

Dated 25 November

2024

Broadland District Council

-and-

Michael Ian Mack

**DEED OF PLANNING OBLIGATION  
UNDER SECTION 106  
OF THE TOWN AND COUNTRY PLANNING  
ACT 1990**

relating to land South of Hall Road, Blofield,  
Norwich, NR13 4DE (the Site)

and

1 and 2 Home Farm Cottage, Hall Road, Blofield,  
Norwich, NR13 4DE

THIS DEED is dated 25<sup>TH</sup> day of NOVEMBER

2024

**PARTIES:**

- (1) **BROADLAND DISTRICT COUNCIL** of The Horizon Centre, Peachman Way, Broadland Business Park, Norwich, NR7 0WF (referred to as "the Council")
- (2) **MICHAEL IAN MACK** of Home Farm Cottage, Hall Road, Blofield, Norwich, Norfolk, NR13 4DE (referred to as "the Owner")

together referred to as 'the Parties'

**INTRODUCTION**

- (A) The Council is a local planning authority for the purposes of this deed for the area within which the Site and the Host Land are located.
- (B) The Owner has applied for the Permission and the Council has resolved to grant the Permission provided the Parties enter into this Deed.
- (C) Pursuant to its statutory duty under Regulation 63 of the Conservation of Habitats and Species Regulations 2017, an assessment of the Development has concluded that the Development is likely to have a significant effect upon the Protected Site as (in the absence of mitigation) the Development will give rise to additional phosphorus and nitrogen discharges within the Catchment Area.
- (D) The Parties are therefore entering into this Deed to secure the Nitrogen Mitigation and Phosphorus Mitigation of the Development through the upgrade of a septic tank on the Host Land in accordance with the Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality.
- (E) The Owner owns the freehold of the Site as the Site Owner which is registered at the Land Registry (among other land) under title number NK404004 and held free from encumbrances.
- (F) The Owner owns the freehold of the Host Land as the Host Land Owner which is registered at the Land Registry (among other land) under title number NK404004 and held free from encumbrances.

**1. DEFINITIONS**

In this Deed the following expressions have the following meanings:

Act	The Town and Country Planning Act 1990 as amended
Catchment Area	means the fluvial catchment area of the River Bure upstream of the Protected Site
Commencement	<p>The date on which a material operation as defined in Section 56(4) of the Act is first carried out, except (for the purposes of this Deed only) operations consisting of:</p> <ul style="list-style-type: none"><li>• site clearance</li><li>• demolition</li><li>• archaeological investigations</li><li>• ground surveys</li><li>• removal of contamination or other adverse ground conditions</li><li>• erection of temporary fences</li><li>• temporary display of site notices and/or advertisements</li></ul> <p>and 'Commence' and 'Commenced' will be construed accordingly</p>
Completion Notice	Means the notice submitted to the Council confirming that the Replacement Sewage Treatment Plant has been installed and is operational, such notice to include a copy of the building control certificate which approves the installation of the Replacement Sewage Treatment Plant
Development	The Development of the Site in accordance with the Permission
Dwelling	A dwelling to be built on the Site as part of the Development
Host Land	The land known as 1 and 2 Home Farm Cottage,

	Hall Road, Blofield, Norwich, NR13 4DE and registered at HM Land Registry (among other land) under title number NK404004 shown edged blue on the Host Land Plan
Host Land Plan	The host land plan (reference number 16219135) attached to this Deed at Appendix 2
Maintenance and Monitoring Report	Means a report to be prepared by the Owner to be submitted to and approved by the Council in accordance with paragraphs 3 and 4 of Part 1 of Schedule 1 to secure the details of the measures required for maintaining and monitoring the Replacement Sewage Treatment Plant until the expiry of the Management Period
Management Period	Means from the date of first Occupation of any Dwelling for a period of 90 years in accordance with paragraph 5 of Part 1 of Schedule 1
Mitigation Report	Means a report which contains the assessment methodology and location for the Replacement Sewage Treatment Plant and the calculation of the volume of Nitrogen Mitigation and Phosphorus Mitigation provided by the installation of the Replacement Sewage Treatment Plant and which may be revised from time to time subject to the Council's approval (at its absolute discretion)
Monitoring Fee	Means the sum of £4,500 (Four Thousand Five Hundred Pounds) payable to the Council in respect of its duties and reasonable costs of monitoring performance of the obligations owed to it in this Deed
Natural England	Means the public body known as Natural England or any successor body which acts as the Government's adviser for the natural environment



	in England
Nitrogen Mitigation	Means measures to reduce the discharge of nitrogen to the Catchment Area to mitigate the effects of increased nitrogen levels in the Protected Site caused by the Development in line with Natural England requirements at the date of the Permission
Nominated Officer	The senior officer of the Council responsible for development management or other officer of the Council notified to the Owner
Occupation	Occupation of the Site, or any part of it, for any purpose authorised by the Permission, but excluding occupation for the purposes of: <ul style="list-style-type: none"> <li>• construction</li> <li>• internal and external refurbishment</li> <li>• decoration</li> <li>• fitting-out</li> <li>• marketing</li> </ul> and 'Occupy' and 'Occupied' will be construed accordingly
Permission	The planning permission to be granted by the Council for the erection of an agricultural tied two-bedroom bungalow and allocated reference number 2023/2622
Phosphorus Mitigation	Means measures to reduce the discharge of phosphorus to the Catchment Area to mitigate the effects of increased phosphorus levels in the Protected Site caused by the Development in line with Natural England requirements at the date of the Permission
Protected Site	Means the Broads SAC/Broadland Ramsar site

Replacement Sewage Treatment Plant	The Graf one2clean sewage treatment plant to be installed on the Host Land in accordance with the Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality
Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality	The Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality (reference: BIOC23-140   V1.0) attached to this Deed at Appendix 3 which contains the Mitigation Report and which may be revised from time to time subject to the Council's approval (at its absolute discretion)
Service Engineer	An appropriately qualified service engineer with experience in servicing, maintaining, repairing and replacing sewage treatment plants, adhering to industry standards
Site	The land known as Home Farm Cottages and Land at Home Farm, Hall Road, Blofield, Norwich, NR13 4DE and registered at HM Land Registry under title number NK404004 shown edged red on the Site Plan
Site Plan	The site location plan (reference number 0303-01-A) attached to this Deed at Appendix 1
The Host Land Owner	The owner of the Host Land from time to time
The Site Owner	The owner of the Site from time to time
Trigger	The Commencement date and any trigger or threshold in this Deed linked to the taking of specified steps, payment of money, or linked to the prohibition of a specified action
Working Day	Means a day that is not a Saturday, Sunday, a bank holiday or a public holiday in England or Wales, and "Working Days" shall be construed accordingly

## **2. LEGAL BASIS**

- 2.1. This Deed is made pursuant to Section 106 of the Act and, to the extent that it does not contain planning obligations, under Section 111 of the Local Government Act 1972, Section 1 of the Localism Act 2011, and all other enabling powers.
- 2.2. The covenants and obligations contained in this Deed create planning obligations for the purposes of section 106 of the Act enforceable by the Council and relate to the Site.
- 2.3. Covenants given by more than one party can be enforced against them individually or jointly.
- 2.4. A reference to an act of Parliament includes any later modification or re-enactment, including any statutory instruments made under that act, and reference to a gender or person includes all genders or classes of person.
- 2.5. Any covenant in this Deed not to do something includes an obligation not to allow or permit it to be done.
- 2.6. References to any party to this Deed shall include successors in title to that party and to any person deriving title through or under that party and in the case of the Council the successors to their respective statutory functions.
- 2.7. Representatives of the Council may enter the Site and the Host Land at any reasonable time to ascertain whether the terms of this Deed are being or have been complied with provided that:
  - 2.7.1. they do not enter any individual Dwelling; and
  - 2.7.2. they adhere to all reasonable health and safety requirements.

## **3. CONDITIONALITY**

This Deed is conditional upon:

- 3.1. The grant of the Permission; and
- 3.2. The Commencement of Development.

Save for the provisions of this clause and clauses 2, 5 (save for clause 5.15), 6, 7 and 8 which shall come into effect immediately on completion of this Deed and any obligation contained in this Deed which must be performed prior to Commencement of



the Development which shall come into effect immediately on the grant of the Permission.

#### **4. COVENANTS**

- 4.1. The Owner covenants with the Council as the Site Owner for himself and his successors in title to observe and perform the obligations and stipulations contained in this Deed.
- 4.2. The Owner covenants with the Council as the Host Land Owner for himself and his successors in title to observe and perform the obligations and stipulations contained in this Deed.
- 4.3. The Council covenant with the Owner to comply with their respective requirements contained in this Deed.

#### **5. OTHER PROVISIONS**

- 5.1. No person will be liable for any breach of this Deed if they no longer have an interest in the Site or Host Land (unless the breach occurred before they disposed of their interest).
- 5.2. The Owner confirms that he is the owner of the Site with full power to enter into this Deed and that there is no person or body with an interest in the Site whose consent is necessary to make this Deed binding on all interests in the Site.
- 5.3. The Owner confirms that he is the owner of the Host Land with full power to enter into this Deed and that there is no person or body with an interest in the Host Land whose consent is necessary to make this Deed binding on all interests in the Host Land.
- 5.4. The covenants, restrictions and requirements contained in this Deed shall not be enforceable against:
  - 5.4.1. any statutory undertaker or other person who acquires any part of the Site or an interest in it for the purposes of the supply of electricity gas water telecommunications or highways in connection with the Development of the Site.
- 5.5. On completion the Owner will pay the Council's reasonable legal costs in connection with this Deed.



- 5.6. No provisions of this Deed shall be enforceable under the Contracts (Rights of Third Parties) Act 1999.
- 5.7. If any provision of this Deed is held to be invalid, illegal or unenforceable it will not affect the remaining provisions.
- 5.8. No waiver, express or implied, by the Council of any breach or failure to perform or observe any of the covenants, terms or conditions of this Deed constitutes a continuing waiver, nor prevents the Council from enforcing any of the provisions in this Deed.
- 5.9. If the Permission is quashed revoked or expires before Commencement then, save for clause 5.5, this Deed will cease to have effect (insofar only as it has not already been complied with).
- 5.10. Subject to clause 5.11 nothing in this Deed prohibits or limits the right to develop any part of the Site in accordance with a planning permission (other than the Permission) granted after the date of this Deed.
- 5.11. If the Permission is subject to an application under Section 73 of the Act for the removal or amendment of any condition attached to the Permission then the obligations in this deed shall also apply to the new planning permission resulting from such application if so agreed by the Council (acting in its absolute discretion).
- 5.12. This Deed is registrable as a local land charge.
- 5.13. Following the performance and satisfaction of all the obligations contained in this Deed the Council will, upon the written request of the Owner, cancel all relevant entries contained in the Register of Local Land Charges.
- 5.14. An agreement, approval, consent or expression of satisfaction required by the Owner from the Council under the terms of this Deed must be given in writing and shall not be unreasonably withheld or delayed.
- 5.15. The provisions of this Deed (other than this clause which takes immediate effect) will be of no effect until this deed has been dated.
- 5.16. Nothing contained or implied in this Deed will fetter, prejudice or affect the rights, discretions, powers, duties and obligations of the Council in the exercise of any of its functions as local authority.

## **6. DISPUTES**

- 6.1. If any dispute is not resolved between the Parties, any of the Parties may refer it for determination by an expert. The expert will be appointed by agreement between the parties or, in default of agreement, by the President for the time being of the Royal Institution of Chartered Surveyors and the expert's decision shall be final and binding.
- 6.2. The expert is to be replaced by a fresh appointee in the event that he becomes at any time unable or unwilling for any reason to proceed to discharge his functions. The fresh appointee is to be appointed in the manner prescribed in this clause.
- 6.3. The expert is to make his decision within 6 weeks of being appointed.
- 6.4. The costs of appointing the expert are to be shared equally by the parties to the dispute except where the expert takes the view that one party has acted unreasonably. In that case the expert has binding discretion as to apportionment of the costs.
- 6.5. Nothing in this clause will apply to the recovery of liquidated sums or prevent the parties from commencing or continuing court proceedings.

## **7. NOTIFICATIONS**

- 7.1. Any notice or written communication given under this Deed is validly given if hand delivered or sent by recorded delivery post to the address set out at the beginning of this Deed, unless written notification of another address has been received.
- 7.2. The Owner will notify the Nominated Officer in writing of the relevant
  - 7.2.1. anticipated Triggers seven days in advance of each anticipated date,
  - 7.2.2. actual Triggers within seven days of each actual date.
- 7.3. If the Owner disposes of his interest in all or part of the Site he will notify the Nominated Officer within 7 days of the name and address of the new owner and sufficient details to identify the Site or part of the Site.
- 7.4. If the Owner disposes of his interest in all or part of the Host Land he will notify the Nominated Officer within 7 days of the name and address of the new owner and sufficient details to identify the Host Land or part of the Host Land.

## 8. JURISDICTION

This Deed is governed by and interpreted in accordance with the law of England and Wales.

## **SCHEDULE 1**

### **Nutrient Mitigation**

#### **Part 1 Site Covenants**

The Owner as the Site Owner with the full intention to bind the Site hereby covenants with the Council as follows:

1. To pay the Monitoring Fee to the Council prior to the Commencement of the Development and not to Commence the Development until the Monitoring Fee has been paid to the Council;
2. To install the Replacement Sewage Treatment Plant in accordance with the Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality to the satisfaction of the Council and not to Occupy and Dwelling until the Council has certified that the installation of the Replacement Sewage Treatment Plant is satisfactory;
3. To submit the Completion Notice to the Council prior to Occupation of any Dwelling and not to Occupy any Dwelling until the Completion Notice has been submitted to the Council;
4. To submit the Maintenance and Monitoring Report to the Council prior to Occupation of any Dwelling and not to Occupy any Dwelling until the Maintenance and Monitoring Report have been submitted to and approved by the Council;
5. Not to Occupy any Dwelling until the Completion Notice submitted to the Council under paragraph 3 of Part 1 of this Schedule 1 has been approved by the Council;
6. To notify the Host Land Owner of the Council's approval of the Completion Notice in accordance with paragraph 5 of Part 1 of this Schedule 1; and

#### **Part 2 Host Land Covenants**

The Owner as the Host Land Owner with the full intention to bind the Host Land covenants with the Council as follows:

1. To grant the Site Owner rights of access to the Host Land as is reasonably necessary to carry out and undertake the installation of the Replacement Sewage Treatment Plant as required by paragraph 2 of Part 1 of this Schedule 1 until such time as the Council approve the Completion Notice in accordance with paragraph 5 of Part 1 of this Schedule 1
2. To accept the installation of the Replacement Sewage Treatment Plant on the Host Land;



3. Throughout the Management Period:

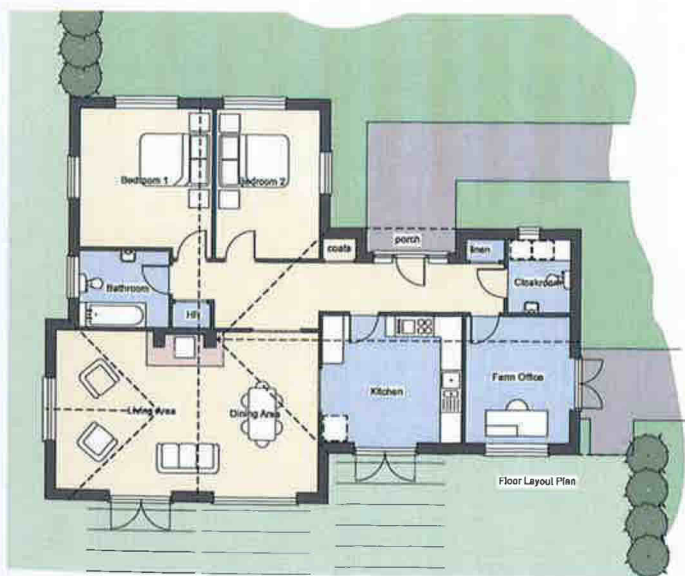
- 3.1. To allow access to the Host Land on reasonable written notice and at reasonable times to persons authorised by the Council for the purposes of monitoring and inspection of the Replacement Sewage Treatment Plant;
- 3.2. To undertake any works of maintenance and or repair to the Replacement Sewage Treatment Plant reasonably required by the Council and to implement the measures required for maintaining and monitoring the Replacement Sewage Treatment Plant as set out in the approved Maintenance and Monitoring Report;
- 3.3. To operate, maintain, repair and empty the Replacement Sewage Treatment Plant and ensure that its operation meets the level of Phosphorus Mitigation and Nitrogen Mitigation indicated in the Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality, unless otherwise agreed in writing by the Council;
- 3.4. Subject to 3.10, not to do anything which may cause or permit the Replacement Sewage Treatment Plant to function less effectively or cease functioning;
- 3.5. To procure and maintain regular servicing of the Replacement Sewage Treatment Plant (at least once every twelve months) by a Service Engineer to ensure that its operation meets the level of Phosphorus Mitigation and Nitrogen Mitigation required by the Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality, unless otherwise agreed in writing with the Council;
- 3.6. To keep up-to-date records of all maintenance and monitoring undertaken to the Replacement Sewage Treatment Plant in accordance with the Maintenance and Monitoring Report, and upon each anniversary of the commencement of the Management Period to submit maintenance and monitoring records to the Council together with any other records which may reasonably be required by the Council unless otherwise agreed in writing by the Council;
- 3.7. To provide any other information relating to the installation, operation, management and/or maintenance of the Replacement Sewage Treatment Plant as reasonably requested by the Council;
- 3.8. If the Host Land Owner becomes aware that the Replacement Sewage Treatment Plant is failing to meet the level of Phosphorus Mitigation and/or Nitrogen Mitigation required by the Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality, the Host Land Owner shall remedy the said failure within 30 Working Days of becoming aware of such failure;
- 3.9. To renew or replace the Replacement Sewage Treatment Plant at the end of its operational life with an alternative treatment plant in accordance with

paragraph 3.10 of Part 2 of this Schedule 1;

- 3.10. To not to replace the Replacement Sewage Treatment Plant with an alternative treatment plant ("Alternative Sewage Treatment Plant") unless:
  - 3.10.1. the Host Land Owner has submitted a plan for the Alternative Sewage Treatment Plant to the Council which demonstrates that any such Alternative Sewage Treatment Plant shall provide at least the same amount of Phosphorus Mitigation and Nitrogen Mitigation indicated in the Shadow Habitat Regulations Assessment (SHRA): Nutrient Neutrality as the Replacement Sewage Treatment Plant at the date of Council's approval of the Alternative Sewage Treatment Plant; and
  - 3.10.2. the Council has approved in writing the plan for the Alternative Sewage Treatment Plant submitted by the Host Land Owner
- 3.11. Where an Alternative Sewage Treatment Plant has been installed in accordance with paragraph 3.10 of Part 1 of this Schedule 1, to provide the Council with an amended Completion Notice in respect of the relevant Alternative Sewage Treatment Plant;
- 3.12. Where a plan for an Alternative Sewage Treatment Plant is approved in writing by the Council in accordance with paragraph 3.10.2 of Part 1 of this Schedule 1, reference in this Schedule 1 to "Replacement Sewage Treatment Plant" shall be read as reference to the most recent Alternative Sewage Treatment Plant approved by the Council.

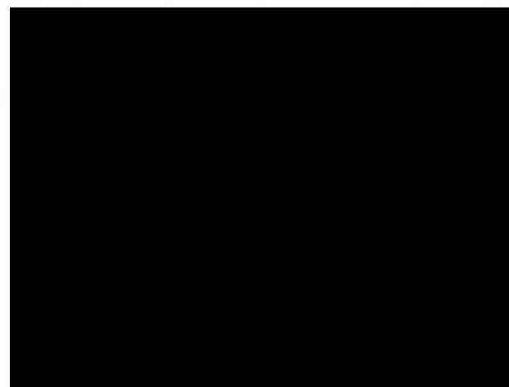
## **APPENDIX 1**

### **The Site Plan**



Planning	
A. August 2022 Revised	
 <b>Howe and Boosey</b> Architectural Services Ltd	
28 Colton Road, Newark, NG24 0JL Email: info@howeandboosey.co.uk Website: howeandboosey.co.uk Company Number: 105-1055 Incorporated 14th July 2020	
Project: Half Acre Rural Agricultural Dwelling Proposed Plan	
Scale:	1:100 & 1:500 & 1:2500
Rev. No.	0008 01 A
Drawn by:	JD 08/22
Issue No.	01
Issue Date:	01/08/2022

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## APPENDIX 2

### The Host Land Plan

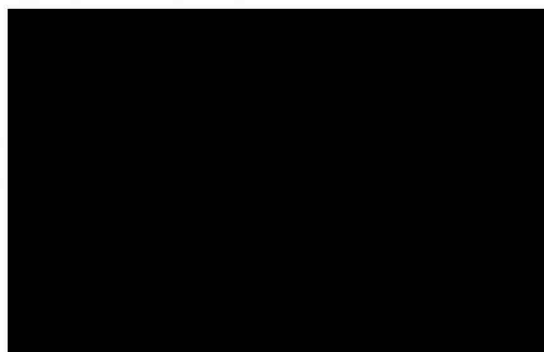
## Ref: 16219135

**Michael Ian Mack  
Blofield**



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50 m  
Scale 1:2500 (m1 A4)



### APPENDIX 3

Shadow Habitat Regulations Assessment (sHRA): Nutrient Neutrality



**BIODIVERSE**  
CONSULTING

# **LAND SOUTH OF HALL ROAD**

**SHADOW HABITAT REGULATIONS  
ASSESSMENT (sHRA): NUTRIENT  
NEUTRALITY**

**FOR: JAMES HILL**

**REF: BIOC23-140 | V1.0**

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CLIENT	PROJECT	
James Hill 8 Market Place Aylsham Norfolk NR11 6EH United Kingdom	Project Name:	Land South of Hall Road
	Project code:	BioC23-140
	Prepared by:	Cameron Carmichael MSc
	Reviewed by:	Alastair Craighead MSc CIEEM
	Approved by:	Vicki Mordue MSc MloD AIEEMA
	Date:	25 January, 2024

## DOCUMENT CONTROL

VERSION	DATE	CHANGES	CONFIDENTIALITY	PREP	REV	AUTH
V1.0	25/01/24	Initial to client	N/A	CC	AC	VM



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# 1 INTRODUCTION

## 1.1 BACKGROUND

The Broads Special Area of Conservation (SAC) and Ramsar site are considered by Natural England to be in unfavourable condition due to nutrient enrichment (eutrophication). The SAC and Ramsar site include freshwater and estuarine areas in which qualifying features are being negatively affected by eutrophication due to the resultant growth of algal mats. As such, Natural England has advised that new developments should not result in additional nutrients entering the catchment of The Broads SAC and Ramsar site (Appendix A).

The Conservation of Habitats and Species Regulations 2017 (as amended) place a duty on a competent authority (rather than the planning applicant) to undertake a 'Habitat Regulations Assessment' (HRA) of the impacts of the project on the SPA and Ramsar sites. Biodiverse Consulting Ltd has been commissioned to prepare this report to assist Broadland District Council, as the competent authority, in discharging this duty, and hence the term shadow HRA (sHRA) is used to describe this document.

## 1.2 DEVELOPMENT PROPOSALS

The Development comprises a single residential unit with associated landscaping and infrastructure (Appendix C). The Development Site is located at Hall Road, Blofield, Norwich at an appropriate central grid reference of TG 31661 10919. The immediately surrounding landscape is agricultural land.

## 1.3 HABITAT REGULATIONS ASSESSMENT (HRA)

HRA refers to the several distinct stages of assessment which must be undertaken in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended) to determine if a plan or project may affect the qualifying features of an internationally protected Habitats Site before deciding whether to undertake, permit or authorise it.

Habitat sites include:

- Special Protection Areas (SPAs) and potential SPAs (pSPAs),
- SACs and candidate SACs (cSACs),
- Listed or proposed Ramsar sites and
- Sites identified (or required) as compensatory measures for adverse effects on all such sites.



HRA follows a stepwise process through four stages:

- **Stage 1 – Screening:** Assessing whether or not the project would have a 'Likely Significant Effect' (LSE) on a Habitats Site, either alone or in combination with other plans or projects. This assessment is carried out without consideration of mitigation. If Screening cannot conclude that there will not be an LSE on a Habitats Site, then Stage 2 – Appropriate Assessment (AA) – would apply. Otherwise, the project may be authorised.
- **Stage 2 – Appropriate Assessment:** The AA is undertaken by the competent authority responsible for determining the application. The purpose is to assess the implications of the project in respect of the conservation objectives for the Habitats Site which should enable the competent authority to determine whether or not the project would adversely affect the integrity of the Site. If it can be ascertained beyond reasonable scientific doubt that the project would not adversely affect the integrity of the Habitats Site, then it can be authorised; if not, Stages 3 and 4 would apply.
- **Stage 3 – Alternative Solutions:** Where the project would damage the integrity of a Habitats Site, alternative solutions which would deliver the project objective(s) need to be considered. If there are no alternatives that do not also affect the integrity of the Habitats Site, Stage 4 applies.
- **Stage 4 – Imperative Reasons of Overriding Public Interest (IROPI):** Projects that adversely affect the integrity of a Habitats Site may proceed for imperative reasons of overriding public interest, subject to compensatory measures being secured.

### 1.3.1 Screening

Natural England has established that, in the catchments of Habitats Sites<sup>1</sup> with unfavourable condition due to eutrophication, wastewater nutrient loading from developments may undermine the recovery of such sites.

The Broads SAC and Ramsar site has been identified by Natural England as being in unfavourable condition as a result of eutrophication, principally from nitrate and phosphate loading in the Broads catchment (Appendix A), within which the Development is located.

Natural England has established that eutrophication can lead to a range of deleterious effects on the qualifying features of the designated sites, mainly due to opportunistic macroalgal and phytoplankton blooms. Consequently, it is not necessary for this report to screen LSEs since this

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<sup>1</sup> Habitat sites are sites which are protected by the Habitats Regulations and includes Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Any proposals that could affect them require a Habitats Regulations Assessment (HRA). Ramsar sites are also included as these are protected as a matter of government policy and also require a HRA where proposals may affect them.





has been established by Natural England and, by extension, it is not necessary to explore the biological mechanisms by which eutrophication affects qualifying features<sup>2</sup>.

The Development is not directly connected with or necessary to the favourable management of the Habitats Site and the potential for LSEs has been established, therefore an AA is required. The AA will assess the pathways by which the Development has the potential to contribute to eutrophication and, if necessary, identify suitable mitigation.

### 1.3.2 Competent Authority

The planning application for the Development will be determined by Broadland District Council. It is also the responsibility of Broadland District Council, as the competent authority, to undertake any AA that may be required under the terms of the Habitat Regulations, with statutory advice provided by Natural England.

Whilst the competent authority will ultimately undertake the AA, it is the responsibility of the Applicant to provide the relevant information to enable them to do so. This AA is intended to provide Broadland District Council with the relevant information to discharge their duties under the Habitat Regulations.

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<sup>2</sup> Summarised in Appendix B



## 2 APPROPRIATE ASSESSMENT

### 2.1 NUTRIENT NEUTRALITY

Broadland District Council, in authorising a project, must ascertain beyond reasonable scientific doubt that it will not adversely affect the integrity of the Habitats Sites. Natural England has introduced the concept of Nutrient Neutrality to help developments demonstrate that they do no harm and thus can be authorised. They have provided evidence and tools to support decision making, including a Nutrient Budget Calculator (NBC)<sup>3</sup> for the Broads catchment which determines the net change in nutrients entering the catchment as a result of a development and thereby determining the need for and efficacy of mitigation.

Developments have the potential to contribute nutrients to a catchment via two main pathways:

- Wastewater
- Surface water runoff

Determining changes to the inputs and outputs from these two pathways provides the basis for the calculations in the NBC and the assessment of associated mitigation.

### 2.2 NUTRIENT BUDGET CALCULATOR

The NBC is used in this report to assess Nutrient Neutrality by calculating the Total Phosphorus (TP) and Total Nitrogen (TN) budgets for the Development Site expressed as kg TP/year and kg TN/year respectively. The NBC is calculated in four stages:

1. The increase in nutrient loading to a Habitats Site that results from the increase in wastewater from a new development.
2. The nutrient loading from the past/present land use of the development site.
3. The nutrient loading from the future mix of land use on the development site.
4. Calculation of the net change in nutrient loading to a Habitats Site with the addition of a precautionary buffer. The net change in nutrient loading and the buffer is the nutrient budget.

<sup>3</sup> Natural England (2022) Nutrient Neutrality Budget Calculator: The Broads SAC and Ramsar.



## 2.2.1 Wastewater

Wastewater typically includes the foul water emanating from within a property that is subsequently processed by a Wastewater Treatment Works (WwTW) before being discharged to the environment. The nutrient budget of wastewater is determined in Stage 1 of the NBC by the following parameters:

- Development Proposal – the total number of dwellings/units.
- Occupancy Rate – the average number of residents per dwelling.
- Water Usage – the average volume of water used by a person in a day.
- Wastewater Treatment Works (WwTW) – the efficacy of the relevant WwTW.

The NBC includes default values for some of the above but, in line NBC guidance<sup>4</sup>, it is acceptable to include well-evidenced site-specific values. The sections below describe how site-specific values for the above factors have been determined for the Development.

### 2.2.1.1 Development Proposal

The Development proposal is for a single residential unit (Appendix C).

### 2.2.1.2 Occupancy Rate

The occupancy rate for the development is 2.40 people per dwelling.

This is the default national occupancy rate.

### 2.2.1.3 Water Usage

The water usage for the development is 120 litres/person/day.

This is the default water usage.

### 2.2.1.4 Wastewater Treatment Works (WwTW)

The Graf one2clean will be used to treat wastewater from the Development. The PTP has a P permit of 1.6 mg TP/litre and a N permit of 7.9 mg TN/litre. The PTP declaration of performance can be found in Appendix D.

## 2.2.2 Surface Water

Surface water is the runoff from a Development that discharges directly into a catchment (i.e. it does not pass through a WwTW) and thus carries a nutrient load from the land over which it passes. The land use on a development site therefore has an associated level of nutrient export (the export coefficient) that will impact a Habitats Site. The nutrient budget of surface water is determined in Stages 2 and 3 of the NBC by the following parameters:

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<sup>4</sup> Natural England (2022) Nutrient Budget Calculator Guidance Document v1 (March 2022)





- Type and Area of Land Use (existing and new) – different land use types have different nutrient export coefficients.
- Rainfall – determines the total amount of surface water runoff.
- Soil Drainage Type – affects how quickly water permeates or runs off.

Values for Rainfall and Soil Drainage Type have been determined from the NBC data sources.

#### 2.2.2.1 Land Use

The existing land use of 'Cereals' has been determined from aerial imagery, consultation with the landowner and the Preliminary Ecological Appraisal (PEA)<sup>5</sup>.

The proposed new land use of 'Residential urban land' has been determined from the site layout plans for the Development (Appendix C).

All habitats have been categorised according to the broad land use types defined in the NBC guidance<sup>4</sup> (Appendix E) and maps of the baseline and post-development land uses are provided in Appendix F. The NBC, including all defined parameters, is provided in Appendix G.

#### 2.2.3 Assessment

Taking into account the above, the NBC estimates the total annual phosphorus load to mitigate is 0.77 kg TP/year and the annual nitrogen load to mitigate is 0.00 kg TN/year (Appendix G). This additional TP would contribute to the eutrophication of The Broads SAC and Ramsar site and thus constitutes a significant adverse effect on the integrity of the Habitats Site. Mitigation is therefore required to reduce this nutrient load and to allow the development to receive planning approval.

### 2.3 MITIGATION

HRA requires that mitigation used to inform decisions about the effects on integrity needs to be sufficiently secured and likely to work in practice. The mitigation outlined below is based on the NBC, follows prevailing good practice and can reasonably be expected to provide sufficient mitigation.

#### 2.3.1 On-site Mitigation

Due to the small size of the Site, mitigation is not possible within the red line boundary.

#### 2.3.2 Septic Tank Upgrade

An existing property within the client's ownership, is currently serviced by a septic tank. The location of the property is indicated in Appendix H.

<sup>5</sup> Arbtech (2023) Preliminary Ecological Appraisal – Agricultural Land at Hall Road, Blofield, Norwich, NR13 4DD



The existing septic tank will be upgraded to the Graf one2clean (PTP declaration of performance in Appendix D).

Two NBCs were created to determine the reduction in nutrient loading resulting from upgrading the existing septic tank to the Graf one2clean. A baseline NBC establishes the current nutrient loading resulting from the existing septic tank, the post intervention NBC establishes the nutrient loading resulting from the Graf one2clean. Subtracting the baseline nutrient loading from the post intervention nutrient loading will indicate the change in nutrient loading resulting from upgrading the existing septic tank.

The P and N permits are not available for the existing septic tank, so the NBC septic tank default values of 11.6 mg TP/litre and 96.3 mg TN/litre were used for the baseline NBC. The PTP has a P permit of 0.4 mg TP/litre and a N permit of 9.0 mg TN/litre (Appendix D).

The baseline NBC estimates the total annual phosphorus load with the existing septic tank at 1.46 kg TP/year and the annual nitrogen load at 12.16 kg TN/year (Appendix I).

The post intervention NBC estimates the total annual phosphorus load with the Graf one2clean PTP at 0.20 kg TP/year and the annual nitrogen load at 1.00 kg TN/year (Appendix J).

Therefore, upgrading the existing septic tank to the Graf one2clean will mitigate 1.26 kg TP/year and 11.16 kg TN/year. This is significantly greater than the annual phosphorus and nitrogen loads to mitigate for the development of 0.77 kg TP/year and 0.00 kg TN/year respectively.

Consequently, the Development achieves nutrient neutrality, will not increase nutrient loading into the catchment and will not contribute to the eutrophication of The Broads SAC and Ramsar site. This result is attributable to upgrading an existing less efficient wastewater treatment works to a higher efficiency wastewater treatment works, lowering nutrient loading.

### 2.3.3 Securing Mitigation

The mitigation will be in place before the date of first occupancy of the Development. All aspects of the mitigation will be secured by conditions attached to the planning decision. This will ensure that the proposed mitigation is secured and implemented as intended.

### 2.3.4 Certainty of Outcome

Achieving nutrient neutrality through mitigation has a degree of uncertainty. To some extent, this uncertainty is inherent in all ecological systems, but it is more pronounced for newly emerging and untested measures. Nonetheless, the proposed mitigation has adopted the precautionary principle and so accounts for some of the uncertainty by:

- The over-specification of design elements – the proposed mitigation exceeds the minimum required to achieve neutrality.
- Applying precautionary multipliers – including a 20% uplift buffer in the NBC.





- Monitoring of and improvements to mitigation – an adaptive monitoring plan will be developed to ensure that the efficacy of the mitigation is regularly evaluated, and that timely remedial action is taken as necessary. The plan will be in place for the lifetime of the mitigation. The plan and its outputs will be approved by the competent authority and will be made a condition of planning approval.

Taking into consideration this precautionary approach, there can be sufficient certainty in the efficacy of the mitigation such that there is no reasonable scientific doubt about the absence of effects.

### 2.3.5 Conclusion

The above NBC demonstrates beyond reasonable scientific doubt that the Development will not increase nutrient loading into The Broads SAC and Ramsar site. Consequently, the Development will not undermine conservation objectives to improve the unfavourable condition of the Habitats Site with respect to eutrophication.

The Development will not adversely affect the favourable conservation status of the qualifying features of The Broads SAC and Ramsar site, nor the integrity of the Habitats Site.

## 2.4 IN-COMBINATION EFFECTS

In-combination effects occur when multiple developments have impacts on ecological features, and small, individual (but otherwise not likely or significant) effects can cumulatively become significant. Broadland District Council will only authorise a development if it can demonstrate that it achieves Nutrient Neutrality. By definition, any such development will not contribute excess nutrients to The Broads SAC and Ramsar site and thus will not have a significant effect either alone or in combination with other plans or projects.

---

## 3 CONCLUSION

This report demonstrates that the Development will conform to Natural England's concept of Nutrient Neutrality. In doing so it will not increase nutrient loading into The Broads SAC and Ramsar site and thus will not undermine the conservation objectives or integrity of the Habitats Sites. The Development will therefore have no adverse effects on The Broads SAC and Ramsar site either alone or in combination.

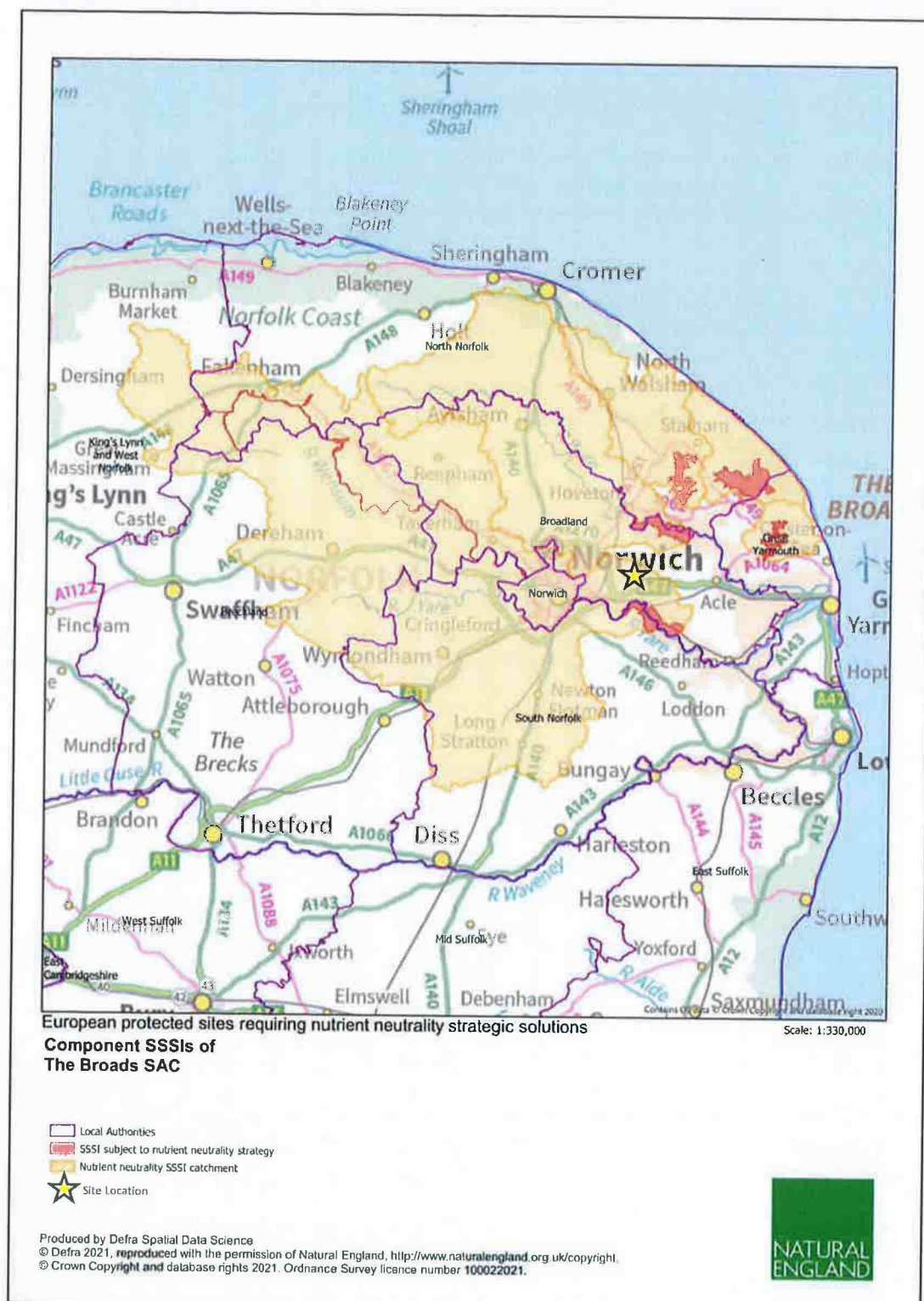


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## APPENDICES



## APPENDIX A – THE BROADS SAC AND RAMSAR SITES CATCHMENT





## APPENDIX B – QUALIFYING FEATURES OF HABITATS SITES

SITE NAME	FEATURES
The Broads SAC	<ul style="list-style-type: none"> <li>• H3140 Hard oligo-mesotrophic waters with benthic veg of <i>Chara</i> spp.</li> <li>• H3150 Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i></li> <li>• H6410 <i>Molinia</i> meadows on calcareous, peat or clay-silt soil</li> <li>• H7140 Transition mires and quaking bogs</li> <li>• H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i></li> <li>• H7230 Alkaline fens</li> <li>• H91E0 Alluvial woods with <i>A. glutinosa</i>, <i>F. excelsior</i></li> <li>• S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i></li> <li>• S1355 Otter, <i>Lutra lutra</i></li> <li>• S1903 Fen orchid, <i>Liparis loeselii</i></li> <li>• S4056 Little ram's-horn whirlpool snail, <i>Anisus vorticulus</i></li> </ul>
The Broadland Ramsar	<ul style="list-style-type: none"> <li>• Bewick's swan, <i>Cygnus columbianus bewickii</i> - Wintering</li> <li>• Floodplain alder woodland</li> <li>• Floodplain fen</li> <li>• Gadwall, <i>Anas strepera</i> - Wintering</li> <li>• Shoveler, <i>Anas clypeata</i> - Wintering</li> <li>• Wetland invertebrate assemblage</li> <li>• Wetland plant assemblage</li> <li>• Wigeon, <i>Mareca penelope</i> – Wintering</li> </ul>





APPENDIX C – SITE LAYOUTS AND PLANTING PLANS



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## APPENDIX D – PTP DECLARATION OF PERFORMANCE



### PERFORMANCE RESULTS

**Otto Graf GmbH**  
Carl-Zeiss-Str. 2 - 6, 79331 Teningen, Germany  
**EN 12566-3**  
Small wastewater treatment systems for up to 50 PT  
**Small wastewater treatment system one2clean**  
SBR plant in one two-zone polypropylene tank  
Test report PIA2014-216B14.01.e

Nominal organic daily load*	0.27	kg/d	
Nominal hydraulic daily load	0.75	m <sup>3</sup> /d	
Material	polypropylene		
Treatment efficiency (nominal sequences)			
	COD	Efficiency	Effluent
	BOD <sub>5</sub>	94.2 %	43 mg/l
	SS	98.0 %	7 mg/l
		96.3 %	14 mg/l
	NH <sub>4</sub> -N**	98.3 %	0.5 mg/l
	N <sub>tot</sub> **	87.0 %	7.9 mg/l
	P <sub>tot</sub>	80.2 %	1.6 mg/l
Electrical consumption	0.63	kWh/d	
*at a test influent of $\geq 300$ mg/l BOD <sub>5</sub> (mean)			
**determined for temperatures $\geq 12^{\circ}\text{C}$ in the bioreactor			

Performance tested by:

**PIA – Prüfinstitut für Abwassertechnik GmbH**  
(PIA GmbH)  
Hergenrather Weg 30  
52074 Aachen, Germany

This document replaces neither the declaration  
of performance nor the CE marking



Notified body  
No. 1739



Certified according to  
ISO 9001:2008



DAKKS  
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Akkreditierungsstelle  
D-PL 17712-01-00

Prüfinstitut für Abwassertechnik GmbH  
  
geprüft - tested - teste

Elmar Lancé

November 2014



## APPENDIX E – NUTRIENT NEUTRALITY CALCULATOR LAND USE TYPES

LAND USE TYPE	DESCRIPTION
Cereals	Agricultural areas on which cereals, combinable crops and set aside are farmed.
General	Agricultural areas on which arable crops (including field scale vegetables) are farmed.
Horticulture	Agricultural areas on which fruit (including vineyards), hardy nursery stock, glasshouse flowers and vegetables, market garden scale vegetables, outdoor bulbs and flowers, and mushrooms are farmed.
Pig	Agricultural areas on which pigs farmed.
Poultry	Agricultural areas on which poultry are farmed.
Dairy	Agricultural areas on which dairy cows are farmed.
LFA	Agricultural areas on which cattle, sheep and other grazing livestock are farmed in locations where agricultural production is difficult. An area is classified as a Less Favoured Area (LFA) holding if 50 per cent or more of its total area is classed as LFA.
Lowland	Agricultural areas on which cattle, sheep and other grazing livestock are farmed. A holding is classified as lowland if more than 50 per cent of its total area is classed as a lowland grazing area.
Mixed	Agricultural areas in which none of the above categories are farmed or where it is too difficult to select a single category to describe the farm type
Greenspace	Natural and semi-natural outdoor spaces provided for recreational use where fertilisers will not be applied and dog waste is managed, e.g. seminatural parks. This does not include green infrastructure within the built urban environment, such as sports fields, gardens, or grass verges, as these are included in the residential urban land category.
Woodland	Natural and semi-natural outdoor wooded areas.
Shrub	Natural and semi-natural outdoor shrubland area.
Water	Areas of surface water, including rivers, ponds and lakes.
Residential urban land	Areas of houses and associated infrastructure. This is inclusive of roads, driveways, grass verges and gardens
Commercial/industrial urban land	Areas that are used for industry. These are businesses that typically manufacture, process or otherwise generate products. Included in the



LAND USE TYPE	DESCRIPTION
	definition of industrial land are factories and storage facilities as well as mining and shipping operations.
Open urban land	Area of land in urban areas used for various purposes, e.g. leisure and recreation - may include open land, e.g. sports fields, playgrounds, public squares or built facilities such as sports centres.
Community food growing	Areas that are used for local food production, such as allotments.



## APPENDIX F – BASELINE AND POST DEVELOPMENT LAND USE



25 JANUARY, 2023 | FOR: James Hill









## APPENDIX G – NUTRIENT BUDGET CALCULATOR RESULTS

Stage 1			
<b>User Inputs</b>			
Date of first occupancy:			
Average occupancy rate:	2.40		
Water usage (litres/person/day):	120		
Development Proposal (dwellings/unit):	1		
Wastewater treatment works:	Package Treatment Plant user defined		
Wastewater treatment works P permit (mg TP/litre):	Please enter value in cell to the right:	1.6	
Wastewater treatment works N permit (mg TN/litre):	Please enter value in cell to the right:	7.9	
<b>Stage 1 Calculated Loading</b>			
Additional population	2.4	people	
Wastewater by development	288	litres/day	
Annual wastewater TP load	0.17	kg TP/yr	
Annual wastewater TN load	0.83	kg TN/yr	

Stage 2			
<b>User Inputs</b>			
Catchment:	Yare		
Soil drainage type:	Freely draining		
Annual average rainfall (mm):	825.1 - 850		
Within Nitrate Vulnerable Zone (NVZ):	Yes		
Existing land use type(s)	Area (ha)	Annual phosphorus nutrient export (kg TP)	Annual nitrogen nutrient export (kg TN)
Cereals	0.39	0.02	10.19
		Please enter area in hectares.	
<b>Total:</b>	<b>0.39</b>	<b>0.02</b>	<b>10.19</b>



### Stage 3

#### User Inputs

New land use type(s)	Area (ha)	Annual phosphorus nutrient export (kg TP)	Annual nitrogen nutrient export (kg TN)
Residential urban land	0.39	0.49	4.61
Total:		0.39	0.49

Please enter area in hectares.

### Stage 4

#### Calculated Outputs

The total annual phosphorus load to mitigate is:

0.77 kg TP/year

The total annual nitrogen load to mitigate is:

0 kg TN/year



## APPENDIX H - SEPTIC TANK LOCATION



25 JANUARY, 2023 | FOR: James Hill



## APPENDIX I – BASELINE SEPTIC TANK NBC

### Stage 1

**User Inputs**

Date of first occupancy:	
Average occupancy rate:	2.40
Water usage (litres/person/day):	120
Development Proposal (dwellings/unit):	1
Wastewater treatment works:	Septic Tank default
Wastewater treatment works P permit (mg TP/litre):	11.6
Wastewater treatment works N permit (mg TN/litre):	96.3

**Stage 1 Calculated Loading**

Stage 1 Nutrient Loading

Additional population	2.4	people
Wastewater by development	288	litres/day
Annual wastewater TP load	1.22	kg TP/yr
Annual wastewater TN load	10.13	kg TN/yr

### Stage 4

**Calculated Outputs**

Annual Nutrient Budget

The total annual phosphorus load to mitigate is:

1.46 kg TP/year

The total annual nitrogen load to mitigate is:

12.16 kg TN/year





APPENDIX J - POST INTERVENTION PTP NBC

Stage 1

User Inputs

Date of first occupancy:	
Average occupancy rate:	2.40
Water usage (litres/person/day):	120
Development Proposal (dwellings/unit):	1
Wastewater treatment works:	Package Treatment Plant user defined
Wastewater treatment works P permit (mg TP/litre):	Please enter value in cell to the right: 1.6
Wastewater treatment works N permit (mg TN/litre):	Please enter value in cell to the right: 7.9

Stage 1 Calculated Loading

Additional population	2.4	people
Wastewater by development	288	litres/day
Annual wastewater TP load	0.17	kg TP/yr
Annual wastewater TN load	0.83	kg TN/yr

Stage 4

Calculated Outputs

The total annual phosphorus load to mitigate is:

0.2 kg TP/year

The total annual nitrogen load to mitigate is:

1 kg TN/year





# BIODIVERSE

CONSULTING

Dissington Hall

Dalton

Newcastle upon Tyne

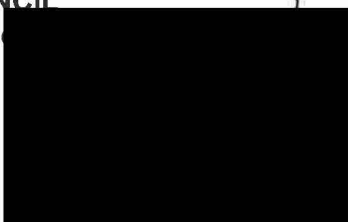
NE18 0AD

[www.biodiverseconsulting.co.uk](http://www.biodiverseconsulting.co.uk)

IN WITNESS whereof the parties hereto have executed this document as a Deed on the day and year first before written.

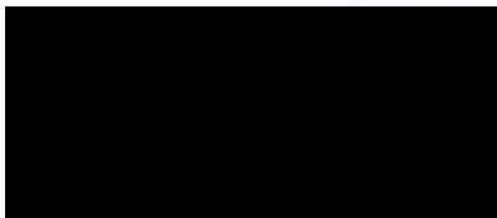
THE COMMON SEAL OF  
**BROADLAND DISTRICT COUNCIL**  
was affixed hereto in the presence of

Authorised Signatory:



and this deed has been duly and properly executed  
in accordance with the constitution of Broadland District Council

EXECUTED AS A DEED by  
**MICHAEL IAN MACK**  
in the presence of:



Witness:  
Name (Print):  
Address:

Occupation:

