



Blair Hill Wind Farm

Technical Appendix 17.2

Outline Pollution Prevention Plan

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Date	December 2024
Ref	04991-8464450

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1 Introduction

1.1 Introduction

- 1.1.1 This outline Pollution Preventions Plan (PPP) is submitted by RES Ltd (RES). The principal objective of this document is to provide details of the proposed surface water drainage management arrangements for the proposed development.

2 References, Guidance and Legislative Requirements

2.1 References

- 2.1.1 This document should be read in conjunction with the following documents:
- Blair Hill Wind Farm EIAR Volume 1 - Chapter 10: Geology, Hydrology and Peat.
 - Blair Hill Wind Farm EIAR Volume 3- Technical Appendix 10.4 Peat Management Plan
 - Blair Hill Wind Farm EIAR Volume 3 - Technical Appendix 17.1 Outline Construction Environmental Management Plan.

2.2 Relevant Guidance and Legislative Requirements

- 2.2.1 All surface water drainage management relating to the proposed development will be constructed using best practice and in conformance with the requirements of the relevant regulatory authorities. The key legislation and guidance that will be adhered to, are as follows:
- The EU Water Framework Directive (2000/60/EC).
 - Scottish Planning Policy.
 - The Water Environment (Controlled Activities) (Scotland) Regulations 2011.
 - SEPA Supporting Guidance (WAT-SG-75) Sector Specific Guidance: Water Run-Off from Construction Sites, September 2021.
 - SEPA Guidance for Pollution Prevention (GPPs and PPGs).
 - Engineering in the Water Environment, Good Practice Guide, Temporary Construction Methods, First Edition, March 2009.
 - Good Practice during Wind Farm Construction, Nature Scot, 2024.
 - Dumfries and Galloway Local Development Plan 2 (DGLDP2), October 2019 (or the latest available DGC LDP).
 - Dumfries and Galloway LDP2 Supplementary Guidance: Surface Water Drainage and Sustainable Drainage Systems (SuDS), February 2020.
 - The Sustainable Urban Drainage Scottish Working Party (SuDSWP) Water Assessment and Drainage Assessment Guide.
 - CIRIA Guidance. C532, C609, C648, C649, C698, X108, C768.
 - The SuDS Manual 2015. CIRIA C753.

3 Potential Sources of Pollution

- 3.1.1 The following potential sources of pollution have been identified for the proposed development:
- Suspended solids / fines laden run-off from site won / imported stone for access track / hardstand construction.
 - Suspended solids / fines laden run-off from exposed excavations.

- Suspended solids / fines laden run-off from excavations in watercourses.
- Fuel / chemical spills.
- Concrete from spills / washouts.
- Foul drainage discharges from temporary and permanent welfare facilities.

3.1.2 The subsequent sections outline how the risk of pollution from the identified pollution sources will be mitigated

4 Pollution Prevention Proposals

4.1 Surface Water Drainage Management

4.1.1 A sustainable drainage system (SuDS) will be implemented in accordance with the principles laid out in Chapter 10: Hydrology, Geology and Peat of the EIA Report. The overarching aim of the SuDS design is to minimise, where possible, any change to the hydrology and groundwater conditions within the site. The SuDS will utilise a series of surface water drainage management techniques that will mitigate any adverse impact on the hydrology of the site.

Water Quality and Treatment

4.1.2 A surface water treatment system will be implemented for the treatment of surface water run-off from the site during the construction phase prior to flows entering receiving watercourses.

4.1.3 All temporary and permanent SuDS from the site will have a minimum three stages of treatment. A single stage of treatment is considered as any of the following:

- Conveyance through a swale;
- Filtration of water through filter media (e.g. check dam);
- Detention in settlement ponds / behind dam in overland breakout; and
- Filtration / settlement across vegetated ground.

4.1.4 Clean water (groundwater, natural overland flows, watercourses, etc.) and dirty water (from access tracks, hardstands and cut slopes) will be as far as practicably possible kept separate. Reducing the volume of water entering the surface water treatment system will significantly improve the performance of the treatment. Where appropriate, a cut off ditch will be installed to ensure that surface water run-off can be directed around areas of work and consequently reduce volumes of silt laden construction run-off.

Prevention

4.1.5 Potential causes of pollution will be managed at their source. The following working methods will be adopted to avoid mobilisation of pollutants:

- Areas stripped of vegetation will be kept to a minimum. Stripped vegetation will be reinstated on slopes as soon as possible after removal.
- Where necessary, biodegradable matting will be utilised on cut slopes to prevent washing of fines into the surface water treatment system.
- Good quality stone will be used in access track and hardstand construction. Construction material will be specified in accordance with the Specification for Highway Works (SHW). SHW compliant material does not permit the use of large quantities of fine material and therefore all material imported to site will not be heavily laden with silt / fines. Regular inspections and testing of material will ensure the construction material is compliant with the SHW.

Source Control

- 4.1.6 Potential causes of pollution will be controlled at source. Flows from excavations and hardstand areas will discharge into swales. Check dams will be installed in the swales at regular intervals to provide a level of attenuation, reduce water velocity, and promote settlement of suspended solids and silt.

Buffer Zones

- 4.1.7 Wind turbine centres are located a minimum of 60m from watercourses.
- 4.1.8 A 10m buffer zone will be employed for all main watercourses in accordance with GPP5: Works or maintenance in or near water (2017). Where this is impossible at watercourse crossing locations, works will be in accordance with the relevant guidance outlined in Section 2.2.
- 4.1.9 Washing out of concrete mixer lorries will be strictly controlled and limited to a designated wash area a minimum of 50m away from any watercourse. Where a potential risk is identified of an accidental concrete spillage into a watercourse, cut off ditches and diversion dams will be installed to channel potential spillages and run-off water to a suitable collection area. In accordance with GPP5: Works or maintenance in or near water (2017)., contaminated water shall not be pumped or allowed to flow into the water environment without treatment. Collected effluent shall be pumped out and disposed of off-site in compliance with the Waste Management Licensing (Scotland) Regulations 2011. Residual solidified concrete within the containment area would be broken up and disposed of off-site in accordance with the pertinent regulations, prior to reinstatement of the area.
- 4.1.10 Any dewatering from excavations will be via surface silt traps, check dams, and temporary settlement ponds to reduce potential silt entering receiving watercourses.
- 4.1.11 No dewatering or outflows will be permitted within the 10m buffer zones.

Control of Surface Water Drainage Management Measures

- 4.1.12 All surface water drainage management measures being implemented will be checked regularly and action taken to ensure functionality. Any sign of silt laden water entering a watercourse will be reported immediately to the Principal Contractor, the source of the silt identified and further remedial measures undertaken.
- 4.1.13 Furthermore, as outlined in the Outline CEMP in Technical Appendix 17.1, a Water Quality Monitoring Plan will be implemented to provide a management tool to monitor the effectiveness of the surface water drainage management measures in place to protect the water environment.

Emergency Pollution Procedures

- 4.1.14 The Emergency Pollution Procedure will form part of the site management procedures adopted by the site team managing the construction works.
- 4.1.15 The procedure will remain in place throughout the operational phase of the wind farm.
- 4.1.16 The Principal Contractor will act as a central point of contact for all identified pollution incidents. The Principal Contractor will inform the Ecological Clerk of Works (ECoW) as quickly as possible upon discovery of any spill or leak. The ECoW will advise on any other response requirements and contact key emergency contacts as required. SEPA should be notified via the pollution hotline number (0800 80 70 60).

5 Controlling Run-off

5.1 Flow Control Measures

- 5.1.1 Run-off will be attenuated in swales and settlement ponds. Attenuated flows will be discharged over existing vegetation prior to discharging into receiving watercourses, as per the existing drainage regime for the site.
- 5.1.2 Rate and volume of run-off will be attenuated using settlement ponds receiving flows from newly constructed hardstand areas. Attenuation features will also reduce flow velocities and allow settlement of fines prior to discharge. Flow rates will also be reduced through the integration of swales and check dams.
- 5.1.3 Access tracks and hardstand areas are to be constructed from unbound aggregate and are therefore not fully impermeable, thus helping to reduce run-off rates.
- 5.1.4 Cross drains, where required, will be provided with associated sumps and check dams. The cross drains will provide a means for flows to pass from a swale on the uphill side of the access track to the downhill side of the access track and would help maintain existing flow patterns.
- 5.1.5 In cases where the access tracks run significantly downhill, grips will be constructed in the surface of the access tracks to divert any run-off flowing down the access track into the swale.
- 5.1.6 Excavated access tracks will incorporate swales with check dams to overland breakouts over vegetation.

5.2 Preserving Site Hydrology

- 5.2.1 Existing overland flow routes and channels will be maintained. Cross drains will be provided under the access tracks at all locations where existing natural flow paths pass through the proposed access track alignment. Buried cable trenches would also be designed in a way to avoid modifying shallow flow patterns.

6 Watercourse Crossings

- 6.1.1 There are 37 existing crossings within the site, some of which may require to be upgraded, and five new watercourse crossings will be required to allow the proposed development on the Site. Consent will be obtained from SEPA under CAR for the new or upgraded watercourse crossings on the site. See Technical Appendix 10.1 Schedule of Watercourse Crossings for further details.
- 6.1.2 All works to watercourses will be carried out in accordance with CAR.

7 Foul Drainage / Treated Discharges

- 7.1.1 Disposal of sewage from temporary and permanent facilities on the site will be designed and shall be in accordance with the methods outlined in GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer, and treatment systems will be sized in accordance with British Water Code of Practice - Flows & Loads.

7.2 Permanent Sewage Treatment Systems

- 7.2.1 At the substation compound, permanent welfare facilities will comprise of toilets and sinks.

- 7.2.2 The preferred option for sewage treatment is via a septic tank with the treated wastewater to then to then discharge to a soakaway.
- 7.2.3 Infiltration tests will be carried out to confirm the infiltration properties of the existing ground in the vicinity of the substation compound.
- 7.2.4 Consents will be sought from SEPA prior to the installation of any sewage treatment system.

7.3 Temporary Treatment Systems

- 7.3.1 At the temporary construction compound, temporary welfare facilities will comprise of toilets and sinks. Temporary sewage treatment system will be installed to discharge flows into a temporary cess pit. Off-site disposal from temporary cess pits will be by a licensed waste haulier / contractor.
- 7.3.2 The temporary sewage treatment system will be removed on completion of construction of the proposed development.

8 Post Construction Monitoring

- 8.1.1 A post construction inspection programme will be implemented, with a walk over site visit to be undertaken on an ongoing 6-monthly basis (winter and summer preferably). Points to be considered during these inspections include, but are not limited to, the following:
 - Check dams and settlement ponds will be checked twice yearly on an ongoing basis. Where stone check dams have become clogged with silt, the check dam will be cleared out.
 - Further check dams will be installed within the swales along any steeper sections of the access track.
 - Should there be noticeable effects of erosion at discharge points, suitable erosion protection measures such as reno-matress or placement of large stones (>150mm) to dissipate water energy levels will be installed at the area affected.
 - Any materials excavated should be placed in such a manner that any instability of excavated materials will not cause further infilling of a swale or drainage feature.
 - Inlets and outlets of cross drains are to be free from silt and debris. All litter will be removed from discharge points / outlets and inlets / outlets of storage features to be operating correctly.
 - A maintenance record log will be maintained for all maintenance work carried out. Where problems persist on each six-monthly inspection, advice will be sought from a SuDS designer on an alternative drainage solution shall be installed.