

Appropriate Assessment and Nutrient Neutrality Support

Potten Farm, Sellindge, Kent

August 2024



Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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1. Introduction

Background

- 1.1 AECOM were commissioned by Folkestone and Hythe District Council to undertake a review of the Nutrient Neutrality Assessment and Mitigation Strategy submitted by Water Environment on behalf of Gladman Developments Ltd as part of Planning Application number 23/1935/FH in support of the development of the erection of up to 105 dwellings with public open space, landscaping, sustainable drainage system and water recycling centre.
- 1.2 The purpose of this review is to support Folkestone and Hythe District Council by determining whether the Nutrient Neutrality Assessment and Mitigation Strategy is sufficiently robust to assist the Council in discharging their duties under Regulation 63 and 64 of the Conservation of Habitats and Species Regulations (2017) (henceforth referred to as the 'Habitat Regulations').
- 1.3 Appropriate assessment must not contain gaps or lacunae and the conclusions of an appropriate assessment must be 'certain' (which earlier case law has clarified to mean that 'no reasonable scientific doubt remains'). It should be noted that 'certainty' within the context of the Habitats Regulations does not mean 'absolute certainty' as the courts recognise that this is effectively impossible to achieve. It does, however, indicate a high standard of evidence and confidence.
- 1.4 The review does not provide comment on any additional planning judgments that need to be made by Folkestone and Hythe District Council or specify any wording of conditions that the Council may wish to apply to any grant of consent.
- 1.5 In response to AECOM's initial review (May 2024), Water Environment Ltd have submitted a response with further clarifications (dated 19 July 2024). AECOM have reviewed these responses and have provided further comments in Section 4.

Review team

- 1.6 The team undertaking the Nutrient Neutrality Assessment and Mitigation Strategy review is as follows:
 - Dr James Riley BSc MSc PhD CEnv MCIEEM is a Technical Director who leads on Habitats Regulations Assessment within AECOM. He has led on over 100 plan-level HRAs for a range of plans including Local Development Plans, Minerals and Waste Plans, Area Action Plans, Site Allocations Documents, Development Management Plans, Local Flood Risk Management Strategies, Local Transport Plans, Coastal Strategies, Shoreline Management Plans and Neighbourhood Plans. James has spoken on HRA issues at ten Examinations on behalf of local authorities. In particular, he had led on several nutrient neutrality assessments and related review exercises for local authorities.
 - Owen Tucker BSc (Hon) MSc CEnv MCIWEM is an Associate Environmental Scientist, Chartered Environmentalist and a Member of the Chartered Institution of Water and Environmental Management (CIWEM). He has over 17 years' experience of undertaking environmental impact assessments (EIAs) and environmental management, specialising in water science. This includes river and lake water quality and sediment monitoring and analysis, water EIAs, Water Framework Directive compliance appraisals, Highways England Water Risk Assessment Tool (HEWRAT) assessments, Sustainable Drainage System (SuDS) development and pond optimisation and developing mitigation measures to protect the water environment from construction work.
 - Dr Tim Jones PhD BSc (Hons) is a Principal Water Scientist specialising in water quality and hydrological processes. During his career in academia and consultancy Tim has worked on a number of large interdisciplinary research collaborations involving national and international stakeholders, including water companies, NGOs, and government agencies. He has published in high impact journals on water quality modelling of stream systems, and has experience in water environment EIA impact assessments, Water Framework Directive (WFD) assessment, nutrient neutrality assessment, SuDS

development, applications for Water Activity Permits, time series analysis of water quality data and hydraulic modelling projects relating to river restoration.

- Bethan Davies BSc (Hon) MSc is a Water Scientist specialising in hydrology and. Bethan has experience conducting river water quality monitoring and analysis, undertaking and reviewing nutrient neutrality assessments and has carried out various water environment impact assessments.

Introduction to nutrient neutrality

- 1.7 Nutrient neutrality has become an issue in many areas of the country, such as the Solent, Somerset Levels, the Wye catchment in Herefordshire, the Camel catchment in Cornwall, and the Stour catchment in Kent. It ultimately stems from the ruling of the European Court of Justice (ECJ) in combined cases C-293/17 and C-294/17 (the Dutch Nitrogen case). That judgment was about nitrogen from atmosphere but in the process of making their ruling the judgment refined the definition of plans and projects to include operations such as agriculture, confirming that agricultural inputs of nutrients (either from atmosphere or runoff) need to be covered in the 'in combination' requirements of the HRA process. This is significant because the traditional assessment process as applied for example in the Environment Agency Review of Consents programme distinctly separates treated wastewater from agricultural discharge, largely because the latter is effectively unconsented [diffuse] and outside the remit of the Environment Agency.
- 1.8 In addition, the ruling reaffirmed that if a European protected nature conservation site is in a deteriorating condition (such as due to excess nutrient levels that may also be forecast to increase) there are very limited circumstances under which further discharges of nutrients to a site can legally be permitted. This is covered in paragraph 79 of Advocate-General Kokott's opinion, written to inform the court: *'Where total damage is reduced, but the integrity of the protected site concerned is nevertheless adversely affected [by which she means where the total nitrogen deposition still exceeds the critical load], Article 6(3) of the Habitats Directive does not in any case permit any additional damage of this kind'*.
- 1.9 As a result, in the absence of any empirically derived threshold by which additional aquatic inputs of nitrogen and phosphorus can be deemed nugatory or de minimis, it must be concluded that new development within the Stour catchment could increase nitrogen and phosphate deposition into the protected sites above consented levels and thus interfere with the ability of the site to achieve its conservation objectives and thus the integrity of the European protected nature conservation site. This is relevant because under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) a local planning authority (competent authority) cannot legally consent a plan or project that will have an adverse effect on the integrity of any European protected nature conservation site.
- 1.10 The potential impact of Local Plans or individual site allocations is determined using nutrient neutrality calculations. A calculation methodology covering both nitrogen and phosphorus has been developed by Natural England, using the most up-to-date scientific evidence base at the time of publication. This methodology has been published as the 'Nutrient Neutrality Generic Methodology' (latest version November 2022).
- 1.11 In March 2022, Natural England identified further habitats sites that are in unfavourable status due to excess nutrients and to which the nutrient neutrality process will now apply. This now includes 75 local authority areas. Alongside this latest advice to the LPAs, Natural England issued an updated nutrient neutrality calculation methodology that would apply nationally, and also a new calculator tool specific to the Stour catchment. Updates to the methodology compared to the previous version published in November 2020 include making use of the latest version of the Farmscoper tool (version 5) which includes more up to date values for various variables. The updated approach uses the actual Farmscoper outputs rather than averaged values for detailed farm types broken down by rainfall, drainage and Nitrate Vulnerable Zones (NVZ). This allows a more site-specific nutrient budget. Amongst the changes are new coefficients for export of nutrients from greenspace and urban land uses. A further update to the calculator for Stodmarsh¹ and the associated guidance was published by Natural England in February 2024.

¹ [Stodmarsh SAC, Ramsar: nutrient neutrality calculator - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/stodmarsh-sac-nutrient-neutrality-calculator)

- 1.12 While a competent authority such as Folkestone and Hythe District Council are not obliged to follow Natural England's advice, as set out in the court ruling in *R (Hart District Council) v Secretary of State for Communities and Local Government* [2008], they are expected to give 'considerable weight' to Natural England's opinion on HRA matters.
- 1.13 Should a derived nutrient budget for a development demonstrate that there will be a nutrient surplus (i.e. is not nutrient neutral) then the applicant must identify suitable mitigation that allows neutrality to be achieved. There are a range of nutrient mitigation approaches that can be adopted. Improvements to Wastewater treatment works (WwTW) are one such area, for instance by incorporating tertiary treatment phosphate stripping. However, this approach is largely outside of developer control and can take years to implement and so does generally not enable nutrient neutrality to be demonstrated in the short term. Nonetheless, the Levelling-Up and Regeneration Act 2023 outlines new nutrient effluent targets to be achieved by WwTWs by 2030 based on Technically Achievable Limits (TAL). The TAL upgrades apply to WwTWs serving 2000 or more people and in areas currently affected by nutrient neutrality requirements. For WwTWs that serve between 250 and 2000 people, upgrades may be needed at the discretion or direction of the Secretary of State.
- 1.14 Strategic scale mitigation solutions, such as large wetlands, are under development by various LPAs and Natural England to enable developers to buy nutrient credits to offset development. A notable example is the Solent Nutrient Market Pilot scheme. For most LPA areas, strategic solutions are not yet in place and mitigation approaches often involve changing land use, for instance from agricultural land to woodland to reduce nutrient uptake, although this can be unfeasible for smaller scale developments. Other approaches include the use of Package Treatment Plants (PTPs), particularly where they discharge to ground. Wetland creation and use of sustainable drainage systems (SuDS) are also commonly applied mitigation approaches. A key consideration with regard to mitigation is that it must be in place from the point of occupation of a development and must be maintained for the lifetime of that development.
- 1.15 In the Spring 2023 budget (March 2023) the UK Government announced that the Department for Levelling Up, Housing and Communities would launch "a call for evidence for locally led nutrient neutrality credit schemes" and provide "funding to support clearer routes for housing developers to deliver 'nutrient neutral' sites, in line with their environmental obligations". In a further development in August 2023, the UK Government announced proposed amendments to the then draft Levelling-Up and Regeneration Bill to the effect that urban wastewater developments would no longer need to consider nutrient flows as part of HRA for planning decision making and plan-making in nutrient neutrality catchments. However, the proposed amendments were overturned in the House of Lords, and as such, were not included in the Levelling-Up and Regeneration Act that received Royal assent in October 2023. No further legislation was brought forward in the King's Speech in November 2023.

2. Review of Nutrient Neutrality Assessment and Mitigation Strategy

- 2.1 The following review is presented under each main section title of the NNAMS prepared by Water Environment on the 16th April 2024.

Review of Introduction

- 2.1 The Applicant confirms that the site is located on the western edge of Sellindge, bounded by the M20 to the south and A20 to the north.
- 2.2 The Applicant explains the total application area is approximately 6.99 ha of residential development. The proposal is for 105 dwellings with associated amenities, access roads, parking and greenspace. The existing site is arable agriculture.
- 2.3 The Applicant also confirms that given that the site lies within the catchment of a European and internationally designated site – Stodmarsh – a Habitats Regulations Assessment (HRA) is required.
- 2.4 The background section describes the stages of assessment required in the HRA process and when Appropriate Assessments (AA) are required. It is described that ‘appropriate’ indicates that an assessment needs to be proportionate and sufficient to support the task of the competent authority in determining whether the plan or project will adversely affect the integrity of the habitats site. An AA must contain complete, precise, and definitive findings and conclusions to ensure that there is no reasonable scientific doubt as to the effects of the proposed plan or project. This is agreed.
- 2.5 The Applicant introduces the ‘Dutch Case’ of the European Court of Justice, as has also been described in Section 1 of this review. Ultimately, mitigation needs to be sufficiently certain at the time of assessment to ensure that there will be no adverse effect on the conservation status of European designated sites which already exceed compliance limits.
- 2.6 The concept of nutrient neutrality is then introduced, with explanation of the need for mitigation of increases in nutrient loading from new development, including nutrients from wastewater flows to WwTW within the habitats site catchment, and for nutrient contained in surface water runoff. In the Stour catchment, new development could adversely affect Stodmarsh, which is a Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site.
- 2.7 The scope of the study is then introduced which includes for presenting calculations to outline the potential increase in nutrients from the proposed development, and to outline a strategy to mitigate any increase in nutrients and thus make the development nutrient neutral.

Review of Water Quality in Stodmarsh

- 2.8 A list of Stodmarsh designated sites is provided along with reasons for designation and supported species.
- 2.9 The ‘Water Quality’ section describes the latest condition of the various designated sites. The need to focus on Total Nitrogen (TN) and Total Phosphorus (TP) has been explained. Some of the dominant sources of TN and TP into the designated sites are identified, including WwTWs outfalling into the Stour catchment, runoff from urban and agricultural land, flood waters from the River Great Stour (during both high flow and tidal events) and recycling of nutrients within the Stodmarsh lakes.
- 2.10 The need for the NNAMS in order to be compliant with the Conservation of Habitats and Species Regulations 2017 and relevant case law is explained. It is stated that the latest NE guidance has been followed to ensure that the proposed development will be nutrient neutral.
- 2.11 The layout of the subsequent report is explained, with Part 1 determining the nutrient budget in the absence of mitigation, and Part 2 a mitigation strategy with supporting calculations.

- 2.12 The use of a precautionary buffer for the nutrient budget calculation is confirmed, as would be expected by Natural England where a degree of uncertainty exists. The nutrient neutrality methodology outlined by Natural England is based on scientific research, evidence and modelling. However, assumptions and average values are necessarily used in several of the calculation steps, and so the precautionary approach is required.

Review of Site Location

- 2.13 It is stated that the application site is located on the western edge of Sellindge, 10 km southeast of Ashford. The site is bounded by the M20 to the south and the A20 to the north.
- 2.14 The proposals for the site are introduced by the Applicant, it is stated that the total application area is approximately 6.99 ha of residential development. This would include 105 dwellings with associated amenities, greenspace, access roads and parking.
- 2.15 A plan is provided in Section 3 of the NNAMS of the site location in relation to the Stodmarsh habitats site and indicates that the site is within the Upper Stour catchment.
- 2.16 Appendix A includes the Development Framework Plan, outlining proposed land uses across the site.

Review of Part 1: Calculating the Nutrient Budget

- 2.17 The Applicant confirms that the version of the Natural England Generic Methodology published in March 2022 has been followed and provides a summary of the approach. It should be noted that a new version of the Natural England guidance and Stodmarsh calculator was published in February 2024.

Development Nutrient Load from Additional Wastewater

- 2.18 The proposal could result in wastewater discharge from the site which has the potential to increase nutrient inputs within the Stodmarsh Catchment, and thus nutrient neutrality must be demonstrated. The Stodmarsh calculator includes outputs for pre-2025, pre-2030 and post-2030 nutrient budgets, with certain WwTW having tightened permit limits post-2025 and having TAL permit limits introduced by 2030. However, the consultant (Water Environment) has used their own version of the calculator in order to incorporate mitigation. This is based on Natural England's calculator, and pre-2030 permit figures are presented.
- 2.19 The Applicant has assumed an occupancy rate of 2.4 for the proposed development, which is in line with the Natural England guidance. The proposed development is for the construction of up to 105 dwellings, which gives an average total future occupancy of 252 people.
- 2.20 The Applicant has also assumed a wastewater generation of 120 l/p/d as per the guidance and the Stodmarsh calculator (which is 110 l/p/day as per the optional higher Buildings Regulations plus an additional 10 l/p/d). Natural England state that using the optional higher Building Regulations water usage should be secured through a planning condition.
- 2.21 The Applicant has assumed for the purposes of establishing the nutrient baseline that wastewater would ordinarily be conveyed to Sellindge WwTW which has a TP licence limit of 0.5 mgP/l and no limit for TN. Therefore, in line with the Natural England Generic Methodology, the effluent discharge concentrations have been taken as 0.45 mgP/l and 27 mgN/l. This has been checked and confirmed for the Sellindge WwTW.
- 2.22 Based on the input figures described above the Applicant correctly determines that there would be a wastewater load (pre-2030) of 298.22 kgN/year and 4.97 kgP/year if Sellindge WwTW was to be used.

Land Use Change

- 2.23 The Applicant has indicated that the proposed development is located within the Upper Stour Operational catchment, has naturally wet soil drainage type, has an annual average rainfall of 755 mm and is within the River Great Stour Nitrate Vulnerable Zone. Each of these characteristics has been checked and verified using the websites recommended by Natural England, namely

Catchment Data Explorer², Soilsdscapes³, National River Flow Archive⁴ and UK Soil Observatory⁵, respectively.

- 2.24 The Applicant has stated that the entire site (6.99 ha) is currently used for growing crops and therefore the land use is classified as 'Cereals'. No history of land use over the last 10 years has been provided, as per Natural England's recommendation. Basic review of aerial imagery indicates that this appears to be an appropriate classification over the last 10 years. It is recommended that the Applicant includes an appendix containing appropriate evidence to confirm that this is the case.
- 2.25 The Applicant states that there is an existing surface water nutrient load of 165.08 kg N/year and 4.77 kg P/year which has been confirmed as correct based on the inputs described above.
- 2.26 After redevelopment, the site will be classed as 3.12 ha 'Residential Urban' and 3.87 ha 'Greenspace'. The Applicant states that they have included proposed dwellings, associated gardens, roads, pathways and verges in the residential urban category. This is appropriate and in keeping with Natural England's definition for this land use.
- 2.27 With regard to Greenspace, it should be demonstrated that Greenspace areas correctly match the Natural England definition of "*Natural and semi-natural outdoor spaces provided for recreational use where fertilisers will not be applied and dog waste is managed. For example, semi-natural parks. This does not include green infrastructure within the built urban environment*".
- 2.28 It is understood that this application is currently at the outline stage. However, it would be beneficial to provide a plan demonstrating how land use categorisation has been undertaken, as it is not clear on the basis of the Development Framework Plan provided in Appendix A. For example, this plan states there would be 3.47 ha of residential development, which differs to the value used by the Applicant. It is not clear how areas such as the children's play area and proposed wastewater treatment works and pump station have been classified. It is therefore recommended that a plan is submitted which clearly shows which parts of the site have been defined as residential urban and greenspace, and the Applicant should also consider whether any other Natural England land use categories such as 'open urban' are appropriate for parts of the site.
- 2.29 While such a plan would be beneficial, at this outline stage the LPA must satisfy themselves that there is sufficient information to have confidence in the land use classifications used in the nutrient budget. On the basis of the available information the values used in the nutrient budget cannot not be independently checked. While the recommended plan would help resolve this, a condition that nutrient neutrality is considered further at the reserved matters stage when more detailed information is available would be appropriate.
- 2.30 The Applicant determines a future surface water load based on their chosen inputs of 56.68 kgN/yr and 4.92 kgP/yr. This has been confirmed using the Natural England Stodmarsh calculator. Nonetheless, the chosen land uses should be confirmed through further evidence as per the above comments.

Nutrient Budget (prior to mitigation)

- 2.31 In the absence of mitigation, the Applicant has calculated a (pre-2030) nutrient budget of 227.79 kgN/year and 6.14 kgP/year which includes a 20% precautionary buffer in line with Natural England advice. This budget has been confirmed using the latest Natural England Stodmarsh calculator. However, further evidence regarding land use classifications is required in line with above comments.

² [Stour Upper Operational Catchment | Catchment Data Explorer](#)

³ [LandIS - Land Information System - Soilsdscapes soil types viewer](#)

⁴ [Catchment Info for 40023 - East Stour at South Willesborough \(ceh.ac.uk\)](#)

⁵ <https://mapapps2.bgs.ac.uk/ukso/home.html?layers=NVZEng>

Review of Part 2: Mitigation Strategy

- 2.32 The Applicant has proposed a mitigation strategy through adoption of two approaches: 1) the reduction in load through SuDS, and 2) the reduction in load through an onsite Water Recycling Centre (WRC). These are reviewed in turn below.

SuDS Mitigation

- 2.33 With regards to SuDS, the Applicant firstly refers to CIRIA C808 Using SuDS to Reduce Phosphorus in Surface Water Runoff⁶ to suggest that through the use of a bioretention area or a tree-pit (80% reduction of particulate phosphorus), combined with a bed/cage of adsorption media (90% reduction of dissolved phosphorus), a TP reduction of 84.5% can be achieved.
- 2.34 The Applicant has thus applied an 85% reduction in TP to the 3.12 ha proposed residential urban land use area to give a reduced overall TP load from surface water runoff from the proposed development of 0.83 kgP/yr (reduced from 4.92 kgP/yr pre-mitigation).
- 2.35 The calculation is correct, however, the Flood Risk Assessment and Outline Surface Water Drainage Strategy for the proposed development on the planning portal (dated November 2023) does not show bioretention areas across the entire residential urban area. As such, the Applicant should clarify that it is the case that all surface water runoff from the residential urban area will be treated by bioretention areas otherwise reduce the overall area to which the mitigation is applied as appropriate. The Flood Risk Assessment and Outline Surface Water Drainage Strategy does mention the potential use of permeable pavements for private roads, shared surfaces and driveways. However, it is stated that adopted roads would not be constructed using permeable paving due to ownership and future maintenance issues.
- 2.36 In addition, having reviewed CIRIA C808, it would appear that such high removal efficiency for TP would only be achievable through use of an appropriate filter media. Details of the proposed filter media have not been provided at this outline stage. CIRIA C808 states that bioretention would provide 44% treatment for particulate phosphorus for any flow that only receives sedimentation/filtration and leaves the system via an underdrain, and to assume nil dissolved phosphorus removal unless specific media are selected for phosphorus capture. Evidence is therefore needed that the proposed TP reductions are achievable. Furthermore, detail should be provided regarding over what timescales performance could be maintained, how often the media would need to be replaced and how this would be secured through planning. Should the outline planning application proceed with the proposed TP reduction figure and it subsequently be determined that this cannot be achieved, then alternative mitigation would need to be provided and this should be subject to a planning condition.
- 2.37 With regard to TN, the Applicant states that 30% TN reduction is assumed across the residential area based on the CIRIA C815 Using SuDS to Reduce Nitrogen in Surface Water Runoff guidance⁷. This guidance gives two examples of treatment trains where 30% TN removal can be achieved, option 1 being ponds followed by bioremediation devices, and option 2 being lined infiltration devices followed by a pond. The Flood Risk Assessment and Outline Surface Water Drainage Strategy does not clearly demonstrate that either of these two treatment trains would be present for the proposed development. It is advised that the Applicant provides further details regarding the proposed SuDS approach, to justify the use of a 30% TN reduction for surface water runoff. Otherwise, a pre-commencement planning condition might be appropriate to ensure that a detailed SuDS Strategy is submitted at the reserved matters stage, which should include further detail regarding how the nutrient reductions used within the NNAMS would be achieved and maintained in perpetuity.
- 2.38 The Applicant has applied the 30% reduction in TN to the 3.12 ha proposed residential urban land use area to give a reduced overall TN load from surface water runoff from the proposed development of 43.16 kgN/yr (reduced from 56.68 kgN/yr pre-mitigation). The calculation is correct, but the strategy requires further clarification in line with the above comments.

⁶ https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C808F&Category=FREEPUBS

⁷ https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C815F&Category=FREEPUBS#:~:text=Nitrogen%20is%20essential%20for%20life,and%20suffocate%20other%20aquatic%20creatures

- 2.39 The Applicant states that the SuDS elements of the strategy will be maintained according to the appropriate maintenance schedule in CIRIA C753 The SuDS Manual. It is recommended that a SuDS Maintenance and Management Plan is subject to a planning condition that details how performance of the SuDS will be assured and funded for the lifetime of the proposed development.
- 2.40 The Applicant also notes that in a previous technical note issued by Water Environment, that it was concluded that water infiltrated to ground would be hydrogeologically disconnected from the Stodmarsh sites and that Natural England were in agreement with these. They therefore recommend that infiltration be considered and implemented at the detailed design stage in order to reduce nutrient load from surface water runoff to zero. However, we note that in the Flood Risk Assessment and Outline Surface Water Drainage Strategy that infiltration based methods are not considered feasible at the site. It is stated that, *"Based on the results obtained from the site investigations, shallow (above 2.0 mbgl) infiltration-based SuDS are not considered to be a feasible due to poor infiltration rates. Deep bore soakaways have been considered as an option for surface water drainage however it would be difficult to prove a 1.0m clearance between the base of the borehole and the groundwater level"*. As such, infiltration approaches do not appear appropriate at this site.
- 2.41 Overall, the use of SuDS as applied in the NNAMS is not sufficiently certain, as it is unclear as to the type of SuDS being adopted across the whole site, and whether nutrient reductions have been correctly worked out for all parts of the site. It is understood that further detail would be provided beyond the outline planning stage. A condition is therefore recommended to ensure that the Applicant demonstrates that the proposed nutrient reduction values can be achieved once there is a detailed SuDS Strategy, and if not then alternate mitigation would need to be provided and the NNAMS revised.

Water Recycling Centre

- 2.42 The second strand of the mitigation strategy is the proposed use of a WRC that will be designed and operated by Severn Trent Connect (STC), who are an Ofwat-licensed water company. A license is to be sought from the Environment Agency to discharge at a limit of 7.5 mgN/l and 0.25 mgP/l to the East River Stour. A letter of support has been provided by STC to confirm the proposed arrangement.
- 2.43 The Applicant has correctly determined that using these discharge limits (at 90% of the value as per Natural England guidance) that the wastewater element of the Proposed Development would reduce from 298.22 kgN/year and 4.97 kgP/year to 74.55 kgN/year and 2.49 kgP/yr. This calculation has been checked and verified.
- 2.44 The Applicant states that after an assessment of all relevant site constraints and consideration of the scale of the development, STC will confirm that a WwTW can be delivered and adopted on this site.
- 2.45 The onsite WRC would be adopted, maintained, and operated in the long-term by STC in their capacity as a local statutory wastewater undertaker. STC would operate the WRC to comply with an Environment Agency site-specific permit (applied for by STC).
- 2.46 A detailed design of the WRC is to be completed by the Applicant and it has been proposed that the STC system will be based on an advanced form of activated sludge treatment which doesn't require chemical dosing for effective treatment.
- 2.47 Appendix B includes STC's letter of support, as well as a design statement for the WRC. Example noise and odour assessments are also included.

The Mitigated Nutrient Budget

- 2.48 The Applicant has concluded that subject to the implementation of the appropriate mitigation using SuDS and the WRC, that the development would deliver nutrient neutrality. Overall, there would be a nutrient deficit of -47.36 kgN/year and -1.46 kgP/year. This is correct based on the input values used by the Applicant in the NNAMS. However, there are a number of clarifications required as outlined above and summarised in Section 3.

Review of Conclusions

- 2.49 The Applicant concludes that the proposed development would be nutrient neutral with regard to the Stodmarsh Habitats Site.
- 2.50 The Applicant suggests that that a suitably worded condition can be applied that will restrict occupation of any phase of development, subject to the approval of a strategy to mitigate nutrient impacts for that phase. This approach will allow for flexibility in mitigation solutions and ensure that the development remains nutrient neutral through all phases of construction. While this approach is agreed, there still needs to be sufficient evidence that neutrality can be delivered at the outline stage for the purposes of an Appropriate Assessment.
- 2.51 We note that Natural England have also provided comments on the NNAMS in a letter dated 30 May 2024, and which is on the planning portal. Natural England raised no concerns with regard to the use of the WRC provided that the competent authority and Environment Agency are satisfied that it is deliverable.
- 2.52 Natural England have not provided a detailed review of the nutrient budget but did note that history of land use over the last 10 years should be provided.
- 2.53 Natural England also advised that information on the long term management and maintenance (including funding) of the SuDS for the lifetime of the development should also be secured prior to the commencement of any works.

3. Clarifications and recommendations

- 3.1 Based on the above review, we have the following comments with respect to fundamental issues, clarifications and recommended planning conditions.

Fundamental Issues with the Nutrient Budget and/or Mitigation

- 3.2 None identified.

Suggested Clarifications Prior to LPA Decision

- 3.3 No history of the cereal land use classification over the last 10 years has been provided, as per Natural England's recommendation. It is recommended that the Applicant includes an appendix containing appropriate evidence to confirm that this is the case.
- 3.4 On the basis of the available information the values used in the nutrient budget cannot not be independently checked and the LPA must be satisfied that there is sufficient information to have confidence in the land use classifications. It is recommended that a plan could be provided showing how the future/proposed land use categorisation has been undertaken and which areas are residential urban as opposed to greenspace, as it is not clear on the basis of the Development Framework Plan provided in Appendix A, and so land use areas cannot be verified. For example, this plan states there would be 3.47 ha of residential development, which differs to the value used by the Applicant. It is not clear how areas such as the children's play area and proposed WRC and pump station have been classified.

Recommended Conditions

- 3.5 It is recommended that a detailed SuDS Strategy is provided with further information on the proposed SuDS and how the proposed nutrient removal values would be achieved, or otherwise this should be subject to a planning condition to ensure that this is provided at the reserved matters stage. There needs to be confidence that the treatment efficiencies proposed can be achieved. As such, the condition should require the NNAMS to be reviewed and updated at the point when full details of SuDS treatment trains are available. Should the proposed SuDS treatment trains not achieve the performance suggested within this NNAMS then alternative mitigation may be required.
- 3.6 It is recommended that a SuDS Maintenance and Management Plan is subject to a planning condition that details how performance of the SuDS will be assured, maintained and funded for the lifetime of the proposed development.
- 3.7 The WRC depends on an Environmental Permit being issued for discharge of treated effluent to the East Stour River. Should a permit not be granted, it will be requirement to deliver nutrient neutrality via other means, and this may be subject to a planning condition.
- 3.8 Appropriate phasing of the proposed development should be subject to a planning condition, ensuring that occupation of the development does not occur prior to the necessary nutrient mitigation being operational.

4. Updates August 2024

- 4.1 In response to the clarification and recommendations outlined in Section 3, Water Environment provided a letter (19 July 2024) outlining their comments and/or updates, along with an updated version of their NNAMS which has addressed the clarifications where necessary. Water Environment's responses are reviewed in turn below. Original AECOM comments shown in bold:

No history of the cereal land use classification over the last 10 years has been provided, as per Natural England's recommendation. It is recommended that the Applicant includes an appendix containing appropriate evidence to confirm that this is the case.

- 4.2 The Applicant has responded by providing an Appendix to the NNAMS (Appendix C) indicating that the 'cereal' area has been used as such for at least 10 years on the basis of aerial imagery. This is now considered to be sufficiently certain and no further clarifications are requested on this point.

On the basis of the available information the values used in the nutrient budget cannot not be independently checked and the LPA must be satisfied that there is sufficient information to have confidence in the land use classifications. It is recommended that a plan could be provided showing how the future/proposed land use categorisation has been undertaken and which areas are residential urban as opposed to greenspace, as it is not clear on the basis of the Development Framework Plan provided in Appendix A, and so land use areas cannot be verified. For example, this plan states there would be 3.47 ha of residential development, which differs to the value used by the Applicant. It is not clear how areas such as the children's play area and proposed WRC and pump station have been classified.

- 4.3 The Applicant has responded by providing a new plan of the Development Framework Plan with an overlay showing the land use categorisation, with individual areas having been digitally measured in AutoCAD. This new plan is included in Appendix A of the revised NNAMS and clearly shows how the areas have been delineated. The revised values are 3.10 ha of greenspace, 0.17 ha of open land and 3.64 ha of residential urban land. The delineated values match the revised nutrient neutrality calculations outlined in Appendix B and is now considered sufficiently certain. We note that the access road is also included as residential urban area, and this is accepted. The updated nutrient neutrality calculations indicate that the revised mitigated nutrient budget is -43.30 kgTN/yr and -1.32 kgTP/yr. This has been checked and no further clarifications are required for this point.

Recommended Conditions

- 4.4 The Applicant has stated that the nutrient budget is subject to review as part of a subsequent Reserved Matters application and suggest that a suitably worded Grampian-style condition applied at the outline application stage would prevent any harm from arising until a mitigation scheme has been submitted and approved in writing at the Reserved Matters.
- 4.5 AECOM's recommendations in terms of conditions remain as per those outlined in Section 3 (paragraph 3.5 to 3.8).