Technical Appendix 9.4: Private Water Supplies Assessment

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9.4.1 Introduction

9.4.1.1 The purpose of this Technical Appendix is to identify the location of Private Water Supplies (PWS) relative to the Proposed Development, and to undertake an assessment of potential impacts on them.

9.4.1.2 A PWS is a small abstraction of less than 10 m^3 per day from a source such as a borehole, spring/well or surface water body. The Scottish Environment Protection Agency (SEPA) typically requires that all groundwater abstractions be identified within 100 m of proposed roads, tracks, and trenches or within 250 m from borrow pits and foundations[1]. In addition to screening for PWS within these buffers, this assessment also considers other supplies, within a 2 km study area, in potential hydrological connection to the Proposed Development.

9.4.1.3 PWS are categorised as Type A, or Regulated Supplies that serve 50 or more persons in total or which serve commercial properties (regulated under The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017)[2], and Type B, or Exempt Supplies that serve only domestic properties (regulated under The Private Water Supplies (Scotland) Regulations 2006)[3].

9.4.1.4 Assessment in this Technical Appendix is provided in line with SEPA guidance[4] for "Assessing the Impacts of Development on Groundwater Abstractions".

9.4.2 Private Water Supply Locations

9.4.2.1 PWS data has been obtained from the Highland Council Open Map Data, which identifies all PWS end users within The Highland Council (THC) area. A total of forty-two (42) PWS end users are recorded within a 5 km radius of the Site, of which four (4) are located within 250 m.

9.4.2.2 Further enquiries with the Novar Estate have been undertaken to confirm the locations of water tanks and boreholes. Five (5) active springs were identified; four (4) lie within 250 m of the Site and one (1) is understood to supply three (3) properties (PWS1). These sources are summarised in Table 9.4.1 below.

Table 9.4.1: Private Water Supply Abstraction Sources

PWS Reference	PWS Category	Source Type	Grid Reference		PWS Name	Closest Distance to Site
			X	Y		
PWS1	Domestic	Spring	259978	867851	1 Lagvoulin Cottages	100 m west
PWS1	Domestic	Spring	259978	867851	2 Lagvoulin Cottages	100 m west
PWS1	Domestic	Spring	259978	867851	3 Lagvoulin Cottages	100 m west
PWS2	Domestic	Spring	256165	870443	Westend Cottage	77 m northwest

Table 9.4.1: Private Water Supply Abstraction Sources

PWS Reference	PWS Category	Source Type	Grid Reference		PWS Name	Closest Distance to Site
			X	Y		
PWS3	Domestic	Spring	255703	870443	Tigh na Craig	515 m southwest

9.4.2.3 PWS1 is located to the southeast of the Site, 89 m west of the existing Access Route. It comprises a spring supply serving three properties, with an estimated daily abstraction volume of approximately 2,800L. PWS2 is situated south of the proposed Turbine Array and north of the Access Route. This spring supply has an estimated daily abstraction volume of approximately 800L and is equipped with ultraviolet and filtration treatment.

9.4.2.4 PWS2 serves one property, West End cottage. West End Cottage is located approximately 1.6 km south of the source location and the route of piped supply is likely to cross two existing Internal Tracks, which are within the Site and would be upgraded as part of the Proposed Development.

9.4.2.5 Although PWS3 is outwith a 250 m buffer of the Site, it is downslope of the Access Route and therefore in potential hydrological connectivity to the Site. Management of surface water runoff at upslope locations (including a crossing of an unnamed burn leading towards the property) would be carried out in line with a Construction Environmental Management Plan (CEMP) that would be implemented by the appointed contractor.

9.4.3 Site Best Practice and Environmental Management

9.4.3.1 Detailed risk assessment shall be carried out by the appointed principal contractor, prior to the commencement of construction work and the three locations identified in Table 9.4.1. These locations are downstream of the Proposed Development and as such potentially sensitive to alterations in the quality and quantity of surface water supply.

9.4.3.2 The construction works would follow good practice principles to be set out within the detailed CEMP. To ensure that all drainage measures employed during the construction phase of the Proposed Development are maintained appropriately and remain effective, the performance of the drainage measures would be monitored. The Environmental Clerk of Works (EnvCoW) would supervise the drainage management works. All monitoring and supervision of the drainage management works would be recorded.

9.4.3.3 The following good practice measures are considered applicable to the Proposed Development:

- Engineering activities such as culverts, bridges, watercourse diversions, bank modifications, and dams would be avoided wherever possible to maintain the natural state of the water environment;
- Appropriate buffer zones between water bodies and construction areas would be established;

1 Scottish Environment Protection Agency (SEPA) (2024) Guidance on Assessing the Impacts of Developments on Groundwater Abstractions. August 2024. SEPA.

2 Scottish Government. (2017) The Education (Fees) (Scotland) Regulations 2017. [online] Available at: https://www.legislation.gov.uk/ssi/2017/282/contents/made [Accessed December 2025].

3 Scottish Government. (2006) The Food Hygiene (Scotland) Regulations 2006. [online] Available at: https://www.legislation.gov.uk/ssi/2006/209/contents/made [Accessed December 2025].

4 SEPA, August 2024. Guidance on Assessing the Impacts of Development on Groundwater Abstractions. Available online, https://www.sepa.org.uk/environment/land/planning/guidance-and-advice-notes/

- No large capacity build-up of surface water would occur that could lead to additional loadings being placed on the surrounding ground that could lead to soil failure, especially in areas with peat stability concerns;
- Any effects on natural flora and fauna would be minimised, and there would be no indirect impacts on any surrounding designated sites;
- Pollution prevention and environmental protection legislation would be adhered to;
- Works would be allowed to progress efficiently without flash wash-out events affecting partially completed sections; and
- The completed development would be suitably operated with the minimum maintenance to the installed drainage systems.

9.4.3.4 During construction, water quality would be monitored. If the quality and/or quantity of water to the PWS is impacted by the Proposed Development, a temporary alternative source would be supplied until remedial works are completed.

9.4.3.5 Such measures would ensure that, as well as avoiding impact to PWS during construction, the availability of water resources more widely would not be impacted by the Proposed Development.

9.4.4 Site Specific Assessment

9.4.4.1 According to SEPA guidance, potential impacts to abstractions should be considered on the basis of the following matrix:

9.4.2: How Much is it Affected?					
		Substantially	**Moderately**	**Slightly**	**Negligibly or not at all**
How Important is it?	**High/ Important**	Major	Major	Medium	Negligible/ no effect
	Moderately Important	Major	Medium	Low	Negligible/ no effect
	Low Importance	Medium	Low	Low	Negligible/ no effect
	Unimportant	Unimportant effect	Unimportant effect	Unimportant effect	Negligible/ no effect

Scale of Proposed Works

9.4.4.2 In considering the potential magnitude of impacts due to construction at the two PWS within 250 m of the Site, the following factors are noted:

- Both of the PWSs are located outside of a 250 m buffer from any proposed turbine locations or borrow pit search area, and therefore construction activities are unlikely to require significant excavations or lead to localised alterations in groundwater levels;
- The two PWS locations are also outside of a 250 m buffer from the decommissioning of any existing turbine locations;
- While the PWS are within 250 m of proposed upgrading works for the Access Route, no requirement for cut or fill works have been identified at these locations and dewatering would not be required for Internal Track upgrading works; and
- While shallow excavations may be required for sub-surfacing of the upgraded Internal Track it is considered unlikely that excavations would exceed 1 m in depth.

Duration of the Proposed Construction Works

9.4.4.3 With regard to the duration for which impacts could occur to the identified PWS:

- Construction would be carried out within 250 m of the identified PWS while the limited extents of track infrastructure close to the abstraction sources were upgraded; and
- Following the completion of works, there would be no permanent impact to groundwater resources from the upgraded Internal Tracks.

Likelihood of Impacts to PWS

9.4.4.4 The likelihood of impact to the PWS is low on the basis of the following factors:

- PWS1 is located approximately 100 m west of the nearest area of proposed Access Route upgrade works and is therefore at the margin of the extent at which SEPA consider shallow excavations (<1 m in depth) could impact groundwater abstractions. The PWS is located approximately 20 m north of Allt a Chadha Mhoir and groundwater flow is therefore likely to be in a southerly direction. The nearest upslope section of Access Route which would be upgraded is 225 m north; and
- At PWS2 the abstraction source is located approximately 77 m upslope of the proposed Access Route upgrade and there is no development proposed within the upslope potential zone of contribution to the PWS.

Potential Impacts

9.4.4.5 As the potential scale of effect (How much is it affected?) is likely to be Negligible and no more than Slight. SEPA guidance states that "Private water abstractions for human consumption are likely to be of Moderate importance". Therefore, **the potential effect would be no more that 'Low' and not significant** according to the SEPA matrix for assessing the significance of potential impacts to abstractions.

9.4.4.6 SEPA guidance states that "If the potential impacts to groundwater abstractions are Low or Unimportant, then no further risk assessment is required. SEPA will not provide comment on this topic in our planning consultation response." Therefore, on the basis of the qualitative assessment set out above, **no further assessment is considered necessary**.

9.4.5 Conclusions

9.4.5.1 SEPA typically requires that all groundwater abstractions be identified within 100 m of proposed roads, tracks and trenches or within 250 m from borrow pits and foundations. In line with these requirements assessment has been carried out to identify PWS that could be impacted by the Proposed Development and to set measures that would be implemented at locations where construction of the Proposed Development could affect the quality or quantity of water supplies.

9.4.5.2 Two locations have been identified at which PWS are in potential hydraulic continuity with the Proposed Development: Lagvoulin Cottages (PWS1) and Westend Cottages (PWS2). At these locations pre-construction assessment and construction phase implementation of best practice measures are to be employed to prevent adverse effects to PWS.

9.4.5.3 Based on SEPA's methodology for assessing the impacts of development on groundwater abstractions, the potential impact to the identified PWS is assessed to be **Low and not significant**.

9.4.5.4 While it is unlikely that the sources of water supply would be impacted it is noted that the presumed pathway of the piped supply to Westend property crosses Internal Tracks that would be upgraded for the Proposed development (**Figure 9.2 in EIAR Volume 3a**). The path of the water supply pipe

would be confirmed through tracing or further consultation with property managers by an appointed contractor and disturbance of the piping would be avoided during the construction phase.

9.4.5.5 During construction, water quality would be monitored and in the unlikely event that the quality and/or quantity of water to a property were impacted by the Proposed Development, a temporary alternative source would be supplied until remedial works were complete.