

Southern Building Management Ltd

The Garden Society
Allington Lane
Fair Oak
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SO50 7DE

**Whitman Builders Ltd, 11 Tenterton Ave,
Southampton, SO19 9AS**

F.A.O. Mr Bradley Whitman

Our Ref: SP 12/02/20 NetlB

12th February 2020

Dear Mr Whitman

RE: Nutrient Neutrality Calculations for Planning Application at land rear of , Netley Central Club, New Road, Netley, SO31 5BN

We are writing to provide the nutrient neutrality calculations for the proposed development of 2 houses at land rear of Netley central Club New Road, Netley, SO31 5BN.

Brief As instructed, SBM Limited have prepared the nutrient neutrality calculations for the proposed development of Two houses at New Road in line with the current guidance produced by Natural England as presented in document: "*Advice on Achieving Nutrient Neutrality For New Development in the Solent Region for Planning Authorities, Version 2*", dated June 2019. We aim to achieve over and above the current advice.

Methodology and Model Assumptions Guidance produced by Natural England sets out four stages, within each are a number of steps to determine the net impact on the potential total nitrogen load caused by the development.

Stage 1 Stage 1 concentrates on the calculation of the potential total nitrogen from the proposed development that would exit the Wastewater Treatment Works (WwTW) after treatment.

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Step 1 Calculate Additional Population The proposed development comprises the retention of the current building on site (New Road) with the construction of an additional Two properties. On this basis a value of 2 has been adopted for the number of properties. To determine the additional population the occupancy rate as recommended by Natural England of 2.4 per property has been adopted.

Therefore, a value of **4.8 persons** can be assumed for the total occupancy of the development.

Step 2 Confirm Water Use To determine the amount of water used, the value of **105 litres per person per day** has been adopted as below proposed “reasonable” by Natural England. (currently 110lts)

Based on an occupancy value of 4.8 and a water use value of 105 litres per person per day a figure of **504 litres per day** can be calculated

Step 3 Confirmation of Waste Treatment Works (WwTW) and permit Level In the production of this calculation, Eastleigh Borough Council were contacted for details pertaining to the waste treatment works to which this development will be feeding. Eastleigh Borough Council Planning Department confirmed that the wastewater from the proposed development will be treated at Peel Common. Peel Common has a **permitted level of 9mg/l**. Natural England suggest that a worst case scenario is adopted whereby the WwTW operates at 90% of its permitted limited, in this case **8.1mg/l**

Step 4 Calculation of Total Nitrogen (TN) in Kg per annum that would exit the WwTW after treatment derived from the proposed development The Total Nitrogen is calculated by multiplying the water use of the site (**504 litres per day**) by the worst-case operational scenario of 8.1mg/kg for the WwTW. This equates to a value of **4082.4mg/TN/day**. This figure is then converted to kg/TN per day (0.0040824) and then to kg/TN per year giving a value of **1.490Kg/TN/yr**

Table 1 presents in tabulated form the full calculation and model assumptions used

Step	Measurement	Value	Unit	Explanation	
Proposal	2 Houses	2	Residential		
Step 1	Additional Population	4.8	persons	Average Occupancy(2.4) x 2 plots	
Step 2	Wastewater generated	504	Litres per day	4.8 personsxassumed usage 105litres per day	
Step 3	Receiving WwTW	9.0	mg/l TN	Provided by EBC	
Step 4	TN discharged after Ww treatment	4082.4	mg/TN/day	90% of the consent limit=8.1mg/l TNx504	
	Convert to mg/TN to kg/TN per day	0.0040824	Kg/TN/day	Divide by 1000000	
	Convert Kg/TN per day to per year	1.490	Kg/TN/yr	X 365	
Wastewater total Nitrogen Load				1.490	

Stage 2 Adjust Nitrogen Load to offset existing nitrogen from current land use As the former use of the site is classed as 'urban' it is therefore not a change in land use and as such it is not possible to calculate an offset value.

Stage 3 Adjust nitrogen load to account for land uses with the proposed development The proposed development does not include any Suitable Alternative Natural Greenspace (SANG), Nature Reserves or Bird Refuge Areas and therefore it is not possible to use these land uses as offset for the proposed development.

Stage 4 Calculate the net change in the Total Nitrogen load that would result from the development As the development is not a change of land use, from for example 'agriculture' to 'urban' there is no net decrease in the total nitrogen load associated with this development and mitigation measures will be required to offset the nett increase in nitrogen generated.

Conclusions and discussion The calculations above have demonstrated that the development of 2 properties on the site, yielded a wastewater total nitrogen load of 1.490 kg/TN/yr. The proposed development is not a change of land use that yields any positive nitrogen offset. The Local Planning Authority, Eastleigh Borough Council should be contacted to discuss possible mitigation methods, such as the use of council land as a possible offset against this development or make payment contributions to the improvement of local sewage works. Both mitigation measures could be agreed via Section 106 contributions. The development is proposing water saving methods, inclusive of flow restrictors to all taps, cistern minimisers which will be outlined in the design stage SAP assessment.

Should you have any further questions please do not hesitate to contact the undersigned.

Yours Sincerely

Faye Budden

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