

**Thames Farm Action Group
Representations re: Amended
Planning Applications:**

P24/S2642/FUL

P24/S2652/S73

P24/S2651/DIS



Where/what is 'Plan B'?

Thames Farm - Representations re: Amended Planning Applications P24/S2642/FUL, P24/S2652/S73, P24/S2651/DIS

Summary

TFAG and its advisors, have reviewed in detail the information submitted by Taylor Wimpey in relation to the proposed groundworks at Thames Farm, which include extensive grouting and vibro-compaction operations. These works are now the subject of a separate full planning application, in addition, to the outline planning permission previously granted.

Having now reviewed 4 rounds of amendments and supplementary information submitted by the developer's team on its behalf, we remain deeply concerned that the proposals amount to an experimental and untested engineering approach, within a highly sensitive Source Protection Zone 1 (SPZ1), posing unacceptable risks to public health and to the environment. The simple fact that these proposals have had to be amended on 4 occasions now, and they remain defective and unproven, does not generate any great confidence in the developer's ability to get things right.

We have submitted detailed and technical responses supported by JBA our engineers and their numerous Technical Notes, rebutting and challenging the Applicants assertions on successive amendments.

The conclusion reached in JBA's latest technical note shown at Appendix 1 is that the DQRA exercise is wholly deficient and fundamentally flawed.

The question we, and all decision makers should ask, is where is Plan B? What will this applicant/developer do to rectify matters should its proposals result in damage to either the groundwater, or to the environment and local residents. What security is there to ensure that rectification (if possible to rectify) will be at this developers expense and not fall to the 'public purse'

This paper therefore considers the overarching position and in particular the important, indeed fundamental, issues of credibility and risk.

Context and Planning history

Taylor Wimpey's predecessor initially obtained outline planning permission for residential development on this site without indicating the need for the scale of intrusive ground engineering now proposed. Subsequently, the Secretary of State has, in response to the applicants' challenges of the LPA's position, determined that:

1. A full Environmental Impact Assessment (EIA) is required; and

2. A separate planning application must be submitted for the proposed groundworks.

This reflects the significant environmental sensitivity of the site, and the failure of the applicant to demonstrate that the original consent permitted these works, or, that they could proceed without causing environmental harm.

It is noteworthy, that the surface water drainage strategy going back to the base consent remains unapproved, and there are serious concerns over the extent of the works needed to provide a foul drainage solution as highlighted most recently by Thames Water

Groundwater protection and EA concerns

The site lies within a designated Source Protection Zone 1, an area designated by the Environment Agency (EA) for the protection of potable water supplies, and the highest classification available. This Thames Water region or supply zone serves up to 50,000 people, and importantly the regions potable water supply has no, backup or alternative facility to rely upon should disaster strike. The EA has raised serious concerns regarding the applicant's groundwater risk assessment, stating:

"To ensure development is sustainable, applicants must provide adequate information to demonstrate that the risks posed by development to groundwater can be satisfactorily managed... An amended report needs to be produced, showing outcomes of a sensitivity assessment of the key modelling parameters to provide more confidence in the predicted outcome and conclusions."

This statement clearly applies to both the FUL Application for the proposed groundworks, and also the Application dealing with the SW discharge design and implementation, not simply the latter as the applicant contends. The 2 issues are in our view, inextricably linked. The EA's objections must be considered to relate to both groundworks and drainage, since both impact the same groundwater receptor. Attempting to separate them in planning terms may be procedurally convenient but it is technically unjustified, and practically impossible.

The claim that the EA's concerns are now "resolved" relies on a document that repeats many of the same flawed assumptions, rather than addressing their core objections.

The current evidence submitted by the applicant fails to provide the level of assurances and certainty of the viability of the proposals. The proposed techniques on this scale and in this context have no proven track record of successful deployment within an SPZ1 area. This is a novel and untested

approach with no adequate fallback or robust contingency measures in place at all, itself a major obstacle and one which is sufficient to reject the proposals before any other considerations.

Moreover, The Hydrogeological Impact Assessment (HIA) and supporting reports, consistently understate the risks posed by the development, and the analysis produced of the modelled scenario fails to demonstrate that the proposals are safe.

JBA Consulting has reviewed the latest submission, and their findings are that the assessment is fatally flawed viz:-

"Based on the results presented in the DQRA Technical Note, concentrations of pollutants are exceeding Environmental Quality Standards (EQS) or Drinking Water Standards (DWS) when entering the Principal Aquifer and the results of the DQRA should conclude the currently proposed development could potentially cause pollution....."

".....The DQRA provides no evaluation of worst-case conditions that could result in a pollution event....."

Much of the applicants assessment seems to be rooted in American 1980's analysis/literature rather than that in the UK, and, the specific guidance generated in the UK viz:-

"It is notable that two key documentations have been missed off the reference list and which are widely accepted as Best Practice Guidance in the UK. The first was DMRB LA113 (Road drainage and the water environment). This document describes the requirements for assessment and management of the impacts that road projects can have on the water environment and should have been consulted during this literature review and parameters for water quality of road run-off considered."

The second key document missed was CIRIA C609 – Sustainable drainage systems: hydraulic, structural and water quality advice. The document discusses the critical issues that must be considered when designing, constructing and maintaining SuDs schemes to effectively manage rainwater runoff from development sites. It includes

information relevant to SuDs techniques, including a discussion about the design and performance of each”.

“.....As mentioned above, the background concentrations used within the software are taken from a USEPA report from 1983. It is likely that these concentrations are out of date and not applicable to UK conditions. Therefore, more suitable concentrations should be considered.

Similarly, the data sources used for some of the specific modelling parameters (e.g. soil-water partition coefficient) are over 30 years old. More recent publications should have been used as part of the literature review to derive these values to ensure appropriate site-specific values are used.....”

“.....Until the results of a sensitivity analysis for all key parameters are evaluated with key parameters influence established, the assessment is not providing sufficient confidence that its results are representative of the range of conditions pertaining to the proposed development.....

“.....The applicant’s risk assessment is not realistic, fails to model the proposed development characteristics and therefore cannot demonstrate an absence of risk to a critical infrastructure, the water supply, or the Chalk Principal aquifer.”

Furthermore, there are a whole range of issues and questions, that are inadequately addressed or glossed over :-

- Voids and Fractures: The presence of fractured chalk and solution features is acknowledged in multiple places, yet their role in promoting unpredictable contaminant migration is glossed over.
- Grout, pollutants, or turbidity could easily exploit these pathways.
- Contradictory Depth Claims: Groundwater depths are reported as both shallow (0.5-5 m) and deep (12-22 m) in different sections. This inconsistency undermines the credibility of the hydrological modelling used to assess risk.

- **Turbidity and Grout Migration:** The applicant concedes that it is not known whether grouting will produce turbidity. Nonetheless, the conclusion drawn is that the risk is negligible - an unsupported leap given the nature of karstic terrain.

Surface water drainage and contamination risks

In relation to the impact of the surface water drainage on the underlying aquifer, and the potential for contamination, the following observations and concerns are also identified:

- **Infiltration Rates:** The Flood Risk Assessment (FRA) and associated drainage strategy rely on input values that are either unsubstantiated or contradicted by the site's own data:-

Discrepant Infiltration Values: The infiltration rate calculated from tests across the site ranged from 3.1×10^{-7} m/s to 3.2×10^{-4} m/s, with an average infiltration rate of 4.4×10^{-5} m/s. The infiltration rate used to size the drainage basin is 1.52×10^{-5} m/s. This is taken from soakaway testing conducted in the west of the site in July 2023, and corroborated by testing undertaken in November 2024. This nearly 50-fold difference skews runoff estimates and artificially inflates the apparent adequacy of drainage measures.

- **Inadequate Flood Protection:** The proposed bunds and infiltration basins provide just enough storage for a 1-in-100-year storm (plus 40% climate allowance). There is minimal safety margin. The risk of overtopping and subsequent flow onto Reading Road is acknowledged but not meaningfully mitigated.
- **Temporary Drainage Measures:** During grouting, temporary surface water controls are proposed. These systems are rudimentary and highly vulnerable to failure in adverse weather, with little redundancy built into the design

SUDS Strategy

The proposed SuDS strategy raises further concerns. Not only does it rely on removal or rehabilitation of soil layers that may require hazardous waste disposal, but the applicant openly admits:-

“Although there is wide ranging evidence for the effectiveness of SuDS at improving water quality, there appears to be no methodology to allow quantitative modelling of the effectiveness of a given SuDS design in preventing groundwater contamination...”

This admission confirms T FAG's own conclusion: the potential contamination risks to groundwater cannot be quantified. Nor does the applicant provide any meaningful mitigation strategy to address likely increases in aquifer turbidity, a known by-product of the proposed methodology.

We still do not know if the location of the proposed detention pond will be completely free of groundworks or not, and which may well impact the ability of this area to collect, receive, store, and discharge clean surface water

Inadequate Flood Protection

The proposed bunds and infiltration basins provide just enough storage for a 1-in-100-year storm (plus 40% climate allowance). There is minimal safety margin. The risk of overtopping and subsequent flow onto Reading Road is acknowledged but not meaningfully mitigated.

Temporary Drainage Measures: During grouting, temporary surface water controls are proposed. These systems are rudimentary and highly vulnerable to failure in adverse weather, with little redundancy built into the design.

Downplayed Contaminant Risks in DQRA

The applicant's Detailed Quantitative Risk Assessment (DQRA) makes use of a long-term model (10,000 years) to justify dismissing short-term pollution risks- particularly from heavy metals and hydrocarbons.

- **Lead and Benzene Exceedances:** In several model scenarios, lead and benzene concentrations exceed environmental thresholds at the site boundary. The report sidesteps this by stating the exceedance happens after thousands of years, ignoring the possibility of shorter-term exposure risks.
- **Misuse of Outdated Data:** Contaminant loadings are derived from 1983 U.S. urban runoff data, which includes pollutants like lead from petrol additives no longer used in the UK. This inflates predicted concentrations- but then the same outdated figures are used to argue that SuDS treatment is sufficient, which is both inconsistent and misleading.
- **Lack of Realism in SuDS Modelling:** The report assumes a constant removal efficiency for the SuDS system, yet it admits there's no reliable method to quantify this over time. In reality, SuDS performance degrades as sediment accumulates and vegetation matures.

Unacceptable risk and lack of credibility and accountability

TFAG considers this scheme to be fundamentally unsound. It would allow a volume housebuilder to proceed with unproven, large-scale ground engineering operations in an area with critical public water infrastructure. The proposals are based almost entirely on the opinion of consultants appointed by the developer, assessments that are woefully out of date and in many instances rooted in the USA, and, they do not seek to follow UK guidance. There is no independent assurance and no direct accountability if the proposal and adopted systems fail.

The JBA risk assessment produced originally in default of one by the applicant, (Review of Drainage and Hydrogeological Impacts Feb 2025 v2) showed a score of 245, which is on the border of being completely unacceptable! It remains the case that quantitative and qualitative evidence is notable by its absence, to the point that wildly out of date US based material has been cited! It cannot be right, that a borderline unacceptable risk can be waived through, based on zero hard facts or evidence. Furthermore, the level of confidence in the Developer and its technical team of experts and professionals must be so low as to beg the question, do we have any confidence at all in their ability to carry out and manage this project.

Simple common sense would suggest that a 5.6 HA (c 15 acres) green site being converted largely into an impermeable platform grouted with concrete slurry to a huge depth and then vibro-compacted across most of its surface area to a depth of c 3m will inevitably impact upon the flow, direction and quantity of the water contained in the below ground aquifer, not to mention the potential impact on the quality of that water for drinking purposes.

Monitoring, where proposed, is only periodic, and not continuous. There is no effective emergency plan in the event of groundwater contamination or drainage system failure. Once the intrusive groundworks begin, there is no realistic way to reverse impacts on groundwater flows or the quality of the water.

Thames Water objection – foul water drainage unresolved

Thames Water has separately stated, in its response dated 20 September 2024:

"With the information provided, Thames Water has been unable to determine the foul water infrastructure needs of this application..."

"Network reinforcement works may be required to accommodate the proposed development. Any reinforcement works identified will be necessary in order to avoid sewage flooding and/or potential pollution incidents."

Thames Water has recommended that a specific condition be attached to any permission, requiring confirmation of foul water capacity or a phasing plan prior to occupation. This reinforces the complete lack of preparedness and infrastructure planning underpinning this application.

Climate change and sustainable development

The wider context must also be acknowledged. Climate change is already materially altering environmental conditions. In this evolving landscape, development must be based on evidence and resilience, and not on speculative engineering.

The pumped drainage design, the need to remove contaminated soil at unspecified intervals and the road transfer of hundreds of thousands of tonnes of grouting material through Reading all confirm that this application is a very long way from being sustainable development.

This application lacks both the technical robustness and the public interest justification to proceed in its current form, and in fact, there are other, less sensitive locations where housing could be delivered without incurring this level of risk to the public water supply or the local population.

Conclusions

This is, in effect, an experiment being conducted in one of the most environmentally sensitive zones in the region. The risk in terms of groundwater contamination, physical impacts upon the aquifer, flood risks and inadequate drainage infrastructure are both unacceptable and unsupported by independent, verifiable data. Indeed, the applicants own DQRA model results, according to JBA:-

“.....indicate the current drainage design would result in the pollution of the Chalk Principal Aquifer. Furthermore, the DQRA provides limited reassurance that the potential contamination of the Chalk Principal Aquifer could then also lead to contamination entering the public water supply”.

TFAG therefore urges the Local Planning Authority, to refuse the applications on the grounds that:

- A comprehensive and credible Environmental Impact Assessment has not been provided.
- The applicant has failed to demonstrate a safe and sustainable groundwater protection strategy.
- The scheme conflicts with the **precautionary principle** and fails to comply with the requirements of sustainable development. The DQRA fails to demonstrate, that the proposed development will not pose a significant risk to groundwater and the public water supply infrastructure.

- The infrastructure required for foul water disposal remains unresolved.

If the LPA chooses not to accept the '**precautionary principle**' and grants permission, then, there are a whole host of safeguards that must be introduced, one of the most important being a mechanism to ensure that all work stops immediately, and that whatever problems have arisen are immediately and permanently rectified!

It would also be necessary at that time, to consider the possibility that any problems could not be rectified and therefore to have on standby a robust contingency plan for dealing with that eventuality.

Finally, we would ask the question, as should the decision makers here, what is 'Plan B', how will this developer, as opposed to the public purse, rectify and make good should its proposals fail, and damage is caused to either the Aquifer, or to the local environment and the 50,000 residents in this Thames Water region, who rely upon this aquifer for their drinking water.

**Thames Farm Action Group
June 2025,**

Supporting information

1. JBA Technical Report (10 June 2025) – Appendix 1
2. Environment Agency and Thames Water responses Appendix 2
3. SPZ1 mapping Appendix 3

Appendix 1

TECHNICAL NOTE

JBA Project Code	2023s1304
Contract	Thames Farm Planning Application
Client	Thames Farm Action Group
Date	10 June 2025
Author	Benjamin Brière De L'Isle
Reviewer / Sign-off	Paul Eccleston
Subject	Review of additional Information submitted 2025-05-09 under Planning P24/S2642/FUL

1 Introduction

A Planning Application (P24/S2642/FUL) was made to South Oxfordshire District Council (SODC) by Taylor Wimpey West London (TWWL) for engineering operations associated with ground stabilisation works (as amended by plans and information received 9 January 2025) to support the development of land at Thames Farm, Shiplake (RG9 3PH).

Another planning application (P24/S2651/DIS) relating to the drainage, the associated roads and landscape management and planning application (P24/S2652/S73) relating to the proposed development layout were also submitted to SODC.

The proposed development has a long history of failed planning applications due to the hydrogeological sensitivity of the site, i.e. located adjacent to the Harpsden Water Treatment Works, a set of public abstraction boreholes. The abstraction boreholes abstract unconfined groundwater from the local Chalk which is prone to dissolution features and would require ground stabilisation for some of the proposed planned infrastructure. The proposed drainage strategy has also been subject to numerous iterations as potential combined effects of the proposed development were poorly described in relation to the significant environmental and social damage to the public water supply.

Thames Farm Action Group requested JBA (email dated 21/05/2025) to review the technical documents submitted as part of the above planning applications.

2 Documents reviewed

JBA reviewed documents submitted recently, May 2025, by TWWL and its consultants to address the Environment Agency and Thames Water concerns, amongst many other stakeholders, around the proposed development which is now subject of a wider Environmental Impact Assessment.

The additional information submitted 2025-05-09 is based on numerous previous amendments of the Planning applications which were also the subject of reviews and comments by JBA and others. No satisfactory comments and amendments have been made to the Planning Applications above so that elements of the works supporting this DQRA are not necessarily considered satisfactory or agreed with. Notably, the Flood Risk Assessment and Drainage Strategy v7 documents is not accessible, the pdf file appears corrupt, and only the Flood risk Assessment and drainage Strategy v6 has been reviewed and is considered by this Technical Note,

albeit both versions on the planning portal appear current with the version 6 not superseded.

The documents reviewed by this Technical Note include:

- Cover Letter, Stantec, Ref 332610422 dated 9/5/25
- Shiplake Water Quality Assessment and DQRA Technical Note, H Fraser Consulting, Document reference 30438TN3 Rev1 Shiplake DQRA Final dated 8/5/25.
- Appendix B to Shiplake Water Quality Assessment and DQRA Technical Note - Appendix B - 30438 Results v1-3 Sensitivity, Appendix B - 30438Shiplakev1-3PulseSource09122024-171237, Appendix B - 30438Shiplakev1-309122024-171839.

The Cover Letter by Stantec (9/5/25) states:

"It is our understanding that whilst the letter from the EA specifically refers to the engineering works planning application (Ref: P24/S2642/FUL) in their response, having read and considered the contents of the letter, we are of the view that the objection specifically relates to the S73 submission to amend the reserved matters approval (Ref: P24/S2652/S73) and the discharge of condition relating to the drainage strategy (Ref:P24/S2651/DIS)."

It is our view that ground stabilisation, site layout and drainage should be considered together to properly evaluate risks to the water supply as one would affect the other.

3 Hydrogeological Impacts Considerations

The sections below provide a technical review of the Detailed Quantitative Risk Assessment (May 2025). The objectives stated by the DQRA is to "*assess potential risks to water quality arising from infiltration of surface water drainage at a site in Shiplake, Oxfordshire*".

3.1 Comments on Conceptual Site Model, modelled parameters and proposed development

The Conceptual Site Model for the proposed development presented in paragraph 52 consists of the succession of:

1. SuDS system – including macro pervious paving, bioretention basins and swales
2. Infiltration blanket layer – 2.8m thick
3. Unsaturated zone – 14.5m of unstructured Chalk
4. Dilution with groundwater below the site
5. Saturated zone flow to Water Supply – horizontal flow through fractured Chalk

The receptor that should be considered to assess potential risks to water quality should be primarily the water in the aquifer at the base of the unsaturated zone to comply with the requirement of The Groundwater (England and Wales) Regulations

2009 and subsequently assess the potential risks for the water at the public water supply.

Based on the results presented in the DQRA Technical Note, concentrations of pollutants are exceeding Environmental Quality Standards (EQS) or Drinking Water Standards (DWS) when entering the Principal Aquifer and the results of the DQRA should conclude the currently proposed development could potentially cause pollution.

Although the rainfall used to provide a source term to the model is within the same order of magnitude to the volume of water presented in Table 2 - 100 year (+40% climate change factor) storm event - contained in earlier Hydrogeological Impact Assessment (H Fraser Consulting, August 2024), the rainfall volume used initially diluting the source of contamination is greater than the 15min rainfall event so that, for example, greater dilution is considered when calculating background hydrocarbon concentrations. The DQRA provides no evaluation of worst-case conditions that could results from a pollution event.

3.2 Comment of literature search

The literature review reported is limited to the following references:

- SuDS manual Woods Ballard, B, Wilson, S, Udale-Clarke, H, Illman, S, Scott, T, Ashley, R, Kellagher, R. The SuDS Manual (C753F), CIRIA, 964p, ISBN 978-0-86017-759-3, December 2015
- Susdrain (<https://www.susdrain.org/delivering-suds/using-suds>)
- Kellagher et al., 2006. SuDS – Increased Liability for the Water Industry – Phase 2 UK Water Industry Research (UKWIR)
- Sniffer: Jefferies C, Napier P,m Fogg P, Nicholson F. Source control of pollution in sustainable drainage (UEUW01), Final report, February 2008.
- United States Environmental Protection Agency (US EPA). Preliminary Data Summary of Urban Storm Water Best Management Practices, EPA-821-R-99-012 August 1999
- Nnadi et al., 2019, "An Evaluation Of Stormwater Treatment Efficiency Of Sustainable Drainage Systems (SuDS)". In book: Stormwater: Sources, Monitoring and Management (pp.31-76). Edition: 1st; Publisher: Nova Publishers Inc., New York

It is notable that two key documentations have been missed off the reference list and which are widely accepted as Best Practice Guidance in the UK. The first was DMRB LA113 (Road drainage and the water environment). This document describes the requirements for assessment and management of the impacts that road projects can have on the water environment and should have been consulted during this literature review and parameters for water quality of road run-off considered.

The second key document missed was CIRIA C609 – Sustainable drainage systems: hydraulic, structural and water quality advice. The document discusses the critical issues that must be considered when designing, constructing and maintaining SuDs schemes to effectively manage rainwater

runoff from development sites. It includes information relevant to SuDs techniques, including a discussion about the design and performance of each. In addition, in paragraph 25, the background concentrations for potential pollutants in residential runoff have been taken from the US EPA 1983 Nationwide Urban Runoff Program report. These concentrations are likely to be applicable to the USA rather than UK background concentrations. Also, they are over 40 years old so are likely to have been superseded by newer investigations. Therefore, more up-to-date guidance from a UK-based study (for example DMRB and CIRIA mentioned above) should have been used instead to quantify water quality concentrations for the site.

Paragraph 26 mentions that benzene and toluene (originating from petrol) have been considered both in the long-term background average and as a single pollution event. The report states that the long-term background has assumed that a steady leak of 0.01 l/day occurs from 10 cars across the site and that the contaminant mass would take 1-10 days to travel through the site surface water system, but the basis for these assumptions is not stated. A small explanation on this would be beneficial to understand their rationale.

3.3 Review on use of RAM3 software

As mentioned above, the background concentrations used within the software are taken from a USEPA report from 1983. It is likely that these concentrations are out of date and not applicable to UK conditions. Therefore, more suitable concentrations should be considered.

Similarly, the data sources used for some of the specific modelling parameters (e.g. soil-water partition coefficient) are over 30 years old. More recent publications should have been used as part of the literature review to derive these values to ensure appropriate site-specific values are used.

No source has been provided for the water filled porosity, bulk density of unsaturated zone. It is assumed that these have come from a recent ground investigation but confirmation of where these values have come from is needed to confirm their validity. The other figures for attenuation within the infiltration layer and unsaturated zone seem appropriate.

The Environment Agency (Remedial Targets Worksheet v3.1: User Manual, dated October 2006) indicates that when using equations solutions, assumptions of the equations used should be considered and "Where an aquifer is strongly heterogeneous, consideration should be given to the appropriateness of any of the solutions". There is little reference in the DQRA to evaluate the adequacy of the software equations to the site-specific geological setting.

3.4 Sensitivity analysis comment and assumptions in Conceptual Site Model

The sensitivity analysis adjusted the following parameters: porosity of structured chalk, hydraulic conductivity of the chalk, retardation and half-life. Each parameter was only adjusted once. It would be useful to see each parameter increased and decreased by an order of magnitude to analyse the impact of each parameter on the model either way.

No sensitivity analysis on the partition coefficient have been undertaken. This is a key parameter reducing contaminants concentration in the infiltration blanket and unsaturated zone. Based on the weak literature review, only one value has been used, and a range of partition coefficients is more appropriate.

Until the results of a sensitivity analysis for all key parameters are evaluated with key parameters influence established, the assessment is not providing sufficient confidence that its results are representative of the range of conditions pertaining to the proposed development. In a regulatory context, this fails the precautionary principle.

For example, the result of the model (paragraph 67) indicates it would take 2 years for the peak contaminants to reach the water supply; this appears to be counter-intuitive considering fast flow in the fractured Chalk and the distance to the water supply following infiltration into the drainage blanket. Similarly, the statement paragraph 67 that "The concentrations from the pulse source remain high until they reach the groundwater table, ..." proves attenuation by the proposed development is not satisfactory when it is failing (paragraph 69 states "It is noted that in these calculations it is assumed there is no attenuation in the SuDS system").

The applicant's risk assessment is not realistic, fails to model the proposed development characteristics and therefore cannot demonstrate an absence of risk to a critical infrastructure, the water supply, or the Chalk Principal aquifer.

4 Conclusion

The literature sources characterising water quality are out of date and non-UK specific limiting their suitability to establish a robust Source term, a critical element in the Source- Pathway – Receptor approach taken to characterise the risk to the water supply.

The RAM3 software used does include all of the relevant input parameters for the DQRA, it is comparable to Environment Agency RTM model and uses the same equations solutions to solve transport of contaminants. However, neither of them is fit for purpose for this specific site with rapid flow through Chalk fractures.

Assumptions made to develop the Conceptual Site Model and assignment of parameters in the model should account for rapid flow through Chalk fractures.

The sensitivity analysis of some the model parameters is insufficiently representative of the site-specific conditions and provide insufficient confidence in the model results. Further tests should have been conducted on each parameter to increase the size of the dataset to cover the full range of sensitivities.

The applicant has produced a risk assessment that is not realistic and that fails to demonstrate absence of risk to a critical infrastructure, the water supply. In fact, the model results presented in the DQRA indicate the current drainage design would results in the pollution of the Chalk Principal Aquifer. Furthermore, the DQRA provides limited reassurance that the potential contamination of the Chalk Principal Aquifer could then also lead to contamination entering the public water supply. Considering these deficiencies and the precautionary principle requirement for groundwater protection policy, it is recommended that the planning authority refuse these planning applications.

Appendix 2

South Oxfordshire District Council
Development Control
South Oxfordshire District Council 135
Eastern Avenue
Mitlon Park
Abingdon
OX14 4SB

Our ref: WA/2024/131698/03-L01
Your ref: P24/S2642/FUL
Date: 17 April 2025

For the attention of Emma Bowerman

Dear Emma,

ENGINEERING OPERATIONS ASSOCIATED WITH GROUND STABILISATION WORKS. THAMES FARM, READING ROAD, LOWER SHIPLAKE, RG9 3PH

Thank you for your email dated 31 March 2025. We acknowledge your concerns and thank you for explaining the practicalities around your determination of these applications.

The Environment Agency's ambition is to have high confidence in the environmental assessment and required mitigations that might be required as a result. We are pleased that our previous concerns have been noted (moving the drainage basin), and that a site-specific hydrogeological assessment has been prepared.

At this stage, we need to ask the developer to undertake more work in relation to the surface water infiltration scheme, as currently the scheme is a little simplistic. The developer has prepared a quantitative assessment of low risk of impacts, but the assessment at present is missing a sensitivity assessment.

As stated in our February 2025 response, we have reviewed the submitted dedicated hydrogeological risk assessment DQRA for SuDS infiltration for this site. The method and assumptions of this work are broadly acceptable, with the quantitative assessment showing a low risk of impacts to groundwater quality, under the conservative assumption of no SuDS treatment.

For assurance, before these two applications are determined, we would ask that an amended report is produced, showing outcomes of a sensitivity assessment of the key modelling parameters to provide more confidence in the predicted outcome and conclusions.

As stated in our February 2025 consultation responses, we will be able to comment further once an updated hydrogeological risk assessment specifically for SuDS is submitted. This concern relates to both the application for the grouting works at the site (your ref: P24/S2642/FUL; our ref: WA/2024/131698/02) and for the application for the discharge of condition 11 of outline permission P16/S0970/O (your ref: P24/S2651/DIS; our ref: WA/2024/131942/01).

Cont/d..

In summary, additional sensitivity testing is required in order to refine the outputs of the modelling. This additional sensitivity testing needs to be undertaken before the application is determined.

Initially we thought that we would be able to request this additional work via condition. However, you have recently advised that if we consider the details in the hydrogeological risk assessment not to be acceptable at this stage, then we should reconsider our position.

Given the sensitivity of the ground at this site, and the risks posed by the development, we consider that we need to amend our position on this application. At this stage, the Environment Agency therefore **objects** to the proposed development for the following reason:

Reason:

The applicant has not yet supplied adequate information to demonstrate that the risks posed to groundwater can be satisfactorily managed. We recommend that planning permission should be refused on this basis in line with paragraph 187 of the National Planning Policy Framework.

Groundwater is particularly sensitive in this location because the proposed development site is:

- within source protection zone 1, and
- located upon principal aquifer.

To ensure development is sustainable, applicants must provide adequate information to demonstrate that the risks posed by development to groundwater can be satisfactorily managed. In this instance, whilst a site-specific hydrogeological risk assessment has been submitted, some further work is still required. An amended report needs to be produced, showing outcomes of a sensitivity assessment of the key modelling parameters to provide more confidence in the predicted outcome and conclusions.

The Environment Agency will be able to comment further once an updated hydrogeological risk assessment specifically for SuDS is submitted.

In accordance with our approach to groundwater protection we will maintain our objection until we receive an updated site-specific hydrogeological risk assessment showing the outcomes of a sensitivity assessment that demonstrates that the risks to groundwater posed by this development can be satisfactorily managed.

Please consider our letters of 25 and 26 February 2025 as withdrawn. This response supersedes those responses. We apologise for any confusion this may cause.

Yours sincerely

Judith Johnson
Planning Specialist, Sustainable Places team, Thames Area

Direct dial 020 3025 9495

Team e-mail: planning_THM@environment-agency.gov.uk

FW: 3rd Party Planning Application - P24/S2651/DIS -JAN 2025

[REDACTED]

[REDACTED]

-----Original Message-----

From: BCTAdmin@thameswater.co.uk <BCTAdmin@thameswater.co.uk>

Sent: 07 February 2025 15:00

To: Emma Bowerman [REDACTED]

Subject: 3rd Party Planning Application - P24/S2651/DIS -JAN 2025

****EXTERNAL****

South Oxfordshire District Council
Benson Lane
Crowmarsh Gifford
Wallingford
Oxon
OX10 8NJ

Our DTS Ref: 37121
Your Ref: P24/S2651/DIS -JAN 2025

7 February 2025

Dear Sir/Madam

Re: THAMES FARM, READING ROAD, SHIPLAKE, OXFORDSHIRE, RG9 3PH

Waste Comments

Thank you for consulting Thames Water for the discharge of matters relating to FOUL WATER networks. Thames Water is unable to support the discharge of this condition for the reasons outlined below.

Water Comments

Supplementary Comments

Condition 11: Thames Water is unable to discharge this planning condition on the basis that the grouting works need to be completed before the final drainage strategy can be approved and discharged. This is in relation to the works proposed under planning ref P24/S2642/FUL. The reason for refusal : To allow the final drainage strategy to manage the surface water situation after the engineering solution has been completed.

Yours faithfully
Development Planning Department

Development Planning,

FW: 3rd Party Planning Application - P24/S2642/FUL - ADDITIONAL INFO JAN25

[REDACTED]

[REDACTED]

-----Original Message-----

From: BCTAdmin@thameswater.co.uk <BCTAdmin@thameswater.co.uk>

Sent: 07 February 2025 14:58

To: Emma Bowerman [REDACTED]

Subject: 3rd Party Planning Application - P24/S2642/FUL - ADDITIONAL INFO JAN25

****EXTERNAL****

South Oxfordshire District Council
Benson Lane
Crowmarsh Gifford
Wallingford
Oxon
OX10 8NJ

Our DTS Ref: 37121
Your Ref: P24/S2642/FUL - ADDITIONAL INFO JAN25

7 February 2025

Dear Sir/Madam

Re: THAMES FARM, READING ROAD, SHIPLAKE, OXFORDSHIRE, RG9 3PH

Waste Comments

This site is affected by wayleaves and easements within the boundary of or close to the application site. Thames Water will seek assurances that these will not be affected by the proposed development. The applicant should undertake appropriate searches to confirm this. To discuss the proposed development in more detail, the applicant should contact Developer Services - <https://www.thameswater.co.uk/developers>

Water Comments

Following initial investigations Thames Water has identified that, the proposed development is located within a Source Protection Zone of a groundwater abstraction source. These zones are used for potable water sources for public water supply for which Thames Water has a statutory duty to protect. Thames Water request that the following condition be added to any planning permission: "Development here by approved shall not commence until a Source Protection Strategy detailing, how the developer intends to ensure the water abstraction source is not detrimentally affected by the proposed development both during and after its construction has been submitted to and approved by, the local planning authority in consultation with the water undertaker. The development shall be constructed in line with the recommendations of the strategy." Reason - To ensure that the water resource is not detrimentally affected by the development. More detailed information can be obtained from Thames Waters' Groundwater Resources Team email GroundwaterResources@Thameswater.co.uk Tel: 0203 577 3603. Should the Local Planning Authority consider the above recommendation inappropriate or are unable to include it in the decision notice, it is important that the Local Planning Authority liaises with Thames Water Development Planning Department (e-mail: devcon.team@thameswater.co.uk) prior to the planning application approval. Note: It is anticipated that a Source

Protection strategy should be supported by other planning application documentation. The documentation will normally consist of a Construction Environmental Management Plan; Piling risk assessment; Surface water drainage plan; and Groundwater monitoring plan. These documents should align with the purpose of protecting groundwater however, if a particular document is not applicable for the development a short technical note to explain would be appropriate.

Supplementary Comments

Further to our response in October 2024, Thames Water need assurances that:

- No hazardous materials are present in the grout,
- grouting doesn't go below the water table, and;
- all monitoring locations are used for the groundwater monitoring.

If documentation from the developer does not explicitly state this, then we are unable to discharge any planning condition. At present the drainage strategy provided in accordance with this application refers back to documents that mention PFA in grout (which we will not accept) so we are unable to approve. Prohibition of grouting below the water table and use of all monitoring locations have been confirmed by the developer in documentation.

The drainage strategy states surface water will be discharged into bunds and there is no plan to connect to Thames Water's foul network.

Yours faithfully

Development Planning Department

Development Planning,
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Denham Way,
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Appendix 3

Appx 3- The SPZ Designations Associated with the Harpsden Bore Holes

