Eastern Green Link 4:

Scottish Onshore Scheme

Volume 4: Appendices
Appendix 8.1: Private Water Supply Risk Assessment

December 2025

Prepared for:

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A8.1 Private Water Supply Risk Assessment

1. Introduction

The identification of known Private Water Supplies (PWS) and assessing the impacts of developments on groundwater abstractions is part of the Environment Impact Assessment Report (EIAR) process and is guided by SEPA's guidance document, '*Guidance on Assessing the Impacts of Developments on Groundwater Abstractions*'[1].

This appendix is to support **Chapter 8 Water Environment and Flood Risk (Volume 2 Main Report)** and should be read in conjunction with the chapter.

In keeping with the above named guidance, the assessment identifies any known PWS located within a Study Area of up to 250 m from the proposed cable route component of the Scottish Onshore Scheme and includes a qualitative risk assessment of whether these supplies may be impacted by the Scottish Onshore Scheme. **Figure 8.4 Private Water Supplies (Voume 2 Main Report)** displays the locations of each of the identified PWS.

The potential risks to PWS during construction include:

- Spillages of fuel, hydraulic fluids, solvents, grouts, paints and detergents and other potentially polluting substances which will be stored and/or used on proposed cable route.
- Uncontrolled sediment laden runoff from construction activity leading to increased turbidity in the supply.
- Impacts to supply from dewatering activities.
- Changes to aquifer recharge zones due to land use change (i.e. increased area of impermeable surfaces).

In general, operational risks are thought to be minor in comparison to construction risks, and so the focus of this assessment is on the construction phase.

This document also summarises a supply response plan for application in the event of a contamination or supply incident to a PWS.

2. Definition of a Private Water Supply

In Scotland, PWS are defined as potable supplies that are not provided by the mains water provider Scottish Water. They may be surface water abstractions, or abstractions from groundwater via wells, boreholes and springs. As a private supply, the only treatment of the

[1] SEPA, 2024. Guidance on Assessing the Impacts of Developments on Groundwater Abstractions. Available online: Guidance and advice notes | Scottish Environment Protection Agency (SEPA)

supply will be provided by any facilities installed and maintained by the owner of the supply or by those who benefit from the supply.

The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017[2] aim to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that the water meets water quality standards. This legislation requires that all PWS within the Highland area must be registered with the Fife Council. There are two types of PWS defined in the regulations:

- Type A are larger supplies (serving over 50 or more persons) or supplies that have a commercial or public activities usage irrespective of size. These are regulated by the Water Intended for Human Consumption (Private Supplies) (Scotland) 2017.
- Type B are those on serving 50 persons or less and are regulated by Private Water Supplies (Scotland) Regulations 2006[3].

3. Methodology

SEPA's guidance recommends that the risk assessment process is separated into three steps: Step 1: Identify any Existing PWS, Step 2: Qualitative Risk Assessment and Step 3: Quantitative Risk Assessment. This assessment only progresses to Step 2 as no PWS are deemed to be at high risk when considering mitigation.

3.1 Step 1 Identify any existing abstractions

The assessment of risks to abstractions, both groundwater and surface water, first requires the identification of all existing abstractions, both within and outwith the site boundary. The guidance defines the relevant buffer zones for groundwater abstractions for all subsurface activities deeper than 1 m as 250 m from the site boundary – this buffer zone has also been applied to the identification of surface water abstractions. The following actions have been undertaken to identify abstractions within this buffer zone.

Fife Council

Firstly, a data request of the 30th of April 2025 was sent out to Fife Council to request data within 1 km of the Scottish Onshore Scheme.

Letter Drop and Online Survey

Secondly, a letter, paper questionnaire and online questionnaire was created and used to conduct an online and physical survey of the properties identified from the data request. displays the letter, paper questionnaire and online questionnaire used (See **Annex A)**.

A letter was issued in June 2025 to Piteadie as it was the only PWS within 250 m of the Scottish Onshore Scheme.

[2] Scottish Statutory Instruments. 2017. The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 (legislation.gov.uk).
[3] Scottish Parliament, 2006. The Private Water Supplies (Scotland) Regulations 2006. Available Online: https://www.legislation.gov.uk/ssi/2006/209/contents

Site Walkover

Thirdly, to supplement the information from the online survey and the letter drops, a site walkover was undertaken of the Scottish Onshore Scheme, from the 1st to the 2nd of July 2025. During the site walkover, additional information on potentially affected PWS was gathered. **Confidential Appendix 8.1 Site Walkover Results (Volume 5 Confidential Appendices)** displays the results from the site walkover.

Screening in/ out

Step 1 includes screening out any data points which are not required to be assessed as there is no known risk (i.e. no impact pathway or outside of the Study Area).

The following list of criteria was used to screen in and out PWS identified from Fife Council data request and the survey:

- SEPA guidance suggests buffer zones for groundwater abstractions. These buffer zones include abstractions within 100 m radius of any excavations and less than 1 m deep, and groundwater abstractions within 250 m of any excavations and deeper than 1 m could be at a risk of contamination[4]. This guidance also recommends a 10 m buffer for all other activities. For this assessment, all PWS within 250 m of the works have been screened into the assessment.
- Any surface water sources which are directly downstream of any construction works were screened into the assessment and within the Study Area.

Before assessing the source-pathway-receptor impact in Step 2, each of the PWS are then given a general risk rating based on the relevant buffer zones for groundwater abstractions as indicated in SEPA's guidance (see **Table 1 Risk factors**). If a PWS is deemed to be a moderate or high risk, it has been taken forward into Step 2: Qualitative Risk Assessment.

Table 1 Risk factors

Groundwater Criteria	Surface Water Criteria	Risk Factor	Justification
Within 100 m of an excavation less than 1 m. Or within 10 m of any works	Less than 100 m downstream of any surface level construction works	High	Travel time between source and receptor would be quick and likely to be less barriers to block any pathway for contamination to reach receptor
Between 100 m to 250 m of any excavation greater than 1 m.	Between 100 m and 250 m downstream of any surface level construction works	Moderate	There will be a bit more time for source to travel to receptor. There would also be a higher likelihood for there to be barriers that block any pathway for contamination to reach the receptor.
More than 250 m away from any works.	Over 250 m from any surface level	Low	The larger distance between the source and receptor will allow for longer travel time and a large dispersion effect. There will also be less

[4] SEPA.2024. Guidance on Assessing the Impacts of Developments on Groundwater Abstractions. Available online: Guidance and advice notes | Scottish Environment Protection Agency (SEPA)

Groundwater Criteria	Surface Water Criteria	Risk Factor	Justification
	construction works		direct flow paths and potentially barriers that block any pathway for contamination to reach the receptor.

3.2 Step 2 Qualitative Risk Assessment

A groundwater conceptual model was developed and is presented in **Chapter 8 Water Environment and Flood Risk** (**Volume 2 Main Report**) of the Environmental Impact Assessment Report. Using this model, a qualitative risk assessment has been carried out using a source-pathway-receptor approach. If it is found that without suitable mitigation and monitoring measures there would be a significant risk to any of the PWS, they are then taken onto Step 3: Quantitative Risk Assessment.

3.3 Step 3 Quantitative Risk Assessment

If any of the PWS are deemed to potentially have any significant effects, a quantitative risk assessment would be required, in accordance with SEPA guidance[4].

4. Limitations and Assumptions

With this assessment, there is a number of limitations and assumptions. These are listed below:

- Site walkover occurred in July 2025 and can only reflect the PWS visited during that period. Therefore, the site walkover cannot always be fully accurate. Where there are information gaps, assumptions have been made, and these have been stated within the text.
- This assessment was carried in July 2025 and so it can only be used to represent the PWS that were recorded at that time. However, we do not expect any new ones, and pre-construction will include a baseline review. Additionally, the surveys are limited to who were contacted with questionnaires and those who responded to them online and/or in person.
- There is very little groundwater information from publicly available sources for the Scottish Onshore Scheme. There is no freely available groundwater level or flow data. Therefore, the nature and character of the groundwater aquifers is largely unknown. Reasonable assumptions have been made to build up a baseline and conceptual model.
- The source of the PWS at Broadleys Bagpipes and Reeds was not visited due to farm works in the field. Surveyors did gain a grid reference for the PWS source from the owner, therefore for this assessment it is assumed to be accurate. However, an additional visit to this PWS will be required at a later date, and this has been included as part of proposed mitigation in **EIAR Chapter 8: Water Environment and Flood Risk (Volume 2 Main Report)**.

- It has been assumed that the proposed cable route excavation trenches will be approximately 1.8 m deep.

5. Results

5.1 Step 1 Identifying any existing abstractions

From the Fife Council data request, online survey and physical survey, and the site walkover, a list of four PWS have been identified and have been taken forward to Phase 2.

Fife Council responded on the 28th of May 2025 detailing four properties with PWS:

- Piteadie, bore, located at NGR 325684 689313, this is a Regulated supply under the Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.
- North Glassmount, spring, located at NGR 324600 688900.
- Meadowfield, spring, located at NGR 322447 688844.
- Balbie, spring, located at NGR 322262 688558.

During the site walkover, another PWS was also identified located at NT 25982 89158 at Broadleys Bagpipes and Reeds

These PWS are listed in **Table 2**.

Table 2 Private Water Supplies

ID	Name	Known to Fife Council	Type A or B	Approx. NGR	Source of Supply	Distance to Scottish Onshore Scheme (m)	Closest Works	Responded to online or physical survey
PWS-01	Piteadie	Yes	A	NT 25684 89313	Borehole	160	Trenching route	Visited and completed survey in person
PWS-02	Broadleys Bagpipes and Reeds	No	Assumed Type B (not recorded with Fife Council)	NT 25982 89158 (approx-imately)	Spring/ Shallow Groundwater	0	Haul Road/ Trenching	Visited and completed survey in person
PWS-03	North Glass-mount	Yes	B	NT 24600 88900	Spring	913	Access route	n/a

ID	Name	Known to Fife Council	Type A or B	Approx. NGR	Source of Supply	Distance to Scottish Onshore Scheme (m)	Closest Works	Responded to online or physical survey
PWS-04	Meadow-field	Yes	B	NT 22447 88844	Spring	1348	Access Route	n/a
PWS-05	Balbie	Yes	B	NT 22262 88558	Spring	1667	Access Route	n/a

5.2 Step 2 Qualitative Risk Assessment

Overall, the assessment of the distances between the PWS and the Scottish Onshore Scheme identified one PWS considered to present a high risk and one is deemed to be of moderate risk. The remaining three are deemed low risk, based on their distance from the Scottish Onshore Scheme, and are therefore scoped out of the next stage of the assessment.

As the Step 1 Screening Assessment suggests that there is a high risk to PWS-02 Broadleys Bagpipes and Reeds, and a moderate risk to PWS-01 Piteadie, a Step 2 Conceptual Model assessment is required.

During the site walkover, Piteadie was visited and surveyors helped the PWS owner fill out the survey described above. It was confirmed that the PWS is sourced from a borehole located in a shed nearby their property.

An additional PWS was identified in a neighbouring property to Piteadie, at Broadleys Bagpipes and Reeds. The NGR for this supply was identified as NT 25508 89690. It is likely that this PWS is sourced from a spring or shallow groundwater. The owner was not entirely sure and due to farming activities in the field the surveyors were unable to visit the source of the PWS. However, they did gain a national grid reference of the source from the owner.

Scottish Water

Looking at the locations of Scottish Water assets and mains pipelines it appears that Piteadie and Broadleys Bagpipes and Reeds have a connection to the mains. Broadleys Bagpipes and Reeds is a business with residential uses at the same site. Currently both are known to be using the PWS source. During a follow-up telephone conversation with the business owner, it was established that a connection to a mains supply is currently in development, but a timescale for completion is unknown and there remains uncertainty as to its use depending on the quality of the resulting supply.

PWS-01 Piteadie

Conceptual Model

The location of the source of PWS-01 can be seen on **Figure 8.4 Private Water Supplies (Volume 2 Main Report)** of the EIAR and viewed in **Plate 2**.

PWS-01 is situated within the Kinghorn Volcanic Formation (Basaltic Tuff and Basaltic Lava). This geological unit is a part of unnamed Extrusive Rocks – Dinantian aquifer from the Hydrogeology 625k Map[5]. This aquifer has a low productivity and permeability. It is likely that groundwater will be concentrated around fractures, faults within upper weather zones. It is also likely that small amounts of groundwater are interbedded between igneous units of the Unnamed Igneous Intrusion. There is limestone interbedded within the Kinghorn Volcanic Formation, which are likely to hold groundwater, possibly in a confined state.

The direction of groundwater flow is unknown. PWS-01 is situated towards the top of a small hill. It is likely that groundwater in the upper weathered zone to flow with the topography. Therefore, there may be a small groundwater flow direction divide. Groundwater is likely to flow east but may also flow slightly more southeast or northeast.

The depth of PWS-01 borehole is unknown to the owner and was not able to be confirmed on site. It is likely that PWS-01 is either sourced from shallow groundwater in the upper weathered zone or is sourced from deeper sedimentary aquifers interbedded within the Kinghorn Volcanic Formation.

Plate 1 Photograph taken on the 2nd of July 2025 of PWS-01 facing south at shed where the borehole is located.

Plate 2 Photograph taken on the 2nd July 2025 standing at the location of PWS-01 facing southeast in the direction of the Scottish Onshore Scheme

Risks to Water Quality

PWS-01 is situated 160 m away from the proposed cable route corridor. Trenching could result in chemical contaminants from accidental spillages and run-off entering the aquifer. It could also risk increased turbidity.

[5] BGS GeoIndex. Hydrogeology 625k. Available Online: Hydrogeology 625K digital hydrogeological map of the UK - British Geological Survey

The trenching works are situated down topographic gradient of the PWS. Therefore, assuming that the groundwater flows east the risk of contamination should be low.

However, the depth of the borehole at PWS-01 is unknown. Additionally, it is unknown which geological units the borehole is screened to. Therefore, due to these uncertainties it is recommended the PWS-01 is incorporated into any monitoring plans. See Section 6 for further information on monitoring.

Risks to Water Quantity

Trenching could include small amounts of temporary dewatering. This could cause a temporary redirection of the groundwater flow towards the trench.

As stated earlier, the depth of the borehole and which geological units the borehole is screened to is unknown. The maximum borehole depth of the trenching nearby will likely reach to 1.8 m below ground level. It is likely that the borehole is deeper than this depth. Therefore, risks to groundwater quantity are likely to be minimal as the trenching is down topographic gradient and the borehole is likely to be deeper than the trench. Trenching will also only be temporary. Therefore, any risks associated with trenching will also be temporary.

PWS-02 Broadleys Bagpipes and Reeds

Conceptual Model

The location of the source of PWS-02 can be seen on **Figure 8.4 Private Water Supplies (Volume 2 Main Report)** of the EIAR and the rough location can be viewed on **Plate 3**.

The PWS is sourced from shallow groundwater, likely sourced from the overlying sands and gravel within the overlying Till. The Till overlies the essentially impermeable Kinghorn Volcanic Formation. It is likely that the groundwater flows southeast within the topography towards Tyrie Burn. However, there is no groundwater level or flow data to confirm this.

The owner mentioned that PWS-02 would go dry during the summer months. Therefore, it likely that this shallow aquifer highly dependent on regular rainfall to maintain the groundwater levels.

Plate 3 Standing at NT 26081 89208 facing west in the direction of where PWS 2 is located. PWS-02 is situated approximately 130 m west from this location. Photograph taken on the 2nd of July 2025.

Risks to Water Quality

PWS-02 is situated within the vicinity of trenching works. Trenching could result in chemical contaminants from accidental spillages and run-off entering the aquifer. It could also risk increased turbidity. Due to the close proximity of PWS-02 to the trenching, there is a risk that chemical contaminants from construction works move into the shallow aquifer.

Therefore, PWS-02 is considered to have a high risk of contamination.

Risks to Water Quantity

Trenching could include small amounts of temporary dewatering. This could cause a temporary redirection of the groundwater flow towards the trench.

Dewatering would likely occur within the superficial deposits (1.8 m deep below ground surface) where PWS-02 is also located. Dewatering has the potential to impact to flow to PWS-02 during the construction phase. Therefore, this causes a risk of reduced groundwater flow towards the PWS, consequently disrupting the supply.

5.3 Step 3: Quantitative Impact Assessment

No quantitative impact assessment has been carried out as it is likely that each of the potential impacts will be temporary. With appropriate mitigation measures in place there is unlikely to be major impacts. Monitoring of certain PWS will also ensure that the mitigation measures in place are working.

6. Monitoring and contingency planning

The sections below provide an overview of the monitoring, mitigation and actions in the event of incident to a PWS (Response Plan). The PWS Response Plan will be implemented in the event that the quality and quantity of the supply to any of the PWS is affected during construction.

The precise definition of what 'impact' would require a response will be determined in consultation with Fife Council's Environmental Health Officer (EHO) and SEPA, but it is expected that the response plan will have a hierarchy of actions. The most significant response would be where the supply is contaminated and is no longer wholesome or the flow is significantly disrupted.

Overall, the PWS Response Plan will cover how local PWS users can raise a concern with their supply, how the incident will be investigated, and what temporary and/or permanent water supply solutions need to be implemented.

6.1 Monitoring

PWS are an important drinking water receptor and if impacted, it has the potential to risk human health and safety. Monitoring will help identify any deterioration that might be a consequence of the construction works so that appropriate action can be taken.

Appendix B of the '*Guidance on Assessing the impacts of development on groundwater abstractions'* recommends at least 12 months of monitoring before construction, fortnightly during construction and at least monthly for 12 months post construction. Additional sampling maybe required in the event of an investigation of an incident as described below.

Due to the nature of the scheme, it is likely that there will need to be a phased approach to monitoring. It may be suitable to begin construction monitoring for a PWS when construction works are within 250 m of the PWS.

The following suite of parameters is also recommended for monitoring groundwater PWS. It is likely that this suite will also be suitable for surface water PWS as well.

- pH, electrical conductivity, dissolved oxygen, redox, temperature.
- Chloride, alkalinity, sulphate.
- Sodium, potassium, calcium, magnesium.
- Ammoniacal nitrogen, nitrate, nitrite, orthophosphate.
- Biochemical oxygen demand, chemical oxygen demand.
- Iron, manganese (total and dissolved).
- Total suspended solids.

- Dissolved organic carbon.
- Colour, turbidity, taste and odour.
- Hydrocarbons.
- Metals.

From Step 2 Qualitative Assessment, it is recommended that PWS-01 and PWS-02 are incorporated into the monitoring plan.

6.2 Mitigation

To avoid any impacts to the quality and quantity of PWS, mitigation measures will be implemented during the construction works. Standard mitigation methods and environmental practices can avoid most pollution incidents. At a minimum, construction works will adhere to guidance laid out by SEPA, including Guidance for Pollution Prevention (GPP)[6], key CIRIA documents[7], Planning Advice Notes (PANs)[8] and supporting documents for the Water Environment (Controlled Activities) (Scotland) Regulations 2011[9].

Further mitigation details will be set out in the full CEMP**.** This will include details of the mitigation to avoid any incidents which could impact local PWS describing what action will be taken, when it will be taken, and who else would be consulted.

6.3 Response Plan

Notification of an Incident

There will be several ways in which the contractor can be notified of an incident to the quality or quantity of water for each PWS.

During construction, if there are any material exceedances of parameters from the baseline or environmental quality standards (WFD standards[10], Drinking Water Standards[11] and PWS Regs[12]) action will be triggered. This may be considered as a self-notification of an incident.

Additionally, before construction, all PWS owners and/or users will be provided with relevant information including details of what to do and whom to contact if they themselves notice a problem with their PWS. For instance, if PWS users observe a change in colour, pressure, temperature or taste there will be a telephone number and mailbox email address they can contact. This will also be considered as a third-party notification of a possible incident.

[6] NetRegs. Guidance for Pollution Prevention (GPP). Available Online: https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/
[7] CIRIA. All Publications. Available Online: https://www.ciria.org/CIRIA/CIRIA/Store_Home.aspx?hkey=4a041b49-608b-4f48-9a46-51681945f4c0
[8] Scottish Government. Planning Advice Notes and Guidance. Available Online: https://www.gov.scot/collections/planning-advice-notes-pans/
[9] Scottish Parliament, 2011. The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR) ('the CAR Regulations'). Available online: https://www.legislation.gov.uk/ssi/2011/209/contents/made
[10] SEPA. https://www.sepa.org.uk/media/152957/wat-sg-53-environmental-quality-standards-for-discharges-to-surface-waters.pdf
[11] Drinking Water Quality Regulator for Scotland https://dwqr.scot/public-water-supply/national-water-quality/.
[12] Scottish Parliament, 2006. The Private Water Supplies (Scotland) Regulations 2006. Available Online: https://www.legislation.gov.uk/ssi/2006/209/contents

Investigation of an Incident

If there has been a notification of a change in water quality and quantity from either the monitoring work or from the owner/user of the PWS, there will be immediate action by the contractor. An initial triage of the incident will be required to assess the severity of the event and critically whether the water in the supply is no longer wholesome.

Post initial triage the event will be investigated to try and determine the cause of the impact, and whether it is or may be connected to any construction works that are ongoing. Investigation measures will vary depending on which PWS is affected and the type of impact. However, investigation measures could include the following:

- A visit to review the PWS and collect additional water quality samples. If groundwater level monitoring occurs at this PWS then manual dip readings will be collected also. Data collected will confirm whether an incident has actually occurred. It is anticipated that this visit will take place within a few days of the impact being notified.
- The PWS owner could be consulted to better determine the exact details of the impact as well as whether there could be other causes not related to the construction works. Questions asked during the interview would be related to the timings, frequency and exact 'symptoms' of the incident.
- The works being conducted will be investigated as well as the mitigation being used to avoid contamination/pollution. Contaminant pathways from the works being carried out at the Scottish Onshore Scheme to the PWS would be investigated to determine whether any exist.
- The Fife Council EHO (and potentially SEPA) will be notified of the incident within 24 hours of receipt of the notification so that they may support the investigation and actions to mitigate the impact and disruption to the affected users.

Actions in the event of supply disruption

In the event of an incident, there will be immediate action from the notification of an incident to investigate the cause as described above. However, whilst the outcome of an investigation is pending there will be a need to temporarily provide an alternative water supply, as well as advice to those affected, in collaboration with the EHO.

The response will differ depending on the cause of the incident and the PWS set up. The sections below outline the potential temporary and permanent steps which could be carried out, although the final response plan to be included in the CEMP may not be limited to this.

Temporary Solutions - While the incident is being investigated a temporary source of potable water may be required for the PWS. There are several options of temporary water supply. The options used will depend on the type of incident and the PWS effected. For instance, the water may be safe for activities apart from drinking, washing food/utensils etc. and clothes and therefore only drinking water will need to be supplied.

A temporary solution will be used for as long as necessary. Solutions could include the delivery of bottles of water, crates of water, small tanks or bowser delivered direct to properties door. However, it should be noted that temporary water supply solutions are not limited to this list. Sufficient supplies of potable water will be provided as soon as reasonably possible.

Permanent Solutions - The temporary solutions described above should only be used until a permanent solution is found. There are several options for a permanent solution. If the source of the problem is identified and it can be removed or mitigated, the PWS will go back to the original supply. Monitoring will continue to be carried out to confirm the supply is safe to drink. In the unlikely event it is found that the source of the problem cannot be removed or mitigated then a new, permanent supply will need to be provided. This could involve a new treatment process for the supply, a new borehole or it may be possible to connect the property to the mains supply in some instances. The contractor will discuss with the owner of the affected property a suitable solution.

In the case of PWS-02, the property is currently in the process of establishing a connection to a mains supply. Should this be concluded ahead of works, and the owner decide to permanently source their water from this mains supply only, then the above mitigations will be unnecessary for this property. However, as the date of this connection and its subsequent use is uncertain, it is advised here to continue with the above mitigations for this PWS unless informed otherwise by the owner.

7. Summary and Recommendations

Table 3 summarises the findings of the PWS assessment, in terms of identified abstractions, qualitative risk rating and monitoring recommendations.

There was a total of five PWS identified from the Fife Council's data request, an online survey/letter drop and a physical walkover. It is recommended that PWS-01 and PWS-02 are incorporated into monitoring plans during the pre-construction, construction and post-construction phases.

Table 3 Summary

ID	Name	Distance from Proposed Route Corridor (m)	Summary	Recommendations
PWS-01	Piteadie	160	The depth of this borehole is unknown and the geological units that the borehole are screened to are also unknown. However, it is likely that the risks to PWS-01 are minimal. The PWS is situated up topographic gradient from the trenching works. Therefore, any impacts will likely be temporary and minimal.	As a precautionary measure it is recommended that PWS-01 is incorporated into the quality monitoring plans. There is no available data to confirm that the groundwater flow direction is to the east. Therefore, although risks are deemed to be minimal there is still some uncertainty.
PWS-02	Broadleys Bagpipes and Reeds	0	The PWS is situated in very close proximity to the works. This causes potential risks of reduced	It is recommended that PWS-02 is visited again to confirm the location or transference to a

ID	Name	Distance from Proposed Route Corridor (m)	Summary	Recommendations
			groundwater flow to the PWS and impacts the water quality.	mains supply. This visit will then determine the need for micro-siting the cable route to avoid the PWS if still in use at this stage, and then carrying out regular monitoring during the pre-construction, construction and post-construction phases. If a mains supply has been established and is fully operational, then no such mitigation will be required.

Annex A Copy of the Survey Sheets and Letter

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aecom.com

29th May 2025

Our Reference
SPEN Eastern Green Link 4

Private Water Supply Questionnaire – Eastern Green Link 4 Project

Dear Property Owner / Occupier,

AECOM is supporting SP Energy Networks (SPEN) in the preparation of an Environmental Impact Assessment Report (EIAR) for the Eastern Green Link 4 project and associated underground cable. As part of the EIAR, a Private Water Supply Risk Assessment will be undertaken.

A Private Water Supply is a water supply which is not provided by Scottish Water. They can originate from lochs, boreholes, springs and streams.

The aim of the Private Water Supply Risk Assessment is to identify any local potable water supplies that could potentially be impacted from the proposed development. This can then be used to ensure that appropriate mitigation measures are identified.

The first stage in this process is to identify all the Private Water Supplies which could be impacted by the scheme. We are hoping to be able to come and assess the PWS that is registered to this address between the 9th and 10th of June 2025. If there are any dates or times that would be suitable for AECOM representative (Andrew Grieveson) to visit during this time please get in touch by email or telephone.

If you have a Private Water Supply, please complete the online questionnaire at (https://forms.office.com/r/Uq4ka6aK9P) or by scanning the QR code below with your phone camera

Alternatively, you can request a word version of the questionnaire from ruth.carter@aecom.com or Andrew.grieveson@aecom.com

If you have any queries about the questionnaire, please contact me on the number or email provided below.

This questionnaire is about Private Water Supplies only. If you want to give feedback on the consultation or you have any questions about the project in general, email ruth.carter@aecom.com or andrew.grieveson@aecom.com

Yours sincerely,

Ruth Carter
Senior Hydrogeologist
AECOM Limited
M: 07436379438
E: ruth.carter@aecom.com

Private Water Supply Survey Questionnaire

The purpose of this Questionnaire is to support the preparation of an Environmental Assessment Impact Report (EIAR) to secure Private Water Supplies to properties in proximity to the SP Energy Networks (SPEN) Eastern Green Link 4 project.

A Private Water Supply is a water supply which is not provided by Scottish Water. They can originate from lochs, boreholes, springs and streams.

The aim of the Private Water Supply Risk Assessment is to identify any unlicenced local potable water supplies that could potentially be at risk from the proposed development. This can then be used to ensure that appropriate mitigation measures are identified.

The first stage in this process is to identify all of the Private Water Supplies within 250 m of the Development. We are hoping to be able to come and assess the PWS that is registered to this address between the 9th and 10th June 2025. If there are any dates or times that would be suitable for AECOM representative (Andrew Grieveson) to visit during this time please get in touch by email or telephone.

Please complete the survey before the **27th of June** for your results to be considered in our assessment.

If you would like to receive a copy of the Questionnaire electronically, or have any other queries, please contact Ruth Carter or Andrew Grieveson at AECOM by telephone on 07436379438 or 07971654918, or by e-mail at: ruth.carter@aecom.com or andrew.grieveson@aecom.com.

Alternatively, a digital version of the questionnaire can be accessed via the QR code below:

https://forms.office.com/r/Uq4ka6aK9P

Before completing this form please provide the following contact information:

Contact Name:	
Address:	
Post Code:	
Telephone number:	
E-mail:	
By signing this form you give permission to AECOM to store and use your data for the purposes of the PWS Risk Assessment associated with the SPEN Eastern Green Link 4 project only. All data will	

be stored and used in accordance with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018, as they apply in Scotland.	
Signed	
Date	

Instructions

This Questionnaire has been broken up into **four sections**:

- Section 1: General Information on your Supply
- Section 2: Questions on the use of your supply
- Section 3: Questions on the quality of your supply
- Section 4: Borehole Information (only complete if you have a borehole)

Can you please complete each question as fully as possible. Please return this by:

1. Email Ruth Carter at ruth.carter@aecom.com
2. Or, send to the following address:

   Ruth Carter
   AECOM
   Tanfield
   Inverleith Row
   Edinburgh
   EH3 5DA
3. Or, fill the form out online at https://forms.office.com/r/Uq4ka6aK9P

Where options have been provided for a question please tick the relevant box (s). If you do not use water from a Private Water Supply please complete Question 1 only.

Should you require additional space to complete your answer to any of the following questions, please use the space provided at the end of the questionnaire.

SPEN is committed to respecting your privacy and will comply with all applicable data protection and privacy laws. We are consulting you to get information on Private Water Supplies in the vicinity of the Eastern Green Link 4 project and associated underground cable which may need to be considered as part of the impact assessment. We may need to share information of the supply with certain other bodies for the purposes of the consultation and for creating reports. These include Fife Council, SEPA, Scottish Power Group companies; third party service providers, contractors or advisors who provide services to us; relevant planning authorities.

Section 1: General Information on your Supply

These questions are designed to understand where the source of your supply is located as well as other general information. Understanding where your source is located, will help us determine whether your supply is at risk from the proposed development.

Q1 Please describe your water supply?

Mains Supply	Y	N

If Yes, please tick and return to address on page 1

Private Supply	Y	N

If yes, continue to Q2

Both	Y	N

If Yes, continue to Q2

Q2 To the best of your knowledge, how old is your private water supply?

……

Q3 Please tick the source type of the Private Water Supply

Spring		Stream or River	
Well		Lake/Pond	
Borehole		Other surface water source	

Q4 Do you know the name of the source (if it has one)?

……

Q5 Please provide details on the location of the point of abstraction (e.g. ideally please provide a national grid reference, indicate on the map below or provide a separate map in your response). You can get grid references from https://gridreferencefinder.com/ by finding the location and clicking on the aerial map.

……

Q6 Please provide details of how the source is conveyed to the house/field reservoir if known?

……

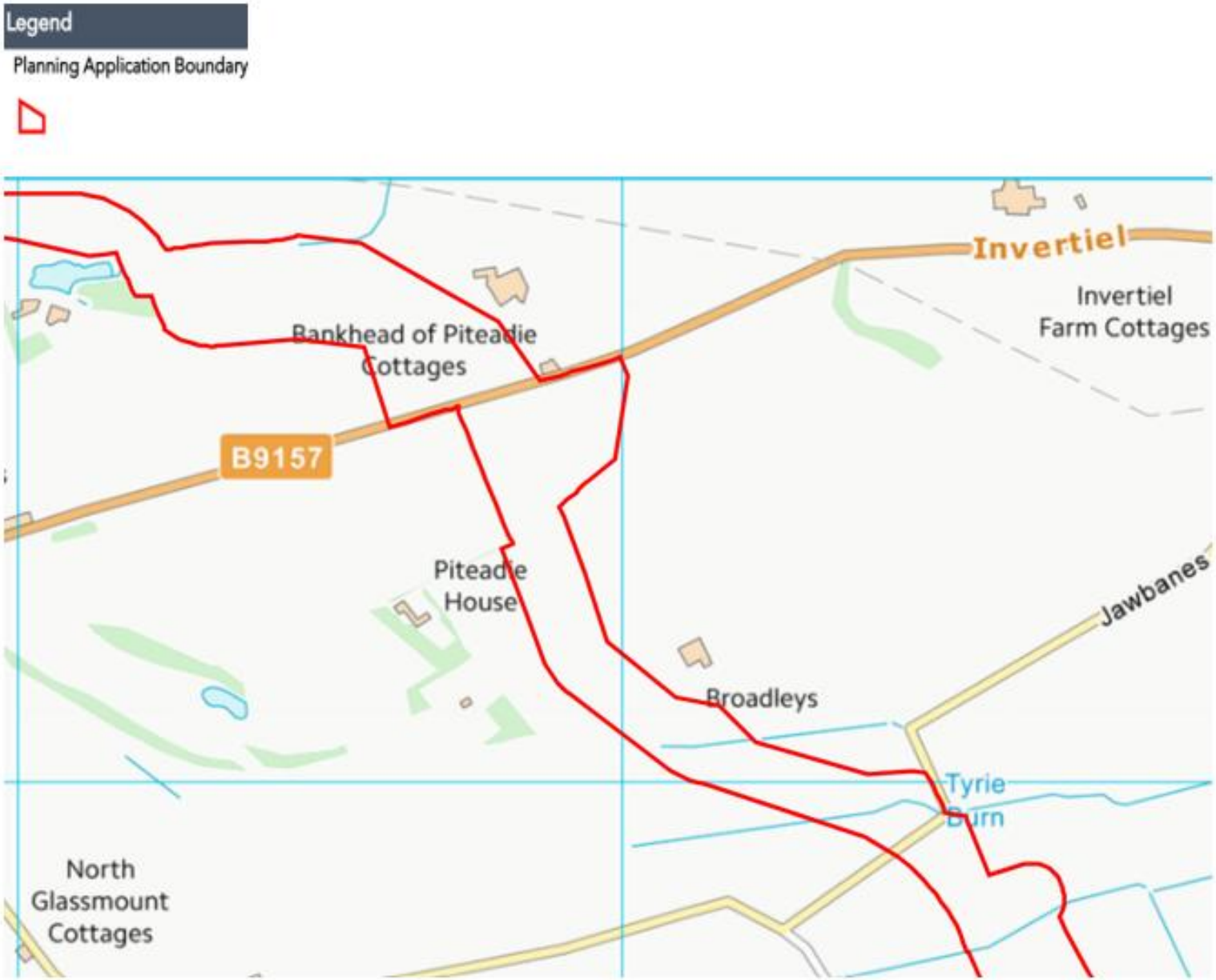
Q7 Does your supply ever run out in dry periods or fluctuate at certain times of the year or seasons? (if yes, please give details):

……

Q8 Do you know of any other Private Water Supplies in your area and if so are you able to provide details such as location or an address/contact details?

……

Please Annotate Location of PWS on the Map Below



Section 2: Questions on the use of your supply

These questions will help us understand what your supply is used for and how often it is used. This information is essential for the risk assessment. Understanding how your Private Water Supply is used will help us to understand the magnitude of impact if it is deemed at risk.

Q9 Please provide details of how water from the Private Water Supply is used (i.e. by yourself or any other persons/business/user of the supply)

Drinking water		Crop irrigation	
Washing		Livestock supply (e.g. cattle, sheep, etc.)	
Grey water (WCs/toilet flushing)		Other (please state below)	

……

……

Q10 Please provide an estimation of (1) the number of persons supplied with water for domestic purposes; (2) the number of dwelling served by the supply; and (3) the average daily volume of water abstracted (if known):

(1)	The number of persons supplied with water for domestic purposes	
(2)	The number of dwellings served by the supply	
(3)	The average daily volume of water abstracted (m^3/day)	

Q11 How often do you abstract/use water from a Private Water Supply (i.e. daily, weekly, monthly, and seasonally)? For instance, is your supply only used occasionally for a holiday home/bothy? Or is your supply used on a daily basis?

……

……

Section 3: Quality of your supply

Do you have any information on the quality of your supply please answer the questions below.

Having information on the quality will help us to understand the magnitude of impact if it is deemed your supply is at risk.

Q12 In your opinion how good is the quality of the water supply?

……

……

Q13 Do you have any treatment measures on your supply (e.g. UV filters)?

……

……

Q14 Is your supply infrastructure serviced annually and has water quality analysis ever been undertaken, and if so, may AECOM see the results?

……

……

Section 4: Borehole Information

If you have a **borehole or well (i.e. abstraction from groundwater)** please answer the following questions to the best of your knowledge.

This information will support the risk assessment of your supply.

Q15 If your Private Water Supply comes from a borehole or well can you please provide an estimation of how deep it is?

……

Q16 Please state the geological strata (e.g. limestone/sandstone) the borehole or well is situated in (if known)

……

……

Q17 Do you have any groundwater level information from your borehole or well? If yes, could you supply that information to AECOM?

……

Thank you for your assistance

Please use the space provided to continue your answer to any of the questions above stating clearly which question you are referring too. Alternatively, please use this space to add any further information relating that you feel is relevant.