

## Beinn Ghlas Wind Farm Repowering EIA Report Technical Appendix 8.1 Good Practice Methods



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## 1 Introduction

There are a number of good practice techniques that will be employed during construction and operation of the Proposed Development. The most important techniques with respect to the water environment are summarised here. These techniques are considered the standard good practice techniques that will be applied by default by contractors and are considered as embedded mitigation. This list is not exhaustive and guidance and good practice literature will be used to further develop these methods in the detailed Construction Environmental Management Plan (CEMP) provided post approval of the application and in method statements for each type of work. Additional mitigation measures are 'over and above' these good practice standards and will be specific to the source-pathway-receptor identified at risk. These are described within **Chapter 8** of Volume 2 of the EIA Report and are specific to the identified effects where these could be significant.

## 2 Procedures

Specific good practice procedures will be required for activities such as:

- Fuel handling and storage, including the locations of both periodic and regular fuelling points and emergency spill response. These will be agreed with the Environmental Clerk of Works (ECoW);
- Management of concrete wash out areas, including pollution prevention measures and drainage controls;
- Responsibilities and details for monitoring and training in relation to pollution prevention measures;
- Design, management and mitigation measures for surface water drainage; and,
- Design, management and mitigation measures for watercourse crossings.

## 3 Good Practice Methods to Reduce Impact on Peat Hydrology

To reduce the impact on peat hydrology the following good practice measures will, where possible, be taken into account in the construction and operational period of the Proposed Development:

#### Tracks:

- On slopes above tracks, the cut off ditch should be positioned close to the track to minimise the impact on the upgradient peat;
- Regular discharge of water from the track and from the upgradient diversion channel
  to the down gradient land is required. This process will allow the water to infiltrate a
  short distance from the track and can help counter potential down gradient dewatering
  effects;



Dressing the cut slopes alongside the tracks with low permeability material can
potentially help reduce flow rates from more permeable sections as it will act as a
barrier to groundwater flow.

#### **Turbine Bases and Other Infrastructure:**

- Dewatering of the turbine bases may be required depending on the permeability of the surrounding geology; however, given the low permeability of the formations on Site this is unlikely. If required, this will be limited to as short duration as possible to keep the excavation dry until the concrete is poured, cured and the void space backfilled;
- Any water from dewatering excavations should be discharged to any peat areas surrounding the turbine base excavation during this period to promote recharge and reduce the impact of dewatering. This is a recognised method of mitigating the environmental impact of an abstraction (Forestry Commission, 2011). If there are no peat areas immediately surrounding the infrastructure, but they are close by, then the water should be discharged between the excavation and the peat to reduce the extent of drawdown in the other formations that may extend to the peat;
- Cut off ditches on upgradient slopes should also be as close to the excavated areas as
  is practical to allow water to recharge the surrounding peat; and,
- Excavations should be left open for as short a duration as practical to reduce the impact of dewatering on the surrounding peat.

#### **Peat Habitat and Deep Peat Avoidance:**

- The layout has been designed to avoid good quality peat habitats and areas of peat >1.0m where possible. This has been conducted through habitat mapping and through probing and coring to establish the spatial distribution of peat across the Site as discussed in the Peat Survey Report (Technical Appendix 8.2 of EIA Report) and presented in Figures 8.9, 8.9a to 8.9c and 8.10, 8.10a to 8.10c in volume 3 of the EIA Report;
- Additional micro-siting of infrastructure will be undertaken in consultation with the ECoW prior to construction for further avoidance as described in the Outline Peat Management Plan (Technical Appendix 8.3 of the EIA Report); and,
- Areas of disturbed peat will be reinstated as described in the Outline Peat Management Plan (Technical Appendix 8.3 of the EIA Report).

#### **Contractor Awareness**

Contractors will be made aware through the induction process of:

- The location of existing peat habitats and areas that are part of the restoration programme so that they can be particularly vigilant in avoiding these areas;
- That the programme of peat restoration is complex and will be undertaken concurrently
  with the construction period so that additional care with handling of peat and
  construction machinery is required; and,
- That peat storage is being minimised so that direct translocation can be undertaken
  which will improve the likely success of peat restoration and therefore no peat must be
  excavated unless a candidate site for its relocation has been determined.



## 4 Good Practice Measures to Protect the Water Environment

Good practice measures undertaken at the construction stage will involve both management and monitoring. As there are some significant nearby hydrological and water dependent receptors, measures will be applied that, as a minimum, meet those required within current good practice guidelines (see Section 9 References).

## **Contractor Tendering Process**

During the tendering process for the works, environmental specifications and objectives will be included in the tender documents so that all contractors can allow for good practice measures in their tender costs. Sub-contractors will be required to implement the Beinn Ghlas Wind Farm Environmental Management Procedures.

#### Site Induction

During the induction of contractors, a specific session on good practice to control water pollution from construction activities will be included. The responsibility for protecting the water environment will be shared with all staff on the Site with an appropriate level of support from construction managers to achieve this. The site induction process will be based on Pollution Prevention Guidance and good practice documents indicated within the Hydrology chapter (**Chapter 8** of this EIA Report).

## **Construction Method Statement (CMS)**

The tender procedures for construction contracts will include the requirement to produce a CMS.

Following the more detailed design of tracks and drainage, the CMS will define the construction planning and procedures to be applied. The CMS will demonstrate, to the satisfaction of SEPA, how construction will be in accordance with Guidance for Pollution Prevention (GPP5), Pollution Prevention Guidance (PPG6) and the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (amended 2021). This document will be produced to function alongside the CEMP.

In all construction designs, Sustainable Urban Drainage Systems (SUDS) shall be incorporated to minimise hydrological effects of the Proposed Development and to maintain the current hydrological systems.

## **Watercourse Crossings**

The layout of the turbines and onsite tracks and the access route was designed in line with good practice guidelines, and the number of crossings of watercourses have been minimised where possible by design.

Where new crossings are required, these will not be culverted and will either be open arch or clean span structures. Watercourse crossings will be subject to appropriate SEPA CAR licencing and will be designed to allow the conveyance of a 0.5% AP (200 year) flow event plus an allowance for climate change and freeboard. Additionally, mitigation will put in place to control and attenuate runoff during all phases of the development and crossings will be regularly check and maintained during operation. Potentially, further crossings of minor, man-made or ephemeral drain crossings will also be required.



In addition, there are a number of existing crossings that will be used, extended or upgraded/replaced. Any alteration will result in improvement of the crossing and provides the potential for replacement of any crossing structure that is not sufficiently sized, prevents fish passage or by extending would not enhance the watercourse. Replacement crossings would also be subject to appropriate SEPA CAR licencing and will be designed to allow the conveyance of a 0.5% AP (200 year) flow event plus an allowance for climate change and freeboard.

None of these watercourse crossings are associated with SEPA river flooding with the exception of the existing bridge over the River Luachragan, a tributary of the Allt Nathais. The crossings will be designed so that their presence does not increase flood risk by having adequate capacity and by avoiding any structure within the channel. The crossings will also allow for appropriate fish and otter passage.

Watercourse crossings will be the subject of detailed design within a CMS to be submitted to SEPA and the local authority (as appropriate) prior to commencement of construction. A monitoring programme for maintenance of crossings (to prevent blockages and flooding) will be provided within the CMS.

Where it is necessary to cross watercourses or flowing drains, appropriately designed crossings and culverts will be installed, and licensed where appropriate, in consultation with SEPA.

#### **Setback Distances**

Another form of avoidance is locating turbines, tracks, and other construction disturbance a minimum buffer distance from water features. A set-back distance of 50 m from main watercourses is routinely recommended as a preliminary good practice measure for wind farm sites. Infrastructure within the Site has therefore been located in so far as possible over 50 m from watercourses, with the exception of where tracks approach watercourse crossings and some other minor areas as described in **Technical Appendix 8.5 3** of the EIA Report.

## **Track and Cable Trenching Design**

Tracks which are orientated at 90 degrees to the slope contours may act to create rapid surface flows resulting in erosion of the tracks and provide a direct pathway for discharge to watercourses. Tracks have been oriented along contours where possible; however, some sections of onsite access track are at 90 degrees to the slope, particularly when approaching watercourse crossings.

Accordingly, these will require standard design features such as cut off drains, spoon drains or water bars etc. for tracks, and internal plugs for cables, to be installed such that water flow and sedimentation is minimised.

All tracks that will be excavated will have the material removed and reinstated on verges in the same manner, particularly the peat and the topsoil layer, in accordance with the Outline Peat Management Plan in **Technical Appendix 8.3** of the EIA Report.

#### Water Abstraction and Dewatering Activities

All dewatering activities will be managed through dewatering permits and method statements, and the ECoW must be consulted and agree pumping and associated mitigation measures prior to commencement of works.



Suitable mitigation measures will be installed to minimise the volume of silt contained within pumped waters and to avoid or minimise the impact of the pumped water discharge on the water environment, including:

- Installation of upgradient cut off drains to reduce the volume of water entering excavations:
- In order to prevent disturbance from the base of excavations or from the bed of watercourses during abstraction, any pump intakes will be protected from sediment by raising the intake using a floating rose and a geotextile filter; and,
- The discharge of abstracted water through sediment control structures and over natural vegetation to filter and infiltrate.

## 5 Good Practice Management of Sedimentation

## **Management of Track Construction**

Loose track material generated during the use of access tracks will be prevented from reaching watercourses by adequate maintenance of the track. In dry weather, dust suppression methods will be employed.

Standard erosion control techniques and sediment control structures are used across the Site during the construction period.

Drainage will be installed on either side of tracks to enable appropriate management, capture and discharge of clean, and potentially sediment laden runoff. Regular discharge of upgradient water to down gradient vegetation will be installed and appropriate sediment control structures to manage contact water.

Roadside drains likely to carry high sediment loads will not be allowed to discharge directly into watercourses but will discharge into sediment control structures or buffer areas of adequate width. The purpose of these drainage ditches is to collect track drainage, control run-off during intense rainfall events and mitigate erosion. These ditches will have filter check dams at intervals along their length to encourage infiltration and reduce velocity of flow within the channels. The drainage design will encourage run-off to leave access tracks quickly and prevent them acting as flow pathways and will also protect the Site's soils from erosion. Sediment control structures will be located at the end of all cross drains and cut off drains.

#### **Watercourse Crossings**

The locations of watercourse crossings are presented on **Figure 8.6 and 8.6a to 8.6c** of Volume 3 of the EIA Report and within **Technical Appendix 8.7 3** of the EIA Report. Watercourse crossings will be sized sufficiently to avoid overloading, blocking or washout, and will be protected and well bedded to avoid settlement.

Where reasonably practicable, any engineered watercourse crossings will be designed to minimise erosion and to use soft engineering measures, rather than hard where erosion cannot be avoided (i.e. riprap rather than gabion baskets). All watercourse crossings will aim to leave the watercourse in as natural a condition as possible.



Main watercourse crossings will typically comprise of: cast in-situ concrete abutments with single span precast concrete beam deck or cast in-situ strip footings with precast concrete or galvanised corrugated steel arch segments, headwalls, if required, to be precast concrete. Minor watercourse crossings will typically comprise of cast in-situ strip footings with precast concrete or galvanised corrugated steel arch segments/half-moon culverts will be used in preference to pipe culverts where reasonably practicable to retain the natural stream bed.

Minor ephemeral drains will be twin wall UPVC or precast concrete pipe culverts or half-moon culverts where reasonably practicable to retain the natural stream bed.

#### **Excavation of Turbine Foundations and Cable Trenches**

Turbine bases are located at least 50 m away from any watercourse mapped on the 1:50,000 and 1:25,000 scale Ordnance Survey mapping, with the exception of where tracks approach watercourse crossings and where some sections of existing tracks require widening (see **Figures 8.6 and 8.6a to 8.6c** in Volume 3 of the EIA Report), and confirmed to be present during site visits.

Soil movement will be undertaken with reference to good practice guidelines Good Practice Guide for Handling Soils (Defra, MAFF, 2000). Subsoil from the foundation excavations would be primarily replaced around the foundations following pour and curing. Any remaining soil would be used to fill borrow pits or for dressing along track margins. Topsoil and turfs will be stored so as to maintain their vitality and used to re-cover the foundation. This will help to maintain surface hydrological characteristics in terms of near surface infiltration and run-off regimes.

The installation of the electrical cables will be within small trenches. Where trenches are dug on steep slopes they will be dug in sections or plugs of soil may be left in place at intervals to prevent them acting as preferential drainage pathways and increasing soil erosion. As indicated above, good practice cable installation means that the trenches will not remain open for long periods of time and will be restored by replacing the subsoil and topsoil removed earlier.

Run-off and discharge water from the excavation sites will be discharged into sumps where sediment will be allowed to settle, and the drainage waters will be pumped out and discharged via vegetated soakaways to a vegetated area or infiltration trench down gradient of the excavation site. The exact method of site discharge will be confirmed with SEPA prior to the commencement of construction. These measures are also designed to reduce soil erosion by controlling discharges from the excavations.

In the event of shuttering collapse during a concrete pour it is unlikely that material will escape as the excavation required to erect the shuttering will be below ground and of a larger volume than the shuttering capacity. However, in this unlikely event, actions as defined below would be put in place. When the concrete has solidified, it would be dug out and disposed of appropriately.

## **Management of Soil Stockpiles**

Careful consideration will be given to the location of topsoil and subsoil storage areas for all facilities during construction, either by siting in a flat dry area away from watercourses or by the addition of cut-off drains above the storage, which will help to maintain a buffer from streams. The areas will be regularly inspected to ensure that erosion of the material is not taking place.



Settlement lagoons and silt traps will be inspected regularly especially after periods of heavy rainfall. This inspection period will be agreed with SEPA during the development of the CMS. Maintenance will be carried out in periods of dry weather where practicable.

## 6 Good Practice Management of Oils, Fuels and Chemicals

Fuel and oil spillages are potential sources of contaminants. Tracks, the compound, and the car park where vehicles would be re-fuelled and areas where chemicals and fuel would be stored, are potential sites of contamination. The construction compound will have provision for the storage of fuel, oil and chemicals in designated areas, together with areas for vehicle compounds, refuelling sites, waste depots and onsite sewage systems.

Good Practice will be in accordance with GPP1, GPP2, GPP4, GPP5, PPG6, GPP8, GPP21 and GPP26 (see Section 9 for references). Good practice will be adopted for handling potentially polluting substances (such as fuel, oil, cement and concrete additives) including:

- Designated facilities designed and used for storage and refuelling, located away from watercourses:
- Fuel, oils and chemicals will be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Rainwater will not be allowed to accumulate within the bund and in any way compromise the required 110% volume capacity;
- Interceptor drip trays will be positioned under any stationary mobile plant to prevent oil contamination of the ground surface or water;
- A site oil, chemical and product inventory;
- A site drainage plan, including notations of areas of highest sensitivity;
- A list of emergency procedures, responsive to a risk assessment of areas of high sensitivity;
- Site induction of all personnel on emergency spillage procedures and staff trained in emergency procedures;
- A contact list for emergency services, the relevant environmental regulators, the local water supply and sewerage undertakers, the Health and Safety Executive and specialist clean up contractors, if required; and,
- Emergency response equipment will be available at appropriate locations.

In the event of an accidental spillage, a predefined 'Procedure in the event of a contaminant spillage' will become effective.

## The Management and Movement of Liquid Concrete

Concrete foundations will adhere to a specific code of practice (CIRIA 532 and National Structural Concrete Specification (NSCS) 4<sup>th</sup> Edition) for concrete design to ensure that the concrete mix is designed to withstand concrete attack. It is anticipated that concrete for the turbine bases will be batched onsite.



Concrete should only be laid following the suitable preparation of the ground surface and the installation of associated equipment such as shuttering;

Concrete, cement, and grouts are highly alkaline and corrosive. Any use of these materials will be restricted to a distance greater than 10m from any watercourse, surface water drain or water feature that could convey alkaline run off to the water environment or their users;

As the concrete should only be laid once the superficial deposits have been removed, any potential leaks through the shuttering should be clearly visible. Such leaks could be captured and contained (e.g. by using temporary bunding). If these measures do not sufficiently control concrete leaks, then the pouring of concrete should cease and the appropriate remedial actions as set out within the contingency plans should take place (e.g. adjustment of the shutters, etc.);

No concrete should be directly discharged either onto in situ peat, or into surface watercourses;

The foundation concrete should be a high strength structural grade that is not prone to leaching of alkalis

A discharge licence from SEPA may be required in respect of this activity, and this possible requirement will be monitored.

Within the emergency spillage procedure, actions and contingency measures are described which would address major events such as a concrete spill. Machine operators will carry a supply of absorbent material in their cabs, and there would be a central stock of material stored within the construction compounds.

## **Disposal of Waste Materials**

Onsite engine and hydraulic oil waste will be stored in an appropriately constructed compound and storage bund.

Waste oils will be stored in the construction compounds in an above ground tank within a concrete bunded area to prevent oil escaping to the environment in the event of leakage from the main tank. The bund will be 110% of the storage tank capacity. The bund will be emptied by a specialist company. Procedure for storage, removal and accidental spillage will be defined in the 'Pollution Incident Response Plan' with spill kits available adjacent to the bunded area.

The following additional measures will also be implemented:

- Drip trays will be provided for machinery;
- Machinery will be repaired and maintained, where practicable, in suitable designated locations:
- Facilities will be provided to ensure appropriate waste management;
- Wheel washing facilities where required will be located away from watercourses; and,
- Should dewatering be required pumped water will be discharged via settlement ponds or filter strips prior to direct discharge into a watercourse.



## 7 Design Optimisation

Subsequent to consent, if approved, further detailed ground investigations will be undertaken to support the detailed design of the Proposed Development. The proposed micro-siting allowance of 50 m, will permit the optimum orientation of crane hardstandings; exact location of turbine bases and adjustment of other infrastructure including track alignments within this buffer zone; marrying the best line for engineering purposes with the maximum avoidance of sensitive receptors where possible. Any micro-siting will be documented and undertaken in consultation with the ECoW.

Further investigations will include sub surface drilling to obtain additional information on the formations across the infrastructure, additional detailed habitat mapping and further baseline surveys.

## 8 Monitoring

## **Baseline Monitoring**

To monitor changes during the construction and operational phases of the Proposed Development, baseline information on the existing conditions will be required.

Prior to commencement of any invasive investigations or site works, a strategic set of water sampling locations will be identified. The locations will be considered within the choice of sampling locations as well as any upgradient works on other developments. Any samples taken will be analysed for a suite of typical parameters used by SEPA for their water quality assessments in freshwater rivers and updated to include any requirements arising from the Water Framework Directive requirements.

## **Monitoring During Construction**

Monitoring will be required, as determined through consultation with SEPA. Water samples during construction will be collected from the same locations as during baseline sampling and taken at intervals agreed with SEPA. Sampling locations will include some control points outside the influence of the construction. These will be analysed for a suite of typical parameters used by SEPA in order to ensure that there is no negative effect on surface water quality during the construction phase.

In addition, temporary drainage features, access track drainage channels, drainage crossings on tracks, silt traps, sediment lagoons etc. will be inspected on a regular basis to ensure they are clear and capable of performing their functions.

## **Monitoring During Operation**

Periodic inspection of the river beds and banks will be undertaken during the operational phase of the works. Streams and drains will be inspected to ensure they are operating correctly and they will be cleaned of silt or vegetation if required.

## **Monitoring During Decommissioning**

In the decommissioning phase, monitoring will be undertaken to the same level and frequency as for the construction phase as activities and risks to receptors are similar.



## 9 References

## Key legislation:

- Control of Pollution Act 1974;
- Environment Act 1995;
- Environmental Protection Act 1990;
- Flood Prevention and Land Drainage (Scotland) Act 1997;
- Groundwater Directive 2006/118/EC;
- Groundwater Regulations 1998;
- National Planning Framework 4: National Spatial Strategy for Scotland, approved by Scottish Parliament on 11 January 2023.
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended);
- The Environmental Liability (Scotland) Regulation 2009;
- The Flood Risk Management (Scotland) Act 2009;
- The Pollution Prevention and Control (Scotland) Regulations (2012); and,
- The Public Water Supplies (Scotland) Amendment Regulations 2017 (amends the Public Water Supplies (Scotland) Regulations 2014;
- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 (amends and revokes the Private Water Supplies (Scotland) Regulations 2006);
- Waste Management Licensing Regulations 2011;
- Water Environment (Controlled Activities) (Scotland) Regulations (CAR) 2011 (as amended) A Practical Guide, Version 9.3 June 2023;
- Water Environment and Water Services (Scotland) Act (WEWS Act) 2003;
- Water Framework Directive 2000/60/EC (WFD) 2000;

# The Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs):

- GPP1: Understanding your Environmental Responsibilities Good Environmental Practices version 1.2 (SEPA, DAERA, NRW & NIEA, June 2021) replaces PPG1: General guide to the prevention of pollution (EA, SEPA & EHSNI, published 2013, withdrawn December 2015);
- GPP4: Treatment and disposal of sewage where no foul sewer is available (SEPA, DAERA, NRW & NIEA, 2021);
- GPP5: Works and maintenance in or near water (SEPA, DAERA, NRW & NIEA, January 2017);



- PPG6: Working at construction and demolition sites, second edition (EA, SEPA & NIEA, 2012);
- GPP8: Safe storage and disposal of used oils (SEPA, DAERA, NRW & NIEA, July 2017);
- GPP26: Storage and handling of drums and intermediate bulk containers, version 1.2 (SEPA, DAERA, NRW & NIEA, 2017June 2021).
- GPP2: Above ground oil storage tanks (SEPA, NIEA & NRW, January 2018);
- GPP21: Pollution incidence response planning, version 1.1 (SEPA, DAERA, NRW & NIEAEA, June 2021); and,

#### **SEPA Guidelines**

- Developments on Peat and Off-Site Uses of Waste Peat, SEPA Guidance, WST-G-052 version 1 (SEPA, May 2017);
- Environmental Standards for River Morphology, WAT-SG-21 (SEPA, July 2012);
- Flood Risk and Planning Briefing Note (SEPA, 2014);
- Flood Risk Position Statement, (SEPA, 2009);
- Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems, Land Use Planning System Guidance Note 31 (LUPS-GU31), version 3 (SEPA, 2017);
- Land Use Planning System Guidance Note 2 (LUPS GU2) Planning advice on Sustainable Drainage Systems (SUDS) (SEPA, August 2010);
- Land Use Planning System Guidance Note 4 (LUPS GU4) Planning Guidance on Onshore Windfarm Developments (SEPA, September 2017);
- Land Use Planning System SEPA Development Plan Guidance Note 2e, Development Plan Guidance on Soils (SEPA, 2015);
- Managing River Habitats for Fisheries a guide to best practice (SEPA, FRS, SNH & Scottish Executive, 2002);
- Managing River Habitats for Fisheries, a guidance to best practice (SEPA, FRS, SNH & Scottish Executive, 2002);
- River Crossings, Engineering in the water environment, WAT-SG-25 (SEPA, 2010);
- SEPA Flood maps / Indicative River & Coastal Flood Map (Scotland) (SEPA January 2014, updated April 2018 and 2022);
- SEPA Flood Risk Standing Advice for Planning Authorities and Developers (November 2020).
- SEPA Regulatory Position Statement Developments on peat (SEPA, 2010);
- Technical flood risk guidance for stakeholders, SEPA requirements for undertaking a Flood Risk Assessment, version 12 (SEPA, May 2019);



- Temporary Construction Methods, Engineering in the Water Environment Good Practice Guide, WAT-SG-29 (SEPA; 2009);
- The Water Environment (Controlled Activities) (Scotland) Amended Regulations A practical guide (SEPA, 2011 as amended in 2021);
- Water Run-Off from Construction Sites, Sector Guidance, Sector Specific Guidance WAT-SG-75 (SEPA, 2021);
- WFD28 Development of a groundwater vulnerability screening methodology for the Water Framework Directive, Final Report (Scotland and Northern Ireland Forum for Environmental Research, 2004); and,

#### **Other Relevant Guidance**

- A Handbook of Environmental Impact Assessment, 5th Edition (SNH, 2018);
- Construction Code of Practice for the sustainable use of soils on construction sites (DEFRA, 2009);
- Control of water pollution from constructions sites. Guidance for consultants and contractors C532 (CIRIA, 2001);
- Control of water pollution from linear construction projects: technical guidance C648 (CIRIA, 2006);
- Design Guidance on River Crossings and Migratory Fish (Scottish Executive, 2000);
- Environmental good practice on site C650 2nd Edition (CIRIA, 2005);
- Forestry and Water Scotland Know the Rules Booklet second Edition (SEPA, Scottish Government, FCA, Forestry Commission Scotland & Scottish Water, 2017);
- Good practice during windfarm construction (Scottish Renewables, SNH, SEPA & Forestry Commission Scotland, 4th Edition 2019);
- Good practice guide for handling soil, DEFRA (MAFF, 2000);
- Groundwater Control design and practice second edition C750 (CIRIA, 2016) replaces C515 (CIRIA 2001);
- Guidance on Road Construction and Maintenance (Forests and Water Guidelines Fifth Edition 2011, Forestry Commission);
- Managing Forest Operations to Protect the Water Environment Practice Guide (Forestry Commission Scotland, 2019);
- National Structural Concrete Specification, 4<sup>th</sup> Edition complying with BS EN 13670:2009, (NSCS, 2010);
- Peat Landslide Hazard and Risk Assessments: Good practice Guide for Proposed Electricity Generation Developments (Scottish Government, Second Edition, 2017);
- Peatland Survey. Guidance on Developments on Peatland. Scottish Government, Scottish Natural Heritage (SEPA ,2017);



- Planning Advice Note 50 Controlling the Environmental Effects of Surface Mineral Workings (1996);
- Planning Advice Note 61: Planning and SUDS (2001);
- Planning Advice Note 79: Water and Drainage (2006);
- Practice guide for forest managers to assess and protect Groundwater Dependent Terrestrial Ecosystems when preparing woodland creation proposals (Forestry and Water Scotland Initiative, January 2018);
- Private Water Supplies: Technical Manual (Scottish Executive, 2006);
- Protecting private water supplies during forestry activities (Forestry and Water Scotland Initiative, September 2018);
- Special Requirements for Civil Engineering Contracts for the Prevention of Pollution, Version 2, SEPA, 2006; and,
- The SuDS Manual C753F (CIRIA, 2015) replaces C697 (CIRIA, 2007);
- UK forestry standard: the governments' approach to sustainable forestry. 4th edition (2017)
- UK Technical Advisory Group on the WFD, UK Environmental Standards and Conditions (Phase 2), Final (March 2008).