Technical Note

Project:	Eastleigh Court, Bishopstrow, Wiltshire, BA12 9HW	**Date**:	14th May 2024
Subject:	Nutrient budget	**Author**:	Nicola French

1.0 Background

1.1. This Technical Note has been prepared to provide information to Wiltshire Council (WC) in support of a Planning Application PL/2023/08405 change of use. The planning application in question comprises proposals for a single dwelling in place of buildings currently used as offices by WGP exploration Ltd. This technical note has been prepared in support of amendments to the original planning application (PL/2023/08405) to include the demolition of a single storey flat roof extension and construction of a new single storey and two storey extension. The information is provided under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).

1.2. In January 2024, Defra issued a policy paper[1] notifying the designation of sensitive river catchments sensitive to nutrient pollution. This includes the River Avon Special Area of Conservation (SAC), identified as being in unfavorable condition on account of phosphorous pollution[2]. The implication of this is that any local planning authority within the catchment of the Hampshire Avon cannot grant consent for new residential development unless it can be shown to be net phosphorous neutral. A phosphorous calculation is therefore required to ensure that WC has sufficient information to carry out an appropriate assessment to consider impacts of the application on the River Avon SAC, required to approve the RMA.

1.3. This note takes full account of all information provided by WC on the Council's dedicated nutrient neutrality website[3] and a recently supplied guidance paper on the use of septic tanks for mitigation prepared by the Somerset Authorities affected by nutrient neutrality with respect to the Somerset Moors & Levels

[1] January 2024, DEFRA. The Designation of Sensitive Catchment Areas Notice 2024

[2] https://www.gov.uk/government/publications/notice-of-designation-of-sensitive-catchment-areas-2024/notice-of-designation-of-sensitive-catchment-areas-2024

[3] https://www.wiltshire.gov.uk/planning-bio-phosphorous-nitrogen-mitigation

Special Protection Area (SPA)[4]. The note also draws on the calculator and guidance resources on the Government website *Tools and resources for calculating nutrient neutrality*[5].

2.0 Nutrient neutrality calculations

2.1. **Box 1** below sets out the parameters and assumptions used to assess the additional phosphorous loading that the new dwelling will generate.

Box 1: Assumptions relevant to the assessment of additional nutrient loading for the change of use of Eastleigh Court to a residential dwelling

- **Number of new dwellings**: x1
- **Residential occupancy for the new dwelling**: 2.4 occupants
- **Total wastewater produced by single person**: 120 litres per day
- **Method of waste processing**: foul waste will be processed at Warminster Waste Water Treatment Works (WWTW)
- **Total plot area:** The total area of the plot is 3.8ha.
- **Land use**: the area of the red line currently comprises office premises for WGP Exploration Ltd, with office space provided in the historic building of Eastleigh Court surrounded by green open space laid down to formal lawns and gardens. There is no exact land use match within the calculator, but of all the categories available, the closest proxy is the land use description for **residential urban land**, defined as '*areas of houses and associated infrastructure. This is inclusive of roads, driveways, grass verges and gardens.*[6]'
- **Proposed development:** The residential scheme, once developed, is classed as **residential urban land** (3.8ha).

2.2. The most recent Natural England Phosphorous Calculator for the River Avon has been used to calculate the nutrient load generated by the treated foul from the conversion of Eastleigh Court from an office to a residential dwelling.

[4] The Somerset Authorities, August 2022. Advice Note – Considering Package Treatment Plants and Septic Tanks as part of nutrients mitigation in Somerset.

[5] https://www.gov.uk/government/collections/tools-and-resources-for-calculating-nutrient-neutrality

[6] https://www.gov.uk/guidance/using-the-nutrient-neutrality-calculators

Enter infrastructure information	
Description of required information	**Data entry column - user inputs required**
Date of first occupancy (dd/mm/yyyy):	01/01/2026
Average occupancy rate (people/dwelling or people/unit):	2.40
Water usage (litres/person/day):	120
Development proposal (dwellings/units):	1
Wastewater treatment works:	Warminster WwTW
Current wastewater treatment works P permit (mg TP/litre):	**0.50**
Not applicable	**Not applicable**
Post 2030 WwTW P permit (mg TP/litre):	**0.25**
Final calculation of nutrient load from wastewater	
Description of values generated	**Values generated**
Post-2030 wastewater nutrient Loading	
Additional population (people):	**2.40**
Wastewater by development (litres/day):	**288.00**
Annual wastewater TP load (kg TP/yr):	**0.02**
Pre-2030 wastewater nutrient loading	
Annual wastewater TP load (kg TP/yr):	**0.05**

2.3. The calculations show that the treatment of foul from the new residential unit will generate **0.05kg** of Total Phosphorous per year in the period up to 2030 prior to the upgrade of the Warminster WWTW, and **0.02kg** TP per year thereafter. Note that the 20% buffer has not been applied at this stage. Rather it is applied to the final calculation once the overall budget for the site is established.

2.4. The pre and post loadings derive from the requirements of the Levelling up and Regeneration Act 2023, which imposes a new duty on Wessex Water to ensure wastewater treatment works serving populations of 2,000 or more meet specified nutrient removal standards. Local planning authorities considering planning proposals for development are required to consider that the nutrient pollution standard will be met by the upgrade date for the purposes of their Habitats Regulations Assessments[7]. It is therefore reasonable to assume that the loading will reduce on upgrade of Warminster WWTW in 2030.

2.5. To address the overall net nutrient budget for the scheme, it is important to also consider how rates of phosphorous leaching from the ground will change in response to a changed land use. Stages 2 & 3 of the calculation assess the Total phosphorous loading to the water environment that is currently taking place and compares this to the loading that will occur once the site has been developed. For this scheme, stages 2 & 3 cancel out because there is no change in land use. The total nutrient loading therefore derives from just the loading that will arise from treatment of foul from the new residential unit

[7] https://www.gov.uk/guidance/nutrient-neutrality-update

alone. However, for completeness, both stages are set out below, using the categorizations described in Box 1.

Current land use information	
Description of required information	**Data entry column - user inputs required**
Operational catchment:	Avon Hampshire
Soil drainage type:	Freely draining
Annual average rainfall (mm):	800.1 - 850
Within nitrate vulnerable zone (NVZ):	Yes

Current land uses			
Existing land use type(s) - user inputs required	**Area (ha) - user inputs required**	**Annual phosphorus export (kg TP/yr)**	**N**
Residential urban land	3.80	**6.28**	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
		0.00	N
Totals:	**3.80**	**6.28**	

Future land uses		
New land use type(s) - user inputs required	**Area (ha) - user inputs required**	**Annual phosphorus export (kg TP/yr)**
Residential urban land	3.80	**6.28**
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Totals:	**3.80**	**6.28**

2.6. Finally, the calculator generates a net phosphorous loading for the scheme to take account of both loading from treated foul and the change of use of the land for development. This is set out in Stage 4, below.

Total nutrient budget calculations	
Description of values generated	**Values generated**
Wastewater TP load (kg TP/year):	**0.02**
Net land use TP change (kg TP/year):	**0.00**
TP budget:	**0.02**
TP budget + 20% buffer:	**0.02**
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	**0.02**
Pre-2030 nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	**0.06**

2.7. The calculations show that development of the Eastleigh Court site with one new residential dwelling will generate **0.06kg** of total phosphorous per year once built out and occupied pre 2030, dropping to **0.02kg** total phosphorous post 2030.

2.8. To ensure net nutrient neutrality, mitigation is required to address the additional phosphorous load that the new dwellings will generate.

3.0 Mitigation

3.1. A Council-led scheme to provide phosphorus credits is available for planned development. The credits can be purchased to offset the additional loading identified and demonstrate nutrient neutrality. Wiltshire Council must consider that development schemes are planned development to qualify for the scheme.

3.2. The Eastleigh Court scheme is planned development because it falls under Core Policy 2 as a proposal within a settlement boundary. However, it is understood that there are no Council credits available to service the Eastleigh Court scheme at present.

3.3. The Council-led scheme is one option that the scheme can potentially use to achieve phosphorus neutrality. Other options such as securing mitigation through private providers, can also be progressed by developers. Negotiations are currently taking place with the Environmental Farmers Group to secure the required offset. These will be reported to the Council once concluded.

4.0 Conclusion & analysis

4.1. A nutrient budget calculated in line with the current Natural England guidance and calculator a new residential dwelling on land at Eastleigh Court, Bishopstrow shows that the proposed scheme will generate increased loadings of 0.06kg TP per year prior to 2030 dropping to 0.02kg TP per year post 2030.

4.2. To offset this additional loading, and in line with advice received from WC, Phosphorus credits will be sourced from the EFG. Once secured, and subject to the provisions of a legal agreement consistent with the requirements set out in this Technical Note and the agreement of these calculations, WC can conclude that the residential property proposed at Eastleigh Court will not adversely affect the integrity of the River Avon SAC, either alone or in combination with other plans and projects.

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