Site:	Harbour Place Care Home
Client:	Halebourne Group Ltd
Job Number:	784-B050110
Report Type(s):	Nutrient Balancing Assessment
File Location:	\\lds-dc-vm-101\Data\Projects\784-B050110_Harbour_Place_Care_Home\60 Project Output\63 Published

1.0 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 the conditions pertinent to it are provided in Appendix A.

2.0 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 Solent January 2024 (Natural England and Ricardo Energy and Environment, January 2024).

3.0 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
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

The results using the method for determining the nutrient budget for the proposals are provided in Table 2. The Solent Nutrient Budget Calculator is located in Appendix C.

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 form 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:	2.42*
Water consumption:	120 ltr/pp/pd
The total site area:	22.9 ha
The previous land uses are:	Cereals – 13.40 ha Mixed – 9.50 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

*Occupancy rate has been calculated using the Havant Occupancy Calculator, see Appendix D.

The results using the method for determining the nutrient budget for the consented site are provided in Table 4. The Solent Nutrient Budget Calculator is located in Appendix E.

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
260.21 kg TN/yr	469.17 kg TN/ yr	174.84 kg TN/yr	-34.12 kg TN/yr

The calculations show that the approved development would result in a decrease in the TN budget of **34.12 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 **34.12 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.

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 [redacted]		**Checked & Approved By:** Danny de la Hey Principal Ecologist [redacted]	
Summary of changes: Provide details regarding proposed nutrient mitigation.			

Revision:	**3**	**Status:**	**Final**
Date:	29/02/2024		
Prepared by: Kevin Wood Associate Ecologist [redacted]		**Checked & Approved By:** Danny de la Hey Principal Ecologist [redacted]	
Summary of changes: Updated Nutrient Budget Assessment using the January 2024 updated Solent Nutrient Budget Calculator.			

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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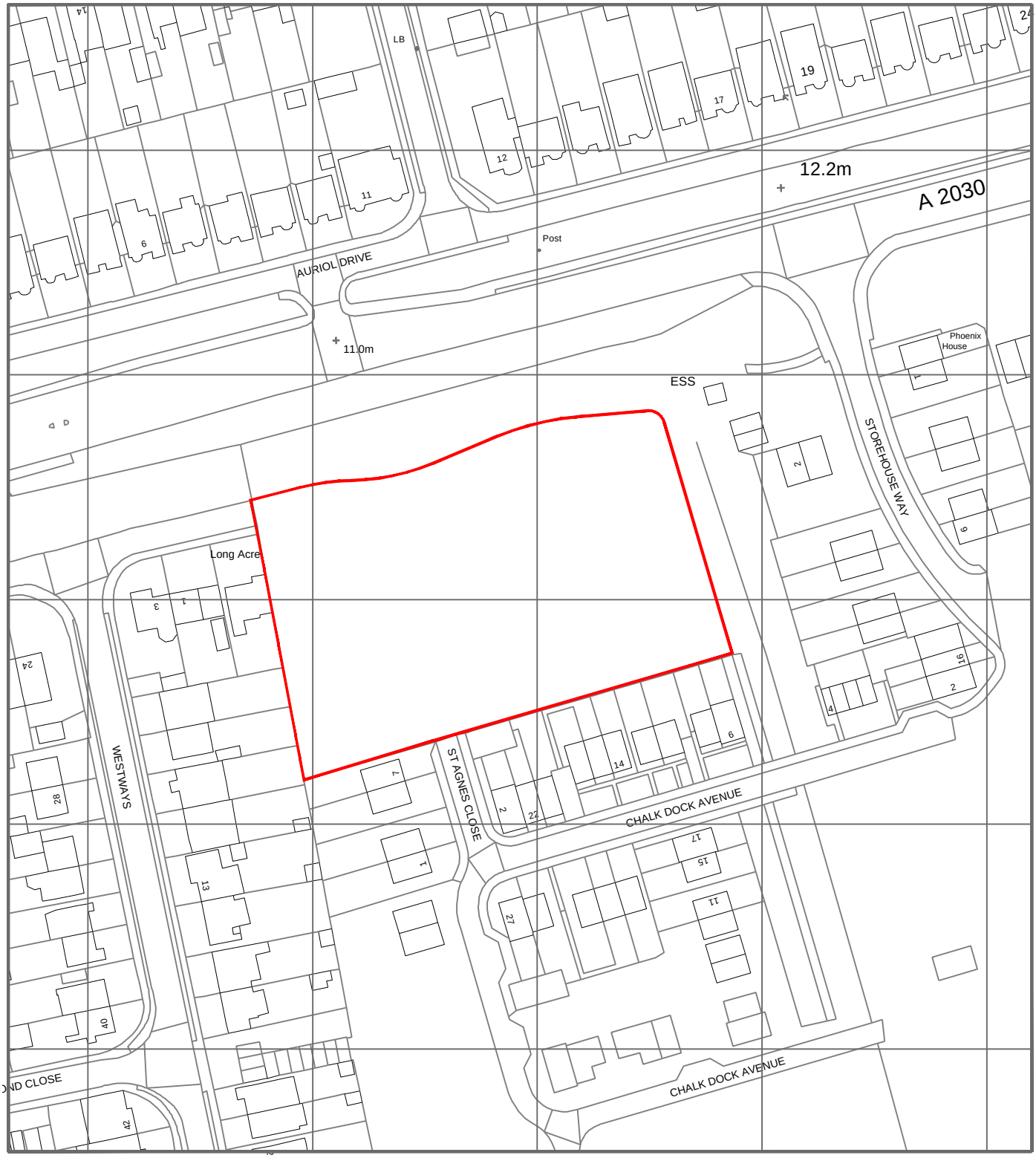
The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary, and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

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



Rev.	Note:	Date.
A	PLANNING ISSUE	25.07.2022

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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 January 2024:

APPENDIX D: OCCUPANCY RATE FOR MITIGATION SITE

Occupancy calculator

Date	29/02/2024
Site name	Forty Acres Farm site APP/18/00450. Mitigation.
Site address	Harboure Place

	Gross new homes proposed	Gross losses proposed	Net new homes proposed
1 bed	20		20
2 bed	97		97
3 bed	202		202
4 bed	35		35
5+ bed			0
Total	354	0	354

Average occupancy to include in Solent Nutrient Calculator:	**2.42**

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

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