

APPENDIX B – CB0192 - 1004 – GEMP



WESTERN ISLES REMEDIAL GENERAL ENVIRONMENTAL MANAGEMENT PLAN

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CONTENTS

INTRODUCTION TO GENERAL ENVIRONMENTAL MANAGEMENT PLANS (GEMPS).....	5
GEMP 1 - Watercourse Crossings.....	5
1.2 Temporary Watercourse Crossings.....	5
GEMP 2 – WORKING IN OR NEAR SURFACE WATERS.....	6
2.1. General.....	6
2.2 Surface Water Control.....	7
2.3 Vegetation Removal.....	7
GEMP 3 – PRIVATE WATER SUPPLIES.....	9
3.1 Planning.....	9
3.2 Operations.....	9
GEMP 4 - SOIL REMOVAL, STORAGE AND REINSTATEMENT.....	10
4.1 General principles.....	10
GEMP 5 - CONTAMINATED LAND.....	11
5.1 Japanese Knotweed.....	12
5.3 On-Site Management.....	12
GEMP 6 - WORKING WITH CONCRETE.....	12
GEMP 7 - OIL STORAGE AND REFUELLING.....	13
7.1 Protection Plan.....	13
GEMP 8 - DUST MANAGEMENT.....	15
8.1 Protection Plan.....	15
GEMP 9 - WASTE MANAGEMENT.....	17
9.1 Duty of Care.....	17
GEMP 10 - WORKING IN PEAT, BLANKET BOG, WET HEATH AND DRY HEATH HABITATS.....	18
GEMP 11 - BAD WEATHER.....	19
GEMP 12 - RESTORATION.....	21
GEMP 13 - FORESTRY.....	23
GEMP 14 - NOISE AND VIBRATION.....	23
GEMP 15 – EMERGENCY PROCEDURES - Environment.....	24
APPENDIX A SPECIES PROTECTION PLAN.....	25
1. BREEDING BIRDS.....	25
1.1. Introduction.....	25
1.2. Responsibilities.....	25
1.3. Legislation.....	25
1.3.1. Wild Birds.....	25
1.3.2. Schedule 1 Birds.....	25
1.3.3. Schedule 1A and A1 Birds.....	25
1.4. Protection Plan.....	25
1.5. Review of Works.....	26

1.6. General Mitigation	26
1.7. Specific Mitigation.....	27
1.8. Habitat Management	27
1.9. Active Dissuasion / Disturbance.....	27
1.10. Removing Disused Bird Nests.....	27
1.11. Schedule 1 Species.....	28
APPENDIX B – SPECIES PROTECTION PLAN - OTTER PROTECTION	29
1.1. Introduction.....	29
1.1.1. Part 1: General Protection Plan	29
1.1.2. Part 2: Project Licence Protection Plan	29
1.2. Part 1: General Protection Plan.....	29
1.2.1. Responsibilities	29
1.2.2. Legislation	29
1.2.3. Surveying for Otters	30
1.2.4. Review of Otter Survey	30
1.3. Mitigation Hierarchy.....	30
1.3.1. Avoidance	30
1.3.2. Disturbance.....	30
1.3.3. Destruction.....	31
1.4. Mitigation Measures	31
1.4.1. General Mitigation.....	31
1.4.2. Monitoring and Reporting	31
1.4.3. Licensing Requirements	31
1.4.4. Project Licence	31
1.4.5. Individual Licence	31
1.5. Part 2: Project Licence Protection Plan.....	32

Amendment Register

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Abbreviations

Abbreviation	Definition
BMC	Briggs Marine Contractors – Principal Contractor
ECoW	Environmental Clerk of Works

EIA	Environmental Impact Assessment
MHWS	Mean High Water Spring
MLWS	Mean Low Water Spring
PAC	Pre-Application Consultation
SAC	Special Area of Conservation
SEPA	Scottish Environmental Protection Agency
SFF	Scottish Fishermen's Federation
SHEPD	Scottish Hydro Electric Power Distribution
SNH	Scottish National Heritage
SPA	Special Protection Area
SPP	Scottish Planning Policy
SSEN	Scottish & Southern Energy Networks - Client and Principle Designer
SSSI	Site of Special Scientific Interest
WFD	Water Framework Directive

INTRODUCTION TO GENERAL ENVIRONMENTAL MANAGEMENT PLANS (GEMPS)

This section provides general environmental management plans that should be used by BMC as a basis for designing works in specific areas and undertaking certain types of activities. The working methods / good practice contained within the GEMPs are not exhaustive but should help to ensure that legislative requirements and environmental impact minimisation requirements are met.

These should be used to inform construction method statements and working practices.

GEMP 1 - Watercourse Crossings

Construction of these structures presents potential risks to the environment. These include:

- interference with fish migration and spawning, mammal movement, rare plants and their habitats and with riparian and linear wildlife corridors;
- loss of aquatic and riparian habitat;
- alteration of the flow regime; and
- harmful discharges during construction and operation.

All watercourse crossings will require some level of authorisation under The Water Environmental (Controlled Activities) (Scotland) Regulations 2011 (CAR). BMC must submit outline drawings for each water crossing prior to the start of works for the Employers approval allowing sufficient time for review and amendment.

BMC is required to comply with the following:

General:

- Plan all works in accordance with best practice;
- BMC to consult SEPA on proposals, if necessary;
- Seek to avoid watercourse engineering works wherever possible;
- Where this is not possible, seek to use existing crossings, upgrading as required;
- Only build new crossings where there is no other reasonable option;
- Ensure all necessary consents under the Controlled Activities Regulations (CAR) are in place;
- Ask the ECoW for advice in planning water crossings and adhere to approved plans / crossing locations;
- All reasonable steps shall be taken to prevent the transport of sediments or other matter disturbed by the works;
- Where possible works should be undertaken during drier periods (subject to other ecological timing conditions) and avoid periods of high rainfall. The weather forecast should be consulted 3days in advance of works commencing on the water crossing;
- Ensure all required pre-construction surveys have been completed before starting works (these will include, where appropriate, fresh water pearl mussel (FWPM), otter, water vole etc.);
- Vehicle should not work within the water unless no other reasonable options exist;
- All crossing locations should be reinstated to a condition that replicates the conditions prior to commencement of the works unless otherwise agreed with the Employer;
- Any temporary dams used should be designed to accommodate periods of high watercourse discharge and dried out sections of bed should be check for stranded fish;
- Where pumps are also used, back up pumps should be available. Pumps should also be fitted with screens to prevent fish mortalities and ingress of debris;
- Where possible, flume pipes should be used for temporary works in areas where migratory fish are present;
- Vegetation removal should be minimised wherever possible.

1.2 Temporary Watercourse Crossings

- Must not impede fish passage through the system;
- Should have access constructed of suitable material and in a manner that will not give rise to rutting, ponding and silt run-off;
- Should have silt laden run-off directed to treatment facilities;

- Carefully store any disturbed materials;
- Comply with General Binding Rule (GBR 6). This includes a requirement to reinstate the banks and bed of the watercourse to the condition prior to the commencement of the works.

Fording of watercourses

- Should be avoided if possible;
- If required, access should be restricted to one crossing point;
- If required, movements should be limited to the minimum required;
- Reinstatement will be required to a condition prior to the commencement of the works.
- Where fording of a watercourse is required BMC must agree the method statement with the Employer prior to the start of works; and
- BMC shall consult with SEPA to obtain the relevant agreement or authorisations (as required).

GEMP 2 – WORKING IN OR NEAR SURFACE WATERS

Construction activities in or near water have the potential to cause serious pollution or impact on the bed and banks of a watercourse and on the quality and quantity of the water. Most pollution incidents are avoidable. With careful planning the risk of site work causing pollution can be reduced. Many measures needed to prevent pollution are not expensive, especially if they are included at the planning stage of any activity. Major causes of environmental harm associated with working in or near watercourses include:

- silt e.g. disturbance of river bed or bank, dewatering and pumping of excavations, run-off from exposed ground, plant washing, roads and river crossings;
- cement and concrete – which is very alkaline and corrosive and can cause serious pollution;
- chemicals and solvents – oil storage, refuelling, trade materials etc;
- bridge cleaning debris – e.g. dust, debris & wastewater;
- herbicides – e.g. aerial application;
- waste materials (including special waste) e.g. oily wastes, spent acids and solvents.

Most activities with the potential for affecting watercourses or groundwater will require an authorisation under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR).

BMC is required to comply with the following:

2.1. General

- Identify all activities that will be undertaken in or near watercourses (including all identifiable drainage paths);
- Plan all works in accordance with best practice;
- Avoid works within 10m of a watercourse unless no other practical options exist, and leave a vegetated buffer strip;
- Where works are undertaken within 10m of any watercourse or drain, ensure specific pollution prevention controls are in place;
- Communicate risks associated with working in or near watercourses to all personnel and include control measures in the site specific construction method statements;
- Seek to avoid or minimise watercourse engineering works wherever possible;
- Ensure all necessary consents under the Controlled Activities Regulations (CAR) are in place;
- Ask the environmental project manager for advice in planning works in and near watercourses;
- Vehicles should not work within the water unless no other reasonable options exist;
- All construction machinery operating in-stream should be mechanically sound to avoid leaks of oils, hydraulic fluid, etc;
- Machinery should be steam cleaned and checked prior to commencement of in-stream works;
- All reasonable steps shall be taken to prevent the transport of sediments or other matter disturbed by the works;
- Keep site tidy and do not store materials too close to watercourses or surface water features;
- Check if there are any timing restrictions to works because of protected species (e.g. spawning salmonids, otter, water vole, etc.) or landowner commitments;
- Ensure all required pre-construction surveys have been completed before starting works (these will include, where appropriate, FWPM, otter, water vole, etc.);

- Any temporary dams used should be designed to accommodate periods of high watercourse discharge and dried out sections of bed should be checked for stranded fish;
- Where pumps are also used, back up pumps should be available. Pumps should also be fitted with screens to prevent fish mortalities and ingress of debris, and the outfall to pumps be designed to prevent erosion of the receiving waters (i.e. by dissipating the flow);
- Care should also be taken to avoid pollution of watercourses with sediment and to ensure that any desilting works would not interfere with the bank sides;
- Vegetation removal should be minimised wherever possible;
- Where stock has access to the works fencing may be necessary in order to allow the regeneration of native riparian and aquatic marginal vegetation;
- Ensure construction works minimise disturbance to the current run-off regimes.

2.2 Surface Water Control

- Locate areas of high risk activities away from watercourses and drainage paths. Areas of high risk include:
 - fuel and chemical storage;
 - refuelling areas;
 - material stockpiles;
 - vehicle and equipment washing areas;
 - site compounds / parking areas.
- Minimise the volume of contaminated run-off being created by:
 - Diverting clean surface water away from areas using cut-off drains, catch pits and bunds (where necessary these can be lined);
 - Do not allow water to drain down the length of a haul road. Roads should have adequate cambers to shed water quickly and if necessary cut-off drains installed across the road.
- Minimise erosion of exposed soils and working areas;
- Minimise the area of exposed working area through phased construction
 - Reinstate exposed soil as soon as practical;
 - Roughen exposed surface;
 - Prevent water from leaving site prior to treatment;
- Ensure adequate buffer zones are identified between working areas and surface waters;
- Diversion drains should be used to catch sediment laden run-off and direct it to treatment facilities (where necessary these can be lined);
- Catch dirty run-off and treat through silt fences, silt traps, bunds, settlement tanks / lagoons, straw bales and geotextile etc. (see CIRIA C648);
- Maintain all protective measures (e.g. change bales once sediment laden etc);
- Depending on the level of contamination, silty water can be pumped over land to filter through vegetation and infiltrate into the ground provided it is carried out in line with the CAR regulations.

An appropriate buffer distance must be agreed with the Employer to allow sufficient distance for the vegetation to filter the silty water prior to reaching a watercourse.

2.3 Vegetation Removal

- Trees and shrubs should not be removed without agreement from the Employer;
- Avoid un-necessary vegetation removal;
- Where necessary leave a vegetated buffer distance of 10m between works and a watercourse;
- Only break the ground surface when works are required and initiate a phased approach;
- Comply with agreed buffer zones of vegetation as this will allow further treatment of surface water;
- Do not dispose of cleared vegetation into the watercourse and avoid debris from clearance;
- Vegetation removal can impact on bank stability and increase erosion. Ensure that all banks are restored to a condition prior to works commencing and assess what further protection may be required.

Other:

- Identify all field drains, drainage risks and ensure reinstatement is provided to the satisfaction of all interested parties;
- Ensure that all watercourses are routinely monitored for changes in water quality. If water quality deteriorates, immediately inform the site supervisor and ECOW, identify the source of the problem and implement appropriate mitigation measures;

Further information is available in:

- SEPA Pollution Prevention Guidelines: PPG5 – Works and maintenance in or near water;
- DETR (2000) Environmental handbook for building and civil engineering projects;
- CIRIA (2005) Environmental Good Practice – site guide;
- CIRIA (2006) Control of water pollution from linear construction projects – Technical Guidance – C648.

GEMP 3 – PRIVATE WATER SUPPLIES

Civil engineering works has the potential to disturb drainage patterns (horizontally or vertically) and / or the quality of water that would otherwise sustain a private water supply (PWS).

BMC is required to comply with the following in addition to any specific measures identified:

3.1 Planning

- BMC shall undertake an assessment on all properties with a PWS that have the potential to be affected by the works. Should the results of this assessment indicate a risk to the PWS then mitigation shall be developed for inclusion in a site specific PWS protection plan;
- At the earliest stage BMC shall consult the Employers ECOW about monitoring and communicating the implementation of mitigation measures to protect private water supplies;
- It may be necessary to undertake tap water quality testing of the private supply where before any possible activity takes place that could affect the water supply, to establish a baseline of current water quality to act as a benchmark (at least two occasions). This will be highlighted in the CEMP;
- Prepare a contingency plan to deliver an alternative water supply (on a temporary or permanent basis) in the event of an unforeseen problem with the existing supply;
- Liaise in advance with the private water supply users regarding details of the proposed works, the contingency measures put in place to protect the supply and any diversion works that may be needed in relation to the distribution main.

3.2 Operations

- Each PWS will have specific mitigations developed. Mitigation may include some / all of the following:
- fence off the private water supply intake (to avoid accidental damage and to deter animals) and identify relevant buffer distances;
- survey and peg out the route of the distribution main in the vicinity of the overhead line works and avoid / minimise activity within this area.
- Put in place measures to protect the distribution main where it crosses beneath an access track (having discussed these in advance during the planning stages). This might include:
- setting the existing pipe work within mass concrete;
- upgrading or rerouting the existing pipe work;
- ensure there are adequate pollution control and emergency response measures in place to deal with any accidents that could affect a water supply (e.g. spill response, leak or discharge of oily waste, sediment control etc.);
- provision of an alternative supply (temporary / permanent).
- Undertake regular health and safety briefings to construction staff. Include information on:
- presence and importance of water supply intake and distribution main nearby;
- need to protect these from accidental damage
- need to act promptly if an accidental spill or pollution incident poses a threat.

What to do if Unknown Water Supplies are identified:

- It is possible that private water supplies may be found which have not as yet been identified;
- If this happens stop work in that location and inform the site supervisor and ECOW;
- Necessary protection measures will be identified by the ECOW, in consultation with the PWS owner, specialists and relevant authorities and implemented before work can resume again in that location;
- Works should only resume within the vicinity of the PWS following written agreement with from the ECOW.

GEMP 4 - SOIL REMOVAL, STORAGE AND REINSTATEMENT

Soil is a precious resource and can provide the following functions:

- support a diverse ecological systems and provide the growing medium for crops and timber;
- absorb rainfall, delaying its movement into watercourses;
- filters or transforms chemicals that pass through it, preventing them from ending up in water or air.

Any damage to soil quality affects the long-term functioning of the soils and has an impact not only on ecological diversity and the performance and visual quality of the vegetated areas but can have

impacts off-site such as on flooding, aquifer recharge and water quality.

It is therefore essential that impacts to the resource are reduced to the minimum necessary for the works and that all work is undertaken in accordance with best practice. The methods of stripping,

storage, reuse and disposal of soil can have significant impacts on both the soil resource and other environmental receptors.

BMC is required to comply with the following:

4.1 General principles

Soil Management Process

- Unless agreed otherwise with the ECOW and within agricultural fields, all stripping must follow the following process:
- Turfs stripped to 300mm using large toothed bucket;
- Turfs stored vegetation side up and watered if drying out;
- Any remaining top soil and all subsoil layers to be removed and stored separately;
- Subsoil, topsoil and turfs replaced in same order as removed;
- Turfs reinstated vegetation side up;
- The toothed bucket should not be used to smooth over the excavation as it results in greater initial damage and slower recovery of the vegetation;
- BMC will adhere to industry best practice relating to biosecurity, including undertaking all reasonable precautions to minimise the risk of contamination and the spread of animal and plant diseases, pests, parasites and non-native species.

Stripping

- Plan soil stripping carefully in advance;
- Check all necessary pre-construction surveys have been completed prior to stripping;
- Follow all identified mitigation requirements for the location and method of stripping;
- Check whether the project archaeologist should be on site during the soil stripping;
- Where possible, strip soil during drier periods. Do not strip soil during periods of very heavy rainfall.

Storage

- Topsoil should be stripped and stored within the pre-identified areas to ensure safe storage and swift and successful reinstatement;
- If space does not allow storage and the surplus is to be stored elsewhere on the site, consult the environmental project manager in advance to agree appropriate areas;
- Separate areas must be created for the different layers and topsoil must not be mixed with subsoil layers;
- Soil storage areas should be located away from watercourses (10m) protected from run-off from adjacent areas;
- Storage areas should be reinstated to the condition prior to use for storage;
- If soil storage is being carried out on sensitive habitats, consideration should be given to storage on top of a geotextile mat and storage duration should be minimised;
- Best practice would be adopted in order to minimise the amount of compaction or other disturbance of the general structure of the superficial deposits;
- Other site works should not impact on stored soil (e.g. Construction traffic must not track over stored soils);

- Record where all removed soils are stored including the different subsoil layers (this is important as subsoil layers will need to be reinstated in the order they are removed);
- If significant soil erosion is occurring from storage piles during periods of heavy rain consideration should be given to covering the stockpiles;
- If any stored soil is contaminated it should be disposed of in accordance with the contaminated land GEMP;
- In periods of dry weather check the need for bowing to reduce dust and potential nuisance.

Reinstatement

- Stripped soil should be reinstated as close to where it was removed as possible. This will help to maintain a local seed base and the local geological / hydrological characteristics;
- Unless otherwise agreed, turfs should be reinstated following the works and orientated vegetation side up;
- Where turfs are not available, areas would be left to revegetate naturally unless circumstances require otherwise;
- Any soil found to be contaminated should not be used for reinstatement
- The reinstatement of the construction areas are to be undertaken to a high standard, using the existing soil and vegetation material wherever possible, in accordance with best practice.

GEMP 5 - CONTAMINATED LAND

It is BMCs responsibility to investigate, excavate and dispose of any potentially contaminated areas in accordance with contaminated land, environmental and health and safety legislation. Known contaminated land areas are identified in the CEMPs. Contamination could however be encountered in areas where it has not been expected and BMC must check for such areas to ensure that any risks to the environment are controlled.

BMC is required to comply with the following:

Planning the Works:

- Plan works taking account of recognised best practice and all relevant waste regulations.

Be on the lookout for:

- Signs of contamination during boring, excavating, soil stripping and similar operations (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), evidence of previous soil workings, underground structures or waste pits, evidence of made ground, old drain runs and contamination within buildings).

If contamination is suspected:

- Stop work immediately;
- Report the discovery to the site manager and ECOW who must seek expert advice and provide guidance on required measures / mitigation;
- Seal off the area to contain spread of contaminants;
- Undertake risk assessment to minimise the risk to health and safety of site workers. This should identify acceptable working methods, PPE, contact, and other required procedures;
- Clear site to ensure there is nothing that could cause fire or explosion;
- Any unexpected contaminated land that has been disturbed by construction activities will need to be dealt with as hazardous waste 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;
- Inform landowner / occupier;
- Avoid causing or spreading contamination;
- Do not stockpile contaminated soil unless it cannot be avoided. If it is necessary stockpile only on an area of hard standing to prevent contamination of the underlying area;
- Cover the stockpile with plastic sheeting to prevent infiltration of precipitation and spread of soluble contaminants and to prevent potentially contaminated wind-blown dust;

- Control surface drainage from stockpiled area. Remember water draining from a stockpile may be contaminated and require controlled off-site disposal.

5.1 Japanese Knotweed

- Is an extremely invasive and competitive plant.
- Since there are no natural pests in the UK, the highly invasive and competitive nature of the plant makes it a problem not only for native wildlife but also for the built environment and relating infrastructure. Once established Japanese Knotweed is difficult to control.
- It grows extremely densely and shades out native plants; provides poor habitats for insects, birds and mammals; devalues natural landscape; increases the risk of riverbank erosion when it dies back in the autumn; creates a potential flood hazard if dead stems fall into watercourses.

5.3 On-Site Management

- Japanese Knotweed should not be stockpiled within 10m of a watercourse; any movement of contaminated soil and Japanese Knotweed for treatment within the site boundary, within a designated area, could involve the treatment of waste and may require a waste management license; the relevant local SEPA office should be contacted prior to any such movement and treatment of Knotweed material or associated contaminated soil.

GEMP 6 - WORKING WITH CONCRETE

Cement and concrete will be used during the construction. Water contaminated with cement and concrete can be highly alkaline and can be toxic to fish, plants and animals.

If cement or concrete is allowed to enter a watercourse in an uncontrolled manner it can have a devastating impact on wildlife. There is also a physical effect since cement particles can choke the

gills of fish and also destroy their spawning grounds. Should concrete batching plants be proposed on site, BMC must identify the scale, scope and siting proposals for these prior to works commencing. The establishment of any concrete batching plant must not take place until written approval is provided by the Employer.

BMC is required to comply with the following:

- Should BMC identify the requirement to use concrete and cement within 10m of a watercourse, this should be agreed with the Employer in advance of the works;
- Areas which have been identified with important habitats or species should be avoided, where possible;
- Use only designated areas for concrete washout. No concrete contaminated water should be discharged to the water environment (including groundwater);
- Ensure all staff are briefed on the risks of working with concrete;
- Store bulk and bagged cement and concrete additives at least 10 metres away from watercourses, gullies and drains in properly secured, covered and bunded areas;
- Ensure dust from storage areas is controlled;
- NOTIFY the site manager IMMEDIATELY if you see any concrete spillages or concrete washout likely to cause pollution;
- Immediately implement the identified emergency response procedures. These include:
- Stop the action which is causing pollution immediately;
- Take immediate remedial action – block spill, place booms and absorbent materials to help soak up the spill;
- Inform the ECOW to identify more detailed required actions;
- ECOW to Inform SEPA and landowners / occupiers as relevant;
- Monitor effects of spill;
- Learn from the experience and plan site works to avoid pollution happening again.

GEMP 7 - OIL STORAGE AND REFUELLING

Petrol, diesel and oils inappropriately used, stored or disposed of can give rise to pollution of the environment. Oil and fuel can be released into the environment through:

- spillages during delivery or use;
- spillages during refuelling operations;
- spillages from hose bursts;
- inadequate storage facilities;
- spillages during attempted theft or vandalism; and
- waste materials being poured directly to drains or gullies, or being burned.

Petrol, diesel and oil are all highly harmful to plant, animals and humans. If pollution is caused, prosecution may follow. The cost of clean up and legal proceedings following a spillage / pollution incident is likely to far exceed the cost of putting proper control measures in place.

The Water Environment (Oil Storage) (Scotland) Regulations 2006 apply to any kind of oil including petrol, diesel, mineral oil, heating oil, lubricating oil, waste oil, vegetable and plant oil (except uncut bitumen) stored above ground at premises such as construction sites. The Waste Management Licensing (Scotland) Regulations 2011 also apply to handling and storage of waste oil (see Section 9).

BMC is required to comply with the following:

7.1 Protection Plan

General

- Compile a protocol for oil storage operations on site, including emergency response procedures;
- Personnel carrying out refuelling are aware of the protocol, trained in the use of spill kits and know what actions to take in an emergency;
- Spill kits should be located and maintained at all oil storage and refuelling locations and all site vehicles.

Storage

- On-site storage of oil and fuels should be avoided if possible;
- Where on-site storage of oil and fuels is required, the volumes to be stored should be minimised as far as practical through efficient management of resource;
- Clearly defined areas for the storage of oil should be identified as part of the site establishment process. The following should be considered when identifying a sites for storage:
- suitability of ground conditions e.g. can the area be protected against flood damage / inundation / subsidence;
- proximity to sensitive environmental receptors such as surface waters, surface water drainage systems; (minimum of 10m from surface waters);
- ease of access to proposed storage area for oil deliveries / refuelling;
- ability to secure proposed oil storage areas (to prevent theft / vandalism);
- Ensure no fuel stores are sited where they could be hit by moving vehicles and plant; and
- Ensure all site staff are aware of designated fuelling areas and also those areas where fuelling is not permitted.

Storage areas should:

- have an impermeable base in areas of groundwater risk (where necessary, discuss with SEPA);
- have control measures in place and have adequate spill kits easily accessible;
- be secured against damage / theft / vandalism;
- spill kits should be located and maintained at all oil storage and refuelling locations;
- storage containers should:
- comply with the requirements of the Water Environment (Oil Storage) (Scotland) Regulations 2006;
- comply with the Pollution Prevention Guidelines (PPG) 2 – above ground oil storage tanks;
- static oil storage tanks to be surrounded by an impervious bund with no surface water outlet. The bund to be capable of retaining at least 110% of the volume of the tanks;
- valves and couplings connected to oil storage tanks to be located within the bund and delivery;

- hoses to be fitted with trigger-type handles suspended back within the bund after use;
- valves and trigger filler handles to be kept padlocked when not in use;
- mobile fuel tanks (including those for generators) should be double skinned and locked when not in use;
- be of appropriate type and capacity for the contents and in good condition;
- be appropriately labelled identifying the contents.

Refuelling

- Vehicles and plant should be refuelled, where possible, at designated refuelling bays;
- Where this is not possible for operational reasons, refuelling should not be undertaken near drains or within 10m of surface waters;
- Spill kits should be easily accessible for all re-fuelling operations and drip trays used during refuelling operations.

Construction plant

- Oil, oil powered pumps, generators etc. to be positioned on impervious drip trays surrounded by earth or sand bunds and located at least 10m from any watercourse;
- Drip trays to be used to contain leakages from stationary plant equipment on site including generators, winches, compressors etc.;
- Drip trays to be used to contain leakages from stationary plant equipment on site including generators, winches, compressors etc. They should be regularly inspected.

Further information available from:

- CIRIA (2005) C650 - Environmental Good Practice – site guide;
- CIRIA (2006) C648 - Control of water pollution from linear construction sites – Technical

Guidance;

- SEPA Pollution Prevention Guidelines – Above Ground Oil Storage Tanks: PPG2;
- The Water Environment (Oil Storage) (Scotland) Regulations 2006.

GEMP 8 - DUST MANAGEMENT

Dust arising from a site may frustrate local residents / landowners and can cause air pollution. At very high concentrations, dust may cause health problems. There is also the potential for legal action, which will have cost, programme and reputation implications.

Likely issues:

- Annoyance to neighbours and bad publicity for the site;
- Claims from farmers for dust damage to crops;
- Impact on project programme and budget (e.g. compliance with statutory notices relating to dust levels / abatement notices);
- Impacts on ecology (e.g. plant growth, watercourses);
- Under the Clean Air Act 1993 and Part 3 of the Environmental Protection Act 1990, local authorities can impose limits on dust generated from a site (see Section 9).

BMC is required to comply with the following:

8.1 Protection Plan

Likely sources of dust:

- Haul roads and access tracks;
- Soil storage areas;
- Construction corridor (exposed areas following stripping);
- Material transportation;
- Loading and unloading materials;
- Crushing / screening activities;
- Transport of mud onto the public highway;

Control methods:

- The site compound areas will be 'hardstanding';
- Inspect areas at risk daily, especially during dry weather;
- Vehicles carrying bulk materials should be sheeted if could give rise to dust;
- Keep all public roads well swept and bowse if required;
- Limit vehicle speeds along dusty haul roads;
- Do not use drills that are powered by compressed air unless appropriate control measures are in place;
- Mud should not be deposited on roads. Where applicable, have wheel cleaning facilities prior to vehicles leaving site;
- Suppress dust from soil stockpiles, haul roads, stripped working corridors and material storage areas, by bowsing with water, where required;
- Hand-sweeping and a road sweeper would be employed to clear up any deposited material to roads;
- Wind conditions should be monitored throughout the works, and backfill material would be dampened down when dust generation which could affect the public and road users is likely;
- Keep height of soil stockpiles to a minimum and gently grade the side slopes;
- Store materials away form the site boundary;
- Minimise the height of fall of materials;
- Reduce the height that materials are unloaded from;
- Planning activities to ensure that, as far as practical, particularly dusty activities are not carried out in unsuitable weather conditions (i.e. very dry / windy) unless suppression is in place;
- Identifying any nearby dust sensitive receptors and adopt appropriate measures;
- Communicating dust management procedures to all relevant personnel and training if required;
- Follow-up any complaints immediately and take action to avoid a repeat complaint;

Further information available in:

- BRE (2003) Control of dust from construction and demolition activities;
- DETR (2000) Environmental handbook for building and civil engineering projects;
- CIRIA (2005) Environmental Good Practice – site guide.

- Waste storage areas should be appropriately secured to ensure to prevent pollution;
- Controls to prevent wind blow (e.g. covered skips);
- All wastes that could leach or be entrained in water run-off should be stored on an impervious surface with barriers to lateral flow;
- Storage of liquid wastes should be stored on impermeable surfaces within a secondary containment system, ideally a bund with 110% capacity of the container;
- Segregation of waste at the point of generation should be provided by the use of designated storage areas / containers to ensure cross-contamination is reduced;
- All storage areas / containers should be clearly labelled to identify the waste type and properties;
- Keep the duration of storage to the minimum required.

Special waste storage:

- Weekly inspections should be undertaken for leaks, corrosion etc;
- Separate all waste streams at source. Incompatible wastes such as chemicals that, if mixed, may react together;
- Provide written instructions for storing and disposing of each type of waste
- Maintain an inventory of the special wastes stored on each site, quantities, and location.

Movement:

- All movement of waste should be undertaken in line with the relevant waste regulations;
- Any waste being transported off site should be done so by a registered waste carrier;
- A waste transfer note / special waste consignment note should be completed and retained prior to waste leaving the site;
- Before waste is allowed to leave site, the producer should ensure that the site it is being transported to is appropriately licensed;
- Vehicles transporting waste should be suitably secured so as not to allow waste to escape.

Reuse, Treatment, Disposal:

- All re-use, treatment and disposal of waste must be undertaken in line with an appropriate waste management licence (WML) or an exemption to require a waste management licence (WMX);
- If it can be proven that the material is not waste, it will not fall within these requirements;
- WML's and WMX should be applied for or registered with SEPA prior to undertaking the activity;
- No burning of waste is permitted on site;
- No fly-tipping is permitted.

Monitoring/Auditing:

- Regular audits should be undertaken to ensure that the SWMP is being fully implemented.

Some useful links on waste management are:

- www.wrap.org.uk;
- www.bre.co.uk;
- www.smartwaste.co.uk;
- www.dti.gov.uk;
- www.ciria.org.uk;
- www.netregs.gov.uk;
- www.envirowise.gov.uk.

GEMP 10 - WORKING IN PEAT, BLANKET BOG, WET HEATH AND DRY HEATH HABITATS

This section of the CEMD includes plans for specific on-site activities in peat. These guidance plans are generic and should be developed and further detailed before construction begins for each particular location where working in peat is a constraint.

BMC is required to comply with the following:

General

- Peat stripping and removal should be kept to an absolute minimum;
- The access track routes and tower locations have been selected to avoid, wherever possible, areas of deep peat;
- Maintain local hydrological conditions necessary for peat formation, maintenance and regeneration whilst taking into account sensitive habitats adjacent to works area;
- Ensure that large loads do not compress peat and create a barrier to water movements which could cause pooling at one side of corridor and drying out at the other, or cause peat slump by displacement;
- Consider how site will be restored / reinstated on completion of the works;
- Define a water management strategy for working peatland areas in consultation with the ECOW;
- Vehicle movements on untracked ground should be limited to reduce the impact of construction on soil compaction and surface vegetation loss;
- Access to the site must be done as efficiently as possible avoiding unnecessary movements back and forth. The use of multiple parallel access track-ways should be avoided where possible as this will cause damage over a wide area leading to possible damage to sensitive areas;
- For transportation across peat areas, use temporary matting (e.g. trackway geotextile membranes, timber log mats or bog mats) unless agreed otherwise with SSEN;
- Access to peatland habitats is restricted to low ground pressure vehicles and excavators at all times;
- Always seek advice from the project ECOW on working methods within peat areas;
- Areas where rain water has been flowing over the surface should be identified in advance.

Post installation inspections should be made to identify whether any of the pre-construction areas show signs of soil erosion where water is flowing over large tracks of the trenches. Locally designed

drainage channels or pipe systems to conduct water across cable trenches should be constructed to minimise post-construction damage and to allow better opportunities for re-vegetation.

Access track construction

- A tracked excavator should proceed the trenching works and remove turfs to a depth of 300mm using as large a toothed bucket as is practical;
- Turfs and soil should be stored to the side of the excavation. Where this is on good quality blanket bog storage should be on top of a geotextile membrane;
- Turfs should be stored root side down and should remain in the storage location until required for reinstatement (this is to avoid multiple handling and reduce the potential for turfs becoming unstable);
- Turfs, peat and subsoil should be stored separately;
- Stored peat should be regularly checked for signs of drying out. If drying out is occurring the storage areas should be sprayed with water to maintain moisture content;
- Subsoil layers and peat layers should be reinstated in the order they were removed and the turfs should be reinstated root side down;
- Design of works should avoid the potential for concentrated discharges of water onto the hill slopes;
- In particularly susceptible areas, the use of drainage ditches may be necessary upstream of the construction corridor. These should only be installed following advice from hydrological specialists and the Employers ECOW;
- Working in areas of peatland should be avoided, as far as practicable during times of the year with the highest rainfall, and stripping of peat / reinstatement should stop during periods of sustained heavy rainfall.

GEMP 11 - BAD WEATHER

It is important to consider the implications of poor weather conditions and associated environmental risks. Bad weather, particularly heavy rain, can cause significant environmental impacts during construction (for example, on sensitive habitats and increased risk of sediment laden run-off into surface waters).

BMC is required to comply with the following:

- Identify an action plan before construction starts with a protocol of measures to implement in times of bad weather. This should include heavy rain, high winds, snow and frost;

- The weather forecast should be checked on a daily basis and thought should be given to possible sudden changes;
- Ground conditions should be checked regularly and assessment made as to whether they are suitable for the proposed site activities;
- Check whether plant is causing unacceptably high damage on site because of poor ground conditions (involve the ECOW)
- Consider whether plant could be at risk if used in areas which are too wet;
- Plan for high run-off in advance and Identify protection measures (silt traps, straw bales and booms etc);
- Check for any materials stored close to watercourses during construction activities which could be washed into the water in times of storm;
- During times of excessive rainfall and ground saturation, stripping and reinstatement works should not be undertaken.

GEMP 12 - RESTORATION

In order to undertake restoration to an acceptable standard (ensuring that the previous habitat and vegetation is reinstated to as near the original condition as possible), it is important to plan the works in such way as reinstatement is achievable. The way in which stripping, storage and replacement of soils / turfs is undertaken can significantly increase the successfulness of any reinstatement. The following guidance should form a basis of the restoration plan for the project. A site restoration plan should be included with the CEMP. It is noted that BMC is to assume that unless authorised by the Local Planning Authority all access is to be restored to original condition. It is recommended that BMC assume a pro-active approach to restoration i.e. use of temporary access materials such as Trakway and appropriate low pressure construction vehicles particularly in areas of wet ground is encouraged. BMC is to assume that all decommissioned tower bases will be removed to 1.5 m below grade.

Planning Construction Works

In planning the detailed construction works seek to avoid intrusive work wherever possible. There will be less restoration required once construction is finished.

Seek to:

- avoid major earthworks wherever possible;
- retain natural features such as rocky outcrops wherever possible to aid in successful restoration;
- avoid loss of mature trees wherever possible; for example, remove young regenerating birch in preference to mature trees which may have biodiversity and landscape value and will give structure to the finished works;
- site tracks and micro-site route around groups of trees where possible to leave natural features rather than dissecting groups / copses which again will reduce the necessary restoration works;
- when crossing hedges or walls plan to use gaps to avoid reinstatement works;
- where possible plan to push trees over which require to be removed and leave on site (unless not considered appropriate by the environmental representative) which will help naturalise the area which is disturbed and promote biodiversity;
- take account of archaeological resources and seek to avoid;
- design any permanent drainage ditches to be as natural as possible (not too straight and engineered but with varied banks and alignments etc);
- design drainage measures carefully to avoid unnecessary long term effects on adjacent habitats which could be difficult to restore;
- plan all site activities to reduce the need for vehicle movements. This will help in final restoration by minimising compression etc.

Planning Restoration:

- Restoration at the end of the works will always be more successful if planned in advance.

Always:

- ensure that detailed restoration plans take account of specific habitat types and locations;
- plan restoration in advance of working on-site - this will save time and money at a later stage and will ensure that opportunities are not lost and a more successful outcome is achieved;
- identify where soils and peat and turfs will be stored with input from the site environmental representative(s);
- discuss restoration proposals with the environmental representative(s);
- take account of all agreements included in this CEMD and commitments register;
- take account of all environmental interests, for example, seek to enhance local biodiversity but not by planting on sensitive archaeological or geological sites;
- If any seeding is required this will need to be agreed with SSEN, ECoW and SNH.

Remember different seed mixes will give different colour in the final design- seek to avoid creating 'stripes';

- plan how monitoring of restoration will be undertaken and by whom and when;
- consider how deer pressures (grazing and wallowing) may affect the success of planting and plan restoration works accordingly;

- plan restoration taking account of run-off erosion risks on steep slopes in poor conditions; be aware of the potential for sediment rich run-off to smother sensitive or newly established communities in poor weather conditions and seek to curtail this.

Early Works:

Some early works will help in achieving more successful final restoration. These include the following:

- always take photographs of the site before works start to guide later restoration including of any drainage that will be disturbed;
- strip turfs and vegetation carefully and use in temporary works to prevent erosion;
- turfs can be stored successfully in cut-off ditches in some locations which can aid attenuation and prevent turfs/vegetation from drying out;
- store top soil and subsoil separately according to best practice;
- store stripped materials in immediate location or as close as feasible for future re-use in site restoration as close as possible to the location from which they were removed from;
- keep a record of where all soils and turfs are stored;
- remove large boulders (rather than cover) to replace in restoration works;
- remove noxious weeds in accordance with best practice. Do not allow unnecessary spread or this will compromise the success of final restoration works;
- seek to avoid compression of soils as much as possible on restoration. Drainage may be impeded and may result in extensive rush areas being created;
- during construction seek to avoid creating eroded areas which can be difficult to restore successfully.

Final Restoration

At the end of construction in any area the site must be restored carefully and sympathetically taking account of all required mitigation and of the conditions. The following principles should also be

adopted where appropriate:

General

- undertake restoration works in suitable weather conditions - wet ground conditions can be difficult as can hot dry and windy spells;
- restoration should ensure the successful integration of the site with surrounding land uses and habitats;
- all field, roadside or other boundaries disturbed during construction operations would be reinstated using the original materials (in the case of stone dykes, this having been carefully set aside for re-use) or to the original specification and to at least the pre-existing condition, or better;
- natural regeneration of habitats should be promoted in all appropriate areas;
- where hedgerow field boundaries are removed they are to be replanted with the same species and at the same spacing intervals;
- any required replanting and / or reseedling should be undertaken at appropriate times of the year and with the agreement of landowners / occupiers (and SNH if within designated sites);
- any required replanting and / or reseedling should be undertaken at appropriate times of the year and with the agreement of landowners / occupiers (and SNH if within designated sites);
- identify the most appropriate machinery to use for restoration in any area (small digger or large machine etc) according to the sensitivity of the habitats and the extent of areas to be restored (take advice from the site ecologist);
- undertake small sections of the site for restoration and monitor success with input from the site environmental representative(s) before restoring large areas.

GEMP 13 - FORESTRY

The Employer requires that best practice is implemented at all times by BMC. The following is provided as a guide to the standards that will be expected during forestry works:

- All tree works should comply with BS 5837 (2012) – Trees in Relation to Design, Demolition and Construction.
- Vegetation should be left well balanced with natural crown shapes.
- Pruning must also take into account the vegetation re-growth expected in the interval between cuts. This will vary widely between plant species and sites.
- Avoid all recognised injurious practices such as:
 - Topping or lopping to an arbitrary height or branch length.
 - Flush cuts.
 - Unbalancing a tree crown by excessive one-sided pruning.
 - Inappropriate use of flailing.
- Climbing damage - Care shall be taken to avoid injuring thin and weak barked species by inappropriate use of rope access techniques on trees (such as use of climbing irons) on trees to be retained.
- Access damage - Vehicle access and treatment of arisings shall avoid injury to low branches, stems, root buttresses and feeder roots.
- Spreading Disease - Appropriate regard shall be given to avoiding spreading fungal diseases.

Forestry Commission Biosecurity Guidance should be followed. Consideration should be given to landowners' requirements for treating stumps.

- If the only pruning option is to severely reduce or unbalance a tree, then coppicing, or felling and replacement planting are often better options and shall be agreed with the landowner.
- Presentation of produce should be in neat, safely stacked piles ready for forwarder/tractor pickup, where required.
- Cut and present material as agreed with the Environmental Project Manager and defined in the scope of works.
- Sites shall be left tidy, with brash and stumps cut low and neatly with any hinge or jagged spikes removed, to prevent them becoming a trip hazard or an obstacle to vehicles. Remove all litter from site.
- Utilise brash to assist with the access requirements for felling and construction machinery and give consideration to rights of way by transient wildlife. Small piles of brash and timber may be left on site at specific, identified locations in the interest of increasing biodiversity.
- Leave watercourses, culverts and ditches undamaged and clear of arisings. No felling into watercourses is allowed. The Forestry Commission publication 'Forest and Water Guidelines' (Ver 4) should be followed.
- Local drainage systems to be maintained and not damaged or interrupted by the felling works.
- Avoid damaging those standing trees which are to be retained.
- No fires should be lit on site.
- A root protection zone should be identified around all trees to remain on site that are within close proximity to the works area to ensure that no accidental damage is caused to the tree roots.
- No material arising from access works or another site works must be stored within the root protection zone or stacked against trees
- Mulching should be used where there is a need to clear the site of tree residue or where trees or areas are too small to fell commercially (typically, a minimum top diameter of 7cm will be commercially recovered). The resultant mulch is to be partially incorporated with the vegetation layer.

GEMP 14 - NOISE AND VIBRATION

- Works will be scheduled so that high noise producing activities are not carried out on Saturday afternoons, where practicable.
- Staff must show consideration to the sensitive receptors, including residential neighbours, and must not generate unnecessary noise when walking to and from the site, or when leaving and arriving at work;
- SMART self-adjusting reversing alarms will be used;

- Equipment will be fitted with effective silencers/insulation of the type recommended by manufacturers;
- Acoustic shielding to be used where appropriate and practicable;
- All plant will be regularly serviced, maintained and operated in accordance with manufacturers' instructions to minimise extraneous noises arising from mechanical vibration;
- Machines that are intermittently used will be shut down in the intervening periods between work or throttled down to a minimum;
- Engine compartments will be closed when equipment is in use;
- Mobile equipment will be situated as far as is reasonably practicable away from occupied buildings; and
- All complaints will be recorded and investigated and any corrective actions implemented. Additionally, should any complaints arise regarding vibration, these will be investigated.

GEMP 15 – EMERGENCY PROCEDURES - Environment

In the event of a pollution/environmental incident the following general emergency procedure will be implemented immediately.

- Assess the situation. Determine the source, composition and approximate quantity of the material entering the water environment and determine whether you have the appropriate equipment, PPE and training to tackle the pollution incident.
- Get the help you require to deal with the pollution event safely. Inform the Site Supervisor of the incident. They will contact the Project Manager, ECoW and the 24hr Contact (where required).
- The following protocols will then be adopted:

STOP the source of the pollution; this may involve stopping works.

CONTAIN the pollution material using suitable equipment including boom, spill kit, suitable inert material (e.g. sand), and installing silt mitigation (e.g. straw bales, silt fencing, clean stone) to prevent further material movement. DO NOT allow the pollution to enter further into the water environment (i.e. local drainage system).

REMOVE the pollution. Fuel spills can be removed using spill mats/granules or may require a pump from a specialist contractor. Silt may also need to be pumped out of holding tanks for private water supplies. Booms can be deployed to absorb oil spills in holding tanks and collection ponds.

DISPOSE of the waste material. Used spill kits MUST be placed in a designated COSHH bin separate from all other waste streams. Material which has been pumped may be stored in labelled, empty oil drums or other suitable container prior to removal from site by a registered special waste contractor.

REPORT the incident. Complete an Incident Report Form.

SEPA must be informed in the event of pollution to the water environment including a surface water drain/waterbody or the sea; Scottish Water and the Local Authority must be contacted should pollution from Site enter a surface water or foul drainage system.

REVIEW the event to determine any actions required to prevent the incident from recurring. Review the effectiveness of the response plan and make any changes necessary.

APPENDIX A SPECIES PROTECTION PLAN

1. BREEDING BIRDS

1.1. Introduction

Construction works have the potential to negatively impact on breeding birds as a result of either direct destruction of nests or disturbance which may result in breeding failure. In addition, some particularly sensitive species are liable to disturbance outwith the breeding season.

This Species Protection Plan (SPP) outlines the procedures that must be followed where there is a potential for breeding birds to be affected. It explains the responsibilities of SSEN, BMC and its Contractors, the legislative protection for birds, and the measures required to minimise impacts on birds and thereby the risk of criminal offences being committed.

1.2. Responsibilities

It is BMC's responsibility to comply with all the requirements of this plan and it is both BMC's and SSEN's responsibility to monitor compliance with the plan.

1.3. Legislation

1.3.1. Wild Birds

All wild birds are protected by law under the Wildlife and Countryside Act (WCA) 1981 (as amended). Recent and significant changes have been made to the protection of wild birds in Scotland by The Nature Conservation (Scotland) Act 2004.

It is an offence to intentionally or recklessly:

- Kill or injure any wild bird;
- Capture or keep [alive or dead] any wild bird;
- Destroy or take the egg of any wild bird;
- Sell or advertise for sale any wild bird or its eggs;
- Destroy, damage, interfere with, take or obstruct the use of the nest of any wild bird while it is in use or being built.

1.3.2. Schedule 1 Birds

Additional protection is given to rare breeding birds listed under Schedule 1 of the WCA. It is an offence to intentionally or recklessly;

- Disturb any Schedule 1 species while they are nest building, or at a nest containing eggs or young;
- Disturb the dependent young of such birds.
- Also with specific reference to capercaillie the Act makes it an offence to:
- Intentionally or recklessly disturb capercaillie at lekking sites.

Reckless acts would include disregard of mitigation aimed at protecting birds, resulting in killing, injury, and/or disturbance of birds or their nests.

1.3.3. Schedule 1A and A1 Birds

Further protection is given to birds listed on Schedule 1A and A1 of the Act, making it an offence at any time of year to:

- Harass a white-tailed eagle, golden eagle, hen harrier and red kite (1A); and
- Damage a nest of a white-tailed eagle or golden eagle (A1).

At present it is not possible to obtain a derogation to disturb Schedule 1 breeding birds or destroy nests of any wild breeding birds for the purposes of development. However, the control of certain species is licensable in a restricted number of circumstances such as for reasons of public health and safety. A licensing system is also in place for surveying protected species if a disturbance offence is possible.

Further advice is available on the SNH website (<http://www.snh.gov.uk/protecting-scotlandsnature/protected-species/which-and-how/birds>).

1.4. Protection Plan

In advance of construction at any location where breeding birds may be present, it is essential that this plan is followed.

Pre-construction/dismantling surveys and data collation

1. Pre-construction / dismantling surveys for breeding birds will be completed a maximum of 12 months prior to start of any works in a particular area, and at an appropriate time of year, to ensure availability of up-to-date information to inform any mitigation measures required.
2. Surveys will be carried out by suitably experienced ecologists / ornithologists using methods agreed with SNH under Survey Licences where required.
3. Pre-construction / dismantling surveys will:
 - be undertaken in accordance with SNH's Guidance on Assessing the Impact of Overhead Power Line Proposals on Birds for overhead lines.
4. Relevant local recorders/field workers, e.g. raptor workers, will be contacted at the pre-construction phase for recent records of sensitive species that might be affected.

1.5. Review of Works

1. The Ecological Clerk of Works (ECoW) will review whether construction activities are likely to affect breeding birds and, if so, what mitigation options are available. A hierarchical approach to mitigation will be applied to any occupied bird habitat that may be affected under the Project works, as detailed in the "General mitigation" section below. Priority will be given to assessing and mitigating impacts to species listed on Schedule 1.
2. Construction teams will be advised of existing / new constraints together with mitigation options by the ECoW.
3. Project Geo-databases and / or relevant site documentation, e.g. Environmental Management Plans (EMP's), will be updated with new and amended information as it is produced, with changes communicated to appropriate staff as required.

1.6. General Mitigation

1. This SPP is designed to provide BMC and Ecological Clerk of Works (ECoW) with an approved methodology for protecting breeding birds.
2. The ECoW will attend site on a regular basis throughout the construction period to ensure all environmental mitigation relevant to breeding birds is delivered.
3. A hierarchical approach to mitigation of Programme / Avoid / Risk Assess will be applied to any birds that may be affected under the Project works.
 - Where practicable, works will be programmed outwith breeding season see <http://www.snh.gov.uk/about-scotlands-nature/species/birds/scotlands-birds/> for information on breeding seasons) for areas likely to contain numerous breeding sites (e.g. forestry areas).
 - For key specially protected or sensitive species, appropriate protection zones will be established upon confirmation of nest building / breeding taking place.

Protection zones will also be set out by a suitably qualified ECoW for all breeding birds and those species whose roost sites are also protected i.e. red kite and hen harrier. No works will be carried out within these zones whilst birds are:

1. building or using their nest,
2. still dependent on the nest site, or
3. present at roost sites. The ECoW will advise when it is safe for works to be carried out.
 - During the breeding season (or whilst birds are roosting at other times of year) where programme critical works must be carried out within the protection zones, the ECoW will carry out a Protected Species Risk Assessment to assess whether disturbance can be avoided during the works. Considerations will include the species involved, local topography, natural screening, type of works and existing levels of human activity, e.g. farming, forestry and habitation.
4. The protection zone may then be reduced if it can be demonstrated and agreed by a Specialist Adviser and / or SNH as required, that works will not cause disturbance.
5. Monitoring will be undertaken by the ECoW or Specialist Adviser, where appropriate, to ensure no disturbance is caused.
6. An emergency procedure will be implemented by site workers if breeding birds are encountered. All work within 50 m (non-scheduled species), and the ECoW will inspect the site and define any mitigation in line with this SPP.
7. In exceptional cases, standard mitigation measures (as outlined above) may be insufficient. In such scenarios, mitigation will be determined on a case-specific basis. No construction works would be undertaken within the protection zone until mitigation has been agreed (in consultation with SNH if required).

1.7. Specific Mitigation

Dissuasion techniques may be used to make areas less attractive to nesting birds or birds returning back to a previous nesting location (dissuasion will not be carried out where there is potential to harass Schedule 1A species, or interfere with / damage a Schedule A1 nest). Dissuasion may include felling of trees / clearance of scrub prior to the breeding season commencing or placement of bird scarers / frightening devices.

Should any bird nesting attempts be found within the footprint of construction, an appropriate protection zone will be marked around the nest. A suitably qualified ecologist will then ensure that works do not affect any nest, bird, eggs or young at this location, through micro-siting or re-programming of works as per the general mitigation outlined in this SPP.

1.8. Habitat Management

Scrub clearance / felling / strimming may be used to discourage birds nesting prior to the start of the breeding season in suitable areas. This method has a dual purpose in also in dissuading reptiles / small mammals. For strimming a sward is cut to a height of 2-5cm depending upon vegetation type and ground conditions and this can be achieved by hand trimmers or mechanical means depending upon the ground conditions. The advantage of this method is that the vegetation can be cleared in advance of the works and in slow growing areas, i.e. heath, there is a potential for the site to remain free of constraints for a longer period of time. The ECoW will advise on the potential for other ground nesting species to occupy these areas; in such instances, scaring may be appropriate in conjunction with the management of sward height.

Clearance of habitat will be undertaken outwith the breeding season; scarers will be placed no later than 10 days before construction commences. Weekly walkover checks by a suitably licenced and experienced ecologist shall then be undertaken to ensure that the mitigation measures are being effective.

1.9. Active Dissuasion / Disturbance

1. At sites where there will be a high level of human activity, noise and possible vibration from construction activities this should dissuade some nesting activities ; and
2. Areas identified to be at risk of nesting birds will be identified and disturbance levels at these locations will be increased. Sites will be visited regularly to dissuade birds from nesting (this may include tower climbing on overhead line projects).
3. Several types of bird scarer/ frightening device can be used, and are detailed below. The use of each should be determined by the ECoW.
4. Hawkeyes are probably the most effective of the bird scarers that have been used on the previous projects. A small number of these have been effective in deterring birds from nesting within construction areas. These will be deployed prior to the start of the breeding season and moved around the compound to stop the birds becoming accustomed to them.
5. Ticker tape can be used in more sheltered areas and can work well however they can be difficult to attach to poles/canes and work best on fencing such as that for the compounds.
6. Scarecrows can be constructed using old PPE and are a cheap way to supplement the Hawkeyes.
7. Once deployed, scarers will be kept on site for a period sufficient to minimize the risk of birds settling on site during the works.
8. As construction commences, suitable nesting sites within the construction footprint will normally be reduced. The frequency of ongoing checks will then be decided by the ECoW on a site by site basis.

1.10. Removing Disused Bird Nests

The objective of this mitigation is to provide specific guidelines for the protection of birds and their nesting places before and during construction works, but also to facilitate the removal of old or disused nests where required for construction or maintenance works, such as:

1. In substations where birds have nested on equipment causing a fire risk;
2. In order to allow dismantling of redundant towers; or
3. Where the presence of a nest interferes with construction, maintenance or upgrading of overhead transmission lines.

Not specially protected birds:

1. It is an offence to remove any birds nest while it is being built or in use and it is an offence to take, destroy or possess the egg of a wild bird.
2. If a bird nest is to be removed then it must be shown to be disused.
3. Before a nest of any species is removed, where there is any doubt as to whether the nest is in use or not, it will be monitored by the ECoW over a period of a week. Direct observations of nests will be

made on the 1st, 3rd and 5th days as well as monitoring from suitable vantage points and where necessary with camera traps. The nest will be removed only when there is clear evidence that the nest is disused and no eggs are present.

4. Should eggs be found, the nest will not be moved until a licence has been obtained from SNH for the taking of the eggs.

1.11. Schedule 1 Species

For white-tailed eagle and golden eagle (Schedule A1) it is an offence to remove or damage a nest at any time, regardless of whether it is currently in use.

The disused nests of any other Schedule 1 or Schedule A1 species needing to be removed will be subject to an assessment and agreed with SNH. The assessment will detail the needs case for removal, bird species involved, monitoring, information about the nest and clarification of whether it is in habitual use, habitat and any further nests within the area associated with that bird. Nest monitoring will be undertaken by a suitably licensed and experienced ecologist and / or Specialist Adviser.

APPENDIX B – SPECIES PROTECTION PLAN - OTTER PROTECTION

1.1. Introduction

Otter is a European Protected Species and is afforded a high level of protection in Scotland. This Protection Plan provides guidance procedures for the protection of otters and their shelters during construction works. The Plan contains two parts and details the procedures that must be followed where there is potential for otter to be present (Part 1), and where a Project Licence for otter has been issued by SNH to cover the project (Part 2):

1.1.1. Part 1: General Protection Plan

This Part applies to all projects where otter may be present and is issued to Contractors as part of the Construction Environmental Management Document (CEMD). Part 1 outlines the responsibilities of SSEN and BMC regarding protection of otter. It also details relevant legislation, survey requirements, general mitigation measures and the requirement for licensing and mitigation.

1.1.2. Part 2: Project Licence Protection Plan

This is provided to Contractors in addition to Part 1 for large projects where a Project Licence has been issued by SNH to cover the work and identifies those activities and protection / mitigation measures which are permitted under the Project Licence and those activities which require a Method Statement to be submitted to SNH for written approval before works can commence. This Part should be followed in conjunction with Part 1 and the relevant Project Licence to provide approved guidance and methodologies for carrying out work.

1.2. Part 1: General Protection Plan

Otters (*Lutra lutra*) are members of the weasel family with a widespread distribution in Scotland. They are largely solitary, semi-aquatic and obtain most of their food from rivers or the sea. Otters living on rivers may travel distances of 16 km or more at night. They use two kinds of shelter – underground holts and above ground couches. Otters may dig their own holts but they often enlarge existing structures such as rabbit holes so identification can be difficult. Couches may be nest-like structures or simply a depression in a stick pile or under a windblown tree. Each individual will use multiple shelters and holts can be located up to 500m from watercourses. Otters may have cubs at any time of year.

Breeding sites are generally found in areas with the following characteristics:

- Relatively undisturbed by humans / ungrazed by stock.
- Close (<50 m) to water but rarely flooded or just above the floodplain level.
- Containing patches of dense cover (e.g. scrub thickets, deciduous woodland, young conifer plantation, heather, log piles, tree roots, rock piles, stands of tussocky tall fen vegetation, or reed beds).

Signs of otter:

- Spraints (droppings) which have a high mucus content and are often formless, generally black or greenish –black in colour and may contain obvious fish bones or scales.
- Otter prints and tracks – otter paths are 12-15 cm wide and normally connect with water and holts they are marked with spraints. Otter prints are about 6 cm wide and have five toes.
- Feeding remains – hard parts of crustaceans, unpalatable bits of amphibians and bony parts of fish.
- Otter shelters - holts or couches.

1.2.1. Responsibilities

It is BMC's responsibility to comply with all the requirements of this Protection Plan where otter may be present, and it is BMC's responsibility to monitor compliance with the Protection Plan. The responsibility for applying for any Licence, including a Project Licence, may vary from project to project, but all applications and mitigation works will adhere to this plan.

1.2.2. Legislation

Otter is a European Protected Species (EPS) protected under Annex II and IV of EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive).

The Habitats Directive is transposed in Scottish law by the Conservation (Natural Habitats &c.) Regulations 1994. Otter is listed on Schedule 2 of the Conservation Regulations 1994. The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2007 enhanced this protection. Current Legislation means that otters and their shelters are fully protected in Scotland. In summary it is illegal to:

- Deliberately or recklessly kill, injure or take (capture) an otter;
- Deliberately or recklessly disturb or harass an otter;
- Damage, destroy or obstruct access to a breeding site or resting place of an otter (i.e. an otter shelter).

1.2.3. Surveying for Otters

1. Surveys for otter must be undertaken in all works areas containing suitable otter habitat, a maximum of 12 months prior to the works commencing, (this includes site investigations), to ensure the availability of up-to-date information on shelter locations.
2. Surveys must extend for a minimum of 200 m beyond working areas, including access tracks.
3. Surveys must be carried out by suitably qualified and experienced ecologists and will identify whether any active holts or places of shelter are likely to be affected by the works. Normally work within 30 m of a non-breeding shelter is regarded as likely to cause otter disturbance and will therefore require to be covered by a licence from SNH. However, works generating high noise / vibration levels (such as pile driving or blasting) can cause disturbance to non-breeding sites up to 100 m. Any work within 200 m of a breeding otter holt / shelter should also be regarded as capable of causing disturbance.
4. Appropriate monitoring (e.g. the use of suitable camera traps) should be undertaken where required to determine if any holt / place of shelter is being used for breeding. Camera trap monitoring may also require a Licence from SNH.
5. Active shelters will be classified as:
 - Holt: Underground or other fully enclosed structure (can range from enlarged rabbit holes and cavities amongst tree roots to rock piles and manmade structures).
 - Place of Shelter: Can be either a Couch / Lie-up - an above ground semi-enclosed resting place (e.g. under overhanging river banks / tree root plates); or Hover – a nest-like structures (0.3 -1 m in diameter) constructed from nearby vegetation or a depression in a stick pile or under a windblown tree.

1.2.4. Review of Otter Survey

Once an otter survey has been carried out, the ECoW should review the survey results, apply the mitigation hierarchy outlined below and decide if a Licence is required (either Individual or Project) for the works.

Construction teams should be advised of existing / new constraints, together with mitigation and licensing requirements by the ECoW.

Relevant site documentation and project information sources should be updated with new and amended information on otter constraints as it is produced, with changes communicated to appropriate staff immediately.

Note: Information from any previous surveys (e.g. surveys carried out to provide data for EIA or other Assessments) can be a useful guide to otter activity in an area, particularly if holts were recorded. However, surveys will always require to be updated if carried out more than 12 months prior to works commencing.

1.3. Mitigation Hierarchy

There is a general presumption against works being carried out which could disturb otters in their place of shelter or to destroy / exclude any holt. A hierarchical approach to mitigation of Avoidance - Disturbance - Destruction will be applied to any holt / place of shelter that may be affected.

1.3.1. Avoidance

This is the preferred option for active holts / places of shelter identified within 30 m of works (100 m for high noise / vibration activities) or 200 m for confirmed breeding sites or. Protection zones of either 30m, 100 m or 200 m should be marked and signed on the ground with appropriate material to restrict work access. Protection zones must be maintained until works are completed. Site staff should be briefed of their purpose through a Toolbox Talk and works micro-sited out with the protection zone. If otter disturbance can be avoided in this way, there is no need to obtain a Licence from SNH for the works.

1.3.2. Disturbance

For any works required within 30 m of active holts / places of shelter (or 200 m for confirmed breeding sites), and for high noise / vibration activities such as pile driving or blasting within 100 m of holts / places of shelter, a Licence from SNH will be required (either Individual or Project).

Individual Licence applications to SNH should be accompanied by a Protection Plan which outlines how disturbance will be minimised and holts protected, for example through screening of works and modifying protection zones. If a Project Licence is in place, and a breeding holt will be disturbed, a Method Statement

must be submitted to SNH for written approval in accordance with Part 2 of this document, prior to any works commencing.

1.3.3. Destruction

Destruction of holts / other places of shelter should only be undertaken as a last resort. For destruction of active holts / places of shelter a Licence will be required from SNH (either Individual or Project)

Individual Licence applications to SNH should be accompanied by a Protection Plan which outlines how disturbance will be minimised and individuals protected. The plan should include monitoring to ensure breeding is not taking place and provision for the creation of an artificial holt if required. Any holt / place of shelter subject to works under Licence will be monitored during and after those works. If a Project Licence is in place, a Method Statement must be submitted to

SNH in accordance with Part 2 of this document for written approval prior to any works commencing.

1.4. Mitigation Measures

1.4.1. General Mitigation

1. All works close to waterbodies and watercourses showing signs of regular use by otters should not take place at night or within 2 hours of sunset / sunrise, if possible.
2. Where works close to waterbodies and watercourses are required at night, lighting should be directed away from riparian areas.
3. All works close to water courses and waterbodies must follow best practice measures outlined in this GEM, to ensure their protection against pollution, silting and erosion.
4. Any temporarily exposed pipe system should be capped when staff are off site to prevent otters from gaining access.
5. All exposed trenches and holes should be provided with mammal exit ramps e.g. wooden planks or earth ramps when BMC are off site.
6. An emergency procedure should be implemented by site workers if otter / otter shelters are unexpectedly encountered. All work within 30 m (100 m for high noise/vibration activities) or 200 m for breeding sites should cease until a suitably qualified and experienced ecologist has inspected the site and determined the appropriate course of action.
7. An exceptional circumstance procedure will be implemented should mitigation options not prove satisfactory in a particular case. Works will be halted whilst mitigation is determined (under consultation with SNH if required).

1.4.2. Monitoring and Reporting

1. The Environmental Representative will attend site on a regular basis throughout the construction period to ensure all environmental mitigation relevant to otter is delivered.
2. Reports will be submitted to SNH as required by the relevant Licence.

1.4.3. Licensing Requirements

Licence applications must be sent into SNH species licensing team sufficiently in advance of the project start date (approximately 40 days) to ensure the licence is in place prior to any work commencing.

1.4.4. Project Licence

An SNH Project Licence is likely to be the most appropriate form of Licence for any large scale and / or long running Project, which may result in a large number of minor unavoidable otter offences.

For example, multiple instances of disturbance to a number of otter shelters over several years. A Project Licence can be used to standardise protected species mitigation / compensation, creating consistency across the project area and throughout the Project's lifespan. Project Licences do not negate the need for thorough pre-construction survey within 12 months of the planned project start date. Any Project Licence application will need to be accompanied by the Mitigation Plan and procedures for otter included in Parts 1 and 2 of this SPP.

1.4.5. Individual Licence

For small scale Projects expected to be completed over relatively short timescales, which will result in a low number of unavoidable otter offences an Individual SNH Licence is most likely to be appropriate. Licence applications should be accompanied by a Method Statement / Mitigation Plan and should be sent sufficiently in advance of the Project start date to ensure the licence is in place prior to work commencing. Further guidance and details of how to apply for an otter Licence can be found on the SNH website

(<http://www.snh.gov.uk/protecting-scotlands-nature/species-licensing>).

1.5. Part 2: Project Licence Protection Plan

The following sections of this plan are to be read in conjunction with the Project Licence. The Licences are included in this Part of the SPP. More disruptive activities, listed in Section 1 below, will also require a specific Method Statement / Mitigation Plan to be submitted to SNH for approval (see Appendix A). It is the BMC's responsibility to submit these Method Statements to both SSEN and SNH for written approval. No works shall proceed without this written approval. Sufficient time should be allowed for in the programme to carry out any consultation work and obtain necessary approvals. The Project Licence will specify reporting requirements detailing all disturbance and destruction works carried out.

Works Allowed under the Project Licence:

Under the Project Licence there is a general presumption against works being carried out which could disturb otters in their place of shelter, or to destroy / exclude any holt unless it can clearly be demonstrated that either it is inactive (i.e. through monitoring) or that there is no alternative solution against Project timescales and requirements.

1. Activities requiring an SNH Approved Method Statement

The following activities require a formal Method Statement to be submitted and approved by SNH prior to any works commencing:

- a. Destruction of a holt at any time of year.
 - b. Disturbance to a breeding holt at any time of year.
 - c. Any exceptional circumstances not covered in this SPP.
- ### 2. Activities not requiring additional SNH approval

The following works may be carried out under this SPP and / or specific Method Statements without the prior approval of SNH, using the prescribed methodologies:

- a. Disturbance to a non-breeding holt / place of shelter at any time of year
 - i. Appropriate monitoring will be undertaken to ensure the place of shelter is not being used for breeding.
 - ii. The Agent or their representative will check, prior to works each morning, that suitable access / egress between the holt / place of shelter and a watercourse is maintained. A check will also be made of the works area to check no otter is present within construction plant / materials.
 - iii. Works can commence once the Agent or their representative is satisfied that no otter is present within the works area.
 - iv. The Agent or their representative will set up a suitable protection zone as far from the holt/place of shelter as is reasonably practicable to prevent damage and minimise disturbance.
 - v. The Agent or their representative will monitor the works to ensure compliance with the licence conditions.
 - vi. The emergency procedure detailed will be implemented if an otter is found during works.
- b. Destruction of a place of shelter at any time of year
 - i. Appropriate monitoring will be undertaken to ensure the place of shelter is not being used for breeding.
 - ii. The Agent or their representative will check to ensure that the place of shelter is not being used immediately prior to its destruction.
 - iii. If it can be determined that the place of shelter has not been used recently, no exclusion will be required prior to destruction.
 - iv. The Agent or their representative will monitor the destruction works to ensure compliance with the licence.
 - v. The emergency procedure will be implemented if an otter is found during the works.

In the event of a destruction, a report will be sent to SNH detailing the destruction works undertaken.