

Nutrient Neutrality Assessment & Mitigation Strategy

ADDRESS OF SITE:

Whitehayes
Stockland
Devon
EX14 9DB

PARISH: Stockland

PURPOSE – Planning Application

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01_INTRODUCTION

This application is for a single-storey kitchen extension and other works to the existing building, reducing one bedroom to the dwelling.

The dwelling has an overall curtilage of 0.53 Hectares

The site of "Whitehayes" lies within the River Axe catchment; see the map below:



European protected sites requiring nutrient neutrality strategic solutions

Scale: 1:120,000

Component SSSIs of River Axe SAC

- Local Authorities
- SSSI subject to nutrient neutrality strategy
- Nutrient neutrality SSSI catchment
- National Parks

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02_REASON FOR PHOSPHATE CONSIDERATION

There is a significant issue with phosphate levels in the River Axe, which is detrimental to wildlife within the river. The areas designated as a Site of Special Scientific Interest (SSSI) and Special Areas of Conservation (SAC) are of particular concern.

Natural England has advised that the granting of planning permission for development that would increase the discharge of phosphates into the river should be refused as a significant proportion of phosphates in the area come from residential use, both dwellings and holiday accommodation. Development can only be permitted if their impact on nutrient levels is neutral or less.

03_PHOSPHATE MITIGATION METHODOLOGY

Following Natural England's published methodology for showing their Nutrient Neutrality Generic Methodology, a calculator is now available specifically for the River Axe SAC to produce the Total Annual Phosphorus load.

Should the calculation show an additional phosphorus load generated by the proposed development, mitigation measures can be detailed to show Nutrient Neutrality.

The required information used for the calculation is:

- The average occupancy rate
- Water usage per person per day
- Number of dwelling units
- Type of wastewater treatment plant
- Efficiency of the wastewater treatment plant for phosphate removal
- The catchment area
- Soil drainage type
- Annual average rainfall
- Is the site within a Nitrate Vulnerable Zone
- Existing land use types
- Proposed land use types

04_SITE SPECIFIC INFORMATION:

- i. The dwelling and connected annexe together with a detached garage and shed stand on a curtilage of 0.53 Hectares which is laid mainly to grass with some woodland.
 - ii. The existing foul water drain for the three bedroom house and one bedroom annexe, discharge into a Septic Tank and soakaway, believed to be at least 30 years old.
 - iii. The calculations for the existing are based on six people living in the dwelling of three double bedrooms and one single bedroom.
 - iv. An assessment for the Septic tank based on the Natural England Report NECR221 dated 02/09/2016 gives the Average Effluent TP concentration as 15 (mg TP/litre).
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- A. The application is for the addition of one single-storey extension which will be used for a new kitchen. Additional internal works will result in the removal of one bedroom from the dwelling, resulting of an overall occupancy reduction of one person.
 - B. The overall proposed occupancy rate will be based on the reduction of one person and the water usage allowed will be 120 litres per person daily.
 - C. The existing Septic Tank and soak-a-way will remain as it was constructed prior to 2007 and is in working order.
 - D. Upon consultation with the D.O.E. Catchment Data Explorer, the site is within the River Axe catchment area – Yarty Water Body, which has a Phosphate level classed as Moderate.
 - a. A check has also been made using the Environment Agency – Flood Map for Planning, and the site has been confirmed as ZONE 1.
 - E. Upon searching the National River Flow Archive for the River Axe at Whitford, the historical average annual rainfall is 1052mm; therefore, the 1000mm-1100mm has been selected.

05_ EXISTING SITE – CALCULATION: Total Annual Phosphorus Load using the NE Nutrient Neutrality Budget Calculator for the River Axe SAC – 6 people

3.66 kg TP/year

06_ PROPOSED SITE – CALCULATION: Total Annual Phosphorus Load using the NE Nutrient Neutrality Budget Calculator for the River Axe SAC – 5 people

3.05 kg TP/year

07_ MITIGATION MEASURES

Not required.

The overall Annual Phosphorus load is reduced by:

0.61 kg TP/year

08_ CONCLUSION

The proposed site is, therefore, Nutrient-Negative and has a beneficial impact on the River Axe SAC.