SEPA
Scottish Environment Protection Agency

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

LICENCE APPLICATION FORM D

ABSTRACTIONS AND IMPOUNDMENTS

SECTION 1: ACTIVITIES APPLIED FOR					
ACTIVITIES APPLIED FOR (please use CAR-LA-FORM-K for the construction of deep boreholes >200m)					
Please indicate how many activities you are applying for under each category.		**No.:**	**National Grid Reference (10 character) of abstraction or impoundment**	**Name of source waterbody or impounded waters**	**Source type** ● **Watercourse** ● **Reservoir** ● **Loch** ● **Groundwater** ● **Spring** ● **Wetlands**
1.1 Abstractions:					
Registration	**An abstraction of more than 10m^3/day and less than or equal to 50m^3/day**		*Attach separate application forms for registration to this application*		
Simple Licence	**An abstraction of more than 50m^3/day and less than or equal to 2000m^3/day**				
Complex Licence	**An abstraction of more than 2000m^3/day**	**1**	**NS 01314 39701**	**Merkland Burn**	**Watercourse**
1.2 Borehole construction and operation To construct and operate a borehole you need to obtain a CAR registration or licence					
Enter registration or licence number if you have already obtained a permit:					
1.3 Mobile abstraction units used to abstract water under this application					
Mobile Plant	**Additional mobile unit abstraction location(s)**		**- -**		

	If applicable please state how many mobile abstraction units are to be used to abstract water applied for under this licence				
1.4 Impoundments:					
Simple Licence	**Existing passive weir**		**- -**		
	Existing managed weir less than or equal to 1 metre high		**- -**		
	Existing raised loch less than or equal to 1 metre high		**- -**		
	Construction of all new impoundments less than or equal to 1m high that do not affect the passage of salmon or sea trout.		**- -**		
Complex Licence	**Construction and operation of all other impoundments**	**1**	**NS 01314 39701**	**Merkland Burn**	**Watercourse**

SECTION 2: REASONABLE NEED

2.1 PLEASE INDICATE YOUR MAIN CATEGORY OR CATEGORIES OF USE (if appropriate)

Agricultural irrigation		**Please complete Q2 and Table A**
Agricultural water supply		**Please complete Q2 and Table B**
Golf Course irrigation		**Please complete Q2 and Table C**
Industry (other than hydropower)		**Please complete Q2 and Table D**
Private Water Supply		**Please complete Q2 and Table E**
Public Water Supply		**Please complete Q2 and Table F**
Hydropower	**1**	**Please complete Q2 and Table G**
Other(please specify)		**Please complete Q2 and Table H**

2.2 ALL USERS

2.2.1 Total Quantities to be authorised **Please give the total volume of usage in cubic metres to be authorised from all sources in the periods indicated**	**Hour (m^3)** **439.2**	**Day (m^3)** **10,541**	**Year (m^3)** **3,847,392**

2.2.2 Please set out here any other information, e.g. supporting calculations, operational practices or other reasons, in addition to that which you include in the following tables, to show how you have arrived at the quantities set out above that you are seeking to have authorised. (Please continue on a separate sheet were necessary)	Mean flow as determined by Lowflows2 at the intakes is 0.095m3/s We are applying for a maximum abstraction of 1.28 x mean flow as determined by LowFlows2. This amounts to the figures for hour, day and year above. The catchment area above the proposed abstraction point is 1.63km2.
2.2.3 Please set out here what steps you have taken or intend to introduce to ensure efficient use of water (Please continue on a separate sheet if necessary)	High efficiency turbine and generator. Correctly designed penstock and intake.

TABLE A Agricultural irrigation (If you are applying for one licence covering a number of farming units please complete one copy of Table A for each farm unit applied for under this licence application.)

A.1 Please provide the following details of irrigated crops using the guidance on crop type in section 2.

NB: You should provide information for the likely combination of crop areas reflecting the maximum demand in any one year.

Crop Type	**Maximum area of crop typically irrigated in any year in hectares**	**Maximum annual depth of irrigation applied in mm**
Maincrop potatoes		
Early potatoes		
Broccoli		
Brussels Sprouts		
Cabbage		
Carrots		
Cauliflower		
Onions		
Parsnips		
Peas		
Runner beans		
Lettuce		
Salad onions		
Apples		
Strawberries		
Raspberries		
Blackcurrants		
Grazed grass		
Spring Cereals		
Other (please specify)		

A.2 Provide the soil type for the farm unit. If more than one please provide the approximate areas for each main type.

Soil type	**Area (hectares)**
Coarse sand	
Loamy coarse sand	
Coarse sandy loam	
Sand	
Loamy sand	
Fine sand	
Loamy fine sand	
Clay	
Dandy clay	
Silty clay	

	Clay loam	
	Sandy loam	
	Sandy clay loam	
	Silty clay loam	
	Fine sandy loam	
	Loam	
	Very fine sand	
	Loamy very fine sand	
	Very fine sandy loam	
	Silty loam	
	Silty loam	
	Peaty soils	
	Other (please specify)	

TABLE B Agricultural water supply				
B.1 Please state the type of livestock reared, the maximum number of animals and maximum kept and the total water requirement per day **You should provide information for the likely typical mix of livestock types reflecting the maximum demand.**	**Livestock type**	**No. of animals**	**Maximum daily rate of water used (m^3/day)**	**Comments** **e.g. if special diet provision, housing requirements etc.**
	Dairy cows			
	Beef cattle			
	Pigs			
	Poultry			
	Sheep			
	Other (please specify)			
B.2 Please give the maximum volume of water used for washing and cleaning per day.	**Equipment**	**Maximum volume of water per day (m^3)**		**Comments**
	Power hose			
	Non-power hose			

Table C - Golf Course Irrigation			
C.1 Please give the areas of tees greens fairways and any other feature you intend to irrigate and the maximum depth of water to be applied to each per annum	**Feature**	**Total area to be irrigated (ha)**	**Maximum depth of water to be applied per annum (mm)**
	Tees		
	Greens		
	Fairways		
	Other (please specify)		
C.2 Please give details of daily watering requirements	**Feature**	**Maximum area irrigated per day (ha)**	**Maximum depth of water applied per day (mm)**
	Tees		
	Greens		
	Fairways		
	Other(please specify)		

Table D Industrial Use			
D.1 Please provide a brief outline of the processes and water usage involved (Please continue on a separate sheet where necessary)			
D.2 For the appropriate industry sector, please state water use per unit of output. Also please provide the anticipated maximum annual production.	**Industry Sector and Process Type**	**Water use per unit production or output (please give units used)**	**Max Units produced per year**
	Beverages		
	Brewing		
	Brick production		
	Cement and concrete products		
	Ceramics and pottery manufacture		
	Chemicals – speciality sector		
	Chipboard and MDF manufacture		
	Coal Mining (excluding dewatering)		
	Cosmetics toiletries & cleaning agent manufacture		
	Distilleries		
	Electronic assemblies		
	Glass and fibreglass production		
	Fish Farming		
	Fish processing		
	Food processing – dairy produce		
	Food processing – flour and corn products		
	Food processing – fruit and vegetables		
	Food processing – sugar refining		
	Food product – confectionery		
	Industry Sector and Process Type	**Water use per unit production or output (please give units used)**	**Max Units produced per year**

	Food processing – miscellaneous		
	Fresh red meat production		
	Laundry		
	Lead acid battery production		
	Leather tanning		
	Leisure parks		
	Light industrial estate		
	Metal finishing		
	Metal processing		
	Plastics manufacture		
	Poultry processing		
	Power generation		
	Public Services		
	Pulp and papermaking		
	Quarries/mines (excluding dewatering)		
	Semiconductor wafer fabrication		
	Steel manufacture		
	Textile manufacture		
	Vehicle manufacture		
	Wallcoverings		
	Waste incineration		
	Other (please specify)		

Table E – Private Water Supplies – including hospitals, schools, prisons, hotels, industrial premises etc.		
E.1 Please indicate nature of supply (i.e. domestic, agriculture, hospital etc.). Include all components.		
E.2 Please give details of the numbers of people being supplied and details of any residential capacity etc.	**No of domestic properties served**	
	Total population supplied	
	For hospitals, schools, prisons, hotels etc. please provide the maximum number of person-days occupancy provided for in one year.	
	Other (please specify)	

Table F – Public Water Supplies		
F.1 Please indicate the nature of the abstraction (direct into treatment and supply, raw water storage, river basin transfer etc.)		
F.2 Please give details of the supply.	**F.2.1 Water resource zone to be supplied**	
	F.2.2 Total population supplied	
	F.2.3 Components of supply (percentage domestic, industrial, agricultural etc.)	
F.3 Please give details of relevant water resources planning and any other documents relating to this scheme. If the scheme departs from these plans, please give the reasons for this. **Please include details of any other current proposals which could have a bearing on the outcome of this application.**		

Table G – Hydropower	
G.1 Please give the head of water (H) and the design flow (Q)	**I have attached a spreadsheet named 'Evanachan Hydro Generation Calculations' which contains all the information relating to the head, efficiency and generation.**
G.2 Provide the estimated installed efficiency of the turbine	**75.5% (includes pipe, turbine, generator and inverter)**
G.3 Please give the installed capacity of the turbine in Mega Watts	**0.18MW**

Table H – Other	
H.1 Please give details of the water use, purpose of abstraction etc.	**The generation of electricity for export to the public energy network**
H.1 Please give as much detail as possible of the operational regime intended, water storage and conservation provision etc.	**See document submitted with application.**

SECTION 3 - APPLICATIONS INCLUDING ABSTRACTION ACTIVITIES

Complete this table for all activities you are applying for. If you are applying for a licence which includes more than one abstraction activity please copy, complete and reference a separate table for each licensable activity.

No. of Section 3 tables completed:	**1**	**Table ref:** (e.g.1 of 2, 2 of 2)	**1**

ABSTRACTION DETAILS:

3.1 Abstraction Point No/Ref/Name (This should correspond to a reference on the site map in 2.4 of Form A)**:**	**Intake A**
3.2 Source type (tick one):	☐ Watercourse
3.3 Name of watercourse or loch (if applicable):	**Merkland Burn**
3.4 National Grid Reference of abstraction. Specify a single point or for mobile abstraction units specify the upstream (u/s) and downstream (d/s) limits.	**NS 01314 39701**

3.5 Please provide a full description of your proposals to construct or alter any surface water intake structure, including plans and cross sections.	**Document name / reference:**	- **Intake Design**
3.6 Please provide method statements describing the method and controls of construction or alteration for any surface water intake structure	**Document name / reference:**	- **Construction and environmental method statement**
3.7 Using the look up table in Section 3 of the guidance specify the Purpose Category/Categories for the use of the abstracted water.	Primary purpose: **Electricity generation**	
3.8 Do you consider this abstraction would qualify as an environmental service?	☐ NO	
	Document name/ reference:	
3.9 Do you consider this abstraction would qualify for abated charges?	☐ NO	
	Document name/ reference:	

3.10 What is the maximum proposed rate or volume of abstraction for this abstraction activity? Conversion: 1m³ = 1000 litres; 1m³ = 220 gallons; 1m³/hour = 0.2778 litres/sec	**litres/ second:**	**cubic metres/ day:**	**cubic metres/ year:**
	Ltr/s: 122 **Hour (m³)** **439.2**	**Day (m³)** **10,541**	**Year (m³)** **3,847,392**
3.11 Describe how you propose to monitor the volume of water abstracted?	**Document name/ reference:**		**Flow Regime and Monitoring**
3.12 Do you intend to abstract every year or only intermittently? (Intermittent means that it is predictable in which years you will abstract. If you are applying to have the capability to abstract in any year, select annual)	☐☐ ANNUALLY		
	Document name/ reference:		

3.13 Please tick during which months the abstraction takes place and, if available, indicate abstraction volumes (m³/month).

Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
yes	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**

3.14 Is any abstracted water to be discharged back into the water environment? If yes, enter the National Grid Reference (NGR) of the discharge point(s). Please note this discharge may require authorisation as a point source discharge See the CAR Practical Guide for further details.	☐ YES NGR: 1) **NS 02148 38559**	
3.15 Where you have selected 'yes' above specify the water returned as a percentage of take at the above grid reference(s)	NGR: 1) **100** % of abstracted water returned	
3.16 If appropriate, provide information on the proposed operating regime (e.g. abstraction limits, hands off flow etc)	**Document name/ reference:**	**Flow Regime and Monitoring**
3.17 Where a management agreement is in place which influences the abstraction, please provide details.	**Document name/ reference:**	
3.18 If appropriate, provide information on any inter-relationships between abstraction points applied for as part of this application (see section 3 of the guidance)	**Document name/ reference:**	
3.19 Please describe any legal rights to the water	**Document name/ reference:**	Lease from Forestry and

you intend to abstract or any agreements with parties that hold the water rights or rights of access.		Land Scotland who manage the site on behalf of the Scottish Ministers
3.20 Please provide for mobile spray irrigation abstractions and water transfers a method statement detailing how each activity is to be carried out to prevent the spread of invasive non-native species[1].	**Document name/ reference:**	
3.21 On what date do you intend to commence the abstraction activity applied for?	**15th May 2025**	
3.22 If applicable what date do you intend to start construction works?	**1st Feb 2025**	
Additional information for groundwater abstractions only:		
3.23 If known, provide dimensions of the proposed borehole (or well) in metres: Conversion: 1inch = 0.0254m; 1foot = 0.3048m	**Depth:**	**Diameter:**
	0	**0**
3.24 Where the abstraction is greater than 50m³/day provide a water features survey (see section 3 in the guidance)	**Document name/ reference:**	
3.25 If known, what is the rock type from which the abstraction is being made?	☐ Unconsolidated ☐ Solid rock	

[1] For information see the check, clean, dry procedure as outlined in the GB non-native species secretariat website (http://www.nonnativespecies.org/checkcleandry/biosecurity-for-everyone.cfm) and guidance set out in GPP5 (http://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf?utm_source=website&utm_medium=social&utm_campaign=GPP5%2027112017)

SECTION 4 Part 1: APPLICATIONS INCLUDING IMPOUNDMENT ACTIVITIES

Complete this table for all impoundments that you are applying for. If you are applying for a licence which includes more than one impoundment structure please copy, complete and reference a separate table for each activity

No. of Section 4 tables completed:	**1**	**Table ref:** (e.g.1 of 2, 2 of 2)	**1**

IMPOUNDMENT DETAILS:

4.1 Impoundment No/Ref/Name: (This should correspond to the reference on the site map)	**Intake A**	
4.2 Type of original waterbody to be impounded:	☐ WATERCOURSE	
4.3 Name of watercourse or loch to be impounded:	**Merkland Burn**	
4.4 National Grid Reference of proposed impoundment (from mid point of impounding structure):	**NS 01314 39701**	
4.5 Using the look up table in Section 4 of the guidance specify the Purpose Category/Categories for the use of the impounded water. Continue on separate sheet if necessary.	Primary purpose: Hydropower	
4.6 Do you consider this impoundment would qualify as an environmental service?	☐ NO	
	Document name/ reference:	
4.7 Do you consider this impoundment would qualify for abated charges?	☐ NO	
	Document name/ reference:	
4.8 Where a management agreement is in place which influences the operation of the impoundment, please provide details.	**Document name / reference:**	
4.9 Please provide a full description of your proposals to construct or alter the impoundment, including plans and cross sections.	**Document name / reference:**	**See: Intake Design**
4.10 Please provide method statements describing the method and controls of construction	**Document name / reference:**	**-Construction and environmental method statement**
4.11 If applicable, what date do you intend to start construction or alteration works for the impoundment?	**Document name / reference:**	**1st Feb 2025**
4.12 Height of impoundment structure:	**2.075m**	
4.13 Please give the level of the overflow or crest of the dam (metres AOD) if this is different to the height of the impoundment structure	**223mAOD**	
4.14 National Grid Reference of outflow point from impounded waterbody	**NS 01314 39701**	
4.15 Where there is a means of drawing the impounded water down, what is the minimum draw-off level (metres AOD)?	**No facility**	
4.16 Provide details of ongoing maintenance of this impoundment structure e.g. debris clearance, scour valve operation, fish pass maintenance etc.	**Document name / reference:**	**No maintenance required**
4.17 Please provide details of any sediment management plan associated with this impoundment (see guidance in section 4.17)	**Document name / reference:**	**No sediment management required**
4.18 Is there to be provision for fish passage?	☐ No, watercourse too small to support fish	

	Document name / reference:	**Appendix A – Intake Designs**
4.19 Are there to be fish screens or other fish protection measures?	☐ Intake is fitted with a coanda screen	
	Document name / reference:	**Appendix A – Intake Designs**
4.20 Provide information of the proposed operating regime (e.g. compensation release, freshets, drawdown)	**Document name / reference:**	Flow Regime and Monitoring

4.21 For reservoirs, the total volume of water to be impounded and, if different total volume of waterbody (where known) (litres or cubic metres): (N.B. this information is not mandatory for schemes less than 25000m^3)	Volume of impounded water: Total volume of waterbody:		
4.22 Provide details on any interconnections with other impoundments, abstractions or catchments.	**Document name / reference:**	**Site Map**	
4.23 Is registration required under the Reservoirs (Scotland) Act 2011? (i.e. can the reservoir hold 25,000m^3 or more above the surrounding land?) **If yes, answer the following question:**	☐ NO ☐ YES		
4.23.1 **Have you already registered your reservoir with SEPA under the 2011 Act?**	☐ YES	Confirm reference number?	RES/R/…….
	☐ NO	Contact SEPA's Reservoir Regulatory Unit at Reservoirs@sepa.org.uk to register	

SECTION 5: ADDITIONAL INFORMATION

5.1 CUMULATIVE CHARGABLE ABSTRACTION VALUE

Please specify the combined maximum volume of abstraction from all abstraction points subject to a subsistence charge? (Please see guidance for more details) Conversion: $1m^3$ = 1000 litres $1m^3$ = 220 gallons	**10,541m^3/day**

5.2ADDITIONAL INFORMATION SUBMITTED

Please reference additional supporting documents submitted as part of this application	**Document name:** **Document reference:**	**Intake Design**
	Document name: **Document reference:**	**Site map**
	Document name: **Document reference:**	**Construction and Environmental Method Statement**
	Document name: **Document reference:**	**Photo Map and Highlights**
	Document name: **Document reference:**	**Flow Regime and Monitoring**
	Document name: **Document reference:**	**Powerhouse and Outfall**
	Document name: **Document reference:**	**Extended Phase 1 Habitat Survey Report**
	Document name: **Document reference:**	**Flow and Output Calculations**
	Document name: **Document reference:**	**Bryophyte Survey**
	Document name: **Document reference:**	**Killarney Fern Protection Plan**
	Document name: **Document reference:**	
	Document name: **Document reference:**	