

# ARECLEOCH WINDFARM EXTENSION

**Technical Appendix 10.4: Schedule of Watercourse Crossings**  
Prepared for: ScottishPower Renewables

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## 1.0 Introduction

This technical appendix contains information relating to watercourse crossings of the proposed Development (illustrated in **Figure 10.1**).

Works associated with watercourse crossings are regulated under The Water Environment (Controlled Activities) (Scotland) Regulations 2011. Within the application boundary there is an extensive network of existing access tracks and the proposed Development has sought to utilise these existing tracks wherever possible.

A survey of existing and proposed new watercourse crossings for the proposed Development was undertaken on 05/02/2019 and 12/04/2019 by an experienced SLR Hydrologist, the details of which are reported herein.

The existing access track from the A714 public road includes several watercourse crossings where no works are proposed. The location of these is shown on Figure 10.1 and their National Grid References (NGR) are given below:

- WX10 - NX 22164 78308;
- WX11 - NX 22312 77527;
- WX12 - NX 23133 76753;
- WX13 - NX 23205 76636;
- WX14 - NX 23582 76472;
- WX15 - NX 25187 77311;
- WX16 - NX 25987 77558;
- WX17 - NX 27135 78138;
- WX18 - NX 27454 78340;
- WX19 - NX 29221 79219;
- WX20 - NX 30211 80494;
- WX21 - NX 19982 81988;
- WX22 - NX 20806 83410; and
- WX24 - NX 18209 79930;

As no works are proposed at these locations no details of these crossings are presented in this report.
















Section 2 provides details of crossings where improvement works are proposed (WX01, 02, 04, 05, 07, 08, 09 and 23) or where new crossings (WX03 and 06) are required.

## 2.0 New/Upgraded Watercourse Crossings

Table 1-1 presents information collected from the watercourse crossing surveys conducted on 5<sup>th</sup> February and 12<sup>th</sup> April 2019.

Table 2-1: Watercourse Crossing Details

Watercourse Crossing Details	Photograph off Existing/New Watercourse Crossing Point	Photograph Looking Upstream of Watercourse Crossing	Photograph Looking Downstream of Watercourse Crossing
<p>Watercourse Crossing: WX01            Proposed Schedule of Works: Upgrade            NGR: NX 20812 80256            Watercourse Width: 2.9 m            Watercourse Depth: 0.4 m            Notes: Large existing circular corrugated metal culvert over the Cross Water.</p>			
<p>Watercourse Crossing: WX02            Proposed Schedule of Works: Upgrade            NGR: NX 20534 80138            Watercourse Width: 0.7 m            Watercourse Depth: 0.3 m            Notes: Fast flowing small watercourse through an existing concrete circular culvert. Extensive area of flattened vegetation immediately downstream of crossing suggesting recent very high flows.</p>			
<p>Watercourse Crossing: WX03            Proposed Schedule of Works: New            NGR: NX 20088 80059            Watercourse Width: 0.9 m            Watercourse Depth: 0.2 m            Notes: Narrow incised watercourse in peat with cobble and boulder streambed. Waterlogged soils noted in vicinity with watercourse as overbank flow noted 40 m upstream.</p>			
<p>Watercourse Crossing: WX04            Proposed Schedule of Works: Upgrade            NGR: NX 19307 78943            Watercourse Width: 1.4 m            Watercourse Depth: 0.3 m            Notes: Existing crossing is 0.9 m diameter circular plastic culvert.</p>			

Watercourse Crossing Details	Photograph off Existing/New Watercourse Crossing Point	Photograph Looking Upstream of Watercourse Crossing	Photograph Looking Downstream of Watercourse Crossing
<p>Watercourse Crossing: WX05            Proposed Schedule of Works: Upgrade            NGR: NX 18686 81044            Watercourse Width: 0.5 m            Watercourse Depth: 0.4 m            Notes: Existing minor circular metal culvert. Some vegetation build up noted at culvert entrance, impeding flow.</p>			
<p>Watercourse Crossing: WX06            Proposed Schedule of Works: New            NGR: NX 19733 80804            Watercourse Width: 0.4 m            Watercourse Depth: 0.2 m            Notes: Narrow and shallow watercourse in recently felled forestry. Small upgradient catchment area to the west with minor areas of surface water ponding noted.</p>			
<p>Watercourse Crossing: WX07            Proposed Schedule of Works: Upgrade            NGR: NX 18489 80641            Watercourse Width: 0.6 m            Watercourse Depth: 0.1 m            Notes: Existing concrete culvert watercourse crossing. Concrete at culvert entrance showing significant corrosion with metal reinforcement bars exposed. Flow noted to bypass round edges of culvert through track.</p>			
<p>Watercourse Crossing: WX08            Proposed Schedule of Works: Upgrade            NGR: NX 18385 80593            Watercourse Width: 1.2 m            Watercourse Depth: 0.1 m            Notes: Existing concrete culvert watercourse crossing. Long culvert crossing (~10 m) with reinforced stone banks upgradient and wide (~2.5 m) deep (~0.2 m) pool at discharge location.</p>			
<p>Watercourse Crossing: WX09            Proposed Schedule of Works: Upgrade            NGR: NX 18538 81409            Watercourse Width: 3.0 m            Watercourse Depth: 0.2 m            Notes: Existing concrete bridge watercourse crossing. No obvious signs of increased erosion, deposition or change to flow regime.</p>			

Watercourse Crossing Details	Photograph off Existing/New Watercourse Crossing Point	Photograph Looking Upstream of Watercourse Crossing	Photograph Looking Downstream of Watercourse Crossing
<p>Watercourse Crossing: WX23 Proposed Schedule of Works: Upgrade NGR: NX 18096 80515 Watercourse Width: 3.0 m Watercourse Depth: 0.1 m Notes: Existing concrete bottomless box culvert watercourse crossing. Upgradient banks are reinforced with placed rock, some significant bank erosion noted approximately 30m downgradient of culvert at watercourse meander.</p>			

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