Appendix 3.2 Outline Construction Environmental Management Plan

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Appendix 3.2 Outline Construction Environmental Management Plan

Executive Summary

This Outline Construction Environmental Management Plan (CEMP) replicates the committed construction mitigation measures that were presented within the EIA Report and presents proposed best practice environmental management during the construction phase of the Proposed Development.

Construction works are currently estimated to occur over a 12-month programme beginning in 2024. Construction is expected to commence in 2024 but is dependent on an offtake mechanism for the electricity generated, likely to require a new transmission connection to Orkney from Mainland Scotland. The actual construction date may therefore be determined by factors outwith the control of the Applicant and as such it is not possible to confirm the construction date with certainty. As such flexibility is requested with regard to conditions on when construction must begin

This CEMP is presented as a draft document in support of the planning application for the Proposed Development and will be updated and refined once a lead construction contractor ('the Contractor') has been appointed and as further detailed design is undertaken.

A separate Operational Management Plan will be produced prior to operation which will cover the environmental mitigation to be implemented during the operational lifespan of the Proposed Development.

Purpose of the document

This Outline CEMP defines good practice as well as actions required to deliver site-specific mitigation as detailed within the Schedule of Environmental Commitments presented in Chapter 17 of the EIA Report (this will be included as an appendix to the detailed CEMP), relevant future planning consent conditions and pre-construction survey reports.

This document provides an outline of the future Contractor's proposed Environmental Management methods during the construction phase of the Proposed Development. The methods and principles contained within this document will be adhered to by the Contractor in developing the detailed design, construction method statements and other plans relating to environmental management as required by the Contract.

All of the works should be carried out with the objective of causing a minimal amount of disturbance to the environment.

Planning Conditions

Once planning conditions have been set, this section will identify the specific planning conditions that require to be addressed through the preparation of this CEMP and related plans, method statements, technical drawings etc.

Reference Documentation

The following documentation will be followed during the construction of the Proposed Development.

- relevant SEPA/EA Pollution Prevention Guidelines (PPGs) and Guidelines for Pollution Prevention (GPPs);
- Good Practice During Wind Farm Construction Version 4 (Scottish Renewables, Scottish Natural Heritage, Scottish Environment Protection Agency, Forestry Commission Scotland, 2019);
- Engineering in the Water Environment, Good Practice Guide, Construction of River Crossings (SEPA, 2010);

- Prevention of Pollution from Civil Engineering Contracts: Special Requirements publication (SEPA, 2006);
- Constructed tracks in the Scottish Uplands (SNH, 2015);
- Code of Practice for Earth Works, BS6031:2009
- Code of practice for noise and vibration control on construction and open sites. Noise, BS5228-1: 2009.
- CIRIA Publications:
  - Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156)
  - Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (C532)
  - Control of Water Pollution from Linear Construction Projects – Technical Guidance (C648)
  - Control of Water Pollution from Linear Construction Projects – Site Guide (C649)
  - Culvert Design Guide, C689, CIRIA, 2010;
  - Environmental Good Practice – Site Guide (C650)
  - The SUDS Manual (C697)
  - Site Handbook for the Construction of SUDS (C698)

Project Information

The Proposed Development site is located on the Mainland of Orkney, approximately 2.7 km north-west from the boundary of Kirkwall Town Centre. The site is located on the peninsula of Quanterness, north of the A965 which abuts the southern boundary of the site.

The elevation of the site ranges from 0m AOD in the north to 20 mAOD in the south. The site covers 172.27 ha and the central grid reference of 341560, 1013640. The site boundary and location are shown in Figure 1.1.

The site comprises of agricultural fields, mainly used for cattle grazing, with some crops. There are a no watercourses within the site boundary, but a number of drainage ditches follow the field boundaries. Although a number of waterbodies are shown within the site on Ordnance Survey mapping, these have been confirmed to be ephemeral, rain-water fed hollows. The Wide Firth is located to the north of the site.

The key components making up the Proposed Development include (refer to Figure 1.2):

- six wind turbines with a maximum blade tip height of 149.9 m;
- a substation compound and control building;
- new and upgraded access tracks providing access to the WTGs and the substation;
- a permanent meteorological mast for ongoing recording of wind data during the operational life of the Proposed Development; and
- underground cabling connecting the WTGs with the substation.

No permanent construction compound is proposed. A temporary site compound area will be located adjacent to the main access track, for the purposes of construction.

Roles and Responsibilities

ECoW / Employer's Representative

The Applicant will appoint an appropriately qualified and experienced person or persons to perform the role of Environmental Clerk of Works (ECoW) for the duration of the construction phase of the Proposed Development. The ECoW will be responsible for ensuring that all of the requirements of the CEMP, associated Construction Method Statements (CMS) and the Schedule of Environmental Commitments are maintained throughout the construction phase. This role will be supervisory and may be full-time or part-time, to be agreed in advance with Orkney Islands Council (OIC).

The ECoW will liaise with the Applicant and the Contractor in finalising the relevant environmental management documentation for all work activities where there is a risk of environmental damage. This will include finalising the detailed CEMP and individual CMS as required.

The ECoW will liaise directly with OIC, SEPA or SNH where agreement is required with those bodies for the above documents.

The ECoW will be familiar with the baseline data gathered during the Environmental Impact Assessment and pre-construction surveys, as well as all environmental commitments and requirements. The ECoW will ensure that the Contractor has obtained the required permits, licences and permissions, prior to those works which require them beginning.

The ECoW will carry out regular documented inspections/audits of the site to ensure that all work is being carried out in accordance with the CEMPs and method statements.

The ECoW will liaise with the Applicant to identify requirements for specialist environmental contractors before commencement of the project and will ensure that specialist environmental contractors are competent and have sufficient expertise to co-ordinate and manage environmental issues and their activities on site.

The ECoW will ensure that Environmental Induction Training is carried out for all site personnel working under the Contractor.

The ECoW will ensure that the Applicant is notified of all incidents where there has been a breach of agreed environmental management procedures; where there has been a spillage of a potentially environmentally harmful substance; where there has been an unauthorised discharge to ground, water or air and where there has been damage to a protected habitat, etc.

The Principal Contractor will be responsible for notifying the relevant statutory authority of environmental incidents and carrying out an investigation and producing a report regarding environmental incidents and non-conformances, to be provided to the Applicant for appropriate action.

Contractor's Site Environmental Representative

The Contractor will appoint an appropriately competent person (e.g. Contractor's Environmental Site Engineer or Site Environmental Manager) to undertake relevant environmental tasks as detailed in this document prior to, during and upon completion of the construction works. This role will be referred to as the Contractor's Site Environmental Representative and may be undertaken by the Site Agent.

The Contractor will demonstrate the competence of the Site Environmental Representative to the Applicant via submission of relevant information (e.g. CV, training records, membership records) for acceptance prior to commencement of construction works.

The Contractor's Site Environmental Representative will liaise directly with the ECoW and will have responsibility for the full-time environmental management of staff and activities on site.

The Contractor's Site Environmental Representative will have responsibility to 'stop the job/activity' if a breach or potential breach of mitigation or legislation occurs.

The Contractor is responsible for obtaining all necessary consents, licences and permissions for his activities as required by current legislation governing the protection of the environment.

The Contractor will consider all of the mitigation measures and best practice construction methods detailed within this CEMP in his design and in any detailed environmental plans as required by the Contract.

A copy of this document and related files and documents will be kept in the site offices for the duration of the site works and will be made available for review at any time. Upon completion of the construction works, the Contractor will provide a complete copy of the final set of information to the Applicant for their records.

Site Working Hours

The normal working hours during construction are as follows:

- Monday to Friday - 07:30 – 18:00 hrs
- Saturday - 08:00 – 13:00 hrs
- Sunday and public holidays - No work

If required, additional working hours will be agreed in consultation with OIC's Environmental Health Officer.

General Site Best Practice

Water, electricity, paper consumption, use of non-renewable resources etc. will be controlled to the minimum practicable by adequate management systems. This will be monitored on a monthly basis by the site manager to identify any potential wastage and opportunities for further reduction in consumption.

Other best practices will be implemented, for example:

- vehicle engines to be switched off when not in use; and
- the proper maintenance of all vehicles, and prompt reporting of faults.

Emergency procedures will be established for use in case of fire and will be clearly explained to all site staff.

Under no circumstances will open fires be lit on the site.

Details of the construction compound, including layout, access, security, lighting, pest control and re-instatement will be included within the CEMP.

Environmental Training

Environmental training/induction will be undertaken for all site staff prior to working on site.

Method statements will be communicated to all relevant personnel through activity plans.

The Contractor will provide ongoing training and review of relevant procedures with site staff throughout the contract, including through the use of tool box talks.

The Site Environmental Representative will undertake ongoing monitoring of the effectiveness of mitigation and procedures and update as required. He will also undertake ongoing monitoring, review and update of environmental control measures in method statements.

Ecology

General Best Practice

Not more than 12 months prior to construction, the ECoW will undertake a series of pre-construction ecological surveys to update the baseline information contained within the EIA Report. The aim of these surveys will be to provide up to date information in order to finalise required mitigation proposals, in addition to completing a final check prior to construction for protected species. The CEMP will be updated with the latest survey results and management requirements.

Plant and personnel will be constrained to a prescribed working corridor through the use of temporary barriers, thereby minimising damage to habitats and potential direct mortality and disturbance to species.

Works compound, storage sites and access tracks will avoid, as far as practicable, areas identified as being of ecological value by the ECoW.

Any required culverts will be designed to be adequately sized and orientated in the correct direction for wildlife in accordance with good practice.

Any trenches dug during construction and decommissioning operations will be covered at the end of each day. Alternatively, mammal ramps will be positioned in such a way that trapped mammals may be allowed to escape.

All exposed pipes and trenches will be checked each morning prior to starting construction activities. If trapped animals are found, the EcoW or specialist animal handler will be contacted to remove any distressed animals.

Regular ecological toolbox talks will be given to all site personnel on the potential presence of protected species and any measures that need to be undertaken should such species be discovers during construction activities.

As part of the environmental tool box talks given to site construction staff, the importance of adhering to speed restrictions and watching out for wildlife and grazing farm stock will be highlighted.

Breeding Birds

Further to or incorporated into the update surveys above, protection of breeding bird nests from damage and/or destruction during the breeding season will need to be ensured. Wherever possible, all vegetation clearance will occur outside the breeding season (i.e. between September – March, inclusive), to ensure that no active nests are damaged or destroyed by the proposed works. This would include any areas of shrub clearance and vegetation removal for access tracks, compounds or turbine bases due to the populations of ground nesting birds on and around the site.

Removing vegetation from working areas outside the breeding season, wherever possible between October and February inclusive but preferably between November and January, would also reduce the attractiveness of those areas to breeding birds the following season, which means that birds are less likely to breed in those areas.

Avoidance of unnecessary disturbance to habitats by minimising the extent of ground clearance and other construction practices as far as practicable.

Habitats

The ECoW will develop a Site Restoration Plan (SRP) which will form part of the CEMP. This will be implemented by the Contractor to ensure those areas of habitat that have been temporarily lost during construction are successfully re-instated after construction has finished.

In order to facilitate restoration, disturbed ground will be restored as soon as practically possible using materials removed during the construction of access tracks, excavation of cable trenches and turbine foundations. To achieve this, any excavated soil will be stored in such a manner that is suitable to facilitate retention of the seed bank. This will aid site restoration and help conserve the pre-construction floristic interest at the site. Access tracks will be allowed to re-seed naturally during operation.

Otter

No obstacles/obstructions will be placed either in drainage ditches or bankside that may impede the safe passage of otters throughout the site, or obstruct access to any potential resting sites.

Working in the vicinity of identified otter habitat will be avoided during the hours of darkness and within two hours after sunrise and two hours before sunset. This can be reduced to one hour between November and February due to limited daylight.

Any exposed pipe systems will be capped when not being worked and provide exit ramps for any exposed trenches or excavations (to prevent otters entering and becoming trapped).

All staff will be informed of the potential for otters on site and 10mph speed controls within the Proposed Development site to limit the risk of road traffic accident mortality will be implemented.

Discovery of a non-breeding resting place

Should a non-breeding resting place be identified during construction all construction work will cease immediately and a 30 m exclusion area will be applied. This 30 m exclusion area will be demarcated by the Contractor and no construction personnel well enter this exclusion area except when accompanied by the ECoW.

Construction activities in the vicinity of the non-breeding resting will be undertaken to avoid periods of diurnal peak otter activity (dusk and dawn). Where it is not possible to strictly comply with this requirement, construction activities will permit at least one night of undisturbed passage for every two day/nights of construction work, subject to the discretion of Principal Contractor.

The exclusion area will remain in place for the duration of the construction period. The Contractor will ensure that all construction activities are undertaken out with this area. This may not be possible at all newly identified locations and in this circumstance an otter development licence will be sought from SNH to permit the disturbance of this resting place. Works will not recommence at this location until a licence has been granted and the ECoW is satisfied that any conditions have been met.

The site of the Proposed Development is such that, at this time, that the destruction of any newly identified resting place is considered unlikely to be required. However, should this be the case, SNH will be consulted and a development licence sought for the destruction of an otter resting place.

Discovery of a Breeding Resting Place

Should a breeding resting place be identified during construction all construction work will cease immediately and a minimum 200 m exclusion area will be demarked and enforced by the Contractor. This 200 m exclusion area will be demarcated by the Contractor and no construction personnel well enter this exclusion area except when accompanied by the ECoW.

The Contractor will begin immediate dialogue with SNH to, where necessary, allow activities to make safe the construction works. In addition, this dialogue will seek to determine if any construction works are possible within the 200 m exclusion zone and the requirement for a licence for such works.

As natal holts are often utilised for a period of three months (Liles, 2003 and Kruuk, 2006) this exclusion zone will be maintained for a period of 3 months from implementation as a minimum.

After three months the young are mobile and move with their mother within the mother's territory (Chanin, 2003b and Kruuk, 2006), The ECoW will determine when the holt is no longer in use for breeding (when young are mobile) and in consultation with SNH, the exclusion zone will be contracted back to 30 m.

The 30 m exclusion area will remain in place for the duration of the construction period. The Contractor will ensure that all construction activities will be undertaken out with this area. This may not be possible all newly identified locations and in this circumstance an otter development licence will be sought from SNH to permit the disturbance of this resting place. Works will not recommence at this location until a licence has been granted and the Developer's ECoW is satisfied that any conditions have been met.

Archaeology

A precautionary exclusion zone will be set up around onsite assets at the start of construction works, in accordance with a design to be agreed to the satisfaction of the OIC Archaeologist.

Pre-construction

The potential for previously unrecorded buried remains to be affected will be addressed by a programme of archaeological works, undertaken as a condition of planning consent which will be undertaken prior to the commencement of construction of the Proposed Development. These works will include a geophysical survey of the proposed access routes, cable routes, turbine locations, crane pads and other infrastructure. The geophysical survey will cover a 60m buffer on either side of the proposed centrelines for the access tracks and cable routes so as to allow for micro siting in the event of significant remains being identified during the trial trenching.

A 100m buffer around each of the proposed turbine locations will be covered to allow for micro siting and the future presence of the turbines, as once constructed their magnetic signatures will prevent further geophysical surveys from being undertaken within their vicinity.

The geophysical survey will be followed by trial trenching which will be targeted on any possible anomalies that were identified as well as a representative percentage of the total footprint of the development infrastructure. Depending on the results of these investigations further works during construction including further excavations and/ or an archaeological watching brief are likely may be required. The purpose of such works will be to identify any archaeological remains threatened by the Proposed Development, to assess their significance and to mitigate any impact upon them either through avoidance or, if preservation in situ is not warranted, through preservation by record. Depending upon the results of any watching brief works there is the potential that further works, such as excavation and post-excavation analyses, could be required. Details of mitigation will be agreed with OIC in consultation with the Orkney Country Archaeologist through a WSI.

Construction

Although no surface remains were identified on the site during the walkover survey, the presence of potentially nationally significant non-designated prehistoric remains on the site is well documented and there is a high potential for further previously unrecorded buried remains to be present. Given this a 100m protective buffer will be maintained around the sites of both the Crossiecrown late Neolithic settlement (Site 491) and the Ramberry ring cairn (Site 493) as recorded by HES on the NRHE. No works will be undertaken within these buffers which will be fenced prior to the onset of construction and not entered for the duration of the works. The site of the passage structure that was excavated on the Ramberry headland (Site 563) will be similarly fenced off prior to construction (Figure 10.1).

Surface Water Management and Pollution Prevention

Detailed Design

Pre-construction intrusive site investigation works will be undertaken, to confirm ground and groundwater conditions at the proposed turbine and infrastructure locations, and to aid in detailed design and micro-siting. The investigations would include targeted monitoring and assessment of groundwater levels and flows beneath the site, for example including trial pits to undertake rising- or falling-head permeability testing, and collection of groundwater samples for quality testing. The requirement for any additional specific mitigation resulting from the findings of these investigations would be agreed with SEPA in advance of construction.

Access tracks will be constructed with appropriate drainage provision, including drainage ditches or swales on one or both sides of the track, and cross carriage drainage pipes laid at appropriate intervals within the newly laid material, to allow for the flow of shallow groundwater.

The detailed design of drainage ditch crossings will take account of the guidance contained within Engineering in the Water Environment Good Practice Guide: River Crossings (SEPA, 2010). All crossings will be designed to accommodate 1 in 200-year storm event (including climate change allowance) to reduce the risk of flooding. The detailed designs will be agreed with SEPA prior to construction.

Surface Water Monitoring

Baseline surface water quality monitoring will be undertaken where appropriate in the drainage ditches across the site, prior to construction works. Parameters to be tested will include, as a minimum, pH and suspended solids. Monitoring will be undertaken during the construction works to ensure no adverse effect on water quality. Should an adverse effect be identified, works will stop until additional mitigation measures can be determined and implemented, in agreement with SEPA.

Best Practice

The Contractor will identify and map out field drains on a plan, which will be included within this section of the CEMP.

Staff will be briefed on the location and importance of the field drains and will be given regular tool box talks about the risks of working near water and the potential to cause pollution.

All earth moving works or similar operations will be carried out in accordance with the British Standards Institute Code of Practice for Earth Works BS6031:2009.

Construction of the access tracks will require stripping existing unsuitable material to a suitable bearing or the designed formation, and placing a filter membrane and or geotextile reinforcement membrane (depending on site conditions) on the ground. Aggregate will then be layered, with the access track capped with a layers of Type 1 or similar material.

The requirement for dewatering of excavations will be minimised by timely and efficient excavation of the foundation voids and subsequent concrete pouring and backfilling.

All staff will be trained in the application of emergency procedures, including the use of sand bags, absorbent booms, silt fences and spill packs.

The site manager will ensure adequate supplies of absorbent booms, silt fencing, and spill packs are stored on site. All site staff will have access to these supplies.

All construction vehicles used on site will carry spill kits.

In the event of spillage, staff will follow emergency procedures, take action immediately to minimise any spill and its spread, and notify SEPA as quickly as possible by telephone.

Members of staff will be appointed to undertake daily checks on site to ensure that pollution prevention measures are in place and are successful. Daily checks of drainage ditches, silt traps, settlement ponds and the field drains will also be undertaken.

The site manager will regularly check the local weather forecast to identify future adverse weather conditions. If adverse weather conditions are identified, the site manager will brief staff on the requirement for extra vigilance in checking the condition and performance of site drainage.

No water from excavations and dewatering activities will be allowed to directly enter the water environment.

Stockpiles (of fines and aggregate) will be located away from drainage ditches.

All refuse and debris will be gathered daily and stored in secure skips prior to regular removal to avoid risk of polluting watercourses.

All plant and equipment will be maintained appropriately including checking for leaks and cleaning/removing visible oil.

Any contaminated soil will be disposed of to a licensed waste disposal site in accordance with legal requirements, e.g. from oil / fuel spill on site.

There will be no sewage discharges from the site.

Following completion of the construction phase, the site will be monitored at regular intervals to ensure that all drainage features retained within the site are functioning properly and that the site is in good condition.

Water Abstraction

There will be no abstraction from drainage ditches or the sea.

Oil and Fuel Storage

The site manager will determine the minimum practical volume of oil that needs to be stored on site. The site manager will plan deliveries of oils to the site so that the minimum practical volume of oil is stored on site.

A Pollution Control Plan will be kept on site, including emergency response. It will be kept on prominent display at the fuel storage area and in the site office. This will include the requirements for fuel deliveries.

A self bunded oil storage tank will be located on an impermeable base, and will be physically protected by barriers.

All valves and tank couplings will be located within the tank bund, and a spill kit will be held beside the bulk storage tank.

Mobile plant and vehicles will be refuelled beside the tank. Filler handles will be auto-shutoff trigger-spring type, i.e. as per garage pumps. They will be stored within the bund at all times. Static plant will be refuelled at their operational location using a mobile bunded fuel bowser or jerry cans.

Generators or similar plant and machinery will be positioned on plant nappies within designated areas within the site boundary. These will be inspected and, if required, emptied on a daily basis.

No 45 gallon drums for fuel or oil are permitted on site under any circumstances. Only 20 litre jerry cans can be used. All small fuel and oil containers will be locked in a secure store to prevent theft and vandalism.

All bunds and settlement areas will be checked daily for hydrocarbons. Adequate oil absorbent and containment materials to be held in areas on all parts of the site and staff briefed on how to use this effectively.

Oil contaminated water from bunded areas, drip trays or plant nappies will be removed by using oil-absorbent pads.

Contaminated water/materials will be disposed of off-site to appropriate disposal site with necessary paperwork in place in accordance with the Site Waste Management Plan.

Contacts

The following should be contacted in the case of an emergency by any member of staff:

Table 1 – Emergency Contacts

Contact	Office hours	Out of hours	Address
Fire Department	999	999	TBC
Police Department	999	999	TBC
Ambulance Service	999	999	TBC

The following staff should be contacted following any pollution incidence by the site operations staff:

Table 2 – Internal Contacts for any Pollution Incidence

Contact	Office hours	Out of hours	Address
Principal Contractor Emergency Response	TBC	TBC	TBC
ECoW	TBC	TBC	TBC

The following should only be contacted by the ECoW or the Contractor's Site Environmental Representative as required following a pollution incidence.

Table 3 – Key Contacts

Contact	Office hours	Out of hours	Address
SEPA	TBC	TBC	TBC
SNH	TBC	TBC	TBC

Contact	Office hours	Out of hours	Address
Scottish Water	TBC	TBC	TBC
SSEN	TBC	TBC	TBC
Waste Management Contractor	TBC	TBC	TBC
Specialist Clean Up	TBC	TBC	TBC
Other	TBC	TBC	TBC

Material Storage

All stockpiles will be formed to follow the direction of surface water flow to prevent pooling.

Stockpiles of loose materials will be sheeted in times of dry or windy weather.

Contaminated Materials

Site staff will be vigilant in visually assessing excavated materials for signs of contamination. [These could include discoloured soil, unexpected odours, a fibrous texture to the soils (e.g. asbestos), presence of foreign objects (e.g. chemical/oil containers/waste) and evidence of made ground].

In the event that suspected contaminated materials are identified, site staff will respond as follows:

- report the discovery to the site manager who must seek advice from the Client's environmental team;
- contact technical specialists for immediate advice on testing and mitigation;
- seal off the area to contain spread of contaminants;
- clear site to ensure there is nothing that could cause fire or explosion; and
- contact the OIC Contaminated Land Officer if it is confirmed that contamination has been found.

Any unexpected contaminated land that has been disturbed by construction activities may need to be dealt with as waste (following results and characterisation from chemical analysis) and disposed of to a suitably licensed site in line with all relevant waste management regulations.

Ensure that the suspected contamination is tested and characterised and agree changes to the existing site proposals and method statements.

Contaminated soil will not be stockpiled unless it cannot be avoided. If it is necessary, the stockpile will be placed on an impervious base (e.g. hardstanding or plastic sheeting) and covered with plastic sheeting to prevent contamination of the wider area.

Surface drainage from stockpiled area will be controlled through the use of an impermeable bund placed around the stockpile. Any surface water found within the bund will be removed off-site by a licensed contractor.

Dust and Air Pollution Management

The following mitigation measures will be implemented throughout the construction period:

- Throughout construction best practice will be implemented to prevent pollution;

- The construction site layout will be designed to locate machinery and dust causing activities away from receptors where possible.
- The Contractor will review the daily weather reports and communicate with the Section Engineers so that works can be planned to minimise effects on sensitive receptors.
- The Contractor will maintain a water bowser on site to suppress dust along the access tracks as required. If there is a risk of fugitive dust arising from the site works, water spray systems may be set-up to dampen down the material. The Contractor will ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.

Transportation and Storage of Materials

The following mitigation measures will be implemented to limit emissions and dust creation from the transportation and storage of materials and from the movement of vehicles associated with the Development:

- The Contractor will use a water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.
- All vehicles entering and leaving sites will be monitored to ensure they are covered to prevent escape of materials during transport.
- The Contractor will confirm with OIC whether a wheel washing system is required to be implemented. This would contain rumble grids to dislodge accumulated dust and mud prior to leaving the site. The Contactor will ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- The Contractor will ensure fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine powder, materials bags will be sealed after use and stored appropriately to prevent dust.
- Stockpiles will be covered, seeded or fenced to prevent wind whipping.
- Materials will be removed that have potential to produce dust from site as soon as possible, unless being re-used on site.
- The Contractor will ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case it will ensure that appropriate control measures are in place.
- The number of handling operations for materials will be kept to the minimum practicable.

Construction Plant

The following mitigation measures will be implemented to limit plant emissions and dust creation:

- All staff will operate plant and vehicles in accordance with the manufactures instructions. If possible, filters will be provided on plant anticipated to generate excess emissions. In addition, dust extractors, filters or collectors may be used.
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.

- All plant and vehicles will be turned off when not in use and will not be left idling. The movement of vehicles around the site will be minimised where possible.
- Where possible, construction plant will be located away from the site boundary and from sensitive receptors.
- Use enclosed chutes and conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Where reasonable and practical, the Contractor will avoid the use of diesel or petrol-powered plant and will power plant through the use of mains or battery powered generators.

Earthworks

- Stripping of topsoil will occur as close as reasonably practicable to the period of excavation or other earthworks activities to avoid risks associated with run-off or dust generation.
- Drop heights from excavators to vehicles involved in the transport of excavated material will be kept to the minimum practicable to control dust generation associated with the fall of materials.
- All deposited materials will be compacted, with the exception of topsoil, as soon as possible after deposition.
- Soiling, seeding, planting or sealing of completed earthworks will be undertaken as soon as reasonably practicable following completion of the earthworks.

Air Quality complaints

All dust and air quality complaints will be recorded, causes identified, appropriate measures taken to reduce the emissions in a timely manner and the results recorded by the Contractor's Site Environmental Representative. The complaints log will be made available to OIC Environmental Health Officer, if required.

Waste Management

It is not anticipated there will be significant quantities of waste from the short construction period of the Proposed Development.

A Site Waste Management Plan will be kept on site, detailing how waste is managed.

Fully enclosed skips and other smaller containers will be used for all wastes on site. Separate skips, as detailed below, will be held on site to allow segregation of waste materials for recycling or recovery.

- general mixed non-hazardous;
- wood;
- metal;
- hazardous (special) – depending on the types of special waste generated, separate containers may be used;
- plastics; and
- inert construction waste.

All the legal documents to ensure the Duty of Care for waste will be kept on site during the construction of the extension.

All waste leaving the site will be accompanied with a Waste Transfer Note (WTN) (for non-hazardous) or Special Waste Consignment Note (SWCN). These will be checked by the site manager to ensure that the following information is detailed:

- producer of the waste;

- site name & location;
- date;
- description of the waste (i.e. contents and volume);
- EWC code;
- signature of the waste carrier; and
- name of disposal site.

Once complete, the WTN / SWCN will be signed by the Contractor and a copy retained by the

SEPA will be notified a minimum of 72 hours prior to the transfer of Hazardous/Special waste. The contractor will confirm whether the waste carrier will undertake the appropriate notification.

Regular waste audits will be undertaken by the Contractor to check for the following:

- containers are adequately signed;
- containers are being filled fully prior to uplift;
- there is no cross contamination of materials (e.g. hazardous and non-hazardous or wood and metal etc.);
- food and hazardous wastes are contained in covered containers;
- containers are fit for purpose – i.e. adequately sized and structurally sound; and
- waste documentation is being retained, e.g. WTN's.

Noise and Vibration

A Noise Management Plan will detail the mitigation measures that will be implemented by the Contractor to minimise noise impacts arising from activities relating to the construction of the Proposed Development.

All noise during construction will be managed under the various EC Directives and UK Statutory Instruments that limit noise emissions of construction plant, including:

- guidance set out in BS 5228-1:2009+A1:2014 which covers noise control on construction sites; and
- the powers that exist for local authorities under Section 60 of the Control of Pollution Act 1974 to control environmental noise on construction sites; and
- the adoption of Best Practicable Means (as defined in Section 72 of the Control of Pollution Act 1974).
- All sub-contractors of the Contractor will be formally required through contract to comply with the noise mitigation measures outlined below.

The following mitigation measures will be implemented by the Contractor to minimise noise impacts on noise sensitive receptors:

- Where it is reasonable and feasible, the quietest construction methods will be used. The Contractor will aim to reduce all noise emissions, regardless of the threshold limits.
- The Contractor's appointed Principal Designer will monitor construction activities at regular intervals to ensure that appropriate Personal Protective Equipment is being used by staff during activities identified by Risk Assessments .

- Site inspections shall be undertaken to ensure that plant is being operated with any specified acoustic covers in place. Any excessively noisy plant will be removed from the Proposed Development site for repair or maintenance.
- Local hoarding, screens or barriers to be erected as necessary to shield particularly noisy activities.
- Plant and equipment:
  - Any plant and equipment required for operation at night (23:00 - 07:00) shall be mains electric powered where practicable. Any night-time lighting rigs, pumps or other equipment shall be powered using mains electricity or suitably silenced and shielded to ensure compliance with WHO night-time noise criteria, assuming open windows. If generators are required to be operated overnight, measures shall be taken to minimise noise levels at the nearest dwellings.
  - All equipment will be switched off when not in use (including during breaks and down times of more than 30 minutes).
  - The Principal Contractor will ensure that where possible, noisy plant will not be used simultaneously and/or close together to avoid cumulative noise impacts.
  - Any compressors brought on to site to be silenced or sound reduced models fitted with acoustics enclosures.
  - All pneumatic tools to be fitted with silencers or mufflers.
  - All plant items to be properly maintained and operated according to manufacturers' recommendations in such a manner as to avoid causing excessive noise.
  - All plant to be sited so that the noise impact at nearby noise-sensitive receptors is minimised.
  - If required fixed plan will include a noise mitigation scheme to ensure that noise limits are achieved.
  - Fixed and mobile plant used within the site during the construction period shall not incorporate bleeping type warning devices that are audible outwith the site boundary unless required for health and safety reasons.
  - Where practicable, and required, noise from fixed plant and equipment will be contained within suitable acoustic enclosures or behind acoustic screens.
- Traffic and deliveries:
  - Where possible loading and unloading will be undertaken away from residences.
  - The majority of deliveries will be programmed to arrive during normal working hours only.
  - Care will be taken when unloading vehicles to minimised noise. Delivery vehicles to be routed so as to minimise disturbance to local residents.
  - Construction traffic would be prohibited from un-necessary idling within the site boundary or at the site access points.
  - Night time deliveries will be minimal and will only be undertaken with special consideration. Care will be taken to minimise noise when unloading vehicles.

Noise Monitoring

The Contractor will then schedule regular representative monitoring, and also monitoring during specific noise activities which are in close proximity of noise sensitive receptors (e.g. track construction or periods of intensive deliveries). Records of the monitoring completed and the construction activities undertaken during the monitoring shall be kept by the Contractor.

Noise Complaints

The Contractor's Site Environmental Representative (likely to be the Site Manager) will be the first point of contact for any queries and/or grievances regarding the construction of the Proposed Development. They will be responsible for recording all queries and/or issues raised, for responding in an appropriately and timely manner, for monitoring any actions that require to be implemented.

The Contractor's Site Environmental Representative will be responsible for recording all complaints raised regarding noise, for liaison with the Contractor and construction staff, and for ensuring that appropriate action is undertaken. The Contractor's Site Environmental Representative will also be responsible for responding to the complaint and explaining the actions undertaken to address the complaint. A record of all complaints made and the actions taken will be maintained and will be available to OIC Environmental Health Officer upon request.

Should a noise complaint be made to OIC relating to noise emission from construction of the Proposed Development, the Contractor will, within 28 days and at their own expense, employ an independent noise consultant to measure the level of noise emission from the Proposed Development at the property to which the complaint relates. The Contractor shall obtain approval of the employment of the independent noise consultant by OIC prior to the noise measurements being undertaken.

The Contractor will provide OIC with the independent noise consultants assessment and conclusions (including all calculations, recordings and raw data) within three months of the date of the written request of OIC.

Lighting

All lighting used will be of the cut-off type with the light being focused onto the site only and not towards residential properties.

Access and Traffic Management

A copy of the Traffic Management Plan agreed with OIC for the site will be displayed in the site office at all times.

The requirements of the Traffic Management Plan will be communicated to all drivers, including pending deliveries.

Construction traffic will adhere to programmed activities and agreed working hours. No construction traffic will undertake works outwith the agreed activities and hours unless by prior agreement.

Vehicle wheels and chassis will be regularly cleaned to prevent deposition of construction site material on the road.

The site manager will undertake a daily inspection of the access road into the site used by construction traffic to ensure that it remains free of mud. Should mud be observed on the road surface, road sweepers will be deployed.

Any complaint received relating to construction traffic will be addressed as quickly as possible. If necessary the traffic management plan will be reviewed and amended in liaison with OIC.

Agricultural Management Plan

Introduction

The Agricultural Management Plan will provide details of the mitigation measures which will be implemented to minimise the disruption to agriculture during construction of the Proposed Development.

The site is improved grassland used for cattle grazing on rotation with crops.

Liaison

The site is owned by one landowner, and the Contractor's Site Environmental Representative will be responsible for all liaison with the landowner and/or their agent. They will inform the landowner/agent of the construction start date and provide regular updates on the construction programme.

Pre-construction Mitigation

Prior to works commencing, the Contractor will undertake a photographic and video survey of the agricultural land which will be affected by the construction works and make a record of the following:

- topsoil, sub-soil and peat;
- drainage;
- agricultural land adjacent to the site; and
- roads, access and paths.

The existing condition of the land will be agreed with the landowner/agent.

The Contractor's Site Environmental Representative will liaise with the landowner/agent to establish the requirements and measures to be implemented to maintain livestock water supplies which may be affected due to construction works.

Construction Mitigation

The following measures will be implemented during construction:

- The Contractor will take reasonable precautions in the design and construction of the Proposed Development to identify, protect and maintain existing land drainage systems. Existing field drainage systems coming from lands adjacent to the works will be either maintained or intercepted to reduce the risk of additional flooding to adjacent lands.
- Should they be identified, the Contractor will take appropriate measures to prevent the spread of invasive and alien species.
- During the ground-breaking works the Contractor will implement appropriate procedures in relation to the stripping, handling, storage and replacement of agricultural soils to mitigate risks associated with soil degradation. Different soils will be handled and stored separately, in particular top soil and sub soil, and appropriate measures will be taken to prevent contamination of soils with chemicals or other materials. The Principal Contractor will abide by the Code of Practice for the Sustainable Use of Soils on Construction Sites (UK Government, 2011).
- At the landowner's discretion livestock will be removed from areas where construction is occurring to avoid casualties or injury to livestock during construction.
- The Contractor will be responsible for repairing any damage caused to agricultural fencing or gates caused by construction activities.
- Should temporary fencing require to be erected, plant and labour will only operate on the road side of the fence to limit the potential for spread of animal diseases and reduce the area of farmland that is exposed to cross contamination from other sources.
- Riparian zones will be maintained at the edges of drainage ditches to divert possible contamination from the construction site from entering adjacent farmland and prevent erosion of the topsoil from the land.

- The Contractor will liaise with neighbouring landowners/agents to agree the requirement for any temporary works, for example the erection of suitable stock proof fencing,
- The Contractor will be responsible for monitoring the impact of the construction works on neighbouring land, for example ensuring that there is no ponding adjacent to the fenceline or siltation of adjacent land.

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