Nutrient Neutrality (Phosphorus) Assessment

Site: 96 Erddig Road, Wrexham
Proposal: Conversion to **2 × 2-bed apartments**
Applicant: Shaun Myddelton
Planning Ref: P/2025/0607
Date: 28 September 2025

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1) Purpose & approach

This statement assesses the nutrient (phosphorus) implications of converting the existing 5-bed house into **two 2-bed apartments**. It follows the same conservative methodology that NRW previously accepted for a 5-bed HMO proposal at this site, which was screened out as having **no significant effect** on the River Dee SAC.

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2) Drainage & receiving works

- **Connection:** Public foul sewer (no private treatment).
- **Receiving works: Five Fords WwTW** (environmentally permitted).

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3) Population equivalents (Flows & Loads 4)

- **Existing lawful use:** 5-bed house = **7 persons (P)**
- **Proposed:** 2-bed flat = **4P → 2 flats = 8P**

Note: While Flows & Loads assumes 8 persons, in practice both flats are unlikely to consistently accommodate 4 people each. The following calculations are therefore precautionary.

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4) Water use assumptions

- **Existing baseline:** 150 L/person/day (Flows & Loads)
- **Proposed flats (conversion):** 125 L/person/day (Part G – material change of use)

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5) Flow calculations

Scenario	Occupants (P)	Rate (L/person/day)	Total Flow (L/day)
Existing lawful use (5-bed house)	7	150	**1,050**
Proposed (2 × 2-bed flats)	8	125	**1,000**

Result: A **net reduction of 50 L/day** compared with the existing use.

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6) Demonstrating compliance with 125 L/person/day (Part G)

The following fittings and usage assumptions (based on the Part G Water Efficiency Calculator) demonstrate that the apartments will achieve ≤ 125 L/person/day:

Fitting / Use	Flow/Volume	Assumed use per person/day	Water use (L)
WC (dual flush avg 4.5 L)	4.5 L/flush	4.8 flushes	21.6
Basin tap (5 L/min aerated)	5 L/min	1.6 min	8.0
Kitchen tap (6 L/min)	6 L/min	1.8 min	10.8
Shower (8 L/min efficient)	8 L/min	5 min	40.0
Bath (150 L, 0.3 fill factor)	–	occasional, averaged	10.0
Dishwasher (12 L/cycle, 0.33 ppd)	–	0.33 use	4.0
Washing machine (49 L/cycle, 0.2 ppd)	–	0.2 use	9.8
Total	–	–	**~104 L**

Conclusion: The specification achieves ~104 L/p/d, comfortably below the 125 L/p/d limit.

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7) Mitigation & securing in perpetuity

The water-efficiency measures (dual-flush WCs, flow-restricted taps/showers, efficient appliances, occupant guidance) will be:

- Installed before occupation, and
- **Retained in perpetuity**, secured by condition (or obligation if preferred).

Suggested condition:

*Prior to first occupation, details of the water-efficiency measures achieving a maximum daily water consumption of **125 L/person/day** (as set out in the Nutrient Neutrality Assessment, Ref: P/2025/0607) shall be submitted to and approved in writing by the Local Planning Authority. The approved measures shall be installed prior to first occupation and **retained in perpetuity**.*

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8) Scale & precedent context

- This is a **very small-scale development (two apartments)**; the absolute phosphorus contribution is **negligible**.
- NRW previously accepted a phosphorus statement for a 5-bed HMO at this site, based on the same drainage route and mitigation principles.

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9) Conclusion

- Foul flows connect to the public sewer discharging to Five Fords WwTW.
- Using 125 L/p/d for the new apartments, the proposal delivers a **net reduction of 50 L/day** compared with the existing lawful use.
- Mitigation is **secured in perpetuity**, providing the certainty required under the Habitats Regulations.
- Given the small scale and the precedent of NRW acceptance, the proposal achieves **nutrient neutrality with betterment** and is **not likely to have a significant effect** on the River Dee SAC.

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