Offshore Wind Power Limited

West of Orkney Windfarm Onshore EIA Report

Volume 1, Chapter 19 – Summary of Mitigation and Monitoring

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19 SUMMARY OF MITIGATION AND MONITORING

This chapter of the Onshore Environmental Impact Assessment (EIA) Report outlines the proposed mitigation and monitoring requirements for the onshore Project, including:

- Embedded mitigation considered within the initial assessment of potential effects in each topic assessment chapter:
  - Primary mitigation - measures built into the design of the Project which reduce or avoid the likelihood or magnitude of an adverse environmental effect, including location or design; and
  - Tertiary mitigation - measures that are required through standard practice or to meet legislative requirements and are independent of the EIA process (i.e. they would be implemented regardless of the findings of the EIA).
- Secondary mitigation encompasses additional measures to reduce any environmental effects to 'not significant' levels (where reasonably practicable) in instances where the initial assessment concludes there is the potential for a significant effect to occur; and
- Proposed future monitoring.

In accordance with the onshore Planning Permission in Principle (PPP) Application, the mitigation measures have been attributed to a particular Development Zone within the onshore Project area, as shown in Figure 19-1. These mitigation measures, including details of the Development Zone which it is applicable to, is presented on a topic-by-topic basis in the sections below.

The construction of the onshore transmission works will be covered under a Construction Environmental Management Plan (CEMP) and this is a key mitigation measure described throughout all of the topic specific chapters. An outline CEMP is provided as part of the onshore Application for PPP; Outline Management Plan (OMP) 1: Outline CEMP.

Various management plans are also included as tertiary mitigations. These management plans will either be presented as appendices to the final CEMP or will be produced as standalone documents where they are likely to relate to specific planning conditions of the PPP application. These management plans, along with the CEMP, will be finalised prior to construction once the final design of the onshore Project is established.

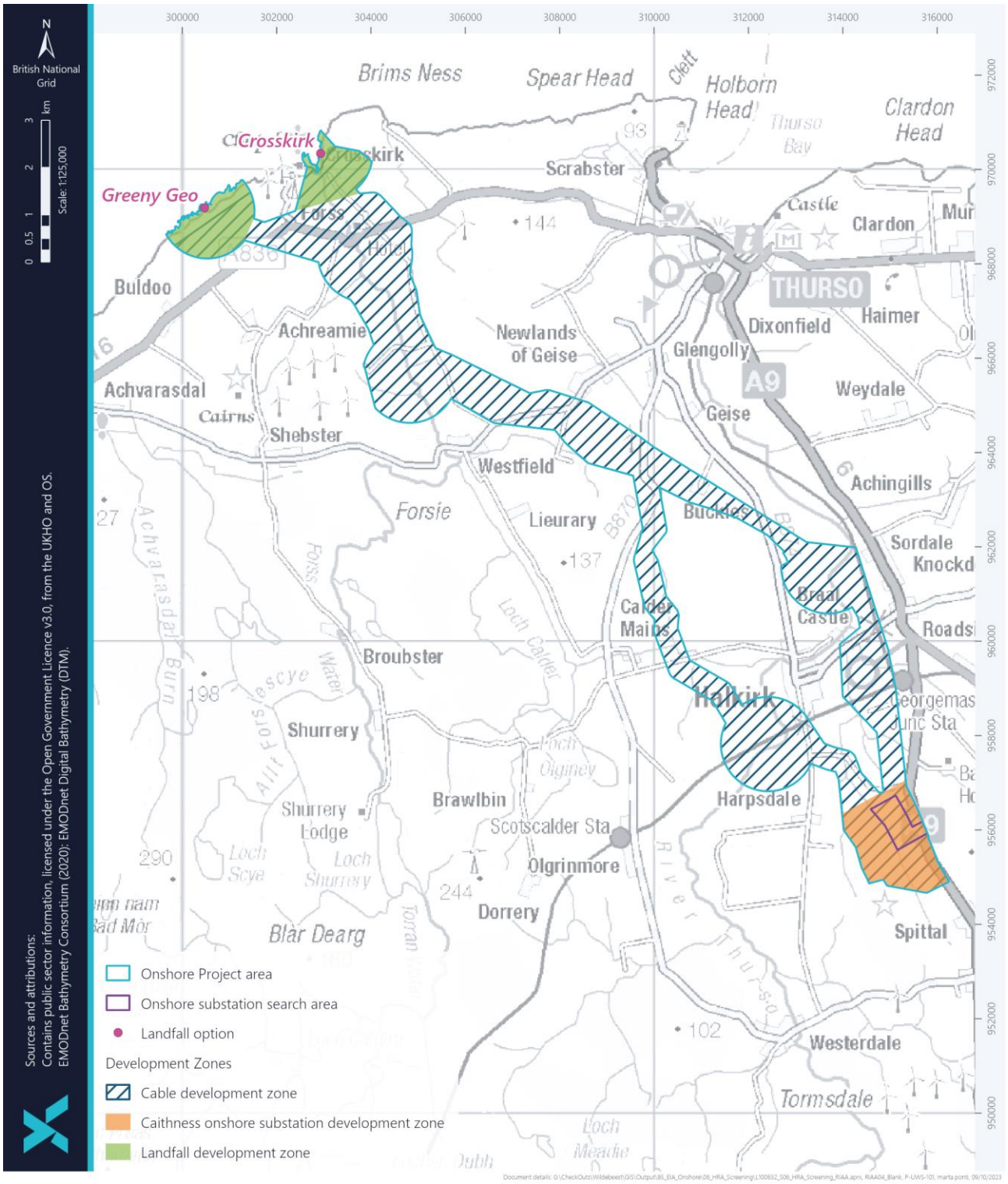

Figure 19-1 Development Zones for the onshore planning PPP Application

19.1 Geology and hydrology

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 8: Geology and hydrology is described below.

19.1.1 Mitigation

Table 19-1 Embedded mitigation measures for geology and hydrology

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
GH1	Onshore cable routeing and avoidance of sensitive areas	Primary	The boundary of the onshore Project has been developed to avoid sensitive areas (peatland, potential Groundwater-Dependent Terrestrial Ecosystems (GWDTE), designated areas, Private Water Supplies (PWS)) wherever possible. Where impacts cannot be avoided, these will be minimised. Further mitigation details are provided below on sensitive receptors, including GWDTE's and PWS. Consideration of geology and hydrology sensitivities, including contaminated land as part of the constraints mapping exercise to inform final cable routes and associated construction infrastructure.	Established within the design principles (secured through Construction Method Statements (CMSs).	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
GH2	Minimisation of watercourse crossing and route adjacent to watercourses	Primary	Minimisation of watercourse crossing where possible (i.e. reduce the number of crossings and the impact of each crossing through the implementation of appropriate techniques such as cased auger boring and Horizontal Directional Drilling (HDD)). Avoidance, where possible, of cable routes close to (within 100 m) and parallel to watercourses for distances greater than 500 m.	Established within design principles (secured through CMSs) and as per OMP 1: Outline CEMP, these measures will also be established within the Pollution Prevention and Control Plan which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
GH3	Ecological Clerk of Works (ECoWs)	Primary	Ensure appropriately qualified ECoW(s) presence at wetland locations.	The requirement for an ECoW will be secured through a condition attached to the PPP.	All zones
GH4	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. The CEMP will also include detailed information on good practice working methods relating to soils, peat and sediment; geology and contaminated land; drainage, groundwater and pollution prevention. An outline CEMP (OMP 1: Outline CEMP) is provided alongside the Application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones
GH5	Soil and sediment management	Tertiary	In order to ensure proper soil and sediment handling, good practice procedures will be followed throughout construction of the onshore Project. These measures include protocols for soil stripping, soil storage (including soils bund specifications), reinstatement of soils, dampening sprays during dry weather, use of particular vehicles on unstripped ground, drainage systems, and dust mitigations. Further details are provided in OMP 1: Outline CEMP, submitted alongside the Application for PPP.	As per OMP 1: Outline CEMP, these measures will be established within the Soil Resource Management Plan (SRMP) which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
GH6	Control of diffuse and point source pollution	Tertiary	A Pollution Prevention and Control Plan will be established for the onshore Project. Pollution prevention and control measures will be implemented by this plan in accordance with the latest legislation and guidance from Scottish Environmental Protection Agency (SEPA). This includes utilisation of best practice sediment management techniques and employment of best practice pollution prevention techniques for dealing with groundwater, surface water and soil pollution risk.	As per OMP 1: Outline CEMP, these measures will be established within the Pollution Prevention and Control Plan which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP. These measures will also be secured through conditions of Controlled Activities Regulations (CAR) authorisations, if required.	All zones
GH7	Contamination management	Tertiary	Management of potentially contaminated materials that could be associated with road and rail crossings.	As per OMP1: Outline CEMP, contamination management protocols will be provided in the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
GH8	Peat Management Plan (PMP)	Tertiary	An outline PMP is provided as part of the onshore Application and details the proposed mitigations for the management of peat within the onshore Project area, see OMP3: Outline PMP. The outline PMP will be updated once the onshore Project design is finalised post-consent.	As per OMP1: Outline CEMP, these measures will be established within the final PMP which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
GH9	Drainage Strategy	Tertiary	A Drainage Strategy will detail site runoff within the natural catchment areas, and detail how drainage will be maintained	As per OMP1: Outline CEMP, these measures will be established within the Drainage and	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			following treatment and attenuation in order to mimic natural flow as closely as possible. An outline Drainage Strategy is provided alongside the onshore Application, see Supporting Study (SS) 3: Flood Risk and Drainage Assessment. A final Drainage and Flood Risk Plan will be developed at post-consent once the final design of the onshore Project is known. In summary, to mitigate impacts on vulnerable receptors the following measures will be employed: • Installation of a soil bund downslope of excavation works to capture and divert runoff away from PWS; • At least two lines of silt fencing downslope of the bund, to ensure that runoff from the bund does not lead to sediment transfer towards PWS; • Regular monitoring of the PWS source for the duration of construction works upslope of source. As requested by SEPA, monitoring will begin 6 months prior to construction works taking place within 250 m of the PWS and will continue throughout period of groundworks in this area. Monitoring of the source will be undertaken daily while construction works are active within 250 m of the source; • Monitoring upstream and downstream of any proposed major watercourse crossings will take place for a minimum of six months prior to commencement of works in order to establish a baseline and will continue for duration of groundworks in these areas; and • Placement of clay bunds or alternative impermeable barrier periodically within the cable trench, to minimise in-trench groundwater flow.	Flood Risk Plan which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP. These measures will also be secured through conditions of CAR authorisations, if required.	

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
GH10	GWDTE	Tertiary	As per SS2: GWDTE assessment, the following good practice construction methods are to be followed for the development on or adjacent to GWDTEs: • In areas of wet or marshy ground, and where the onshore export cable corridor route crosses up or down notable slopes, placement of clay bunds or alternative impermeable material will be included for every 0.5 m change in elevation along the length of the cable trench, to minimise in-trench groundwater flow; • It is good practice for long-distance cable routes to include impermeable barriers at regular intervals even where no significant slope is present, to prevent the trench being used as a preferential flow path. Selected intervals will be identified on site by the site manager in consultation with the ECoW(s) and based on local ground conditions; • Removing protective layers of soil and superficial deposits makes groundwater vulnerable to pollution from leaks or spills from vehicles or equipment used during construction. Earthworks will be kept to a practical minimum within these areas to reduce the area of wetland affected by the construction works; • Water collecting in excavations for the onshore export cables and onshore substation will be removed into settlement ponds or equivalent alternative to allow for the removal of suspended sediment. Treated water will not be discharged directly upslope of identified sensitive habitat areas, to minimise the potential for water and nutrient flushing in these areas; • Water from settlement ponds will not be discharged directly into watercourses. Additional protection, in terms of sediment traps using silt fencing, straw bales or excavated sumps or	As per OMP1: Outline CEMP, these measures will be established within the Pollution Prevention and Control Plan and the final Drainage and Flood Risk Plan which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP. The measures will also be established within the Habitat Management Plan (HMP) which will be secured through a condition attached to the PPP. These measures will also be secured through conditions of CAR authorisations, if required.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			settlement ponds, will be put in place between the water discharge location and watercourses. Sediment trap installation and monitoring will be overseen by the ECoW(s); and • Site-specific mitigation, including drainage segregation to avoid 'flushing' from excavation works and micrositing to avoid specific higher sensitivity areas, will be identified and established where appropriate. For the onshore Project area particular care will be required for works in areas within 250 m of any mapped areas of M16 habitat (*Ericetum tetralicis wet heath*), as this is the most sensitive potentially groundwater-dependent habitat within the study area. Also, all works within 250 m or upslope of Loch Lieurary will require particular care as habitats in this area are likely to be groundwater-dependent.		
GH11	Construction Traffic Management Plan (CTMP)	Tertiary	The management of construction traffic within the onshore Project area is detailed within OMP2: Outline CTMP, provided alongside the Application for PPP. The final CEMP will be updated at post-consent. Specifically for geology and hydrology, the CTMP will ensure that traffic routes clearly demarcated, and vehicles will not be permitted access outwith these areas. Only tracked or low ground pressure vehicles will be permitted access to unstripped ground. Further details of the CTMP are provided in chapter 16: Access, traffic and transport.	As per OMP2: Outline CTMP, these measures will be established within the final CTMP provided at post-consent. The CTMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
GH12	Risk management system	Tertiary	A risk management system (e.g. geotechnical risk register) will be compiled and maintained at all stages of the Project and developed as part of post-consent detailed design works and will be updated as new information becomes available. Identified risks will inform the CEMP as appropriate.	Employment of best practice construction methods and as per OMP 1: Outline CEMP, these measures will also be established within the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
GH13	Decommissioning, Restoration and Aftercare Plan	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with The Highland Council (THC) prior to decommissioning works being undertaken. The plan will include any measures required to protect geology and hydrology features during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles (secured through CMSs) and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
No secondary mitigation, over and above the embedded mitigation measures, is either required or proposed in relation to the potential effects of the onshore Project on geology and hydrology receptors as no adverse significant impacts are predicted.					

19.1.2 Proposed monitoring

A monitoring programme will be developed through consultation with relevant stakeholders. Details of the monitoring programme have not yet been confirmed as this will be undertaken once final design and cable route is known post-consent. Potential monitoring identified includes:

- Monitoring of PWS at Achnabrae and/or Knockglass (as appropriate) for six months prior to construction commencing to clearly establish baseline conditions (if the final cable route is located within 500 m of any PWSs);
- Monitoring of any PWS for the duration of all groundworks within 500 m of the PWS source (if required) to ensure that the PWS are not contaminated with silt runoff or fuel spillages from construction areas. Monitoring will occur twice daily while groundworks occur within 250 m of the source;
- Should areas of peat require excavation and reinstatement works, monitoring of the reinstated peat areas would be undertaken as required and agreed with consultees;
- Areas of sensitive habitat or GWDTE will be monitored as required through the HMP; and
- Long-term drainage infrastructure around onshore substation will have a monitoring and maintenance programme established, to include regular visual inspection of drainage infrastructure to check for blockages, debris or damage that may impede flow.

19.2 Freshwater ecology

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 9: Freshwater ecology is described below.

19.2.1 Mitigation

Table 19-2 Mitigation measures for freshwater ecology

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
FW1	Onshore cable routing and avoidance of sensitive areas	Primary	Consideration of freshwater ecology sensitivities as part of the constraints mapping exercise to inform final cable route and associated construction infrastructure (see Seasonal Sensitivity Tables (SSTs) in chapter 9: Freshwater ecology).	Established through design principles (secured through CMSs).	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
FW2	Work in tidal reaches	Primary	Protect salmonid river entry by avoiding works within tidal river reaches from April to November (see SSTs in chapter 9: Freshwater ecology).	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	Landfall zone
FW3	Salmonid spawning and incubation	Primary	Protect salmonid spawning and incubation through no in-channel working between October to May where appropriate (see SSTs in chapter 9: Freshwater ecology).	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	All zones
FW4	Sustain passage of fish at watercourse crossing locations	Primary	Sustain passage of fish through the onshore Project area during works at watercourse crossing locations, where appropriate (see SSTs in chapter 9: Freshwater ecology).	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	Cable development zone
FW5	No post-construction channel barriers	Primary	No post-construction channel barriers will be left / put in place.	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP. .	All zones
FW6	Fish rescues to be undertaken at all in-channel working areas	Primary	Prevent fish mortality with rescues being undertaken at all working areas within channels where appropriate.	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
FW7	Cable burial methodology	Primary	Cables to be drilled at sufficient depth to shield electrosensitive species from the potential impacts of Electromagnetic Field (EMF) and to prevent channel alteration, or exposure, during a channel-forming event, e.g. storm event.	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	Cable development zone
FW8	Temporary bridges / spanning structures	Primary	The use of temporary bridges / spanning structures, rather than pipework, will be used in watercourses where appropriate for the haul roads to reduce potential impacts to migrating fish.	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	All zones
FW9	Return location to pre-construction state	Primary	Where riverbed or river bank has been subject to construction, full reinstatement will be delivered.	Established through design principles (secured through CMSs and CAR licensing). These measures will also be established within the Aquatic Monitoring Plan which will be secured through a condition attached to the PPP.	All zones
FW10	ECoW(s)	Primary	Ensure appropriately qualified ECoW(s) presence at sensitive locations and/or sensitive periods where appropriate.	The requirement for an ECoW will be secured through CAR licensing and PPP conditions. The Aquatic Monitoring Plan will outline the requirement for an ECoW which will be secured through a condition attached to the PPP.	All zones
FW11	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. An outline CEMP (OMP1: Outline CEMP) is provided alongside the application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The final CEMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
FW12	Pollution prevention and control	Tertiary	A Pollution Prevention and Control Plan will be established for the onshore Project. Pollution prevention and control measures will be implemented in accordance with the latest legislation and guidance from SEPA, such as, WAT-SG-745 (SEPA, 2021) and GPP-22 (SEPA, 2018). This includes utilisation of best practice sediment management techniques and employment of best practice pollution prevention techniques for dealing with groundwater, surface water and soil pollution risk.	As per OMP1: Outline CEMP, these measures will be established within the Pollution Prevention and Control Plan which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP. These measures will also be secured through conditions of CAR authorisations, if required.	All zones
FW13	Aquatic Monitoring Plan	Tertiary	Create and implement, an Aquatic Monitoring Plan, including controls, to quantify a baseline ecological standard.	Established through design principles (secured through CMSs and CAR licensing). The Aquatic Monitoring Plan will be secured through a condition attached to the PPP.	All zones
FW14	Decommissioning, Restoration and Aftercare Plan	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect ecological features during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles (secured through CMSs) and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Secondary mitigation					
No secondary mitigation, over and above the embedded mitigation measures, is either required or proposed in relation to the potential effects of the onshore Project on freshwater ecology as no adverse significant impacts are predicted.					

19.2.2 Proposed monitoring

Chapter 9: Freshwater ecology has used the best available evidence to inform the assessment of potential effects on freshwater ecology. However, the outcome of the EIA, including consultation with the statutory advisors has determined the requirement for monitoring to ensure the receptors remain unimpacted by the Project and this will be implemented via an Aquatic Monitoring Plan. This Aquatic Monitoring Plan will also ensure that any changes to the receptor baselines that are not attributable to the Project are recognised, thereby ensuring the true cause of receptor impact can be investigated by a competent agency. The Aquatic Monitoring Plan will include controls, to quantify a baseline ecological standard. This is expected to use standard family-level benthic macroinvertebrate surveys, annual fully quantitative electrofishing surveys and post-construction walkovers.

The specific detail of the monitoring cannot be determined as yet, because the specific watercourse crossing locations have not been finalised. Once the final Project infrastructure and cable routing is confirmed during detailed design (post-consent), the Aquatic Monitoring Plan will be developed, approved and implemented based on consultation with relevant statutory regulator.

The Project is committed to protecting the environment by ensuring best practice and embedded mitigation measures are followed at all times during construction, operation and maintenance and decommissioning. Additionally, the Project is committed to enhancing the environment, to the benefit of all. The approach includes, but is not limited to, partnering with key stakeholders, neighbouring developers and the local community to ensure that any proposed enhancements are suited to their local environment and benefit not only the primary species but the wider ecosystem. The Project is proposing a biodiversity enhancement project to include all relevant aquatic receptors. Rivers, in particular, are a key risk habitat from climate change in combination with channel modifications. The Project therefore proposes that an outline Biodiversity Enhancement Plan (BEP) is submitted alongside the PPP Application and will be finalised after PPP has been granted, in line with further consultations.

19.3 Terrestrial non-avian ecology

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 10: Terrestrial non-avian ecology is described below.

19.3.1 Mitigation

Table 19-3 Mitigation measures for terrestrial non-avian ecology

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
NAE1	Onshore Project area avoidance of sensitive areas	Primary	The boundary of the onshore Project has been developed to avoid sensitive areas (peatland, GWDTEs, designated areas) wherever possible. Where impacts cannot be avoided, these will be minimised. Consideration of non-avian ecology sensitivities as part of the constraints mapping exercise to inform final cable route and associated construction infrastructure. If sensitive areas are unavoidable, targeted specific National Vegetation Classification (NVC) surveys as agreed with NatureScot post-consent will be carried out within a 250 m buffer ahead of construction works to allow for the micrositing of the route to avoid particularly sensitive habitats and notable or protected plant species in the Project area.	Established within the design principles.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NAE2	Minimisation of watercourse crossings	Primary	Minimisation of watercourse crossing where possible (i.e., reduce the number of crossings and the impact of each crossing through the implementation of appropriate techniques such as HDD).	Established within the design principles (secured through CMSs) and secured through conditions attached to the PPP.	All zones
NAE3	GWDTE buffers	Primary	Where possible, the following buffers between GWDTEs and excavations will be implemented: • 250 m for the onshore export cable corridor and any other excavations greater than 1 m in depth; and • 100 m for excavations less than 1 m in depth. If the onshore export cable corridor is located within 250 m of any GWDTEs, clay stoppers will be included in the onshore export cable corridor trench to prevent them from acting as preferential pathways for drainage.	As per OMP 1: Outline CEMP, these measures will be established within the Pollution Prevention and Control Plan and the final CEMP. Drainage and Flood Risk Plan which will be appended to the final CEMP. Outline provided within SS3: Flood risk and drainage assessment.	All zones
NAE4	Minimising impact on cliff coastal habitats	Primary	Minimising impact on cliff coastal habitats associated with designated sites or communities of conservation importance by the use of HDD. No de-vegetation or ground-breaking works are to occur within 50 m of the cliff edge. This will ensure that sensitive coastal habitats and species are not adversely affected by the construction, operation or decommissioning works for the onshore Project.	Established through design principles (secured through CMSs) and established within the Species and Habitats Protection Plan (SHPP). The SHPP will be secured through a condition attached to the PPP.	Landfall zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NAE5	Creation and implementation of SHPP in relation to locally occurring terrestrial mammals / ecology and protected species	Primary	The SHPP will ensure all trenches and excavations will be fenced or covered over at night to prevent any animals from falling in and becoming trapped. If this is not possible, an adequate means of escape must be provided (i.e. a gently graded side wall or provision of gently sloped wooden plank or equivalent). Pre-construction surveys for protected mammal and reptile species will be undertaken to identify any species making use of the onshore Project area ahead of works. Should any protected species be identified, specific mitigation would be developed in consultation with NatureScot. For example, in the event that the onshore Project cannot be sited to avoid potential effects on an otter shelter, works would only be carried out under a NatureScot otter Derogation Licence, with appropriate mitigation and compensation measures implemented to ensure that otter are maintained at a favourable conservation status within the onshore Project area. Pre-construction surveys will identify features with the potential to be used by reptiles as hibernation sites. Wherever possible works will avoid impacts on these features by micrositing. Where this is not possible, potential hibernation features will be dismantled under the supervision of a suitably qualified and experienced ECoW(s), outwith the hibernation season (September to March inclusive) (Cathrine, 2018). For protection of bats and bat roosts, no works are to take place within 30 m of any buildings. If works cannot be avoided within the recommended buffer area, and significant direct or indirect impact is still anticipated, detailed bat roost potential survey and bat activity surveys are to be undertaken prior to commencement of works. In the event that a bat roost is identified within the 30 m buffer, it may be necessary to secure a bat Derogation Licence prior to works commencing.	These measures will be established within the SHPP. The SHPP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NAE6	Return location to pre-construction state (all locations).	Primary	Once an area is no longer required for construction, it will be re-instated, where possible, to ensure it can return to its original use for the remainder of the construction period and operational period. The only exception to this will be permanent infrastructure including the substation and tracks, where habitat loss will be permanent. Where habitat is to be reinstated, turfs will be removed to a suitable storage point where they will be maintained during works. Topsoil and subsoil, where applicable, will also be stored separately, and excavations backfilled with these materials to maintain the original stratification as well as is practical. Turfs will then be replaced as close to their original location as possible. Due to the temporary and short-term nature of most construction activities, this method will allow the reinstatement of habitat immediately after works are completed in a given area.	Established through design principles (secured through CMSs). These measures will also be established within the HMP and the SHPP. These plans will be secured through conditions attached to the PPP. Landowner agreements.	All zones
NAE7	Return location to pre-construction state (high sensitivity habitats)	Primary	For high sensitivity habitats (e.g., Annex I habitats, GWDTEs and Scottish Biodiversity List (SBL) habitats), particular care should be taken when removing, storing and reinstating the turfs. In addition to ensuring that the turfs are replaced as close to their original location as possible, and as quickly as possible following works in a given area, the turf should be reinstated in their original orientations. Additionally, targeted specific NVC surveys as agreed with NatureScot post-consent will be carried out within a 250 m buffer ahead of construction works to allow for the micrositing of the route to avoid particularly sensitive habitats and notable or protected plant species in the Project area.	Established through design principles (secured through CMSs). These measures will also be established within the HMP and the SHPP. These plans will be secured through conditions attached to the PPP. Landowner agreements.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NAE8	ECoW(s)	Primary	Ensure appropriately qualified ECoW presence at sensitive locations and/or sensitive periods. The CEMP will include details of a watching brief which will ensure that the correct procedure can be followed if a protected mammal or reptile is found during devegetation or groundbreaking works. When the ECoW is not present on site, works must stop within 30 m of the protected species; as soon as it is safe to do so. Advice must then be sought from the ECoW and an approach agreed upon with NatureScot (if appropriate) prior to works recommencing.	The requirement for ECoW(s) will be secured through a condition attached to the PPP. The SHPP will also include the requirements for ECoW(s). The SHPP will be secured through a condition attached to the PPP. Where appropriate Derogation Licences will be obtained from NatureScot.	All zones
NAE9	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures. An outline CEMP (OMP1: Outline CEMP) is provided alongside the application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The final CEMP will be secured through a condition attached to the PPP.	All zones
NAE10	Control of diffuse pollution and point source pollution	Tertiary	Pollution prevention and control measures will be implemented in accordance with the latest legislation and guidance from SEPA. This includes utilisation of best practice sediment management techniques and employment of best practice pollution prevention techniques. The final CEMP will include a Pollution Prevention and Control Plan in accordance with SEPA's Pollution Prevention Guidelines. A Dust and Air	As per OMP1: Outline CEMP, these measures will be established within the Pollution Prevention and Control Plan and DAQMP which will be appended to the final CEMP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			Quality Management Plan (DAQMP) will also be produced within the final CEMP.	The CEMP will be secured through a condition attached to the PPP. These measures will also be secured through conditions of CAR authorisations, if required.	
NAE11	Engagement with neighbouring developments	Tertiary	Engagement with neighbouring developments to allow the monitoring / understanding of the likely cumulative environmental impacts of the works and to take steps to mitigate the impact of these. This includes collaboration on any Biodiversity Net Gain projects.	External communication with the community, landowners and asset owners will be undertaken by the Community Liaison Officer (CLO). The requirement for a CLO will be secured through a condition attached to the PPP. An Outline BEP has been provided alongside the application for PPP. The final BEP will be secured through a condition attached to the PPP.	All zones
NAE12	Deer Management Plan	Tertiary	The Deer Management Plan will be prepared post-consent and include details of the proposed mitigation and management measures to reduce and manage any impacts on deer and any damage to vulnerable habitats. Specific measures will be consulted on with relevant consultees, but measures may include:	These measures will be established within the Deer Management Plan. The Deer Management Plan will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			• Removal of identified deer habitat only taking place in autumn and winter (September – February) to avoid disturbance to dependent young; • Where woodland removal is unavoidable, planting should be fully protected with deer fencing and rabbit netting; • Watching brief; and • Use of ECoW(s) to ensure implementation.		
NAE13	Decommissioning, Restoration and Aftercare Plan	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect ecological features during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles (secured through CMSs) and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
No secondary mitigation, over and above the embedded mitigation measures, is either required or proposed in relation to the potential effects of the onshore Project on terrestrial non-avian ecology as no adverse significant impacts are predicted.					

19.3.2 Proposed monitoring

An SHPP will be created and implemented to prevent harm to protected and notable habitats and animals. The implementation of the SHPP will include pre-construction surveys for protected mammal and reptile species as well as targeted surveys for potentially sensitive habitats. These surveys will be undertaken to identify any species making use of the onshore Project area ahead of works, allowing specific mitigation and compensation measures to be developed in consultation with NatureScot. Where necessary, a NatureScot Derogation Licence will be obtained prior to works commencing.

The following monitoring measures are proposed during construction, subject to review on finalisation of the onshore Project design at post-consent:

- Targeted monitoring will be put in place to provide a check on the identified sensitive habitats identified within pre-construction surveys, and to ensure that mitigation and protection measures are in place and effective. This will be implemented via the HMP;
- Surface water monitoring will be established within the existing watercourse network. Details are provided in SS3: Flood Risk and Drainage Assessment; and
- All areas of sensitive habitat will be visited and assessed by the ECoW prior to the commencement of any construction works. Assessment will include collection of representative photographs of the areas which are most likely to be affected by the works. Regular assessment visits will be undertaken throughout the construction period and for a minimum of 12 months after reinstatement and as long as is necessary to confirm the habitat has been restored, to ensure that habitat protection is effective, and any restoration and recovery works become established.

The Project is committed to protecting the environment by ensuring best practice and embedded mitigation measures are followed at all times during construction, operation and maintenance and decommissioning. Additionally, the Project is committed to enhancing the environment, where possible. The approach includes, but is not limited to, partnering with key stakeholders, neighbouring developers and the local community to ensure that any proposed enhancements are suited to the environment that they are situated in benefit not only the primary species but the wider ecosystem. The Project is proposing a biodiversity enhancement project in relation to great yellow bumblebee. This is a Nationally Scarce species listed on the Scottish Biodiversity List that is now restricted to coastal areas of Orkney, the Western Isles, Caithness and Sutherland. This formerly widespread species has declined by 80% over the last century primarily due to loss of flower-rich meadow habitats and changes in agricultural practices (Goulson, 2010; Falk & Lewington, 2015; Else & Edwards, 2018; Bumblebee Conservation Trust, 2021). The Project therefore proposes to create more wildflower meadows with key flower species for great yellow bumblebees. The outline BEP is submitted alongside the PPP application and will be finalised after planning consent has been granted, in line with further consultations.

19.4 Terrestrial ornithology

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 11: Terrestrial ornithology is described below.

19.4.1 Mitigation

Table 19-4 Mitigation measures for terrestrial ornithology

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
TO1	Onshore Project area and avoidance of sensitive areas	Primary	The boundary of the onshore Project has been developed to avoid sensitive areas (peatland, woodland, designated areas) wherever possible. Where impacts cannot be avoided, these will be minimised. (Further details on habitats can be found in chapter 10: Terrestrial non-avian ecology).	Established within the design principles.	All zones
TO2	Minimising impact on sea cliffs and cliff coastal habitats	Primary	Minimising impact on sea cliffs and coastal habitats associated with designated sites or communities of conservation importance by the use of HDD. No de-vegetation or ground-breaking works are to occur within 50 m of the cliff edge. This will ensure that sensitive coastal habitats which may be used by wintering seabirds are not adversely affected by the construction, operation or decommissioning works for the onshore Project. (Further details on habitats can be found in chapter 10: Terrestrial non-avian ecology).	Established within the design principles (secured through CMSs). These measures will also be established within the SHPP. The SHPP will be secured through a condition attached to the PPP.	Landfall zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TO3	Return location to pre-construction state (all locations)	Primary	Once an area is no longer required for construction, it will be re-instated to ensure it can return to its original use for the remainder of the construction period and operation and maintenance period. Where habitat is to be reinstated, turfs will be removed to a suitable storage point where they will be maintained during works. Topsoil and subsoil, where applicable, will also be stored separately, and excavations backfilled with these materials to maintain the original stratification as well as is practical. Turfs will then be replaced as close to their original location as possible. Due to the temporary and short-term nature of most construction activities, this method will allow the reinstatement of habitat immediately after works are completed in a given area. (Further details on habitats can be found in chapter 10: Terrestrial non-avian ecology).	Established through design principles (secured through CMSs). These measures will also be established within the HMP and within the SHPP. These plans will be secured through conditions attached to the PPP. Landowner agreements.	All zones
TO4	Return location to pre-construction state (high sensitivity habitats)	Primary	For high sensitivity habitats (e.g., Annex I habitats and SBL habitats), particular care should be taken when removing, storing and reinstating the turfs. In addition to ensuring that the turfs are replaced as close to their original location as possible, and as quickly as possible following works in a given area, the turf should be reinstated in their original orientations. Additionally, targeted specific National Vegetation Classification (NVC) surveys as agreed with NatureScot post-consent will be carried out within a 250 m buffer ahead of construction works to allow for the micrositing of the route to avoid particularly sensitive habitats in the Project area. (Further details on habitats can be found in chapter 10: Terrestrial non-avian ecology).	Established through design principles and as outlined within OMP 1: Outline CEMP, these measures will also be established within the SRMP appended to the CEMP. The CEMP will be secured through a condition attached to the PPP. Additionally, these measures will also be established within the SHPP and the Decommissioning, Restoration and Aftercare Plan. These plans will also be secured through conditions attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TO5	Geese and swan protection measures	Primary	To avoid impacts on foraging geese and swans, wherever possible, construction and maintenance activities will not take place within 500 m of feeding locations identified by Project specific surveys and potentially important feeding areas based on NatureScot dataset (Jonathan Swale, pers. comm. (2023) between September and mid-May. This meets the minimum disturbance distance for Greenland white-fronted geese, and more than the minimum of 200 m for greylag geese and whooper swans (Goodship & Furness, 2022). Where this is not possible, monitoring will be undertaken by a suitably experienced and qualified ECoW searching for Greenland white-fronted geese, greylag geese, or whooper swans within 500 m of active construction activities. If these species are found, they will be observed for signs of disturbance. If birds are observed to be disturbed (i.e. multiple short flights within a small area, or small groups of birds leaving the main skein), all works will stop within 500 m, and will not recommence until the ECoW has confirmed it is safe to do so after these species are no longer within the buffer area. In addition, foraging habitat within important feeding areas will be prioritised for reinstatement so as to ensure any disruption to Greenland white-fronted geese, greylag geese, and whooper swans is as temporary as possible. No construction activities will take place within 500 m of a Greenland white-fronted goose, greylag goose, or whooper swan roost within one hour before and after sunrise, and one hour before and after sunset. This is to avoid impacts on roosting birds. Any foraging Barnacle geese identified will be afforded a 50 m buffer to avoid disturbance.	Established within the design principles. These measures will also be established within the SHPP. The SHPP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TO6	Minimisation of watercourse crossings	Primary	Minimisation of watercourse crossing where possible (i.e., reduce the number of crossings and the impact of each crossing through the implementation of appropriate techniques such as HDD).	Established within the design principles. These measures will also be established within the SHPP. The SHPP will be secured through a condition attached to the PPP.	All zones
TO7	ECoW(s)	Primary	Ensure appropriately qualified ECoW(s) presence at sensitive locations and/or sensitive periods. The SHPP will include details of a watching brief which will ensure that the correct procedure is followed if a nesting bird is found during de-vegetation or groundbreaking works. When the ECoW is not present on site, works must stop and advice should be sought from the ECoW to determine an appropriate approach. This will include implementing a buffer appropriate to the species and ensuring that works do not recommence until the ECoW has confirmed that the young have fledged and left the nest and/or the nest has been abandoned naturally. Where appropriate, this approach should be discussed and agreed with NatureScot prior to works recommencing.	The requirement for an ECoWs will be secured through a condition attached to the PPP. The SHPP will also include the requirements for ECoW(s). The SHPP will be secured through a condition attached to the PPP.	All zones
TO8	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure suitable implementation and control of the mitigation measures. An outline CEMP (OMP1: Outline CEMP) is provided alongside the Application for PPP. The CEMP will be finalised prior to construction once the final design of the onshore Project is established.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TO9	Control of diffuse pollution and point source pollution	Tertiary	Pollution prevention and control measures will be implemented in accordance with the latest legislation and guidance from SEPA. This includes utilisation of best practice sediment management techniques and employment of best practice pollution prevention techniques. The final CEMP will include a Pollution Prevention and Control Plan in accordance with SEPA's Pollution Prevention Guidelines (SEPA, 2018). A DAQMP will also be produced within the final CEMP.	As per OMP1: Outline CEMP, these measures will be established within the Pollution Prevention and Control Plan, DAQMP and HDD CMSs which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
TO10	Creation and implementation of a SHPP	Tertiary	Create and implement a SHPP. The SHPP will include the following measures. Pre-construction surveys for bird species will be undertaken to identify any species making use of the onshore Project area ahead of works. Surveys will include breeding birds and breeding raptors and owls. Pre-construction checks for nesting birds will be undertaken within 24 hours prior to devegetation or ground-breaking works – if nesting birds are found an exclusion zone will be implemented with a buffer appropriate to the species and works will not be able to recommence within the exclusion zone until the ECoW has confirmed that breeding has ended. In addition, monitoring will be undertaken by suitably experienced and qualified ECoW(s) searching for Greenland white-fronted geese or whooper swans within 500 m of active construction activities – this is described in greater detail under TO5. Recommended buffers to avoid disturbance to breeding birds which have been identified in the assessment are provided in chapter 11: Terrestrial ornithology. If species not included in with buffer zones in chapter 11: Terrestrial ornithology are identified as breeding, best practice guidance should be followed in establishing an appropriate buffer to avoid disturbance.	The SHPP will establish these mitigations. The SHPP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TO11	Engagement with neighbouring developments	Tertiary	Engagement with neighbouring developments to allow the monitoring / understanding of the likely cumulative environmental impacts of the works and to take steps to mitigate the impact of these. This includes collaboration on any Biodiversity Net Gain projects.	External communication with the community, landowners and asset owners will be undertaken by the CLO) The requirement for a CLO will be secured through a condition attached to the PPP.	All zones
TO12	Decommissioning, Restoration and Aftercare Plan	Primary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect ecological features during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
No secondary mitigation, over and above the embedded mitigation measures, is either required or proposed in relation to the potential effects of the onshore Project on terrestrial ornithology as no adverse significant impacts are predicted.					

19.4.2 Proposed monitoring

An SHPP will be created and implemented to prevent harm to protected and notable bird species and habitats. The implementation of the SHPP will include pre-construction surveys for protected bird species as well as potentially notable habitats. These surveys will be undertaken to identify Greenland white-fronted geese, greylag geese and whooper swans making use of the onshore Project area ahead of works, allowing specific mitigation and compensation measures to be developed in consultation with NatureScot.

Targeted monitoring will be put in place to provide a check on the identified sensitive habitats identified within pre-construction surveys, and to ensure that mitigation and protection measures are in place and effective. This will be implemented via the HMP.

The Project is committed to protecting the environment by ensuring best practice and embedded mitigation measures are followed at all times during construction, operation and maintenance and decommissioning. Additionally, the Project is committed to enhancing the environment, where possible. The approach includes, but is not limited to, partnering with key stakeholders, neighbouring developers and the local community to ensure that any proposed enhancements are suited to the environment that they are situated in benefit not only the primary species but the wider ecosystem. The Project is proposing to manage important habitats for farmland breeding birds due the availability of favourable habitats within the onshore Project area and due to a notable decline in the numbers of certain breeding birds (including curlew, lapwing and redshank) over recent decades (Davey *et al.* 2016; Balmer *et al.* 2013). The outline BEP is submitted alongside the PPP Application and will be finalised after planning consent has been granted, in line with further consultations.

19.5 Land use and other users, including forestry

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 12: Land use and other users, including Forestry is described below.

19.5.1 Mitigation

Table 19-5 Mitigation measures for land use and other users, including forestry

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
LU1	Avoidance of third-party infrastructure	Primary	All onshore export cables are to be buried in trenches with no overhead power cables. Onshore export cable corridor route options have avoided third party infrastructure where practicable. Where crossings are required, consultation with asset operators will be undertaken and suitable crossing or proximity agreements will be entered into.	Established within the design principles (secured through the CMSs).	All zones
LU2	Avoidance of high agricultural and forestry value	Primary	The onshore export cable corridor avoids areas of high agricultural and forestry value. Consideration of land use and other user sensitivities as part of the constraints mapping exercise to inform final cable routes and associated construction infrastructure.	Established within the design principles (secured through the CMSs).	Cable development zone and substation zone
LU3	Return location to pre-construction state	Primary	Once land is no longer required for cable installation (e.g., once installation of a given area is complete) the land will be reinstated to ensure it can return to its original use, where possible, for the remainder of the construction stage and for the operation and maintenance stage.	Established through design principles (secured through CMSs). These measures will also be established within the HMP. This plan will be secured through a condition attached to the PPP. Landowner agreements.	Landfall zone and cable development zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
LU4	Minimisation of land-take	Primary	The land-take for the onshore Project will be kept to the minimum necessary for safe construction and operation for the works. The onshore Project area has been established based on identifying the shortest and most economical route from landfall to grid location.	Established within the design principles (secured through the CMSs).	All zones
LU5	Livestock water supplies	Primary	Water supplies for livestock will be protected at all times and alternative supplies will be provided where access could be compromised by any works.	Established through design principles (secured through the CMSs).	All zones
LU6	Compensatory planting	Primary	All felled woodland will be compensated for by an appropriately designed new compensatory planting scheme, produced post-consent. Planting undertaken in a specified timeline and as agreed in consultation with Scottish Forestry and Forestry and Land Scotland (FLS) (if appropriate). Areas of compensatory planting will be undertaken within suitable area(s), at a time which takes account of the needs of the landowner, the progress of the works and the suitability of the time for establishing new planting.	Established within the design principles (secured through the CMSs) and within the Compensatory Planting Scheme. The compensatory planting will also be monitored through the HMP. The Compensatory Planting Scheme and HMP will be secured through conditions attached to the PPP.	Cable development zone
LU7	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. An outline CEMP (OMP1: Outline CEMP) is provided alongside the Application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones
LU8	PMP	Tertiary	An outline PMP is provided as part of the onshore Application and details the proposed mitigations for the management of peat within the onshore	As per OMP1: Outline CEMP, these measures will be established within the final PMP which will be appended to the final CEMP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			Project area, see OMP3: Outline PMP. The outline PMP will be updated once the onshore Project design is finalised post-consent.	The CEMP will be secured through a condition attached to the PPP.	
LU9	Engagement with affected landowners, asset owners and members of the public	Tertiary	Close liaison with affected landowners, asset owners and members of the public will be maintained during planning, and construction stages to ensure they are fully aware of proposals and sequence of construction activities and how these may interact with planned land use activities (including agreement on a programme of restricted stalking activities).	External communication with the community, landowners and asset owners will be undertaken by the CLO. The requirement for a CLO will be secured through a condition attached to the PPP.	All zones
LU10	Prevention of soil borne pests and disease	Tertiary	All reasonable precautions will be taken during construction to avoid as far as is possible the spreading of soil borne pests and diseases, and animal and crop diseases. Precautions as recommended by the Scotland's Environment and Rural Services will be observed.	As per OMP1: Outline CEMP, these measures will be established within the SRMP which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
LU11	Planned tree felling	Tertiary	Whilst avoidance of forestry is inherent in routeing design, the extent of tree felling will be planned to reduce the risk of windthrow[1]. Felling works will be supervised by a qualified forester and consulted on with Scottish Forestry and FLS (if appropriate). All trees within the proposed felling areas are currently not of a height that would pose a risk of windthrow.	Established within the design principles (secured through the CMSs).	Cable development zone

[1] *In forestry, windthrow refers to trees uprooted by wind.*

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
LU12	Fencing areas for site restoration and reinstatement	Tertiary	Fencing of areas for site restoration and reinstatement at the end of the construction period to promote fast re-establishment of vegetation and prevent livestock from damaging newly reinstated areas.	Established within the design principles (secured through the CMSs).	All zones
LU13	Access Management Plan	Tertiary	A Design and Access Statement has been submitted along with the PPP Application to provide an overview of measures to maintain access to paths throughout construction. Where necessary, appropriate diversions will be in place and the paths will be re-instated after construction. An AMP will be developed post-consent to finalise these measures.	These measures will be established within the AMP. The AMP will be secured through a condition attached to the PPP.	All zones
LU14	Decommissioning, Restoration and Aftercare Plan.	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect land use and other users during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
No secondary mitigation, over and above the embedded mitigation measures, is either required or proposed in relation to the potential effects of the onshore Project on land use and other users, including forestry as no adverse significant impacts are predicted.					

19.5.2 Proposed monitoring

Monitoring of other users will be required in order to ensure that local residence are not adversely affected by the onshore Project works. As detailed in the embedded mitigation this monitoring would be undertaken through close liaison with affected landowners, asset owners and members of the public. As per OMP 1: Outline CEMP, these measures will be established within the final CEMP through use of a CLO who will manage the external communications of the project, the CEMP will also include details for any complaint procedures for local residents potentially affected by the onshore Project.

The HMP will be used to monitor any compensatory planting in the event that tree felling is required.

19.6 Terrestrial archaeology and cultural heritage

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 13: Terrestrial archaeology and cultural heritage is described below.

19.6.1 Mitigation

Table 19-6 Mitigation measures for terrestrial archaeology and cultural heritage

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
TA1	Avoidance of designated and medium and high value non-designated assets	Primary	The onshore substation location, cable routing and landfall, and installation activities such as access routes, laydown areas and compounds, will avoid all designated heritage assets.	Established within design principles (secured through CMSs) and within the Archaeological Management Plan.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			The onshore substation location, cable routing and landfall, and installation activities such as access routes, laydown areas and compounds, will avoid a number of non-designated assets of medium and high value that could be of schedulable quality. These assets include the following: ORCA 7, ORCA 8, ORCA 9, ORCA 27, ORCA 38, ORCA 39, ORCA 40, ORCA 41, ORCA 42, ORCA 43, ORCA 53, ORCA 67, ORCA 89, ORCA 90, ORCA 94, ORCA 95, ORCA 97, ORCA 101, ORCA 172, ORCA 175, ORCA 247, ORCA 251 and ORCA 265 (for further details see chapter 13: Terrestrial archaeology and cultural heritage)).	The Archaeology Management Plan will be secured through a condition attached to the PPP.	
TA2	Onshore substation bunding	Primary	The onshore substation will include bunding with appropriate planting to reduce its visual impact in views from designated heritage assets. Further details of the design principles of the landscape screening and planting are provided in chapter 17: Landscape and visual.	Established within the design principles (secured through CMSs).	Substation zone
TA3	Reinstatement of terrain and ground cover	Primary	Reinstatement of terrain and ground cover to avoid any impacts on the setting of heritage assets by the underground onshore export cables. Any reinstatement / ground cover to be used above underground export cables shall be technically appropriate, e.g. planting will not be appropriate in the cable corridor.	Established through design principles (secured through CMSs) and as outlined within OMP 1: Outline CEMP, these measures will also be established within the SRMP appended to the CEMP. The CEMP will be secured through a condition attached to the PPP. Additionally, these measures will also be established within the HMP and SHPP. These plans will also be secured through conditions attached to the PPP.	Cable development zone and substation zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TA4	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. An outline CEMP (OMP1: Outline CEMP) is provided alongside the Application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones
TA5	Disturbance post-construction	Tertiary	Operations, maintenance and decommissioning activities will ensure no further disturbance outwith ground already disturbed during the construction stage and thus no further disturbance to heritage assets.	Established within the design principles (secured through CMSs).	Cable development zone and substation zone
TA6	Written Schemes of Investigation (WSIs) (including Protocols for Archaeological Discoveries (PAD))	Tertiary	The preparation of appropriate WSIs which may include archaeological intrusive evaluations, watching briefs and excavations, and a PAD to avoid or mitigate accidental impacts and manage any accidental discoveries of archaeological interest. The Archaeological Management Plan will be underpinned by the WSI and PAD.	Established within design principles (secured through CMSs) and within the Archaeological Management Plan. The Archaeology Management Plan will be secured through a condition attached to the PPP.	Cable development zone and substation zone
TA7	Archaeological Clerk of Works	Tertiary	An Archaeological Clerk of Works will be responsible for the implementation of the Archaeological Management Plan and monitoring of construction and watching briefs as required.	Established within design principles (secured through CMSs) and within the Archaeological Management Plan. The Archaeology Management Plan will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
TA8	Decommissioning, Restoration and Aftercare Plan	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect archaeological features during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles (secured through CMSs) and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
Secondary mitigation has been proposed to reduce significant effects on historic environment assets that would be wholly or partially removed by the onshore Project. The mitigation comprises the undertaking of historic building recording in relation to historic buildings that would be affected by the onshore Project and phased archaeological evaluation and mitigation in accordance with THC's standards (THC, 2012) for archaeological work for archaeological remains affected by the onshore Project. This mitigation will be established within design principles and within the Archaeological Management Plan. The Archaeology Management Plan will be secured through a condition attached to the PPP. This will ensure: *(i) direct impacts on the scheduled monument are avoided; (ii) significant adverse impacts on the integrity of the setting of a scheduled monument area avoided*, and therefore demonstrating compliance with policy 7 in NPF4.				

19.6.2 Proposed monitoring

Any monitoring requirements during construction will be detailed in the onshore WSI which will underpin the Archaeology Management Plan and will be developed post-consent and agreed in advance with THC Historic Environment Team (HET).

19.7 Air quality

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 14: Air quality is described below.

19.7.1 Mitigation

Table 19-7 Mitigation measures for air quality

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
AQ1	Avoidance of dust causing activities at sensitive locations	Primary	Appropriate site layouts will be developed so that machinery and dust causing activities are located away from receptors, as far as possible. Also ensure equipment is readily available on site to clean any dry spillages and ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out. Remove materials that have a potential to produce dust from site as soon as possible.	Established within design principles (secured through CMSs). As per OMP 1: Outline CEMP, these measures will be established within a DAQMP which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
AQ2	Adequate water supply	Primary	Ensure an adequate water supply on the site for effective dust / particulate matter suppression / mitigation, using non-potable water where possible and appropriate.	Established within design principles (secured through CMSs). As per OMP1: Outline CEMP, these measures will be established within a DAQMP which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
AQ3	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. An outline CEMP (OMP 1: Outline CEMP) is provided alongside the Application for PPP.	As per OMP 1: Outline CEMP, the final CEMP will be provided at post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones
AQ4	CTMP	Tertiary	The management of construction traffic within the onshore Project area is provided within OMP 2: Outline CTMP, which is attached to the Application for PPP. The CTMP will be finalised post-consent once the design of the onshore Project is finalised. Best practice guidance 'Dust and Air Emissions Mitigation Measures' by the Institute of Air Quality Management will be utilised to control dust. In summary, the CTMP will ensure that: • Mechanical road sweeping will be undertaken as required to maintain clean routes; • Covering of loads where required during transportation by Heavy Goods Vehicle (HGVs) to minimise wind-blown materials from being deposited; • Dust suppression including water spraying to be used on internal and external access roads where necessary; and • Wheel washing to mitigate the amount of mud that could potentially be deposited on the local road network. Further details of the CTMP are provided in chapter 16: Access, traffic and transport.	As per OMP 2: Outline CTMP, these measures will be established within the final CTMP. The CTMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
AQ5	Site inspections	Tertiary	Site inspections will be carried out by the ECoW(s) to ensure the compliance with the CEMP. The frequency of these inspections should increase when activities with a high potential to produce dust are being carried out and during prolonged dry / windy conditions.	As per OMP 1: Outline CEMP, these measures will be established within a DAQMP which will be appended to the final CEMP. The CEMP will be secured through a condition attached to the PPP.	All zones
AQ6	Decommissioning, Restoration and Aftercare Plan.	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect dust sensitive features during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within design principles (secured through CMSs). Also established within the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
No secondary mitigation, over and above the embedded mitigation measures, is either required or proposed in relation to the potential effects of the onshore Project on air quality as no adverse significant impacts are predicted.					

19.7.2 Proposed monitoring

Appointment of ECoW(s) to secure effective monitoring and compliance with environmental mitigation and management measures.

19.8 Noise and vibration

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 15: Noise and vibration is described below.

19.8.1 Mitigation

Table 19-8 Mitigation measures for noise and vibration

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
NV1	Core working hours	Primary	Core working hours for the construction of the onshore Project will be typical working hours which are taken to be 8 am to 7 pm Monday to Friday and 8 am to 1 pm on Saturdays, as stated by THC. This will also apply to HGV movements. In certain circumstances, specific works may have to be undertaken outside the normal working hours e.g. HDD works. In these instances, working hours will be agreed in advance with THC's Environmental Health Department Section 61 of the Control of Pollution Act 1974. Activities carried out during mobilisation and maintenance, which will not generate significant noise or vibration levels, may continue outside the core working hours. Requirements of working hours during construction are detailed within OMP 1: Outline CEMP and OMP2: Outline CTMP. These plans are submitted alongside the Application for PPP.	As per OMP1: Outline CEMP and OMP2: Outline CTMP these measures will be established within the final CEMP and final CTMP. The CEMP and CTMP will be secured through conditions attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NV2	Onshore substation bunding	Primary	The onshore substation will include bunding with appropriate planting. Indicative landscape design plans have been developed for the indicative location and layout of the onshore substation. Detailed design will take place post-consent. Further details of the design principles of the landscape bunding and planting are provided in chapter 17: Landscape and visual.	Established within the design principles (secured through the CMSs) and secured through conditions attached to the PPP.	Substation zone
NV3	Substation equipment specifications	Primary	For the onshore substation equipment, specification of low noise plant, engineering acoustic measures and specialist noise enclosures, such that the following criteria are achieved at surrounding noise-sensitive properties: • Noise from the onshore substation in the 100 Hz one-third octave frequency band does not exceed 30 dB LAeq, 5min; and • The Rating Level of noise would not exceed 25dB Laeq. The final specification of the acoustic measures required would be determined through further studies when the final onshore substation design and equipment specifications are known and will be designed to meet the thresholds as part of the detailed design process. These specifications will be detailed within the Noise and Vibration Management Plan (NVMP) and developed post-consent.	Established within the design principles (secured through the CMSs) and within the NVMP. The NVMP will be secured through a condition attached to the PPP.	Substation zone.
NV4	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. An outline CEMP (OMP1: Outline CEMP) is provided alongside the Application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NV5	CTMP	Tertiary	The management of construction traffic within the onshore Project area is detailed within OMP2: Outline CTMP, which is provided alongside the Application for PPP. The CTMP will be finalised post-consent once the design of the onshore Project is finalised. This will include the implementation and control of mitigation measures related to construction traffic noise. Further details of the CTMP are provided in chapter 16: Access, traffic and transport.	As per OMP2: Outline CTMP, the final CTMP will be provided at post-consent. The CTMP will be secured through a condition attached to the PPP.	All zones
NV6	Best Practicable Means (BPM) to limit the impacts of noise and vibration during construction	Tertiary	BPM to limit the impacts of noise and vibration at sensitive receptors during construction. This includes: selection of quieter equipment where reasonably practicable; all plant when not in use is to be switched off; operate only well-maintained construction plant selected for the specific activity; consideration will be given to construction plant that will be used (e.g., use of broadband tonal reversing alarms instead of tonal models where possible (without compromising health and safety); mobile plant and stationary plant items to be routed or located to maximise separation distance from noise-sensitive receptors (where possible), accounting for site-specific constraints.	These measures will be established within the NVMP and within the CTMP (in relation to vehicles). These plans will be secured through conditions attached to the PPP.	All zones
NV7	Vibration isolation pads and anti-vibration mounts	Tertiary	Installation / use of vibration isolation pads and anti-vibration mounts, if required, from equipment located within the onshore substation. The equipment will be detailed within the NVMP and developed post-consent.	Established within the design principles (secured through the CMSs) and within the NVMP. The NVMP will be secured through a condition attached to the PPP.	Substation zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
NV8	Engagement with affected landowners, asset owners and members of the public	Tertiary	Close liaison with affected landowners, asset owners and members of the public will be maintained during planning, and construction stages to ensure they are fully aware of proposals and sequence of construction activities and how parties can contact the Project.	External communication with the community, landowners and asset owners will be undertaken by the CLO. The requirement for a CLO will be secured through a condition attached to the PPP.	All zones
NV9	Decommissioning, Restoration and Aftercare Plan	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required to protect noise sensitive receptors during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles (secured through the CMSs) and the Decommissioning, Restoration and Aftercare Plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
n/a	HDD	Secondary	For HDD works at landfall and trenchless work along the onshore export cable corridor, following site investigations: • Minimise extent and effects of trenchless work particularly for night-time HDD; • Maximise distance from nearby residential properties where possible; • Liaise with closest affected residents; and • Interrupt drilling at night if possible, or investigate alternative techniques or equipment, use of solid screening. As a result, noise levels from HDD drilling at the nearest occupied Noise Sensitive Receptor (NSR) should not exceed the following levels for night-time periods: 45 dB $L_{Aeq, T}$ for more than 10 days in a 15 day period, or above 50 dB $L_{Aeq, T}$ for less	Established within the design principles (secured through the CMSs) and within the NVMP. The NVMP will be secured through a condition attached to the PPP.	Landfall and cable development zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			than 10 days in a 15 day period. If these noise levels cannot be achieved, then consider offering temporary re-housing of residents affected.		
n/a	Distance between residential properties and site construction compound areas	Secondary	Site construction compound areas along the onshore export cable corridor should be determined to maximise distance from nearby residential properties as far as practical, with a minimum separation distance of at least 20 m from the nearest dwellings. If rock-breaking activities are required as part of cable trenching, and likely to last more than one week within 30 m of a dwelling, then use, where possible, temporary solid screening to reduce noise levels below 75 dB(A).	Established within the design principles (secured through the CMSs) and within the NVMP. The NVMP will be secured through a condition attached to the PPP.	Cable development zone
n/a	Temporary barrier at The Cottage, Achalone	Secondary	Onshore substation construction: installation of a temporary solid site barrier between the site compound area and NSR 11 (The Cottage, Achalone), to reduce expected construction noise levels below 65 dB(A) at NSR 11.	Established within the design principles (secured through the CMSs) and within the NVMP. The NVMP will be secured through a condition attached to the PPP.	Substation zone

19.8.2 Proposed monitoring

A detailed NVMP will be developed through consultation with relevant stakeholders and will be subject to approval as part of the discharge of planning conditions. This may include some monitoring of construction noise from some activities: although details have not yet been confirmed, but potential monitoring could include monitoring at the nearest NSR during night-time HDD works.

In addition, monitoring and addressing of noise complaints will be undertaken by setting up and publicising a contact point with the contractor to log, monitor and address any complaints associated with noise during the construction period. Local residents will be provided with information, if appropriate, to advise of any potential noisy works. The complaints procedures will be detailed within the final CEMP (as indicated in OMP1: Outline CEMP) and within the NVMP, with respect to noise.

19.9 Access, traffic and transport

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 16: Access, traffic and transport is described below.

19.9.1 Mitigation

Table 19-9 Mitigation measures for access, traffic and transport

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
ATT1	Roadworthy HGVs	Primary	All HGVs delivering materials to the site will be roadworthy, adequately maintained and sheeted as required.	As per OMP2: Outline CTMP, these measures will be established within the final CTMP. The CTMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
ATT2	Traffic management	Primary	Adequate traffic management and banksmen[2] will be deployed for the movement of HGVs.	As per OMP2: Outline CTMP, these measures will be established within the final CTMP. The CTMP will be secured through a condition attached to the PPP.	All zones
ATT3	Maximised HGVs	Primary	Full HGV loads will be maximised to ensure that part-load deliveries would be minimised, where possible.	As per OMP2: Outline CTMP, these measures will be established within the final CTMP. The CTMP will be secured through a condition attached to the PPP.	All zones
ATT4	CTMP	Tertiary	The management of construction traffic within the onshore Project area is detailed within OMP2: Outline CTMP, which is provided alongside the application for PPP. In summary, the CTMP will include the following measures: • Identification of Designated Construction Routes, to restrict traffic to suitable roads in the study area. • The re-use of excavated materials on-site wherever possible, and the re-use of excavated material between work sites wherever possible (i.e. retained within the overall development) to minimise traffic generation. • Comprehensive traffic-related Health and Safety Measures (both on and off-site) to reduce the risk of accidents. These	As per OMP2: Outline CTMP, these measures will be established within the final CTMP. The CTMP will be secured through a condition attached to the PPP.	All zones

[2] *A worker who supervises the use of vehicles and heavy machinery.*

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			to include speed limits for construction traffic, a Driver Code of Conduct, and signage on local roads. • The means by which the CTMP will be communicated to stakeholders (local communities, landowners, Network Rail Scotland, THC etc), and how the above groups will be further engaged. • The provision of laybys on single-track roads to allow HGVs and general traffic to pass each other. • The appointed Contact for Road Safety will communicate with all neighbouring residents and businesses to ensure they are aware of the construction programme and upcoming activities which may give rise to increased construction vehicle movements. The CTMP will be finalised post-consent in consultation with THC, the Roads Authority and any potentially affected Community Councils once the design of the onshore Project is finalised.		
ATT5	Access Management Plan	Tertiary	A Design and Access Statement has been submitted along with the PPP application to provide an overview of measures to maintain access during construction. An Access Management Plan will be developed post-consent to finalise these measures.	These measures will be established within the Access Management Plan. The Access Management Plan will be secured through a condition attached to the PPP.	All zones
ATT6	CEMP	Tertiary	The CEMP will outline how the onshore Project will ensure the suitable implementation and control of the mitigation measures during construction. An outline CEMP (OMP1: Outline CEMP) is provided alongside the application for PPP.	As per OMP1: Outline CEMP, the final CEMP will be provided at post-consent. The CEMP will be secured through a condition attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
ATT7	Decommissioning, Restoration and Aftercare Plan.	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required for traffic during decommissioning which are likely to be similar to those proposed within the CTMP.	Established within the design principles (secured via the Construction Method Statements (CMSs)) and the Decommissioning, Restoration and Aftercare plan which will be secured through a condition attached to the PPP.	All zones
Secondary mitigation					
n/a	Pre- and post-construction Roads Conditions Surveys will be undertaken along all of the construction routes (with the exception of the A9 and A836). These will identify any damage caused by construction vehicles and ensure that the developer is responsible for any repairs.	Secondary	Provision of a wear and tear agreement under Section 96 of the Roads (Scotland) Act 1984 will be adhered to. Pre- and post-construction Roads Conditions Surveys will be undertaken along all of the construction routes, including passing places (with the exception of the A9 and A836). These will identify any damage caused by construction vehicles and ensure that the developer is responsible for any repairs. In addition, an appropriate financial bond will be required to THC in respect of any road reconstruction works.	As per OMP 2: Outline CTMP, these measures will be established within the final CTMP. The CTMP will be secured through a condition attached to the PPP.	All zones

19.9.2 Proposed monitoring

The proposed secondary mitigation, as detailed above, will include surveys to monitor the condition of roads used by the Project. No further mitigation or monitoring is proposed for access, traffic and transport.

19.10 Landscape and visual

The embedded mitigation, secondary mitigation and proposed monitoring identified for chapter 17: Landscape and visual is described below.

19.10.1 Mitigation

Table 19-10 Mitigation measures for landscape and visual

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Embedded mitigation					
LVIA1	Onshore construction	Primary	Siting of construction compounds and set down areas to respond to sensitive receptors. Suitable temporary route to be provided during construction stage and duration of diversion of core path to be minimised.	Established within the design principles post-consent (secured through CMSs).	All zones
LVIA2	Onshore substation site location and design	Primary	The site selection and iterative design of the onshore substation location and layout has been a key process which has considered the potential impacts to landscape and visual receptors. The location of the onshore substation will be immediately west of the preferred Scottish Hydro Electric Transmission plc (SHET-L) Spittal 2 substation where this area has a strong influence of this type of infrastructure. Additionally, a linear arrangement is proposed to enable the onshore substation to be set back from the A9 and to respond to the existing terrain.	Established within the design principles post-consent (secured through CMSs). Detailed design will be post-consent and must be approved by THC prior to development commencing.	Substation zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
			The colour of the onshore substation and structures will be a recessive colour such as dark brown or grey to further reduce visual impact.		
LVIA3	Landscape screening	Primary	Landscape bunding is a fixed development parameter with specific design principles including: • Slopes will be varied, with an average slope of 1:6, and a recommended maximum slope of 1:4 to the outer faces; • 'Internal' slopes adjacent to the development platform can be steeper and/or make use of retention; • The bunds will have rounded and varied tops and toes, and their shape should respond to the existing landforms within the surrounding context where possible; • The maximum height of the landscape bunds will be determined by the requirement to screen the onshore substation from the surrounding visual receptors and for noise mitigation; • No level changes are possible within the flood plain; and • No bunding is possible over the cable corridors around the development platform. The detailed design will take place post-consent.	Established within the design principles post-consent (secured through CMSs). Detailed design will be post-consent and must be approved by THC prior to development commencing.	Substation zone
LVIA4	Landscape planting	Primary	Proposed native tree / shrub planting will be used to soften views of the proposed bunds and to integrate the bunds into the wider landscape. The planting will be designed to enhance biodiversity within the onshore substation area, including a mix of wildflower meadow, shrub planting and mixed native woodland.	Established within the design principles post-consent (secured through CMSs). Detailed design will be post-consent and must be approved by THC prior to development commencing.	Substation zone

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
LVIA5	Reinstatement of terrain and ground cover	Primary	Reinstatement of terrain and ground cover, where possible, to avoid any impacts on the visual and landscape amenity by the underground onshore export cables.	Established within the design principles post-consent (secured through CMSs). Detailed design will be post-consent and must be approved by THC prior to development commencing.	Cable development zone and substation zone
LVIA6	Engagement with affected landowners, asset owners and members of the public	Tertiary	Close liaison with affected landowners, asset owners and members of the public will be maintained during planning, and construction stages to ensure they are fully aware of proposals and sequence of construction activities and how these may interact with planned land use activities.	External communication with the community, landowners and asset owners will be undertaken by the CLO. The requirement for a CLO will be secured through a condition attached to the PPP.	All zones
LVIA7	Decommissioning, Restoration and Aftercare Plan	Tertiary	A Decommissioning, Restoration and Aftercare Plan will be prepared for the onshore Project and agreed with THC prior to decommissioning works being undertaken. The plan will include any measures required for landscape and visual receptors during decommissioning which are likely to be similar to those proposed within the CEMP.	Established within the design principles (secured through the CMSs) and the Decommissioning, Restoration and Aftercare Plan which will be secured through conditions attached to the PPP.	All zones

ID	MITIGATION MEASURE	TYPE	DESCRIPTION	HOW MITIGATION WILL BE SECURED	DEVELOPMENT ZONE
Secondary mitigation					
The use of landscape bunds as the principle means of screening the onshore substation, with proposed planting to soften the landscape effect of the landscape bunds is assumed to be embedded in the onshore Project. Secondary mitigation is therefore not required. Despite the impact assessment predicting significant impacts, Policy 11 (e) of NPF4 states that "*In addition, project design and mitigation will demonstrate how the following impacts are addressed: ii. significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable.*"					

19.10.2 Proposed monitoring

No monitoring is proposed for landscape and visual receptors.

19.11 References

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19.12 Abbreviations

TERM	DEFINITION
BEP	Biodiversity Enhancement Plan
BPM	Best Practicable Means
CAR	Water Environment (Controlled Activities) (Scotland) Regulations 2011
CEMP	Construction Environmental Management Plan
CLO	Community Liaison Officer
CMS	Construction Method Statement
CTMP	Construction Traffic Management Plan
DAQMP	Dust and Air Quality Management Plan
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
FLS	Forestry and Land Scotland
GWDTE	Groundwater-Dependent Terrestrial Ecosystems
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
HMP	Habitat Management Plan
NSR	Noise Sensitive Receptor
NVC	National Vegetation Classification

TERM	DEFINITION
NVMP	Noise and Vibration Monitoring Plan
OMP	Outline Management Plan
PAD	Protocol for Archaeological Discoveries
PMP	Peat Management Plan
PPP	Planning Permission in Principle
PWS	Private Water Supply
SBL	Scottish Biodiversity List
SEPA	Scottish Environmental Protection Agency
SHET-L	Scottish Hydro Electric Transmission plc
SHPP	Species and Habitat Protection Plan(s)
SRMP	Soil Resource Management Plan
SS	Supporting Study
SST	Seasonal Sensitivity Table
THC	The Highland Council
THC HET	The Highland Council Historic Environment Team
WSI	Written Scheme of Investigation