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NRW Ref: CAS-297981-Z4H4
Arthian Ref: 319585

The Oaks, Wrexham Industrial Estate-Nutrient Neutrality Clarification and Stage 3S Evidence

To whom it may concern,

Thank you for your letter dated 18 February 2026 (ref: CAS-297981-Z4H4).

We welcome NRW's detailed review of the updated information and respond below to clarify the nutrient budget position and provide the additional evidence requested in relation to Stage 3S of the Welsh Government Nutrient Budget Calculator.

1. Clarification of Nutrient Budget Calculator

Following review of the updated "NRW Phosphates Evidence" spreadsheet and refinement of the runoff assessment, we confirm that:

The Stage 3 nutrient loading from new landcover is **2.902 kg TP/yr.**

This replaces the previously reported Stage 3 value of 4.9 kg TP/yr presented within the original Nutrient Neutrality Statement (Arthian Ref: 319585-REP-02).

Stage 3S has now been formally applied within the Welsh Government Nutrient Budget Calculator to reflect phosphorus removal delivered by the proposed SuDS treatment train.

The updated values are:

- Stage 1 (Wastewater): **0.33 kg TP/yr**
- Stage 2 (Pre-existing landcover): **3.06 kg TP/yr**
- Stage 3 (Revised new landcover): **2.902 kg TP/yr**
- Stage 3S (SuDS removal): **2.070 kg TP/yr**

Applying the Stage 4 calculation and 20% precautionary buffer in accordance with the Calculator Guidance:

(0.33 − 3.06 + (2.902 − 2.070)) × 1.2 = **-1.9 kg TP/yr** (a net negative position, therefore a betterment)

Accordingly, the development achieves nutrient neutrality through embedded on-site measures and, following application of the statutory 20% precautionary buffer, demonstrates a net betterment position.

2. Stage 3S – Design-Level SuDS Treatment Detail

As requested under Section 4.2.4 of the Welsh Government Nutrient Budget Calculator Guidance, the below summarises the SuDS Treatment Train Overview.

The proposed drainage strategy (Drawing Ref: TOS-BML-XX-XX-DR-C-0500 P04) comprises a sequential SuDS management train including:

- Permeable paving
- Vegetated swales
- Wet attenuation pond with permanent pool

The system is designed in accordance with the Flood and Water Management Act 2010 (Schedule 3) and Welsh National SuDS Standards and will be secured through the SAB approval process.

The detailed breakdown of individual sub-catchments, treatment routing and phosphorus mass balance calculations is set out within the enclosed "NRW Phosphates Evidence" spreadsheet.

3. Phosphorus Removal Methodology

The phosphorus removal values applied within Stage 3S are derived from the methodology set out in the "NRW Phosphates Evidence" spreadsheet, which references established UK guidance including CIRIA C753 (The SuDS Manual) and Defra/UKWIR nutrient treatment evidence.

Removal has been applied sequentially across the proposed SuDS treatment train, with residual load passed forward between components to avoid double counting. Conservative mid-range removal efficiencies have been adopted to avoid overestimation of treatment performance.

Exceedance has been explicitly considered within the assessment, with removal applied only to flows treated within the design standard of the system.

The assessment therefore avoids stacking of percentage removals or double counting of treatment benefits across the SuDS management train.

4. Consideration of Exceedance Flows

We confirm that exceedance flows have been explicitly considered within both the hydraulic design and the nutrient balance assessment.

The treatment train is designed to treat runoff up to the design standard event. Flows exceeding this threshold are conveyed via exceedance routing and bypass primary treatment components.

Accordingly:

- Removal rates are applied only to treated flow volumes.
- Bypassed exceedance flows are excluded from treatment assumptions.
- No assumption has been made that 100% of rainfall receives treatment.

This approach ensures a precautionary assessment consistent with Welsh Government Guidance.

5. Maintenance and Securing Mechanism

The SuDS scheme will be:

- Secured through SAB approval
- Constructed in accordance with national standards
  Maintained for the lifetime of the development through an agreed management and maintenance

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arrangement secured via planning condition and SAB approval.

An outline maintenance plan is enclosed, including:

- Sediment removal frequency
- Vegetation management
- Inspection regime
- Waste disposal procedures compliant with environmental permitting

These measures ensure permanence and regulatory security of mitigation for the design life of the development.

6. CSO Surcharge Storage

We note NRW's comments regarding the CSO surcharge storage proposal. As previously stated, this is a voluntary betterment measure and is not relied upon to achieve nutrient neutrality. The proposal does not alter the nutrient budget position set out above and any matters relating to the wider sewerage network fall within the statutory remit of Dŵr Cymru Welsh Water as the sewerage undertaker.

7. Conclusion

In summary:

- The Stage 3 value has been clarified and formally revised to 2.902 kg TP/yr.
- Stage 3S has been populated within the Welsh Government Calculator.
- Detailed design-level evidence of SuDS nutrient removal has been provided.
- Exceedance flows have been explicitly accounted for.
- Long-term maintenance and securing mechanisms have been set out.

We trust this provides the clarity and certainty required to enable the Authority to conclude that the proposal will not adversely affect the integrity of the River Dee SAC.

The approach adopted is considered precautionary, evidence-based and consistent with Section 4.2.4 of the Welsh Government Nutrient Budget Calculator Guidance.

Please do not hesitate to contact us should any further clarification be required.

Yours sincerely,



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