

APPENDIX HG 23

Appellants' response relating to Nitrate Mitigation.

Introduction

1. The issue of Nitrates affects all new overnight accommodation (largely new dwellings) that drain to the Solent, and for which any sewage is discharged either to mains sewers, or by percolation into the ground, that will then drain to the Solent catchment area.
2. Each local authority area is currently seeking to address this in their own way, but for Winchester an approach was adopted in June 2020, which essentially involves issuing planning permission with a Grampian style condition that requires that any dwelling shall not be occupied until a suitable means of mitigation has been agreed and implemented. Appendix **HG 23a**) is a copy of 2 planning permissions recently granted proximate to the site, each of which has a suitable Grampian condition. For application **20/00758/FUL** this comprises a copy of the officers report, which explains the nitrate situation on page 4, and includes the recommended condition as condition 10 on page 7. For application **19/01025/FUL** this includes a copy of the planning permission as issued, together with a site plan. The site is part of the extended settlement of Shirrell Heath. Condition 7 on page 10 applies

Options for mitigation

3. On larger site mitigation might involve a scheme to address mitigation (in part) on site, but for smaller sites mitigation generally involves a payment to an external scheme where nitrate will be removed from existing farmland or water courses and 'nitrate credits' are available.
4. Some Councils have their own schemes for nitrate credits (generally by offsetting agricultural land within their areas, but for Winchester this relies on locating a private scheme. These private schemes need not be within the same LA area, provided that the land that would be offset drains to the same Solent catchment.

Calculation

5. The method for calculating the amount of nitrate that would arise from each development, and that needs to be mitigated, is set out in a standard formula proposed by Natural England. Where specific details are available these can be used, but in default various standard figures are involved. In this case the nitrate calculation for this site is set out on pages 3-6 below.

The appeal site.

6. The appeal site drains to a septic tank located within the glasshouse, with a discharge to a drainage system located within the glasshouse.
7. As details of the tank are not known the calculation uses a default figure of 70% efficiency. This leads to a requirement to mitigate just under 3kg of nitrate, based on 2.3kg being generated by sewage from the accommodation, and 0.11kg from the additional use of the paddock area as a garden. This assumes that the smaller garden area (pre 2015) and glasshouse are lawful as a garden, as per the ground d) appeal.

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7. **Meon Springs** which is a site on which planning permission has been granted to modify the landscape and introduce new drainage features with the express purpose of reducing nitrate. This produces nitrate credits, which can be bought by those seeking to add new dwellings. Meon Springs has confirmed that nitrate credits are available and can be purchased by the appellant.

Grampian Condition – Suitability and acceptance by WCC

8. As WCC has adopted the approach of granting planning permission with a Grampian style condition, and the confirmation from Meon Springs confirms a suitable source of nitrate credits, that the appellant could purchase, then the Inspector is invited to grant planning permission subject to a condition requiring this to occur.
9. It is noted that the standard Grampian condition requires that mitigation be put in place before a property is occupied. In this case it is relevant that the accommodation is already occupied, such that the standard condition would not be effective.
10. As the EN effectively requires the accommodation to be vacated within a period of 6 months, the fall back position in relation to nitrates is that this accommodation could continue producing nitrates for a period just short of 6 months. Hence it is requested that the Inspector considers modifying the standard condition as below.

“Within 2 months of planning permission being granted:-

[a) A water efficiency calculation which demonstrates that no more than 110 litres of water per person per day shall be consumed within the development, and this calculation has been submitted to and approved in writing by the Local Planning Authority.

b) A mitigation package addressing the additional nutrient input arising from the development has been submitted to, and approved in writing by the Local Planning Authority. Such mitigation package shall address all of the additional nutrient load imposed on protected European sites by the development.

The appellants shall complete the purchase of appropriate nitrate credits within 5 months and submit confirmation of this to the LPA

Reason: To accord with the Conservation of Habitats and Species Regulations 2017, and Policy CP11, CP16 and CP21 of the Winchester District Local Plan Part 1.

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NITRATE CALCULATION

1. introduction

- 1.1 To determine whether the nitrogen 'load' is likely to increase as a result of a particular development, Natural England has produced a Methodology to calculate the nitrogen budget for new developments.
- 1.2 This involves calculating the additional population that would generate wastewater on a site, and to then compare the nitrate that would be discharged by this additional population compared with the existing discharges of nitrate from a site.
- 1.3 In this case as the application site already has a treatment plant installed (but with unknown specification) this calculation applies the typical value adopted by NE for such tanks.
- 1.4 The standard methodology also allows for an increase in nitrate due to the increase in the residential site area or garden. In this case, as the original garden and glasshouse go back over 10 years, the calculation has been applied only to the additional area of the former paddock, that was added in 2015.

2. methodology

- 2.1 These details are set out below in the following order:-

STAGE 1 - Calculate Total Nitrogen (TN) in kilograms per annum derived from the development proposed that would potentially enter the Solent after treatment (by direct discharge or by seepage).

STAGE 2 - Calculate Nitrogen generated by the pre-existing site ie assuming no residential use.

STAGE 3 - Adjust nitrogen load to account for land uses within the proposed development

STAGE 4 - Calculate the net change in the Total Nitrogen load that would result from the development

- 2.2 The assumptions related to each calculation are set out briefly at each stage.

3. STAGE 1 - Calculate Total Nitrogen (TN) in kilograms per annum derived from the development proposed

- 3.1 As the site does not have any feasible connection to mains drainage the only option for treatment lies with an on-site private treatment plant (PTP), or septic tank.
- 3.2 Natural England has provided a methodology for this calculation, which is used in table 1 below.

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- 3.3 Table 1 assumes an occupancy rate of 2.4 persons per dwelling, and water efficiency of 110 litres per person per day.
- 3.4 Table 1 assumes a reduction in nitrates on site due to the efficiency of the PTP of 70%, which is used by natural England as a baseline figure.

Step	Measurement	Value	Unit	Explanation
Development proposal	Development types that would increase the population served by a wastewater system	1	Residential dwellings	
Step 1	Additional population	2.4	Persons	Based on average household size of 2.4
Step 2	TN prior to treatment Based on 3.5 Kg TN per person per year	8.4	Kg TN /yr	2.4 (step 1) x 3.5 Kg TN per person per yr
Step 3	Receiving PTP TN reduction efficiency	70	%	Baseline percentage allowed for by NE
Step 4	TN discharged after PTP treatment	2.52	Kg TN /yr	30% of 8.4
Step 5	Acceptable N loading (as defined in paragraph 4.40) Based on 110 l per day per person	528	mg TN /day	Total waste water from development (110l x 2.4 persons) x Acceptable N loading of 2 mg/l
Step 6	Convert acceptable TN loading to TN Kg / Yr	0.1927	Kg TN / Yr	Divide by 1000000 x by 365 days
Step 7	TN discharged - acceptable N loading (@ 2 mg/l)	2.327	Kg TN / Yr	5.04 (step 4) – 0.0385 (step 6)
PTP Total Nitrogen Load		2.327Kg TN/yr		

- 3.5 Hence the existing accommodation generates a potential **2.327kg TN/yr**

4.0 Stage 2 Calculate additional Nitrate due to pre-existing land use

- 4.1 This stage is only applicable to part of the site, namely the area of the paddock that has changed since 2010. The remaining land has either been used as a residential garden since 2010 (the ground d appeal) or for horticulture (as alleged in the Notice). Use for horticulture would produce a higher base figure than the use proposed (29.2 kg compared 14.3 for urban/garden land).

Total area of existing paddock to be developed (Ha) 0.084

Previous land use as grazing land 13

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Total Nitrogen load of current land use **1.092**

5.0 STAGE 3 - Adjust nitrogen load to account for land uses with the proposed development

5.1 This assumes a change to garden land of the former paddock

Area of land occupied by new garden area (urban development) (Ha) 0.084

Total nitrate load (urban) at 14.3kg/ha/yr (14.3 x 0.084) 1.2

Total nitrate not passing through WWTW (kg/yr) **1.2**

6.0 STAGE 4 - Calculate the net change in the Total Nitrogen load that would result from the development

6.1 The last stage is to calculate the net change in the Total Nitrogen load to the Solent catchment with the proposed development. This is derived by calculating the difference between the Total Nitrogen load calculated for the proposed development (wastewater and urban area) and that for the pre-existing land uses.

Stage 4 Calculate net change in nitrogen load

1. Identify nitrogen load from waste water (stage 1) (kg/N/yr)

2.327

2. Calculate net change in nitrogen from land use (stage 3 -stage 2)

0.11

3. Determine total nitrogen wastewater load plus nitrogen load from land use change (1 + 2) 2.437

4. Identify Nitrogen buffer of 20% (2.437 divided by 5) 0.487

5. Identify Nitrogen budget with 20% buffer **2.924kg.TN/yr**

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7.0 Consequences

7.1 The guidance given within the Natural England Advice recommends that if there is a Nitrogen surplus (a positive figure), then mitigation is required to achieve nitrogen neutrality. If the calculation identifies a deficit (a negative figure), no mitigation is required'.

7.3 The results from Stage 4 shows that the existing accommodation has led to an increase in nitrate, due to sewage generated, and due to the new use of the paddock as urban land. Hence mitigation is required for the ground a) appeal for 2.924 kg of nitrate.

MITIGATION OFFERED.

8.0 It is proposed that these credits would be purchased from Meon Springs, or by another provider if identified by WCC ahead of the appeal decision.