

Appendix 7.1: Watercourse Crossings and Buffers

Appendix 7.1: An Carr Dubh Wind Farm - Watercourse Crossings and Buffers


Watercourse Crossings

- 1.1 The watercourse crossings of the proposed and existing access tracks have been identified from a combination of Ordnance Survey mapping, Bing aerial imagery and hydrology field surveys.
- 1.2 Data for each crossing are provided in **Table 1** below, based on field data. Culvert dimensions at existing crossings on the existing access tracks are provided. It is assumed that some existing crossings may need to be upgraded during track upgrades as part of the Proposed Development. A representative photograph is provided for each crossing (proposed and existing).
- 1.3 The Proposed Development infrastructure will cross 31 watercourses on existing tracks (which may need to be upgraded) and will require 74 new crossings for new tracks and infrastructure; a total of 105 crossings.
- 1.4 Named watercourses that are crossed by the proposed infrastructure include Allt Bail' a Ghobhainn, Eas an Amair, Alltan Airigh Mhic Choinnich, Allt Riabhachan, Allt Eas a Chosain, Erallich Water and the remainder are small, unnamed watercourses. The average width of watercourses to be crossed is 0.8m, with widths ranging from 0.1m to 3.7m.
- 1.5 Catchment areas upstream of each watercourse crossing were calculated in GIS software based on watershed analysis using the OS Terrain 5m topographic DTM data, supplemented by field observations. The catchment areas upstream of the track crossing locations range from less than 0.01 to 2.84km², with the largest catchment being upstream of the crossing of the Eas an Amair (crossing ID2). Hydrological analysis for each individual catchment at the watercourse crossing location was undertaken to determine the design flows for 2-, 10-, 30-, 50- and 100-year return periods. This was fed into the Outline Drainage Strategy (**Appendix 4.4**) to provide initial sizing and design of the crossings.
- 1.6 Most of the proposed crossing will be pipe or bottomless culverts laid into natural ground or into the bed of the watercourse where applicable.. Eight crossings of the larger watercourses (ID2, 16, 22, 27, 29, 36, 72 and 85) will require single span bridges, instead of culverts. Details are provided in **Appendix 4.4**
- 1.7 The locations of the watercourse crossings are illustrated on **Figure 7.2.1 and 7.2.2** of this EIA Report.




Watercourse Buffers




- 1.8 The Scottish Environment Protection Agency (SEPA) generally recommend a buffer of 50m around each loch/ watercourse in their standard scoping guidance (**Table 7.1** of the EIA Report). This was achieved for most of the watercourses on the site, with the exception of track crossings.
- 1.9 There are nine locations where a 50m buffer could not be achieved; these are detailed in **Table 2**, along with photographs and details of potential effects and additional mitigation required. These locations are shown on **Figure 7.2.1 and Figure 7.2.2** of the EIA Report. The majority of the locations where a 50m buffer was not achieved are on small, unnamed watercourses or waterbodies.




Table 1: Watercourse Crossings

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
1	Unnamed	201712	711403	Combination of surface water and groundwater fed.	0.4	Silt, peat	No	Yes	Proposed	N/A	0.03	Yes	No	
2	Eas an Amair	201737	711470	Larger watercourse	3.7	Mixed	No	Yes	Proposed	N/A	2.84	No	Yes	
3	Unnamed	201918	711953	-	0.2	Peat	No	Yes	Proposed	N/A	0.01	Yes	No	




¹ A minor watercourse is defined by SEPA as one that is not shown on 1:50,000 scale Ordnance Survey maps. SEPA do not normally require an authorisation for engineering activities on minor watercourses with the exception of culverting for land-gain, dredging and permanent diversions/realignments.

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4	Unnamed	201699	712170	-	0.2	Sand	No	No	Proposed	N/A	0.02	Yes	No	
5	Unnamed	201703	712217	-	0.2	Sand	No	Yes	Proposed	N/A	0.02	Yes	No	
6	Unnamed	201718	712419	-	0.35	Silt	No	Yes	Proposed	N/A	<0.01	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
7	Unnamed	201862	712638	-	0.2	Silt	N	Y	Proposed	N/A	0.01	Yes	No	
8	Unnamed	202126	712686	-	0.6	Silt	N	Y	Due to proximity of T10 hardstanding, this small watercourse will be diverted round the infrastructure to avoid a long culvert under the hardstanding. This will maintain hydrological connectivity downstream.	N/A	0.01	Yes	No	
9	Unnamed	202138	712688	-	0.2	Silt	N	Y	Due to proximity of T10 hardstanding, this small watercourse will be diverted round the infrastructure to avoid a long culvert under the hardstanding. This will maintain hydrological connectivity downstream.	N/A	0.01	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
10	Unnamed tributary of Eas an Amair	201344	711242	-	2	Cobble	N	Y	Proposed	N/A	0.09	No	Yes	
11	Unnamed	201392	711239	Watercourse goes underground through peat pipe at crossing location	1	Silt, peat	N	Y	Proposed	N/A	0.03	Yes	No	
12	Unnamed	202620	711913	-	0.6	Silt	N	Y	Proposed	N/A	0.05	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
13	Unnamed	202788	711886	-	0.3	Mixed up to cobble	N	Y	Proposed	N/A	0.02	Yes	No	
14	Unnamed	202578	712010	Peat pipes	0.5	Peat, silt	N	Y	Proposed	N/A	0.10	Yes	No	
15	Unnamed	202574	712019	-	0.9	Silt	N	Y	Proposed	N/A	0.09	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
16	Unnamed	202398	712138	Fairly large watercourse	1.5	Fine sand and silt	N	Y	Proposed	N/A	0.87	Yes	No	
17	Unnamed	202748	711697	Peat pipe	0.8	Peat, sand and silt	N	Y	Proposed	N/A	0.17	Yes	No	
18	Unnamed	202780	711697	-	0.6	Peat	N	Y	Proposed	N/A	0.17	Yes	No	




ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
19	Unnamed	203042	711694	-	1.0	Fine sand and silt	Y	Y	Proposed	N/A	0.04	Yes	No	
20	Unnamed	203033	711695	-	0.4	Cobble	N	Y	Proposed	N/A	0.05	Yes	No	
21	Unnamed	202922	712077	-	0.5	Peat, Fine silt	Y	Y	Proposed	N/A	<0.01	Yes	No	




ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
22	Unnamed	203055	712456	Larger watercourse	1.2	Mixed to cobble	N	Y	Proposed	N/A	0.55	No	Yes	
23	Unnamed	203588	712486	-	0.3	Fine sand and silt	N	Y	Proposed	N/A	0.06	Yes	No	
24	Unnamed	203881	712459	-	0.3	Silt	N	Y	Proposed	N/A	0.09	Yes	No	

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25	Unnamed	203864	712273	Peat pipe	0.8	Peat, silt	N	Y	Proposed	N/A	0.06	Yes	No	
26	Unnamed	203856	712226	-	0.3	Peat, silt	N	Y	Proposed	N/A	<0.01	Yes	No	
27	Alltan Airigh Mhic Choinnich	203623	711443	Larger watercourse	2.0	Silt	N	Y	Proposed	N/A	0.58	No	Yes	




ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
28	Unnamed	203734	711374	Ephemeral stream	0.2	Silt	N	Y	Proposed	N/A	0.04	Yes	No	
29	Unnamed tributary of Erallich Water	203850	711310	-	0.7	Mixed	N	Y	Proposed	N/A	0.08	No	Yes	
30	Unnamed	203900	711283	Groundwater fed	0.3	Peat, silt	N	Y	Proposed	N/A	<0.01	Yes	No	

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31	Erallich Water	204080	711156	Main tributary of Erallich Water; is fed from Lochan Erallich	0.4	Mixed	N	Y	Proposed	N/A	0.21	No	Yes	
32	Unnamed tributary of Erallich Water	204411	711617	-	0.5	Mixed	N	Y	Proposed	N/A	0.19	No	Yes	
33	Unnamed	204422	711542	-	0.3	Mixed	N	Y	Proposed	N/A	0.04	Yes	No	




ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
34	Unnamed	204467	711471	Groundwater discharge covering wide flow area, no defined channel	N/A	Vegetated	N	Y	Due to proximity of T01 hardstanding, this runoff will be diverted round the infrastructure to avoid a long culvert under the hardstanding. This will maintain hydrological connectivity downstream.	N/A	N/A	N/A	No	
35	Unnamed	204441	711394	-	0.2	Gravel	N	Y	Due to proximity of T01 hardstanding, this runoff will be diverted round the infrastructure to avoid a long culvert under the hardstanding. This will maintain hydrological connectivity downstream	N/A	<0.01	Yes	No	
36	Erallich Water	204352	711217	This is downstream of crossing ID31	0.9	Mixed	N	Y	Proposed	N/A	0.27	No	Yes	




ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
37	Unnamed	204379	711271	-	0.6	Mixed to gravel	N	Y	Proposed	N/A	0.01	Yes	No	
38	Unnamed tributary of Erallich Water	204221	710966	-	1.0	Mixed	N	Y	Proposed	N/A	0.21	No	Yes	
39	Unnamed	204286	710891	Surface water fed, underground, vegetated natural stream	0.4	Mixed	N	Y	Proposed	N/A	0.07	Yes	No	




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40	Unnamed	204347	710830	Groundwater and surface water fed	0.3	Peat, silt	N	Y	Proposed	N/A	0.04	Yes	No	
41	Unnamed	204358	710818	Groundwater and surface water fed	0.6	Peat, silt	N	Y	Proposed	N/A	<0.01	Yes	No	
42	Unnamed	204486	710719	Peat erosion and peat pipes present	0.3	Peat	Y	Y	Proposed	N/A	0.08	Yes	No	




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43	Unnamed	204589	710659	Peat pipes	0.9	Peat, gravel	Y	Y	Proposed	N/A	0.01	Yes	No	
44	Unnamed	204619	710641	Waterfall	0.9	Mixed up to gravel	Y	Y	Proposed	N/A	0.04	Yes	No	
45	Unnamed	204674	710616	Large waterfall valley and gully (pictured). Track position has been moved south to avoid the deep gully.	1.5	Mixed to cobble	Y	Y	Proposed	N/A	0.04	Yes	No	




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46	Unnamed	204688	710611	-	0.3	Mixed to pebble	N	Y	Proposed	N/A	<0.01	Yes	No	
47	Unnamed	204708	710609	Groundwater fed watercourse	0.6	Gravel	N	Y	Proposed	N/A	0.01	Yes	No	
48	Unnamed	204761	710619	Numerous groundwater fed springs and flushes; no defined channel	N/A	Gravel	Y	Y	Proposed	N/A	<0.01	Yes	No	

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49	Unnamed	204883	710663	Groundwater flush or spring	0.8	Gravel	Y	Y	Proposed	N/A	<0.01	Yes	No	
50	Unnamed	205028	710514	Peat pipes visible	0.7	Mixed to gravel	Y	Y	Proposed	N/A	<0.01	Yes	No	
51	Unnamed	205045	710426	-	0.4	Mixed	Y	Y	Proposed	N/A	0.02	Yes	No	



ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
52	Unnamed	205047	710422	Small channel in peat bog, some deeper sections within channel	0.3	Peat, silt	Y	Y	Proposed	N/A	<0.01	Yes	No	
53	Unnamed	205105	710321	Peat pipes	0.4	Peat, silt	N	Y	Proposed	N/A	<0.01	Yes	No	
54	Unnamed	205162	710262	Peat hags present and a small bog channel	1.0	Peat	Y	Y	Proposed	N/A	<0.01	Yes	No	

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55	Unnamed	205267	710164	Peat pipes	0.8	Peat	Y	Y	Proposed	N/A	0.04	Yes	No	
56	Unnamed	205337	710171	Peat pipes	0.9	Peat	Y	Y	Proposed	N/A	<0.01	Yes	No	
57	Unnamed	205498	710181	-	1.1	Mixed to cobble	Y	Y	Proposed	N/A	0.05	Yes	No	

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58	Unnamed	205509	710181	Peat bog drainage	1.2	Peat	Y	Y	Proposed	N/A	0.05	Yes	No	
59	Unnamed	205807	710157	Peat hag channel drainage	1.0	Peat	Y	Y	Proposed	N/A	<0.01	Yes	No	
60	Unnamed	205815	710145	Peat bog drainage	0.6	Mixed	Y	Y	Proposed	N/A	<0.01	Yes	No	

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61	Unnamed	205788	710007	Peat bog drainage	0.3	Peat, silt	N	Y	Proposed	N/A	0.07	Yes	No	
62	Unnamed	206051	710044	-	0.5	Cobble	Y	Y	Proposed	N/A	0.02	Yes	No	
63	Unnamed	206162	710097	Surface and ground water drainage	0.7	Mixed	N	Y	Proposed	N/A	<0.01	Yes	No	




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64	Unnamed	206227	710141	Surface water drainage	0.2	Peat	N	Y	Proposed	N/A	<0.01	Yes	No	
65	Unnamed	206334	710147	-	0.3	Mixed	Y	Y	Proposed	N/A	0.03	No	Yes	
66	Unnamed	206518	710151	Groundwater discharge into small channel	1.0	Peat	Y	Y	Proposed	N/A	<0.01	Yes	No	

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67	Unnamed	206594	710172	Narrow channel within wider and deeper valley.	0.5	Cobble	Y	Y	Proposed	N/A	0.05	No	Yes	
68	Unnamed	206686	710208	Surface water drainage	1.0	-	Y	Y	Proposed	N/A	<0.01	Yes	No	
69	Unnamed	206815	710269	Large spring gushing water over wide area. No defined channel.	-	-	N	Y	Proposed	N/A	<0.01	Yes	No	




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70	Unnamed	206837	710281	-	0.4	Mixed	Y	Y	Proposed	N/A	<0.01	Yes	No	
71	Unnamed	206895	710309	Large groundwater discharge upslope.	0.8	Peat, silt	N	Y	Proposed	N/A	<0.01	Yes	No	
72	Allt Bail' a' Ghobhainn	207086	710234	Main watercourse	3.0	Mixed to boulder	Y	Y	Proposed	N/A	1.76	No	Yes	

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73	Unnamed	207087	710213	-	0.7	Mixed to cobble	N	Y	Proposed	N/A	0.10	Yes	No	
74	Unnamed	207304	710086	-	0.9	Mixed	Y	N	Existing	N/A	0.04	Yes	No	
75	Unnamed	207473	710075	-	0.5	Mixed	N	N	Existing	450 pipe	<0.01	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
76	Unnamed	207600	710015	-	0.8	Mixed	N	N	Existing	450 pipe	0.04	No	Yes	
77	Unnamed	207707	709803	-	-	Mixed	N	N	Existing	300 pipe	<0.01	Yes	No	
78	Unnamed	207718	709663	-	0.6	Mixed	N	N	Existing	450 pipe	0.07	Yes	No	

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79	Unnamed	207834	709564	-	-	Mixed	Y	N	Existing	300 pipe	0.01	Yes	No	
80	Unnamed	207718	709437	-	0.5	Mixed	N	N	Existing	300 pipe	<0.01	Yes	No	
81	Unnamed	207580	709248	-	0.4	Mixed	N	N	Existing	250 pipe	<0.01	Yes	No	

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82	Unnamed	207523	709164	-	0.4	Mixed	N	N	Existing	300 pipe	<0.01	Yes	No	
83	Unnamed	207470	709143	-	1.5	Mixed	N	Y	Existing	850 pipe	0.10	No	Yes	
85	Steallaire Ban	207352	709030	Watercourse fed by Steallaire Ban Loch	3.0	Mixed	N	Y	Proposed	N/A	0.74	No	Yes	

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86	Allt Riabhachan	207250	708909	Arch height 40cm and 150cm Bridge sides 200cm wide	3.5	Mixed	N	Y	Existing	Bridge, 1500 arch	1.64	No	Yes	
87	Unnamed	207331	708741	-	0.7	Mixed	N	Y	Existing	450 pipe	0.05	Yes	No	
88	Unnamed	207367	708692	-	0.4	Mixed	N	Y	Existing	450 pipe	0.03	Yes	No	

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89	Unnamed	207514	708514	-	0.7	Mixed	N	Y	Existing	700 x 700 box	0.21	No	Yes	
90	Unnamed	207622	708474	-	1.5	Mixed	N	Y	Existing	1200 pipe	0.61	No	Yes	
91	Unnamed	207872	708699	-	0.9	Mixed	N	Y	Existing	300 pipe	0.01	Yes	No	

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92	Unnamed	208943	708519	-	0.6	Mixed	N	Y	Existing	250 pipe	<0.01	Yes	No	
93	Unnamed	208803	708362	Ditch	0.8	Mixed	N	N	Existing	450 pipe	<0.01	Yes	No	
94	Unnamed	208768	708333	-	1.2	Mixed	Y	Y	Existing	600 pipe	<0.01	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
95	Unnamed	208738	708281	-	0.6	Mixed	N	Y	Existing	450 pipe	<0.01	No	Yes	
96	Unnamed	208648	708154	-	0.8	Mixed	N	Y	Existing	450 pipe	0.03	Yes	No	
97	Unnamed	208623	708097	-	1.0	Mixed	Y	Y	Existing	450 pipe	0.04	No	Yes	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
98	Unnamed	208566	707963	-	0.4	Mixed	N	N	Existing	450 pipe	0.02	Yes	No	
99	Unnamed	208471	707865		0.4	Mixed	N	N	Existing	450 pipe	<0.01	Yes	No	
100	Unnamed	208427	707805	Ditch	0.3	Mixed	N	N	Existing	450 pipe	0.01	Yes	No	

ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
101	Allt Eas a Chosain	208345	707651	Straightened watercourse. Stone arch culvert at crossing. (estimated sizes as couldn't access to measure)	2.2	Mixed to cobble	N	N	Existing	~1500mm wide culvert with ~500mm high arch	1.03	No	Yes	
102	Unnamed	208376	707714	Culvert under structure	0.9	Mixed	N	N	Existing	450 pipe	0.16	Yes	No	
103	Unnamed	208343	707458	-	1.5	Mixed	N	Y	Existing	800 pipe	0.26	No	Yes	


ID	Name	Easting	Northing	Field notes/ comments	Width (m)	Bed Sediment	Bank erosion (yes/no)	Natural channel (yes/no)	Crossing Type	Culvert dimension (mm)	Catchment (km ²)	Minor Watercourse (yes/no) ¹	CAR Engineer Authorisation Required (yes/no)	Photograph
104	Unnamed	208353	707261	Ditch	0.4	Mixed	N	N	Existing	300 pipe	0.01	Yes	No	
105	Unnamed	208306	706937	-	0.4	Mixed	N	Y	Existing	250 pipe	<0.01	Yes	No	
106	Unnamed	208271	706831	-	0.4	Mixed	N	N	Existing	300 pipe	<0.01	Yes	No	



Table 2: Watercourses/ Drains where a 50m buffer to infrastructure was not achieved


ID	Name	Width of watercourse (top of bank)	Watercourse Description	Infrastructure and Ancillary Works Description	Temporary or Permanent	Width of buffer strip achieved	Water feature upgradient or downgradient of proposed infrastructure	Potential Effect/ Comment	Additional Mitigation	Photograph (or Aerial Image ² if photograph not available)
A	Unnamed	n/a (small waterbody)	Small unnamed waterbody	Track (non-floating)	Permanent	41m	Upgradient	<p>This is a small waterbody (lochan) that sits ~10m higher than the proposed track. Run-off from the track will not flow towards the waterbody and there is no flood risk from the waterbody.</p> <p>Embedded mitigation (i.e. SuDS) around the track will be included in the design.</p> <p>Buffer width is considered adequate for size of water feature.</p>	None	

² Background Mapping: Microsoft® Bing™ Maps

ID	Name	Width of watercourse (top of bank)	Watercourse Description	Infrastructure and Ancillary Works Description	Temporary or Permanent	Width of buffer strip achieved	Water feature upgradient or downgradient of proposed infrastructure	Potential Effect/ Comment	Additional Mitigation	Photograph (or Aerial Image ² if photograph not available)
B	Unnamed	~1.0m	Small watercourse	Track (non-floating) T4 temporary hardstanding/clearance area	Permanent Temporary	39m 31m	Downgradient Downgradient	<p>This is the upstream part of a small watercourse. Flow path analysis indicates that surface water runoff paths are from the infrastructure towards the watercourse.</p> <p>Embedded mitigation (i.e. SuDS) around the construction area will be included in the design.</p> <p>Buffer width is considered adequate for size of water feature.</p>	<p>Additional mitigation (e.g. silt fences, settlement ponds) will be installed between the temporary construction area/ track and the watercourse to reduce the risk of sediment/silt run-off during construction.</p>	
C	Loch nan Car	n/a (waterbody)	Large upland loch	Track (non-floating and floating)	Permanent	21m	Downgradient	<p>Flow path analysis indicates that surface water runoff paths are from the proposed track towards the loch.</p> <p>Embedded mitigation (i.e. SuDS) around the construction area will be included in the design.</p> <p>Due to other constrains (including proximity of GWDTE M32 spring and localised areas of deep peat) the waterbody buffer could not be achieved.</p>	<p>Additional mitigation (e.g. silt fences, settlement ponds) will be installed between the track track and the loch to reduce the risk of sediment/silt run-off during construction.</p>	

ID	Name	Width of watercourse (top of bank)	Watercourse Description	Infrastructure and Ancillary Works Description	Temporary or Permanent	Width of buffer strip achieved	Water feature upgradient or downgradient of proposed infrastructure	Potential Effect/ Comment	Additional Mitigation	Photograph (or Aerial Image ² if photograph not available)
D	Unnamed	~1m	Upstream reach of small watercourse	Track (floating)	Permanent	45m	Downgradient	<p>Due to other constraints (primarily deeper peat to the north of the track) the track section encroaches the buffer.</p> <p>Embedded mitigation (i.e. SuDS) around the track will be included in the design.</p> <p>Due to the small catchment upstream of the watercourse, the track is not considered to be at flood risk. Flow path analysis indicates that surface water runoff paths are from the proposed track towards the watercourse.</p>	<p>Additional mitigation (e.g. silt fences, settlement ponds) will be installed between the track and the watercourse to reduce the risk of sediment/silt run-off during construction.</p>	
E	Unnamed	~1m	Upstream reach of small watercourse	Track (floating)	Permanent	47	Downgradient	<p>Due to other constraints (including the proximity of another watercourse to the west, and the orientation of the hardstanding relative to T11) the track section encroaches the buffer.</p> <p>buffer.</p> <p>Embedded mitigation (i.e. SuDS) around the track will be included in the design.</p> <p>Due to the small catchment upstream of the watercourse, the track is not considered to be at flood risk. Flow path analysis indicates that surface water runoff paths are from the proposed track towards the watercourse.</p>	<p>Additional mitigation (e.g. silt fences, settlement ponds) will be installed between the track and the watercourse to reduce the risk of sediment/silt run-off during construction.</p>	

ID	Name	Width of watercourse (top of bank)	Watercourse Description	Infrastructure and Ancillary Works Description	Temporary or Permanent	Width of buffer strip achieved	Water feature upgradient or downgradient of proposed infrastructure	Potential Effect/ Comment	Additional Mitigation	Photograph (or Aerial Image ² if photograph not available)
F	Unnamed	1.0m	Upstream reach of small watercourse	Track (floating)	Permanent	41	Upgradient	<p>This is a small watercourse that sits at a slightly higher elevation than the proposed track. Run-off from the track will not flow towards the watercourse and there is no flood risk from the watercourse.</p> <p>Embedded mitigation (i.e. SuDS) around the track will be included in the design.</p> <p>Buffer width is considered adequate for size of water feature.</p>	None	
G	Unnamed	n/a (waterbody)	Small waterbody	Track (floating)	Permanent	43m	Upgradient	<p>This is a small waterbody (lochan) that sits at a slightly higher elevation than the proposed track. Run-off from the track will not flow towards the waterbody and there is no flood risk from the waterbody.</p> <p>Embedded mitigation (i.e. SuDS) around the track will be included in the design.</p> <p>Buffer width is considered adequate for size of water feature.</p>	None	

ID	Name	Width of watercourse (top of bank)	Watercourse Description	Infrastructure and Ancillary Works Description	Temporary or Permanent	Width of buffer strip achieved	Water feature upgradient or downgradient of proposed infrastructure	Potential Effect/ Comment	Additional Mitigation	Photograph (or Aerial Image ² if photograph not available)
H	Unnamed	0.8m	Small unnamed watercourse, existing culvert under track	Borrow Pit 2	Temporary	5m	Upgradient	<p>The small watercourse is upgradient of the existing quarry that is proposed to be used as a borrow pit for the Proposed Development.</p> <p>Given the elevation difference it is unlikely that surface run off from the quarry will enter the watercourse, however additional mitigation will be put in place.</p> <p>OS 1:25K maps show a small surface waterbody in the centre of the existing quarry; this was not observed at the time of the site survey and likely relates to temporary standing water only.</p>	<p>No works will be undertaken within 10m of the watercourse and additional mitigation (e.g. silt fences, settlement ponds) will be put in place to prevent silt run-off to the watercourse.</p>	
I	Unnamed	1.2m	Small watercourse within afforested area	Borrow Pit 2	Temporary	10m	Upgradient	<p>The watercourse is located within an afforested area and is higher than the existing quarried area.</p> <p>Given the elevation difference it is considered unlikely that use of the borrow pit will affect water quality at the watercourse.</p> <p>There is a small area of ponded surface water within the low part of the quarry; and care should be taken if dewatering the quarry prior to excavation.</p>	<p>No works will be undertaken within 10m of the watercourse and additional mitigation (e.g. silt fences, settlement ponds) will be put in place to prevent silt run-off to the watercourse.</p> <p>Dewatering will be avoided where possible and permanent physical cut-offs will be avoided</p>	