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NUTRIENT NEUTRALITY STATEMENT AND NUTRIENT BUDGET IN SUPPORT OF A PLANNING APPLICATION

BY

**MR E BIZZEY
C/O MACRA LTD**

FOR

**RESIDENTIAL DEVELOPMENT OF LAND (USE CLASS C3),
INCLUDING ASSOCIATED LANDSCAPING, PARKING AND INFRASTRUCTURE**

ON LAND AT

**THE ORCHARD, 5 WESTGATE MEWS,
KENILWORTH GARDENS,
WEST END,
SOUTHAMPTON,
SO30 3RE**

PREPARED BY

KEN PARKE PLANNING CONSULTANTS

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1.0 Introduction

- 1.1 Macra Ltd ('the Applicant') instructed Ken Parke Planning Consultants (KPPC) to undertake an assessment of the nutrient impact arising from a residential development of land (Use Class C3), including associated landscaping, parking and infrastructure on land at The Orchard, 5 Westgate Mews, Kenilworth Gardens, West End, Southampton, SO30 3RE (hereafter referred to as 'the site').
- 1.2 This assessment has been undertaken to provide Eastleigh Borough Council ('the Council') sufficient information to assist with the determination of a planning application for the development of the site. The information is provided under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (the Habitat Regulations).

2.0 Development Description and Location

- 2.1 The site comprises a plot of land associated with The Orchard, which is accessed from Westgate Mews, off Kenilworth Gardens. The site extends to approximately 0.45 hectares. The site comprises an existing dwelling, with associated residential garden land which slopes downwards from west to east and is largely comprised of a grassed paddock, with several trees within the site and along its boundaries.
- 2.2 The site forms part of the urban edge of the West End area of Eastleigh, with neighbouring residential uses to the west and north, a commercial yard to the east and the Utilita Bowl Complex to the south.
- 2.3 There are no nearby listed buildings within the site, and it does not fall within a national landscape or a conservation area. The site is within Flood Zone 1 and is at very low risk from surface water flooding.
- 2.4 There are no known ecological designations within the site. The Telegraph Woods SINC is located some 100 metres away to the south/south-east of the site.
- 2.5 The site is within the Solent Nutrient Neutrality Catchment Area.

3.0 Background to Nitrogen Nutrient Assessment

- 3.1 The Solent Marine Habitats sites comprise a range of Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites with water pollution and eutrophication considered a threat to its condition.
- 3.2 In March 2022, Natural England provide advice on the impact of nutrients from new development on the group of SPA and SAC designations within and round the Solent area. There are high levels of nitrogen and phosphorous entering the water environment, causing eutrophication and resulting in dense mats of green algae which are impact on protected habitats and species.
- 3.2 Where new residential development is proposed, the additional nutrient load from the increase in wastewater and/or the change in the land use of the development land created by a new residential development can create an impact pathway for potential adverse effects on Habitats sites that are already suffering from problems related to nutrient loading.
- 3.3 Due to the uncertainty that new development will not cause further impact, and in order to be precautionary, the recommended approach is for new development to achieve nutrient neutrality to ensure that new development does not add to existing nutrient loading.
- 3.4 A development scheme's nutrient budget is therefore required to be calculated, taking account of both wastewater arising from the proposal and land use change to inform whether the development avoids harm to the protected designations or needs to provide mitigation to ensure that there is no adverse effect.
- 3.5 When determining a planning application, the Local Planning Authority undertakes an appropriate assessment of the proposed development as required by the Habitats Regulations. The Council can presently only grant planning permission for new homes where suitable mitigation measures can be secured and demonstrated by the Applicant.
- 3.6 In January 2024, the Secretary of State designated the Solent Maritime SAC as a nitrogen sensitive catchment area. This provided a legal obligation for wastewater treatment companies to ensure WwTWs serving a population

equivalent over 2,000 to meet specified nutrient removal standards by 1st April 2030.

- 3.7 Competent authorities (including Local Planning Authorities) considering planning proposals for development draining via a sewer to a wastewater treatment works subject to the upgrade duty are required to consider that the nutrient pollution standard will be met by the upgrade date for the purposes of Habitats Regulations Assessments.
- 3.8 Within the Solent catchment area, there is a need for qualifying developments to demonstrate nutrient neutrality. Qualifying development includes:
- Any form of development that increases overnight stays within the catchment
- 3.3 Development that increases overnight stays in the catchment typically encapsulates permanent residential development. Within the boundary of the Solent catchment area, it is presumed that wastewater and surface water arising from qualifying development is likely to increase nutrient levels within the catchment.
- 3.4 New development within the Solent Catchment, as identified in the catchment map extract below (Figure 1), is required to offset the impact of nutrients entering the catchment. The location of the site is broadly identified by the blue dot.

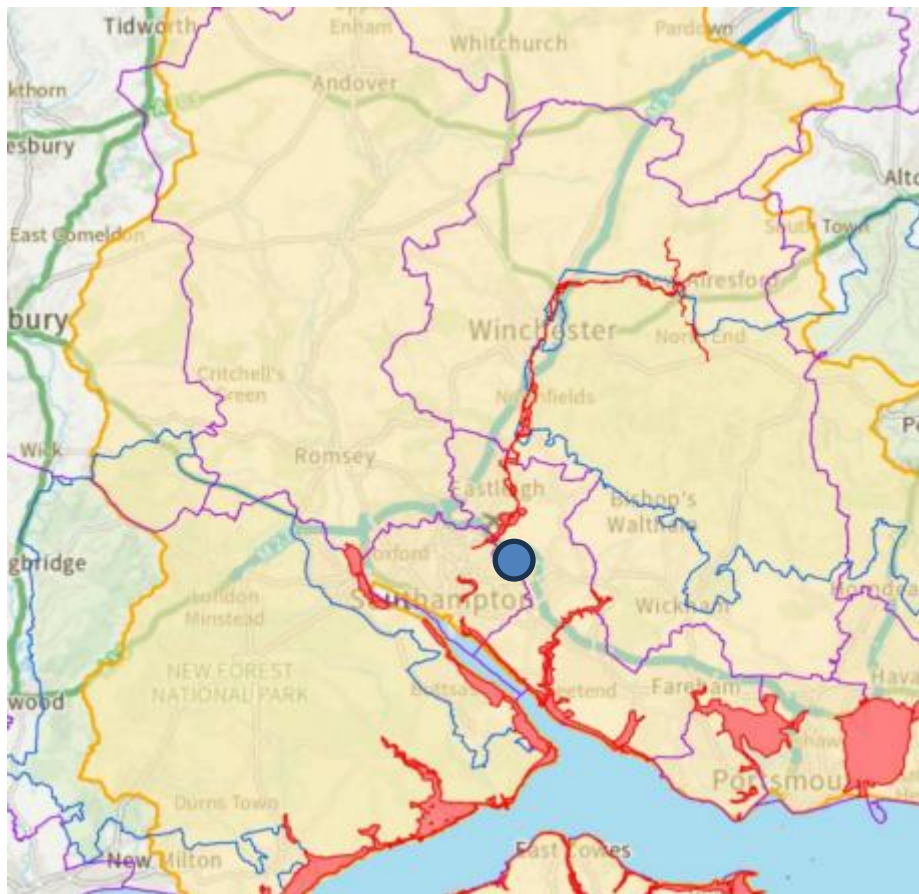


Figure 1: Solent Nutrient Neutrality Catchment Area Map.

4.0 Derivation of Sewage Load

- 4.1 When using national occupancy data, the Office of National Statistics (ONS) national average value for the number of residents per dwelling of 2.4 is recommended. This value is derived from 2011 census data and is subject to change when the 2021 Census becomes available.
- 4.2 The Nutrient Neutrality Budget Calculator uses a pre-set 2.4 average household occupancy and 120 litres per person per day (LPPPD) for housing as a default. The Applicant has maintained the Average Occupancy rate expressed within the calculator, at 2.4 persons per dwelling.

5.0 Wastewater Treatment Proposal

- 5.1 It is proposed that foul water discharge from the site will be pumped along a foul water rising main to join the existing public foul water sewer, located within Kenilworth Gardens.

6.0 Nutrient Assessment

6.1 Table 1 below sets out the parameters and assumptions used to assess the additional nutrient loading that will be generated by the creation of one no. four-bed dwellinghouse.

Criteria	Explanation
Number of dwellings	The scheme comprises of nine dwellinghouses, comprised of seven three-bed units and one four-bed unit.
Residential occupancy for the new dwellings	2.4 persons.
Total wastewater produced by a single person	120 litres per day.
Method of processing	Connection to existing public foul water network.
Date of first occupation	It is assumed the development may not be occupied until around 1 st December 2026.
Land use	The red line comprises the land associated with site, which contains open urban land.
Land use budget	The land use budget for the scheme comprises of changes to the site's land use to create the dwellinghouses on the site and associated landscaping, parking and infrastructure.

Table 1: Parameters and Assumptions.

6.2 The most recent Natural England Nutrient Neutrality Budget Calculator for the Solent Maritime area has been used to calculate the nutrient load generated

by the wastewater produced by the nine dwellinghouses, as set out on the following pages.

- 6.3 On the 'Nutrients from Wastewater' table of the Nutrient Neutrality Budget Calculator, this has been set to 'Portswood WwTW. This WWTW has a current Nitrate permit of 25 mg TN/litre.
- 6.4 With a development comprising nine no. dwellinghouses, this equates to 21.60 additional persons, using 2,592 litres per day.
- 6.5 In the 'Nutrients from current land use' table and the 'Nutrients from future land use' table, these calculations assess the Annual nitrogen nutrient export (kg TN/yr) from the existing land use type(s) and the new land use type(s) proposed. This information is summarised into the Table 2 and Table 3 below:

Current land use type(s)	Area (ha)	Annual nitrogen nutrient export (kg TN/yr)
Residential Urban Land	0.45	7.34
Totals	0.45	7.34

Table 2: Current Land Uses.

- 6.6 'Residential Urban Land' use is considered to be appropriate for the existing land use type of the site under Table 1 of the Nutrient budget calculator guidance document v1 – March 2022, as this includes *“areas of houses and associated infrastructure. This is inclusive of roads, driveways, grass verges and gardens.”*

New land use type(s)	Area (ha)	Annual nitrogen nutrient export (kg TN/yr)
Residential urban land	0.45	7.34
Totals	0.45	7.34

Table 3: Future Land Uses.

- 6.7 'Residential urban land' is again considered to be appropriate for the new land use type, as the Guidance document sets out that this includes *"areas of house and associated infrastructure. This is inclusive of roads, driveways, grass verges and gardens."*
- 6.8 Next, the 'SuDS' table calculates the figures for new land use types within SuDS catchment area for each SuDS feature used to intercept surface water flows. In this instance, there are no known SuDS features proposed on the plans for the residential urban land and so this element remains blank (Table 4)

New land use type(s) within SuDS catchment area	SuDS catchment area (ha)	Percentage flow entering SuDS (%)	Annual nitrogen inputs to SuDS feature(s) (kg TN/yr)	Name of SuDS feature(s)	TN removal rate for features (%)	Annual nitrogen load removed by SuDS (kg TN/yr)
Residential urban land	-	-	-	-	-	
Totals	-	-	-	-	-	

Table 4: SuDS Information.

- 6.9 Finally, the calculator generates the total nutrient budget calculations from the proposed scheme, taking account of the loading from the on-site sewage treatment plant. This is set out the 'Final Nutrient Budget' table. A summary of these calculations is provided in Table 5 below:

Description of values generated	Values generated
Wastewater TN load (kg TN/year):	6.82

Net land use TN change (kg TN/year):	0.00
TN budget	6.82
TN budget + 20% buffer:	8.18
Annual Nutrient Budget	
The total annual nitrogen load to mitigate is (kg TN/yr):	8.18
Pre-2030 Nutrient Budget	
The total annual nutrient load to mitigate is (kg TN/yr):	28.40

Table 5: Final Nutrient Budget Calculations.

- 6.10 The calculations identify that the proposed scheme of nine dwellinghouses will generate a total annual nitrogen load to mitigate of 8.18 kg TN/yr post-2030. However, the total annual nitrogen load to mitigate pre-2030 will be 28.40 TN/yr.

7.0 Mitigation and Conclusion

- 7.1 The site is within the Solent Maritime Catchment Area.
- 7.2 Where a net gain in residential and overnight accommodation is proposed within the catchment of Solent area, having calculated the development's nutrient budget, the impact of the development must be appropriately mitigated in order to be acceptable.
- 7.3 The Council have introduced a nutrient-offset scheme to enable developers to purchase credits for offsetting nutrient outputs. The scheme offers:
- a) The chance to offset excess nutrient outputs against the Council's owned land through the purchase of the nitrate credits available.
 - b) A valuable opportunity for long-term sustainability to achieve nutrient neutrality and meet compliance.

- c) Enablement to meet the need for new housing – unlocking investment for developers and the region.
- 7.4 The Council manage over 238 hectares of mitigation land, totalling 11,354 credits and can provide nitrate credits to mitigate development in Itchen, Tests and Hamble rivers.
- 7.5 At present, it is understood that each credit costs £3,000 + VAT, including legal and administrative costs.
- 7.6 A nutrient budget has been calculated in line with the current Natural England guidance. The output from the nutrient budget calculator is the balance of new sources of nutrient arising from the development, minus the load removed through the on-site sewage treatment plant. To ensure the final figure is robust and precautionary, the balance is multiplied by 1.2 to increase by a 20% buffer.
- 7.7 The nutrient budget calculated for the proposed development of nine dwellinghouses on the site will result in an annual nutrient budget of **28.40** kg TN/yr pre-2030, reducing to **8.18** kg TN/yr post 2030. As such, these values represent the nutrient mitigation needed for the development.
- 7.8 In order for development to commence which results in an increase in nitrogen, the Council has to be certain that mitigation of any adverse effects upon the Solent area are effective and can be secured.
- 7.9 The development can provide mitigation through the securing of mitigation credits. It is understood that this mechanism is in place for development within the Solent catchment, enabling appropriate mitigation to be secured by way of a Section 106 legal agreement. It is the Applicant's intention to secure appropriate credits for mitigation. A Nitrate Expression of Interest Form has been completed and is submitted with this application to mitigate the development's nitrate impact.
- 7.10 Once a legal agreement has been completed to secure mitigation for the requisite 80-year period, this will enable the Council to conclude that the

proposed scheme for nine dwellinghouses will not adversely affect the integrity of the Solent catchment area, either alone or in combination with other plans and projects in the light of guidance relevant at the time.