Revised Water Neutrality Statement - DC/24/1890

Your Ref: DISC/25/0111

1. Introduction

This revised Water Neutrality Statement is submitted in support of planning application DC/24/1890, located within the Sussex North Water Supply Zone (SNWSZ). The proposal includes a swimming pool with dimensions of 30 feet by 10 feet (approximately 9.14m x 3.05m, or 27.9m²). This document sets out the measures incorporated into the design to ensure no net increase in water consumption, thereby achieving water neutrality in line with the requirements of Natural England and Horsham District Council.

2. Water Use and Mitigation Measures

2.1 Evaporation Loss Estimates

Evaporation is the primary ongoing source of water loss in pools. Loss rates vary based on climate, wind, sun exposure, and pool temperature. Using conservative figures and UK climate conditions:

- Estimated annual evaporation loss for a 27.9m² pool: 3.35 m³/year

This assumes typical use from May to September and the pool being uncovered for 6 hours a day and includes variable weather conditions.

2.2 Mitigation Measures

To counter this evaporation loss, the following measures are implemented:

- Abriblue Banc Surf slatted pool cover: reduces evaporation by up to 85%
- Passive rainwater harvesting: water passes through the slats of the cover into the pool
- No backwashing loss: a cartridge filtration system is used, avoiding water loss common with sand filters
- Initial fill: pool will be filled using tankered water sourced from outside the SNWSZ (invoice already supplied for 38.3m³)

3. Water Neutrality Summary Table

Element	Volume (m³/year)
Evaporation Loss	3.35
Rainwater Replenishment (from cover)	14.24
Net Surplus	+10.89

Conclusion: The pool is projected to produce a net water surplus, meaning all water used through evaporation is replenished naturally, without any demand on mains water supply.

4. Removed or Excluded Items

In line with Natural England's advice, the following elements have been excluded from the water neutrality calculation:

- Air Source Heat Pump condensate recovery (insufficient evidence)

- Frost stat, filtration system, robotic cleaner (non-quantifiable or already water-neutral)

- Removal of the multiple RwH tanks

5. Supplementary Water Saving Measures (Not Required for Neutrality)

5.1 Water Butt for Maintenance Use
A 250-litre (0.25 m³) water butt will be installed adjacent to the plant room, collecting rainwater from a small roof section. This water will be used exclusively for poolside cleaning and maintenance. It is not required for achieving water neutrality and is therefore excluded from the formal mitigation calculations.

6. Conclusion
With passive rainwater harvesting via the Abriblue Banc Surf cover exceeding the estimated water use, the proposal achieves water neutrality without reliance on additional infrastructure or offsetting. All mitigation is on-site, low-impact, and designed to be permanent and maintenance-free.

Appendix A: Abriblue Banc Surf Pool Cover Specification

- Product: Banc Surf – Abriblue (NextPool Group)
- Standard Compliance: NF P90-308 (Child Safety), NF EN 17645 (Thermal Performance A/B rated)
- Functionality:
    - Slats allow rainwater to flow through directly into the pool
    - Helps retain pool heat and limits dirt ingress
- Evaporation Reduction: Up to 85%
- Rainwater Harvesting: Enables direct replenishment of pool water

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Appendix B: Rainwater Harvesting Calculation

- Pool Surface Area: 9.14m x 3.05m = 27.9 m^2
- Average Annual Rainfall (Horsham): 850mm/year (0.85m)
- Collection Efficiency Estimate: 60%
- Calculation:
    - Harvested Rainwater = 27.9 m^2 × 0.85 m × 0.6
    - = 14.24 m^3/year

This amount is sufficient to offset the evaporation loss of 3.35 m^3/year, ensuring a net neutral or positive water balance.