

To:
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CC:
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Memo

Subject: Private Water Supply memo

Further to your email of 26 February 2024, the below paragraphs outline AECOM's consideration of the potential risk to the Private Water Supplies (PWS) in the vicinity of the Tangy IV Windfarm access track.

For the proposed construction works at the Tangy IV Windfarm upgrades to the current access tracks are required. These upgrades will include widening the track in some locations and building new passing places. These works have the potential to impact the present PWS within the area. This note outlines the potential "hydrological/hydrogeological" pathways between the proposed construction works and the PWS, and the potential risk to the PWS from the access track upgrades.

Private Water Supplies

The Environmental Impact Assessment (EIA) Appendix 12.2¹ lists five PWS in the vicinity of the Tangy Windfarm Access Track. This includes PWS7, PWS8, PWS9, PWS10 and PWS11. Details on their location, source and usage are detailed below. This information has been taken from Appendix 12.2 of the EIA and/or from subsequent site visits.

Of the five PWS identified within the EIA close to the access track, only three PWS are included in the water quality monitoring. PWS9 is excluded as it has high concentrations of iron and so is deemed unsuitable for domestic usage. PWS10 is outwith the 250m buffer zone and is upstream of works. Therefore, PWS10 is excluded for monitoring purposes and from further investigation.

Table 1 List of PWS within the vicinity of the access track

PWS Source ID	Source	National Grid Reference	Usage	Within Monitoring Plan
PWS7	Spring	166966, 627691	Commercial – not known	Yes
PWS8	Spring	166906, 626559	Domestic & dairy cattle - never run dry.	Yes
PWS9	Groundwater	167082, 626805	Was in domestic use but no longer used due to high iron concentrations.	No – not used, so not required for monitoring

¹ <https://www.sserenewables.com/onshore-wind/in-development/tangy-repower/>

PWS Source ID	Source	National Grid Reference	Usage	Within Monitoring Plan
PWS10	Surface Water	167916, 627384	Domestic & livestock – good yield, use <2m ³ /day, CAR/R/1014147 permit up to 11m ³ /day	No – upstream and outwith 250m of works
PWS11	Spring	167518, 627459	Domestic & livestock	Yes

Potential Pathways

Table 2 lists the distance and direction of the PWS to the access track.

Overall, it can be noted that only PWS7 is situated downstream of any works and therefore may have potential runoff pathways. PWS8 although downgradient from the access track is unlikely to be impacted by the development due to the distance of the track and other water features which would capture any pollutants. PWS11 may be within close proximity to the works but is upgradient and so is unlikely to be impacted.

Table 2 Potential Pathways

PWS Source ID	Source	Distance and Direction from Proposed Works	Pathway Present
PWS7	Spring	Situated 52m downgradient from proposed works	Yes – runoff from road upgrade works could infiltrate spring/aquifer which could impact the quality of water
PWS8	Spring	Situated 174m upgradient from proposed works and 220m downgradient from another area of proposed works	No – the current access road upgradient has drainage channels which would likely capture runoff. Additionally, there is another water feature around NR 66923 26766 which would also capture runoff.
PWS11	Spring	Situated 35m upgradient from proposed works	No – although within proximity of the access track, the PWS is situated up gradient.

PWS7

The photos below display the setting and installation at PWS7. It is situated just upgradient of Tangy Burn and downgradient from the current access track. It is located within an agricultural field which is often used for grazing livestock such as goats and sheep.

It has a brick chamber installation with a metal lid and has a fence surrounding it (See Photo 3).

Between the current access track and the field there is a dry-stonewall from NR 66965 27758 to NR 67007 27732, thereafter is a fence until the road crosses Tangy Burn (See Photo 1). Figure 1 shows that there could be potential runoff from the road which could impact the PWS. However, it is likely the majority of runoff from the road and passing place will flow into Tangy Burn. However, there is still a risk of contaminated runoff seeping into the spring and contaminating the

source (Figure 2). There may be minor protection from the dry-stone wall and the bricked installation. Therefore, measures outlined in the CEMP will be required to mitigate any potential impacts to the PWS.

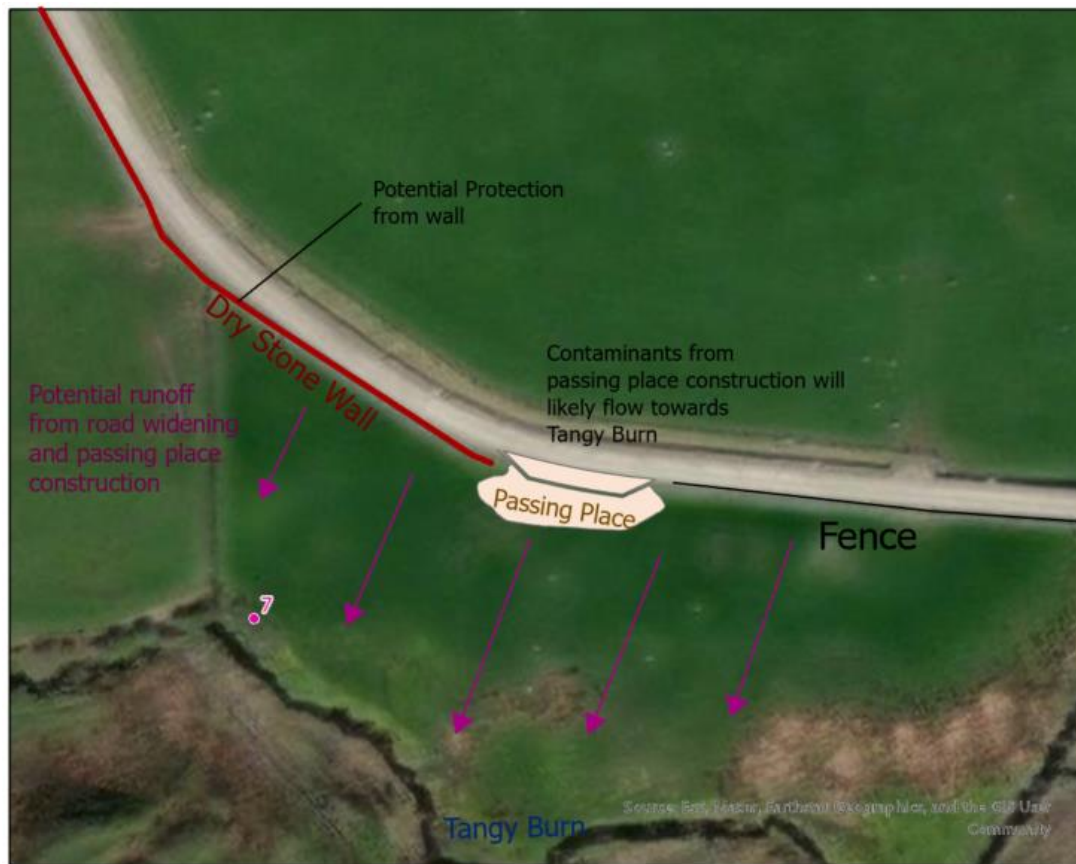


Figure 1 Potential Runoff to PWS7



Figure 2 Conceptual Model



Photo 1 Facing south towards Tangy Burn and PWS7



Photo 2 Taken at PWS7 facing northeast towards the windfarm



Photo 3 PWS7 installation

Summary and Recommendations

In summary, it is unlikely that PWS8 and PWS11 will be impacted by the proposed works on the access track. However, monitoring of these PWS during the baseline, construction and operational phases will help to identify any potential contamination. There may also be a risk of contamination from road widening to PWS7. However, using guidance (including construction best practice and incident response) outlined in the Construction Environmental Management Plan (CEMP) and the Water Management Plan (WMP) during construction will mitigate any major impacts.