

Site:	Harbour Place Care Home
Client:	Halebourne Group Ltd
Job Number:	784-B050110
Report Type(s):	Nutrient Balancing Assessment
File Location:	M:\Projects\784-B050110_Harbour_Place_Care_Home\60 Project Output\61 Work in Progress

INTRODUCTION

Tetra Tech was appointed by Halebourne Group Ltd to calculate the change in total Nitrogen outputs from existing to future levels associated with the proposed development Care Home development at Harbour Place in Bedhampton. This was previously afforded planning permission as part of a planning application for the wider Harbour Place residential development which incorporated the care home (APP/18/00450). Following a new application for increased bed numbers, a new assessment is required.

Due to the uncertainty over whether the new development can be accommodated by existing wastewater treatment infrastructure without causing harm to the Solent Habitat Sites, Natural England advise that all residential development should achieve nutrient neutrality.

As a result, all new developments within the Solent Habitat Sites catchment will require a nutrient budget to be calculated, with suitable mitigation identified if there will be a net increase. This will then need to be detailed within a project-level Appropriate Assessment and agreed with Natural England (the Statutory Nature Conservation Organisation).

This report has been prepared by Principal Ecologist Danny de la Hey and approved by Associate Director David West CEnv MCIEEM and the conditions pertinent to it are provided in Appendix A.

NUTRIENT ASSESSMENT METHODOLOGY

To make the assessment, the following guidance documents were used:

Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on Habitats sites (Natural England, 16th March 2022);
Nutrient Neutrality Generic Methodology (Natural England and Ricardo Energy and Environment, November 2022);
Nutrient Budget Calculator Guidance Document (Natural England and Ricardo Energy and Environment, March 2022); and
Nutrient Neutrality Budget Calculator River Solent v2.3 (Natural England and Ricardo Energy and Environment, April 2023).

NUTRIENT ASSESSMENT

The assumptions relevant to this this project in addition to those included in the updated Natural England methodology are provided in Table 1.

Table 1: Project Assumptions

Number of proposed units:	71 care beds
Occupancy rate:	1 (1 person per bed rate applied as per previous approved assessment)
Water consumption:	120 l pp/pd
The total site area:	0.58 ha
The previous land uses are:	Cereals – 0.58 ha ¹
The future land uses will be:	Residential Urban Land – 0.58 ha
The wastewater from the site will be treated at this wastewater treatment works (WwTW):	Budds Farm WwTW
The consent limit for the WwWT is:	7.7 mg/l TN
Surface water catchment:	East Hampshire Rivers
Soilscape category:	Naturally wet
Standard annual average rainfall:	700.1 – 750mm
Nitrate vulnerable zone:	Yes

¹The wider Harbour Place site comprised a mix of cereal crop and pasture land prior to development. As such, previous site-wide assessments used values for average catchment, mixed or general cropping dependent on the version of guidance in use at the time. However, the care home site lies on part of the site which was used for cereal crops and as such this is used for this more specific assessment.

The results using the method for determining the nutrient budget for the proposals are provided in Table 2.

Table 2: Summary of the Results

Calculating Total Nitrogen (TN) Load From Development Wastewater (a)	Calculating TN Load From Current Land Use (b)	Calculating TN Load From Future Land Uses (c)	Calculating Net Change in TN From the Development	Apply 20% Buffer
21.57 kg TN/yr	12.48 kg TN/ yr	7.84 kg TN/yr	16.93 kg TN/yr	20.31 kg TN/yr

The calculations show that the development would result in an increased TN budget of **20.31 Kg/TN/yr**. The proposed development will result in an increase in TN and will not achieve nutrient neutrality without the implementation of mitigation.

MITIGATION ASSESSMENT

To mitigate for the increase in TN from the development proposals a mitigation site has been identified at the consented Forty Acres Farm site APP/18/00450. The site has been consented for 354 residential units. The original site was acquired by Barratt David Wilson homes via a Strategic Option

in 2016. Consent was secured for 320 units plus a care home APP/18/00450. Following the consent, BDW exercised their Option and replanned the scheme for 354 dwellings with the Care element remaining as originally consented. The nutrient budget was assessed as part of the Forty Acres Farm planning application within the Report to Inform Habitats Regulations Assessment Stage 1 and Stage 2 for the application.

The details for the consented / mitigation site are provided in Table 3.

Table 3: Project Assumptions

Number of proposed units:	354
Occupancy rate:	2.4
Water consumption:	110 ltr/pp/pd
The total site area:	22.9 ha
The previous land uses are:	Mixed – 22.9 ha
The future land uses will be:	Residential Urban Land – 10.10 ha Greenspace – 12.80 ha
The wastewater from the site will be treated at this wastewater treatment works (WwTW):	Budds Farm WwTW
The consent limit for the WwWT is:	7.7 mg/l TN
Surface water catchment:	East Hampshire Rivers
Soilscape category:	Naturally wet
Standard annual average rainfall:	700.1 – 750mm
Nitrate vulnerable zone:	Yes

The results using the method for determining the nutrient budget for the consented site are provided in Table 4.

Table 4: Summary of the Results

Calculating Total Nitrogen (TN) Load From Development Wastewater (a)	Calculating TN Load From Current Land Use (b)	Calculating TN Load From Future Land Uses (c)	Calculating Net Change in TN From the Development $a - b + c$
236.55 kg TN/yr	435.94 kg TN/ yr	174.84 kg TN/yr	-24.55 kg TN/yr

The calculations show that the approved development would result in a decrease in the TN budget of **24.55 Kg/TN/yr** which can be used to provide mitigation.

The mitigation site is located in Bedhampton, adjacent to the development site and within the same river catchment (East Hampshire Rivers) which discharges into the Solent. The proposed mitigation land is in an appropriate location to provide nutrient offsetting for the care home development at Harbour Place.

SUMMARY

The proposed development will result in an increased TN budget of **20.31 Kg/TN/yr**.

The consented mitigation site has resulted in a decrease of **24.55 Kg/TN/yr** from the development and therefore this surplus can be used to mitigate for the increase in TN from the development.

Following the completion of a legal agreement to purchase the required mitigation, the care home development will not result in an increase in TN.

The mitigation site will still have a surplus of **4.24 Kg/TN/yr** to off set other schemes in suitable locations.

Document Control			
Revision:	1	Status:	Final
Date:	04/08/2023		
Prepared by: Danny de la Hey, Principal Ecologist		Checked & Approved By: David West CEnv MCIEEM, Associate Director	
Summary of changes:			

Revision:	2	Status:	Final
Date:	23//10/2023		
Prepared by: Kevin Wood Associate Ecologist 		Checked & Approved By: Danny de la Hey Principal Ecologist 	
Summary of changes: Provide details regarding proposed nutrient mitigation.			

APPENDIX A: REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Halebourne Group Ltd (“the Client”) for the proposed uses stated in the report by Tetra Tech Limited (“Tetra Tech”). Tetra Tech excludes all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder’s permission.

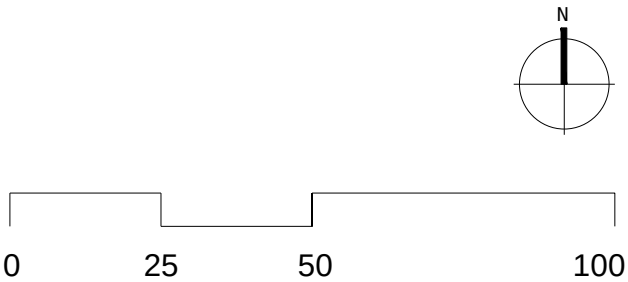
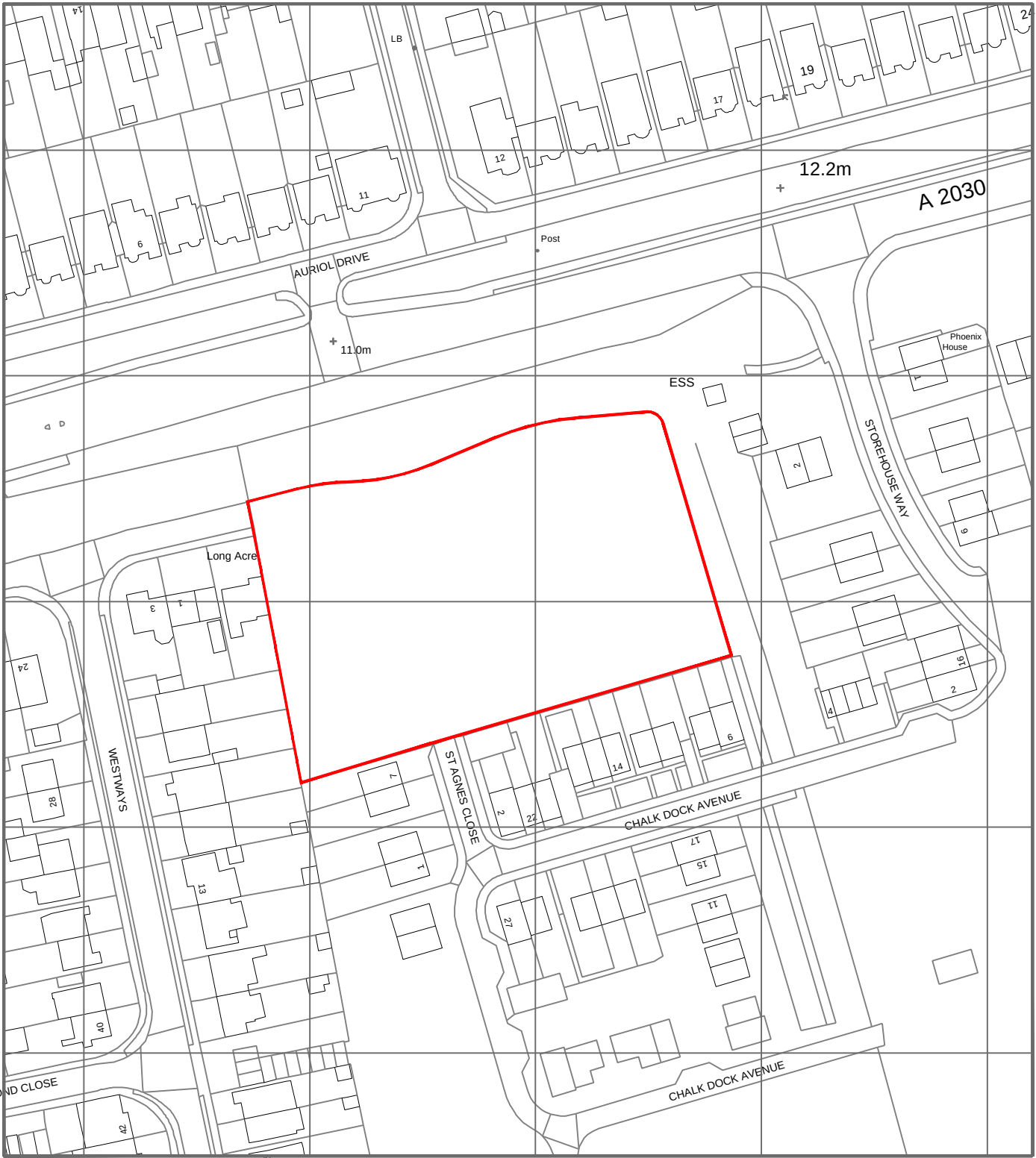
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The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accepts no liability for issues with performance arising from such factors.

APPENDIX B: SITE BOUNDARY



A PLANNING ISSUE		25.07.2022	
Rev.	Note:	Date.	
		Hay Associates Limited	
		4100 Park Approach	
		Thorpe Park	
		Leeds	
		LS15 8GB	
		0113 880 5500	
		info@thehayassociates.co.uk	
		www.thehayassociates.co.uk	
Client		Bedhampton Care Home Limited	
Project		Portsdown View Care Home, Bedhampton	
Title		Location Plan	
Scale	1:1250 @ A4	Date	July 2022
Drawn by	mh	Checked by	mh
Project No.	H213	Drawing No.	L01
Revision	A	Status	PLANNING

APPENDIX C: SOLENT HABITAT SITES NUTRIENT BUDGET CALCULATIONS

See associated 784-B050110 Nutrient Assessment Calculator:

APPENDIX D: SOLENT HABITAT SITES NUTRIENT BUDGET CALCULATIONS – MITIGATION SITE

See associated 784-B050110 Nutrient Assessment Calculator – Mitigation Site: