felling of trees which have been assessed as offering <i>Negligible</i> roosting potential for bats, the following mitigations will be implemented on a precautionary basis.</p> <ul style="list-style-type: none"> <li>➤ A pre-construction survey will be undertaken on trees to be felled/pruned by a qualified ecologist to assess any changes in the baseline environment since the 2023 and 2024 surveys. The requirement for a pre-construction survey does not represent a <i>lacuna</i> in the survey assessment but is fully in line with industry best practice. Whilst no roosts have been identified within the Onshore Site and significant impacts are not anticipated, if a bat roost is identified within any of the trees to be removed/pruned or bridges during the pre-construction surveys, a bat derogation licence will be obtained from the NPWS, prior to felling and the felling activity will be supervised by a qualified ecologist. Based on the findings of the surveys and current information regarding the Onshore Site, a derogation will not be required.</li> <li>➤ The pre-construction survey will either involve a dawn re-entry survey of the trees to be felled, and/or an inspection of the potential roosting features, depending on access availability and time of the year. Due to the potential for opportunistic use at any time of the bat activity season, and potential use during winter, the following precautionary measures are also recommended.</li> <li>➤ Trees will be nudged two or three times prior to felling or limb removal, with a pause of 30 seconds in between, to allow potential bats to wake and move.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Felled trees will be left in-situ for a minimum of 24 hours prior to sawing or mulching, to allow any bats present to escape (National Roads Authority, 2006).</li> </ul>		
MM3	20.5.6 Invasive Species	EIAR Chapter 20  CEMP Section 3	<p>The following mitigations will be implemented to ensure that the Japanese knotweed invasive species is not spread as a result of the Onshore Site.</p> <ul style="list-style-type: none"> <li>Pre-construction surveys will be undertaken to identify if the known infestation has spread since the preparatiuon of this application. The locations and extent of Japanese knotweed within the Onshore Site will be clearly marked out using temporary fencing/markers to ensure they are not disturbed. An exclusion zone surrounding each stand will also be identified and this will inform the extent of the area to be treated as potentially contaminated. The exclusion zone will extend to 7m around the identified stands.</li> <li>An ecological clerk of works (ECoW) will be appointed to supervise all works carried out within the exclsuoiion zones.</li> <li>All staff will receive a toolbox talk from the ECoW regarding the identification and protocols surrounding Japanese knotweed on the site.</li> <li>Given that short sections of the OGC will be lain within the above 7m exclsuuion zones, the below measures will be in place to ensure there is no spread of this species.</li> <li>The treatment and control of invasive alien species will follow guidelines issued by the National Roads Authority – The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads (NRA 2010).</li> </ul>		
Construction Phase					

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM4	20.5.2 Landscape Management Plan	Chapter 20, 27 Appendix 27-1	<ul style="list-style-type: none"> <li>Existing or marginal hedgerows around the OCC, totalling 870m, will be bolstered and maintained using native stock. Gaps in hedgerow alignment will be filled with native vegetation similar to existing species on site.</li> <li>Additionally, there will be approximately 406m of new hedgerow planted within the OCC site.</li> <li>Details of species, form, and size to be planted for the above are detailed in the Landscape Plan included in Appendix 27-1.</li> <li>Whilst there will be a loss in overall hedgerow habitat (50 meters), given the compensation measures given above, which includes the bolstering and maintenance of 870 m of hedgerow, this habitat will improve in the local area, as a result of the Onshore Site.</li> </ul>		
MM5	20.5.2 Scrub Woodland and Mixed Broadleaved Woodland	EIAR Chapter 20 Appendix 27-1	<ul style="list-style-type: none"> <li>In order to compensate for the loss of approximately 0.244 ha of scrub/scrub woodland and approximately 0.327 ha of mixed broadleaved woodland habitat to facilitate the Onshore Site, a landscape mitigation plan has been produced by Macroworks (Appendix 27-1) which provides for planting of approximately 0.92 ha of native woodland within the OCC site.</li> <li>Given the compensation measures given above, there will be total net gain of 0.35 ha of woodland habitat in the local area, as a result of the Onshore Site.</li> </ul>		
MM6	20.5.2 Fauna	EIAR Chapter 20	<p><b>Badger Habitat Loss/Fragmentation</b></p> <p>Any setts identified within 50m of the Onshore Site infrastructure will subsequently be monitored for a minimum period of 2 weeks using remote cameras in order to ascertain use by badgers and levels of activity. If an active badger sett is identified and works can be undertaken safely (as to avoid sett collapse) then an exclusion zone will be set up around the sett as follows:</p>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>➤ Exclusion zone fencing and appropriate signage will be put in place between working areas and badger sett exclusion zones to ensure that there will be no encroachment of the badger sett exclusion zones by construction activities.</p> <p><b>Otter:</b> <b>Disturbance, Mortality</b></p> <p>Any holts identified within 50m of the Onshore Site infrastructure will subsequently be monitored for a minimum period of 2 weeks using remote cameras in order to ascertain use by otter and levels of activity. If an active otter holt is identified and works can be undertaken safely then an exclusion zone will be set up around the sett as follows:</p> <p>➤ Exclusion zone fencing and appropriate signage will be put in place between working areas and otter holt exclusion zones to ensure that there will be no encroachment of the breeding site exclusion zones by construction activities</p> <p><b>Bats:</b> <b>Disturbance/Displacement</b></p> <p>During construction works the following mitigations will be implemented to avoid any impacts on bats as a result of lighting or noise:</p> <ul style="list-style-type: none"> <li>➤ Any lighting required for night-time works, should they be required, will be switched off when not needed.</li> <li>➤ Lighting required for night-time works will be directed onto the works areas and will avoid linear habitat such as treelines or hedgerows.</li> <li>➤ All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 “European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996”.</li> <li>➤ Operating machinery will be restricted to the works area.</li> <li>➤ All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Compressors will be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.</li> <li>Machines, which are used intermittently, will be shut down during those periods when they are not in use.</li> </ul>		
MM7	20.5.2 Hedgerows (WL1)	EIAR Chapter 20,27 Appendix 27-1	<p>In order to compensate for the loss of approximately 456 of hedgerow habitat to facilitate the Onshore Site, a landscape mitigation plan has been produced by Macroworks (Appendix 27-1 of Chapter 27) which provides for the bolstering and planting of hedgerow habitat around the OCC site.</p> <ul style="list-style-type: none"> <li>Existing or marginal hedgerows around the OCC, totalling 870m, will be bolstered and maintained using native stock. Gaps in hedgerow alignment will be filled with native vegetation similar to existing species on site.</li> <li>Additionally, there will be approximately 406m of new hedgerow planted within the OCC site.</li> <li>Details of species, form, and size to be planted for the above are detailed in the Landscape Plan included in Appendix 27-1.</li> <li>Whilst there will be a loss in overall hedgerow habitat (50 meters), given the compensation measures given above, which includes the bolstering and maintenance of 870 m of hedgerow, this habitat will improve in the local area, as a result of the Onshore Site</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM8	20.5.2 Watercourses and Sensitive Aquatic Faunal Species	EIAR Chapter 20, 23	<p>Detailed mitigation measures in relation to the protection of surface water during construction is detailed in Chapter 24 (Water). In summary the key mitigation measure during the construction phase is the avoidance of sensitive hydrological features, by utilizing water crossing methods which do not require in stream works, such as HDD or using existing structures.</p> <p>Detailed control measures in relation to the protection of surface waters during construction are detailed in Section 23.5.2 of Chapter 23 (Water).</p> <p>➤ Although no significant impacts to groundwater are predicted from the Onshore Site during construction, measures to protect groundwater during construction are detailed in Section 23.5.2 in Chapter 23 (Water).</p>		
<b>Operational Phase</b>					
MM9	20.5.3 Bats	EIAR Chapter 20	<p>➤ Any lighting plan for the proposed 220kV Onshore Compensation Compound will be designed with consideration of the following guidelines: Bat Conservation Ireland guidelines; Bat Conservation Ireland (Bats and Lighting: Guidance Notes for Planners, Engineers, Architects and Developers, BCI, 2010) and the Bat Conservation Trust (Guidance Note 08/23 Bats and Artificial Lighting at Night (ILP, 2023), to minimise light spillage, thus reducing any potential disturbance to bats.</p> <p>➤ The proposed light fitting/scheme has been designed to help mitigate the effect of the artificial lighting on the local bat populations by incorporating the following:</p> <p>➤ Lamp temperatures will be 4000K throughout. However, all external lighting will be used for maintenance only and will only be used during such. There will be a central switch which will be switched on should any maintenance be required, once the central switch is on, lights will photocell controlled.</p> <p>➤ 0% tilt will be implemented to avoid upward lighting.</p>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>&gt; The luminaires will be complete with an LED source to eliminate the production of UV frequencies</li> <li>&gt; Directional accessories will be implemented where necessary, in particular to prevent light spillage onto the linear hedgerows.</li> </ul>		
<b>EIAR Chapter 21: Terrestrial Ornithology</b>					
<b>Pre- Construction Phase</b>					
MM10	26.6.2.1 Birds	EIAR Chapter 21 CEMP	<ul style="list-style-type: none"> <li>&gt; Works will not commence within the bird nesting season (1st of March to 31st of August inclusive) aside from works in the road network. Any requirement for construction works to run into the subsequent breeding season following commencement will be informed by pre-construction bird surveys. Monitoring will be undertaken by a suitably qualified ornithologist.</li> <li>&gt; An Environmental Clerk of Works and Project Ecologist will be appointed. Duties will include: - Organise the undertaking of a pre-construction walkover bird survey to ensure that significant effects on birds will be avoided.</li> </ul>		
<b>Construction Phase</b>					
MM11	26.6.2.1 Birds	EIAR Chapter 21 CEMP	<ul style="list-style-type: none"> <li>&gt; The removal of woody vegetation will be undertaken in full compliance with Section 40 of the Wildlife Act 1976 – 2022. Where sections of woody vegetation are removed for the purposes of the junction and road upgrades, these will be replaced with suitable hedge/tree species which are common in the local context.</li> <li>&gt; During the construction phase, noise limits, noise control measures, hours of operation (i.e. dusk and dawn is high faunal activity time) and selection of plant items will be considered in relation to disturbance of birds. All plant and equipment for use will comply with the European Communities (Noise Emission By Equipment For Use Outdoors) Regulations, 2001, as amended (SI 632/2001). Plant machinery will also be turned off when not in use.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>&gt; Silt fences will be installed as an additional water protection measure around existing watercourses. It is noted that watercourses will be protected from sedimentation and pollution in line with measures set out in Chapter 5.</li> <li>&gt; If winter roosting or breeding activity of birds of high conservation concern is identified, the roost or nest site will be located and no works shall be undertaken within a species-specific disturbance buffer in line with industry best practice (e.g. Goodship and Furness, 2022). No works shall be permitted within the buffer until it can be demonstrated that the roost/nest is no longer occupied.</li> <li>&gt; An Environmental Clerk of Works and Project Ecologist will be appointed. Duties will include: <ul style="list-style-type: none"> <li>&gt; Organise the undertaking of a pre-construction walkover bird survey to ensure that significant effects on birds will be avoided.</li> <li>&gt; Inform and educate on-site personnel of the ornithological and ecological sensitivities within the Onshore Site.</li> <li>&gt; Oversee management of ornithological issues during the construction period and advise on ornithological issues as they arise.</li> <li>&gt; Provide guidance to contractors to ensure legal compliance with respect to protected species onsite.</li> <li>&gt; Liaise with officers of consenting authorities and other relevant bodies with regular updates in relation to construction progress as necessary.</li> <li>&gt; A short section of the cable route, approximately c. 400m, borders the River Shannon and River Fergus Estuaries SPA between the OCC and the Moneypoint. Temporal restrictions on construction activity will be employed to avoid impacts. Between October and March, no construction works will be undertaken within 500m of the River Shannon and River Fergus Estuaries SPA adjacent to Moneypoint.</li> </ul> </li> </ul>		
<b>Decommissioning Phase</b>					
MM12	21.6.2.3	EIAR Chapter 21	<ul style="list-style-type: none"> <li>&gt; During the decommissioning phase, disturbance limitation measures and monitoring will be as per the construction phase and pre-construction phase, respectively.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Birds				
<b>EIAR Chapter 22: Land, Soils, and Geology</b>					
<b>Construction Phase</b>					
MM13	22.5.2.2  Excavation and Infrastructure Construction	EIAR Chapter 22	<b>Proposed Mitigation Measures by Design:</b> <ul style="list-style-type: none"> <li>➤ The soil and subsoil which will be removed during the construction phase will be localised to the Project infrastructure location (i.e. OCC, temporary construction compounds and access tracks);</li> <li>➤ The Project has been designed to avoid sensitive habitats;</li> <li>➤ A minimal volume of material will be excavated and removed to allow for infrastructure works to take place in comparison to the total volume of these materials present on the site and in the surrounding lands;</li> <li>➤ Any excavated material associated with the OCC will be used for landscaping;</li> <li>➤ Any excavated material associated with the temporary construction compounds will be stored locally and will be used in the restoration of these areas once construction works are complete;</li> <li>➤ Excavated soils/subsoils shall be excavated and stored separately to topsoil; this will prevent mixing of materials and facilitate reuse afterwards;</li> <li>➤ All materials which require storage will be stockpiled at low angles (<math>&lt; 5-10^\circ</math>) to ensure their stability and secured using silt fencing where necessary. This will help to mitigate erosion and unnecessary additions of suspended solids to the drainage system;</li> <li>➤ Spoil will be deposited, in layers of 0.50m and will not exceed a total thickness of 2m; and,</li> <li>➤ Spoil will only be deposited on slopes of less than 5 degrees to the horizontal and greater than 10m from the top of a cutting.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>The following additional mitigation measures will be implemented along the OGC:</p> <ul style="list-style-type: none"> <li>➤ Soils and subsoils excavated along the underground cabling route will be removed off-site by a licenced haulier and brought to a licenced facility for disposal;</li> <li>➤ Appropriate engineered backfill material or imported stone material, in line with the Guidelines for Managing operations in Public Roads, will be used to backfill the trench;</li> <li>➤ Backfilling the trench will be done in layers to ensure proper compaction of the backfill material;</li> <li>➤ All trenching and reinstatement works are to be completed in line with Eirgrid specifications; and,</li> <li>➤ Where site investigations have encountered the presence of deep peat along the OGC, Horizontal Directional Drilling (HDD) will be used for the construction of the OGC. Through the utilization of HDD, the OGC will be installed at depth of approximately 8mbgl which is 4m below the peat. This construction methodology will remove the requirement for the excavation of large volume of peat and will reduce the potential for effects on adjacent peatlands</li> </ul>		
MM14	22.5.2.3 Leakages and Spillages	EIAR Chapter 22 CEMP	<ul style="list-style-type: none"> <li>➤ Maintenance of construction vehicles or plant will take place off-site;</li> <li>➤ On-site re-fuelling will be undertaken using a double skinned bowser with spill kits on the ready for any minor accidental leakages or spillages;</li> <li>➤ Fuels stored on site will be minimised but will be in bunded locations at the temporary construction compounds;</li> <li>➤ The electrical control building at the OCC will be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage of any associated chemicals and to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;</li> <li>➤ All waste tar and chip material arising from the chipping and resurfacing of the roads during construction of the underground electrical cabling route will be removed off-site and taken to an appropriately licenced facility;</li> <li>➤ The plant used during construction will be regularly inspected for leaks and fitness for purpose; and,</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ An emergency plan for the construction phase to deal with accidental spillages will be contained within the Onshore Construction Environmental Management Plan (Onshore CEMP) Appendix 5-16 of this EIAR. Spill kits will be available to deal with accidental spillage in and outside of re-fuelling areas.</li> </ul>		
MM15	22.5.2.4 Erosion of Exposed Soils and Subsoils	EIAR Chapter 22, 29	<ul style="list-style-type: none"> <li>➤ Material removed from the infrastructure footprint will be used for landscaping or for reinstatement of the temporary construction compound and associated temporary access track;</li> <li>➤ The upper vegetative layer (where still present) of excavated material will be stored with the vegetation part of the sod facing the right way up to encourage growth of plants and vegetation at the surface of the storage areas;</li> <li>➤ Re-seeding and spreading/planting will also be carried out in the spoil management areas;</li> <li>➤ All excavation works will be temporary, stockpiles will be covered, and silt fencing will be used downgradient of excavations or stockpiles; and,</li> <li>➤ Temporary drainage systems will limit runoff impacts during the construction phase.</li> </ul> <p>With regards to the OGC:</p> <ul style="list-style-type: none"> <li>➤ Soil/subsoil removed from the underground electrical cabling route trench will be transported off-site by a licenced haulier and brought to a licenced facility for disposal; and,</li> <li>➤ The underground electrical cabling route will be constructed in a stepwise manner along its length. This will minimise the time any particular section of the underground electrical cabling route trench is open before being reinstated.</li> </ul> <p>In addition, the following mitigation measures will be implemented during hedgerow/tree removal operations:</p> <ul style="list-style-type: none"> <li>➤ Before any works are completed silt fences will be installed to limit the movement of entrained sediment in surface water runoff;</li> <li>➤ All machinery will be operated by suitably qualified personnel; and,</li> <li>➤ Hand cutting/removal will be completed in some areas.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM16	22.5.2.4 Leakages and Spillages	EIAR Chapter 22  CEMP	<ul style="list-style-type: none"> <li>➤ Maintenance of construction vehicles or plant will take place off-site;</li> <li>➤ On-site re-fuelling will be undertaken using a double skinned bowser with spill kits on the ready for any minor accidental leakages or spillages;</li> <li>➤ Fuels stored on Site will be minimised but will be in bunded locations at the temporary construction compounds;</li> <li>➤ The electrical control building at the OCC will be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage of any associated chemicals and to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;</li> <li>➤ All waste tar and chip material arising from the chipping and resurfacing of the roads during construction of the underground electrical cabling route will be removed off-site and taken to an appropriately licenced facility;</li> <li>➤ The plant used during construction will be regularly inspected for leaks and fitness for purpose; and,</li> <li>➤ An emergency plan for the construction phase to deal with accidental spillages will be contained within the Onshore Construction Environmental Management Plan (Onshore CEMP) Appendix 5-16 of this EIAR. Spill kits will be available to deal with accidental spillage in and outside of re-fuelling areas.</li> </ul>		
<b>Operational Phase</b>					
MM17	22.5.3.1 Vehicle/Plant Use	EIAR Chapter 22  CEMP	<ul style="list-style-type: none"> <li>➤ Vehicles used during the operational phase will be refuelled off site before entering the site;</li> <li>➤ No fuels will be stored on-site during the operational phase; and</li> <li>➤ Spill kits will be available in all site vehicles to deal with an accidental spillage and breakdowns; and,</li> <li>➤ An emergency plan for the operational phase to deal with accidental spillages and breakdowns will be contained in the Onshore Construction and Environmental Management Plan (Onshore CEMP) included as Appendix 5-16.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM18	22.5.3.2 Use of Oils in Transformers	EIAR Chapter 22 CEMP	<ul style="list-style-type: none"> <li>➤ All transformers and OCC areas where oils are contained will be banded to 110% of the volume of oil used in each transformer/OCC;</li> <li>➤ All runoff collected in the underground gravity system at the transformer will pass through a full retention petrol interceptor. An operation and maintenance system for the oil interceptor will be provided by the manufacturer and will be included in the safety file for the Onshore Site; and,</li> <li>➤ An emergency plan for the operational phase to deal with accidental spillages will be contained in the Onshore CEMP included as Appendix 5-16.</li> </ul>		
<b>Decommissioning Phase</b>					
MM19	22.5.4 Land, Soils and Geology	EIAR Chapter 22 Appendix 5-18 Appendix 27-1	The potential effects associated with decommissioning will be similar to those associated with construction but of significantly reduced magnitude.		
<b>EIAR Chapter 23: Water</b>					
<b>Pre- Construction Phase</b>					
MM20	23.5.2.1 Vegetation Clearance	EIAR Chapter 23 CEMP Section 3	<p>Mitigation measures which will reduce the risk of entrainment of suspended solids and nutrient release in surface watercourses comprise best practice methods for vegetation clearance which are set out as follows:</p> <ul style="list-style-type: none"> <li>➤ Prior to the commencement of works all existing drains that intercept the area to be cleared area will be temporarily blocked downgradient through the use of check dams/silt fences;</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>Machine combinations (i.e. handheld or mechanical) will be chosen which are most suitable for ground conditions and which will minimise soils disturbance.</p>		
MM21	23.5.2.2  Suspended Solids Entrainment in Surface Waters	EIAR Chapter 23  CEMP Section 3	<p><b>Onshore Grid Connection</b></p> <p>Pre-construction Temporary Drainage Works:</p> <p>Prior to the commencement of road upgrades (or new tracks along the OGC in 3<sup>rd</sup> party lands and hardstand installs associated with the OCC or works at the OLL) the following key temporary drainage measures will be installed:</p> <ul style="list-style-type: none"> <li>Machine combinations (i.e. handheld or mechanical) will be chosen which are most suitable for ground conditions and which will minimise soils disturbance.</li> <li>All existing dry agricultural and forestry drains that intercept the proposed works area will be temporarily blocked down-gradient of the works using forestry check dams/silt traps;</li> <li>Clean water interceptor drains will be installed upgradient of the works areas;</li> <li>Check dams/silt fence arrangements (silt traps) will be placed in all existing drains that have surface water flows and also along existing roadside drains; and,</li> <li>A double silt fence perimeter will be placed down-slope of works areas that are located inside the watercourse 50m buffer zone.</li> </ul>		
MM22	23.5.2.5  Release of Hydrocarbons during Construction Stage	EIAR Chapter 23  CEMP Section 3	<ul style="list-style-type: none"> <li>All plant will be inspected and certified to ensure that they are leak free and in good working order prior to use at the Onshore Site.</li> <li>On site re-fuelling of machinery will be carried out using a mobile double skinned fuel bowser.</li> </ul>		
MM23	23.5.2.8  Morphological Changes to	EIAR Chapter 23	<p>Prior to the commencement of cable trenching or crossing works the following key temporary drainage measures will be installed:</p> <ul style="list-style-type: none"> <li>All existing roadside drains that intercept the proposed works area will be temporarily blocked down-gradient of the works using check dams/silt traps;</li> </ul>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Surface Watercourses along OGC	CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Culverts, manholes and other drainage inlets will also be temporarily blocked;</li> <li>➤ A double silt fence perimeter will be placed along the road verge on the down-slope side of works areas that are located inside the watercourse 50m buffer zone.</li> </ul>		
MM24	23.5.2.10  Surface Water Quality During Direction Drilling at Watercourse Crossings along the OGC	EIAR Chapter 23  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ The crossing works area will be clearly marked out with fencing or flagging tape to avoid unnecessary disturbance;</li> <li>➤ Before any ground works are undertaken, double silt fencing will be placed upslope of the watercourse channel along the 15m buffer zone boundary;</li> <li>➤ All plant will be checked for purpose of use prior to mobilisation at the watercourse crossing.</li> </ul>		
<b>Construction Phase</b>					
MM25	23.5.2.1  Vegetation Clearance	EIAR Chapter 23  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ All machinery will be operated by suitably qualified personnel;</li> <li>➤ Where possible, existing drains will not be disturbed during the clearance works;</li> <li>➤ Machines will traverse the site along specified off-road routes (referred to as racks);</li> <li>➤ The location of racks will be chosen to avoid wet and potentially sensitive areas;</li> <li>➤ Brush mats will be placed on the racks to support the vehicles on soft ground, reducing peat and mineral soil disturbance and erosion and avoiding the formation of rutted areas, in which surface water ponding can occur;</li> <li>➤ Sediment traps and silt fences will be installed in advance of any clearance works and will provide surface water settlement for runoff from work areas and will prevent sediment from entering downstream watercourses;</li> <li>➤ In areas particularly sensitive to erosion it will be necessary to install double or triple sediment traps;</li> <li>➤ Drains and silt traps will be maintained throughout all clearance works, ensuring that they are clear of sediment build-up and are not severely eroded;</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Cleared vegetation will be stacked in dry areas, and outside of hydrological buffer zones. Straw bales and check dams to be emplaced on the down gradient side of timber storage/processing sites;</li> <li>Works will be carried out during periods of no, or low rainfall, in order to minimise entrainment of exposed sediment in surface water runoff;</li> <li>Refuelling or maintenance of machinery will not occur within 50m of an aquatic zone or within 20m of any other hydrological feature. Mobile bowser, drip kits, qualified personnel will be used where refuelling is required; and,</li> <li>Branches, logs or debris will not be allowed to build up in aquatic zones. All such material will be removed when harvesting operations have been completed, but care will be taken to avoid removing natural debris deflectors.</li> </ul>		
MM26	23.5.2.2  Suspended Solids Entrainment In Surface Waters	EIAR Chapter 23, 29  CEMP Section 3	<ul style="list-style-type: none"> <li>The key mitigation measure during the construction phase is the avoidance of sensitive hydrological features where possible, by application of suitable self-imposed, industry best practice buffer zones (i.e. 50m to main watercourses).</li> <li>All of the key Onshore Site areas are located outside of the delineated 50m watercourse buffer zones with the exception of the following:</li> <li>Existing watercourse crossings along the OGC;</li> <li>The OCC is within the 50m buffer associated with the Ballynote East Stream which lies to the north;</li> <li>~210m of the OGC is within the 50m buffer associated with the Ballynote East Stream on its approach to the OCC; and,</li> <li>~400m of the OGC along the N67 lies to the east and within 50m of the Lower Shannon Estuary (although it is noted that this section of the OGC is located on the opposite side of the N67 to this waterbody, with the N67 located at a higher level than the works and acts as a barrier between the proposed works and the estuary).</li> <li>The large self-imposed setback distance from sensitive hydrological features means that adequate room is maintained for the proposed drainage mitigation measures (discussed below) to be properly installed and operate effectively. The proposed buffer zone will:</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Avoid physical damage (river/stream banks and river/stream beds) to watercourses and associated release of sediment;</li> <li>➤ Avoid excavations within close proximity to surface watercourses;</li> <li>➤ Avoid the entry of suspended sediment from earthworks into watercourses; and,</li> <li>➤ Avoid the entry of suspended sediment from the construction phase drainage system into watercourses, achieved in part by ending drain discharge outside the buffer zone and allowing percolation across the vegetation of the buffer zone.</li> </ul> <p><b>Onshore Landfall Location and Onshore Compensation Compound:</b></p> <p><u>Source controls:</u></p> <ul style="list-style-type: none"> <li>➤ Interceptor drains, vee-drains, diversion drains, flume pipes, erosion and velocity control measures such as use of sand bags, oyster bags filled with gravel, filter fabrics, and other similar/equivalent or appropriate systems.</li> <li>➤ Small working areas, covering stockpiles, weathering off stockpiles, cessation of works in certain areas.</li> </ul> <p><u>In-Line controls:</u></p> <ul style="list-style-type: none"> <li>➤ Interceptor drains, vee-drains, oversized swales, erosion and velocity control measures such as check dams, sand bags, oyster bags, straw bales, flow limiters, weirs, baffles, silt bags, silt fences, sedimats, filter fabrics, and collection sumps, temporary sumps, sediment traps, pumping systems, settlement ponds, temporary pumping chambers, or other similar/equivalent or appropriate systems.</li> </ul> <p><u>Treatment systems:</u></p> <ul style="list-style-type: none"> <li>➤ Temporary sumps and ponds, temporary storage lagoons, sediment traps, and settlement ponds, and proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems.</li> <li>➤ It should be noted that some existing manmade agricultural field drains exist in these areas, and these will be integrated and enhanced as required and used within the proposed drainage system. The integration of the existing drainage network and the proposed drainage network is relatively simple. The key elements being the upgrading and improvements to existing water treatment elements, such as in line</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>controls and treatment systems, including silt traps, settlement ponds and buffered outfalls.</p> <ul style="list-style-type: none"> <li>➤ The main elements of interaction with existing drains will be as follows:</li> <li>➤ Apart from interceptor drains, which will convey clean runoff water to the downstream drainage system, there will be no direct discharge (without treatment for sediment reduction, and attenuation for flow management) of runoff from the proposed site drainage into the existing site drainage network. This will reduce the potential for any increased risk of downstream flooding or sediment transport/erosion;</li> <li>➤ Silt traps will be placed in the existing drains upstream of any streams where construction works / hedgerow/tree removal is taking place, and these will be diverted into proposed interceptor drains, or culverted under/across the works area;</li> <li>➤ Runoff from individual hardstanding areas will be not discharged into the existing drain network but discharged locally at each hardstand location through settlement ponds and buffered outfalls onto vegetated surfaces;</li> <li>➤ Buffered outfalls will promote percolation of drainage waters across vegetation and close to the point at which the additional runoff is generated, rather than direct discharge to the existing drains of the Onshore Site; and,</li> <li>➤ Drains running parallel to the existing roads requiring widening will be upgraded, widening will be targeted to the opposite side of the road. Velocity and silt control measures such as check dams, sand bags, oyster bags, straw bales, flow limiters, weirs, baffles, silt fences will be used during the upgrade construction works. Regular buffered outfalls will also be added to these drains to protect downstream surface waters.</li> </ul> <p><b>Onshore Grid Connection</b></p> <ul style="list-style-type: none"> <li>➤ The majority of the OGC routes are &gt;50m from any nearby watercourse. Sections within 50m of watercourses are confined to existing bridge and culvert watercourse crossings, and short sections along the N67 and on the approach to the OCC. It is proposed to limit any works in any areas located within 50m of any watercourse/waterbody including the stockpiling of excavated soils and subsoils.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>&gt; A constraint/buffer zone will be maintained for all crossing locations where possible, whereby all watercourses will be fenced off. In addition, measures which are outlined below will be implemented to ensure that silt laden or contaminated surface water runoff from the excavation work does not discharge directly to the watercourse.</li> <li>&gt; Temporary silt fencing / silt trap arrangements will be placed within existing drainage features along public/private roads to remove any suspended sediments from the works area. The trapped sediment will be removed and disposed at an appropriate licenced facility.</li> <li>&gt; All excess material emanating from trenches within the public road will be disposed of at an appropriate licenced facility.</li> </ul> <p><b>Silt Fences:</b></p> <ul style="list-style-type: none"> <li>&gt; Silt fences will be emplaced within drains down-gradient of all construction areas. Silt fences are effective at removing heavy settleable solids such as those present in the subsoils/sandstone and shale tills that overlie the majority of the Onshore Site. This will act to prevent entry to watercourses of sand and gravel sized sediment, released from excavation of mineral sub-soils of glacial and glacio-fluvial origin, and entrained in surface water runoff. Inspection and maintenance of these of these structures during construction phase is critical to their functioning to stated purpose. They will remain in place throughout the entire construction phase. Double silt fences will be placed within drains down-gradient of all construction areas inside the hydrological buffer zones.</li> </ul> <p><b>Silt Bags:</b></p> <ul style="list-style-type: none"> <li>&gt; Silt bags will be used where small to medium volumes of water need to be pumped from excavations. As water is pumped through the bag, the majority of the sediment is retained by the geotextile fabric allowing filtered water to pass through. Silt bags will be used with natural vegetation filters or sedimats. Sediment entrapment mats, consisting of coir or jute matting, will be placed at the silt bag location to provide further treatment of the water outfall from the silt bag. Sedimats will be secured to</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>the ground surface using stakes/pegs. The sediment will extend to the full width of the outfall to ensure all water passes through this additional treatment measure.</p> <p><b>Settlement Ponds:</b></p> <ul style="list-style-type: none"> <li>➤ Settlement ponds will be used during the construction of the OCC.</li> <li>➤ Stormwater runoff rates for these areas, based on the 10-year return period rainfall event, were calculated for each catchment. These flows were then used to design the settlement ponds. The settlement ponds are designed for 11hr or 24hr retention times used to settle out medium silt (0.006mm) and fine silt (0.004mm) respectively (EPA, 2006)<sup>1</sup>.</li> </ul> <p><b>Level Spreaders and Vegetation Filters:</b></p> <ul style="list-style-type: none"> <li>➤ Level spreaders and buffered outfall will be used during the construction of the OCC.</li> <li>➤ The purpose of level spreaders is to release treated drainage flow in a diffuse manner, and to prevent the concentration of flows at any one location thereby avoiding erosion. Level spreaders are not intended to be a primary treatment component for development surface water runoff. They are not stand alone but occur as part of a treatment train of systems that will reduce the velocity of runoff prior to be released at the level spreader. In the absence of level spreaders, the potential for ground erosion is significantly greater than not using them.</li> <li>➤ Vegetation filters are essentially end-of-line polishing filters that are located at the end of the treatment train. In fact, vegetation filters are ultimately a positive consequence of not discharging directly into watercourses which is one of the mitigation components of the drainage philosophy. This makes use of the natural vegetation of the site to provide a polishing filter for the OCC drainage prior to reaching the downstream watercourses.</li> <li>➤ Again, vegetation filters are not intended to be a single or primary treatment component for treatment of works area runoff. They are not stand alone but are intended as part of a treatment train of water quality improvement/control systems</li> </ul>		

<sup>1</sup> Environmental Protection Agency (2006): *Environmental Management in the Extractive Industry (Non-Scheduled Minerals)*.

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>(i.e. source controls → check dams → silt traps → settlement ponds → level spreaders → silt fences → vegetation filters).</p> <p><b>Water Treatment Train:</b></p> <ul style="list-style-type: none"> <li>➤ A final line of defence will be provided by a water treatment train such as a “Siltbuster”. If the discharge water from construction areas fails to be of a high quality during regular inspections, then a filtration treatment system (such as a ‘Siltbuster’ or similar equivalent treatment train (sequence of water treatment processes) will be used to filter and treat all surface discharge water collected in the dirty water drainage system. This will apply for all of the construction phase.</li> </ul> <p><b>Pre-emptive Site Drainage Management</b></p> <ul style="list-style-type: none"> <li>➤ The works programme for the entire construction stage of the development will also take account of weather forecasts and predicted rainfall in particular. Large excavations and movements of soil/subsoil or vegetation stripping will be suspended or scaled back if heavy rain is forecast. The extent to which works will be scaled back or suspended will relate directly to the amount of rainfall forecast.</li> <li>➤ The following forecasting systems are available and will be used on a daily basis at the Project to inform proposed construction activities:</li> <li>➤ General Forecasts: Available on a national, regional and county level from the Met Eireann website (<a href="http://www.met.ie/forecasts">www.met.ie/forecasts</a>) These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;</li> <li>➤ MeteoAlarm: Alerts to the possible occurrence of severe weather for the next 2 days. Less useful than general forecasts as only available on a provincial scale;</li> <li>➤ 3-hour Rainfall Maps: Forecast quantitative rainfall amounts for the next 3 hours but does not account for possible heavy localised events;</li> <li>➤ Rainfall Radar Images: Images covering the entire country are freely available from the Met Eireann website (<a href="http://www.met.ie/latest/rainfall_radar.asp">www.met.ie/latest/rainfall_radar.asp</a>). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>rainfall. A 3-hour record is given and is updated every 15 minutes. Radar images are not predictive; and,</p> <p>➤ Consultancy Service: Met Eireann provide a 24-hour telephone consultancy service. The forecaster will provide interpretation of weather data and give the best available forecast for the area of interest.</p> <p>Using the safe threshold rainfall values will allow work to be safely controlled (from a water quality perspective) in the event of forecasting of an impending high rainfall intensity event.</p> <p>Excavation works will be suspended if forecasting suggests either of the following is likely to occur:</p> <p>➤ &gt;10 mm/hr (i.e. high intensity local rainfall events);</p> <p>➤ &gt;25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or,</p> <p>➤ &gt;half monthly average rainfall in any 7 days.</p> <p>➤ Prior to works being suspended the following control measures will be completed:</p> <p>➤ All active excavations will be secured and sealed off;</p> <p>➤ Temporary or emergency drainage will be installed to prevent back-up of surface runoff; and,</p> <p>➤ No works will be completed during heavy rainfall and for up to 24 hours after heavy events to ensure drainage systems are not overloaded.</p> <p><b>Management of Runoff from spoil management areas:</b></p> <p>In relation to the spoil management areas:</p> <p>➤ During the initial construction, silt fences, straw bales and biodegradable matting will be used to control surface water runoff from the work areas;</p> <p>➤ An interceptor drain will be installed around the designated spoil storage area to ensure that there is no runoff which would potentially carry suspended sediment;</p> <p>➤ Where applicable the vegetative topsoil layer of the spoil management areas will be rolled back to facilitate placement of excavated spoil up to a maximum height of 1.0 metres, following which the vegetative-top soils layer will be reinstated.</p>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Where reinstatement is not possible, spoil management areas will be sealed with a digger bucket and seeded as soon possible to reduce sediment entrainment in runoff.</li> </ul>		
MM27	23.5.2.4 Excavation Dewatering and Potential Effects on Surface Water Quality	EIAR Chapter 23  CEMP Section 3	<p>Management of groundwater seepages and subsequent treatment prior to discharge into the drainage network will be undertaken as follows:</p> <ul style="list-style-type: none"> <li>Appropriate interceptor drainage, to prevent upslope surface runoff from entering excavations will be put in place;</li> <li>If required, pumping of excavation inflows will prevent build-up of water in the excavation;</li> <li>The interceptor drainage will be discharged to the site constructed drainage system or onto natural vegetated surfaces and not directly to surface waters;</li> <li>The pumped water volumes will be discharged via volume and sediment attenuation ponds adjacent to excavation areas, or via specialist treatment systems such as a Siltbuster unit;</li> <li>There will be no direct discharge to surface watercourses, and therefore no risk of hydraulic loading or contamination will occur;</li> <li>Daily monitoring of excavations by the Environmental Clerk of Works will occur during the construction phase. If high levels of seepage inflow occur, excavation work will immediately be stopped and a geotechnical assessment undertaken; and,</li> <li>A mobile 'Siltbuster' or similar equivalent specialist treatment system will be available on-site for emergencies in order to treat sediment polluted waters from settlement ponds or excavations should they occur. Siltbusters are mobile silt traps that can remove fine particles from water using a proven technology and hydraulic design in a rugged unit. The mobile units are specifically designed for use on construction-sites. They will be used as final line of defence if needed.</li> </ul>		
MM28	23.5.2.4	EIAR Chapter 23	<ul style="list-style-type: none"> <li>The hydrogeological setting of the Onshore Site means that no significant groundwater dewatering is expected to be required. Moreover, direct rainfall and surface water runoff will be the main inflows that will require water volume and</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Groundwater Levels During Excavation Works	CEMP Section 3	<p>water quality management. For the avoidance of doubt, we would generally define dewatering as a requirement to permanently drawdown the local groundwater table by means of over pumping, e.g. as would be required for the operation of a bedrock quarry in a valley floor.</p> <p>➤ Relevant environmental management guidelines from the EPA quarry 2006 guidance document – “Environmental Management in the Extractive Industry” in relation to groundwater issues will be implemented during the construction phase.</p>		
MM29	23.5.2.5  Release of Hydrocarbons during Construction	EIAR Chapter 23  CEMP Section 3	<p>➤ No refuelling of construction vehicles or plant will take place within the 50m of a watercourse;</p> <p>➤ No maintenance of construction vehicles or plant will take place along the proposed route, except in emergency circumstances; and,</p> <p>➤ Fuels or chemicals will not be stored along the OGC route.</p> <p>➤ All plant will be inspected and certified to ensure that they are leak free and in good working order prior to use at the Onshore Site.</p> <p>➤ On site re-fuelling of machinery will be carried out using a mobile double skinned fuel bowser:</p> <ul style="list-style-type: none"> <li>○ The fuel bowser, a double-axel custom-built refuelling trailer will be re-filled off site, and will be towed around the site by a 4x4 jeep to where machinery is located;</li> <li>○ The 4x4 jeep will also carry fuel absorbent material and pads in the event of any accidental spillages;</li> <li>○ The fuel bowser will be parked on a level area in the construction compound when not in use and only designated trained and competent operatives will be authorised to refuel plant on site;</li> <li>○ Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations;</li> </ul> <p>➤ Onsite refuelling will be carried out by trained personnel only;</p> <p>➤ A permit to fuel system will be put in place;</p>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Taps, nozzles or valves associated with refuelling equipment will be fitted with a lock system;</li> <li>➤ All fuel storage areas will be bunded appropriately for the duration of the construction phase. The temporary construction compounds will contain bunded refuelling and containment areas. All bunded areas will be fitted with a storm drainage system and an appropriate oil interceptor. Ancillary equipment such as hoses, pipes will be contained within the bunded area;</li> <li>➤ Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage;</li> <li>➤ The electrical control building (at the substation) will be bunded appropriately to 110% of the volume of oils that will be stored, and to prevent leakage of any associated chemicals to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;</li> <li>➤ The plant used during construction will be regularly inspected for leaks and fitness for purpose; and,</li> <li>➤ An emergency plan for the construction phase to deal with accidental spillages is included within the Onshore Construction and Environmental Management Plan (Appendix 5-16). Spill kits will be available to deal with any accidental spillage in and outside the re-fuelling area.</li> </ul>		
MM30	23.5.2.7 Wastewater Disposal	EIAR Chapter 23 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ During the construction phase, a self-contained port-a-loo with an integrated waste holding tank will be used at the construction compounds, will be regularly maintained by the providing contractor, and removed from site on completion of the construction works;</li> <li>➤ Water supply for the site office and other sanitation will be brought to site and removed after use from the site to be discharged at a suitable off-site treatment location; and,</li> <li>➤ No water or wastewater will be sourced on the site, nor discharged to the site.</li> </ul>		
MM31	23.5.2.8	EIAR Chapter 23	<p>The following mitigation measures are proposed for the OGC crossing works:</p> <ul style="list-style-type: none"> <li>➤ No stockpiling of construction materials will take place along the OGC;</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Morphological Changes Surface Watercourses along OGC	CEMP Section 3	<ul style="list-style-type: none"> <li>➤ No refuelling of machinery or overnight parking of machinery is permitted in this area;</li> <li>➤ No concrete truck chute cleaning is permitted in this area;</li> <li>➤ Works will not take place at periods of high rainfall, and will be scaled back or suspended if heavy rain is forecast;</li> <li>➤ Machinery deliveries will be arranged using existing structures along the public road;</li> <li>➤ All machinery operations will take place away from the stream and ditch banks, apart from where crossings occur, although no instream works are proposed or will occur;</li> <li>➤ Any excess construction material will be immediately removed from the area and sent to a licenced waste facility;</li> <li>➤ No stockpiling of materials will be permitted in the constraint zones;</li> <li>➤ Spill kits will be available in each item of plant required to complete the stream crossing; and,</li> <li>➤ Silt fencing will be erected on ground sloping towards watercourses at the stream crossings if required.</li> </ul>		
MM32	23.5.2.9 Local Groundwater Wells	EIAR Chapter 23	<p>Regardless, if private wells are located downslope of the Onshore Site or not (or if wells are installed in the future), the potential for impact is negligible for the following conclusive reasons:</p> <ul style="list-style-type: none"> <li>➤ The Onshore Site is underlain by aquifers of low permeability;</li> <li>➤ Groundwater flowpaths are therefore typically very short (~30m minimum and ~300m maximum);</li> <li>➤ Consequently, the majority of groundwater flows within the OLL emerge as seeps along the adjacent coastline;</li> <li>➤ The majority of groundwater flow at the OCC will emerge as baseflow along streams/rivers and leave the local area as surface water flows and not groundwater flows;</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Therefore, the potential to impact on local wells (whether they are downslope or not) is very low as groundwater flowpaths between the Project infrastructure and potential source typically do not exist due to the large setback distance;</li> <li>➤ Nevertheless, mitigation is provided in the EIAR to deal with typical construction phase groundwater hazard such as oils and fuels; and,</li> <li>➤ Therefore, based on the hydrogeological assessment of the site with regard to groundwater user risk and the proposed mitigation measures, it can be robustly determined that the potential to impact on local wells/water supply sources is negligible.</li> </ul>		
MM33	23.5.2.10  Surface Water Quality During Direction Drilling	EIAR Chapter 23  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Although no in-stream works are proposed, the drilling works at the 4 no. EPA mapped watercourse crossings will only be done over a dry period between July and September (as required by IFI for in-stream works) to avoid the salmon spawning season and to have more favourable (drier) ground conditions. The other 15 no. crossings are over manmade drains/ditches and as these aren't natural watercourses seasonal restrictions will not apply (nevertheless, all other mitigation for the protection of surface water quality detailed in the following bullet points will be implemented at these crossings);</li> <li>➤ The crossing works area will be clearly marked out with fencing or flagging tape to avoid unnecessary disturbance;</li> <li>➤ There will be no storage of material / equipment or overnight parking of machinery inside the 15m buffer zone;</li> <li>➤ Before any ground works are undertaken, double silt fencing will be placed upslope of the watercourse channel along the 15m buffer zone boundary;</li> <li>➤ Additional silt fencing or straw bales (pinned down firmly with stakes) will be placed across any natural surface depressions / channels that slope towards the watercourse;</li> <li>➤ Silt fencing will be embedded into the local soils to ensure all site water is captured and filtered;</li> <li>➤ The area around the bentonite batching, pumping and recycling plant will be bunded using terram (as it will clog) and sandbags in order to contain any spillages;</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Drilling fluid returns will be contained within a sealed tank / sump to prevent migration from the works area;</li> <li>➤ Spills of drilling fluid will be cleaned up immediately and stored in an adequately sized skip before been taken off-site;</li> <li>➤ If rainfall events occur during the works, there will be a requirement to collect and treat small volumes of surface water from areas of disturbed ground (i.e. soil and subsoil exposures created during site preparation works);</li> <li>➤ This will be completed using a shallow swale and sump down slope of the disturbed ground; and water will be pumped to a proposed percolation area at least 50m from the watercourse;</li> <li>➤ The discharge of water onto vegetated ground at the percolation area will be via a silt bag which will filter any remaining sediment from the pumped water. The entire percolation area will be enclosed by a perimeter of double silt fencing;</li> <li>➤ Any sediment laden water from the works area will not be discharged directly to a watercourse or drain;</li> <li>➤ Works shall not take place during periods of heavy rainfall and will be scaled back or suspended if heavy rain is forecast;</li> <li>➤ Daily monitoring of the compound works area, the water treatment and pumping system and the percolation area will be completed by a suitably qualified person during the construction phase. All necessary preventative measures will be implemented to ensure no entrained sediment, or deleterious matter is discharged to the watercourse;</li> <li>➤ If high levels of silt or other contamination is noted in the pumped water or the treatment systems, all construction works will be stopped. No works will recommence until the issue is resolved and the cause of the elevated source is remedied;</li> <li>➤ On completion of the works, the ground surface disturbed during the site preparation works and at the entry and exit pits will be carefully reinstated and re-seeded or resurfaced at the soonest opportunity to prevent soil erosion;</li> <li>➤ The silt fencing upslope of the river will be left in place and maintained until the disturbed ground has re-vegetated;</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>There will be no batching or storage of cement allowed at the watercourse crossing;</li> <li>There will be no refuelling allowed within 50m of the watercourse crossing; and,</li> <li>All plant will be checked for purpose of use prior to mobilisation at the watercourse crossing.</li> </ul> <p>Fracture Blow-out (Frac-out) Prevention and Contingency Plan:</p> <ul style="list-style-type: none"> <li>The drilling fluid/bentonite will be non-toxic and naturally biodegradable (i.e., Clear Bore Drilling Fluid or similar will be used);</li> <li>The area around the drilling fluid batching, pumping and recycling plants will be bunded using terram and/or sandbags to contain any potential spillage;</li> <li>One or more lines of silt fencing will be placed between the works area and the adjacent river;</li> <li>Spills of drilling fluid will be cleaned up immediately and transported off-site for disposal at a licensed facility;</li> <li>Adequately sized skips will be used where temporary storage of arisings are required;</li> <li>The drilling process / pressure will be constantly monitored to detect any possible leaks or breakouts into the surrounding geology or local watercourse;</li> <li>This will be gauged by observation and by monitoring the pumping rates and pressures. If any signs of breakout occur then drilling will be immediately stopped;</li> <li>Any frac-out material will be contained and removed off-site;</li> <li>The drilling location will be reviewed, before re-commencing with a higher viscosity drilling fluid mix; and,</li> <li>If the risk of further frac-out is high, a new drilling alignment will be sought at the crossing location.</li> </ul>		
MM34	23.5.2.11	EIAR Chapter 23	<ul style="list-style-type: none"> <li>At each joint bay location, a sheetpile cofferdam will be installed and the peat removed and replaced with rockfill.</li> <li>The cofferdam technique of installing the rockfill jointing area will cut off any drainage of the surrounding peat.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Duct Installation in Peatland Areas	CEMP Section 3	<ul style="list-style-type: none"> <li>➤ The directional drilling machine will set up at a launch pit (to be established at the Joint Bay locations). The drill will then bore under the peat from one joint bay to another.</li> <li>➤ The drill head will enter the mineral soil within the confines of the rockfill area and will progress at a minimum of 4m below the peat clay interface.</li> <li>➤ The drilling head of the boring tool has a series of nozzles that feed a liquid bentonite mix along the bore direction, which provides both lubrication and support to the bore.</li> <li>➤ Once the bore reaches the far side, the duct is then attached to the drill head and the duct is pulled back along the infrastructure of the bore to the original drilling point.</li> <li>➤ Any bentonite mix is deposited within the bore shaft and is collected at either end of the bore within the dedicated launch/receiver pits; all excavated material and excess bentonite will be removed from site and brought to an authorised waste facility.</li> <li>➤ Once the duct is in place under the peat sections and the transition section completed, the normal process of road trenching can continue from either side of the HDD sections.</li> </ul>		
<b>Operational Phase</b>					
MM35	23.5.3.1 Replacement of Natural Surface with Lower Permeability Surfaces	EIAR Chapter 23 CEMP Section 3	<p>Over the edge drainage will be implemented on the new gravel tracks to be constructed along the OGC at the limited locations where the route passes through 3<sup>rd</sup> party lands and there isn't already an access track in place.</p> <p>A stormwater drainage system has been designed for the operation phase of the Project at the OCC (refer to Section 23.4.1.1). All stormwater from the buildings and bunded areas will be directed to an underground system where it will be attenuated prior to discharge. Discharge from the attenuation tank will be via a hydrobrake and discharge will be limited to existing greenfield runoff rates. The drainage system has been suitably designed to cater for a 100-year plus 20% climate change rainfall event. The proposed</p>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			access tracks and compound area will be constructed with permeable material which will allow infiltration and recharge to ground.		
MM36	23.5.3.2 Surface Water Quality Due to Discharge from OCC	EIAR Chapter 23 CEMP Section 3 Appendix 5-15	<ul style="list-style-type: none"> <li>➤ The proposed operational phase drainage system at the OCC is detailed in Appendix 5-15 of the EIAR and has been designed to ensure the protection of downstream surface watercourses.</li> <li>➤ The proposed drainage system at the OCC will ensure that there is no discharge of untreated or unattenuated stormwater. All water from the bunded areas will pass through a hydrocarbon interceptor prior to discharge. Sumps will also be used throughout the drainage system to facilitate the settlement of suspended solids. Rip-rap aprons will be located at the outlet to prevent erosion and the entrainment of suspended solids.</li> <li>➤ A foulwater drainage system has also been designed for the OCC. This system comprises of suitably sized tanks which will be fitted with a high-level alarm so that the tank can be emptied and prevents the risk of overflowing. There will be no discharge of wastewater at the site.</li> </ul>		
MM37	23.5.3.3 Runoff Resulting in Contamination of Surface Waters During Maintenance Works	EIAR Chapter 23 CEMP Section 3	Mitigation measures for sediment control are the same as those outlined above for the construction phase.		
MM38	23.5.3.4	EIAR Chapter 23	➤ Onsite re-fuelling of machinery will not be carried out during the operational phase of the development. All plant/machinery will be refuelled offsite;		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Release of Hydrocarbons	CEMP Section 3	<ul style="list-style-type: none"> <li>Fuels stored on site will be minimised and any diesel or fuel oils stored on-site will be bunded. The bund capacity will be sufficient to contain 110% of the storage tank's maximum capacity;</li> <li>The OCC will be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage of any associated chemicals and to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;</li> <li>Any plant used during the operational phase will be regularly inspected for leaks and fitness for purpose; and,</li> <li>Spill kits will be available to deal with accidental spillages.</li> </ul>		
<b>Decommissioning Phase</b>					
MM39	23.5.4 Hydrology	EIAR Chapter 23 Appendix 5-28 Appendix 27-1	<ul style="list-style-type: none"> <li>Mitigation measures applied during decommissioning activities will be similar to those applied during construction where relevant. Refer to Sections 23.5.2.2, 23.5.2.5, 23.5.2.7, 23.5.2.8, and 23.5.2.10.</li> </ul>		
<b>EIAR Chapter 24: Onshore Cultural Heritage</b>					
<b>Pre-construction Phase</b>					
MM40	24.4.3.3 Recorded Monuments	EIAR Chapter 24 CEMP Appendix 5-16	<ul style="list-style-type: none"> <li>A buffer zone measuring 15m will be established around ringfort CL057-040— prior to the commencement of construction works. The buffer will comprise durable temporary fencing with 'keep out' signage. The requirement for the buffer zone and associated signage will be included in the Onshore CEMP (Appendix 5-16).</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Construction Phase</b>					
MM41	24.4.3.3  Recorded Monuments	EIAR Chapter 24  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ No ground works or storage of materials or tracking of machinery will take place within the buffer zone.</li> <li>➤ Monitoring of ground works associated with the OGC route where it extends through the ZoN for ringfort CL057-040—. The monitoring will be carried out under licence from the National Monuments Service (NMS).</li> <li>➤ A report on the monitoring will be compiled on completion of the work and submitted to the Planning Authority and the NMS.</li> <li>➤ Further mitigation including preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.</li> </ul>		
MM42	24.4.3.4  Sub-Surface Archaeological Potential	EIAR Chapter 24  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Pre-development archaeological testing of the OLL, greenfield sections of the OGC route and OCC. The testing will be carried out under licence from the National Monuments Service.</li> <li>➤ A report on the testing will be compiled on completion of the work and submitted to the NMS and the Planning Authority.</li> <li>➤ Further mitigation including preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the testing.</li> <li>➤ Archaeological monitoring of all groundworks carried out in greenfield areas of the Onshore Site during the construction stage of the Onshore Site by a licensed archaeologist.</li> <li>➤ A report on the monitoring will be compiled on completion of the work and submitted to the NMS and the Planning Authority.</li> <li>➤ Further mitigation including preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the monitoring.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM43	24.4.3.8 Features of Local Heritage Merit	EIAR Chapter 24 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Archaeological monitoring of ground works associated with the OGC where it extends across the level crossing of the South Clare Railway.</li> <li>➤ A report on the monitoring will be compiled on completion of the work and be submitted to the Planning Authority and the NMS.</li> </ul>		
<b>Operational Phase</b>					
MM44	24.4.4.3 Recorded Monuments	EIAR Chapter 24 Appendix 27-1 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ It is noted that natural screening, boundaries, buildings and vegetation will potentially screen some visual effects. Furthermore, woodland planting around the perimeter of the OCC is proposed as part of the Landscape Management Plan for the Onshore Site. This in addition to the already existing natural screening will ameliorate effects to the wider setting of recorded monuments in the OCC study area.</li> </ul>		
<b>Decommissioning Phase</b>					
MM45	24.6 Cultural Heritage	EIAR Chapter 24 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Any potential direct effects will already have been resolved through the implementation of mitigation measures during the construction phase.</li> </ul>		
<b>EIAR Chapter 25: Onshore Air Quality</b>					

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Construction Phase</b>					
MM46	25.3.2.1.2  Exhaust Emissions: Construction of Onshore Site Infrastructure	EIAR Chapter 25, 29	<ul style="list-style-type: none"> <li>➤ All construction vehicles and plant used onsite during the construction phase will be maintained in good operational order. If a vehicle requires repairs this work will be carried out, thereby minimising any emissions that arise.</li> <li>➤ All machinery will be switched off when not in use.</li> <li>➤ Users of the Site will be required to ensure that all plant and vehicles are suitably maintained to ensure that emissions of engine generated pollutants are kept to a minimum.</li> <li>➤ Where reasonably practicable, the majority of aggregate materials for the construction of the Onshore Site will be obtained locally from nearby quarries and materials facilities. This will significantly reduce the distances vehicles will have to travel to get to the site, thereby reducing the amount of emissions associated with vehicle movements.</li> <li>➤ The chosen Materials Recovery Facility (MRF) facility will be as close as possible to the Onshore Site to reduce the amount of emissions associated with vehicle movements.</li> </ul>		
MM47	25.3.2.2.2  Dust Emissions: Construction of the Onshore Site Infrastructure	EIAR Chapter 25  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Sporadic wetting of loose stone surface will be carried out during the construction phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along road network to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, insofar as reasonably possible, increased runoff.</li> <li>➤ All plant and materials vehicles shall be stored in dedicated areas within the site.</li> <li>➤ Areas of excavation will be kept to a minimum, and stockpiling will be minimised by coordinating excavation, spreading and compaction.</li> <li>➤ The agreed haul route road adjacent to the site will be regularly inspected for cleanliness and cleaned as necessary.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>&gt; The roads adjacent to the site entrance will be checked weekly for damage/potholes and repaired as necessary.</li> <li>&gt; The transportation of construction materials from locally sourced quarries to the site will be covered by tarpaulin where necessary.</li> <li>&gt; An Onshore Construction and Environmental Management Plan (Onshore CEMP) will be in place throughout the construction phase (see Appendix 5-16). The CEMP includes dust suppression measures.</li> </ul>		
<b>Operational Phase</b>					
MM48	25.3.3.1 Exhaust Emissions	EIAR Chapter 25, 29	<ul style="list-style-type: none"> <li>&gt; Any vehicles or plant brought onsite during the operational phase will be maintained in good operational order that comply with the Road Traffic Acts 1961 as amended, thereby minimising any emissions that arise.</li> <li>&gt; When stationary, delivery and on-site vehicles will be required to turn off engines.</li> <li>&gt; Waste material will be transferred to a licensed/permitted Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF facility will be local to the Site to reduce the emissions associated with vehicle movements.</li> </ul>		
MM49	25.3.3.2 Dust Emissions	EIAR Chapter 25  CEMP Section 3	<ul style="list-style-type: none"> <li>&gt; Maintenance vehicles brought onsite during the operational phase will be maintained in good operational order, thereby minimising any dust emissions that arise.</li> <li>&gt; Where necessary, waste material will be transferred to a licensed /permitted Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF facility will be local to the site to reduce the emissions associated with vehicle movements.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Decommissioning Phase</b>					
MM520	25.3.4.1 Exhaust Emissions	EIAR Chapter 25, 29  Appendix 5-18	<ul style="list-style-type: none"> <li>➤ All construction vehicles and plant used onsite during the decommissioning phase will be maintained in good operational order. If a vehicle requires repairs this work will be carried out, thereby minimising any emissions that arise.</li> <li>➤ All machinery will be switched off when not in use.</li> <li>➤ Users of the site will be required to ensure that all plant and vehicles are suitably maintained to ensure that emissions of engine generated pollutants are kept to a minimum.</li> <li>➤ The Materials Recovery Facility (MRF) facility will be as close as possible to the Onshore Site to reduce the level of emissions associated with vehicle movements.</li> </ul>		
MM51	25.3.4.2 Dust Emissions	EIAR Chapter 25  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Sporadic wetting of any loose stone surface will be carried out during the decommissioning phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along road network to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, insofar as reasonably possible, increased runoff.</li> <li>➤ All plant and materials vehicles shall be stored in dedicated areas within the site.</li> <li>➤ The agreed haul route road adjacent to the site will be regularly inspected for cleanliness and cleaned as necessary.</li> </ul>		
<b>EIAR Chapter 26: Onshore Noise and Vibration</b>					
<b>Pre-construction Phase</b>					
MM52	26.7.1.1 Evening and Night-Time Period Noise	EIAR Chapter 26  CEMP Section 3	<p><b>Selection of Quiet Plant</b></p> <ul style="list-style-type: none"> <li>➤ This practice is recommended in relation to static plant such as compressors and generators. It is recommended that these units be supplied with manufacturers' proprietary acoustic enclosures. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>will be selected wherever possible. Should a particular item of plant already on the site be found to generate high noise levels, the first action will be to identify whether said item can be replaced with a quieter alternative.</p> <p><b>Liaison with the Public</b></p> <p>➤ Prior to particularly noisy construction activity the CLO will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.</p>		
<b>Construction Phase</b>					
MM53	26.7.1.1  Evening and Night-Time Period Noise	EIAR Chapter 26  CEMP Section 3	<p>Best practice noise control measures will be employed by the contractor during the construction phase in order to avoid exceedance of the adopted construction noise threshold values at the nearest NSLs. The best practice measures set out in BS 5228 (2009 +A1 2014) Part 1 will be complied with. This includes guidance on several aspects of construction site noise mitigation measures, including, but not limited to:</p> <p><b>Noise Control at Source</b></p> <p>The following best practice migration measures will be implemented where required:</p> <p>➤ Site compounds will be located away from noise sensitive locations within the site constraints.</p> <p>➤ The use of lifting bulky items, dropping and loading of materials within these areas will be restricted to normal working hours.</p> <p>➤ For mobile plant items such as cranes, dump trucks, excavators and loaders, maintaining enclosure panels closed during operation can reduce noise levels over normal operation. Mobile plant will be switched off when not in use and not left idling.</p>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ For steady continuous noise, such as that generated by diesel engines, it may be possible to reduce the noise emitted by fitting a more effective exhaust silencer system.</li> <li>➤ For percussive tools such as pneumatic breakers, a number of noise control measures include fitting muffler or sound reducing equipment to the breaker tool and ensuring any leaks in the air lines are sealed.</li> <li>➤ Erecting localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.</li> <li>➤ For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.</li> <li>➤ For all materials handling, ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.</li> <li>➤ For compressors, generators and pumps, these can be surrounded by acoustic lagging or enclosed within acoustic enclosures providing air ventilation.</li> <li>➤ All items of plant will be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.</li> </ul> <p><b>Screening</b></p> <ul style="list-style-type: none"> <li>➤ The length of the screen should in practice be at least five times the height, however, if shorter sections are necessary then the ends of the screen will be wrapped around the source. BS 5228 -1:2009+A1 states that on level sites the screen should be placed as close as possible to either the source or the receiver. The construction of the barrier will be such that there are no gaps or openings at joints in the screen material. In most practical situations the effectiveness of the screen is limited by the sound transmission over the top of the barrier rather than the transmission through the barrier itself. In practice, screens constructed of materials with a mass per unit of surface area greater than 10kg/m<sup>2</sup> will give adequate sound insulation performance.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>Residual construction noise calculations have assumed a partial line of sight (-5dB) is achieved using a solid 2.4m high standard construction site hoarding for fixed sites e.g. OLL, OCC and connection to the existing 220kV Moneypoint Substation.</li> <li>Annex B of BS 5228-1:2009+A1:2014 (Figures B1, B2 and B3) provide typical details for temporary and mobile acoustic screens, sheds and enclosures that can be constructed on site from standard materials.</li> <li>In addition, careful planning of the site layout will also be considered. The placement of temporary site buildings such as offices and stores between the site and sensitive locations can provide a good level of noise screening during the phasing of works.</li> </ul> <p><b>Liaison with the Public</b></p> <ul style="list-style-type: none"> <li>A designated Community Liaison Officer (CLO) will be appointed to site during construction works. Any noise complaints will be logged and followed up in a prompt fashion by the CLO.</li> </ul> <p><b>Reduction in Number of Plant Items Operating</b></p> <ul style="list-style-type: none"> <li>Additional mitigation measures in the form of strict adherence to the night-time CNT at the closest NSLs during the OLL and OCC night-time works are required. This can be achieved with the reduction of the number of plant items operating at the closest site boundaries, for example if the HDD does not operate during night-time works at the OLL and breakers do not operate during night-time works at the OCC.</li> </ul> <p><b>Noise Monitoring</b></p> <ul style="list-style-type: none"> <li>The appointed contractor will monitor noise at representative NSLs to evaluate and inform the requirement and / or implementation of noise management measures. Noise will be monitored in accordance with ISO 1996-1 (ISO 2016) and ISO 1996-2 (ISO 2017).</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>Any Noise Monitoring Terminal (NMT) to be installed will have the following specifications (or similar approved):</p> <ul style="list-style-type: none"> <li>➤ Logging of two concurrent periods, e.g., 15-minute &amp; hourly.</li> <li>➤ Daily automated Charge Injection Calibration (CIC).</li> <li>➤ E-mail alert on threshold exceedance.</li> <li>➤ E-mail alert on low battery and low memory.</li> <li>➤ Remote access to measured data.</li> <li>➤ Live display of noise levels</li> <li>➤ Spot-check noise measurements are conducted on a monthly basis. A monthly noise-monitoring report should be prepared by the contractor. Reports should identify any exceedances above nominal limit values and attempts to clarify the causes. Where remedial measures are required and identifiable, these should also be clearly stated.</li> </ul>		
MM54	26.7.1.2 Vibration Mitigation Measures	EIAR Chapter 26 CEMP Section 3	<p>The following measures in line with BS 5228 (2009 +A1 2014) Part2 shall be implemented during the construction period:</p> <ul style="list-style-type: none"> <li>➤ A clear communication programme will be established to inform adjacent building occupants in advance of any potential intrusive works which may give rise to vibration levels likely to exceed perceptible levels. The nature and duration of the works will be clearly set out in all communication circulars;</li> <li>➤ Appropriate vibration isolation shall be applied to plant, where feasible;</li> <li>➤ Monitoring will be undertaken at identified sensitive buildings, where proposed works have the potential to be at or exceed the vibration limit values.</li> </ul>		
MM55	26.7.1.2.1	EIAR Chapter 26	Where the HDD works take place within 70m of the closest VSRs and mechanical excavations (concrete breaking) take place within 50m of the closest VSRs vibration monitoring shall be installed, with the number and locations to be agreed with Local Authority.		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Vibration Monitoring	CEMP Section 3	<p>➤ Vibration monitoring stations should continually log vibration levels using the Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with ISO 4866: 2010: Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.</p> <p>The mounting of the transducer to the vibrating structure will need to comply with BS ISO 5348: 2021: Mechanical vibration and shock – Mechanical mounting of accelerometers. The following ideal mounting conditions apply:</p> <ul style="list-style-type: none"> <li>➤ The transducer and its mountings should be as rigid as possible;</li> <li>➤ The mounting surfaces should be as clean and flat as possible;</li> <li>➤ Simple symmetric mountings are best;</li> <li>➤ The mass of the mounting should be small in comparison to that of the structure under test;</li> <li>➤ The monitoring equipment should be set to monitor vibration in 5-minute periods;</li> <li>➤ E-mail alert on threshold exceedance;</li> <li>➤ E-mail alert on low battery and low memory;</li> <li>➤ Remote access to measured data;</li> <li>➤ Live display of vibration levels.</li> <li>➤ Spot-check vibration measurements will be conducted on a monthly basis. These spot checks can be organised to coincide with works that have potential to generate high levels of vibration on site in order to confirm the potential extent of effects.</li> <li>➤ A monthly vibration monitoring report will be prepared by the contractor. Reports will identify any exceedances above nominal limit values and attempts to clarify the causes. Where remedial measures are required and identifiable, these will also be clearly stated.</li> </ul>		
Operational Phase					

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM56	26.7.2.1 Fixed Plant at the OCC	EIAR Chapter 26 Appendix 26-4 CEMP Section 3	<p>The following mitigation measures in respect of OCC plant items are as summarised below and are included in the design of the Onshore Site:</p> <ul style="list-style-type: none"> <li>➤ Adherence to the maximum sound power levels for each item, as presented in Appendix 26.3;</li> <li>➤ Installed plant at the OCC will have no audible tonal or impulsive characteristics when in operation, during the night-time period.</li> <li>➤ A 7.5m high acoustic screening barrier has been included as per the site layout plan to the immediate north and east of the harmonic filter compound in order for NSL016 to achieve a predicted operational noise level of 35 dB during the night-time period.</li> <li>➤ Any alterations to the noise source data, building, plant or 7.5m acoustic screening layouts associated with OCC O&amp;M phase of the Project will be designed such that the operational noise criteria outlined in this chapter are achieved and associated noise impacts are no greater than those discussed above and summarised in Appendix 26.4.</li> </ul>		
<b>Decommissioning Phase</b>					
MM57	26.7.3 Onshore Noise and Vibration	EIAR Chapter 26 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ The mitigation measures that will be implemented in relation to any decommissioning of the site are the same as those set out for the construction phase of the Onshore Site outlined in Section 26.7.1.1 with the exception of the HDD for vibration, which will not be required during decommissioning works.</li> </ul>		
<b>EIAR Chapter 27: Landscape and Visual Impact and Assessment</b>					
<b>Operational Phase</b>					
MM58	27.6.3.2		<b>Onshore Compensation Compound</b>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Landscape Effects	EIAR Chapter 27, 21	<p>There will be external 1.4m high post and rail fencing around the wider site with 2.6m high steel palisade security fencing around the internal compound. Landscaping in the form of planted screen berms is proposed around the perimeter of the compound and a woodland mix is proposed on the eastern part of the site where there is the most potential for views into the site. This planting forms part of the biodiversity improvement planting proposed in the Biodiversity Chapter.</p>		
<b>EIAR Chapter 28: Material Assets</b>					
<b>Pre- Commencement Phase</b>					
MM59	28.5.2.1 Existing Services	EIAR Chapter 28	<p>Prior to any works commencing during the construction phase, a re-surveying exercise will be undertaken along the OGC to confirm the presence the locations of all existing services. All relevant bodies such as ESB Networks, Eirgrid, Gas Networks Ireland, EIR, Uisce Éireann and Clare County Council will be contacted prior to commencement on-site to reconfirm and provide record drawings of all relevant services. Accommodation of Third-Party Services has been considered during the design of the Onshore Site and selection of appropriate construction methodologies</p>		
<b>Construction Phase</b>					
MM60	28.5.2.1 Existing Services	EIAR Chapter 28	<p>Liaison will be had with the relevant sections of the Local Authority and statutory undertakers including all the relevant area engineers to ensure all services are identified.</p> <p>Excavation permits will be completed and all plant operators and general operatives will be inducted and informed as to the location of any services.</p> <p>A minimum clearance distance of 300m must be maintained from the edge of the ducts of the OGC to the edge of third-part ducts, with cables routed under the existing services where possible.</p>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>&gt; A Cable Avoidance Tool (CAT) and Genie will be required as works progress, in order to ensure that services are not encountered unexpectedly, along with a visual inspection as works progress.</li> <li>&gt; Methods for crossing bridges and culverts have been specifically designed to cater for each crossing along the OGC.</li> <li>&gt; The contractor must comply with all standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.</li> </ul>		
MM61	28.5.2.2  Waste Management	EIAR Chapter 28  CEMP Section 3  WMP	<p>A number of best practice methods will be followed during the construction of the Onshore Site.</p> <ul style="list-style-type: none"> <li>&gt; For the OCC any excavated material will be stored for reuse, with storage occurring a minimum distance of 20m away from any watercourse. All topsoil and subsoil will be stored separately, with the volume of exposed ground and soil stockpiles kept to a minimum. Any excavated soil which is not re-used or dispersed across the site shall be stored on the impermeable surface on the construction compound, which will be covered to prevent silt runoff or the creation of dust. For the OGC as material is removed it is to be removed off-site by a licensed haulier and brought to a licensed facility for disposal in-line with the WMP.</li> <li>&gt; All waste generated from the Onshore Site will be contained in waste skips at a waste storage area on site. This waste storage area will be kept tidy with any skips clearly labelled to indicate the allowable material to be disposed of therein. The expected waste volumes generated on site are unlikely to be large enough to warrant source segregation at the Onshore Site. Therefore, all waste streams generated on site will be deposited into a single waste skip. This waste material will be transferred to a licensed Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal.</li> <li>&gt; Site personnel will be instructed at induction that under no circumstances can waste be brought to site for disposal in the on-site waste skip. It will also be made clear that the burning of waste material on site is forbidden.</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Decommissioning Phase</b>					
MM62	28.5.4 Material Assets	EIAR Chapter 28	<p>➤ The potential effects associated with decommissioning will be similar to those associated with construction but of significantly reduced magnitude.</p>		
<b>EIAR Chapter 29: Traffic and Transport</b>					
<b>Pre- Commencement Phase</b>					
MM63	29.5.5.2.3  Increased Traffic Volumes during OGC and OCC construction	EIAR Chapter 29  Appendix 29-2  CEMP Section 3	<p>A Pre-Construction Condition Survey –</p> <p>➤ A pre-condition survey of roads associated with the Onshore Site will be carried out immediately prior to construction commencement to record an accurate condition of the road network at the time.</p> <p>Liaison with the relevant local authority –</p> <p>➤ Liaison with the roads departments of Clare County Council. Once the surveys have been carried out and “prior to commencement” status of the relevant roads established, (and in compliance with the provisions of the CEMP), the Roads section will be informed of the name and contact number of the Project Supervisor of the construction stage as well as the Site Environmental Manager.</p> <p>Identification of delivery routes –</p> <p>➤ These routes, as show in Figure 29-1c will be agreed and adhered to by all contractors.</p> <p>Travel plan for construction workers –</p> <p>➤ The proceeding assessment is based on construction staff being transported to the point of construction on the OGC by minibus. The construction company will be required to provide a travel plan for construction staff, which will include the</p>		



Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			identification of routes to / from the site and identification of an area for parking, prior to being transported to the OGC by minibus		
<b>Construction Phase</b>					
MM64	29.5.5.2.3  Increased Traffic Volumes during OGC and OCC construction	EIAR Chapter 28  Appendix 29-2  CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Traffic Management Coordinator – a competent Traffic Management Co-ordinator will be appointed for the duration of the Project and this person will be the main point of contact for all matters relating to traffic management.</li> <li>➤ Construction and Delivery Programme – a programme of construction and deliveries will be submitted to Clare County Council in advance of deliveries of material to the OGC and the OCC site. Liaison with the relevant local authorities and TII will be carried out where required regarding requirements such as delivery timetabling, road closures and diversions .</li> <li>➤ Information to locals – Locals in the area will be informed of any upcoming traffic related matters e.g. temporary lane/road closures and diversions via letter drops and posters in public places. Information will include the contact details of the Contract Project Co-ordinator, who will be the main point of contact for all queries from the public or local authority during normal working hours. An "out of hours" emergency number will also be provided. Local access to all properties located on the cable grid route will be maintained at all times.</li> <li>➤ Post Construction Condition Survey –A post construction survey will be carried out after works are completed to ensure that any remediation works are carried out to a satisfactory standard. The timing of these surveys will be agreed with the local authority. All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.</li> <li>➤ Identification of delivery routes – These routes, will be agreed and adhered to by all contractors.</li> <li>➤ Introduction of 3 permanent passing bays, each 50m in length, and road widening, on the L-6150 between the N67 to the south of the OCC and the OCC site access. The purpose of these passing bays is to provide passing opportunities for</li> </ul>		

Ref. MM no.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<p>construction and local traffic during the construction phase of the OCC and also to provide a permanent improvement for local traffic in terms of capacity and safety.</p> <ul style="list-style-type: none"> <li>➤ Temporary traffic signs – As part of the traffic management measures temporary traffic signs will be put in place at the location where works are being undertaken along the grid route, and at locations where temporary local diversions are in place. All measures will be in accordance with the “<i>Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works</i>” (DoT now DoTT&amp;S) and “Guidance for the Control and Management of Traffic at Roadworks” (DoTT&amp;S). A member of construction staff (flagman) will be present at each construction site location along the route.</li> <li>➤ Additional measures - Various additional measures will be put in place in order to minimise the effects of the development traffic on the surrounding road network including wheel washing facilities at the entrance to the site and sweeping / cleaning of local roads as required.</li> <li>➤ Road Opening Licence – Roads works associated with the OGC cabling will be undertaken in line with the requirements of a road opening licence as agreed with Clare County Council.</li> <li>➤ Diversions and road closures – Reasonable access to residences, farms and businesses will be maintained at all times during any road closures associated with the OGC works. The details of this will be agreed with each impacted resident/business and the Roads Section of Clare County Council in advance of works taking place. The network of local roads in the area will be used for traffic diversions for local traffic in order to expedite the works and limit the duration of the impact owing to the OGC works.</li> <li>➤ Trench Reinstatement - Trenches on public roads, once backfilled, will be reinstated to the relevant standard and satisfaction of the road’s authority. The roads conditions survey, which will be undertaken immediately prior to construction commencement of the Project, will ensure that any section of road along the OGC is not left in a degraded condition. The repetition of the survey immediately after completion of the construction phase of the Project will ensure that any reinstatement works are carried out to a satisfactory standard.</li> </ul>		

33.3

## Onshore Monitoring Measures

Table 33-3 EIAR Onshore Monitoring Measures

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
<b>EIAR Chapter 20 Terrestrial Biodiversity</b>						
<b>Pre-Construction Phase</b>						
MX1	20.5.6 Flora	EIAR Chapter 9  CEMP Section 3	<b>Invasive Species</b> <ul style="list-style-type: none"> <li>Pre-construction surveys will be undertaken to identify if the known infestation has spread since the preparatiuon of this application. The locations and extent of Japanese knotweed within the Onshore Site will be clearly marked out using temporary fencing/markers to ensure they are not disturbed. An exclusion zone surrounding each stand will also be identified and the will inform the extent of the area to be treated as potentially contaminated. The exclusion zone will extend to 7m around the identified stands.</li> <li>An ecological clerk of works (ECoW) will be appointed to supervise all works carried out within the exclsuoiion zones.</li> <li>All staff will receive a tool box talk from the ECoW regarding the identification and protocols surrounding Japanese knotweed on the site.</li> </ul>	Once	As required	ECoW
<b>Construction Phase</b>						
MX2	20.5.2.2.1  Fauna	EIAR Chapter 20  CEMP Section 3	<b>Badgers:</b> <p>Any setts identified within 50m of the Onshore Site infrastructure will subsequently be monitored for a minimum period of 2 weeks using remote cameras in order to ascertain use by badgers and levels of activity. If an active badger sett is identified and works can</p>			

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
			<p>be undertaken safely (as to avoid sett collapse) then an exclusion zone will be set up around the sett as follows:</p> <p>➤ Exclusion zone fencing and appropriate signage will be put in place between working areas and badger sett exclusion zones to ensure that there will be no encroachment of the badger sett exclusion zones by construction activities.</p> <p>If a newly established and active sett was identified within an area where works could not avoid direct impacts on the sett then the sett would likely need to be excluded, with the provision of a derogation licence from NPWS, prior to works commencing. This would involve the erection of one-way fencing, only allowing egress from the sett and would need to be undertaken in line with current guidelines by an appropriately qualified ecologist in advance of construction works commencing. Based on the findings of the surveys and current information regarding the Onshore Site, a derogation will not be required.</p> <p><b>Otters:</b></p> <p>Any holts identified within 50m of the Onshore Site infrastructure will subsequently be monitored for a minimum period of 2 weeks using remote cameras in order to ascertain use by otter and levels of activity. If an active otter holt is identified and works can be undertaken safely then an exclusion zone will be set up around the sett as follows:</p> <p>➤ Exclusion zone fencing and appropriate signage will be put in place between working areas and otter holt exclusion zones to ensure that there will be no encroachment of the breeding site exclusion zones by construction activities.</p>			

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
			If a newly established and active holt was identified within an area where works could not avoid direct impacts on the holt, the holt would likely need to be excluded, with the provision of a derogation licence from NPWS, prior to works commencing. This would involve the erection of one-way fencing, only allowing egress from the holt and will be undertaken in line with current guidelines by an appropriately qualified ecologist in advance of construction works commencing. Based on the findings of the surveys and current information regarding the Onshore Site, a derogation will not be required.			
<b>Operational Phase</b>						
MX3	20.5.3.1.1 Biodiversity	EIAR Chapter 20 Appendix 5-15 CEMP Section 3	<b>Foul Water</b>  It is proposed to manage foul wastewater from the staff welfare facilities in the control buildings by means of 3 no. 5m <sup>3</sup> wastewater holding tanks to be installed. Emptying times of the holding tank may vary depending on usage but should be emptied every 6 months at a minimum.	6 Months	6 Months	Appointed Project Contractor
<b>Decommissioning Phase</b>						
MX4	20.5.3.1.1 Invasive Species	EIAR Chapter 20 CEMP Section 3	➤ Prior to decommissioning, a suitably qualified ecologist will complete an invasive species survey of the Onshore Site to identify invasive species where any minor excavation will be required. If present in these areas, the ecologist will propose suitable management measures.	Once	As Required	Project Ecologist
<b>EIAR Chapter 21 Terrestrial Ornithology</b>						
<b>Pre-Construction Phase</b>						

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
MX5	21.2.4.1.1  Birds	EIAR Chapter 21  CEMP Section 3	<p><b>Intertidal Bird Surveys</b></p> <p>Intertidal bird surveys were undertaken between May 2023 and March 2024. The survey methodology followed that of Lewis and Tierney (2014).</p> <p><b>Breeding Bird Surveys</b></p> <p>Breeding walkover surveys were undertaken to determine possible, probable or confirmed breeding bird activity along the linear Onshore Site, (where access allowed). The survey transects included the margins of the OCC. Surveying was focused on sensitive sites, including breeding raptor habitat.</p> <p><b>Hen Harrier Winter Roost Surveys</b></p> <p>Hen harrier roost surveys were undertaken in areas of suitable hen harrier habitat at the Onshore Site. These surveys aimed to identify active winter hen harrier roosts near or within the Onshore Site.</p> <ul style="list-style-type: none"> <li>➤ The survey area was divided into four broad habitat zones (subtidal, intertidal, supratidal and terrestrial) for recording waterbirds in the field and analysing their distribution patterns.</li> <li>➤ An Environmental Clerk of Works and Project Ecologist will be appointed. Duties will include: <ul style="list-style-type: none"> <li>○ Organise the undertaking of a pre-construction walkover bird survey to ensure that significant effects on birds will be avoided.</li> </ul> </li> </ul>	Once	As required	Project Ornithologist

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
			<ul style="list-style-type: none"> <li>Inform and educate on-site personnel of the ornithological and ecological sensitivities within the Onshore Site.</li> </ul>			
<b>Construction Phase</b>						
MX6	21.6.2.1 Birds	EIAR Chapter 21 CEMP Section 3	<ul style="list-style-type: none"> <li>If winter roosting or breeding activity of birds of high conservation concern is identified, the roost or nest site will be located and no works shall be undertaken within a species-specific disturbance buffer in line with industry best practice (e.g. Goodship and Furness, 2022). No works shall be permitted within the buffer until it can be demonstrated that the roost/nest is no longer occupied.</li> <li>An Environmental Clerk of Works and Project Ecologist will be appointed. Duties will include: <ul style="list-style-type: none"> <li>Oversee management of ornithological issues during the construction period and advise on ornithological issues as they arise.</li> <li>Provide guidance to contractors to ensure legal compliance with respect to protected species onsite.</li> <li>Liaise with officers of consenting authorities and other relevant bodies with regular updates in relation to construction progress as necessary.</li> </ul> </li> </ul>	Once	As required	Project Ornithologist  ECoW
<b>EIAR Chapter 22: Land, Soils and Geology</b>						
<b>Pre-Construction Phase</b>						
MX7	22.2.2 Land Soils and Geology	EIAR Chapter 22	Site investigations included mapping the distribution and depth of peat at the Onshore Site along with assessing the mineral subsoil / bedrock conditions beneath the peat at key locations.	Once	As required	Geotechnical Engineer

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
		CEMP Section 3				
<b>EIAR Chapter 23: Water</b>						
<b>Pre-Construction Phase</b>						
MX8	23.5.2.2 Site Drainage	EIAR Chapter 23  CEMP Section 3	An inspection and maintenance plan for the on-site construction drainage system will be prepared in advance of commencement of any works. Regular inspections of all installed drainage systems will be undertaken, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water in parts of the systems where it is not intended. Inspections will also be undertaken after hedgerow and tree removal. The inspection of the drainage system will be the responsibility of the ECoW or the Project Hydrologist.	Ongoing	Monthly	Project Hydrologist  ECoW
<b>Construction Phase</b>						
MX9	23.5.2.2 Suspended Solids Entrainment in Surface Waters	EIAR Chapter 23  CEMP Section 3	<ul style="list-style-type: none"> <li>Any excess build-up of silt levels at dams, the settlement pond, or any other drainage features that may decrease the effectiveness of the drainage feature, will be removed. Checks will be carried out on a daily basis.</li> <li>During the construction phase field testing and laboratory analysis of a range of parameters with relevant regulatory limits and Environmental Quality Standards (EQSs) will be undertaken for each primary watercourse, and specifically following heavy rainfall events (as per the CEMP included in Appendix 5-16 of this EIAR).</li> </ul>	Daily	As required	ECoW



Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
MX10	23.5.2.3 Surface Water Quality	EIAR Chapter 23 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Daily monitoring of excavations by the Environmental Clerk of Works will occur during the construction phase. If high levels of seepage inflow occur, excavation work will immediately be stopped and a geotechnical assessment undertaken.</li> <li>➤ Daily monitoring of the compound works area, the water treatment and pumping system and the percolation area will be completed by a suitably qualified person during the construction phase. All necessary preventative measures will be implemented to ensure no entrained sediment, or deleterious matter is discharged to the watercourse;</li> <li>➤ The drilling process / pressure will be constantly monitored to detect any possible leaks or breakouts into the surrounding geology or local watercourse;</li> <li>➤ This will be gauged by observation and by monitoring the pumping rates and pressures. If any signs of breakout occur then drilling will be immediately stopped;</li> </ul>	Daily	As Required	ECoW
<b>EIAR Chapter 24: Onshore Cultural Heritage</b>						
<b>Construction Phase</b>						
MX11	24.4.3.3 Cultural Heritage and Archaeological Monitoring	EIAR Chapter 24 CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Monitoring of ground works associated with the OGC route where it extends through the ZoN for ringfort CL057-040—. The monitoring will be carried out under licence from the National Monuments Service (NMS).</li> <li>➤ A report on the monitoring will be compiled on completion of the work and submitted to the Planning Authority and the NMS.</li> <li>➤ Further mitigation including preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.</li> </ul>	As Required	As Required	Project Archaeologist

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
<b>EIAR Chapter 25: Onshore Air Quality</b>						
<b>Construction Phase</b>						
MX12	25.3.2.2.2  Dust Emissions	EIAR Chapter 25  CEMP Section 3	<p>➤ Sporadic wetting of loose stone surface will be carried out during the construction phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along road network to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, insofar as reasonably possible, increased runoff.</p>	As Required	As Required	Appointed Project Contractor
<b>EIAR Chapter 26: Onshore Noise and Vibration</b>						
<b>Construction Phase</b>						
MX13	26.7.1.1  Noise and Vibration Monitoring	EIAR Chapter 26  CEMP Section 3	<p><b>Noise:</b></p> <p>During the construction phase in the event of evening or night-time works taking place that exceed the durations outlined in the DMRB document, the appointed contractor will monitor noise at representative NSLs to evaluate and inform the requirement and / or implementation of noise management measures. Noise will be monitored in accordance with ISO 1996-1 (ISO 2016) and ISO 1996-2 (ISO 2017).</p> <p>➤ The selection of monitoring locations will be based on the closest NSLs to the proposed works which have the potential to exceed the CNT.</p> <p>In addition, it is recommended that spot-check noise measurements are conducted on a monthly basis. These spot checks can be organised to coincide with works that have the potential to generate</p>	Ongoing	Monthly	Appointed Project Contractor

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
			<p>high levels of noise on site in order to confirm the potential extent of effects.</p> <p>A monthly noise-monitoring report should be prepared by the contractor. Reports should identify any exceedances above nominal limit values and attempts to clarify the causes. Where remedial measures are required and identifiable, these should also be clearly stated.</p> <p><b>Vibration:</b></p> <ul style="list-style-type: none"> <li>➤ Monitoring will be undertaken at identified sensitive buildings, where proposed works have the potential to be at or exceed the vibration limit values. Vibration monitoring stations should continually log vibration levels using the Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with ISO 4866: 2010: Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.</li> <li>➤ Spot-check vibration measurements will be conducted on a monthly basis. These spot checks can be organised to coincide with works that have potential to generate high levels of vibration on site in order to confirm the potential extent of effects.</li> <li>➤ A monthly vibration monitoring report will be prepared by the contractor. Reports will identify any exceedances above nominal limit values and attempts to clarify the causes. Where remedial measures are required and identifiable, these will also be clearly stated.</li> </ul>			
EIAR Chapter 29: Traffic and Transport						

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
<b>Pre-Construction Phase</b>						
MX14	29.5.5.2.3  Traffic and Transport	EIAR Chapter 29	A pre-condition survey of roads associated with the Onshore Site will be carried out immediately prior to construction commencement to record an accurate condition of the road network at the time. The timing of these surveys will be agreed with the local authority. All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.	Once	As Required	Traffic Management Coordinator
<b>Construction Phase</b>						
MX15	29.5.5.2.3  Traffic and Transport	EIAR Chapter 29  Appendix 29-3	<ul style="list-style-type: none"> <li>➤ <b>Traffic Management Coordinator</b> – a competent Traffic Management Co-ordinator will be appointed for the duration of the Project and this person will be the main point of contact for all matters relating to traffic management.</li> <li>➤ All plant will be inspected and certified to ensure that they are leak free and in good working order prior to use at the Onshore Site.</li> <li>➤ The plant used during construction will be regularly inspected for leaks and fitness for purpose.</li> <li>➤ Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage.</li> </ul>	As Required	As Required	Traffic Management Coordinator
<b>Decommissioning Phase</b>						
MX16	29.5.5.2.3  Traffic and Transport	EIAR Chapter 29	<ul style="list-style-type: none"> <li>➤ A post construction survey will be carried out after works are completed to ensure that any remediation works are carried out to a satisfactory standard. The timing of these surveys will be agreed with the local authority. All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.</li> </ul>	Once	As required	Traffic Management Coordinator

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
			<ul style="list-style-type: none"> <li>➤ All plant will be inspected and certified to ensure that they are leak free and in good working order prior to use at the Onshore Site.</li> <li>➤ The plant used during construction will be regularly inspected for leaks and fitness for purpose.</li> <li>➤ Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage.</li> </ul>			
<b>ELAR Appendix 5-18: Rehabilitation Schedule</b>						
<b>Decommissioning Phase</b>						
MX16	4.2.3 Ground Disturbance, Material Excavation & Reinstatement	Rehabilitation Schedule	<ul style="list-style-type: none"> <li>➤ The reinstatement of any areas disturbed during the decommissioning works will be undertaken. The contractor will record excavated volumes and storage areas, and volumes and type of material utilised for reinstatement of relevant areas.</li> </ul>	As Required	As Required	Appointed Project Contractor
MX17	4.2.4 Dust Control	Rehabilitation Schedule CEMP Section 3	<ul style="list-style-type: none"> <li>➤ Sporadic wetting of any loose stone surface will be carried out during the decommissioning phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along road network to ensure dust does not cause a nuisance. Water bowser movements will be carefully monitored to avoid, insofar as reasonably possible, increased runoff;</li> <li>➤ The agreed haul route road adjacent to the site will be regularly inspected for cleanliness and cleaned as necessary.</li> </ul>	As Required	As Required	Appointed Project Contractor

33.4

## Project Schedule of Mitigation Measures

Table 33-4 EIAR Project Mitigation Measures

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>EIAR Chapter 6: Population and Human Health</b>					
<b>Construction Phase</b>					
MM1	6.11.2.1.3 Land Use/ Sea Use Offshore	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ EIAR Chapter 18: Other Users of the Marine Environment provides a full list of mitigation measures relating to the construction phase of the Offshore Site.</li> </ul>		
MM2	6.11.2.1.3 Land Use/ Sea Use Onshore	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ EIAR Chapter 29: Traffic and Transport provides a full list of mitigation measures which will be adhered to during the construction phase of the Onshore Site</li> <li>➤ The construction of the OGC will initially see installation of the ducts and 43 joint bays, before the contractors return to pull the cables through from joint bay to joint bay. Cable laying will be undertaken by a rolling construction method with 120m of cable laid per crew, per day, with two crews, providing access in the evenings and night hours along the route.</li> <li>➤ A Traffic Management Plan, to be agreed with the Local Authority, will be in place for the construction phase. The Traffic Management Plan is included as Appendix 29-2 to this EIAR.</li> <li>➤ Local access for residents living along the OGC will not be closed for the construction phase, along the N67 and N68 National Roads the road carriageway is wide enough to have access solutions in place, and there are also alternative access tracks into the area</li> </ul>		
MM3	6.11.2.1.4	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ All mitigation with regards to Residential Amenity can be found in the corresponding EIAR Chapters: EIAR Chapter 14: Shipping and Navigation, EIAR Chapter 18: Other</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Residential Amenity		Users of the Marine Environment, EIAR Chapter 19: Offshore Air Quality and Airborne Noise, EIAR Chapter 25: Onshore Air Quality, EIAR Chapter 26: Onshore Noise and Vibration, and EIAR Chapter 28: Material Assets and EIAR Chapter 29: Traffic and Transport will be implemented in order to reduce insofar as possible, potential effects on residential amenity at properties located in the vicinity of the Project construction works.		
MM4	6.11.2.2.1 Health and Safety	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ The Project will be constructed, operated and decommissioned in accordance with all relevant Health and Safety Legislation, including: <ul style="list-style-type: none"> <li>• Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005);</li> <li>• Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007), as amended;</li> <li>• Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. 291 of 2013), as amended; and</li> <li>• Safety, Health and Welfare at Work (Work at Height) Regulations 2006 (S.I. No. 318 of 2006).</li> </ul> </li> <li>➤ During construction of the Project all staff will be made aware of and adhere to the Health &amp; Safety Authority's 'Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2006'. This will encompass the use of all necessary Personal Protective Equipment, Risk Assessment and Method Statements and adherence to the site Health and Safety Plan</li> <li>➤ Fencing will be erected in areas of the site where uncontrolled access is not permitted. Appropriate health and safety signage will also be erected on this fencing and at locations around the site.</li> <li>➤ At the Offshore Site a guard vessel will be used where necessary to ensure that passing vessels observe the recommended safety distances. Communication with local sea users will also be undertaken regularly through regular channels to ensure that there is wide awareness of the works as they progress.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Health and Safety Guidelines for working within and around electrical substations and underground cables will be adhered to onsite.</li> <li>➤ Compliance with all relevant health and safety legislation, guidelines, industry best practice and associated risk assessments, method statements, and standards will be adhered to during all aspects of the construction phase of the Project</li> </ul>		
MM5	6.11.2.2.2  Air Quality: Dust, NO2, PM10 and PM25 and CO2 Emissions	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ Sporadic wetting of loose stone surface will be carried out during the construction phase to minimise movement of dust particles to the air. In periods of extended dry weather, dust suppression may be necessary along haul roads to ensure dust does not cause a negative effect on human health. Water bowser movements will be carefully monitored to avoid, insofar as reasonably possible, increased runoff.</li> <li>➤ All plant and materials vehicles shall be stored in dedicated areas within the site.</li> <li>➤ Construction vehicles will be transported to the site on specified haul routes only.</li> <li>➤ Construction materials for the Onshore Site will be sourced locally from licenced quarries and transported on specified haul routes only.</li> <li>➤ The agreed haul route roads adjacent to the site will be regularly inspected for cleanliness and cleaned as necessary.</li> <li>➤ The roads adjacent to the site entrances will be checked weekly or damage/potholes and repaired as necessary.</li> <li>➤ Waste material will be transferred to a licensed /permitted Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF facility will be local to the site to reduce the amount of emissions associated with vehicle movements</li> <li>➤ An Onshore Construction and Environmental Management Plan (Onshore CEMP) will be in place throughout the construction phase.</li> <li>➤ Truck wheels will be washed where necessary to remove mud and dirt before leaving the OCC site.</li> </ul>		
MM6	6.11.2.2.3	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ Mitigation by design has been incorporated throughout the Offshore Site.</li> </ul>		



Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
	Water Quality		<ul style="list-style-type: none"> <li>➤ The construction phase will operate in accordance with best practice and maritime conventions including the MARPOL and BWM conventions. Adherence to these conventions seek to avoid, prevent and reduce the likelihood that vessel operations result in pollution events to the marine environment.</li> <li>➤ A bespoke drainage design which includes but is not limited interceptor drains, vee-drains and sediment traps will be implemented on the Site.</li> </ul>		
MM7	6.11.2.2.4 Noise	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ Noise thresholds may be exceeded when the Onshore Grid Connection works are taking place within 40m of the closest sensitive receptors along the route. As the works are linear and the plant may only be in close proximity to the sensitive receptors for a few days, localised screening may be the most appropriate form of noise mitigation.</li> </ul>		
MM8	6.11.2.2.5 Traffic	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ Mitigation by design as a means to reduce the significance of effect of marine traffic and its associated human health risk are as follows:</li> <li>➤ Compliance with UK's Marine Guidance Note (MGN) 654 (Maritime and Coastguard Agency (MCA), 2021 and its annexes;</li> <li>➤ Guard vessel(s);</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Pollution planning; and</li> <li>➤ Project vessel compliance with international marine regulations.</li> </ul>		
MM9	6.11.2.2.3 Major Accidents and Natural Disasters	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ The Project has been designed and will be built in line with current best practice and, as such, mitigation against the risk of major accidents and/or disasters will be embedded through the design.</li> <li>➤ In accordance with the provision of the European Commission 'Guidance on the preparation of Environmental Impact Assessment Reports', a Risk Management Plan will be prepared and implemented to ensure an effective response to disasters or the risk of accidents. The plan will include sufficient preparedness and emergency planning measures.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Operational Phase</b>					
MM10	6.11.3.1.3 Sea Use and Land Use	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ Marine recreational users will be informed in advance of any routine maintenance or ad-hoc repair works required for the Offshore Site prior to the commencement of any works.</li> <li>➤ Throughout the operation phase, ongoing engagement will be undertaken with key stakeholders (including scuba diving and snorkelling centres, Blue Flag beach operators and local ports and marina) to ensure that any activities associated with the operation of the Offshore Site, is clearly conveyed prior to the commencement of any maintenance activities.</li> <li>➤ All installed infrastructure within the marine environment will be detailed on nautical and admiralty charts and within relevant publications.</li> </ul>		
MM11	6.11.3.1.3 Water Quality	EIAR Chapter 6	<p>Mitigation by design has been incorporated into the Offshore Site. These measures include:</p> <ul style="list-style-type: none"> <li>➤ Vessels adhering to MARPOL and BWM conventions during the operations and maintenance phase of the Offshore Site.</li> <li>➤ The Project will develop and adhere to plans including a MPCP (Appendix 5-3 and an ERCP (Appendix 5-4) in order to reduce the likelihood of pollution events and to ensure procedures are in place to safeguard biosecurity.</li> <li>➤ An emergency response procedure will also be in place for the Offshore Site, should an emergent situation occur, including any large-scale pollution incidents.</li> </ul>		
MM12	6.11.3.1.4 Noise	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ For the OCC plant to achieve the EPA NG4 criteria for areas of low background noise of 35 dB LAeq,T night time at the one location above best practice noise criteria, the mitigation measures in respect of OCC plant items are in Chapter 26 Onshore Noise and Vibration are included in the design of the Onshore Site.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM13	6.11.3.1.5 Traffic	EIAR Chapter 6	<p>Relevant mitigation measures which are relevant in reducing the risk of increased marine traffic include:</p> <ul style="list-style-type: none"> <li>➤ Advisory safe passing distances;</li> <li>➤ Compliance with MGN 654;</li> <li>➤ Lighting and marking;</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Marking on nautical charts;</li> <li>➤ Minimum blade clearance;</li> <li>➤ Pollution planning; and</li> <li>➤ Promulgation of information</li> </ul>		
MM14	6.11.3.1.6 Major Accidents and Natural Disasters	EIAR Chapter 6	<ul style="list-style-type: none"> <li>➤ The Project has been designed and will be built in line with current best practice and, as such, mitigation against the risk of major accidents and/or disasters will be embedded through the design.</li> <li>➤ In accordance with the provision of the European Commission 'Guidance on the preparation of Environmental Impact Assessment Reports' 2017, a Risk Management Plan will be prepared and implemented onsite to ensure an effective response to disasters or the risk of accidents. The plan will include sufficient preparedness and emergency planning measures.</li> </ul>		
<b>Decommissioning Phase</b>					
MM15	6.11.4.3.1 Health and Safety	Chater 6	<p>The Project will be decommissioned in accordance with all relevant Health and Safety Legislation, including the below, and any further health and safety legislation which is produced over the lifetime of the Project:</p> <ul style="list-style-type: none"> <li>➤ Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005);</li> <li>➤ Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007), as amended;</li> <li>➤ Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. 291 of 2013), as amended; and</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			<ul style="list-style-type: none"> <li>➤ Safety, Health and Welfare at Work (Work at Height) Regulations 2006 (S.I. No. 318 of 2006).</li> <li>➤ A Rehabilitation Plan has been prepared for the Project (Appendix 5-18). The Rehabilitation Plan will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and any proposed changes will be agreed with the competent authority at that time.</li> <li>➤ During decommissioning of the Project all staff will be made aware of and adhere to the Health &amp; Safety Authority's 'Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2006'. This will encompass the use of all necessary Personal Protective Equipment, Risk Assessment and Method Statements and adherence to the site Health and Safety Plan.</li> <li>➤ Fencing will be erected in areas of the site where uncontrolled access is not permitted. Appropriate health and safety signage will also be erected on this fencing and at locations around the site.</li> <li>➤ Health and Safety Guidelines for working within and around electrical substations and underground cables will be adhered to onsite.</li> <li>➤ Compliance with all relevant health and safety legislation, guidelines, industry best practice and associated risk assessments, method statements, and standards will be adhered to during all aspects of the decommissioning phase of the Project.</li> </ul>		
MM16	6.11.4.3.4 Noise	EIAR Chapter 6	<p>Mitigation by design was identified in order to reduce the significance of effect of marine traffic and its associated human health risk are as follows:</p> <ul style="list-style-type: none"> <li>➤ Compliance with MGN 654 and its annexes (or relevant guidance in place at the time) ;</li> <li>➤ Guard vessel(s);</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Pollution planning; and</li> <li>➤ Project vessel compliance with international marine regulations</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
			A traffic management plan will be implemented for the decommissioning phase of the Onshore Site in order to reduce the effect of decommissioning traffic.		
MM17	6.11.4.3.5 Traffic		<p>Mitigation by design was identified in order to reduce the significance of effect of marine traffic and its associated human health risk are as follows:</p> <ul style="list-style-type: none"> <li>➤ Compliance with MGN 654 and its annexes ;</li> <li>➤ Guard vessel(s);</li> <li>➤ Marine coordination for project vessels;</li> <li>➤ Pollution planning; and</li> <li>➤ Project vessel compliance with international marine regulations</li> </ul>		
<b>EIAR Chapter 30: Climate</b>					
<b>Pre-construction Phase</b>					
MM18	Mitigation by design	EIAR Chapter 30	<ul style="list-style-type: none"> <li>➤ The WTGs will contain an anemometer to monitor wind speed and direction which will trigger the WTG to shut-down when a pre-determined shut-down / cut-out speed is reached. The shut-down / cut-out speed is typically designed to be lower than what the WTG can withstand to reduce any potential for damage.</li> </ul>		
MM19	Mitigation by design	EIAR Chapter 30	<ul style="list-style-type: none"> <li>➤ All infrastructure will be designed in accordance with industry standards and design codes to account for future climate projections (including extreme weather events). The final design will be subject to third-party verification, where applicable.</li> </ul>		
MM20	30.5.1.2.2 Mitigation by design	EIAR Chapter 30	<ul style="list-style-type: none"> <li>➤ Use of trenchless technology will reduce the potential for cable exposure at the Landfall.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM21	Mitigation by design	EIAR Chapter 30	<ul style="list-style-type: none"> <li>➤ All offshore personnel will follow safety standards and codes of practice and undergo health and safety awareness and training, in line with risk assessment protocols.</li> </ul>		
MM22	Mitigation by design	EIAR Chapter 30	<ul style="list-style-type: none"> <li>➤ The FRA (provided as Appendix 23-1 to EIAR Chapter 23 Water) identified the flooding risk associated with the Onshore Site based on flood modelling for 2 no. potential future climate change scenarios, with the Mid-Range and High-End Future Scenario flood extents generated using an increase in rainfall of 20% and 30% respectively.</li> <li>➤ Due to the nature of the underground cabling, flooding will have no effect during the operational phase of the Project. During the construction phase, works in these areas may have to be postponed following heavy rainfall events, or in the occurrence of high spring tides, which may cause flooding at these locations – the risk of which is classified as Low.</li> <li>➤ All onshore personnel will follow safety standards and codes of practice and undergo health and safety awareness and training, in line with risk assessment protocols.</li> </ul>		
<b>Construction Phase</b>					
MM23	30.6.2.1.2 Greenhouse gas emissions arising from project infrastructure during the Construction Phase	EIAR Chapter 7	<ul style="list-style-type: none"> <li>➤ Construction staff will be trained how to inspect and maintain construction vehicles and plant to ensure good operational order while onsite, thereby minimising any emissions that arise. The Site Supervisor/Construction Manager will produce and follow a site inspection and machinery checklist which will be followed and updated if/when required.</li> <li>➤ All plant and vehicles (terrestrial and marine) shall be stored in dedicated areas. Machinery will be switched off when not in use.</li> <li>➤ Where reasonably practicable, the majority of aggregate materials for the construction of the Onshore Site will be obtained locally. This will significantly reduce the number of delivery vehicles accessing the site, thereby reducing the amount of emissions associated with vehicle movements.</li> <li>➤ Where applicable, low carbon intensive construction materials will be sourced and utilised onsite.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
MM24	30.6.3.1 Greenhouse gas emissions arising from transport to the Site during the Construction Phase	EIAR Chapter 30	<ul style="list-style-type: none"> <li>Construction materials will be transported to the Project site on specified routes only, unless otherwise agreed with the Planning Authority. Please see EIAR Chapter 29 Traffic and Transportation for details.</li> <li>Marine coordination will be implemented to manage Project vessel movements including the application of traffic management procedures such as the designation of entry and exit points to and from the OAA and routes to and from base ports as appropriate.</li> </ul>		
MM25	30.6.2.1.2 Greenhouse gas emissions arising from waste generated during the Construction Phase	EIAR Chapter 30	<ul style="list-style-type: none"> <li>Areas of excavation will be kept to a minimum, and stockpiling will be minimised by coordinating excavation, spreading and compaction.</li> <li>The expected waste volumes generated onsite are unlikely to be large enough to warrant source segregation at the Site. Therefore, all wastes streams generated onsite will be deposited into a single waste skip which will be covered. <ul style="list-style-type: none"> <li>This waste material will be transferred to a licensed /permitted Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal.</li> <li>The MRF will be local to the Onshore Site to reduce the emissions associated with vehicle movements</li> </ul> </li> <li>A CEMP will be in place throughout the construction phase (see Appendix 5-16).</li> </ul>		
<b>Operational Phase</b>					
MM26	30.6.3.1.2 Greenhouse gas emissions arising during the Operational Phase.	EIAR Chapter 30	<ul style="list-style-type: none"> <li>Ensure that all maintenance and monitoring vehicles (terrestrial) will be maintained in good operational order while onsite, and, when stationary, be required to turn off engines thereby minimising any emissions that arise.</li> <li>Ensure that all maintenance and monitoring vehicles (marine) will be maintained in good operational order while onsite, and, when stationary, adjust the idling rate to minimise fuel usage, thereby minimising any emissions that arise.</li> </ul>		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Audit Result	Action Required
<b>Decommissioning Phase</b>					
MM27	30.6.4 Change to seabed levels due to decommissioning	EIAR Chapter 7	<ul style="list-style-type: none"> <li>&gt; A Rehabilitation Plan has been prepared for the Project (Appendix 5-18) and will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and any proposed changes will be agreed with the competent authority at that time.</li> </ul>		
<b>EIAR Chapter 31: Major Accidents and Natural Disasters</b>					
<b>Construction, Operational and Decommissioning Phase</b>					
MM28	31.4.1.6 Severe weather during Construction and Decommissioning.	EIAR Chapter 31, 30	<ul style="list-style-type: none"> <li>&gt; All construction and decommissioning works will take place in appropriate weather conditions and will be informed by weather and tidal information including current and predicted weather;</li> <li>&gt; The mitigation and adaptation required and the mitigation by design measures outlined in EIAR Chapter 30 to protect environmental receptors as well as the procedures and measures described in the Offshore Environmental Management Plan (OEMP) and its associated appendices, will ensure that the risk from these sources is maintained as low.</li> </ul>		
MM29	31.4.1.7 Fire/Explosion during Construction.	EIAR Chapter 31	<ul style="list-style-type: none"> <li>&gt; The Project will be subject to a fire safety risk assessment in accordance with EIAR Chapter 19 of the Safety, Health and Welfare at Work Acts 2005 to 2014, which will assist in the identification of any major risks of fire on site, and mitigation of the same during operation.</li> <li>&gt; In the event of interaction between the Offshore Site and a UXO, the procedure to be followed is outlined in EIAR Chapter 5: Description of the Project, and Appendix 5-4 Emergency Response and Coordination Plan.</li> <li>&gt; The OEMP and associated appendices will be reviewed and updated prior to the commencement of any works. These documents will be live and are to be maintained by the contractor to ensure that any potential risks of major accident and/or disaster are identified, avoided and mitigated, as necessary.</li> </ul>		



33.5

## Project Monitoring Measures

Table 33-5 EIAR Project Monitoring Measures

Ref. No.	Reference Heading	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
<b>EIAR Chapter 31: Major Accidents and Natural Disasters</b>						
<b>Construction Phase</b>						
MX1	Monitoring During Construction	EIAR Chapter 31	<ul style="list-style-type: none"> <li>&gt; In the event that development permission application is granted for the Project, the OEMP (with various appendices) and the Onshore CEMP will be updated prior to the commencement of the development, to address the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned or required through the appointment of contractors.</li> <li>&gt; The OEMP and associated appendices and the Onshore CEMP will be a live document maintained by the contractor that will work to ensure that potential risks of a major accident and/or disaster are identified, avoided and mitigated, as necessary.</li> </ul>			
<b>Operational Phase</b>						
MX2	Monitoring During Operation	EIAR Chapter 31	<ul style="list-style-type: none"> <li>&gt; The operator of the Project will continue to assess the risk of major accidents and/or disasters on site on an on-going basis during operation.</li> <li>&gt; The maintenance programme, record of reported incidents, as well as general site activities will be monitored on an on-going basis to ensure risk of major accidents does not increase over time.</li> </ul>			
<b>Decommissioning Phase</b>						
MX3	Change to seabed levels due to	EIAR Chapter 7	A Rehabilitation Schedule (including a Decommissioning Plan) has been prepared for the Project and will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist			

	decommissioning		at the time and any proposed changes will be agreed with the competent authority at that time.			
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