

Glendye Wind Farm Overhead Line Grid Connection Environmental Impact Assessment (EIA) Volume 4 | Appendix 9.4

Schedule of Watercourse Crossings October 2025



APPENDIX 9.4: SCHEDULE OF WATERCOURSE CROSSINGS

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Figures

There are no figures associated with this appendix.

1. INTRODUCTION

- 1.1.1 SLR Consulting Ltd (SLR) was commissioned by Scottish and Southern Electricity Networks (SSEN) Transmission to prepare a schedule of watercourse crossings which would be required to facilitate construction and operation of Glendye Wind Farm Overhead Line Grid Connection (the Proposed Development).
- 1.1.2 This Technical Appendix presents photographs and dimensions for each proposed watercourse crossing point. The report also details the likely form of the track crossing solution (e.g., culvert, arch culvert, or bridge). The final design of each crossing solution would be agreed with the Scottish Environment Protection Agency (SEPA) prior to construction as part of the detailed site design.
- 1.1.3 A survey of the proposed watercourse crossings was undertaken during field campaigns undertaken between September 2024 and February 2025 by experienced SLR hydrologists.
- 1.1.4 The location of the watercourse crossings are shown on **Figure 9.1** of the EIA Report and details of the hydrological setting of the Proposed Development are outlined in **Chapter 9** of the EIA Report.
- 1.1.5 The Proposed Development has sought to use existing tracks and access routes where possible. In summary, there are:
- 14 proposed permanent watercourse crossings; and
 - 5 crossings on existing tracks which are subject to upgrade works.
- 1.1.6 It is intended that all watercourse crossings will remain and be used to afford access to the overhead line (OHL) for routine inspections and maintenance during the operation of the Proposed Development.

1.2 Relevant legislation

- 1.2.1 The Water Framework Directive (2000/60/EC) (WFD) has been transposed into Scottish legislation as the Water Environment and Water Services (Scotland) Act 2003 (or WEWS) and has given Scottish ministers powers to introduce regulatory controls over activities, in order to protect and improve Scotland's water environment. The water environment includes wetlands, rivers, lochs, transitional waters (estuaries), coastal waters and groundwater. These regulatory controls, known as the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR), came into force in 2011 and have since been amended in 2013, 2017, and 2021.
- 1.2.2 With respect to watercourse crossings, CAR requires that all engineering works in inland surface waters and wetlands be subject to authorisation and allow for proportionate risk-based regulation which is outlined in the CAR Practical Guide (v9.4, July 2024)¹. The authorisation process operates at three levels:

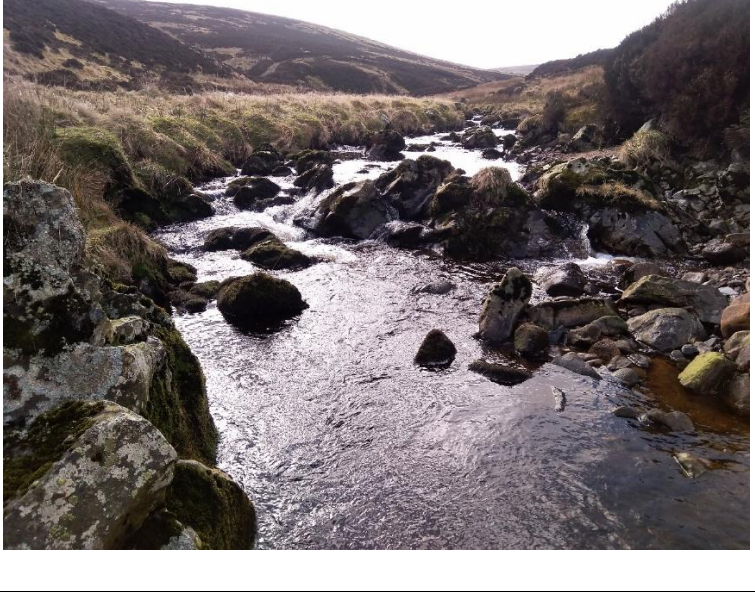
¹ Scottish Environment Protection Agency (2024) The Water Environment (Controlled Activities) (Scotland) Regulations. A Practical Guide v9.4

- General Binding Rules (GBR), applicable to the following:
 - minor crossings with no construction on bed or banks (GBR6);
 - temporary bridges in rivers that have a bed width of less than 5 m wide (GBR6); and
 - pipeline or cable crossings by boring beneath the bed of inland surface water (GBR7).
- Registration, applicable to the following:
 - bridges across rivers and lochs where no part of the structure encroaches on the bed (e.g., no piers or in-channel supports). In addition, the total length of the structures on both banks should not be more than 20 m. This category includes bottomless arch culverts;
 - closed culverts used for single-track tracks, footpaths and/or cycle routes, where the affected river is not more than 2 m wide; and
 - pipeline or cable crossings beneath bed by isolated open-cut or mole plough.
- Licence (Simple/Complex), applicable to the following:
 - all other bridges, fords or causeways. This category will include bridges affecting more than 20 m total bank lengths, or bridges with in-stream supports. This category also includes all fords and causeways constructed across lochs and wetlands. Where multiple crossings of a ford are required within a short space of time, a temporary bridge should be considered;
 - all other closed, pipe or box culverts used for crossings. This category will include all pipe or box culverts used for multiple track/lane roads, and pipe or box culverts used for minor bridges on watercourses greater than 2 m wide; and
 - all other pipelines or cable crossings e.g. by direct open cut or laid on channel bed.

1.2.3 SEPA provides authorisation for watercourse crossings shown on the 1:50,000 scale Ordnance Survey (OS) maps (Landranger Series). All other watercourses are classed as a “minor watercourse”. Engineering activities on minor watercourses, except for culverting for land-gain, dredging and permanent diversions/realignments, are exempt under CAR.

2. WATERCOURSE CROSSINGS DETAILS

2.1.1 Details of the proposed watercourse crossings are given below. Refer to **Figure 9.1** for locations.

Watercourse Crossing ID	WX01 – Water of Charr
Watercourse Crossing Details	Grid Reference: E 361512 / N 780340 Status: New crossing associated with proposed permanent track Watercourse Width: 6.3 m Watercourse Depth: 0.7 m Notes: Watercourse is shown by SEPA to have a mapped floodplain which extends to approximately 15 m wide for the 1 in 200 yr event plus climate change.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Bridge Licence

Watercourse Crossing ID	WX02 – Pittlethen Burn
Watercourse Crossing Details	Grid Reference: E 362111 / N 780439 Status: New crossing associated with proposed permanent track Watercourse Width: 1.5 m Watercourse Depth: 0.3 m Notes: None.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Bottomless Arch Culvert or Culvert Registration

Watercourse Crossing ID	WX03 – Unnamed tributary of Pitlethen Burn
Watercourse Crossing Details	Grid Reference: E 362346 / N 780499 Status: New crossing associated with proposed temporary stone track Watercourse Width: 1.0 m Watercourse Depth: 0.2 m Notes: None.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX04 - Unnamed tributary of Pitlithen Burn
Watercourse Crossing Details	Grid Reference: E 363073 / N 780734 Status: New crossing associated with proposed temporary stone track Watercourse Width: 0.6 m Watercourse Depth: 0.1 m Notes: None.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX05 - Unnamed tributary of Stag Burn
Watercourse Crossing Details	Grid Reference: E 363495 / N 780860 Status: New crossing associated with proposed temporary stone track Watercourse Width: N/A Watercourse Depth: N/A Notes: No flowing water recorded at this location during the survey. The mapped watercourse is located within a wider channel between two peat hags approximately 5 m wide.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert(s) GBR

Watercourse Crossing ID	WX06 - Unnamed tributary of Stag Burn
Watercourse Crossing Details	Grid Reference: E 363800 / N 780905 Status: New crossing associated with proposed temporary stone track Watercourse Width: 1.0 m Watercourse Depth: 0.2 m Notes: None.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX07 - Unnamed tributary of Stag Burn
Watercourse Crossing Details	Grid Reference: E 364411 / N 781362 Status: New crossing associated with proposed temporary stone track Watercourse Width: 0.8 m Watercourse Depth: 0.3 m Notes: None.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX08 - Unnamed tributary of Cairn Burn
Watercourse Crossing Details	Grid Reference: E 364982 / N 781529 Status: New crossing associated with proposed temporary stone track Watercourse Width: 0.2 m Watercourse Depth: 0.1 m Notes: Small watercourse which is located in a wider channel that is approximately 3 m wide and 5 m high.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX09 - Unnamed tributary of Cairn Burn
Watercourse Crossing Details	Grid Reference: E 365255 / N 781412 Status: New crossing associated with proposed temporary stone track Watercourse Width: 0.3 m Watercourse Depth: 0.1 m Notes: None.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX10 - Unnamed tributary of Cairn Burn
Watercourse Crossing Details	Grid Reference: E 365320 / N 781406 Status: New crossing associated with proposed temporary stone track Watercourse Width: N/A Watercourse Depth: N/A Notes: Watercourse noted as dry during the survey. Channel is approximately 0.9 m wide and 0.1 m deep.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX11 - Unnamed tributary of Cairn Burn
Watercourse Crossing Details	Grid Reference: E 367355 / N 781825 Status: New crossing associated with proposed temporary stone track Watercourse Width: 0.5 m Watercourse Depth: 0.3 m Notes: Watercourse located within a channel which is approximately 1.8 m wide and 3 m deep.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX12 - Unnamed tributary of Burn of Brumlieshank
Watercourse Crossing Details	Grid Reference: E 370198 / N 782281 Status: Existing crossing associated with existing forest track to be upgraded Crossing Type: Concrete circular culvert Crossing Size: 0.4 m diameter Watercourse Width: 1 m Watercourse Depth: 0.1 m Notes: Culvert entrance and exit heavily vegetated. Watercourse likely to have been altered by upgradient forestry works. The culvert exit is noted approximately 2 m below the level of the existing track.
Photograph Looking Upstream	
Photograph Looking at Crossing Exit from Downstream	

Watercourse Crossing ID	WX13 – Bervie Water
Watercourse Crossing Details	Grid Reference: E 371633 / N 783471 Status: Existing crossing associated with existing forest track to be upgraded Crossing Type: Open span bridge Crossing Size: 3 m wide and 6.5m long. Bridge deck is approximately 1.8 m above watercourse bed. Watercourse Width: 2.5 m Watercourse Depth: 0.3 m Notes: None.
Photograph Looking at Crossing Entrance from Upstream	
Photograph Looking at Crossing Exit from Downstream	

Watercourse Crossing ID	WX14 – Maxie Burn
Watercourse Crossing Details	Grid Reference: E 372124 / N 783600 Status: Existing crossing associated with existing forest track to be upgraded Crossing Type: Open span bridge Crossing Size: 3 m wide and 6.5m long. Bridge deck is located approximately 1.8 m above watercourse bed. Watercourse Width: 1.8 m Watercourse Depth: 0.2 m Notes: None.
Photograph Looking at Crossing Entrance from Upstream	
Photograph Looking at Crossing Exit from Downstream	

Watercourse Crossing ID	WX15 – Unnamed tributary of Burn of Guinea
Watercourse Crossing Details	Grid Reference: E 373528 / N 784043 Status: New crossing associated with proposed temporary trackway panels Watercourse Width: N/A Watercourse Depth: N/A Notes: No flowing water recorded during survey. Drainage likely to have been altered by adjacent forestry activities.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX16 – Unnamed tributary of Burn of Guinea
Watercourse Crossing Details	Grid Reference: E 373568 / N 784048 Status: New crossing associated with proposed temporary trackway panels Watercourse Width: 0.5 m Watercourse Depth: 0.4 m Notes: Watercourse likely to have been altered by adjacent forestry activities.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Culvert GBR

Watercourse Crossing ID	WX17 – Unnamed tributary of Burn of Guinea
Watercourse Crossing Details	Grid Reference: E 375081 / N 783712 Status: Existing crossing associated with existing field tracks to be upgraded Crossing Type: Stone box culvert Crossing Size: 0.8 m wide and 1.2 m high Watercourse Width: 0.8 m Watercourse Depth: 0.2 m Notes: Existing crossing clear of any obstructions.
Photograph Looking at Crossing Entrance from Upstream	
Photograph Looking at Crossing Exit from Downstream	

Watercourse Crossing ID	WX18 – Unnamed tributary of Carron Water
Watercourse Crossing Details	Grid Reference: E 376854 / N 785226 Status: Existing crossing associated with existing field tracks to be upgraded Crossing Type: Circular culvert Crossing Size: 0.5 m diameter Watercourse Width: 0.5 m Watercourse Depth: 0.3 m Notes: Unable to safely access
Photograph Looking Upstream	
Photograph Looking at Crossing Exit from Downstream	

Watercourse Crossing ID	WX19 – Unnamed tributary of Burn of Annamuick
Watercourse Crossing Details	Grid Reference: E 361512 / N 780340 Status: New crossing associated with proposed temporary trackway panels Watercourse Width: 0.5 m Watercourse Depth: 0.1 m Notes: Watercourse located in a steep sided gully which is approximately 3 m wide and 10 m high.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisation	Bridge or bottomless arch culvert Registration or Licence

3. SUMMARY AND RECOMMENDATIONS

- 3.1.1 14 new watercourse crossings and 5 existing crossings on existing tracks scheduled to be upgraded as part of the Proposed Development are required to facilitate the Proposed Development, as shown on **Figure 9.1** of the EIA Report.
- 3.1.2 As stated in the EIA Report Chapter, the crossings would be designed to pass the 200-yr flood event plus an allowance for climate change, and their design and construction details would be agreed with SEPA and Aberdeenshire Council as part of the final Construction Environmental Management Plan (CEMP).
- 3.1.3 In accordance with SEPA Technical Flood Risk Guidance² and Good Practice Guidance for river crossings³, it is recommended that hydraulic modelling of watercourse crossing WX01 is undertaken at the detailed design stage to inform the proposed bridge design. This would establish accurate baseline flood extents, depths and velocities. The hydraulic model would then be used to assess the bridging solution and ensure that it is capable of passing the 200-yr flood event plus climate change, without adversely impacting peak flood extents and flood depths upstream or downstream of the crossing. The output of the modelling would form part of a CAR application for the bridging solution made to SEPA prior to any construction occurring on site.
- 3.1.4 During determination of the CAR application it is expected that SEPA would consult with NatureScot and River Dee Fisheries Trust to ensure that their interests are appropriately considered and addressed.
- 3.1.5 Good practice methods which will be adopted during construction and operation of the Proposed Development are outlined in **Chapter 9** of the EIA Report.

² Scottish Environment Protection Agency (2022) Technical Flood Risk Guidance for Stakeholders, Version 13

³ Scottish Environment Protection Agency (2010) Engineering in the Water Environment: Good Practice Guide – River Crossings