North Norfolk Local Plan 2016 - 2036

NORTH NORFOLK DISTRICT COUNCIL

North Norfolk District Council

North Norfolk Local Plan Examination Inspector's Actions (Week 1)

Appendix 2: Five Year Land Supply Delivery Evidence

Contains evidence to support five-year land supply delivery (which responds to relevant developer MIQ examination response statements) using the definition of deliverable in the NPPF glossary.

Published to address the inspectors question relating to Matter 7 as raised in the Local Plan examination hearing for Matter 3 on 24th January 2024.

North Norfolk District Council
Planning Policy Team

01263 516318
planningpolicy@north-norfolk.gov.uk
Planning Policy, North Norfolk District Council,
Holt Road, Cromer, NR27 9EN
www.north-norfolk.gov.uk/localplan

All documents can be made available in Braille, audio, large print or in other languages.

IN TRAN
communication for all

Contents

[BLANK PAGE]

BRI01&02/A

From: Peter Flavill <peter@seven22.co.uk>
Sent: 07 February 2024 07:00
To: Matthew Gutteridge
Cc: 'James Doolan (Scenic Homes)'
Subject: RE: Local Plan Examination - Briston
Attachments: Scenic Homes - Company Statement.pdf; ufm6_Acknowledgement_Pre-app.pdf

Good morning Matthew

All good thank you, I hope you are too.

To respond to your queries below, we confirm both the developer, Scenic Homes, and the land owner are extremely keen to move these sites forward as quickly as possible and in full appreciaı on of the infrastructure, miı gaı ons and other technical issues involved.

We confirm that we met with the Policy Team on 6/07/23 and 06/12/23 to discuss the site allocaı ons and the various issues surrounding the delivery of the sites. We have instructed various specialists to carry out surveys and consider opı ons for miı gaı ng issues such as nutrient neutrality, drainage and the highways and school concerns. We have also engaged with several local agents to ascertain a good understanding for the development value.

A Pre-applicaı on preliminary enquiry was submiı ed pre-Christmas and registered on 05/01/24. We will conı nue to liaise with the planner, Jo Medler, in developing the proposals and ensuring inclusion of the appropriate mix and diversity of housing for the area.

Scenic Homes are prepared for and anı cipate a start onsite in the last quarter 2024/first quarter 2025, subject to Planning and subsequent technical approvals from highways, the LLFA, etc. Scenic Homes has strong backing and stems from the large civils contractor East Anglian Civils, a company with a £16m turnover, a brief company statement is aı ached.

We have soluı ons to the technical challenges involved in developing the sites and are currently preparing more detailed design work with the aim of submiı ng a planning applicaı on in the next 8 weeks.

Please do not hesitate to ask if you need any further informaı on or clarificaı on.

Kind regards

Peter

Scenic Homes Ltd
Suite 4&7,
Allium House
12 Enterprise Way
Spalding,
Lincolnshire,
PE11 3YR

Company Statement

About Us

Scenic Homes is a residential developer and construction company located in Lincolnshire, England. Established in 2019 as a natural extension from our heritage in groundworks, we have passionately ventured into delivering high-quality homes in and around the fenlands. Our commitment to excellence ensures that every property we build reflects quality craftsmanship and offers an exceptional living experience – a 'Scenic Home' where comfort and quality seamlessly blend. At Scenic Homes, we take immense pride in crafting homes that exceed expectations in quality and design. By carefully selecting prime locations and collaborating with local agents, we offer a seamless home-buying experience, ensuring that your journey to owning a Scenic Home is smooth and rewarding. With a focus on delivering comfort, style, and enduring value, we invite you to embrace the essence of contemporary living with Scenic Homes.

History of Scenic Homes

Scenic Homes traces its roots back to its esteemed sister company, East Anglian Civils, renowned for its expertise in groundworks and civil engineering within the construction industry. With a company turnover of over £16.5 million a year, East Anglian Civils has delivered Roads, Sewers & Oversites for numerous local and national house builders, building strong relationships along the way. In 2019, the vision of our directors materialised due to a growing groundworks company delivering infrastructure throughout North & South Lincolnshire, with the establishment of Scenic Homes. A company solely devoted to the development and construction of houses. This marked the realisation of a dream scenario, where we seamlessly merged the comprehensive groundworks experience of East Anglian Civils with the efficiency of Scenic Homes above ground. With a solid foundation in groundworks and a wealth of industry experience, Scenic Homes, in collaboration with East Anglian Civils, now offers the complete package – crafting homes that beautifully combine precision, functionality, and appeal.

Core Values

Uncompromising Quality - We are committed to providing homes of exceptional quality at prices that remain accessible, ensuring that everyone can experience the joy of owning a beautifully built Scenic Home.

Trustworthiness at Our Core: Trust is the foundation of everything we do. We prioritise transparency, honesty, and reliability to earn the unwavering trust of our customers, partners, and communities.

Advocating Local Collaboration: Working together with local contractors, we foster meaningful partnerships that not only support the local economy but also infuse each project with the essence of the region, creating homes that celebrate the community spirit.

North Norfolk District Council
Holt Road, Cromer, Norfolk, NR27 9EN
Tel: 01263 513 811
www.north-norfolk.gov.uk
E-mail planning@north-norfolk.gov.uk

NNDC Ref: DE21/23/2753
Date: 05/01/2024

Officer: Miss Jo Medler
jo.medler@north-norfolk.gov.uk

Mr Peter Flavill
Seven22 Architecture Ltd
22 Shore View
Peterborough
PE7 8FS

Acknowledgement of Receipt of Application

Proposal: Proposed residential development of up to 110 dwellings and associated parking, garaging, road layouts, drainage & infrastructure, including realignment of Fakenham Road

Location: Land Adjacent To , Astley Primary School, Fakenham Road, Briston, NR24 2HH

Applicant: Scenic Homes Ltd

Dear Mr Flavill,

I acknowledge receipt of your request for pre-application advice.

In most cases we aim to provide a written response for a Major Pre-application enquiry within 40 working days, however if further time is required (for example due to the complexity of the proposal) the case officer will contact you to discuss the likely timescale for response. We will seek to keep you informed of progress throughout the process.

Please note that the Council is subject to the requirements of the Freedom of Information Act 2000 and, if requested, details of your enquiry will be disclosed to third parties. If you consider that any of the information should not be disclosed because of its sensitivity, you should write a letter stating the reason for considering it sensitive.

Help us improve our service.
The contact details provided with this submission may be used by NNDC to get your feedback or complete a planning survey to help us improve our service. If you do not wish for your information to be used in this way please contact us at planning@north-norfolk.gov.uk.

Any information we collect will be held and processed in accordance with our privacy policy available online at: https://www.north-norfolk.gov.uk/tasks/transparency-data/view-data-protection-policy/

Yours faithfully

Planning Processing Unit

COR01/A

From: Jake Lambert <jake.lambert@bidwells.co.uk>
Sent: 22 February 2024 09:53
To: Matthew Gutteridge
Subject: RE: Erection of 30 residential dwellings with associated access, open space, landscaping and off-site highways works. Formation of sports pitch, creation of wetland habitat, construction of 17-space community car park, construction of footpath link to vi

Hi Matthew,

I understand that BHA are seeking to resolve the NN issue at Corpusty through purchase of credits from NEC. As with Roughton, they've explored various options, though none have proved viable.

Many thanks,

Jake

Jake Lambert MPlan (Hons) MRTPI
Associate, Planning

M: 07976 630000 | bidwells.co.uk

From: Matthew Gutteridge <Matthew.Gutteridge@north-norfolk.gov.uk>
Sent: Thursday, February 22, 2024 9:49 AM
To: Jake Lambert <jake.lambert@bidwells.co.uk>
Subject: RE: Erection of 30 residential dwellings with associated access, open space, landscaping and off-site highways works. Formation of sports pitch, creation of wetland habitat, construction of 17-space community car park, construction of footpath link to vi

Hi Jake,

Thank you for the information, will the NN issue be resolved through credits or is there a different solution for this site? Do you know what the latest situation is on this?

Kind Regards,

Matthew

Matthew Gutteridge

CBRE Limited
Henrietta House
Henrietta Place
London W1G 0NB

Mark Ashwell
Planning Policy Manager
North Norfolk District Council
Holt Road
Cromer
Norfolk
NR27 9EN

Direct Line +44 (0)7827 937992

James.sheppard@cbre.com

: January 2024

Dear Mr Ashwell,

NORTH NORFOLK LOCAL PLAN EXAMINATION - LAND ADJACENT TO PETROL FILLING STATION, WELLS ROAD, FAKENHAM (DRAFT ALLOCATION F02)

- **ON BEHALF OF SHELL UK LTD**

We write to you on behalf of Shell UK Ltd (hereafter 'Shell'), in respect to the proceeding Local Plan Examination in Public (EiP) and specifically draft allocation F02 (Land adjacent to PFS, Wells Road, Fakenham). This letter reaffirms Shell's previous representation to the Proposed Submission Version of the Local Plan (Regulation 19), dated 07 March 2022 (see appended).

Firstly, we thank you for your active engagement over the past few years in respect to this site. This has resulted in agreeing a practical and achievable access and egress solution to the site, whilst confirming a reasonable estimate of housing density on the site (70 units). The exact number of units ultimately delivered would of course be confirmed through a future planning application and masterplan process, taking into account the surrounding site context and compliance with other Local Plan policies.

On behalf of the landowner, Shell UK Ltd, we can confirm that the site remains available, suitable and deliverable for residential redevelopment. If an allocation is secured on the site following EiP, a planning application would be progressed in quick succession, subsequent to a site disposal.

We can confirm that the broad housing delivery timings, as outlined in the Council's five year housing land supply 2023-2028 document (Examination Document Reference EX007), are considered realistic and achievable. This submitted examination document estimates delivery to be made up of 10 units in 2026/27, 30 units in 2027/28, and 30 units in 2028/29. This proposed programme of delivery would align with the timing of an allocation secured through a new adopted local plan, onward disposal of the site, the submission and onward determination of a detailed planning application, discharge of conditions, and subsequent commencement of development.

We look forward to observing relevant EiP sessions. Please do let us know if we can provide any further information or clarification during the course of EiP.

Yours sincerely,

JAMES SHEPPARD
DIRECTOR

Appended: Copy Shell UK Ltd Reg 19. Representations to the Submission version Local Plan.

Comments

Proposed Submission Version Local Plan (17/01/22 to 07/03/22)

Comment by	Shell UK Ltd (James Sheppard - 1308952)
Comment ID	LPS418
Response Date	07/03/22 16:44
Consultation Point	Policy F02 Land Adjacent to Petrol Filling Station, Wells Road (View)
Status	Submitted
Submission Type	Web
Version	0.1
Organisation	Shell UK Ltd
Agent Title	Mr
Agent First Name	James
Agent Last Name	Sheppard
Agent Organisation	CBRE

Question 3

To which part of the Local Plan does this representation relate?	Policy

Question 3a

Please state which policy number, paragraph number, or in the case of the Policies Map, the name of the policy designation or development site proposal to which your representation relates.	Policy F02 (Land Adjacent to Petrol Filling Station, Wells Road)

Question 4

We recommend reading the Guidance Note before answering this question (hover over the words 'Guidance Note' in order to open this document).

Do you consider that the Local Plan is:

Legally Compliant	Yes

Sound	Yes
Complies with the Duty to Cooperate	Yes

Question 4a

We recommend reading the Guidance Note before answering this question (hover over the words 'Guidance Note' in order to open this document).

If you consider that the Local Plan is not sound, please answer this question.

Do you consider that the Local Plan is not sound because:

Question 5

Please tell us why you consider the Local Plan is not Legally Compliant or Sound, or fails to comply with the Duty to Cooperate. Please be as precise as possible.

If you wish to **support** the legal compliance or soundness of the Local Plan or its compliance with the Duty to Cooperate, please also use this box to set out your supporting comments.

In **Question 6** we will ask you to outline how the Local Plan should be modified.

- **Copy & Paste** - you may find it helpful to draft your response in a separate document and copy and paste into this text area.
- **File Attachments** - up to three files may be uploaded in support of your representation. These are available at the end of this form.

Proposed site allocation F02 (Land Adjacent to Petrol Filling Station, Wells Road): SUPPORT

The freehold interest of the entire site area is owned by Shell UK Limited, whom also serve as promoters of this site for residential development. **Shell UK Limited confirm the site is available and deliverable within the next five years** providing new homes, helping to support the District Council's strategic housing need requirements, including provision of onsite affordable housing. Proposed allocation F02 will serve to help meet the housing requirements as set out in draft policies SS1 and HOU1. Specifically, the approximate provision of 70 homes, including a policy compliant level of affordable homes, will tangibly contribute to Fakenham's overall housing delivery over the initial 5 year period of the new Local Plan.

The site is sustainably located in close proximity to the public services and town centre uses in Fakenham, a proposed 'Large Growth Town' in draft policy SS1. This includes nearby schools such as Fakenham Junior School and Fakenham Academy Secondary School and Sixth Form. The site's location meets the aspirations of draft Policy CC1, requiring development to be located as near to existing services and facilities as possible. In addition, the site has good accessibility to local bus stop/routes providing accessibility to facilities further afield and connecting to the wider Fakenham area. This includes access to nearby bus routes providing services into Fakenham at the site's northern tip, at the junction of Toll Bar and Wells Road (circa 0.2 miles).

The site is bounded to the west by the A1065, providing a physical boundary to development and a 'rounding off' of the proposed settlement boundary. There are no constraints to development of the site such as public rights of way, national trails or town/village green designations within the extent of the site area. The site area is unconstrained in relation to Conservation Areas, listed buildings/heritage assets, TPOs and flood risk. There are no topographical constraints that could constrain development of the site.

The site can be developed out for new homes in compliance with both the site-specific policies and the general policies of the draft Local Plan. The site can be developed out in a comprehensive manner, delivering all aspects of the allocated use and provide all necessary infrastructure. As part of any residential development scheme, green infrastructure will be provided to support the development, including amenity green space and play space, in line with draft Policy HC2. In addition, development can be sensitively designed, strong landscaping can be incorporated along the western boundary of the site, landscape buffers can be enhanced along the eastern and southern boundaries of the site, and access can be adequately provided off Wells Road.

There is no current vehicular access to the site; however it is located adjacent to the A1065 which the Council acknowledge is a 'Principal Transport Route'. It has been established through technical assessment and indicative design (provided by TPA), that access/egress is achievable, using land to the east of the filling station forecourt onto Wells Road.

In summary, it has been demonstrated through meaningful engagement with the Local Planning Authority, that proposed allocation F02 is both available and deliverable within the first five years of the new local plan being adopted.

We are of the strong view that the draft plan is sound by virtue of it being positively prepared, justified, effective, and consistent with national policy. We are of the view the plan is legally compliant.

Question 9

Would you like to be notified when the Local Plan reaches one or more of the following stages?

Submission of the Plan for independent examination	Yes
Publication of the Inspectors Report on the examination of the Plan	Yes
The Adoption of the Plan	Yes

Land at Junction of A148 and B1146 (Site F03)

Delivery Statement and Common Ground

Ref: CP0040 delivery statement Feb24

Date: 02.02.2024

Rev: 01

Client: Duchy of Cornwall

Copperfield - Suite 2 Leigh Court Business Centre, Abbots Leigh - Bristol - BS8 3RA

E: info@copperfieldltd.co.uk
W: www.copperfieldltd.co.uk

Registered Office - Blackbrook Gate 1 - Blackbrook Business Park - Taunton - TA1 2PX - Registered in England and Wales No. 13002386

Document Control

Project Name:	Land at Fakenham (F03)
Project Reference:	CP0040
Report Title:	Delivery Statement and Common Ground
Doc Reference:	CP0040 delivery statement Feb24

	Name	Position	Signature	Date
Prepared by:	Andrew Tildesley	Director		02.02.24
Approved by:	Colin Danks	Director		02.02.24

For and on behalf of Copperfield L&P Ltd

Revision	Date	Notes	Prepared	Approved
-	-	-	-	-

This report and the content herein have been prepared by Copperfield L&P Ltd for the client and project described in the particulars of the instruction.

This report has been prepared in accordance with the professional services appointment related to the project.

Unless by written consent of Copperfield L&P Ltd it should not be relied upon by any third party beyond the instructing client. Copperfield L&P Ltd accepts no duty or responsibility (including negligence) to any party other than the client and disclaims all liability to any such party in respect of this report

.

Contents

Appendices

Appendix 1: Summary of Technical Work Completed for Site F03

Appendix 2: Nutrient Neutrality Strategy (Crewkerne, Somerset)

Appendix 3a: Email dated 27 July 2023 confirming Natural England's agreement to the approach.
Email dated 20 June 2023 from the County Ecologist explaining their assessment of the proposals to Natural England.
Applicant's mitigation strategy dated 27 May 2023.

Appendix 3b: Appropriate Assessment prepared by Herefordshire Council dated 23.01.23.

1. Introduction

1.1 Context

1.1.1 Copperfield acts for the Duchy of Cornwall in respect of their land at the Junction of the A148 and B1146 (F03) which is included in the Regulation 19 North Norfolk Local Plan for the delivery of 65 dwellings.

1.1.2 Duly made representations were made to North Norfolk at the Regulation 18 and 19 stages of plan preparation which demonstrate the Duchy of Cornwall's intention to delivery this site within the first 5 years of the plan.

1.1.3 The Duchy of Cornwall has not pursued an early planning application on this site to allow it to be brought forward through the plan-led system. Its intention is to engage with the process of making a planning application after the publication of the Inspector's final report on the soundness of the emerging plan, specifically in respect of site F03.

1.1.4 This short report is split into two parts:

- Section 2 presents Common Ground between the Duchy of Cornwall and North Norfolk District Council.
- Sections 3 and 4 presents information from the Duchy of Cornwall in respect of why this site is deliverable within 5 years.

1.1.5 It concludes that the site can deliver the full proposed allocation within 5 years.

2. Common Ground with the Local Planning Authority

2.1.1 The Duchy of Cornwall has engaged with the Council throughout the preparation of the emerging Local Plan. The following is therefore Common Ground between the parties.

2.1.2 The site (Land at Junction of A148 & B1146) has been proposed for allocation in the Regulation 19 submission version of the draft Local Plan for approximately 65 dwellings on a site area of 2.2 hectares, as shown on the site plan below.

Figure 1: Site Location Plan F03

2.1.3 The proposed site allocation policy in the submitted plan is:

Policy F03

Land at Junction of A148 & B1146, Opposite Petrol Filling Station

Land amounting to 2.2 hectares, as defined on the Policies Map, is allocated for development of approximately 65 dwellings, public open space and associated on and off-site infrastructure.

1. *Landscaping buffers should be provided to soften the boundaries between the development and the A148;*

2. *Retention of hedgerows and trees on the western and southern boundaries of the site;*

3. *Provision of convenient and safe vehicular access to Toll Bar/Old Wells Road, including carriageway widening to a minimum of 5.5m between the site access and C590 Creake Road;*

4. *Provision of footway at site frontage connecting directly with the existing facility at the south side of Creake Road and to the existing footway at Toll Bar;*

5. *Improvements required to enable safe pedestrian route between the site and Fakenham High School via Toll Bar/Old Wells Road and Rudham Stile Lane Public Right of Way;*

6. *Retention of land to be made available to facilitate a capacity improvement scheme at the A148/ A1065 roundabout;*

7. *The submission, approval and implementation of a Foul Water Drainage Strategy including any enhancements to the network capacity;*

8. *On site delivery of not less than 0.17 hectares of multi-functional open space together with measures for its on-going maintenance; and,*

9. *Appropriate contributions towards mitigation measures identified in the Norfolk Green Infrastructure and Recreational Impact Avoidance & Mitigation Strategy (GIRAMS).*

The site is underlain by a defined Mineral Safeguarding Area for sand and gravel. Any future development on this site will need to address the requirements of Norfolk Minerals and Waste Core Strategy Policy CS16 - 'safeguarding' (or any successor policy) in relation to mineral resources, to the satisfaction of the Mineral Planning Authority.

2.1.4 The proposed policy F03 wording is agreed, and the specific requirements set out in the 9 criteria which are duplicated below for reference are noted.

2.1.5 The Duchy of Cornwall agrees with the Council that the proposed policy criteria set out can be achieved. Appendix 1 provides a summary of the work carried out so far by the Duchy of Cornwall and was submitted with the Regulation 19 representations to demonstrate its understanding of the site in reaching this conclusion. No alterations are sought by either the Council or the Duchy of Cornwall through representations to draft policy F03.

2.1.6 Both parties agree that the site can be sold for residential use/developed at a land value that would enable a policy compliant scheme to be brought forward.

2.1.7 Both parties agree that the land within the site boundary, as shown on page 5 of this document, can deliver the agreed number of dwellings and associated infrastructure as outlined in the above site-specific policy and the wider Local Plan.

2.1.8 North Norfolk District Council and the Duchy of Cornwall agree that the expected delivery timescales as set out in the table below are accurate to the best of their knowledge and will be met to the best of their ability.

2.1.9 Both parties agree that the expected delivery of the site follows the below indicative delivery schedule for the proposed site allocation, F03.

Year	Number of Dwellings Expected to be built
27/28	30
28/29	35

2.1.10 The Duchy of Cornwall's evidence to support the above timescale is set out in Section 3 below.

2.1.11 Both parties are not aware of any unusual or abnormal development costs that could affect the deliverability of the site and render the site inconsistent with the requirement set out in the draft Local Plan. The Duchy of Cornwall presents its own evidence in Section 4 regarding how it intends to address nutrient neutrality on site.

2.1.12 The site promoters confirm that the land referred to as Policy F03, Land at Junction A148 & B1146 as set out in the Local Plan, is under the ownership of one party, and will be made available for residential development to ensure delivery within the remaining Plan period to 2036.

2.1.13 The site is not subject to any third-party approval.

2.1.14 Both parties are committed to continuing to co-operate and work closely together, and in conjunction with other stakeholders, towards the delivery of proposed site allocation within the prescribed timeframe.

2.1.15 North Norfolk District Council agree to discuss any proposed modifications to Policy F03 that may arise from the Plan's Public Examination or by other means that have been put forward by the Council, the Planning Inspectorate or by the site promoters before enacting on any changes to the site-specific policy.

2.1.16 North Norfolk District Council and Copperfield Land and Planning agree to the contents of Section 2 of this combined Statement of Common Ground and Delivery Statement and commit to demonstrating an ongoing cooperation in the delivery of growth as set out in the North Norfolk District Council's draft Local Plan.

2.1.17 By signing Section 2, Copperfield Land and Planning confirm that any information provided is accurate to the best of their knowledge, and that it can be used as evidence in the public examination of the draft Local Plan.

PARGRAPHS 2.1.1 TO 2.1.17 ABOVE REPRESENT COMMON GROUND

Organisation	**Name and Job Title**	**Signature**	**Date**
North Norfolk District Council	Mark Ashwell – Planning Policy Manager		

Copperfield Land and Planning	Colin Danks Director	*Colin Danks*	17.02.24

3. Deliverability

3.1 Introduction

3.1.1 This section of this document is not common ground with the Council but explains why the Council can rely on the delivery of this site within 5 years of the plan's adoption. The Duchy of Cornwall is experienced with delivering both small and large-scale development, including Poundbury (Dorset) and Nansledan (Cornwall), both of which are complex multi-use schemes which take an exemplar approach.

3.1.2 The Duchy of Cornwall follows a plan-led system and is guided by local consultation. As appropriate to the site, masterplans, design briefs and design coding is often used to ensure high quality development occurs. The Duchy of Cornwall usually takes the role of master developer, overseeing infrastructure provision and the development process, with sites often built under licence. This approach ensures both quality and timely delivery of schemes working closely with the local planning authority, technical consultees to the planning process and the local community. Land at Fakenham is no different.

3.1.3 There are no constraints to the development of site FO3, including the achievement of nutrient neutrality. The Duchy of Cornwall's technical team are well versed in addressing phosphate nutrient neutrality, which is experienced in the South West of England and around the Welsh Boarders. Their team, including Copperfield have engaged with Natural England and others to secure planning permission for schemes in advance of credit schemes being available to help deliver market and affordable housing in a timely manner. This note particularly focuses on approved ways to achieve nutrient neutrality in a viable manner. It relies upon examples where schemes have already been granted planning permission as evidence that FO3 is not reliant upon treatment works upgrades or phosphate credit schemes within water catchments.

3.2 General Approach to Delivery

3.2.1 Site FO3 is of a modest scale and its delivery can be split into 6 stages discussed below:

- Pre-planning application including community engagement
- Planning application
- Development partner selection
- Post-planning application technical approval
- Commencement and infrastructure works
- Completion

3.2.2 Pre-planning application. The pre-planning stage for a site of this scale would take no more than 12 months, including site assessment work/ surveys, local consultation and engagement with the LPA and technical consultees. A 12 month period would allow for any extended ecology or highway surveys to be completed and to carry out a full design consultation exercise leading to the production of a full planning application, including community engagement. At this scale of site, it is unlikely an outline/ reserved matters approach would be taken, and this would assist the delivery timetable. As part of the design process, there are two options for addressing phosphate neutrality, this is either on site or off site. It is understood that the water utility provider has planned upgrade works for their treatment facility within the AMP Cycle. This gives some level of surety that a reduction in phosphate impacts is anticipated. It is also understood that during the lifespan of the development process, phosphate credits will become available. This remains an option for the Duchy of Cornwall to pursue in due course. As with other approved schemes in the South West and Welsh Boarders (discussed later), Site FO3 does not need to be reliant on either of these options and through careful design a package treatment works coupled with a sustainable urban drainage system is capable of achieving phosphate nutrient neutrality, on site, in a manner that is proven to be acceptable to Natural England on other schemes.

3.2.3 Planning Application. It is anticipated that a full planning application would be made for this site given its modest scale. Having undertaken detailed consultation in the preceding 12 months, a determination period of no more than 12 months is anticipated, including time to be considered by a planning committee and the post committee completion of a S106 agreement.

3.2.4 Development Partner Selection. The Duchy of Cornwall acts as a master developer, overseeing infrastructure delivery and design quality amongst other matters. They work with a number of development partners which include housebuilders that are experienced with delivering development of this scale and larger. The process of partner selection may begin alongside the pre-application stage but 6 months is allowed in the post planning period for the completion of contracts prior to commencement of development.

3.2.5 Post Planning Technical Approval. The Duchy of Cornwall works with Councils and technical consultees in the pre-planning phase to limit the number of pre-commencement conditions and reduce the time taken to achieve technical approval (S104, S278 and S38 etc). On a site of this scale and based on the approval of full planning permission, it is envisaged that relevant approvals could be achieved to allow development to commence alongside the 6 months for development partner selection. If Highway S278/S38 approval takes longer, this can overlap with initial site preparation prior to road infrastructure construction. A further 6 months would therefore be available within the delivery programme before housing construction commences.

3.2.6 Completion. Housing construction is anticipated to take around 18 to 24 months with one developer on site. This is based on completing construction at a rate of 0.75 dwelling per

week and a sales rate of similar. Part of the site will deliver affordable dwellings which would be transferred to a Registered Provider in a one transaction. As such, if the market housing sales rate dropped below 1 per week, it would make no material difference to the completion timetable. Within the same 18-24 month period, both landscape and sustainable drainage infrastructure can readily be delivered to serve development.

3.2.7 The table below summarises the delivery trajectory for this Site F03:

	Year 1 24/25		Year 2 25/26		Year 3 26/27		Year 4 27/28		Year 5 28/29	
Pre-Planning										
Planning Application										
Development Partner Selection	*									
Post Planning Technical Approval										
Completion (construction						**	Housing Construction 1 per week			***

NOTES

*Development Partner selection would commence in Year 1, but contract completion would occur in Year 3.

** Site preparation that was not affected by the technical approval process can begin in the second half of Year 3.

*** The second half of Year 5 is unlikely to be necessary but represents a margin of 6 months contingency within a generous timetable.

3.2.8 The table above demonstrates even with a very generous timescale for pre-planning work, the site is deliverable within 5 years based on the Duchy of Cornwall's understanding of the site. Phosphate mitigation does not alter this timetable and is discussed in more detail below in Section 4.

4. Nutrient Neutrality and Delivery

4.1.1 The site sits within an area where planning applications need to demonstrate they can achieve phosphate neutrality prior to the grant of planning permission. This section explains the options available to the Duchy of Cornwall and how these do not impact on the delivery timetable.

4.1.2 Phosphate nutrient neutrality can be achieved in several ways, including:

- Purchase of mitigation credits associated with a local off-setting scheme within the river catchment.
- Works carried out by the water utility provider to improve sewage treatment works associated with the site and river catchment.
- Fallowing of cattle grazing land within the river catchment.
- On-site package treatment works.

4.1.3 Option 1 Off-setting Scheme. It is understood that a local off-setting scheme is in the process of being provided, but at the point of the Local Plan examination it is not yet in place. A scheme which is approved within the next 2 years would be available as an option in the context of the above timetable (allowing for planning permission to be granted in accordance with the above timetable). Whilst this will remain an option, the Duchy of Cornwall is not reliant upon it to deliver the site.

4.1.4 Option 2 Utility provider works. It is understood the water utility provider has committed to improve sewage treatment works as part of the current AMP Cycle of programmed works, reducing the level of phosphate discharge. It is also understood that this may not fully achieve phosphate neutrality but may address around 5/6th of the necessary mitigation. Whilst this will remain an option, the Duchy of Cornwall is not reliant upon it to deliver the site, but it would reduce the need for on-site works.

4.1.5 Option 3 Fallowing Land. This is an option that has been approved by the Natural England in the South West and relates to the re-use of dairy agricultural land for non-livestock purposes. As can be seen from the Nutrient Neutrality Strategy for 110 dwellings in Somerset (Appendix 2), this requires land within the relevant river catchment. The Duchy of Cornwall does not believe this is currently a suitable option for Site F03.

4.1.6 Option 4 On-site treatment. On site package treatment has become a way to bring sites forward for development in the absence of Options 1-3 above. There are now approved schemes with private treatment works on-site that have been found acceptable to Natural England leading to the grant of planning permission following HRA assessment. A range of treatment options are available to treat anywhere between 1 and 400 dwellings. Typically package treatment works can treat anywhere between 85% and 95% of phosphates generated by a development. When coupled with refiltration through a linked Sustainable Urban Drainage system this can be improved to achieve 100%. There are different types of on-site treatment works available and

it would be for the planning application stage to determine which would work best for Site F03. This would be carried out in consultation with Natural England, the LLFA and the local water utility provider. For the purposes of plan preparation, the examples contained in Appendix 3 (3a and 3b) demonstrate that on-site package treatment works are being used already, are viable in the context of this modest level of development and are an acceptable method of establishing nutrient neutrality to Natural England. The examples provided explain:

- Foldhill Lane, Martock (South Somerset): 24 dwellings (LPA ref 20/01678/REM) Installation of a chemically dosed (Iron based salts) Kingspan Klargester BioDisc and filter beds for adoption by Albion Water. This achieves an 87% phosphate removal rate. In addition to this the surface water system uses a mixture of French drains, permeable paving and swale/ treatment pond designed with a phosphorus removal rate of 87%. Using a both a BioDisc and SUDs in combination is capable of achieving 100% nutrient neutrality. Natural England confirmed the acceptability of the approach by email of 27 July 2023. To demonstrate the suitability of this scheme, the following is contained in Appendix 3a:

    - Email dated 27 July 2023 confirming Natural England's agreement to the approach
    - Email dated 20 June 2023 from the County Ecologist explaining their assessment of the proposals to Natural England
    - Applicant's mitigation strategy dated 27 May 2023

- Nacklestone Farm, Downton on the Rock (Herefordshire): 5 dwellings (LPA ref P222253/F) installation of a non-dosing Graf One2Clean package treatment plant reaching an effluent quality of 1.6mg/l. To demonstrate the suitability of this scheme, the following is contained in Appendix 3b:

    - Appropriate Assessment prepared by Herefordshire Council dated 23.01.23.

4.1.7 A number of other schemes are currently being progressed through the planning process, including larger scale development utilising the same technology. Based on available information it also seems likely at the planning application stage for Site F03, the developer will be able to take account of the AMP Cycle main treatment works upgrades by the water utility provider. This would reduce the scale of any on-site package treatment works to around 1/6th with 5/6th being addressed by the main treatment works upgrades. That said, for the purposes of the EiP, the Duchy of Cornwall can rely on its own treatment works as per the examples provided which if coupled with an integrated Sustainable Urban Drainage System could achieve full nutrient neutrality on site.

4.1.8 In terms of long-term management and maintenance, there are two options available, in some cases treatment works are being adopted (by the local utility provider or via an independent

provider like Albion Water in the case of Foldhill) and in other cases they remain private treatment works but with surety about their long-term management. Both approaches are available to the Duchy of Cornwall.

4.1.9 In summary, the ability to achieve nutrient neutrality on-site is demonstrably achievable and as such does not impact on site delivery timescales.

Appendix 1: Summary of Technical Work Completed for Site F03

Appendix 1 – Technical Appraisal of F03 Allocation

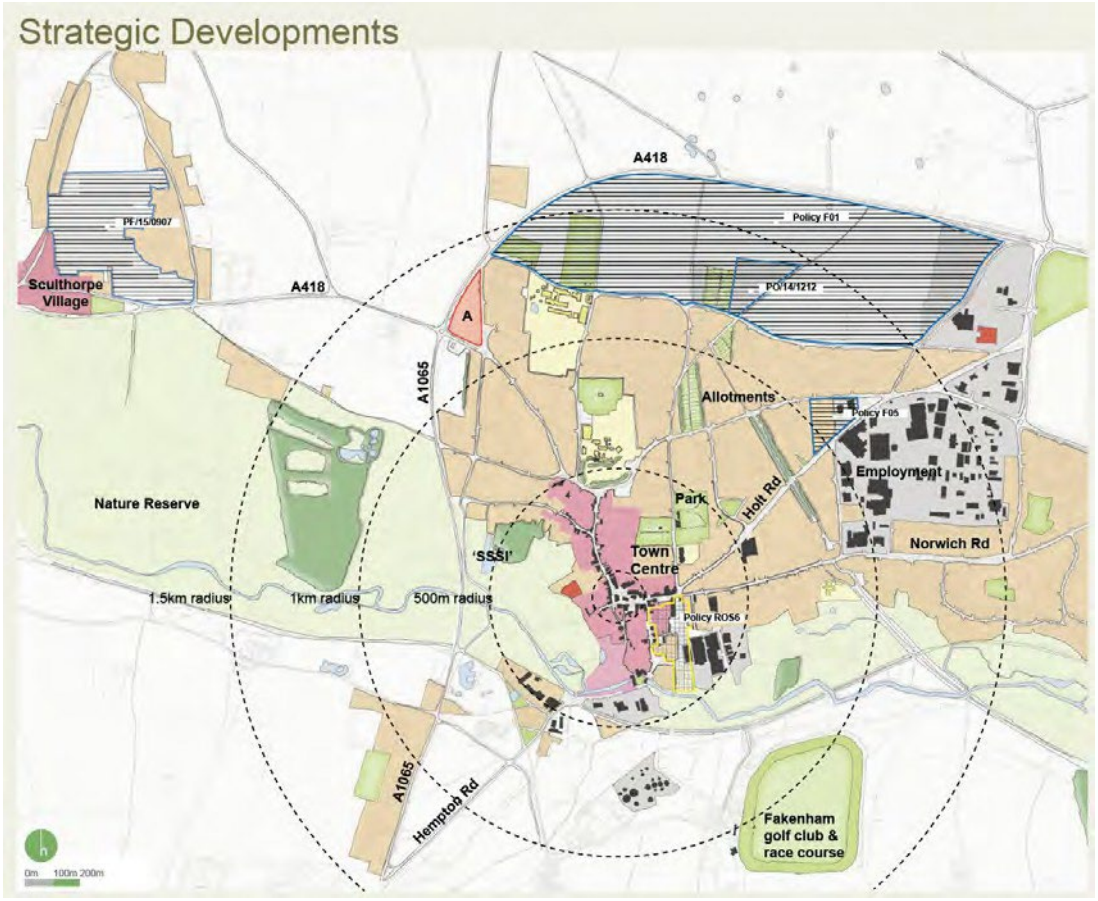
The notes below summarise a suite of technical documents commission by the Duchy to inform the emerging design and development proposals for the land at the Junction of A148 and B1146 ref F03 allocation. The findings of these reports have underpinned the commentary on the latest Reg 19 Local Plan representation and underline the delivery potential of the Local Plan site allocation F03.

A summary of the findings is set out below:

Site Appraisal done by 'New Masterplanning'

This appraisal document linked the Duchy's Ten Principles of Development with the potential to realise sustainable development at the site. The report concludes the following key opportunities:

The proximity plan below, prepared by New Masterplanning underpins the sustainable location of the site in relation to key services and facilities in the town.



The report makes the following references to sustainable development:

• Support the historic town centre providing homes that benefit from its proximity.

• Create a new gateway and welcoming approach into the town from the A418.

• Build on and support public transport in the town. Particularly access to bus routes on Wells Road are within easy walking and cycling distance from the site.

• Potential for some employment opportunities which seek to enhance the existing services found adjacent to the site, benefiting from good access, visibility and catchment.

• The development will encourage connections to existing green/cycle routes.

• Enhance links to surrounding parks and leisure facilities and wider connections to the surrounding Nature Reserve to compliment and add to the town's amenity.

Archaeological Desk Based Assessment complete by CgMS

This assessment has identified that no designated archaeological assets are recorded within 1km of the study site.

No known non-designated heritage assets are recorded by the HER or HEA for within the study site itself and, based on current evidence, a low potential has been identified for the presence of archaeological features from all periods.

It is recognised that the absence of evidence for archaeological features on the study site may be as a result of the lack of archaeological investigation that has been undertaken in the wider study area. However, any currently unrecorded archaeological assets on the study site are unlikely to be of such significance to preclude development. As such it is considered that any archaeological interest on the study site could be secured through an appropriately worded condition.

Access Note produced by Momentum Transport Planning

On the basis of the above review of the local road network, it has been determined that the most appropriate location for a vehicle access route would be on Old Wells Road. Based on the above review, it has been determined that the most appropriate location for the access would be circa 45m north of Seppings Road and 47m south of Eckersley Drive.

An access solution has been tested for visibility and swept path analysis confirming its suitability. The access designs have been consulted on with Norfolk County Council highways team and the proposals are considered adequate for the intend volume of traffic generated by the development.

Flood Risk Guidance provided by Peter Bret Associates (now Stantec)

The PBA report Flood Risk Assessment states that the site is compatible with Flood Zone 1 as detailed in the National Planning Policy Framework indicating a low probability of flooding on the site and suitability for development.

Environmental Appraisal by EDP

The site is not covered by any statutory or non-statutory designations.

The River Wensum Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) runs approximately 975m south of the Site at its closest point with no direct connectivity with the on-Site habitats.

Within a 1km radius of the Site there lies two non-statutory County Wildlife Sites (CWSs); namely Land West of Oak Street, Fakenham and Sculthorpe Moor and Meadows, situated at approximately 400m south-west and 600m south of the site respectively

Given the small scale of the proposals, and the Site's spatial separation from the above

designated sites, it is not considered that such designated sites should pose a constraint to the future development of the Site.

The site provides little habitat and is noted only for hedgerows which are of overall low ecological value. The hedgerows should be retained wherever possible as they form part of the habitat for breeding birds.

The site was assessed low for likelihood of Bats, Hedgehogs, Water Voles, Badgers and there are no records of Great Crested Newts or reptiles. In summary the site offers a low level of intrinsic ecological value, being comprised of poor quality habitats with relatively low potential to support protected species.

Landscape Appraisal by EDP

EDP finds no landscape policy, landscape or visual reason why the site should not be developed for residential development. The Site is not protected for reasons of its landscape value and the tree lined A148 physically and visually sever it from the countryside.

Transport Assessment by PBA (now Stantec)

The site is suitably located next to existing housing developments with established local road network connecting facility locations and making them readily accessible by sustainable modes of travel.

The site is suitably bounded completely by publicly maintained highway. This means that no third party land would be required to establish access to the site. Also access can readily be connected to existing highway.

The level of traffic that would be generated by development on this site would not have material impact on the local road network.

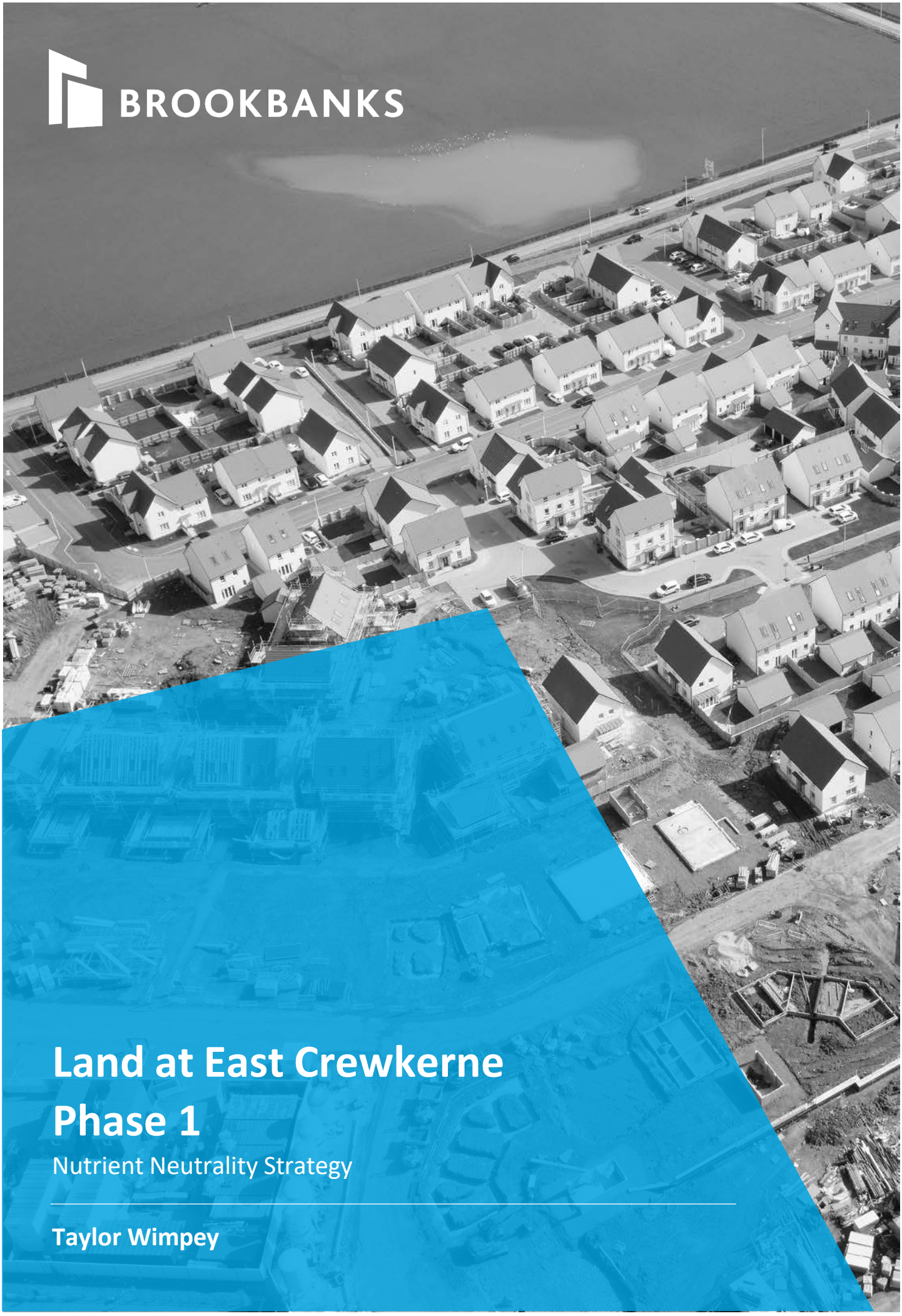
Public transport accessibility of the site is good. The nearest bus stops are within easy walking distance with good frequency of buses to facility locations in Fakenham as well as the wider Norfolk.

Good pedestrian and cycle facilities on secondary and tertiary roads enables easy access by foot and cycle to the various facility locations.

The only reasonable conclusion that can be drawn is that in transport terms the site is suitable for residential development of the nature proposed.

Appendix 2 Crewkerne, Somerset

Fallow Land Management Plan



BROOKBANKS

Land at East Crewkerne
Phase 1

Nutrient Neutrality Strategy

Taylor Wimpey

Document Control Sheet

Document Title	Nutrient Neutrality Strategy Phase 1: 110 Dwellings
Document Ref	10718 NN02 Rv0
Project Name	Land East of Crewkerne
Project Number	10718
Client	Taylor Wimpey

Document Status

Rev	Issue Status	Prepared / Date	Checked / Date	Approved / Date
0	Final	SM 19.10.22	KM 20.10.22	DS 20.10.22

Issue Record

Name / Date & Revision	20.10.22					
Taylor Wimpey	0					
EAD Ecology	0					

Contents

Figures

Appendix

1 Executive Summary

1.1 Brookbanks is appointed by Taylor Wimpey to complete a Nutrient Mitigation Strategy for the proposed development at the Land at East Crewkerne. This report focuses of **Phase 1** of the proposed development, totalling **110 dwellings** across 3.87ha.

1.2 This report is intended to supersede a previous report (10718 NN01 RV2) produced for Phase 1 by Brookbanks in January 2021. Since the previous report was produced submitted, further guidance has been provided by Natural England (NE) which is incorporated into this report to allow for the most contemporary assessment to be delivered for Phase 1.

1.3 The objective of the Strategy is to provide a detailed assessment that the impact the proposed development may have on water quality in the surrounding area, particularly the Somerset Levels and Moors Ramsar Site and Special Protection Area (SPA). It is important that the development achieves nutrient neutrality in response to guidance for Water Quality and Nutrient Neutrality Advice published on the 16th of March 2022 from Natural England (NE). This letter focuses on proposals with the potential to affect the water quality of natural habitats near and downstream of development sites. Surface and foul water discharge from the site outfall into tributaries of the Somerset Levels and Moors Ramsar Site and Special Protection Area (SPA). The means that before any development is able to proceed, this site must show that it can achieve nutrient neutrality to protect the Ramsar and SPA.

1.4 Alongside this updated guidance, NE released a range of bespoke Nutrient Budget calculators for different areas around England, including an updated calculator for the Somerset Levels and Moors Ramsar and SPA. This was intended to supersede the Royal HaskoningDHV (RH) Phosphorus Budget Calculator released by Local Authorities in February 2021. Therefore, this nutrient mitigation strategy applies NE's approved calculator for the Somerset Levels and Moors Ramsar and SPA to determine the Total Phosphorus (TP) budget for the 110 dwellings that make up Phase 1 of the proposed development at Land at East Crewkerne.

1.5 This nutrient mitigation strategy proposes the fallowing of agricultural land within the developer's Land Ownership Boundary, generating Nutrient Credits to be used on further Phases of the proposed development. This is summarised in **Table 1-1** below.

Phase 1: 110 dwellings	kgP/year
Baseline TP budget from Phase 1: 110 dwellings	15.71
TP mitigated through fallowing adjacent dairy farm land	27.59
TP Budget remaining from Phase 1 mitigation strategy (Nutrient Credits)	- 11.89

Table 1-1: Summary of Mitigation Strategy for Phase 1

1.6 To provide certainty of delivery of this land-use change and subsequent management, a Fallowing Management Plan has been produced by EDP. In addition, to demonstrate compliance with the Conservation of Habitats and Species Regulations 2017 (as amended; the 'Habitats Regulations'), a Shadow Habitats Regulations Assessment (HRA) has been produced by EAD Ecology. Both documents are submitted to Somerset West and Taunton Council in conjunction with this Report.

2 Development Context

2.1 The proposed development site is bound by agricultural fields to the east and south; to the west lies an industrial estate and the north west a sewage treatment works. Figure 2-1 illustrates the indicative location of the proposed development of 110 dwellings across circa 3.87ha.

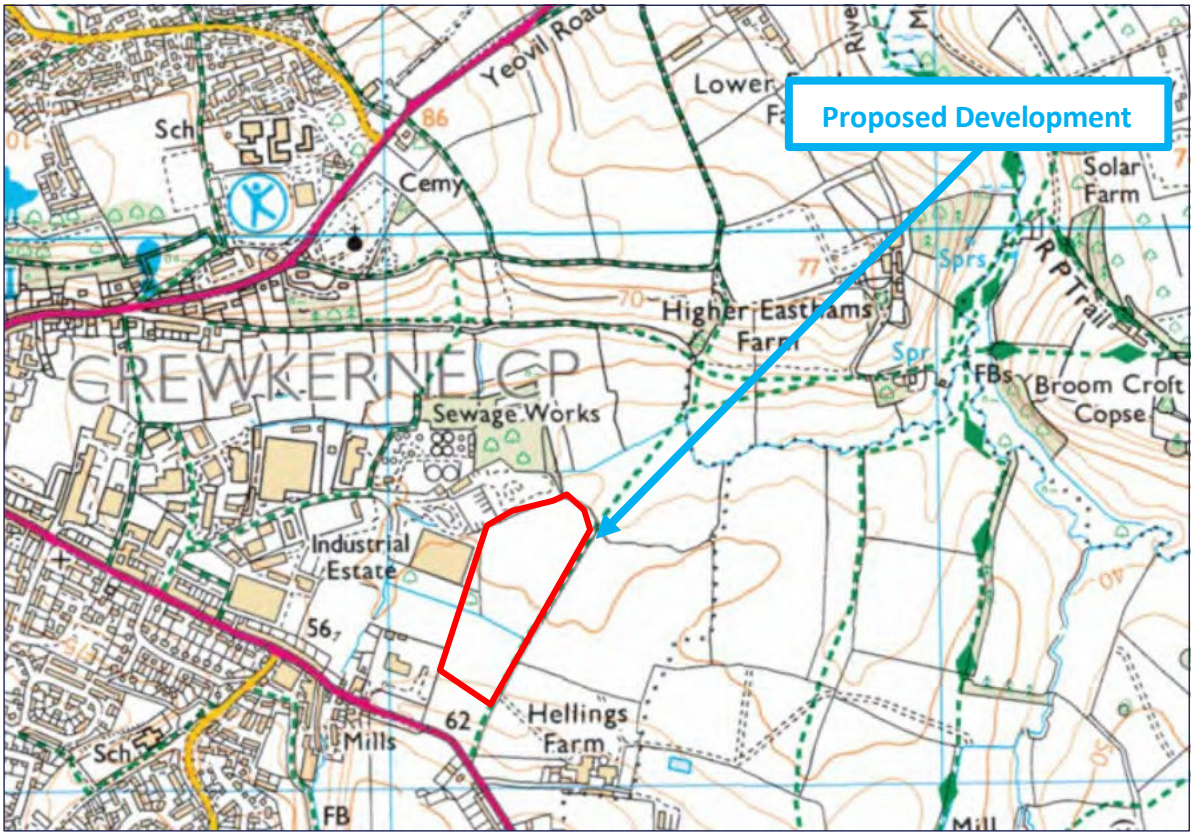


Figure 2-1: Site Location (Bing Maps, 2022)

2.2 A small watercourse runs in the northerly direction along the western boundary of the site before meandering east. This unnamed watercourse is a tributary of the River Parrett which it joins approximately 1500m east of the site.

2.3 The site currently exists as undeveloped lowland grazing land and is not thought to have been historically subject to any significant built development. Beyond the land within the red line above, the developers own the surrounding agricultural land to the north and east, comprised of both lowland grazing and dairy farmland, shown in **Appendix A.**

3 Relevant Legislation and Guidance

3.1 A Court of Justice of the European Union judgement was issued in late 2018 (the 'Dutch Case'), concerning the interpretation of the Habitats Directive, where the issue of nitrate neutrality became an immediate and critical issue for many local authorities across the South and West of England.

3.2 The "Dutch Case" has caused many developments to be halted while nutrient budgets and corresponding mitigation strategies can be ascertained.

3.3 The proposed development is located in a region identified as vulnerable to eutrophication and therefore it is important that nutrient neutrality can be scientifically demonstrated, and effective mitigations strategies are put in to place.

Ramsar Sites and Special Protection Areas

3.4 The proposed development has the potential to have a significant impact on the Somerset Levels and Moors Ramsar Site through adding phosphates into the catchment, according to Natural England.

3.5 Ramsar sites are treated as 'European sites' under the NPPF, Paragraph 176.

3.6 Proposed development likely to affect European sites should be subject to Habitats Regulations Assessment and in most cases, this is likely to mean undertaking to an Appropriate Assessment to assess the implications of the proposal in view of the conservation objectives of the site.

3.7 Proposed developments likely to contribute to a net increase in nutrients, namely Nitrates and Phosphates, due to an increase in wastewater include:

- Additional residential units
- Any development that will facilitate intensification of agriculture
- Proposals for anaerobic digesters

3.8 The Somerset Levels and Moors Ramsar Site and SPA is designated for its internationally important wetland features, inclusive of floristic and invertebrate diversity and species found within the ditches present at the site.

3.9 The condition of many of the ditches at the Ramsar Site are classed as 'unfavourable' due to an excessive quantity of Phosphorus (P) from diffuse water pollution sources (e.g. agricultural leaching) and point sources (e.g. Wastewater Treatment Works) within the catchment.

3.10 Levels of phosphates are found to be 2 to 3 times higher than the target TP set out in the Conservation Objectives for the Ramsar Site.

3.11 The observed poor water quality is emphasised by the Environment Agency's Water Framework Directive (WFD) assessment of the water in the Somerset Levels and Moors.

Natural England Guidance

3.12 Since June 2020, Natural England has been advising that housing, mixed use, and tourist development within the Somerset Levels and Moors Ramsar catchment is likely to contribute to a significant effect, in combination, on designated sites in terms of water quality.

3.13 It is important that the development achieves nutrient neutrality in response to guidance for Water Quality and Nutrient Neutrality Advice published on the 16th of March 2022 from Natural England (NE). This letter focuses on proposals with the potential to affect the water quality of natural habitats near and downstream of development sites. Surface and foul water discharge from the site outfall into tributaries of the Somerset Levels and Moors Ramsar Site and Special Protection Area (SPA). The means that before any development is able to proceed, this site must show that it can achieve nutrient neutrality to protect the Ramsar and SPA.

3.14 Alongside this updated guidance, NE released a range of bespoke Nutrient Budget calculators for different areas around England, including an updated calculator for the Somerset Levels and Moors Ramsar and SPA.

Somerset West and Taunton Council

3.15 The Council is committed to development only taking place if it is sustainable development that includes relevant environmental protections. Somerset West and Taunton (SWT) have declared an ecological emergency, in line with the climate emergency declaration made in February 2019.

3.16 NE have advised SWT that, in light of the unfavourable condition of the Somerset Levels and Moors Ramsar Site, before determining a planning application that may give rise to additional phosphates within the catchment, competent authorities should undertake a Habitats Regulations Assessment (HRA).

3.17 In February 2021, Royal HaskoningDHV has produced a Phosphate Budget Calculator (Phosphate Budget Calculator V3.0), commissioned by the Somerset District Council. Stages 1 to 4 are very similar to the Natural England calculations and those produced in this report. It also includes a section on the Soil types and whether these soils are free-draining or not and offers a choice between the two for calculation. The Phosphate Budget Calculator V3.0 provides a section on the calculating mitigation measures required. However, the figures provided/used are not clearly verified or quantified. Further work is likely to be required on this section to be able to use robustly. The most recent iteration of this calculator is Phosphate Budget Calculator V3.1).

3.18 Where mitigation measures are required, this report uses figures published by Natural England within their National Calculator released in March 2022 and discussed above.

4 Nutrient Budget Analysis

4.1 This section determines the TP baseline conditions for the proposed 110 dwellings within Phase 1 at the Land at East Crewkerne, Somerset.

Methodology

4.2 In February 2021, Royal HaskoningDHV has produced a Phosphate Budget Calculator (Phosphate Budget Calculator V3.0), commissioned by the Somerset District Council. Stages 1 to 4 are very similar to the Natural England calculations and those produced in the previous report produced for Phase 1 in January 2022. It also includes a section on the Soil types and whether these soils are free-draining or not and offers a choice between the two for calculation. The Phosphate Budget Calculator V3.0 provides a section on the calculating mitigation measures required. However, the figures provided/used are not clearly verified or quantified. Further work is likely to be required on this section to be able to use robustly.

4.3 In March 2022, NE released updated advice regarding the nutrient issue, accompanied by Nutrient Budget calculators for different areas around England, including an updated calculator for the Somerset Levels and Moors. This was intended to supersede the Royal HaskoningDHV (RH) Phosphorus Budget Calculator released by Local Authorities. This calculator allows for more accurate Nutrient Budgets to be determined through calculation of nutrient leachate rates based on the site characteristics such as average annual rainfall, soil type and catchment.

4.4 NE's most recent stance on calculating Total Phosphorus budgets from proposed development advises against the use of bespoke commissioned calculators, such as the ADAS calculator commissioned by Brookbanks for the previous application for Phase 1. NE encourage the use of either the Royal Haskoning DHV3.1 **or** the Natural England Nutrient Budget calculator.

4.5 Based on NE's most recent stance, this report **applies NE's approved Nutrient Budget Calculator (March, 2022) for the Somerset Levels and Moors Ramsar and SPA** to update the calculations previously produced for Phase 1**.** This calculator follows NE's original four-stage methodology:

1. **Calculating wastewater Total Phosphorus Load from the proposed development**
    - Calculating additional population
    - Wastewater Volume
    - Wastewater Treatment Works
    - Applying a deduction of Total Phosphorus (TP) Loading
    - Total Phosphorus (TP) Load discharged from the Wastewater Treatment Works.
2. **Calculating Phosphorus Load from current land use**
    - Calculate the Total Existing Agricultural Land
    - Confirmation and Calculation of Phosphate Loss from Farm Type
3. **Calculating the adjusted Phosphorus Load to account for the future land uses**
    - Calculation of Phosphorus Load from proposed future Land Uses
    - Combine the Phosphorus Load from the proposed future Land Uses
4. **Phosphorus Load Budget**
    - Calculate net change in Phosphorus from Land Use Changes
    - Determine the Phosphorus Budget through adding the additional TP discharged via foul water and the change in TP discharged via surface water

Development Assumptions

4.6 In order to determine the TP budget for the 110 dwellings within Phase 1, **Table 4-1** sets out the development assumptions applied:

Calculation Assumptions		
Number of dwellings	110	Residential dwellings
Average occupancy	2.30	Persons per dwelling based on ONS data
Total Development Site Area	3.87	Ha – Dairy Farm Land
Future Land Usage	3.87	Ha - Urban area
Treatment Works for Foul Water Discharge	Crewkerne	
Phosphorus Consent Limit at WwTW	1 mg/l	
Soil Type (Soilscapes, 2021)	Impeded Drainage - Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils	
Annual Average Rainfall	850.1 -900 mm	
Nitrate Vulnerable Zone (Magic Maps, 2022)	No	

Table 4-1: Calculations assumptions

4.7 These assumptions are input into NE's approved nutrient budget calculator in order to determine the TP Baseline Conditions. A full copy of the calculations carried out can be found within **Appendix B** of this report.

Calculations

4.8 Based on the assumptions set out above in **Table 4-1** and following the methodology proposed by Natural England, **Table 4-2** sets out the TP budget for the development boundary.

Natural England Guidance Stage		(kgP/year)	Explanation
1	**TP Load from Wastewater**	9.14	Based on 1mg/l
2	**TP Load from Existing Land Use**	2.83	Using impeded drainage lowland grazing farm land leachate rate of 0.73kgP/ha/year, according to NE calculator
3	**TP Load from Proposed Future Land Use**	6.77	Urban development leachate rate 1.75kgP/ha/year, according to NE calculator
4	**TP Budget**	13.09	(Stage 1 + [Stage 3 – Stage 2])
Total TP Budget		**15.71**	KgP/year (Including 20% buffer)

Table 4-2: Phase 1 TP Budget

4.9 Due to the positive TP budget discharged from the proposed development site via foul and surface water, it is necessary to mitigate 15.71kgP/year.

5 Mitigation Strategy

5.1 Application of the NE nutrient budget calculator has determined that the 110 dwellings at the proposed site produces a positive TP budget of **16.18kgP/year**. Therefore, mitigation measures are required in order to ensure Phase 1 can be delivered while maintaining nutrient neutrality.

5.2 This strategy proposes fallowing of land within the control of the developer. Fallow land involves taking arable land not under rotation and setting the area at rest for a period of time before cultivated again. The land can be replanted with woodland or grassland and should not be used for crop, grazing or fertilised for future crop growth. This section outlines indicative land requirements to achieve neutrality through fallowing land.

5.3 **Figure 5-1** below indicatively identifies the adjacent 21.90ha dairy farmland fields proposed for fallowing in order to neutralise the site.

Figure 5-1: Proposed Mitigation Land

5.4 This is the adjusted Land as agreed in August 2022 and is approximately 2ha larger than that in the original report for Phase 1 as submitted in 2021 and exists as dairy farm land.

5.5 Within the NE's approved national calculator, this dairy farm on land with impeded drainage generates a TP leachate rate of 1.28kgP/ha/year. Natural England suggests a fallow rate of 0.02kgP/ha/year for land that has been set aside for fallowing. For the purposes of these calculations, woodland has been selected as this is considered to be the most suitable and similar to fallow land. Therefore, calculations determine TP mitigated from conversion of the mitigation land from its current status as dairy farm land, using the dairy leachate rate, into fallow land.

5.6 Based on this, fallowing all 21.90ha of this proposed mitigation land would mitigate 27.59kgP/year. This would mitigate the 15.71kgP/year generated from the 110 dwellings in Phase 1.

5.7 **Table 5-1** below summarises this mitigation strategy.

Mitigation		Value	Unit
Baseline conditions TP budget (with 20% buffer)		**15.71**	**kgP/year**
Fallow land	Adjacent dairy farm land for fallowing (ha)	21.90	ha
	TP leachate rate from dairy farm land	1.28	kgP/ha/year
	TP leachate rate from fallowed land	0.02	kgP/ha/year
	Fallow rate	1.26	kgP/ha/year
Residual budget	TP mitigated from fallowing adjacent land	27.59	kgP/year
	TP Budget remaining (Nutrient Credits)	**- 11.89**	**kgP/year**

Table 5-1: Mitigation strategy for Phase 1

Summary

5.8 The overall phosphate budget for 110 dwelling ahead of any mitigation strategies is **15.71kgP/year**.

5.9 Through mitigation measures of fallowing 21.9ha of dairy farmland, it is possible to mitigate **27.59kgP/year**.

5.10 This generates a **Nutrient Credit** of **11.89kgP/year** which could be applied to mitigate further development within the Land at East Crewkerne development.

5.11 Therefore, these calculations have shown that ***110 dwellings within Phase 1 are deliverable whilst maintaining nutrient neutrality*** at the proposed development.

6 Summary

6.1 This note has set out a robust strategy for ensuring nutrient neutrality at the Proposed Development at East Crewkerne.

6.2 To mitigate any additional phosphates at the site, fallowing of land in the ownership of the developer will be used. A Fallowing Management Plan has been produced to demonstrate certainty of delivery (EDP, 2020).

6.3 This will allow for **110 dwellings** to proceed, with mitigated TP discharged from the proposed development by means of surface water or foul water.

6.4 The strategies proposed within this note are designed to reduce and offset TP and TN leaching to the Somerset Levels and Moors Ramsar Site and SPA. The Shadow HRA (EAD Ecology, 2022) concludes that through the delivery of the phosphate mitigation strategy, the proposed development of 110 dwellings set out would not have an adverse effect on the integrity of the Somerset Levels and Moors Ramsar and SPA.

7 Limitations

7.1 The conclusions and recommendations contained herein are limited to those given the general availability of background information and the planned usage of the site.

7.2 Third party information has been used in the preparation of this report, which Brookbanks, by necessity assumes is correct at the time of writing. While all reasonable checks have been made on data sources and the accuracy of data, Brookbanks accepts no liability for same.

7.3 The benefits of this report are provided solely to Taylor Wimpey for the proposed development Land at East Crewkerne only.

7.4 Brookbanks excludes third party rights for the information contained in the report.

Appendix A – Land Ownership


Wadham School
Higher Easthams Hill Farm
Playing Field
Tennis Court
Pavilion
Swimming Pool
Allotment Gardens
NUT TREE LANE
Danesfield
Townsend Cemetery
YEOVIL ROAD
MOUNT PLEASANT
Oakhurst
Woodlands
EASTHAMS LANE
BUTTS QUARRY LANE
Foundry
Works
Conveyor
Hopper
Sludge Beds
Tanks
Filter Beds
Settling Tanks
Eastern Outfall (Sewage Works)
Refuse Tip
Pond
Depot
El Sub Sta
STATION ROAD
Hellings Farm
Queensbury House
Ward Bdy
ST 136706
ST93656
ST 85669
H.M. LAND REGISTRY PLANS BRANCH
1724 2·408ha 5·95
1913 1·514ha 3·74
2900 2·938ha 7·26
1900 2·890ha 7·16
0688 2·509ha 6·20
9275 1·805ha 4·46
1176 1·352ha 3·34
3374 4·420ha 10·92
4955 4·218ha 10·42
6152 ·170ha ·42
6941 7·742ha 19·13
8339 2·719ha 6·72
7564 2·501ha 6·18
5424 ·332ha ·82
4616 ·194ha ·48
3112 3·818ha 9·48
7516 15·560ha 38·47

Appendix B – TP Calculations

Land at East Crewkerne
Phosphorous Calculations - Prior to Mitigation
Natural England National Calculator (March, 2022)

BROOKBANKS

19.10.22

	Calculate Wastewater Total Phosphate Load from the Proposed Development			
	Measurement	**Value**	**Unit**	**Explanation**
Stage 1	Number of Dwellings	110	Dwellings	
	Development Proposal	253	Persons	New Development Quantum multiplied by Census Data
	Wastewater Volume Generated	27830	l/d	Development Proposal multiply with 110l/d
	TP Permit Limit	1	mg/l	
	TP Permit Limit	0.9	mg/l	Consented Discharge Limit with 90%
	TP Discharged after WWTW	25047	mg/TP/day	
	Convert mg/TP/day to kg/TP/day	0.03	kg/TP/day	
	Convert kg/TP/day to kg/TP/year	9.14	kg/TP/year	
Total Phosphorous Load from development Wastewater		**9.14**	**kgP/year**	

	Calculate Phosphate Load from Current Land Use			
	Measurement	**Value**	**Unit**	**Explanation**
Stage 2	Area of Existing lowland Grazing	3.87	hectares	
	Phosphate Loss from Lowland Grazing	0.73	kgP/ha/year	National Calculator (NE)
Total Phosphates Load from Current Land Use		**2.83**	**kgP/year**	

	Adjusting Phosphate Load to Account for Future Land Uses			
	Measurement	**Value**	**Unit**	**Explanation**
Stage 3	New Urban Area	3.87	Hectares	Change to Urban from Agriculture
	Phosphate Load from future Urban Land	1.75	kgP/ha/year	National Calculator (NE)
Total Phosphates from Proposed Future Land Uses		**6.77**	**kgP/ha/year**	

	Calculate Phosphate Budget			
	Measurement	**Value**	**Unit**	**Explanation**
Stage 4	Wastewater Phosphate Load	9.14	kgP/yr	Stage 1
	Phosphate Net Change	3.95	kgP/yr	Future Land Use subtract Current Land Use
	Phosphate Budget	13.09	kgP/yr	Total Phosphorous Load
Phosphate Budget with 20% Buffer (where Budget is positive)		**15.71**	**kgP/yr**	

Head Office Address
6150 Knights Court,
Solihull Parkway,
Birmingham Business Park,
Birmingham.
B37 7WY

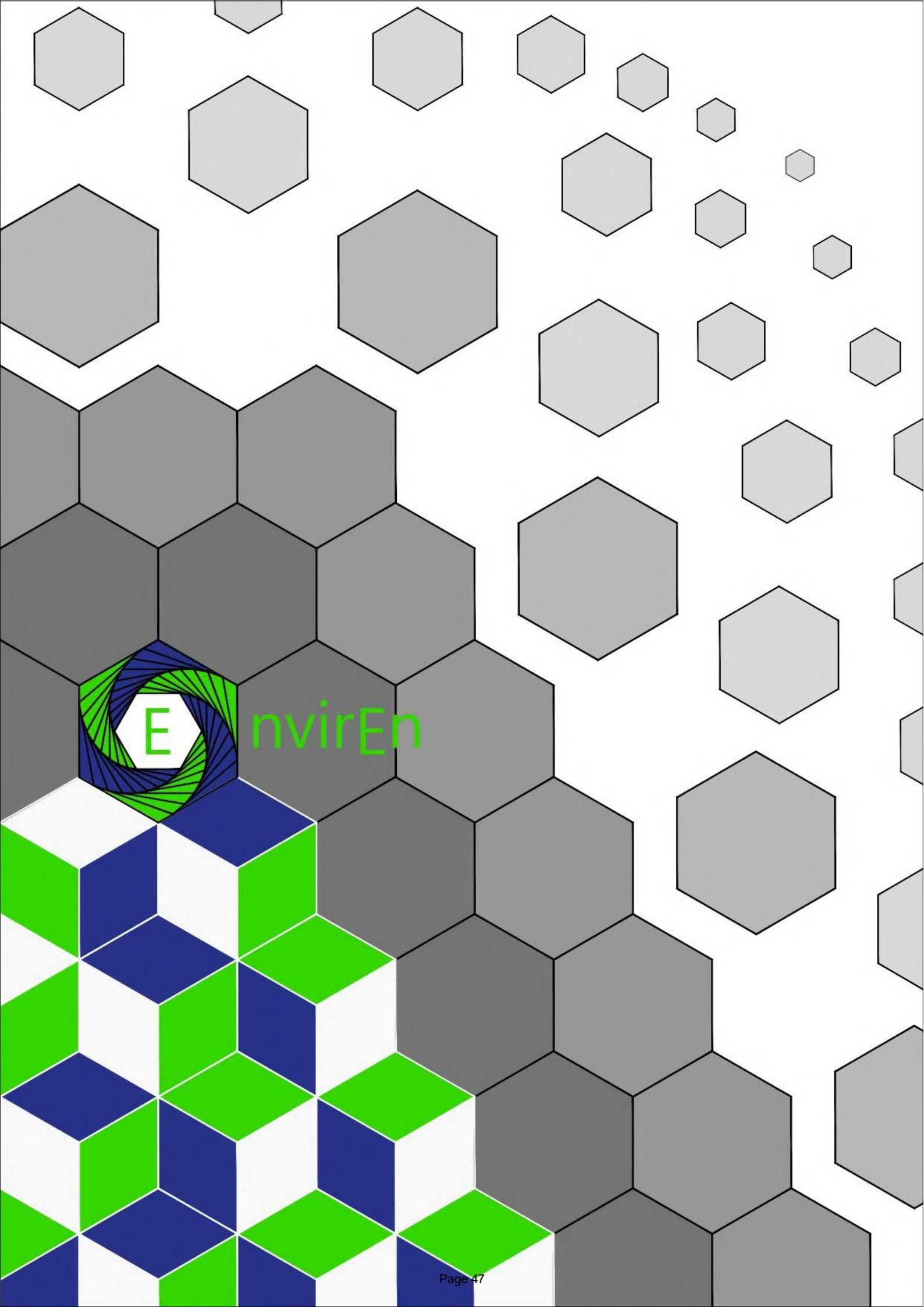
T +44(0)121 329 4330
mail@brookbanks.com
brookbanks.com

Appendix 3a Foldhill, Somerset

Email dated 27 July 2023 confirming Natural England's agreement to the approach.

Email dated 20 June 2023 from the County Ecologist explaining their assessment of the proposals to Natural England.

Applicant's mitigation strategy dated 27 May 2023.


E nvirEn

Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS)

Foldhill Lane, Martock

Z. Simmonds

27 May 2023

Document Ref: 230067-NNAMS

Document Control

Produced by: Z. Simmonds
Tel: 01275 560427
Email: technical@enviren.co.uk

Job Name: Foldhill Lane, Martock

Report Title: Nutrient Neutrality Assessment and Mitigation Strategy

Status: First Issue

Date: 27 May 2023

DOCUMENT PRODUCTION RECORD

AUTHOR:	Z Simmonds
ISSUED TO:	Suzanne LeSauvage
REPORT REFENCE:	230067-NNAMS
DOCUMENT STATUS:	First Issue

DOCUMENT REVISION RECORD

Issue	Date	Revision Details
1.1	27/05/2023	First Issue

Confidentiality and Reproduction Restrictions

This report has been prepared by Enviren Ltd solely for use as part of the planning application associated with the construction of twenty four dwellings off Foldhill Lane in Martock (Grid reference: ST 46816 19529). This report is not issued to and cannot be relied upon by any other business, person or entity for any other grounds without the prior permission of Enviren Ltd. Enviren Ltd will not accept liability or responsibility for the use of this report or its findings (permitted or not) except for the aforementioned project, being the reason it was initially drafted and compiled. In the production of this report, Enviren Ltd relied upon information obtained and provided by others. The accuracy and completeness of this information cannot be guaranteed by Enviren Ltd; however all reasonable measures have been implemented to ensure that the data/information is accurate and that the observations made regarding the information are precise. This being said, Enviren Ltd cannot be made liable for any omissions or errors or for any losses/consequential losses following decisions made based on this report's findings.

Executive Summary

This report has been compiled for the support of the development of twenty four dwellings off Foldhill Lane in Martock (Planning reference: 20/01678/REM). The proposals are for twenty four dwellings along with estate roads, drives, gardens and small areas of public open space.

This report demonstrates that the development will achieve Nutrient Neutrality through the introduction of a high-functioning Package Treatment Plant and filter system, adopted by Albion Water, and the incorporation of SuDS features specifically for the treatment of phosphorus. As the development parcel currently comprises cropping land, the construction of the dwellings would result in an increase in phosphorus loads from surface water runoff as well as an increase in phosphorus loads owing to foul water discharge if treatment measures were not to be implemented.

Contents

1. Introduction

1.1. This report has been prepared for Suzanne LeSauvage to support a planning application for the construction of twenty four residential dwellings off Foldhill Lane in Martock and demonstrates that through the introduction of a high-functioning Package Treatment Plant, the incorporation of a robust filter system and the appropriate design of onsite Sustainable Drainage Systems (SuDS) the development will achieve Nutrient Neutrality. The site itself is roughly 1.560Ha (15,600m^2) and currently comprises cropping land. The construction of the new dwellings would result in an increase in phosphorus discharging into the surrounding water network due to surface and foul water discharge from the proposed properties if suitable site controls were not to be implemented (see **Appendix A**, **Appendix B**, **Appendix C** and **Appendix D**).

(Note: although being separate entities phosphorus and phosphates have been used interchangeably throughout this report and to suit the specific usage in background information and reports)

2. Background Information

Site Location

2.1. The site is located to the east of Martock on the southern side of Foldhill Lane. The application site is located 9.4 kilometres northwest of Yeovil centre, 4.3 kilometres northeast of South Petherton and approximately 6.1 kilometres south of Long Sutton. The exact location can be found in **Figure 2.1**:

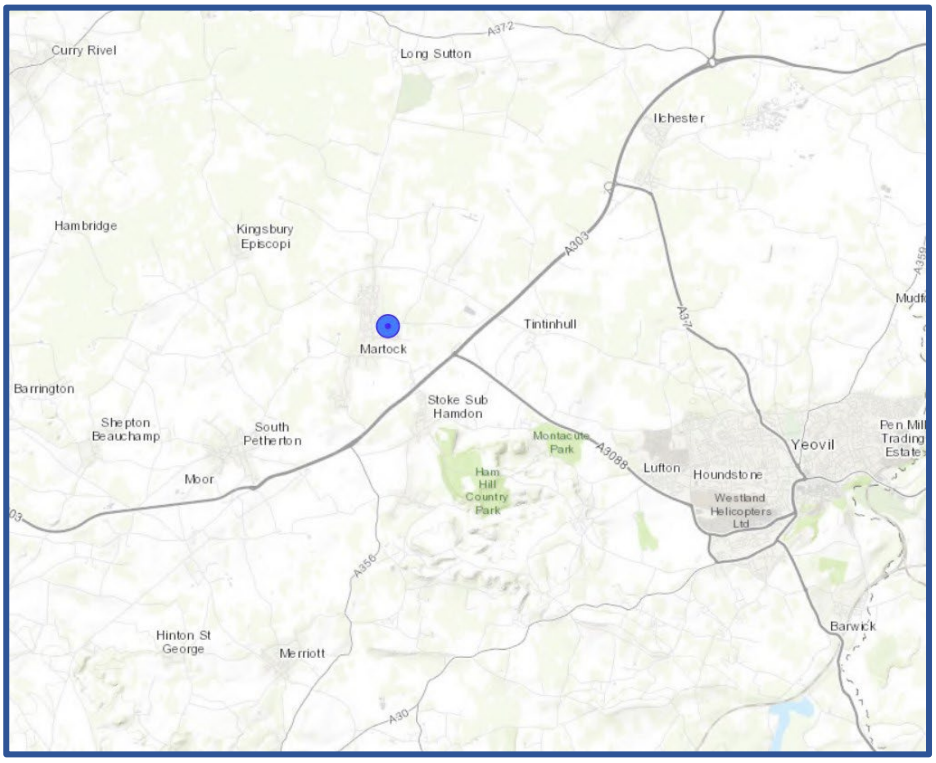


Figure 2.1 – Site Location

2.2. The development sits within the hydrological catchment of the Somerset Levels and Moors Ramsar Site as indicated in **Figure 2.2**.

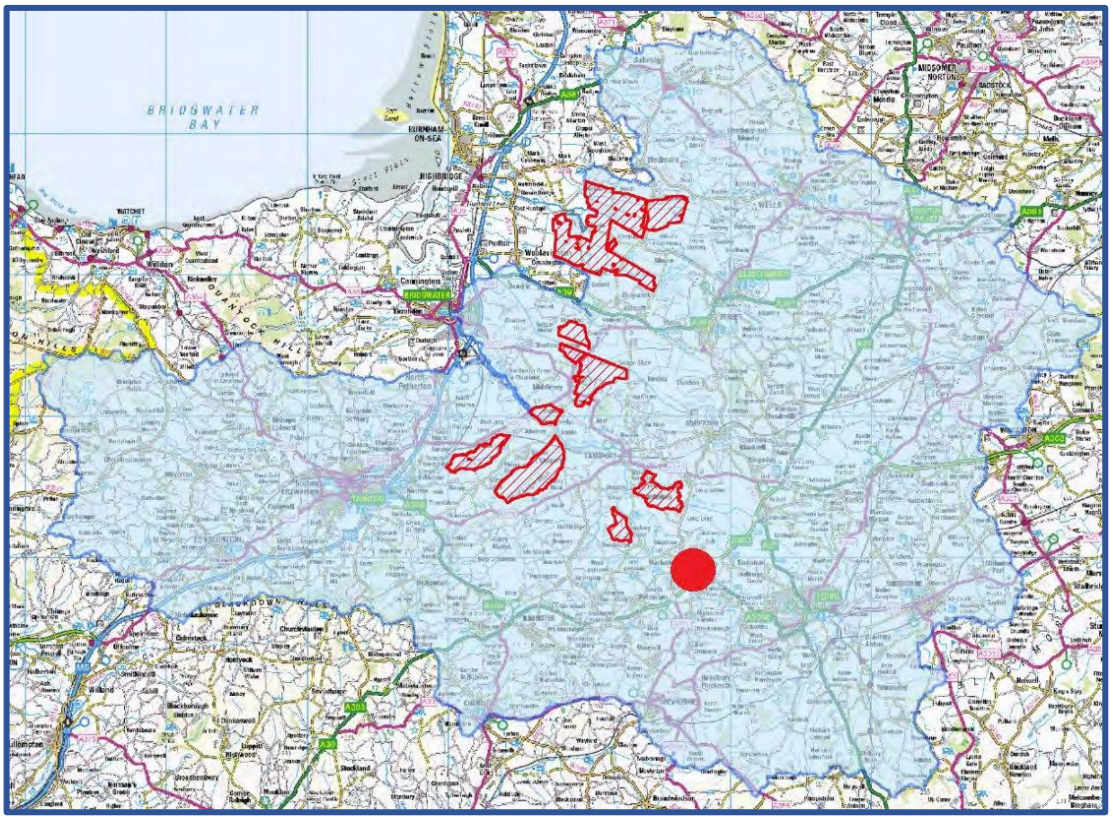


Figure 2.2 – Hydrological Catchment Plan

Site Hydrology

2.3. Interrogation of local topographical information identifies that an open watercourse is present immediately to the north of the site. This watercourse runs in a westerly direction passing through Martock and discharging to the Mill Brook to the south of Martock. The Mill Brook discharges to the River Parrett to the southwest of Coat. Further investigation of the water network demonstrates that the Mill Brook discharges to the River Parrett approximately 2.3km to the west of the development.

2.4. Inspection of UK Topographical Information[1] data shows a definite hydraulic gradient of the watercourse in a westerly direction. The watercourse feeds into the River Parrett to the west with levels falling from circa 36m AOD within the development parcel to circa 35m AOD at the edge of the northern watercourse (see **Figure 2.3**). The levels at the banks of the Mill Brook sit at approximately 20mAOD. The levels at the banks of the River Parrett are approximately 14m AOD to the southwest of Coat. The River Parrett, being the principal river, flows from the parish of Chedington, through the Somerset Levels and Moors Ramsar Site and several SSSIs (Sites of Special Scientific Interest) including Aller Hill, Langmead & Weston Level and Southlake Moor before discharging into the sea at Burnham-on-sea[2].

[1] TessaDEM – Satellite Contoured Mapping.
[2] Somerset Rivers – River Parrett (Link-to-source)

Figure 2.3 – UK Satellite Topographic Data – Site Hydrology

[*Contains information from TessaDEM, which is made available here under the Open Database License (ODbL).*]

Site Description

2.5. The area to be developed is roughly triangular in shape being approximately 78m wide (north to south) and 200m long (east to west), the overall site area is approximately 1.560 hectares in size when considering the areas in the site plan (see **Appendix E**).

2.6. The site currently constitutes cropping land. The site parcel is bordered to the north by an open watercourse and beyond this Foldhill Lane and a nursing home. To the south sits some green space and beyond this dwellings of the settlement of Martock. To the west sits Foldhill Lane and further buildings of Martock. To the east sits agricultural land.

2.7. As displayed on the mapping in **Figure 2.4**, the site consists entirely of cropping land. Hedging and trees encapsulate the site separating it from the surrounding green space and providing separation from Foldhill Lane. Fencing is also present around the perimeter. To the north the site has an access onto Foldhill Lane through a field gate.

Regional Background and Underlying Science

2.8. The regional background and context for nutrient neutrality within Somerset can be found in **Appendix J**. The underlying science that underpins the requirement to achieve nutrient neutrality is presented in **Appendix K**.

Figure 2.4 – Aerial Reconnaissance Photography

3. Development Proposals

3.1. The development (refer to **Appendix E**) is to consist of 24 no. residential properties. The existing cropping land is to be replaced with the new properties as well as roads, driveways, gardens and other ancillaries.

Surface Water Drainage

3.2. The discharge of surface water from the site shall be to the north into the existing unnamed watercourse. The proposed surface water shall be treated by a series of specifically designed Sustainable Drainage System (SuDS) components which shall maximise phosphorus removal and achieve nutrient neutrality.

3.3. Infiltration testing has been undertaken at the site, as established in the Tweedie Evans Ground Investigation Report (Report ref: 1912009.001.01), and these infiltration tests identified negligible infiltration rates[3]. Therefore surface water runoff from the development shall be discharged to the northern watercourse; however, significant and intensive onsite cleansing shall take place prior to discharge. It is proposed that the development is encased with French Drains to prevent overland flows exiting site. Runoff from rooves and drives shall be collected and channelled through permeable paving, lined with an impermeable membrane to prevent infiltration and groundwater ingress. This collected water shall then discharge into the onsite surface water sewer network. All runoff shall then be passed through a swale and then the proposed treatment pond, which has been specifically designed to enhance nutrient removal (see **Appendix F**). This represents a revision to the RMA Environmental Drainage Strategy[4], which makes an allowance for two oversized swales and a purely piped network upstream.

[3] Tweedie Evans Consulting Ltd – Desk Study and Ground Investigation Report (report ref: 1912009.001.01)
[4] RMA Environmental Ltd – Flood Risk Assessment and Drainage Strategy (report ref: RMA-C1579)

3.4. Using the phosphorus removal efficiencies contained in CIRIA C808[5] and applying the 50% reduction factor specified in the Simple Index Approach it is possible to determine the average, cumulative phosphorus removal efficiency of each proposed treatment train. The generic removal rates of various SuDS components, as contained in CIRIA C808, are outlined in **Table 3.1**.

Table 3.1 – Phosphorus Removal Efficiency of Various SuDS Components (as per CIRIA C808)

SuDS Component	Swale	Detention basin	Retention basin	Pond	Floating wetland	Bioretention zone	Tree pit	Filter strip	Filter drain	Willow bed	Permeable pavement	Vortex grit separator	Oil water separator	Stormwater filter	Granular media	Rainwater capture
Particulate Phosphorus Removal (%)	28	28	28	38	38	44	44	22	22	100	38	28	28	44	44	N/A
Dissolved Phosphorus Removal (%)	0	12	50	50	TBC	0*	0	0	0	100	0	0	0	≤ 90		N/A
Total Phosphorus Removal [average] (%)	14	20	39	44	19 (TBC)	22	22	11	11	100	19	14	14	67	67	N/A

3.5. The phosphorus removal efficiencies of the onsite treatment trains are outlined in **Table 3.2**. The permeable paving and filter drains will contain a P removal media to maximise phosphorus removal, this shall consist of a limestone bed made up of 2.5-5mm particles which is proven to have a phosphorus removal rate of 87%[6]. Mitigation options are discussed in more detail in **Section 5**.

[5] CIRIA C808 – Using SuDS to reduce phosphorus in surface water runoff

[6] A review of phosphorus removal structures how to assess and compare their performance Penn, Chad; Chagas, Isis; Klimeski, Aleksandar; Lyngsie, Gry Published in: Water (Switzerland) DOI: 10.3390/w9080583 Publication date: 2017

Table 3.2 – Total Phosphorus Removal Percentage of Treatment Trains

Treatment Train	Phosphorus Removal Efficiency of SuDS Component (Average between Dissolved and Particulate Phosphorus)								Cumulative Removal**		Calculated Phosphorus Removal Efficiency
	Filter Drain		Permeable Paving		Swale ††		Treatment Pond ††				
	PP	TDP	PP	TDP	PP	TDP	PP	TP	PP	TP	
Treatment Train A: Permeable Paving, Swale and Pond	N/A		38	87	14	0	19	25	**48**	**90**	69
Treatment Train B: Swale and Pond	N/A		N/A		28	0	19	50	**41**	**50**	46
Treatment Train C: Filter Drain, Swale and Pond	22	87	N/A		14	0	19	25	**35**	**90**	63
Mean Phosphorus Removal of Onsite Treatment Trains											59

100% Removal Considered	50% Removal Considered	Not Applicable

3.6. **The cumulative removal has been calculated based on the following equation:

$$Cumulative\ removal = \left(\frac{Influent\ Load_{GROSS} \times TP\ Removal_{Component\ 1}}{100}\right) + \left(\frac{Influent\ Load_{Post\ Component\ 1} \times TP\ Removal_{Component\ 2}}{100}\right) \ldots$$

3.7. ††The performance of secondary and tertiary treatment measures has a reduced performance capacity owing to the influent being previously treated and owing to reduced influent concentrations. The Simple Index Approach[7] has been applied in this instance which states that secondary and tertiary treatment measures should be factored by a half to accommodate the reduced performance:

[7] CIRIA C753 – Chapter 26 -

$$Total\ SuDS\ Mitigation\ Index = Mitigation\ Index_1 + 0.5(Mitigation\ Index_2) \ldots$$

Foul Water Drainage

3.8. Foul water from the properties shall be discharged to an adoptable Package Treatment Plant (PTP) which incorporates chemical dosing to provide significantly enhanced phosphorus removal. The Package Treatment Plant (PTP) to be installed is a Kingspan Klargester BioDisc, which is capable of reducing Total Phosphorus concentrations down to 0.3mg/l (see **Appendix G**). The former Somerset District Councils issued an advice note in September 2022[8] outlining the council's position on the use of chemically dosed PTPs. The advice note states that chemically dosed should make the following considerations and accommodations as outlined in **Table 3.3**.

Table 3.3 – Somerset Council Advice Note – Chemical Dosing Requirements

Requirement	Evidence of Fulfilment
Must be necessary to achieve nutrient neutrality onsite.	The Martock WwTW is a relatively low performing WwTW with insufficient upgrade works planned.
Must be a viable option in terms of securing long term maintenance and monitoring with the relevant LPA, at the outset.	The system shall be adopted by Albion Water (see **Appendix H**) who shall be responsible for the systems upkeep in perpetuity, including: replenishing dosing salts, ensuring the system continues to function and replacing the system as necessary.
Appropriate chemical dosing salts shall be used which shall not cause harm to the downstream environment.	A chemical dosing system that is reliant on iron-based salts shall be progressed and Kingspan/Klargester have confirmed that the use of such salts can achieve the required TP removal rates.

3.9. As can be evidenced, the incorporation of such a system can achieve nutrient neutrality and meets the requirements of the council. The system shall be adopted and maintained by Albion Water and therefore the long-term functionality of the system can be assured.

3.10. Beyond the Package Treatment Plant (PTP) the effluent from the dwellings shall be treated by a Primary Filter Bed (Vertical Flow [VF] reedbed), treated effluent from the PTP shall feed into a manifold of distributor pipes which will evenly distribute the liquid effluent over the filter bed (see **Appendix I**). The filter bed will be filled with a graded distribution of sands and gravels to provide intensive treatment of the effluent. The additional benefit of the filter bed is that it shall achieve an over 90% reduction in suspended metals, therefore any dosing salts contained in the effluent shall largely be removed through the beds, preventing the salts escaping into the wider water network.

3.11. Downstream of the Primary Filter Bed will be an intermediary Humus Chamber which will ensure that any organic matter from the Primary Filter Bed does not enter the Secondary Filter Bed (Horizontal Flow [HF] reedbed). This Humus Chamber will consist of two dip pipes that will ensure that the humus remains as a film on the water's surface. After the Humus Chamber the effluent will reach a T piece fitted with a perforated pipe. The treated effluent from the Primary Filter Bed will drain into a stone margin at the upstream end of the Secondary Filter Bed. The water will then run through the gravel body before discharging

[8] Somerset Councils – Advice Note – Considering Package Treatment Plants and Septic Tanks as part of nutrients mitigation in Somerset. (September 2022)

into a Variable Outlet Chamber, which will have an adjustable inlet so the level of the water in the Secondary Filter Bed can be adjusted.

3.12. The final polishing component shall be a limestone P filter, forming a perforated pipe in a gravel bed which shall provide the final cleansing prior to discharge. As previously discussed in this report, P filters can achieve a TP removal of 87% and will ensure that TP concentrations from the proposed system are minimised. Beyond this a piped connection will be made to the northern watercourse (see **Appendix F**). Mitigation options are discussed in more details in **Section 5**.

4. Phosphate Calculator – Observations influencing Results

4.1. A clear factsheet outlining the selections made in the Calculator Tool is provided in **Appendix A**, the direct print of the Royal Haskoning DHV Spreadsheet is given in **Appendix B**, **Appendix C** and **Appendix D**. This section shall outline the observations made on the site, including proposed phosphorus loads, pre-development phosphorus loads and proposed land use loads as provided in the Royal Haskoning Phosphate Calculator[9].

Stage 1a – Proposed Phosphorus Load from New Dwellings

4.2. 24 new dwellings shall be constructed. The dwellings have been considered to have an average occupancy of 2.4 persons per dwelling as outlined in the calculator. The dwellings shall implement water efficiency measures as per the optional planning requirement to achieve 110l/p/d.

4.3. The dwellings are to be served by an adoptable Package Treatment Plant (PTP) adopted by Albion Water. The PTP to be installed is a Kingspan-Klargester BioDisc. A PIA certificate demonstrating the efficiency of the proposed Package Treatment Plant is presented in **Appendix G**. To calculate the phosphorus generated by the properties and to input the correct figures into the Royal Haskoning DHV calculator for approval one needs to multiply the annual litres generated by the mg/l value of the PIA certificate (0.3mg/l). The proposed dwellings shall generate 6,336 litres per day (24x2.4x110) and hence 2,312,640 litres per year. The Total Phosphorus load from the proposed properties shall therefore be 0.69kg/year $(\frac{2{,}312{,}640 \times 0.3}{1{,}000{,}000})$.

4.4. As the Royal Haskoning DHV calculator does not allow one to enter a percentage removal in decimal places the number of dwellings has been factored instead to achieve this TP figure, this results in 0.29 dwellings (with a zero-percentage TP removal efficiency for calculation purposes). The direct print of the Royal Haskoning DHV Spreadsheet is given in **Appendix B**.

Table 4.1 – Package Treatment Plant Treatment of Foul Water

Component	Influent Arisings (kg/year)	TP Removal Efficiency (%)	Effluent Arisings (kg/year)
HABA Package Treatment Plant	57.02	98.7	0.69

Stage 1b – Proposed Primary Filter Bed Phosphorus Arisings

4.5. The effluent from the PTP will then be discharged to the Primary Filter Bed. The bed has been sized as per equation 1 of the BRE GBG42 which states:

[9] Royal Haskoning Phosphorous Budget Calculator (Link-to-source)

$$A = 3.5P^{0.35} + 0.6P$$

Where:

A = The area of the proposed filter bed.

P = The maximum number of people that could be served by the filter bed (assumed as 96 – based on British Water Flows and Loads [5 person per dwelling factored by 0.8]).

$$A = 3.5(96^{0.35}) + 0.6(96)$$

$$A = 74.9m^2$$

The proposed filter is to be 18 x 4.5m, giving an aspect ratio of 1:4 as advised by BRE guidance and giving a plan area of 81m^2. The filter bed will be a minimum of 1m deep (as shown in **Appendix I**). The treatment capacity of the filter bed has been taken from Table 18.1 of CIRIA C753 and is based on the treatment efficiency of similar bioretention systems utilising well graded granular soil layers as per the FAWB study[10] and the International BMP International Stormwater Database[11]. The stated treatment efficiency is >80%, therefore 80% has been considered as the base treatment capacity, however as this is a secondary treatment measure, this will need to be factored to account for the reduced performance capacity owing to reduced influent concentrations.

TABLE 18.1 **Pollution removal for bioretention systems designed to FAWB guidelines (after FAWB, 2009)**

Pollutant	Typical removal efficiency
TSS	> 90%
Total phosphorous	> 80%
Nitrogen	50% on average
Metals (zinc, lead, cadmium)	> 90%
Metals (copper)	up to 60%

Figure 4.1 – Phosphorus removal efficiency of bioretention systems as per CIRIA C753.

4.6. As discussed with Natural England, the performance of secondary and tertiary treatment measures has a reduced performance capacity owing to the influent being previously treated and owing to reduced influent concentrations. The Simple Index Approach[12] has been applied in this instance which states that secondary and tertiary treatment measures should be factored by a half to accommodate the reduced performance:

$$Total\ Mitigation\ Index = Mitigation\ Index_1 + 0.5(Mitigation\ Index_2) \ldots$$

4.7. The factored phosphorus removal efficiency of the filter bed is therefore 40%, this figure has been added to the Royal Haskoning calculator. The results for this stage show that the phosphorus arisings post filter bed are 0.41kg/year (see **Appendix B**). This is summarised in **Table 4.2**.

[10] Facility for Advancing Water Biofiltration - Guidelines for filter media in biofiltration systems
[11] International Stormwater BMP Database
[12] CIRIA C753 – Chapter 26 -

Table 4.2 – Primary Filter Bed Treatment of Foul Water			
Component	**Influent Arisings (kg/year)**	**TP Removal Efficiency (%)**	**Effluent Arisings (kg/year)**
Primary Filter Bed	0.69	40	0.41

Stage 1c – Proposed Secondary Filter Bed Phosphorus Arisings

4.8. The same methodology has been applied to the Secondary Filter Bed as applied in Stage 1b. The Filter Bed has been sized in accordance with BRE guidance for a tertiary treatment measure, being 1m^2 per person, resulting in a minimum area of 96m^2. The resultant figure presented in Stage 1b has been added to the Royal Haskoning calculator once again, this has been achieved by factoring the number of dwellings so that the phosphorus influent load equals 0.41kg/year, this results in 0.172 dwellings.

4.9. The results for this section show that the phosphorus arisings post filter bed will be 0.25 kg/year (see **Appendix C**). The results of this stage are summarised in **Table 4.3**.

Table 4.3 – Secondary Filter Bed Treatment of Foul Water			
Component	**Influent Arisings (kg/year)**	**TP Removal Efficiency (%)**	**Effluent Arisings (kg/year)**
Secondary Filter Bed	0.41	40	0.25

The phosphorus removal efficiencies, phosphorus arisings and displayed factoring have been discussed extensively with John Stobart (Natural England) along with the mitigation options proposed. The solution for the foul drainage is based on Natural England published guidance, CIRIA published guidance as well as other regional guidance issued by Royal Haskoning[13].

Stage 1d – Proposed P Filter Phosphorus Arisings

4.10. The same methodology has been applied to the P Filter as applied in the previous stages. The P Filter shall be a 150mm diameter perforated pipe placed in a bed of 2.5-5mm limestone gravel. The resultant figure presented in Stage 1c has been added to the Royal Haskoning calculator once again, this has been achieved by factoring the number of dwellings so that the phosphorus influent load equals 0.25kg/year, this results in 0.105 dwellings.

4.11. The results for this section show that the phosphorus arisings P filter will be 0.14 kg/year (see **Appendix D**). The residual phosphorus has been mitigated by providing a betterment in runoff concentrations. The results of this stage are summarised in **Table 4.4**.

Table 4.4 – P Filter Treatment of Foul Water			
Component	**Influent Arisings (kg/year)**	**TP Removal Efficiency (%)**	**Effluent Arisings (kg/year)**
P Filter	0.25	44	0.14

[13] Royal Haskoning DHV - Somerset Levels and Moors Phosphate Mitigation Solutions Report (Report ref: PC2250-RHD-ZZ-XX-RP-Z-0001)

Stage 2 – Total Phosphorus from Current Land Use

4.12. Stage 2 requires details of the previous land use, soil description and areas. The Soilscape Map[14] has been used to provide details of the underlying soil at the site location:

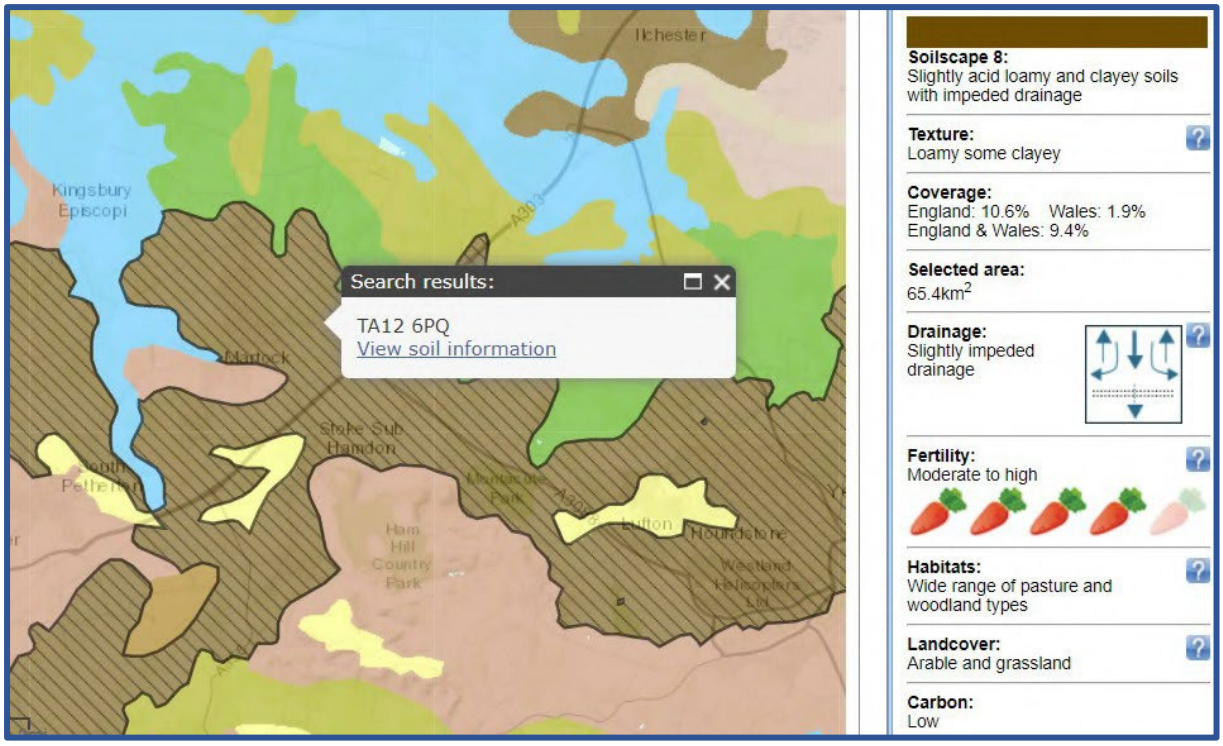


Figure 4.2 – Soilscape Results.

Free draining		
Colour	ID	Name
	3	Shallow lime-rich soils over chalk or limestone
	4	Sand dune soils
	5	Freely draining lime-rich loamy soils
	6	Freely draining slightly acid loamy soils
	7	Freely draining slightly acid but base-rich soils
	10	Freely draining slightly acid sandy soils
	11	Freely draining sandy Breckland soils
	12	Freely draining floodplain soils
	13	Freely draining acid loamy soils over rock
	14	Freely draining very acid sandy and loamy soils

Impermeable		
Colour	ID	Name
	1	Saltmarsh soils
	2	Shallow very acid peaty soils over rock
	8	Slightly acid loamy and clayey soils with impeded drainage
	9	Lime-rich loamy and clayey soils with impeded drainage
	15	Naturally wet very acid sandy and loamy soils
	16	Very acid loamy upland soils with a wet peaty surface
	17	Slowly permeable seasonally wet acid loamy and clayey soils
	18	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
	19	Slowly permeable wet very acid upland soils with a peaty surface
	20	Loamy and clayey floodplain soils with naturally high groundwater
	21	Loamy and clayey soils of coastal flats with naturally high groundwater
	22	Loamy soils with naturally high groundwater
	23	Loamy and sandy soils with naturally high groundwater and a peaty surface
	24	Restored soils mostly from quarry and opencast spoil
	25	Blanket bog peat soils
	26	Raised bog peat soils
	27	Fen peat soils

Figure 4.3 – Soilscape/Royal Haskoning Soil Classifications.

4.13. As can be seen in **Figure 4.2** and **Figure 4.3**, the soil falls into Soil ID 8, this value has been entered into the spreadsheet. The site area is 1.560 hectares. The land currently constitutes cropping land. With reference to the CORINE Land Use Data[15]; the land falls into the Cropping category, defined as:

[14] Cranfield Soil and Agri-food Institute 2020 – Soilscape Mapping (Link-to-source)
[15] CORINE 2018 Land Use Data.

*"**Holdings on which arable crops (including field scale vegetables) account for more than two thirds of the total standard output, excluding holdings classified as cereals**; holdings on which a mixture of arable and horticultural crops account for more than two thirds of their total SO excluding holdings classified as horticulture and **holdings on which arable crops account for more than one third of their total standard output and no other grouping accounts for more than one third.**"*

4.14. Therefore the Total Phosphorus arisings from the current land use of the site parcel are 0.99 kg/year (see **Appendix D**).

Stage 3 – Total Phosphorus from Proposed Land Use

4.15. The proposed site shall consist of houses, buildings, roads, drives, gardens and areas of public open space and therefore shall fall into the Urban classification. This land use is defined by the land uses in the RH Calculator, which are based on CORINE Land Use classifications. The calculator defines Urban as:

*"Development which encompasses the **built form, gardens, pathing, roads, hardstanding's**, parks and **small areas of open space**, ponds and SuDS. The phosphorus load results from sewer overflows and from drainage that picks up phosphorus on the urban land. Agricultural barns used for storage of materials, farming supplies and temporary livestock can be classified as Urban. However, barns used for a specific farming type (e.g. piggeries and chicken farms) should be classified under the relevant farming land use."*

4.16. The resulting TP load from the on-site areas would be 1.29kg/year; however, through the incorporation of appropriate SuDS measures, as identified in **Section 3**, the development shall significantly reduce phosphorus arisings from urban/greenspace runoff and hence achieve nutrient neutrality. The post development site area has been factored such that a 59% reduction in Total Phosphorus loads is accommodated, this results in a post development land area of 0.92 hectares of Urban land (1.56 x (1-0.59)).

4.17. The resulting TP load from the on-site areas of the proposed development is 0.76kg/year and represents a marked decrease as a result of surface water runoff (see **Appendix D**).

Stage 4 – Calculate Net Change in Phosphorus Load

4.18. Stage 4 is an Auto-Input based on the previous stages, the phosphorus budget for the development is presented and a 20% uplift is applied acting as a precautionary buffer owing to uncertainties inherent in the Calculator. The guidance notes state that the user: "*…has the option to change this buffer should this be appropriate.*", however the Factor of Safety supplied has merit and should be included in the calculations. As the development shall not result in an increase in phosphorus generated as presented in Stages 1-3 this has not been considered further. The net phosphorus load from the development is presented in **Table 4.5**:

Table 4.5 – Net Phosphorus Load from Development

Permit	Phosphorus Load Generate
Existing Land Use	-0.99kg/year
Proposed Development	0.90kg/year
Resultant TP Load	-0.09kg/year

Stage 5 – Calculate the Current TP Banking for the Proposed Development

4.19. As the development can achieve nutrient neutrality through the proposed treatment train no further mitigation land will be required to offset any residual phosphorus arisings.

Stage 6 – Calculate the AMP7 TP Banking for the Proposed Development

4.20. As per Stage 5 the development will mitigate its own phosphorus arisings through the introduction of a Package Treatment Plant and constructed filter beds and therefore off-site mitigation will not be required.

Stage 7 – Difference in Mitigation Land Uses between Current and AMP7

4.21. This stage of the calculator can be ignored as the development will not make a connection to the public sewer network and therefore will not benefit from any improvement works identified in Wessex Water's AMP7.

5. Mitigation Methods

On-site Mitigation

5.1. The intention of the applicant is to install a Package Treatment Plant compliant with BS EN 12566 serving the proposed property with a secondary, tertiary and quaternary treatment system. There are a number of Package Treatment Plants commercially available as presented in **Table 5.1**.

Table 5.1 – Analysis of PTP Systems Commercially Available

PTP System	Description	Phosphorus Removal Efficiency	Acceptability
Activated Sludge Process (ASP)	This usually consists of a primary aerobic settlement tank often called a biozone which contains microorganisms that break down the phosphorus, these are then transferred to an anaerobic zone where the bacteria settles to the bottom as a sludge which is pumped back into the first chamber.	40-55%	☑
Fixed Bed Reactor (FBR)	Similar to the ASP method, however, comprising of 3 zones: a primary settlement zone, a biozone and then a secondary settlement zone.	Similar to ASP (Circa 40-55%)	☑
Non-Electric Filter (NEF)	A settlement tank connected to a secondary tank containing a filter media which removes the phosphorus. Removal efficiencies can be high but	Can be as high as 87%	☑

	this system usually has a pumped element or deep outlet and the media needs to be replaced.		
Rotating Biological Contactor (RBC)	This is again similar to an ASP system; however the unit contains an innovative system of rotating biodiscs which oxygenate the bacteria in a similar way to an aerated system.	53-55%	☑
Sequencing Batch Reactor (SBR)	These are a more intensive evolution of the ASP system. They utilise an aeration system originating from the base, which not only activates the bacteria but helps to break up the solids, this is an EBPR (Enhanced Biological Phosphorus Removal) system which can yield very high phosphorus removal.	80-95%	☑
Submerged Aeration Filter (SAF)	This is similar to an FBR system; however, the media is loose in the biozone rather than dissolved.	Similar to ASP (Circa 50-55%)	☑
Chemical Dosing Solution	A system that causes the precipitation of phosphorus through coagulation with metallic salts, usually Aluminium or Iron based. This precipitation method yields very high removal efficiencies.	>95%.	☑*

**Providing long-term maintenance can be secured and it can be demonstrated that the proposed system shall not detrimentally effect the downstream environment.*

5.2. The PTP to be used is a Kingspan/Klargester Rotating Biological Contactor (RBC) with an iron based chemical dosing system (see **Appendix G**). This system is the only method of achieving nutrient neutrality and, as demonstrated in **Section 3**, can be maintained in perpetuity and shall not cause wider ecological issues through appropriate selection of dosing chemicals and through the incorporation of filter beds.

5.3. To ensure that the proposed treatment train will work effectively and will not cause pollution to the downstream water network the development must adequately demonstrate Nutrient Neutrality for a minimum of 80-125 years. This will be achieved by following the manufacturers maintenance recommendations for the PTP and the maintenance regime outlined in **Table 5.2** which complies with the recommendations of BRE GBG 42.

Table 5.2 – Maintenance regime for Filter beds.		
Task to be undertaken	**Filter bed applicability (Primary [PR]/Secondary [SD])**	**Frequency**
Weeding	PR + SD *(Although HF system can be controlled via the outlet)*	Weekly check and weed as appropriate.
Cutting of plants	PR + SD	Annually
General care of system	PR + SD	Regularly
Fence erection (where there will be adjacent livestock)	PR + SD	At establishment stage. Condition of fence to be regularly checked.
Emptying of Humus chamber	PR + SD	Regular checks and emptying once every three months.
Cleaning and checking distributor pipes	PR + SD	Regular checks and cleaning as appropriate.

5.4. The filter beds and P filter shall also be adopted by Albion Water who shall ensure that all necessary maintenance and weeding works shall take place. A copy of this report shall be forwarded to the Water Authority to ensure they understand the maintenance requirements.

5.5. The use of a Package Treatment Plant connection to an open watercourse is in broad compliance with the EA's General Binding Rules[16] as evidenced in **Table 5.3**; however, a permit will be required with the Environment Agency owing to the volume of water generated, this shall be progressed by the applicant/Albion Water:

Table 5.3 – EA General Binding Rules for discharged to Surface Water			
Rules	**Description**	**Site Condition**	**Compliance**
Rule 1	N/A	N/A	N/A
Rule 2	The discharge must be 5 cubic metres or less per day in volume.	The total daily discharge has been calculated using British Water Flows and Loads. The results for the proposed dwellings (assuming an occupancy of 5 persons per dwelling) will be approximately: 14.4m^3/day; however, this should be confirmed with the PTP manufacturer.	☒
Rule 3	The sewage must only be domestic.	Only domestic sewage shall be discharged.	☑
Rule 4	The discharge must not cause pollution of surface water or groundwater.	A high functioning PTP is to be installed.	☑

[16] EA – General binding rules: small sewage discharge to a surface water

Rule 5	N/A	N/A	N/A
Rule 6	The sewage must receive treatment from a sewage treatment plant.	A high functioning PTP is to be installed.	☑
Rule 7	N/A	N/A	N/A
Rule 8	For discharges in tidal waters, the discharge outlet must be below the mean spring low water mark.	The development is not within a tidal area.	☑
Rule 9	All works and equipment used for the treatment of sewage effluent and its discharge must comply with the relevant design and manufacturing standards i.e. the British Standard that was in force at the time of the installation, and guidance issued by the appropriate authority on the capacity and installation of the equipment.	The proposed PTP conforms to BS EN 12566-3.	☑
Rule 10	The system must be installed and operated in accordance with the manufacturer's specification.	The Kingspan/Klargester system can be custom fabricated to serve over 150 persons (see Klargester BF BioDisc).	☑
Rule 11	Maintenance must be undertaken by someone who is competent.	The system shall be maintained to the manufacturer's recommendations.	☑
Rule 12	Waste sludge from the system must be safely disposed of by an authorised person.	The system shall be emptied as per the manufacturer's instructions.	☑
Rule 13	If a property is sold, the operator must give the new operator a written notice stating that a small sewage discharge is being carried out and giving a description of the wastewater system and its maintenance requirements.	The system shall be adopted by Albion Water therefore such a requirement is not appropriate.	N/A

Rule 14	The operator must ensure the system is appropriately decommissioned where it ceases to be in operation so that there is no risk of pollutants or polluting matter entering groundwater, inland fresh waters or coastal waters.	The system shall be adopted by Albion Water therefore such a requirement is not appropriate.	N/A
Rule 15	For new discharges, the operator must ensure that the necessary planning and building control approvals for the treatment system are in place.	Planning approval is being sought. Building Control approval will be sought on receipt of planning approval.	☑
Rule 16	N/A	N/A	N/A
Rule 17	New discharges must not be in or within: 500 metres of a Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site, biological Site of Special Scientific Interest (SSSI), freshwater pearl mussel population, designated bathing water, or protected shellfish water; 200 metres of an aquatic local nature reserve; 50 metres of a chalk river or aquatic local wildlife site.	Investigation of the DEFRA Magic Map confirms that Tintinhull is not within 500m of a SSSI, SAC, SPA, Ramsar Site or Protected Freshwater area, the nearest of the designated features being the Ham Hill SSSI some 3.4km to the southeast.	☑
Rule 18	N/A	N/A	N/A
Rule 19	New discharges must be made to a watercourse that normally has flow throughout the year.	The watercourse is fed by a spring and takes runoff from the surrounding fields, hills and hardstanding and therefore has a regular but fluctuating flow.	☑
Rule 20	For new discharges, any partial drainage field must be installed within 10 metres of the	N/A	N/A

	bank side of the watercourse.		
Rule 21	New discharges must not be made to an enclosed lake or pond.	Discharge will be to a free flowing watercourse.	☑

Notes on Discharge to Ground

5.6. A discharge to ground has not been considered appropriate as a mitigation strategy owing to the impermeable nature of the underlying ground, owing to the number of properties considered and owing to the spatial restraints of using an infiltration system.

Further Off-site Mitigation

5.7. It is understood that Southwest and Taunton Council had instructed a Somerset wide Nutrient Strategy and that the former Somerset District Councils had sent letters to DEFRA and The Secretary of State for Housing, Community and Local Government asking for further clarification and confirmation on funding arrangements[17].

5.8. Correspondence previously received from South Somerset District Council announced the commencement of a non-governmental scheme by EnTrade, a commercial arm of Wessex Water. The scheme delivers mitigation solutions and is accredited by Natural England and the Environment Agency. EnTrade liaises with local landowners/farmers and through their platform offers developers the chance to pay for the change of use of selected land in order that mitigation measures can be provided. The platform operates on a credit based system, where those interested bid for the change of use to benefit their development.

5.9. Bidding for the EnTrade credits would allow Somerset Council to move applications that may be capable of resolution through delegated powers towards a “minded to” approve position such that if applicants wished to bid for the EnTrade credits Somerset Council could provide a letter of comfort that the phosphate credit now remains the only hurdle to securing permission.

5.10. As the applicant can achieve Nutrient Neutrality through the incorporation of an onsite treatment train, off-site mitigation options have not been considered further.

[17] Somerset Authorities Letter to DEFRA and HCLG - Natural England advice in relation to phosphates in the Somerset Levels and Moors Ramsar site (Link-to-source)

6. Conclusion

6.1. As can be seen in this report, the phosphorus arisings associated with the development have been extensively considered, along with off-site and on-site mitigation methods. The applicant shall install a chemically dosed Package Treatment Plant and filter system to significantly reduce the phosphorus arisings from the proposed dwellings. The applicant will introduce a robust onsite surface water treatment train to offset the increase in phosphorus generated by the increased number of properties. The applicant shall achieve Nutrient Neutrality through the proposals and therefore phosphorus arisings should not prevent planning permission being granted.

Table 6.1 – Pre and Post Mitigation Risk Assessment

Pre Mitigation Risk				
Risk	**Description**	**Probability**	**Severity**	**Action to minimise risk**
Pollution of downstream water bodies.	Phosphorus discharged from the development causing eutrophication downstream.	Looking at the hydraulic/ hydrological pathways, there is a medium likelihood of phosphorus contamination.	Arisings from the development will be moderate/high.	Provide mitigation measures either through site controls or phosphorus offsetting.
Post Mitigation Risk				
Risk	**Description**	**Probability**	**Severity**	**Action to minimise risk**
Pollution of downstream water bodies.	Phosphorus discharged from the development causing eutrophication downstream.	Looking at the hydraulic/ hydrological pathways, there is a medium likelihood of phosphorus contamination.	Arisings from the development will be reduced through the incorporation of a high-functioning PTP and offset through the incorporation of Sustainable Drainage Systems.	No further action required.
High		Medium		Low

Appendix A RH Phosphate Calculator Output Factsheet

(Press Alt + Left Arrow to return if using Hyperlinks)

Royal Haskoning DHV – Phosphorus Budget Calculator Factsheet	
Info	
Planning reference number	20/01678/REM
Site address	Land Adjacent Triways, Foldhill Lane, Martock, Somerset, TA12 6PG
Site proposals	Residential development of up to 24 dwellings.
Date	27/05/2023
Stage 1 - Calculate Total Phosphorus (TP) in (Kg/year) derived from the development as a result of increased population	
Stage 1a – Proposed dwellings	
Number of houses proposed	24
Is sewage to be handled by Package Treatment plants?	Yes
Receiving PTP reduction efficiency	98.7
Total phosphorus load from additional population	0.69kg/year
Stage 1b – Primary Filter Bed	
Number of houses proposed	0.29 (To represent an influent load of 0.69kg/year)
Is sewage to be handled by Package Treatment plants?	Yes
Receiving PTP reduction efficiency	40%
Total phosphorus load from additional population	0.41kg/year
Stage 1c – Secondary Filter Bed	
Number of houses proposed	0.172 (To represent an influent load of 0.41kg/year)
Is sewage to be handled by Package Treatment plants?	Yes
Receiving PTP reduction efficiency	40%
Total phosphorus load from additional population	0.25kg/year
Stage 1d – P Filter	
Number of houses proposed	0.105 (To represent an influent load of 0.25kg/year)
Is sewage to be handled by Package Treatment plants?	Yes
Receiving PTP reduction efficiency	44%
Total phosphorus load from additional population	0.14kg/year
Stage 2 – Calculate existing (pre-development) TP from current land use of the development	
Is the soil type free draining?	No
Identified land use	1.560 – Cropping
TP Load from current land use	0.99kg/year

Stage 3 – Calculate TP for the proposed development			
Identify proposed land uses of the development site	0.920 – Urban (1.560 factored by 59%)		
TP load from proposed land usage	0.76kg/year		
Stage 4 – Calculate the net change in phosphorus load from the proposed development			
Total Phosphorus budget for the site	Current Permit Limits: -0.09kg/year AMP7 Permit Limits: -0.09kg/year		
Current WwTW Permit levels	Development will be Phosphorous neutral - no mitigation will be required		
AMP7 WwTW Permit levels	Development will be Phosphorous neutral - no mitigation will be required		
Stage 5 – Calculate the current TP banking for the proposed development			
Off-site mitigation	N/A		
Is the soil type free draining?	N/A		
Specific land use of off-site mitigation area	N/A		
Off-site mitigation land runoff coefficient	N/A		
Banking coefficient	N/A		
Identify proposed land uses for mitigation	N/A		
Stage 6 – Calculate the AMP7 TP banking for the proposed development			
Off-site mitigation	N/A		
Is the soil type free draining?	N/A		
Specific land use of off-site mitigation area	N/A		
Off-site mitigation land runoff coefficient	N/A		
Banking coefficient	N/A		
Identify proposed land uses for mitigation	N/A		
Stage 7 – Difference in mitigation land uses between current WwTW permit limits and AMP7 WwTW permit limits			
Total Area of proposed mitigation land uses	Current WwTW	AMP7 WwTW	Difference
	N/A	N/A	N/A
Sum total area needed to be created	N/A	N/A	N/A
Key			
User Input	Automated Input	Displayed Return	

Appendix B Primary Filter Bed RH Phosphate Calculator Direct Output

(Press Alt + Left Arrow to return if using Hyperlinks)

Stage 1 — Calculate Total Phosphorous (TP) in (Kg/year) derived from the development as a result of increased population

*Note: This calculation should only include the **additional** units resulting from the proposed development, including any development that will result in overnight accommodation. For land not currently in residential use, this will be the total units proposed by the development. However, for land already in residential use, this should only be the increase in units.*

1. Calculate the additional population

	Value	Unit
Number of units as flats, care-home, residential institution proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of houses proposed	0.29	dwellings
Average occupancy	2.4	persons/dwelling
Number of **additional** rooms above 6 residents (sui generis) for houses in multiple occupation		dwellings
Average occupancy	1.65	persons/dwelling
Number of rooms in a hotel or guest house proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of weeks open per year (1-52)		Weeks
Average occupancy rate (1-100)		%
Total population increase generated by the development	**1**	**Persons**

Note: The national average occupancy rate of 2.4 persons per dwelling is used for in this model. The number of proposed units should be evidenced. In the case of hotel and guest house average occupancy rates should also be evidenced. Developments that do not fall within these classifications such contact the council and bespoke calculations may be used.

Please select how the sewage from the proposed development will be handled, noting that a development must be handled by either wastewater treatment plants or package treatment, and cannot be handled by both.

Is sewage to be handled by wastewater treatment works? **No**

Is sewage to be handled by Package Treatment plants? **Yes**

2a. TP budget that would exit the Wastewater Treatment Works (WwTW) after treatment

Note: If the sewage is to be treated by wastewater treatment plants then the user should select "Yes" in the list above. If package treatment plants are to be used instead, then the user should select "No" above.

This is the process of collecting wastewater from houses and guiding it, via the sewage network, to WwTW (also known as sewage works). The Phosphorous concentration of the influent is calculated by multiplying the number of people by the expected water usage per day. The Phosphorous concentration within the effluent is calculated by applying the discharge level of the appropriate WwTW. The Phosphorous loading is expressed in kg/year.

Calculate the wastewater volume generated	Value	Unit
Total population increase generated by the development	0	Persons
Water use per person	110	Litres/person/day
Wastewater volume generated by the development	**0**	**Litres/day**

Confirm receiving WwTW and permit limit	Value	Unit

2b. TP budget for Package Treatment Plants (PTPs)

Note: If the sewage is to be treated by package treatment plants then the user should select "Yes" in the list above. If wastewater treatment plants are to be used instead, then the user should select "No" above.

Packaged wastewater treatment plants are pre-manufactured treatment facilities used to treat wastewater in smaller communities or on individual properties. This concept is defined as decentralized wastewater treatment. The Phosphorous influent is calculated by multiplying the number of people by the expected loading per person. The Phosphorous effluent is calculated by applying the PTP reduction efficiency. The Phosphorous loading is expressed in kg/year.

Calculate TP load prior to treatment	Value	Unit
Total population increase generated by the development	1	Persons
Average Phosphorous loading per person	0.99	Kg/person/year
Total Phosphorous prior to treatment	**0.69**	**Kg/year**

Calculate TP load after treatment	Value	Unit

Select the WwTW the development will connect to	Adscombe	
WwTW discharge level	**5.00**	**mg/L**

Note: Please use the drop down lists to select the WwTW that the proposed development will be connected to. If the WwTW is not known, then please select 'Unknown' from the drop down list.

Calculate the TP discharged by the WwTW	Value	Unit
TP discharged by WwTW	0	mg/day
TP discharged by WwTW	0.0000	Kg/day
Phosphorous loading from WwTW	**0.00**	**Kg/year**

Receiving PTP reduction efficiency	40	%
Total Phosphorous discharge after PTP treatment	0.41	Kg/year

Note: The user mist input the reduction efficiency of the PTP. The efficiency of the PTP used must be evidenced. The evidence should include the test result documents from the lab (in English) and/ or measured effluent concentrations from real world applications. If the efficiency is unknown then a precautionary value of 90% can be used.

Calculate TP load from development wastewater with on-site PTP	Value	Unit
PTP Total Phosphorous load	**0.41**	**Kg/year**

3. Calculate the additional population TP load	Value	Unit
Total Phosphorous load from additional population	**0.41**	**Kg/year**

Appendix C Secondary Filter Bed RH Phosphate Calculator Direct Output

(Press Alt + Left Arrow to return if using Hyperlinks)

Stage 1 — Calculate Total Phosphorous (TP) in (Kg/year) derived from the development as a result of increased population

*Note: This calculation should only include the **additional** units resulting from the proposed development, including any development that will result in overnight accommodation. For land not currently in residential use, this will be the total units proposed by the development. However, for land already in residential use, this should only be the increase in units.*

1. Calculate the additional population

	Value	Unit
Number of units as flats, care-home, residential institution proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of houses proposed	0.172	dwellings
Average occupancy	2.4	persons/dwelling
Number of **additional** rooms above 6 residents (sui generis) for houses in multiple occupation		dwellings
Average occupancy	1.65	persons/dwelling
Number of rooms in a hotel or guest house proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of weeks open per year (1-52)		Weeks
Average occupancy rate (1-100)		%
Total population increase generated by the development	**0**	**Persons**

Note: The national average occupancy rate of 2.4 persons per dwelling is used for in this model. The number of proposed units should be evidenced. In the case of hotel and guest house average occupancy rates should also be evidenced. Developments that do not fall within these classifications such contact the council and bespoke calculations may be used.

Please select how the sewage from the proposed development will be handled, noting that a development must be handled by either wastewater treatment plants or package treatment, and cannot be handled by both.

Is sewage to be handled by wastewater treatment works? **No**

Is sewage to be handled by Package Treatment plants? **Yes**

2a. TP budget that would exit the Wastewater Treatment Works (WwTW) after treatment

Note: If the sewage is to be treated by wastewater treatment plants then the user should select "Yes" in the list above. If package treatment plants are to be used instead, then the user should select "No" above.

This is the process of collecting wastewater from houses and guiding it, via the sewage network, to WwTW (also known as sewage works). The Phosphorous concentration of the influent is calculated by multiplying the number of people by the expected water usage per day. The Phosphorous concentration within the effluent is calculated by applying the discharge level of the appropriate WwTW. The Phosphorous loading is expressed in kg/year.

Calculate the wastewater volume generated	Value	Unit
Total population increase generated by the development	0	Persons
Water use per person	110	Litres/person/day
Wastewater volume generated by the development	**0**	**Litres/day**

Confirm receiving WwTW and permit limit	Value	Unit

2b. TP budget for Package Treatment Plants (PTPs)

Note: If the sewage is to be treated by package treatment plants then the user should select "Yes" in the list above. If wastewater treatment plants are to be used instead, then the user should select "No" above.

Packaged wastewater treatment plants are pre-manufactured treatment facilities used to treat wastewater in smaller communities or on individual properties. This concept is defined as decentralized wastewater treatment. The Phosphorous influent is calculated by multiplying the number of people by the expected loading per person. The Phosphorous effluent is calculated by applying the PTP reduction efficiency. The Phosphorous loading is expressed in kg/year.

Calculate TP load prior to treatment	Value	Unit
Total population increase generated by the development	0	Persons
Average Phosphorous loading per person	0.99	Kg/person/year
Total Phosphorous prior to treatment	**0.41**	**Kg/year**

Calculate TP load after treatment	Value	Unit

Select the WwTW the development will connect to	Adscombe	
WwTW discharge level	**5.00**	**mg/L**

Note: Please use the drop down lists to select the WwTW that the proposed development will be connected to. If the WwTW is not known, then please select 'Unknown' from the drop down list.

Calculate the TP discharged by the WwTW	Value	Unit
TP discharged by WwTW	0	mg/day
TP discharged by WwTW	0.0000	Kg/day
Phosphorous loading from WwTW	**0.00**	**Kg/year**

Receiving PTP reduction efficiency	40	%
Total Phosphorous discharge after PTP treatment	0.25	Kg/year

Note: The user mist input the reduction efficiency of the PTP. The efficiency of the PTP used must be evidenced. The evidence should include the test result documents from the lab (in English) and/ or measured effluent concentrations from real world applications. If the efficiency is unknown then a precautionary value of 90% can be used.

Calculate TP load from development wastewater with on-site PTP	Value	Unit
PTP Total Phosphorous load	**0.25**	**Kg/year**

3. Calculate the additional population TP load	Value	Unit
Total Phosphorous load from additional population	**0.25**	**Kg/year**

Appendix D P Filter RH Phosphate Calculator Direct Output

(Press Alt + Left Arrow to return if using Hyperlinks)

Stage 1 — Calculate Total Phosphorous (TP) in (Kg/year) derived from the development as a result of increased population

*Note: This calculation should only include the **additional** units resulting from the proposed development, including any development that will result in overnight accommodation. For land not currently in residential use, this will be the total units proposed by the development. However, for land already in residential use, this should only be the increase in units.*

1. Calculate the additional population

	Value	Unit
Number of units as flats, care-home, residential institution proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of houses proposed	0.105	dwellings
Average occupancy	2.4	persons/dwelling
Number of **additional** rooms above 6 residents (sui generis) for houses in multiple occupation		dwellings
Average occupancy	1.65	persons/dwelling
Number of rooms in a hotel or guest house proposed		dwellings
Average occupancy	1.65	persons/dwelling
Number of weeks open per year (1-52)		Weeks
Average occupancy rate (1-100)		%
Total population increase generated by the development	**0**	**Persons**

Note: The national average occupancy rate of 2.4 persons per dwelling is used for in this model. The number of proposed units should be evidenced. In the case of hotel and guest house average occupancy rates should also be evidenced. Developments that do not fall within these classifications such contact the council and bespoke calculations may be used.

Please select how the sewage from the proposed development will be handled, noting that a development must be handled by either wastewater treatment plants or package treatment, and cannot be handled by both.

Is sewage to be handled by wastewater treatment works? **No**

Is sewage to be handled by Package Treatment plants? **Yes**

2a. TP budget that would exit the Wastewater Treatment Works (WwTW) after treatment

Note: If the sewage is to be treated by wastewater treatment plants then the user should select "Yes" in the list above. If package treatment plants are to be used instead, then the user should select "No" above.

This is the process of collecting wastewater from houses and guiding it, via the sewage network, to WwTW (also known as sewage works). The Phosphorous concentration of the influent is calculated by multiplying the number of people by the expected water usage per day. The Phosphorous concentration within the effluent is calculated by applying the discharge level of the appropriate WwTW. The Phosphorous loading is expressed in kg/year.

Calculate the wastewater volume generated	Value	Unit
Total population increase generated by the development	0	Persons
Water use per person	110	Litres/person/day
Wastewater volume generated by the development	**0**	**Litres/day**

Confirm receiving WwTW and permit limit	Value	Unit
Select the WwTW the development will connect to	Adscombe	

2b. TP budget for Package Treatment Plants (PTPs)

Note: If the sewage is to be treated by package treatment plants then the user should select "Yes" in the list above. If wastewater treatment plants are to be used instead, then the user should select "No" above.

Packaged wastewater treatment plants are pre-manufactured treatment facilities used to treat wastewater in smaller communities or on individual properties. This concept is defined as decentralized wastewater treatment. The Phosphorous influent is calculated by multiplying the number of people by the expected loading per person. The Phosphorous effluent is calculated by applying the PTP reduction efficiency. The Phosphorous loading is expressed in kg/year.

Calculate TP load prior to treatment	Value	Unit
Total population increase generated by the development	0	Persons
Average Phosphorous loading per person	0.99	Kg/person/year
Total Phosphorous prior to treatment	**0.25**	**Kg/year**

Calculate TP load after treatment	Value	Unit
Receiving PTP reduction efficiency	44	%

WwTW discharge level	**5.00**	**mg/L**

Note: Please use the drop down lists to select the WwTW that the proposed development will be connected to. If the WwTW is not known, then please select 'Unknown' from the drop down list.

Calculate the TP discharged by the WwTW	Value	Unit
TP discharged by WwTW	0	mg/day
TP discharged by WwTW	0.0000	Kg/day
Phosphorous loading from WwTW	**0.00**	**Kg/year**

Total Phosphorous discharge after PTP treatment	0.14	Kg/year

Note: The user mist input the reduction efficiency of the PTP. The efficiency of the PTP used must be evidenced. The evidence should include the test result documents from the lab (in English) and/ or measured effluent concentrations from real world applications. If the efficiency is unknown then a precautionary value of 90% can be used.

Calculate TP load from development wastewater with on-site PTP	Value	Unit
PTP Total Phosphorous load	**0.14**	**Kg/year**

3. Calculate the additional population TP load	Value	Unit
Total Phosphorous load from additional population	**0.14**	**Kg/year**

Stage 2 Calculate existing (pre-development) TP from current land use of the development

Note: Where development sites include existing areas that are to be retained, these areas can be excluded from the calculations in both Stages 2 and 3.

1.	Total area of development site	Value	Unit
	Enter the total area of the development site	**1.560**	**Hectares**

2.	Identify current land uses of the development site	Value	Unit
	Identify the drainage type of the soil on site		
	Is the soil type free draining?	No	

Note: Identify the soil drainage type from the Viewer, and use the criteria table in the Help tab to identify if the soil is either permeable or impermeable

Urban development		Hectares
Mineral workings and quarries		Hectares
Open space / Greenfield		Hectares
Allotments and city farms		Hectares
Sports and leisure facilities		Hectares
Transport tracks and ways		Hectares
Transport terminals		Hectares
Cereals		Hectares
Dairy		Hectares
Cropping	1.560	Hectares
Horticulture		Hectares
Pig Farming		Hectares
Lowland Grazing / paddock		Hectares
Mixed livestock		Hectares
Poultry Farming		Hectares
General Arable		Hectares
Improved grass		Hectares
Unimproved grass		Hectares
Woodland (e.g. conifer, mixed, broad-leaved)		Hectares
shrub / heathland / bracken / bog		Hectares
freshwater marsh		Hectares
Meadow / semi natural grassland		Hectares
Sum total of land uses	**1.560**	**Hectares**

Note: The sum total of land uses must equal the development site area - the box will colour red if the areas do not match.

3.	Calculate TP from current land usage	Value	Unit
	TP load from current land usage	**0.99**	**Kg/year**

Stage 3 — Calculate TP for the proposed development

Note: This section should include all land uses within the proposed development. Where the proposed scheme is to create new wetlands, woodlands, nature reserves, etc. within the development site area, then this should be included within this section. Any offsite mitigation, proposed by either the developer or the Council should not be included below, and should instead be inputted in Stage 5 (if mitigation is required).

1. Total area of development site	Value	Unit
Total area of the development site	**1.560**	**Hectares**

2. Identify proposed land uses of the development site	Value	Unit
Urban development	0.920	Hectares
Open Space / Greenfield		Hectares
Woodland		Hectares
Nature reserve		Hectares
Heathland / Bog		Hectares
Allotment		Hectares
Meadow/semi-natural grassland		Hectares
Sports and Leisure facilities		Hectares

Note: The sum total of land uses must equal the development site area inputted in stage 1 - the box will colour red if the areas do not match. Wetland refers to specific wetland off a watercourse - for more information refer to the land use definitions in the help tab.

3. Designed Wetlands / SuDS		
Wetland / SuDS area		Hectares
Banking coefficient		Kg/ha/year

Note: Please input the banking coefficient calculated for the designed wetland / SuDS. The calculated value should be justifiable.

Sum total of land uses	**0.920**	**Hectares**

4. Calculate TP from proposed land usage	Value	Unit
TP load from proposed land usage	**0.76**	**Kg/year**

5. Calculation of gross P loading	Value	Unit
Gross TP load from current and proposed land usage	**-0.09**	**Kg/year**

Note: this step is for illustrative purposes when iteratively creating mitigation land on-site

Stage 4 **Calculate the net change in Phosphorous load from the proposed development**

Note: This stage calculates the net change in total phosphorous load to the catchment from the proposed development. This is derived by calculating the difference between the total phosphorous load calculated for the proposed development (wastewater, urban area, open space etc.) and that for the existing land uses. The phosphorous budget for the site has been calculated under current and AMP7 WwTW permit levels.

		Current	AMP7		Summary	
					No. of dwellings	0.105
1.	Identify the Phosphorous load from additional population	Value	Value	Unit	PTP efficiency (%)	44
	Phosphorous loading from additional population	**0.14**	**0.14**	**Kg/year**		
2.	Calculate net change in Phosphorous load from land use change	Value	Value	Unit	TP current land use	0.99
	Phosphorous load from land use change	**-0.23**	**-0.23**	**Kg/year**	TP proposed land use	0.76
3.	Calculate phosphorous budget for the development site	Value	Value	Unit		
	Phosphorous budget for the site	**-0.09**	**-0.09**	**Kg/year**		
4.	Calculate phosphorous budget precautionary buffer	Value	Value	Unit		
	Buffer amount	20	20	%		
	Phosphorous precautionary buffer	**0.00**	**0.00**	**Kg/year**		

Note: The figures used throughout this model are based on scientific research, evidence and modelled catchments and represent the best available evidence. However, it is important that a precautionary buffer is used that recognises the uncertainty with these figures and ensures, with reasonable certainty, that there will be no adverse effect on site integrity. As such, a 20% precautionary buffer is built into the calculation.

5.	**Total phosphorous budget for the development site**	Value	Value	Unit
	Total Phosphorous budget for the site	**-0.09**	**-0.09**	**Kg/year**

Current WwTW Permit levels

Development will be Phosphorous neutral - no mitigation will be required

AMP7 WwTW Permit levels

Development will be Phosphorous neutral - no mitigation will be required

Appendix E Proposed Site Plan

(Press Alt + Left Arrow to return if using Hyperlinks)

ACCOMMODATION SCHEDULE				
	l-louse/Floi type	Intemol lt00< area (m l	h11emol floor area lf)	House/Fla1
I.	3 Bed / 5 Permn	B6m	925fl	House
2	2 Bed f 4 Person	76m2	BIBfl	House
	2 Bed / A Per.on	7'm'	8HIfl	Hou;c
4.	3 Bed / 5 Person	a;im	956f	El-ungolow
S .	-3 Bed / S Pe o-n	8:i'M	956P	Elvngolow
	-3 Bed / 5 Person	89ml	956P	Elungalow
7.	3 Bed _/ 5 Person	8'm'	956f'	Sungolow
	3Ao'!d / S Pt'!r'l";M	Som'	92Sfl	Hou>e
	3 tied / :i l'erson	86m'	92Sf'	HOU'i0
10.	3 9-ed / 5 Person	8)lm	9561'	ei,.mgolcw
II.	39-ed / Pen:on	-69m'	956P	Elvngalow
12.	-3131;d / 5 Person	86m'	925f'	HouJe
ll	2 eed / 4 F'erson	71im	81flf'	House
14.	2 ll-eo 1-1 Person	76M'	BU:W	House
IS.	2 8-ed / al Person		818P	Hous,e
16	3 Bed / .S Person	86m'	925P	House
17	3 Bed IS Pel':!;o-n	86m'	925f'	Hoose
18	3 Beel / 5 Person	B6m?	925-fl	House
19	3 e.roo (Per:;r.,1l	,66111"	?25f'	Hm..1-.
20.	3 B.ed I 5 Per.on	-66m'	9251'	House
21.	2 Bed I 4 Person	76m'	818P	House
22.	2 Bed / A Per.on	7'm'	818fl	Hou;e
23.	2 Bed I 4 Person	76m	818f	House
2◄.	-3 eed I 4 l'er-30-n	10911-,?	1173,Jf'	Pcl'lo.irHowe

Total24				
e rfo.	2 El,ed {,j Person	76m'	a1er	House
9 No.	3 Bed / 5 Person	86m'	92sr	House
6 NO.	3Bed/ 5Pmon	6Ym'	956f'	Eh.tngolow
I No.	4 8.12d / l Person	109trl1	1173.31'<	Poi1our Hout

Rev	Date	Description	Drn
A	129.09.20	Trees and Hedge Removed	GM

boon brown

Motivo Alvington Yeovil Somer et BA20 2FG
Tintogel House 92 Albert Embankment London SEI 7TY
T: 01935 420803
T: 0207 4989158
F: 01935 475466
W: www.boonbrown.com
E: info@boonbrown.com

Project

Proposed Development at land off
Foldhill Lane, Martock

Client

Stonewater

Drawing Title

Site Pion

Scale	I :500@ Al	Date	02/06/20
Drawn	LE	CHKD	GM
DWG No.	4110-BB -XX -00 -DR-A-002	Rev.	A

Appendix F Drainage Layout

(Press Alt + Left Arrow to return if using Hyperlinks)

General Notes

1. This drawing is for planning purposes only and cannot be relied upon as construction information. Detailed levels information will be required for construction drawings.
2. Actual levels on-site will vary and will need further investigation. Slab and Spot levels shown on this layout are indicative and act as a minimum level in relation to adjacent spot levels.
3. All installed pipework and drainage infrastructure must be installed inline with the relevant Approved Document and British Standard to the satisfactions of the Building Control Officer and any other relevant inspector.

Key

- Proposed Foul Water Sewer
- Proposed 450mm Plastic Inspection Chamber
- Proposed 900x1200mm Brick Built or PCC Chamber
- Proposed Headwall
- Proposed Package Treatment Plant
- Existing Indicative Watercourse Location
- Lined French Drain/Filter Trench

Drawing Reference Table

1102	Filter Bed Construction Detailing
4110-BB-XX...A-002	Proposed Site Plan

Indicative outfall to watercourse.

Proposed Treatment Pond.

0.6m deep P filter acting as a quaternary treatment measure.

Filter Drains to make a connection to proposed swale/pond.

Proposed Inlet Swale.

Outlet chamber for horizontal filter bed with variable outlet.

0.6m deep Horizontal filter bed acting as a tertiary treatment measure.

Intermediary square humus tank to allow for incoming sediment deposition.

1m deep Vertical filter bed acting as a secondary treatment measure.

Kingspan/Klargester BioDisc chemically dosed Package Treatment Plant

SHARED SURFACE ROAD

ADOPTABLE ROAD

FOOTPATH LINK

N W E S

REV	REVISION DETAILS	DATE	INITIAL
1.1	First Issue.	27.05.2023	ZS

EnvirEn

Foldhill Lane, Martock

Foul Drainage Strategy Plan

PLANNING

ZS Drawn By

1:200 Drawing Scale

27.05.2023 First Issued

230067-1101 Drawing No.

1.1 Revision Letter

A1

Appendix G PTP Performance Certificate

(Press Alt + Left Arrow to return if using Hyperlinks)

Certificate

353.02(02

Kingspan Water & Energy Ltd.
College Road North, Aston Clinton, Aylesbury, HP22 5EW, UK

EN 12566-3, Annex 8
Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system BioDisc +P
Rotating Biological Contactor (RBC) in a GRP tank with chemical dosing equipment

Test report PIA2019-353B47.02
This te sJ ce[.tiiic ate is a e evise.d \lers Lon of 1e S.u;.fil"tificate no , 3 5.3,02C01.

Nominal organic daily load (influent)	0.28 kg BODs/d		
Nominal hydraulic daily load	0.9 m³/d		
Material	GRP		
Treatment efficiency		Efficiency	Effluent
(nominal sequences)	COD	95.9 %	31 mg/l
	BODs	98.0 %	6 mg/l
	Ntot'	71.1 %	17.9 mg/l
	NH4-N*	92.1 %	3.0 mg/l
	Ptot	95.4 %	0.3 mg/l
	SS	95.6 %	15 mg/l
Electrical consumption	1.5 kWh/d		

**determined for temperatures ?: 12° C in the bioreactor*

Performance tested by:

PIA - Prufinstitut fur Abwassertechnik GmbH
Hergenrather Weg 30
52074 Aachen
Germany

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

S'"s ainable Ce rt,';r,-

Notified Body No.. 1739

((DAkkS QeulSch, Akkreditierungsstelfe O-Pt.-17712-01-00

'9e,o,,-. ,,I :I·
Uft - testeo·

Martina Wermter December 2020

Appendix H Generic Albion Water Adoption Confirmation

(Press Alt + Left Arrow to return if using Hyperlinks)

Clearwater House
Castle Mills
Biddisham
Somerset BS26 2RE

T 01934 751303

www.albionwater.co.uk

14th April 2023

[redacted]

Agreement to adopt in principle – [redacted]

Dear [redacted]

Thank you for taking the time to share the detail of the above development regards the provision of water and wastewater services with our Technical Director, Ian May.

I am pleased to advise that we are able to agree to the adoption of this site in principle.

Final agreement will be dependent on the following;

- Overview and acceptance of the water/wastewater infrastructure design
- Consultation on the waste treatment plant to ensure compliance with current environmental standards and requirements
- Infrastructure installation to agreed technical and industry quality standards
- Installation of waste treatment plant to manufacturers specifications
- Manufacturers certification on performance to required standard.
- Subject to final inspections
- Access to a watercourse
- Subject to EA permissions to discharge to the watercourse.

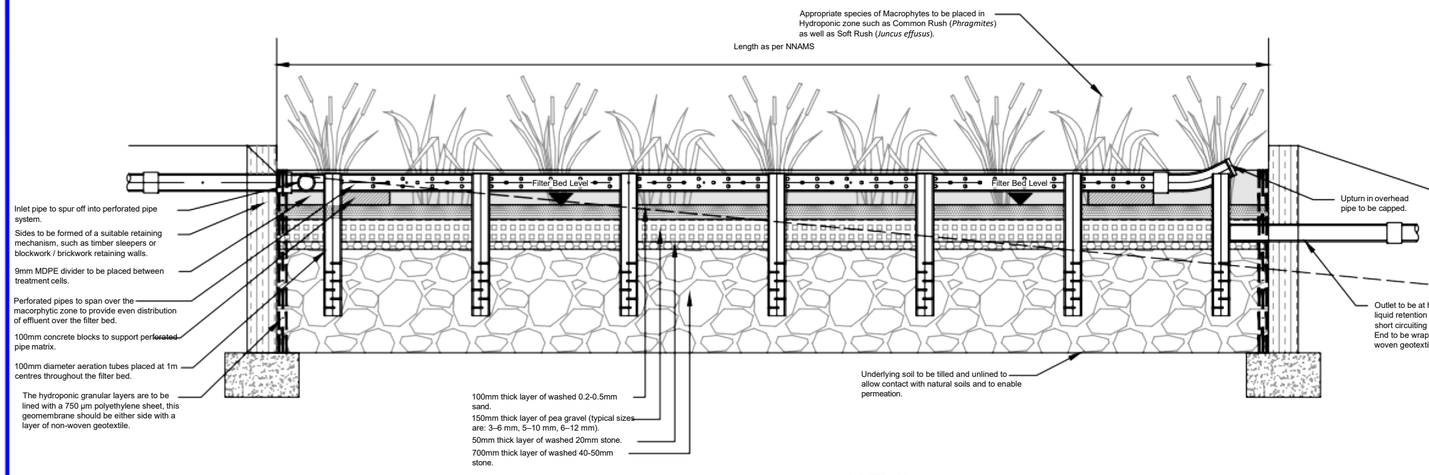
Yours sincerely

Kim

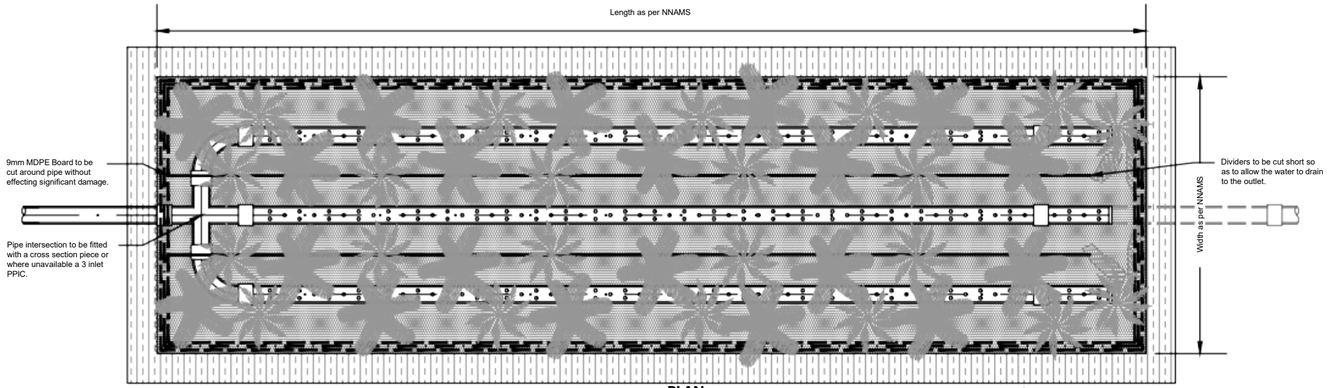
Kim Trowbridge
Client Service Director
on behalf of
Albion Water Ltd

Appendix I Filter Bed Construction Detailing

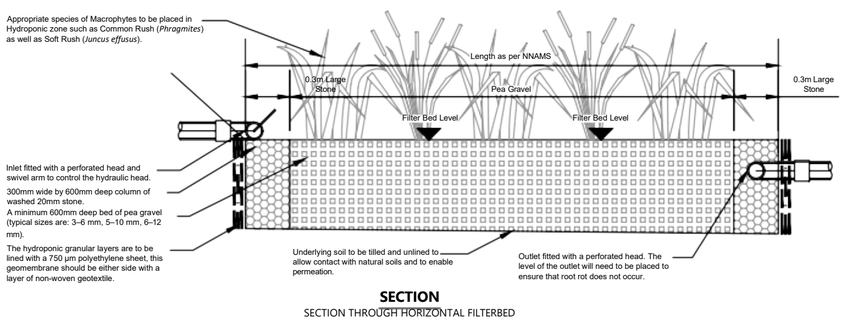
(Press Alt + Left Arrow to return if using Hyperlinks)



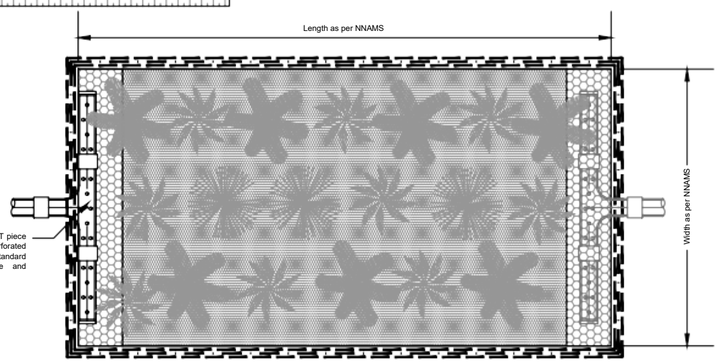
SECTION
SECTION THROUGH VERTICAL FILTERBED



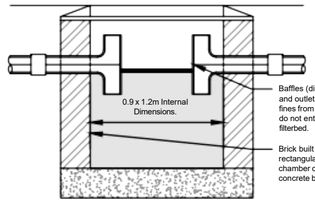
PLAN
PLAN VIEW OF VERTICAL FILTERBED



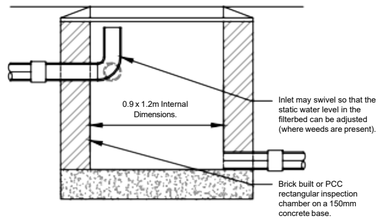
SECTION
SECTION THROUGH HORIZONTAL FILTERBED



PLAN
PLAN VIEW OF HORIZONTAL FILTERBED



DETAIL
DETAILED SECTION OF INTERMEDIARY HUMUS CHAMBER



DETAIL
DETAILED SECTION OF OUTLET CHAMBER DOWNSTREAM OF THE HORIZONTAL FILTERBED

DETAIL
DETAILED SECTION OF P FILTER

A

General Notes

1. This drawing is for planning purposes only and cannot be relied upon as construction information. Detailed levels information will be required for construction drawings.
2. All installed pipework and drainage infrastructure must be installed inline with the relevant Approved Document and British Standard to the satisfactions of the Building Control Officer and any other relevant inspector.

Drawing Reference Table

1101	Foul Drainage Strategy Plan
4162-BB-SP...A-002	Proposed Site Plan

REV	REVISION DETAILS	DATE	INITIAL
1.1	First Issue.	27.05.2023	ZS

EnvirEn

Foldhill Lane,
Martock

Filter Bed Construction Detailing

PLANNING	Drawn by: Z
Drawing Scale: NTS	First Issued: 27.05.2023
Drawing No.: 230067-1102	Revision Letter: 1.1

Appendix J Regional Background and Context

(Press Alt + Left Arrow to return if using Hyperlinks)

Following the ruling on the "Dutch N" (Case C-293/17 and C-294/17)[18] in November 2018 through the Court of Justice of the European Union (CJEU), as well as several other lower profile cases in Ireland, Natural England wrote a letter[19] to the Somerset Councils in August 2020 identifying unacceptable phosphate levels within the waterways of the Somerset Levels and Moors Ramsar Site and requested greater scrutiny of planning applications going forward which would increase nutrient loads into the water system[20], resulting in the Protected Area (SAC, SPA or Ramsar Site) reaching a point where the ability to return the site to favourable conditions would be compromised or necessarily limit the conservation objectives of the area.

Current P Levels are three times higher than the Water Framework Directive (WFD) limit (100 micrograms (µg) per litre) leading multiple District Councils in Somerset to declare an Ecological Emergency. Mitigation measures are to be put in place that would result in "Nutrient Neutrality".

As identified the site benefits from a pathway into the River Parrett which is hydraulically connected to the Somerset Levels and Moors, this area is protected as an SPA (Special Protection Area) under the Habitat Regulations 2017, as well as being listed as a Ramsar Site (RS) under the Ramsar Convention (effective from December 1975[21]), the Ramsar Convention being an International, intergovernmental treaty, provides a framework for cooperation and national action for the proper use and conservation of wetlands and their resources, this is ratified by UK planning law under paragraph 176 of the NPPF[22]. The SPA and RS cover roughly the same area, however the SPA particularly pertains to the conservation of wildfowl, whereas the Ramsar protection covers the wetlands as well as the biodiversity in the contributing rhynes, ditches and waterways, including the floristic and invertebrate diversity. This is shared as a Designated Feature underpinning Sites of Special Scientific Interest (SSSI).

[18] C-293/17 - Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu (Link-to-source)
[19] Natural England Letter to Somerset Councils - Matters regarding development in relation to the Somerset Levels and Moors Ramsar Site (Link-to-source)
[20] Reg. 63 of the Habitats Regulations 2017.
[21] Ramsar Convention 1971 - Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Link-to-source)
[22] NPPF – UK Government National Planning Policy Framework (Link-to-source)

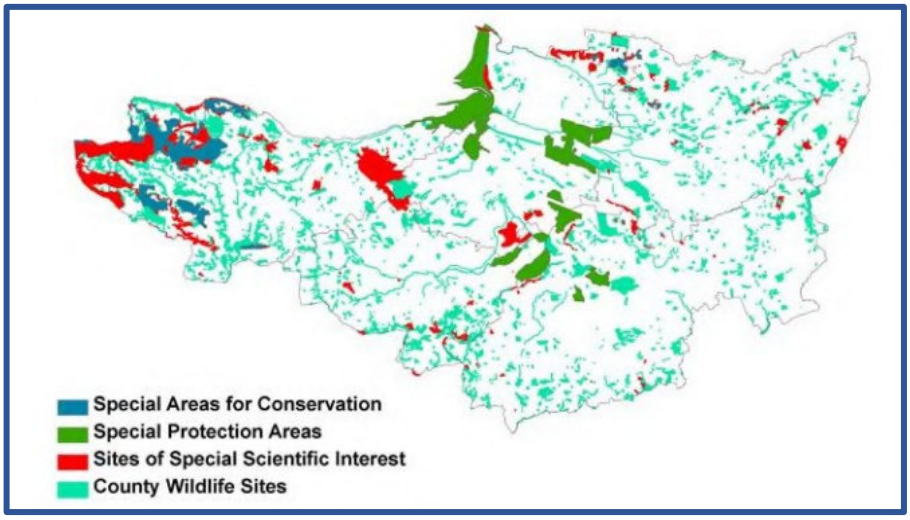


Figure J.1 – Sites of recognised Wildlife Value in Somerset[23].

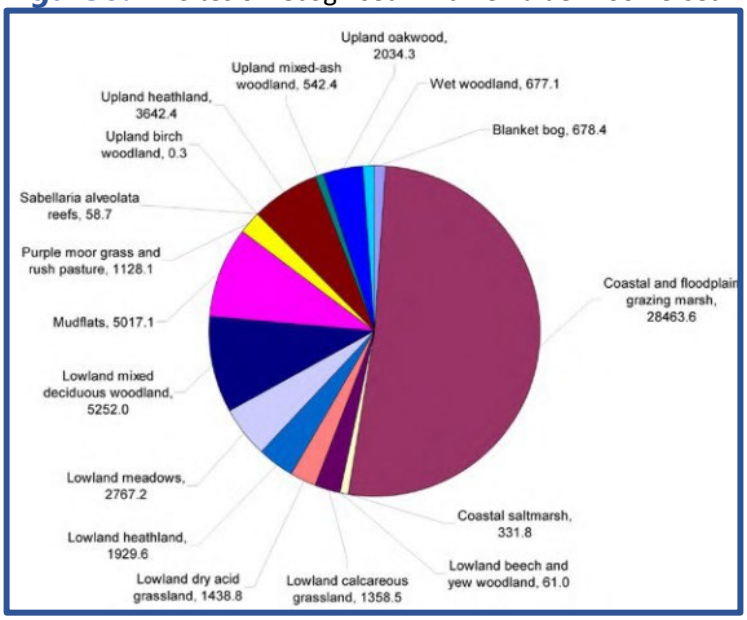


Figure J.2 – UK Priority Habitats in Somerset (Hectares)[12].

Figure J.3 – *Species of Somerset waterways. From left to right: Hairy Click Beetle, White-clawed Crayfish, Large Red Damselfly.*

[23] Wild Somerset - The Somerset Biodiversity Strategy 2008 – 2018 (Link-to-source)

Appendix K Nutrient Neutrality Underlying Science

(Press Alt + Left Arrow to return if using Hyperlinks)

Phosphorus is an essential nutrient for the continued and healthy growth of Flora, including crops, garden plants and flowers. Phosphates provide the sugar-phosphate backbone for DNA and RNA and therefore are essential for reproduction, they also are essential for photosynthesis and are required for energy transfer in cells, forming an integral part of ATP (Adenosine Triphosphate) and ADP (Adenosine Diphosphate).

Phosphorus is contained in large concentrations in NPK fertilisers used by farmers to ensure high crop yields and healthy plant growth, compensating for the loss of soil productivity associated with modern agricultural practises and the relative loss of the O-Horizon[24]. The relative lack of naturally occurring phosphorus and the disruption in the natural phosphorus cycle require phosphorus to be extracted from raw phosphate rock (a finite resource), this disturbs the natural balance of the region and often leads to nutrient pollution[25]. Beyond the cultivation of crops, phosphates are found further down the supply chain in commercial waste associated with food production and processing. They are also useful additives in household detergents as they chelate calcium and magnesium ions preventing the deposition of limescale[26], however the principal share of domestic phosphorus output comes from human waste as can be seen in **Figure K.1**.

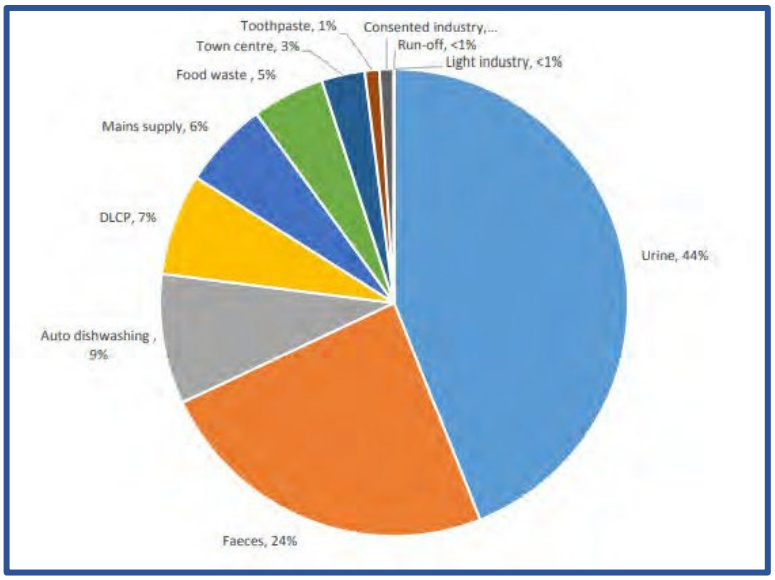


Figure K.1 – Breakdown of Phosphorus Arisings from Domestic Sources[27].

[24] O-Horizon – Britannica (Link-to-source)
[25] Environment Agency - Phosphorous and Freshwater Eutrophication Pressure Narrative (Link-to-source)
[26] European Commission - Phosphates and Alternative Detergent Builders (Link-to-source)
[27] Environment Agency - Phosphorous and Freshwater Eutrophication Pressure Narrative (Link-to-source)

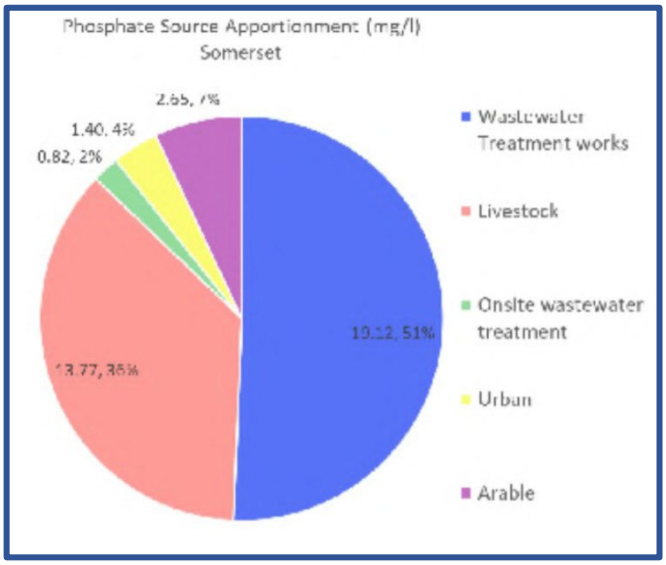


Figure K.2 – Phosphate Source Apportionment[28].

When nutrients are over sprayed due to variations in soil quality and the need to ensure proper nutrient spread, the excess is washed off the land by overland flows, these are either taken up by surface water sewer systems or discharged directly into local irrigation channels/open water courses[29]. Domestic nutrient arisings are usually taken away by foul/combined sewers into Wastewater Treatment Works (WwTWs), the treatment works employ Appropriate Treatment, Secondary Treatment or Advanced Treatment depending on the Population Equivalent of the Agglomeration they serve, the Downstream Receptor and depending on the quantity of Industrial Waste they are expected to accept. The treated water is then discharged into an appropriate receiving body, often rivers or watercourses[30]. Alternatively residential effluent is treated by a Package Treatment Plant and discharged into a watercourse directly or discharged to ground through a suitable Secondary Treatment Measure.

When nutrients enter the watercourse, they are taken up by aquatic plants which benefit in the same way as land based plants. However, high nutrient loads attract rapidly propagating plants such as Algae and Duckweed (*Genus Lemna*), which in the case of the former form dense monocultures called Algal Blooms (often called HABs – Harmful Algal Blooms)[31], this excessive plant/algal growth is called **Eutrophication**, the particular concern of Natural England is so called "Hyper Eutrophication".

[28] Collective Somerset Councils Letter to National Government.
[29] HR Wallingford – Greenfield Runoff Rate Estimation (Link-to-source)
[30] UK Government - Waste water treatment works: treatment monitoring and compliance limits (Link-to-source)
[31] UK Government – Algal Blooms (Link-to-source)

Figure K.3 – Example of at Surface Eutrophication.

Eutrophication is an excessive growth of filamentous Algae/Lemna which form in "mats" on the surface, these mats produce effects such as shading and smothering, which prevents sunlight reaching submerged oxygenating plants, which in turn die off and reduce the dissolved oxygen in the water body, additionally once the nutrient concentrations reduce there is a die-back of the Algal Blooms, which degrade at the bottom of the waterbody, this degradation is highly oxygen intensive and further removes dissolved oxygen. This lack of oxygen causes anoxia/hypoxia to species within the eco-system, which the environment can take years to recover from, if at all.

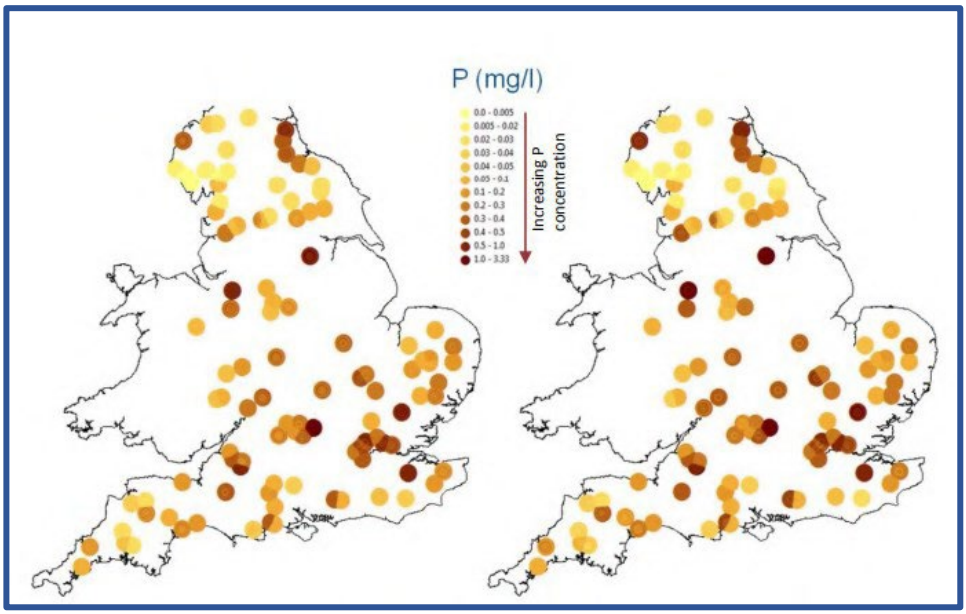


Figure K.4 – Estimated Phosphorus Concentrations for Study Sites as per Environment 2050s phosphorus concentrations Agency Report[32].

[32] Environment Agency - Climate change and eutrophication risk in English rivers (Link-to-source)

ColinBegeman
Specialist-PrincpalPlanner(DevMgt)
SomersetCouncil
+44(0)3001232224
PleasenotethatmyemailaddresshasnowchangedtocolinbegeMan@somerset.gov.uk

From: Megan Belanger <megan.belanger@somerset.gov.uk>
Sent: 20 June 2023 10:59
To: Colin Begeman <colin.begeman@somerset.gov.uk>
Subject: RE: 20/01678/REM - 24 dwellings, Foldhill Lane, Martock

Hi Colin,

20/01678/REM|Application for reserved matters following outline approval of 16/02783/OUT (Residential development of up to 24 dwellings) allowed at appeal)) seeking approval of appearance, landscaping and scale.|Land Adjacent Triways Foldhill Lane Martock Somerset TA12 6PG

Phosphates:

Summary: The scheme is essentially to deal with wastewater through the use of a PTP and various filter beds, and to deal with surface water with French drains.

Development Proposals The development is to consist of 24 no. residential properties. The existing cropping land is to be replaced with the new properties as well as roads, driveways, gardens and other ancillaries. The NNAMS report provided by Enviren demonstrates that the development will achieve Nutrient Neutrality through the introduction of a high-functioning Package Treatment Plant and filter system, adopted by Albion Water, and the incorporation of SuDS features specifically for the treatment of phosphorus.

Surface Water Drainage The discharge of surface water from the site shall be to the north into the existing unnamed watercourse. The proposed surface water shall be treated by a series of specifically designed Sustainable Drainage System (SuDS) components which shall maximise phosphorus removal and achieve nutrient neutrality. It is proposed that the development is encased with French Drains to prevent overland flows exiting site. Runoff from rooves and drives shall be collected and channelled through permeable paving, lined with an impermeable membrane to prevent infiltration and groundwater ingress. This collected water shall then discharge into the onsite surface water sewer network. All runoff shall then be passed through a swale and then the proposed treatment pond, which has been specifically designed to enhance nutrient removal.

Using the phosphorus removal efficiencies contained in CIRIA C8085 and applying the 50% reduction factor specified in the Simple Index Approach it is possible to determine the average, cumulative phosphorus removal efficiency of each proposed treatment train. The generic removal rates of various SuDS components, as contained in CIRIA C808. The permeable paving and filter drains will contain a P removal media to maximise phosphorus removal, this shall consist of a limestone bed made up of 2.5-5mm particles which is proven to have a phosphorus removal rate of 87%.

Foul Water Drainage Foul water from the properties shall be discharged to an adoptable Package Treatment Plant (PTP) which incorporates chemical dosing to provide significantly enhanced phosphorus removal. The Package Treatment Plant (PTP) to be installed is a Kingspan Klargester BioDisc, which is capable of reducing Total Phosphorus concentrations down to 0.3mg/l. A chemical dosing system that is reliant on iron-based salts shall be progressed and Kingspan/Klargester have confirmed that the use of such salts can achieve the required TP removal rates. The system shall be adopted and maintained by Albion Water and therefore the long-term functionality of the system can be assured.

Beyond the Package Treatment Plant (PTP) the effluent from the dwellings shall be treated by a Primary Filter Bed. Downstream of the Primary Filter Bed will be an intermediary Humus Chamber which will ensure that any organic matter from the Primary Filter Bed does not enter the Secondary Filter Bed. The water will then run through the gravel body before discharging into a Variable Outlet Chamber, which will have an adjustable inlet so the level of the water in the Secondary Filter Bed can be adjusted. The final polishing component shall be a limestone P filter, forming a perforated pipe in a gravel bed which shall provide the final cleansing prior to

discharge. As previously discussed in this report, P filters can achieve a TP removal of 87% and will ensure that TP concentrations from the proposed system are minimised. Beyond this a piped connection will be made to the northern watercourse.

Calculations:

Foul water

- The 24 dwellings, connected to a PTP with a 0.3mg/l TP discharge rate, results in **0.69kgTP/yr**.
- After the primary filter bed (using 40% removal efficiency) the result is **0.41kgTP/yr**
- After the secondary filter bed (using 40% removal efficiency) the result is **0.25kgTP/yr**
- After the P filter (using 44% removal efficiency) the result is **0.14kgTP/yr**

Surface Water

- Land use change from cropping to urban, including the SuDS is 0.99kg-0.76kg = **-0.23kgTP/yr**

Combined

- 0.14kgTP/yr + (-0.23kgTP/yr) **= -0.09kgTP/yr.**

Conclusion of the sHRA: When considering the site as a whole and the net nutrient load as a result of development (i.e. the reduction in phosphorus discharged from surface water runoff), it has been determined that the proposal has no adverse effect on the integrity of the Somerset Levels and Moors Ramsar Site, either alone or in-combination with other plans or projects, subject to the mitigation identified in Table 3 (within the sHRA) being secured in perpetuity.

Natural England Consultation

Natural England should be consulted to ensure that they consider that these proposals will result in no Likely Significant Effect on the Somerset Levels and Moors Ramsar and Special Area of Conservation based on the Shadow Habitats Regulations Assessment.

SES No Objection

Based on the above, SES conclude that these proposals will result in no Likely Significant Effect on the Somerset Levels and Moors Ramsar and Special Area of Conservation (confirmed by Somerset Ecology Services adoption letter as attached) subject to the following Section 106's and/or Conditions being secured:

Conditions:

Drainage - Foul (Compliance) – Condition

The approved development shall only be carried out in accordance with the approved documents:
Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS) [230067-NNAMS] – EnvirEn, 27 May 2023
Shadow Habitats Regulation Assessment (sHRA) (230067-SHRA) – EnvirEn, 27 May 2023

Reason: In order to ensure the provision of satisfactory drainage and avoid pollution of the environment with specific regard to the Somerset Levels and Moors Ramsar Site and associated potential impact on ecology. This is a condition precedent because it is necessary to understand the drainage scheme in detail prior to any initial construction works which may prejudice the foul drainage strategy in accordance with Somerset District Council Local Plan - Policy EQ4 Biodiversity.

Maintenance Plan (Pre-Occupation) – Condition

No occupation shall commence until a detailed Maintenance Plan has been submitted to and approved in writing by the Local Planning Authority. The Maintenance Plan shall include:

a. Details of management arrangements to ensure the package treatment plan and filter bed systems adhere to the *Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS) [230067-NNAMS]* – EnvirEn, 27 May 2023 and the *Shadow Habitats Regulation Assessment (sHRA) (230067-SHRA)* – EnvirEn, 27 May 2023
b. Details of ongoing annual monitoring arrangements
c. Confirmation of permit arrangements with the Environment Agency

The development shall accord with the Maintenance Plan in perpetuity.

Reason: In the interests of the integrity of a European site, the 'Favourable Conservation Status' of populations of European Protected Species and UK protected species, UK priority and habitats listed on s41 of the Natural Environment and Rural Communities Act 2006, and in accordance with Somerset District Council Local Plan - Policy EQ4 Biodiversity and Chapter 15 of the National Planning Policy Framework 2021.

PTP Requirements in Phosphate Affected Area (Pre-Occupation) – Condition

The dwellingshereby approved shall not be occupied until:

- the optional requirement for potential consumption of wholesome water by persons

occupying that dwelling in Part G of Schedule 1 and Regulation 36 of the Building Regulations 2010 of 110 litres per person per day has been complied with; and

- a notice specifying the calculated consumption of wholesome water per person per day relating to thetwo units of shepherd hut accommodationas constructed has been given to the appropriate Building Control Body and a copy of the said notice provided to the Local Planning Authority.

Reason: To improve the sustainability of the dwellings in accordance with Paragraphs 134, 154 and 180 of the National Planning Policy Framework (July 2021).

Kind regards,

Megan Belanger
Ecologist
SomersetCouncil
E: megan.belanger@somerset.gov.uk

From: Colin Begeman <Colin.Begeman@SouthSomerset.Gov.Uk>
Sent: Friday, June 9, 2023 9:49 AM
To: Megan Belanger <megan.belanger@somerset.gov.uk>
Subject: FW: 20/01678/REM - 24 dwellings, Foldhill Lane, Martock
Importance: High

Hi Megan,

Could I have a consultation on this please. I may have sent this before, I am getting so many through at the moment I am loosing track!!

Hope you are not getting swamped. They are all merging.

Many thanks

Colin

Planning-SouthTeam
+44(0)3001232224
SomersetCouncil

Pleasenoteournewemailaddress:PlanningSouth@somerset.gov.uk

From: Cockings, Amelia <Amelia.Cockings@naturalengland.org.uk>
Sent: 27 July 2023 14:58
To: Planning South <PlanningSouth@somerset.gov.uk>
Subject: RE: 2023-07-27 - 441697 - Phosphates - South Somerset: 20/01678/REM - Land adjacent Triways

Dear Planning South team,

Apologies for the delay in responding. We are still experiencing very high volumes of consultations and have recently had some movement in the team, therefore responses have been further delayed. Thank you for your patience in hearing from us.

Proposal: 20/01678/REM. Reserved Matters (re: 16/02783/OUT) for residential development of up to 24 dwellings.
Location: Land adjacent Triways, Foldhill Lane, Martock, Somerset, TA12 6PG.

No objection subject to mitigation identified being secured

Somerset Levels & Moors Ramsar Site

The application site is within the fluvial catchment of the Somerset Levels & Moors Ramsar Site. The Somerset Levels & Moors is also designated as a Site of Special Scientific Interest under the Wildlife and Countryside Act 1981 (as amended). The designated sites are considered to be in unfavourable condition or at risk due to high levels of phosphorus. Without mitigation, it would add to harmful phosphorus loads affecting the Site.

We can confirm that Natural England agrees with conclusions of your Appropriate Assessment. The information submitted includes confirmation from an Ofwat-approved statutory sewage undertaker that it will manage the private wastewater system and discharge treated effluent with a total phosphorus concentration limit of 0.3 mg/TP/l. This concentration limit will require permitting by the Environment Agency and should need a permit of 0.3mg/TP/l, however if this isn't possible, the mitigation may need to be adjusted to reflect this. The application documents also include nutrient neutrality calculations that you have accepted. Provided the mitigation is secured through appropriate planning controls, harm to the Somerset Levels and Moors Ramsar site via water quality impacts can be avoided.

Please let me know if you have any questions.

Many thanks,

Amelia Cockings (MEnvSci)
Lead Adviser- Sustainable Development and Dorset Species Recovery
Wessex Area Team
Natural England
Amelia.Cockings@naturalengland.org.uk
https://www.gov.uk/natural-england

From: Colin Begeman <colin.begeman@somerset.gov.uk>
Sent: 06 July 2023 14:14
To: SM-NE-Consultations (NE) <consultations@naturalengland.org.uk>
Subject: FW: 20/01678/REM - 24 dwellings, Foldhill Lane, Martock

Hi,
I am reconsulting about the Somerset Ecology Services endorsement re phosphate mitigation for the above application.
Relevant documents attached.
Many thanks
Colin

ColinBegeman
Specialist - Princpal Planner (Dev Mgt)

Somerset Council
+44 (0) 300 123 2224
Please note that my email address has now changed to **colin.begeman@somerset.gov.uk**

From: Megan Belanger <megan.belanger@somerset.gov.uk>
Sent: 20 June 2023 10:59
To: Colin Begeman <colin.begeman@somerset.gov.uk>
Subject: RE: 20/01678/REM - 24 dwellings, Foldhill Lane, Martock

Hi Colin,

20/01678/REM | Application for reserved matters following outline approval of 16/02783/OUT (Residential development of up to 24 dwellings) allowed at appeal)) seeking approval of appearance, landscaping and scale. | Land Adjacent Triways Foldhill Lane Martock Somerset TA12 6PG

Phosphates:

Summary: The scheme is essentially to deal with wastewater through the use of a PTP and various filter beds, and to deal with surface water with French drains.

Development Proposals The development is to consist of 24 no. residential properties. The existing cropping land is to be replaced with the new properties as well as roads, driveways, gardens and other ancillaries. The NNAMS report provided by Enviren demonstrates that the development will achieve Nutrient Neutrality through the introduction of a high-functioning Package Treatment Plant and filter system, adopted by Albion Water, and the incorporation of SuDS features specifically for the treatment of phosphorus.

Surface Water Drainage The discharge of surface water from the site shall be to the north into the existing unnamed watercourse. The proposed surface water shall be treated by a series of specifically designed Sustainable Drainage System (SuDS) components which shall maximise phosphorus removal and achieve nutrient neutrality. It is proposed that the development is encased with French Drains to prevent overland flows exiting site. Runoff from rooves and drives shall be collected and channelled through permeable paving, lined with an impermeable membrane to prevent infiltration and groundwater ingress. This collected water shall then discharge into the onsite surface water sewer network. All runoff shall then be passed through a swale and then the proposed treatment pond, which has been specifically designed to enhance nutrient removal.

Using the phosphorus removal efficiencies contained in CIRIA C8085 and applying the 50% reduction factor specified in the Simple Index Approach it is possible to determine the average, cumulative phosphorus removal efficiency of each proposed treatment train. The generic removal rates of various SuDS components, as contained in CIRIA C808. The permeable paving and filter drains will contain a P removal media to maximise phosphorus removal, this shall consist of a limestone bed made up of 2.5-5mm particles which is proven to have a phosphorus removal rate of 87%.

Foul Water Drainage Foul water from the properties shall be discharged to an adoptable Package Treatment Plant (PTP) which incorporates chemical dosing to provide significantly enhanced phosphorus removal. The Package Treatment Plant (PTP) to be installed is a Kingspan Klargester BioDisc, which is capable of reducing Total Phosphorus concentrations down to 0.3mg/l. A chemical dosing system that is reliant on iron-based salts shall be progressed and Kingspan/Klargester have confirmed that the use of such salts can achieve the required TP removal rates. The system shall be adopted and maintained by Albion Water and therefore the long-term functionality of the system can be assured.

Beyond the Package Treatment Plant (PTP) the effluent from the dwellings shall be treated by a Primary Filter Bed. Downstream of the Primary Filter Bed will be an intermediary Humus Chamber which will ensure that any organic matter from the Primary Filter Bed does not enter the Secondary Filter Bed. The water will then run through the gravel body before discharging into a Variable Outlet Chamber, which will have an adjustable inlet so the level of the water in the Secondary Filter Bed can be adjusted. The final polishing component shall be a limestone P filter, forming a perforated pipe in a gravel bed which shall provide the final cleansing prior to discharge. As previously discussed in this report, P filters can achieve a TP removal of 87% and will ensure that

TP concentrations from the proposed system are minimised. Beyond this a piped connection will be made to the northern watercourse.

Calculations:

Foul water

- The 24 dwellings, connected to a PTP with a 0.3mg/l TP discharge rate, results in **0.69kgTP/yr**.
- After the primary filter bed (using 40% removal efficiency) the result is **0.41kgTP/yr**
- After the secondary filter bed (using 40% removal efficiency) the result is **0.25kgTP/yr**
- After the P filter (using 44% removal efficiency) the result is **0.14kgTP/yr**

Surface Water

- Land use change from cropping to urban, including the SuDS is 0.99kg-0.76kg = **-0.23kgTP/yr**

Combined

- 0.14kgTP/yr + (-0.23kgTP/yr) **= -0.09kgTP/yr.**

Conclusion of the sHRA: When considering the site as a whole and the net nutrient load as a result of development (i.e. the reduction in phosphorus discharged from surface water runoff), it has been determined that the proposal has no adverse effect on the integrity of the Somerset Levels and Moors Ramsar Site, either alone or in-combination with other plans or projects, subject to the mitigation identified in Table 3 (within the sHRA) being secured in perpetuity.

Natural England Consultation

Natural England should be consulted to ensure that they consider that these proposals will result in no Likely Significant Effect on the Somerset Levels and Moors Ramsar and Special Area of Conservation based on the Shadow Habitats Regulations Assessment.

SES No Objection

Based on the above, SES conclude that these proposals will result in no Likely Significant Effect on the Somerset Levels and Moors Ramsar and Special Area of Conservation (confirmed by Somerset Ecology Services adoption letter as attached) subject to the following Section 106's and/or Conditions being secured:

Conditions:

Drainage - Foul (Compliance) – Condition

The approved development shall only be carried out in accordance with the approved documents:

Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS) [230067-NNAMS] – EnvirEn, 27 May 2023

Shadow Habitats Regulation Assessment (sHRA) (230067-SHRA) – EnvirEn, 27 May 2023

Reason: In order to ensure the provision of satisfactory drainage and avoid pollution of the environment with specific regard to the Somerset Levels and Moors Ramsar Site and associated potential impact on ecology. This is a condition precedent because it is necessary to understand the drainage scheme in detail prior to any initial construction works which may prejudice the foul drainage strategy in accordance with Somerset District Council Local Plan - Policy EQ4 Biodiversity.

Maintenance Plan (Pre-Occupation) – Condition

No occupation shall commence until a detailed Maintenance Plan has been submitted to and approved in writing by the Local Planning Authority. The Maintenance Plan shall include:

a. Details of management arrangements to ensure the package treatment plan and filter bed systems adhere to the *Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS) [230067-NNAMS]* – EnvirEn, 27 May 2023 and the *Shadow Habitats Regulation Assessment (sHRA) (230067-SHRA)* – EnvirEn, 27 May 2023
b. Details of ongoing annual monitoring arrangements
c. Confirmation of permit arrangements with the Environment Agency

The development shall accord with the Maintenance Plan in perpetuity.

Reason: In the interests of the integrity of a European site, the 'Favourable Conservation Status' of populations of European Protected Species and UK protected species, UK priority and habitats listed on s41 of the Natural Environment and Rural Communities Act 2006, and in accordance with Somerset District Council Local Plan - Policy EQ4 Biodiversity and Chapter 15 of the National Planning Policy Framework 2021.

PTP Requirements in Phosphate Affected Area (Pre-Occupation) – Condition

The dwellings hereby approved shall not be occupied until:

- the optional requirement for potential consumption of wholesome water by persons occupying that dwelling in Part G of Schedule 1 and Regulation 36 of the Building

Regulations 2010 of 110 litres per person per day has been complied with; and

- a notice specifying the calculated consumption of wholesome water per person per day relating to the two units of shepherd hut accommodation as constructed has been given to the appropriate Building Control Body and a copy of the said notice provided to the Local Planning Authority.

Reason: To improve the sustainability of the dwellings in accordance with Paragraphs 134, 154 and 180 of the National Planning Policy Framework (July 2021).

Kind regards,

Megan Belanger
Ecologist
Somerset Council
E: megan.belanger@somerset.gov.uk

From: Colin Begeman <Colin.Begeman@SouthSomerset.Gov.Uk>
Sent: Friday, June 9, 2023 9:49 AM
To: Megan Belanger <megan.belanger@somerset.gov.uk>
Subject: FW: 20/01678/REM - 24 dwellings, Foldhill Lane, Martock
Importance: High

Hi Megan,

Could I have a consultation on this please. I may have sent this before, I am getting so many through at the moment I am loosing track!!

Hope you are not getting swamped. They are all merging.

Many thanks

Colin

Appendix 3b Nacklestone, Herefordshire

Appropriate Assessment prepared by Herefordshire Council dated 23.01.23 for

Herefordshire Council

MEMORANDUM

To : **Consultee**

From : **Andrew Banks, Planning Services**

Tel : **01432 383085** **My Ref** : **222253**

Date : **23/01/2023**

APPLICATION NO & SITE ADDRESS:	**Planning Re-consultation - 222253 - Land at Nacklestone Farm, Leintwardine, Craven Arms, Herefordshire**
DESCRIPTION:	**Removal of existing agricultural buildings. Erection of five dwellings, car ports, access, landscaping and associated works.**
APPLICANT(S):	**Mr Nigel Shields**
GRID REF:	**OS 342203, 272164**
APPLICATION TYPE:	**Planning Permission**
WEBSITE LINK:	http://www.herefordshire.gov.uk/searchplanningapplications

Comments:

The general ecology comments of 22/08/2022 (JB) cover elements around protected species and conditions. It should be noted that I am satisfied that the surveys can be relied upon for a decision made within the next 12 weeks (before the end of February 2024) given the low value and suitability of the habitats present on the site.

The HRA is provided below for consultation with Natural England.

The Conservation of Habitats and Species Regulations (2017)
Part 6, section 63

'Assessment of implications for European sites and European offshore marine sites'

Habitats Regulation Assessment

This is a record of the Habitat Regulations Assessment (HRA) (including Screening for Likely Significant Effects and Appropriate Assessment where required) carried out by Herefordshire Council (the competent authority) as required by Regulation 63 of the Conservation of Habitats & Species Regulations 2017 (the 'Habitats Regulations') relating to the following **planning application.**

This HRA is carried out in accordance with the relevant guidance documents including those by Natural England at https://www.gov.uk/guidance/appropriate-assessment, and David Tyldesley Associates https://www.dtapublications.co.uk/

The HRA is carried out by Herefordshire Council. Detailed information will need to be provided by the applicant to enable to authority to make the assessment.

The Project / Plan

1.1 Planning Application Reference Number, Description and Address

Application reference number: 222253
Address: Land at Nacklestone Farm Leintwardine Craven Arms Herefordshire
Description: Removal of existing agricultural buildings. Erection of five dwellings, car ports, access, landscaping and associated works.
Applicant: Mr Nigel Shields
Case officer: Andrew Banks

Location OSGR: 342203 - 272164
Link to Planning Application on Herefordshire Council Website: Planning Search – Herefordshire Council

1.2 Description of the plan or project (details)

Removal of existing agricultural buildings. Erection of five dwellings, car ports, access, landscaping and associated works.

1.3 Documents and plans considered – *delete/ add as appropriate*

Herefordshire Local Plan Core Strategy 2011 – 2031
River Wye SAC Nutrient Management Plan
National Planning Policy Framework
The Conservation of Habitats and Species Regulations 2017 (as amended)

1.4 Planning Policy context:

None

1.5 Size (ha) and description (habitats etc.) of existing site

Site is 0.75ha of former farm yard and scrub.

1.6 Surrounding land use and context in relation to designated sites

Site is 170m east of the River Teme SSSI which is an integral part of the River Clun SAC, the site is 3.9km upstream of the Downton Gorge SAC.

Relevant Habitats (Natura 2000) site(s)
Please select all that apply from:

- ☐ **River Wye Catchment SAC (including schemes impacting on the linked River Lugg SSSI)**
- ☒ **River Clun SAC**
- ☐ **Wye Valley Woodlands SAC**
- ☒ **Downton Gorge SAC**
- ☐ **Wye Valley & Forest of Dean Bat Sites SAC (Wigpool Iron Mines SSSI)**
- ☐ **Other site (SAC, Ramsar)**

Details of the Site:

1.River Clun SAC

The River Clun SAC covers 14.93ha in Shropshire and Herefordshire.

Designated features

Qualifying species

The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Freshwater pearl mussel Margaritifera margaritifera

Conservation Objectives of the Designated features

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of the habitats of qualifying species
- The structure and function of the habitats of qualifying species
- The supporting processes on which the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

European Site Conservation Objectives for River Clun SAC - UK0030250 (naturalengland.org.uk)

Site Condition
Site condition is taken from the constituent SSSI units for the River Teme SSSI

River Teme SSSI

Unit	Unit name	Condition	Condition Threat Risk	Habitat	Area (ha)	GridRef
006	RIVER CLUN	Unfavourable - Declining	High	RIVERS AND STREAMS	14.9628 ha	SO 395 753
007	Source to confluence Ffrwdwen Brook	Unfavourable - No change	High	RIVERS AND STREAMS	47.3846 ha	SO 218 780
008	Conflu with Ffrwdwen Brook to conflu River Clun	Unfavourable - No change	High	RIVERS AND STREAMS	61.8476 ha	SO 327 731
009	Confluence River Clun to confluence River Onny	Unfavourable - No change	High	RIVERS AND STREAMS	65.1889 ha	SO 436 736
010	Confluence River Onny to confluence River Rea	Unfavourable - No change	High	RIVERS AND STREAMS	94.2148 ha	SO 545 707
011	Confluence River Rea to confluence River Severn	Unfavourable - No change	High	RIVERS AND STREAMS	157.3202 ha	SO 741 595

Other Relevant Documents

There is a Site Improvement Plan for the River Clun which can be found at Site Improvement Plan: River Clun - SIP188 (naturalengland.org.uk)

2. Downton Gorge SAC

Downton Gorge SAC covers an area of 69.30ha in Herefordshire.

Designated features

Qualifying habitats
The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:
• Tilio-Acerion forests of slopes, screes and ravines. (Mixed woodland on base-rich soils associated with rocky slopes)*

Annex I priority habitats are denoted by an asterisk (*).

European Site Conservation Objectives for Downton Gorge SAC - UK0012735 (naturalengland.org.uk)

Site Condition
Site condition is taken from the constituent SSSI units for Downton Gorge SSSI.

Downton Gorge SSSI

Unit	Unit name	Condition	Condition Threat Risk	Habitat	Area (ha)	GridRef
001	DOWNTON WALKS NORTH	Unfavourable - Declining	Medium	BROADLEAVED, MIXED AND YEW WOODLAND - Upland	13.426 ha	SO 437 738
002	DOWNTON WALKS SOUTH	Unfavourable - Recovering	High	BROADLEAVED, MIXED AND YEW WOODLAND - Upland	21.4215 ha	SO 438 736
003	THE DINGLES	Unfavourable - Declining	No assessment of Condition Threat undertaken	BROADLEAVED, MIXED AND YEW WOODLAND - Upland	16.3416 ha	SO 448 744
004	FORGE ROUGH TIN MILL	Unfavourable - Declining	No assessment of Condition Threat undertaken	BROADLEAVED, MIXED AND YEW WOODLAND - Upland	17.9825 ha	SO 457 750

Other Relevant Documents
There is a Site Improvement Plan for Downton Gorge which can be found at Site Improvement Plan: Downton Gorge - SIP064 (naturalengland.org.uk)

Stage1: Preliminary Screening including Likely Significant Effects (LSE)

Completed by:

Fran Lancaster
Date: 1st December 2023

Table 1: Initial Screening
Does the project or plan qualify for exemption from the HRA process?

Is the project or plan directly connected with or necessary for the conservation management of the habitat site (provide details)? If so the project may be considered exempt from the HRA process.	No
If the proposal is considered exempt from the HRA process? Has this been consulted upon and agreed with Natural England?	N/A – not exempt

Table 2: Screening for Likely Significant Effects (LSE)

Key issues considered:

- ☒ **Foul water**
- ☒ **Water pollution**
- ☒ **Surface water**
- ☐ **Water abstraction**
- ☐ **Aerial Emissions (ammonia, N deposition & acid deposition)**
- ☐ **Recreational impacts**
- ☒ **Construction or Demolition processes**
- ☐ **Protected species impacts (direct)**
- ☐ **Direct impacts inside SAC boundary (habitats)**
- ☒ **Protected species impacts (indirect)**

Herefordshire Council

☐ **Impacts upon supporting habitats** ☒ **Other – Invasive species**

Details of key issues & identification of potential effect pathways

The proposal is for the demolition of the existing farm buildings and for the reuse of the site for 5 residential dwellings with associated access.

The proposed dwellings will discharge foul flows to an onsite packaged treatment plant (PTP) which will discharge direct to a local watercourse which is the River Teme SSSI 170m west of the site. Infiltration and ground condition testing has demonstrated that soils on the site do not provide sufficient soakage for discharges to ground.

Surface water will also be discharged direct to the River Teme SSSI.

There is also potential for pollution, sedimentation and introduction or increase of invasive species in local watercourses including the River Teme SSSI during the construction phase.

No other potential effect pathways (particularly those around direct impacts on habitats and species) have been identified.

***NB**: Where avoidance and mitigation measures do not form an integral part of the project/ plan and are to be put in place to reduce the impacts, these must not be considered in order to avoid impacts at the Screening stage and will require consideration at the Appropriate Assessment stage (in line with the People Over Wind judgement).*

Are there any potential effects of the project or plan when considered alone?	Yes *If 'yes' then proposal must be carried forward to the Appropriate Assessment Stage.* *If 'no' then proposal must still be considered in-combination below.* *The identification of a potential effect pathway is sufficient to require an Appropriate Assessment i.e. no judgement on significance/ or threshold is applied at screening stage. Existence of a pathway is considered to be an LSE.*
Are there any potential effects of the project or plan in combination with other projects or plans?	Potentially yes *If 'yes' then proposal must be carried forward to the Appropriate Assessment Stage.*

Natural England consultation reference and summary (if available):

None

Summary of LSE test conclusions

☐ **No likely significant effects – no Appropriate Assessment required and planning permission can be legally granted. A consultation with NE is not required where a proposal is 'screened out'.**

☒ **Likely significant effects – Appropriate Assessment required.**

And, where relevant:

☐ **Further information to inform the Appropriate Assessment required** – the applicant is advised to provide the relevant information as detailed below.

Further information required to inform the Appropriate Assessment	N/A

Stage 2: Appropriate Assessment

Completed by:

Fran Lancaster
Date: 1st December 2023

Appropriate Assessment statement including alone, impacts in-combination and discussion of proposed mitigation measures

Complete the tables and boxes below, deleting as necessary. Where information is taken from supporting documents this should be quoted and fully referenced. Any documents not available on the Council's website should be provided to Natural England when they are consulted.

Table 3: Impacts of the plan/ project alone

Complete boxes as appropriate below and delete boxes for potential effect pathways which are not relevant:

Foul Water Package Treatment Plant demonstrating best available technology but not requiring Nutrient Neutrality

Information within this Appropriate Assessment relies upon submitted documents including:

- The Surface and Foul Water Drainage Strategy by H&H Drainage (January 2023)
- The Drainage Strategy and Maintenance Statement by CambellReith (September 2023)
- The Outline Construction Environmental Management Plan by Mayer Brown (November 2023)
- The Appropriate Assessment by Holbury Conservation Services (October 2023)

The proposal is for the construction of 5 dwellings in place of the redundant farm buildings currently present on the site. Foul discharges will be treated by a packaged treatment plant (mains connection not available) and discharged directly to local watercourses. Infiltration and ground condition testing has demonstrated that soils on the site do not provide sufficient soakage for discharges to ground.

It is proposed that the discharge will be made into the River Teme SSSI, the nearest local watercourse which is 170m to the west downhill. A new headwall will be constructed to situate the discharge pipes for foul and surface water and this will require both an EA permit and Assent from Natural England.

Initially a Marsh Ensign EN25 PTP was proposed for the site which has an effluent quality of 5.7mg/l of phosphate. As a result of further discussions an amended proposal to use a Graf One2Clean PTP was submitted, this PTP has an effluent quality of 1.6mg/l and is a high performing, non-dosing, PTP. It is the Graf One2Clean which has been assessed for the purposes of this Appropriate Assessment.

The proposal will result in a discharge of around 3.65m3 a day at full occupancy and will result in around 1.01kg phosphate entering the River Teme SSSI annually. Although the SSSI is failing it is not under Nutrient Neutrality and this proposal represents a high performance system where discharges to ground, which might be preferable, are not technically achievable.

Downton Gorge SAC which is downstream is not sensitive to phosphate (nutrient sensitivities in the SAC are around aerial emissions). River Clun SAC is upstream of the proposal and so, although it is sensitive to phosphate and under Nutrient Neutrality measures, there is no effect pathway by which phosphate discharged from this site could impact upon the River Clun SAC.

The proposed development will not result in an adverse impact upon the integrity of the River Clun SAC or Downton Gorge SAC. The proposal may impact upon the River Teme SSSI but impacts have been reduced through appropriate technological choices in order to reduce this impact as far as feasible.

Surface Water and Water pollution

Information within this Appropriate Assessment relies upon submitted documents including:

- The Surface and Foul Water Drainage Strategy by H&H Drainage (January 2023)
- The Drainage Strategy and Maintenance Statement by CambellReith (September 2023)
- The Outline Construction Environmental Management Plan by Mayer Brown (November 2023)
- The Appropriate Assessment by Holbury Conservation Services (October 2023)

Surface water from the proposed development will be discharged into the River Teme SSSI, the nearest local watercourse which is 170m to the west downhill. A new headwall will be constructed to situate the discharge pipes for foul and surface water and this will require both an EA permit and Assent from Natural England. Infiltration and ground condition testing has demonstrated that soils on the site do not provide sufficient soakage for discharges to ground.

The existing site comprises buildings and yards totalling 5900m2 of impermeable surfacing. Existing buildings have no formal and functional rainwater goods with roof water being deposited on the ground and running as overland flows 170m downhill into the River Teme SSSI.

The proposed development will reduce impermeable surfacing on the site to below 2230m2 which constitutes a considerable reduction and permeable surfacing will be utilised for roads, footpaths and other access areas. Although water falling on permeable surfaces will not infiltrate to ground this method allows control of pollution at source before water is collected into the below ground storage crates and attenuated for discharge into the River Teme SSSI.

Roofs and accesses are considered to be very low and low pollution sources and as such the measures proposed are considered sufficient to protect local water quality. Managing current over land surface flows is also likely to reduce sediment being carried into the watercourse.

All surface water from the site will be channelled to attenuation crates below ground, passing through a silt trap. Flows will then be attenuated to greenfield runoff rate taking into account 1 in 100 year storm events and a 40% allowance for climate change. Discharge will be controlled to less than 2l/s by a flow release valve with a vermin flap fitted.

The measures proposed are sufficient to ensure that there is no increase in silt/sediment and pollutants during the lifetime of the development on either Downton Gorge SAC or River Clun SAC and on River Teme SSSI.

There is no potential for surface water management to result in an adverse impact upon the integrity of an SAC or to negatively impact a SSSI.

Construction or Demolition processes including indirect impacts upon protected species as a result of sedimentation or pollution and the instruction or spread of invasive species

Information within this Appropriate Assessment relies upon submitted documents including:

- The Surface and Foul Water Drainage Strategy by H&H Drainage (January 2023)
- The Drainage Strategy and Maintenance Statement by CambellReith (September 2023)
- The Outline Construction Environmental Management Plan by Mayer Brown (November 2023)
- The Appropriate Assessment by Holbury Conservation Services (October 2023)

There are several potential effect pathways relating to construction and demolition processes on the site including:

- Potential for silt to enter River Teme SSSI and to impact upon water quality in Downton Gorge SAC or impact upon lifecycles of species on which the River Clun SAC relies.
- Potential for pollution to enter River Teme SSSI and the downstream Downton Gorge SAC.
- Potential for introduction or spread of invasive species including Himalayan Balsam into River Teme SSSI and downstream into Downton Gorge SAC.
- Potential for impacts upon breeding success of freshwater pearl mussel as a result of sedimentation in the downstream section of River Teme SSSI.

The Construction Environment Management Plan (CEMP) for the site sets out measures including:

- Erection of a silt fence around the north and west sides of the site during construction to be removed during dry weather under the supervision of the Ecological Clerk of Works.
- Avoiding creating headwalls into the River Teme SSSI in areas where Himilayan Balsam is present, or if the species is present avoiding working during the season when seeds are present on the plants and spread is most likely (June – October).
- Ensuring all fuels and oils are stored in designated areas on the site, away from gullies and that all stores are appropriately bunded to 110% capacity.
- Works within the SSSI to create the new headwall to be carried out under the supervision of the Ecological Clerk of Works and to benefit from an EA Permit and an Assent from Natural England.

The CEMP will be secured through planning condition.

With these measures in place it is not considered that the proposals will result in an adverse impact upon the integrity of Downton Gorge SAC or River Clun SAC or in a negative impact upon River Teme SSSI.

Table 4: Mitigation Requirements and Outcomes

Mitigation is in the form of the Construction Environmental Management Plan which will be secured through planning condition, in ensuring that the foul and surface water drainage strategies are adhered to and that the PTP is a Graf One2Clean model (or equivalent performing unit).

These measures will be secured by condition.

Table 5: Remaining Impacts

None

Table 6: Consequences for Conservation Objectives of the Designated Site

Impacts on maintaining the favourable condition of the site	No – not with mitigation in place
Disruptions or delays in progress towards achieving the conservation objectives of the site	No – not with mitigation in place
Alterations to natural progression or other natural changes within the site	No – not with mitigation in place
Loss of key habitat/ species features. Fragmentation or isolation of key species and habitats.	No – not with mitigation in place

Impacts to diversity, distribution, density, balance, area or population(s) of key species or habitats that are indicators of the favourable condition of the site, including from disturbance	
Alterations to the ecological relationships and balance between species and habitats that are key to the structure/ function of the site	No – not with mitigation in place
Alterations to nutrient balance or other processes vital to the functioning of the ecosystem	No – not with mitigation in place

Table 7: Integrity Test

Will there be an impact upon the Integrity of the Designated Site?

There will be no adverse impact upon the integrity of Downton Gorge SAC or River Clun SAC.

Table 8: Are there Alternative Solutions to the proposal?
If adverse effects on the integrity of the site, either alone or in combination, cannot be ruled out through avoidance or mitigation then alternative solutions must be considered.

N/A

Please Note: Where there are no satisfactory alternatives then consideration may be given to whether the proposal could follow the Imperative Reasons of Overriding Public Interest (IROPI) route. Is this option is under consideration for a plan or project then specialist legal advice should be sought and followed.

Table 9: Recommended planning conditions to secure mitigation which is required in order to achieve no effect on integrity of the Designated Site.

The following measures should be secured by condition: - Following the CEMP - That the PTP be a Graf One2Clean or equivalent performing unit with an effluent quality of 1.6mg/l phosphate or lower. - Water efficiency measures. - Securing the foul and surface water strategies.

Conclusion of the Appropriate Assessment:

☒ **Herefordshire Council, as a Competent Authority under the Habitat Regulations 2017, Part 6, section 63(5) concludes that there would be NO adverse effects on the integrity of the Special Area of Conservation; subject to appropriate mitigation being secured via the planning conditions listed above. Planning Permission can legally be granted.**

Please Note: The authority must consult Natural England on the draft HRA and must have regard to the advice of Natural England before granting planning permission.

F10/A

From: tcd@spacemad.com
Sent: 04 January 2024 11:06
To: Mark Ashwell
Subject: Site F10

Dear Mark,

North Norfolk Local Planning Examination
Ref Land South of Barons Close (F10)
Wednesday 14th February

We support the North Norfolk Local Plan and in particular the site F10 that is proposed.

The site is in one ownership and in order to put forward the site F10 considerable work has been undertaken with relevant reports carried out regarding, ecology, arboriculture & landscape, highways, Engineering & Utilities, Landscape, Transport and planning, etc.

There is considerable interest in this site due to the proximity of the town centre of Fakenham and the current employment opportunities in and around Fakenham.
The site F10 can be brought forward and is now available for development.

An option agreement was signed with a developer in December 2023 and the developer who is keen to develop this site will be working on all the relevant material required to make a formal approach to the District Council during 2024.

We are able to attend the examination should the inspector have or need any questions answered.

Regards
Tim C Duffy
On Behalf of the Duffy Family

H20/A

From: FLETCHER David
To: Mark Ashwell
Subject: RE: [EXTERNAL] Delivery at Holt
Date: 21 February 2024 09:44:06
Attachments:

Good Morning Mark,

Thank you for your email.

As discussed, I can confirm that the landowner of the site has been in positive discussions with a National Housebuilder to take forward the delivery of site H20 within Holt. Although at this stage no formal option has been agreed, I can confirm that the National Housebuilder is keen to develop and deliver the allocation.

Kind Regards

David

David Fletcher
Strutt & Parker

From: Mark Ashwell <Mark.Ashwell@north-norfolk.gov.uk>
Sent: 20 February 2024 10:05
To: FLETCHER David <David.Fletcher@StruttAndParker.com>
Subject: [EXTERNAL] Delivery at Holt

Morning David

At the Local Plan Examination the Inspector is keen to understand the position in relation to delivery expectations particularly during the first five year period following Plan adoption.

Currently our published Five-Year Land Supply Statement for the period 2023-2028 has the H01 site delivering 30 units in 2027/28 and standard average build out thereafter. In your MIQ response to the Inspectors questions you confirm this trajectory but it would be helpful if you could provide some further context for this. My understanding is that although no formal options have been agreed your client is in active discussion with a house builder with a view to progressing the site relatively quickly upon confirmation of allocation. Are you able to confirm that this is the case and provide any further information which would support the trajectory.

Regards

Mark Ashwell
Planning Policy Manager
+441263 516325

ROU03/A

From: Iain Hill <iain.hill@bidwells.co.uk>
Sent: 21 February 2024 20:42
To: Matthew Gutteridge
Cc: Jake Lambert
Subject: RE: Erection of 30 residential dwellings with associated access, open space, landscaping and off-site highways works. Formation of sports pitch, creation of wetland habitat, construction of 17-space community car park, construction of footpath link to vi

Hi Matthew

I think BHA will seek to purchase Credits from NEC as and when they can. I know they have explored a number of options, but none have, as yet, provided viable.

In terms of COR01 is this the Corpusty site? If so, my colleague Jake Lambert (cc'd on this email) is dealing with the site. The application was due to go to Committee the week after NN came in.

Regards

Iain

Iain Hill
Partner, Planning

16 Upper King Street, Norwich, Norfolk. NR3 1HA
DD: 01603 229409 | M: 07966 202925 | bidwells.co.uk

From: Michael Arnold
To: Mark Ashwell
Cc: Nicky Debbage; Paul Brand
Subject: Re: Stalham
Date: 08 February 2024 09:40:41
Attachments:

Hi Mark and Nicky

Thanks for the below – had been checking on Nicky's email, as I hadn't seen a list either but was very hopeful! However, our understanding is as yours below. I've also had the chance to talk to NE nationally and they have confirmed that all authorities seem to be waiting for the exempt list before determining next steps. In theory there would have to be significant impediments to upgrades in order to justify an exemption (the example I was given was a WWRC needed to be expanded and there was no land available to do so), which isn't the case with Stalham.

Would it be worth arranging a meeting re the second half of your email? The reason being is that there is an approach to mitigation using a conservation covenant that I think it would be helpful to talk through. To our read it would enable us to put the mitigation scheme together and then allow the Council to impose a covenant directly on the landowner restricting the use, which they as the competent authority can then benefit from. There would of course be monetary compensation in the farmer accepting the covenant which we would pay through the S106. On first view it will keep the transaction of mitigation schemes very straight forward and give the Council the best possible security as the competent authority. This is to be NE's preferred approach and they are using it on their own mitigation scheme. Link below:

https://www.gov.uk/guidance/getting-and-using-a-conservation-covenant-agreement

I'm also happy to talk you through the various schemes we have considered. We're currently in active discussion with one farmer (HoTs issued etc), a second has politely declined on principle, and Paul is also looking at a third. Aside from the issues re land drainage type and location in relation to a development there is also a challenge in respect of being a first mover as most we have spoken to are unsure in terms of the value of the offset and don't want to agree a deal to find it would have been more lucrative to wait. The national politics also isn't helping in respect of certainty with both Parties having said they would solve the issue (the Conservatives then failing to do so) and Labour being light on detail. From the limited political interaction, we have had there is a severe lack of understanding of the complexity of the challenge, but they have created the impression to some this is a temporary problem!

Happy to loop Geoff in on the above if you think helpful? I haven't yet raised the conservation covenant, just because we've agreed the principles of how we calculate the mitigation and so we're waiting to go back with specific parcels of land and S106 wording.

Best wishes

Mike

Michael Arnold
Development Director
Medcentres PLC
michael@medcentres.co.uk
www.medcentres.co.uk

From: Mark Ashwell <Mark.Ashwell@north-norfolk.gov.uk>
Date: Wednesday, 7 February 2024 at 10:13
To: Michael Arnold <michael@medcentres.co.uk>
Cc: Nicky Debbage <Nicky.Debbage@north-norfolk.gov.uk>
Subject: FW: Stalham

Mike

Mistake on my behalf! Government have not yet published a list of WWRC which are subject to the upgrading requirements. What has been published is a list of catchments with more than 2000 people but government might exempt some of these from the requirement.

On a related note, do you have any details of your proposed mitigation for the Stalham site? The Local Plan inspector is keen to understand delivery expectations. Is it still the case that subject to planning you would hope to be delivering on this site in 2025? If you do have anything you are happy for us to release to the Local Plan hearings it would be much appreciated.

Regards

Mark Ashwell
Planning Policy Manager
+441263 516325

WRN01/A

From: Ian Fox <Ian@fw-properties.com>
Sent: Monday, February 19, 2024 2:18 PM
To: Mark Ashwell <mark.ashwell@north-norfolk.gov.uk>
Subject: PF/17/0729 West Raynham

Mark,

I am pleased to provide an update on the above application which has been held up with nutrient neutrality.

We have a fully agreed and engrossed S106 which was pulled at the 11th hour because of the directive from Natural England in March 2022. Our client remains fully committed to the delivery of these houses and as such have taken the initiative to find our own resolution to the NN situation.

Our specialist consultants have now completed a fully costed and detailed design for a wetland mitigation solution. This onsite wetland will provide mitigation for 72 new dwellings and so we will be seeking to purchase credits for the remaining 22 dwellings.

All documents relating to the design were submitted to NNDC in January 2024 and we are awaiting feedback and agreement from them.

Regards

Ian Fox
Director
Office 01603 295051 / Mobile 07887 638668
ian@fw-properties.com