Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

Hydro Permit

Merkland Burn Hydro

CAR/L/5009664

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Introduction

This introduction is not part of the authorisation.

Authorisations

Who we are: The Scottish Environment Protection Agency (SEPA) is a non-departmental public body of the Scottish Government. Our purpose is to deliver environmental protection and improvement in ways that, as far as possible, also create health and wellbeing benefits and sustainable economic growth.

Why we issue authorisations: We are responsible for preventing or controlling pollution and improving the environment. One of the tools available to us is the authorisation of activities that present environmental risk. Authorisations give permission for these activities to occur and set conditions that the activities must comply with.

When we issue authorisations: We will issue an authorisation following our determination of an application, when satisfied that the authorised person has put in place measures to protect the environment and is capable of carrying out activities in line with the conditions of an authorisation.

Changes to authorisations: We can amend, suspend or revoke an authorisation in response to changes in legislation, the activities undertaken or authorisation holder performance.

Compliance and enforcement: SEPA Officers may undertake monitoring and inspections to assess compliance with authorisation conditions. All authorisations and inspection reports are publicly available. If an authorised person fails to comply with an authorisation, we may take enforcement action in line with our enforcement policy and guidance.

General information:

Address:	Merkland Burn Hydro Merkland Wood Brodick Isle of Arran KA27 8HY
Description of authorised activities:	The abstraction of water from the water environment and impoundment of water for a hydro-electric power scheme.
Environmental risks SEPA has regulatory powers to control:	The impact on the water environment from the abstraction and impoundment of water.

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Authorisation Number: CAR/L/5009664

Notification: Grant of Authorisation

This authorisation has been granted by the Scottish Environment Protection Agency (SEPA) in exercise of its powers under:

The Water Environment (Controlled Activities) (Scotland) Regulations 2011.

Authorisation Number:	CAR/L/5009664
Authorised Person:	Merkland Burn Hydropower Limited 15553924 30 Bardsey Crescent Llanishen Cardiff CF14 5LA
Date of Authorisation:	17/04/2025
Authorised Activities:	The authorised activities are the; (a) abstraction of water from the water environment; (b) construction of impounding works in inland water (other than groundwater) or wetlands; (c) operation of impounding works in surface water and wetlands; and any associated works and/or the installation and/or removal of temporary structures; necessary for hydro-electric power generation.
Authorised Place:	Merkland Burn Hydro as further detailed in this authorisation.

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Conditions applicable to this authorisation:	The conditions contained in the schedules of this authorisation. Terms used in this authorisation are, unless otherwise specified, defined in the Interpretation of Terms schedule.

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Schedule 1: The Authorised Person and Activities

Purpose: This schedule places responsibility on the authorised person to ensure compliance with the conditions of this authorisation and details the activities that can be carried out.

1.1 Duty of Authorised Person

1.1.1 The authorised person must ensure compliance with the conditions of this authorisation.

1.2 Authorised Activities

1.2.1 The authorised activities are the:

(a) abstraction of water from the water environment;

(b) construction of impounding works in inland water (other than groundwater) or wetlands;

(c) operation of impounding works in surface water and wetlands;

and any associated construction works and/or the installation and/or removal of temporary structures;

necessary for hydro-electric power generation.

1.2.2 The authorised person must notify SEPA in advance of the date that the scheme becomes operational.

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Schedule 2: Impounding works

Purpose: This schedule controls the location, operation and/or alteration of impounding works (e.g.impoundments, dams and weirs) that hold back or divert water.

2.1 Impoundment activities

2.1.1 The construction and operation of the impoundment detailed in Table 1 must only be;

a) at the corresponding location(s); and

b) subject to the corresponding controls;

specified in Table 1.

Table 1 Impoundment activities

Impoundment	Location	Controls
Merkland Burn Hydro Impoundment	Merkland Burn NS 0301 3970	The impoundment height must be no greater than 2.1 metres. Any works in the wetted part of the channel, must not be undertaken during the period in which fish are likely to be spawning in the watercourse nor in the period between such spawning and the subsequent emergence of juvenile fish.

2.1.2 The operation of Merkland Burn hydro impoundment detailed in Table 1, must not:

(a) cause harm to fish;

(b) prevent the passage of salmon and sea trout during periods when natural flow levels would enable their migration.

2.2 Fish passage downsteam

2.2.1 There must be a plunge pool downstream of the impounding works detailed in Table 2:

(a) At the corresponding location; and

(b) Subject to the corresponding controls;

specified in Table 2.

Table 2 Plunge pool location and controls

Activity	Location and National Grid Reference (NGR)	Controls		
		Minimum Width (m)	Maximum vertical drop (m)	Minimum plunge pool depth (m)
Merkland Burn hydro impoundment	Merkland Burn NS 0301 3970	No less than the impoundment width	1.07	0.36

2.2.2 There must be an exit notch from the plunge pool to the affected watercourse with a minimum width of 150mm.

2.2.3 The exit notch must maintain a minimum water depth of 100mm through the notch.

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Schedule 3: Abstraction

Purpose: This schedule limits the location and scale of the abstraction of water.

3.1 Abstraction Activities

3.1.1 The abstraction of water in Table 3 must only be undertaken:

(a) At the corresponding location; and

(b) Subject to the corresponding controls;

specified in Table 3.

3.2 Abstraction return

3.2.1 The abstracted water must be returned to the water environment at the corresponding return location specified in Table 3.

3.2.2 The return of abstracted water must not cause a significant impact on the water environment due to the presence of oil.

3.2.3 The return of abstracted water must not cause significant scouring of the bed or banks of any watercourse.

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Table 3 Abstraction activities

Activity	Location and NGR	Controls			
		Intake type	Abstraction return location (NGR)	Maximum abstraction rate (m^3/sec)	Maximum abstraction rate (m^3/day)
Merkland Burn Hydro Abstraction	Merkland Burn NS 0301 3970	Coanda	Merkland Burn NS 0215 3856	0.122	10,541

3.3 Hands off flows and residual flows

3.3.1 During the period specified in Table 4, for each abstraction in that table, water may be abstracted when the flow upstream of the abstraction is greater than or equal to the flow in the fourth column of that table, but only to the extent that the flow immediately downstream of the intake is greater than or equal to the flow specified in the fifth column of that table.

Table 4 Hands off flow

Name/Reference	Location (NGR)	Period	Flow upstream of intake (m^3/second)	Flow downstream of intake (m^3/second)
Merkland Burn Hydro Impoundment	Merkland Burn NS 0301 3970	All year	0.011	0.011

3.3.2 For each intake specified in the first and second columns of Table 5, the corresponding flow specified in the fifth column of the said table shall, during the period in any year given for that intake in the third column of that table, be delivered when the flow upstream of the intake as specified in the fourth column of that table is reached.

Table 5 Residual Flow Requirements

Name/Reference	Location (NGR)	Period	Flow upstream of intake (m^3/second)	Flow downstream of intake (m^3/second)
Merkland Burn Hydro Impoundment	Merkland Burn NS 0301 3970	All year	0.093	0.016

3.4 Fish Screens

3.4.1 A screen as details in Table 6 must be provided;

(a) During the corresponding period;

(b) at the corresponding location, and

(c) with a screen gap no greater than the maximum corresponding gap size;

as specified in Table 6.

3.4.2 The screens detailed in Table 6 must not cause harm to fish.

Table 6 Fish Screens

Structure	Period	Location National Grid Reference (NGR)	Maximum Gap Size (mm)
Merkland Burn Hydro Intake	All Year	Merkland Burn NS 0301 3970	1
Merkland Burn Hydro Tailrace	All Year	Merkland Burn NS 0215 3856	20

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Schedule 4: Construction Works

Purpose: This schedule limits the timing and impact from works associated with the authorised activities and any associated structures. Descriptive conditions cover impacts that may arise from pollution. Temporary works must be removed and the water environment must be restored to at least its previous condition.

4.1 Construction works

4.1.1 The construction of impounding works and any associated construction works, and the installation and/or removal of temporary structures, must not have a significant impact on the water environment as a result of:

(a) Iridescence / sheen;

(b) Discolouration;

(c) Deposition of solids;

(d) Increased foaming.

4.1.2 The construction of impounding works and any associated construction works, and the installation and/or removal of temporary structures, must not have a significant impact on the water environment as a result of:

(a) cause significant erosion of the bed or bank;

(b) cause harm to freshwater pearl mussels;

(c) cause harm to fish;

(d) cause the spread of invasive non-native species with the water environment;

(e) prevent the passage of migratory fish; or

(f) have a significant adverse impact on private drinking water supplies.

4.1.3 Construction works and the installation and/or removal of temporary structures in the wetted part of inland waters associated with impoundment construction activities must:

(a) only be undertaken where it is impracticable to complete the works otherwise; and

(b) not be undertaken during the period in which fish are likely to be spawning nor in the period between spawning and the subsequent emergence of juvenile fish.

4.1.4 Construction works and/or temporary structures on the bed or banks of inland waters associated with impoundment construction activities, must be removed as soon as reasonably practicable after completion of the activities.

4.2 Restoration

4.2.1 Where the channel, bed or banks immediately adjacent to the impoundment construction activities have been adversely impacted by the works, they must be restored to at least their previous condition as soon as reasonably practicable.

4.2.2 Where the channel, bed or banks have been adversely impacted by any associated construction works and /or temporary structures, they must be restored to at least their previous condition as soon as reasonably practicable.

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Schedule 5: Environmental Events

Purpose: This schedule requires the cessation, prevention and reporting of any potentially polluting event that may arise from the authorised activities.

5.1 Notification of SEPA

5.1.1 SEPA must be notified via its pollution hotline contact telephone number as soon as reasonably practicable, and in any case within 24 hours of identification of an event, of any of the following:

(a) An event that has caused or could cause adverse impact to the environment or harm to human health;

(b) An event that results, or could result, in an emission to the environment that is not authorised;

(c) An event that has caused a breach of a condition of this authorisation.

In this condition, the meaning of 'event' is as defined in the Interpretation of Terms in schedule 7 of this authorisation.

5.2 Management of the Event

5.2.1 All measures that are reasonably practicable must be taken to stop an event and to minimise its effect on the environment.

5.3 Reporting of the Event

5.3.1 Within 14 days of an event a report must be submitted to SEPA detailing:

(a) The reason(s) for the event;

(b) The action(s) taken to stop the event and minimise the impacts; and

(c) The action(s) taken to prevent the event from recurring.

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Schedule 6: Record Keeping and Data Submission

Purpose: This schedule requires the authorised person to keep records of specific activities carried out and to provide SEPA with specified information at regular intervals.

6.1 Record Keeping

6.1.1 All information recorded, kept or submitted to SEPA in accordance with a condition of this authorisation must be:

(a) True and accurate;

(b) Kept for a minimum of six years; and

(c) Provided to SEPA upon request.

6.1.2 Records must be kept;

(a) of the total daily abstracted volume of water; and

(b) when there has been no daily abstraction;

for each abstraction in Table 1.

6.2 Data Submission

6.2.1 The information detailed in 6.1.2 must be submitted to SEPA annually no later than the 31st January each year.

6.2.2 The information required by 6.1.2 must be submitted to SEPA via email, in the **electronic data return form** supplied by SEPA to WRDataReturns@sepa.org.uk

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Schedule 7: Interpretation of Terms

For the purposes of this authorisation, and unless the context requires otherwise, the following definitions apply.

Term	Definition
abstraction	The removal or diversion of water by mechanical means, pipe or any engineering structure or works from any part of the water environment.
authorisation	The water use licence granted by SEPA under The Water Environment (Controlled Activities) (Scotland) Regulations 2011
authorised activities	The activities which may be carried on under this authorisation.
authorised person	The holder of this authorisation, and person responsible for securing compliance with the conditions of it.
authorised place	The geographic location or locations at which the authorised activities may be carried on.
bed level	The level of the bed relative to a specific point
compensation flow	A minimum flow rate downstream of an impoundment
construction works	The carrying out of any building, civil engineering or engineering construction works, including the clearance or preparation of the site.
electronic data return form	Electronic Data Return forms can be found on the SEPA webpage at: www.sepa.org.uk/regulations/water/abstractions On this page there is a link to the Data Returns form (excel) in the section "Data returns for abstraction licences"
event	• any accident which has caused or could cause environmental harm; or • any malfunction, breakdown or failure of plant, infrastructure or techniques which has caused or could cause environmental harm; or • force majeure or action taken to save human life or limb.

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Term	Definition
fish pass	any structure, or natural or artificial feature, including a ladder, fish way, sluice gate or lift, which facilitates the passage of fish upstream or downstream.
hands off flow	• a specific flow in the river when abstraction must cease
impoundment height	• the height as measured from the lowest downstream point of the impounding works to the highest point of the impounding works.
impounding works	• relation to surface water, (a) any dam, weir or other works by which surface water may be impounded or any works diverting the flow of water in connection with the construction or alteration of any dam, weir or other works falling within (a).
inland water	All standing or flowing water on the surface of the land (other than transitional water) and all groundwater, within the landward limits of coastal water. • Includes all rivers, streams, ditches, drains, cuts, culverts, dykes, sluices and passages through which water flows and includes artificial watercourses and underground watercourses.
residual flow	a variable flow, above the hands off flow, downstream of an intake
plunge pool depth	The depth as measured from the base of the exit notch to the base of the plunge pool
SEPA	Scottish Environment Protection Agency.
vertical drop	The height as measured between the lip of the weir and the level of water in the plunge pool.
water level	The level of water relative to a specific point.
water environment	All surface water, groundwater and wetlands.
wetland	An area of ground the ecological, chemical and hydrological characteristics of which are attributable to frequent inundation or saturation by water and which is directly dependent, with regard to its water needs, on a body of groundwater or a body of surface water

Except where specified otherwise, any reference to an enactment or statutory instrument includes a reference to it as amended (whether before or after the date of the authorisation) and to any other enactment, which may after the date of the authorisation replace or amend it.