

Land at Kilnwood Vale (Phase 3DEFG),
Faygate, Crawley

Shadow
Habitats Regulations Assessment
Addendum No. 01
(including an Appropriate Assessment)

August 2023

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Executive summary

- i) This document provides an addendum to the Shadow HRA (October 2022) in regard to the site at Kilnwood Vale Phase 3 DEFG (ref: DC/23/0856). It considers new information and comments received since 2022 and presents an updated Shadow Appropriate Assessment of the proposals.
- ii) In particular the document ‘Sussex North Water Neutrality Study: Part C – Mitigation Strategy’ published December 2022 is considered, as are additional comments received from Natural England in respect of analogous applications.
- iii) The analysis highlights that planned ‘demand reduction’ measures in the WRMP19 accommodate ‘committed development’ assessed at that time, which includes the application site. These measures enable such development to come forward without additional ‘water neutrality’ measures to be put in place, as confirmed in the Part C strategy. Further development, outside of that taken account of in WRMP19, may need additional mitigation and this is also considered as part of the Part C strategy. However, the mitigation strategy proposed in the Part C document is currently under review, is unadopted and unimplemented. Accordingly, the available WRMP19 ‘demand reduction’ measures should be allocated to ‘committed development’ assessed in that plan, including the application site. Such measures will be in place in 2025.
- iv) In the meantime, the Environment Agency has secured an interim mitigation measure by way of a voluntary ‘minimisation’ of abstraction. This ensures that abstraction levels at Hardham are below those of September 2021, the time at which Natural England’s position statement was issued. This creates headroom in the system and allows development to come forward prior to the implementation of the WRMP19’s ‘demand reduction’ measures.
- v) Lastly, a further final mitigation measure will be put in place in 2025, when the currently ongoing ‘sustainability study’, which is examining whether any hydrological link exists between the Hardham abstraction point and the SAC, concludes. In the event a link is present, the results of the study will determine if any adjustment is required to the abstraction licence (including potentially revocation) which will in turn be enacted by the Environment Agency.
- vi) In this regard the Environment Agency act as the Competent Authority, while in the meantime they have also confirmed that they consider the steps they have taken to date fulfil their duties under the Habitats Regulations, in terms of safeguarding the SAC, and are in compliance with the **Harris case**¹ (see sHRA paragraphs 4.9.11 – 4.9.22).
- vii) On this basis an updated shadow Appropriate Assessment is undertaken which concludes that adverse effects on the integrity of the SAC and Ramsar, in light of the designation’s conservation objectives, would be avoided by the mitigation measures in place. Accordingly, the Habitats Regulations do not represent a bar to the grant of planning permission.

¹ Harris v Environment Agency September 2022. [2022] EWHC 2264 (Admin), [2022] WLR(D) 367.
<https://www.bailii.org/ew/cases/EWHC/Admin/2022/2264.html>

1. Introduction

1.1. Background

- 1.1.1. Aspect Ecology and Fortridge Consulting are advising Crest Nicholson in respect of ecological and hydrological matters relating to Land at Kilnwood Vale Phase 3DEFG, hereafter referred to as 'the site'. The site is proposed for a residential development, under Reserved Matters planning application ref: DC/23/0856 for up to 280 homes.
- 1.1.2. To inform the Reserved Matters application, a Shadow Habitats Regulation Assessment (sHRA)² for Phase 3DEFG dated October 2022 (unsubmitted) was undertaken which mirrored that submitted for the Phase 6B Reserved Matters application (see Annex 1). It considered potential effects which could arise from the proposals in respect of relevant European designations. In particular, effects on Arun Valley SAC were considered pursuant to a position statement³ issued by Natural England in regard to new housing proposals in the Sussex North Water Supply Zone.

1.2. Further information

- 1.2.1. Following the issue of Natural England's position statement in September 2021, the three local affected planning authorities jointly commissioned an investigation into how water neutrality may be able to be achieved. This is reported in three parts within the document entitled Sussex North Water Neutrality Study Parts A – C⁴. Part A of the study examines individual impacts of each local authority on water resources; Part B examines in-combination effects; and Part C sets out a proposed mitigation strategy.
- 1.2.2. Part C of the report was issued December 2023, post dating the Kilnwood Vale Phase 3DEFG sHRA. This represents a relevant material consideration and accordingly this Addendum sHRA considers the information set out in this document, alongside other information that has subsequently come to light in the interim. This includes comments from Natural England in relation to other schemes⁵ which it is relevant to consider.

1.3. Purpose of this addendum

- 1.3.1. The purpose of this addendum is to consider the further information that is now available since the sHRA was issued in October 2022 and carry out an updated shadow Appropriate Assessment.
- 1.3.2. These matters are considered within this Addendum sHRA under the following headings:
- Role of statutory agencies and local authority

² Shadow Habitats Regulations Assessment (including an Appropriate Assessment). Aspect Ecology and Fortridge Consulting. October 2022

³ Natural England's position statement for applications within the North Sussex Interim position. Supply Zone. September 2021

⁴ Sussex North Water Neutrality Study Parts A – C. JBA Consulting

⁵ E.g. Land North of Downsview, Storrington. DC/21/0749

- Background to the WRMP's provisions – allowances for sustainability reductions
- Sussex North Water Neutrality Study: Part C – Mitigation Strategy
- Other considerations
- Appropriate Assessment
- Conclusion

2. Role of statutory agencies and local authority

2.1.1. A number of organisations play important roles in safeguarding the water environment. These include:

- Southern Water
- Environment Agency
- Natural England
- Horsham District Council

2.1.2. The role of these organisations is discussed below.

2.2. Southern Water

2.2.1. Southern Water is the water utility supplier for the area. It has a range of statutory duties defined under legislation. Of relevance to this addendum sHRA is that:

- Southern Water has a statutory duty under the Water Industry Act 1991 to supply new development with water⁶;
- Southern Water has a statutory duty under sections 37A to 37D of the Water Industry Act 1991⁷ to produce a Water Resources Management Plan (WRMP) every five years, or more frequently if a material change in circumstances arises in the interim;
- A water company must ensure its WRMP meets the requirements of the Conservation of Species and Habitat Regulations 2017 (aka Habitats Regulations) before implementation. For the purposes of the WRMP, under the Habitats Regulations, as the plan making authority, Southern Water takes the role of the Competent Authority under the Habitats Regulations.

2.3. Environment Agency

2.3.1. The Environment Agency is an executive non-departmental public body, sponsored by Defra. It has a range of statutory duties defined under legislation. Of relevance to this addendum sHRA is that:

- The Environment Agency has a duty to secure the proper use of water resources in England and is a statutory consultee for WRMPs;
- The role of the Environment Agency is also to licence abstraction permits in England;
- Under the Water Resources Act, the Environment Agency takes the role of Competent Authority under the Habitats Regulations.

2.4. Natural England

2.4.1. Natural England was established by an Act of Parliament in 2006. Their stated purpose is to help conserve, enhance and manage the natural environment for the

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69603/pb13829-statement-obligations.pdf

⁷ <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>

benefit of present and future generations, thereby contributing to sustainable development. Natural England has a range of statutory duties defined under legislation. Of relevance to this addendum sHRA is that:

- Natural England is required by Regulation 63 of the Habitats Regulations to be consulted on any HRA;
- Case law has established that the views of Natural England may be rejected by a decision maker if there are cogent and compelling reasons for doing so⁸.

2.5. Horsham District Council

2.5.1. Horsham District Council is responsible for determining planning applications under the Town and Country Planning Act. It has a range of statutory duties defined under legislation. Of relevance to this addendum sHRA is that:

- Horsham District Council takes the role of the Competent Authority under Regulation 63 of the Habitats Regulations when determining planning applications.

2.6. Conclusion

2.6.1. A number of actors are involved in the requirement to safeguard Arun Valley SAC such that the process of review of plans and projects is rigorous and robust. This document will demonstrate how these safeguards will take effect in the event that planning permission is granted for the site.

⁸ Shadwell Estates v Breckland DC [2013] EWHC 12 (Admin)

3. Background to the WRMP's provisions – allowances for sustainability reductions

3.1. Allowance in the WRMP19 for the 'minimisation' of abstraction at Hardham

- 3.1.1. The background to the Water Resources Management Plan (WRMP) 2019 and its provisions are discussed in the sHRA (see Annex 1). The WRMP is a forward looking plan and predicts future water demands across the south-east over the period 2020 – 2070. WRMPs are updated every 5 years and are informed by a detailed data analysis supplied from a variety of authoritative sources.
- 3.1.2. Such data considers a wide range of factors and takes into account not only growth in housing, commercial and business needs but also any changes in the availability of water resources and any reductions in abstractions that may be required including environmental considerations.
- 3.1.3. In regard to this latter point the WRMP 2019 allows for a significant reduction in groundwater abstraction as set out at paragraph 5.3.4 of the sHRA which quotes from the WRMP 2019 *"Whilst we have not yet been notified of any certain sustainability reductions, it is possible that we will need to make changes to our licences by 2027 to protect and enhance the environment. The potential scale of these could be significant, but is not yet certain. We have allowed for this in our estimates"* (our emphasis).
- 3.1.4. It is highlighted that the purpose of the WRMP 2019 is to project the water requirements of the area over its plan period, in this case 2020 – 2070, (and identify sufficient supply for the 1 in 200 drought year conditions). Over the WRMP period (50 years), significant housing growth is projected but it is pertinent to note that this will not all occur on day one of the plan. On the contrary, such growth will take a considerable time to come forward and hence Southern Water would have ample time in which to bring forward the required infrastructure upgrades should these be commercially desirable or potentially necessary. Indeed, the WRMP is itself replaced every 5 years; WRMP 2019 is already being reviewed in the draft WRMP 2024. The availability of such infrastructure upgrades is not in question and a range of options are available for Southern Water to deploy⁹ including through the re-opening of the existing Wier Wood Reservoir which is currently closed for maintenance and / or through the re-opening of two boreholes currently out of commission at Petersfield and West Chiltington or through the upgrade of the pumping infrastructure at Steyning borehole which is currently at a reduced output due to lack of pump capacity or through possible import from other WRZ's (there is already a link to Sussex Brighton WRZ and Portsmouth Water).

3.2. WRMP supply commitments (to accommodate the housing growth assessed in 2019)

- 3.2.1. As noted above, Southern Water is under a legal duty to produce a WRMP every five years. Furthermore, the plan must be reviewed annually, and where a material

⁹ See Table 6.6 (page 121) of Draft Water Resources Management Plan 2024. Technical Report. October 2022

change in circumstances arises, Southern Water is under the same duty to revise the WRMP and publish an updated plan to account for any such changes, so as to fulfil its duty to supply water to all new development in the plan area. In so doing Southern Water exercises its statutory powers and duties in accordance with the obligations placed on it as Competent Authority. It is not possible for Southern Water to ignore this requirement and as such this provides a binding assurance that sufficient supply would be available to accommodate the same level of housing growth assessed in 2019 despite sustainability reductions.

3.3. Allowance in the WRMP24 for further sustainability reductions

- 3.3.1. The sustainability reduction commitments in WRMP19 are taken forward and added to with increased commitments set out in Southern Water's draft WRMP 2024 (revision October 2022) (consulted upon from 14 November 2022 to 20 February 2023)¹⁰. This discusses the requirements of increased sustainability reductions with details set out within the WRMP 2024 Technical Report:

"1.3 Our WRZs face a range of pressures, some of which are common to all WRZs and some unique to particular areas. This might include vulnerability of existing supplies to climate change or abstraction licence changes in order to provide greater environmental protection. Some areas are also predicted to experience significant growth over the coming decades, increasing the demand for water.

2.3.2 the EA and Natural England have set out their expectations on the need to deliver ambitious reductions in abstraction to protect the environment. We have included a range of scenarios in our plan that seek to meet the current and future needs of the environment. We have also included an explanation of the activities needed to deliver them (see Section 5.3.8).

2.6 In planning to provide resilient supplies for customers, we face a number of challenges and opportunities. The greatest challenge is the scale and timing of sustainability reductions to our abstraction licences, which have recently been made and are likely to be needed to protect and improve the environment. We need to investigate, design and secure permissions to build a number of large-scale solutions over the next few years, while we keep our plans flexible enough to adapt to the final scale of licence changes needed to meet environmental targets.

2.7 Abstraction licence changes have already restricted the volume of water we can take from existing sources, reducing the water available in dry and very dry years. We expect further restrictions on our licences going forward, to protect and improve rivers, aquifers, reservoirs and coasts.

- 3.3.2. It is therefore apparent that the WRMP has identified the planned sustainability reductions and included measures to fully accommodate these whilst still meeting its duty to supply consumers.

3.4. WRMP 2024's consideration of groundwater abstraction at Hardham

- 3.4.1. The WRMP 2024 Technical report also specifically addresses abstraction at Hardham:

¹⁰ <https://www.southernwater.co.uk/our-story/water-resources-management-plan/consultation-on-our-draft-wrmp>

"2.6.1 In our Central Area we have taken action to protect designated habitats in the Arun Valley and to ensure we have sustainable abstraction licences and secure supplies for our customers for the long term.....To ensure we have a robust plan, we have worked closely with WRSE and our neighbouring water companies to consider a range of potential futures relating to abstraction licence changes, growth and climate change".

3.4.2. Further detail is provided at section 3.2.1:

*3.2.1 SNZ WRZ remains an area under stress from growth and the environmental needs of the Arun Valley.....Our own requirement to mitigate the potential impact of abstraction from the Pulborough groundwater source has seen us successfully **reduce abstraction by more than 50% from the source compared to the average abstraction in the first half of 2021–22**. We are continuing to use alternative sources of supply and maximise the bulk import from PWC wherever possible. We are currently investigating the opportunity to formalise this operational regime outside of drought conditions (when we are more reliant on groundwater sources) and whether this could be an alternative solution to water neutrality.....Investigations and discussions between Southern Water, the EA and Natural England on the long term sustainability of the Pulborough groundwater abstraction are ongoing. This includes a sustainability investigation to assess a sustainable level of ground and surface water abstractions.....In the meantime, Natural England has advised local planning authorities that development in SNZ must not add to this potential adverse effect. In a position statement, issued in September 2021, it stated that water neutrality is required to allow development to proceed, without increasing abstraction from the Pulborough groundwater source.....Water neutrality is required as long as there is potential for an adverse effect on the sensitive habitats in the Arun Valley. In practice, this means it is required until an alternative water source to replace groundwater abstraction at Pulborough can be found. In developing WRMP24, we are looking at a **potential scenario where Pulborough groundwater source is no longer available**, in order to assess alternative options that could be used to maintain the supply-demand balance. It is possible the water neutrality strategy will be required throughout the time frame covered by affected Local Plans, up to 2037.....We are planning to address the supply-demand balance in SNZ as quickly as possible. Our WRMP19 included the Littlehampton water recycling scheme to provide benefit from 2027– 28. This could create sufficient supply-demand headroom to stop any reliance on the Pulborough groundwater source. Depending on the outcome of the sustainability investigation, water neutrality could be required until this date (our emphasis).*

3.4.3. The Technical Report specifically advises as to the quantum of development that is planned for:

"A water neutrality strategy has been commissioned by the Local Planning Authorities. This has estimated growth in Sussex North up to 2037 to be approximately 22,000 new houses. This is based on development that did not have full planning consent on 14 September 2021 (and is subject to water neutrality)..... New water demand during the plan period is estimated to be 5.5Ml/d should these authorities adopt a water efficiency target of 100l/p/d for new build houses in planning policy. This can be significantly reduced if more ambitious targets of 85l/p/d or 62l/p/d were adopted. These ambitious targets could be achieved with a combination of water efficient fittings and/or the requirement for new-build housing to incorporate rainwater harvesting and/or greywater recycling schemes, where

possible.....We had already accounted for a significant proportion of growth within our WRMP19, and while these growth forecasts are higher than originally anticipated, a significant proportion of planned growth in SNZ is already offset by our planned interventions" (our emphasis).

- 3.4.4. The above underlined passage confirms that WRMP 2019 **had** allowed for the projected growth (of which the application site forms a part). Under the WRMP 2024, the provisions will be updated to allow for the revised growth projections.

3.5. Accounting for the current 'minimised' groundwater abstraction at Hardham

- 3.5.1. In addition, the draft WRMP's associated draft HRA¹¹ sets out on page 38 that:

"Any required licence amendments are factored into the supply-deficit calculations, and the EA will have confirmed that these are valid for the planning period when the WRMP modelling is undertaken. The existing consents regime (taking into account any required sustainability reductions) is therefore 'the baseline'²³.....

In some instances, when considering water that may be available from existing sources, consultees have indicated that consideration of 'recent actual' abstraction is more appropriate than the currently licenced maximum, particularly for waterbodies that are considered 'over-licensed'; it is understood that these licences have been identified to SWS during the plan-development process and factored into the supply demand balance calculations".

23 It is recognised that, occasionally, the sustainability reductions agreed through the RoC process have been subsequently shown to be insufficient to address the effects of PWS abstraction on some sites (the most notable example is the River Ehen in Cumbria); it is assumed that these will be identified to the water companies as part of the WRMP development process

- 3.5.2. Accordingly, it is clear that the WRMP has accounted for the current 'minimised' abstraction level at Hardham and that this has been taken as the baseline.

3.6. The achievability of groundwater abstraction reductions

- 3.6.1. The WRMP Technical report confirms that the required reductions can be achieved, such as at 4.1.1.1:

"4.1.1 Working with WRSE we believe that adopting an adaptive planning approach offers us greater ability to account for the uncertainty in the selection and scheduling of future water resource options. This will allow our plan to accommodate large step changes in supplies driven by the need to reduce abstraction but also from more gradual changes driven by climate change or population growth"

- 3.6.2. The Technical report also confirms that the plan ensures that abstraction will remain within environmental limits even during drought conditions:

"4.4.2 Our DP22, sets out our proposed levels of service for the use of drought permits and orders. These are intended to temporarily increase supplies by relaxing

¹¹ WRMP2024 - Annex 20: Habitats Regulations Assessment of the Water Resource Management Plan 2024. Information to support an assessment under Regulation 63 of the Conservation of Habitats and Species Regulations 2017

abstraction licence conditions, increasing licensed quantities or other measures. The triggers we have proposed to implement these permits and orders are set to keep us in line with our target environmental levels of service of use"

3.7. Scale of groundwater abstraction reductions allowed for

- 3.7.1. Indeed, the draft WRMP 2024 Technical report confirms that, if necessary, reductions **down to zero** are allowed for within the plan (plus see paragraph 3.4.2 above):

"5.3.7 We have been ambitious - through our 'alternative' scenario we are investigating what solutions would be required to allow us to stop all abstraction in our most sensitive catchments including the River Itchen and Lower River Rother and River Arun to remove any potential risk to designated wetlands going beyond the required reductions just to meet flow targets"

- 3.7.2. The actual scale of reductions required will however be confirmed by ongoing investigations as confirmed at section 5.5.4 of the draft WRMP 2024 Technical report:

"Presently there is a lot of uncertainty about both the quantity and location of abstraction licence changes we will need to deliver to protect the environment and therefore the potential impacts on our water supplies.

We are addressing this uncertainty through our wide ranging WINEP over the next five years and by 2027 we expect to have finished investigations into the sustainability of most of our water sources. This will allow us to work with the EA, Natural England and other stakeholders to make robust, evidence-based decisions around the scale of abstraction reductions and other mitigations required to protect and restore the environment and improve its resilience to climate change. The conclusion of our WINEP investigations and options appraisal between 2024 and 2027 will therefore be critical to informing the likely Environmental Destination pathway we are likely to follow".

3.8. Conclusion

- 3.8.1. On the basis of the above review, it is concluded that the reduction in groundwater supply at Hardham has been fully planned and allowed for within WRMP. The WRMP also confirms that any new infrastructure requirements to facilitate new housing have been identified and can be readily brought forward in line with growth, so these are in place and able to service increased water demand from new development without requiring any additional abstraction at Hardham.

4. Sussex North Water Neutrality Study: Part C – Mitigation Strategy

4.1.1. As set out above, the three local affected planning authorities jointly commissioned an investigation into how water neutrality may be able to be achieved. This is reported in three parts within the document entitled Sussex North Water Neutrality Study Parts A – C¹². Part A of the study examines individual impacts of each local authority on water resources; Part B examines in-combination effects; and Part C sets out a proposed mitigation strategy.

4.2. Growth allowed for without water neutrality

4.2.1. The site is located within the North Sussex Supply Zone (NSSZ) as shown at Figure 1 of the sHRA. The provisions of the WRMP19 have been examined in more detail at a supply level within the Study including within the Part C Mitigation Strategy.

4.2.2. The objective of the Strategy is to enable the Local Plans to proceed towards adoption with a priority access to offsetting given to allocated sites, including specific consideration of the contribution that Southern Water is making through their water ‘demand reduction’ activities as part of their WRMP, which will effectively offset part, but not all, of the growth proposed within the most recent emerging Local Plans. This is assisted by modelling stringent water efficiency requirements to be placed on all new builds of 110 litres / per person / day or 85/litres/ per person/per day.

4.2.3. The alternative, as the Part C strategy sets out at paragraph 4 is:

“The alternative approach would be to restrict growth to a level that has already been accounted for in SW’s Water Resource Management Plan. This is significantly less than is currently being considered in the commissioning LPAs’ emerging Local Plans”.

4.2.4. The application site is allocated within the Horsham District Planning Framework and therefore is pre-September 2021 (the date of Natural England’s position statement) ‘committed development’ and is accounted for as part of the baseline numbers in the WRMP 2019. This is described in more detail in the ‘Water Neutrality Statement’¹³ which accompanies this Addendum sHRA.

4.2.5. The Part C strategy goes on to discuss that such ‘committed development’ post September 2021 can be accommodated without the need for additional water neutrality measures at paragraph 86:

“If the 110l/p/d target were maintained, 6,345 new dwellings could be built in Sussex North up to 2030 whilst not increasing abstraction at Pulborough (after SW’s contribution and before offsetting). This increases to 8,335 if the more ambitious target of 85l/p/d were adopted”.

4.2.6. Accordingly, the application site, as ‘committed development’, would not trigger any requirement to increase groundwater abstraction at Hardham. Indeed, the

¹² Sussex North Water Neutrality Study Parts A – C. JBA Consulting

¹³ Water Neutrality Statement. Savills. August 2023

expectation in the WRMP 2019 was that despite increased water demand from housing growth, there would be a progressive reduction in groundwater abstraction from Hardham. This is because the 2019 WRMP accounted for sustainability reductions (see paragraph 3.1.3 above). The draft WRMP 2024 goes further still and tests a scenario where **all** groundwater abstraction at Hardham is ceased (see paragraph 3.4.2 and 3.7.1 above).

4.3. Timing of growth allowed for without water neutrality

- 4.3.1. The Part C strategy gives further consideration to the timing of planned demand reduction measures that Southern Water is implementing. Headroom generated by such measures will first be allocated to housing completions post Natural England's position statement of September 2021:

"119. For example, by 2023, SW have planned for 0.65MI/d of water demand reduction (including the 10% margin). However, new water demand from the expected housing completions (sites with full planning permission issued in or prior to September 2021) would produce a water demand of 0.75MI/d. Until SW's WRMP demand reduction activities have accounted for this committed growth, no further contribution from SW would be available to account for Local Plan growth. This point, where SW demand reduction has caught up with committed growth, is likely to occur in 2025.

120. On this basis, any growth coming forward beyond committed growth (with full planning permission issued on or prior to September 2021) would not be able to take account of water demand reduction by SW until 2025 at the earliest, and additional offsetting would be required".

- 4.3.2. While no headroom is likely to be available before 2025, the Part C strategy confirms that post this date significant headroom is likely to be available:

"125. There is no contribution available for Local Plan growth from SW up to 2025 (due to the existing demand from sites with full planning permission as of September 2021). After this date, a significant proportion of the new water demand from Local Plan growth would be accounted for in SW's WRMP demand reduction activities".

- 4.3.3. This breakdown is illustrated further at Table 10.3 of the Part C report:

Table 10.3 Water demand by year in 110l/p/d scenario 2021 to 2030

Year	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30
Water demand 110l/p/d (Ml/d)	0.00	0.01	0.05	0.18	0.42	0.75	1.44	2.05	2.59
SW Contribution (Ml/d)	0.18	0.38	0.65	0.73	1.21	1.52	1.97	2.41	3.00
SW Contribution (minus full extant planning) (Ml/d)	0.02	-0.04	-0.02	-0.12	0.27	0.53	0.95	1.39	1.98
Capacity for Local Plan growth (Dwellings)	0	0	0	0	1,023	945	1,593	1,642	2,237
Capacity for Local Plan growth with employment growth delivered (Dwellings)	0	0	0	0	700	777	1,384	1,440	2,044

4.4. Proposed water neutrality strategy

- 4.4.1. The Part C report puts forward a mitigation strategy to address the totality of local plan growth, namely that allowed for within the WRMP19 and the subsequently uplifted figures since allowed for in WRMP24. In doing so it proposes to take a strategic approach and utilise the planned WRMP demand reduction measures to reduce the tariff charged to developers for offsetting to achieve water neutrality in accordance with Natural England's position statement.

"199. As an illustration, in a shared offsetting "pot" a total offset of approximately 0.25Ml/d is required. This is the maximum deficit during the period 2021/22 to 2029/30 between new water demand from growth, and the contribution from SW's demand management activities. The amount of offsetting required for each development site is then only a percentage of its new water demand as the contribution from SW's demand management activities already accounts for a large proportion of the water demand. A developer therefore only needs to pay for a proportion of their overall water demand".

4.5. No impediment to the current grant of planning permission

- 4.5.1. As discussed in the Water Neutrality statement, the application site represents pre-September 2021 'committed development' and therefore does not require the delivery of water neutrality (see paragraph 4.2.4 above).
- 4.5.2. In any event, the status of the mitigation strategy put forward in the Part C report is 'proposed' and has yet to be agreed and implemented. Accordingly, the planned demand reduction measures that create headroom for committed development remain available to be allocated to schemes such as at the application site. These should not be held back until such time that a finalised mitigation strategy is available and open to receive developer contributions.

- 4.5.3. In line with common practice with mitigation measures for other sites where mitigation is required to avoid adverse effects on European designations, a condition should be placed on the permission to ensure that dwellings are not occupied until such planned demand reduction measures have been implemented¹⁴. Such a condition would only be necessary however in the absence of an interim mitigation solution (see section 5 below).

4.6. Conclusion

- 4.6.1. The Part C mitigation strategy identifies that a large quantum of 'committed development' can be accommodated within the North Sussex Supply Zone without the requirement for water neutrality measures, as the planned demand reduction measures to be brought forward by Southern Water create the necessary headroom to comply with Natural England's position statement.
- 4.6.2. The application site is classified as such pre-September 2021 'committed development' as it was part of the baseline taken into account as part of the WRMP19 growth assessment, due to its long standing local plan allocation and its extant outline planning permission.
- 4.6.3. Accordingly, it is considered that there is no impediment to the grant of permission for the site, subject to the imposition of appropriate conditions.

¹⁴ just as is the case where a condition is placed on permissions to prevent occupations of new dwellings until Suitable Alternative Natural Greenspace (SANG) mitigation is in place and operational so as to avoid adverse effects which may arise from footfall from new residents on certain SPAs

5. Other considerations

5.1.1. Comments have been received from Natural England in respect of other recent applications which relate to the matter of water neutrality. In particular Natural England raises comment in regard to the following points:

- Groundwater abstraction minimisation;
- Southern Water's ability to supply increased demand without increasing groundwater abstraction;
- Southern Water's measures to facilitate post-2030 development via infrastructure upgrades.

5.1.2. These are discussed in turn below.

5.2. Groundwater abstraction minimisation

5.2.1. Comments have been received from Natural England that *"abstraction minimisation is a voluntary measure and evidently lacks the certainty required for consideration as a mitigation measure to enable growth"*. Natural England also comment *"there is currently no known level of abstraction from the impacting groundwater abstractions which would rule out AEOI¹⁵ for the Arun Valley designated sites"*.

5.2.2. In regard to the latter point, it is highlighted that Natural England's position statement (September 2021) requires that *"As it cannot be concluded that the existing abstraction within Sussex North Water Supply Zone is not having an impact on the Arun Valley site, we advise that developments within this zone must not add to this impact"*. What it does not require is for projects to deliver measures to decrease in an existing effect i.e. it does not require developments to facilitate a reduction in abstraction or a termination of abstraction.

5.2.3. The former point that the current minimisation (which is welcomed by Natural England) is 'voluntary' and thereby lacks the required certainty to act as a mitigation measure, requires examination and is discussed below.

Environment Agency's role

5.2.4. In its role of regulator (of borehole abstraction licensing), the Environment Agency has secured a 'sustainability study' to examine if any hydrological link exists between the borehole abstraction point at Hardham and the SAC. Given the currently equivocal and indeed contrary evidence on this point (see sHRA paragraph 4.6.1) it is quite possible that this study, when it reports in March 2025, will demonstrate the absence of a link¹⁶.

5.2.5. Accordingly, given the presence of a potential link may not be high, the Environment Agency has acted proportionately and, as an interim mitigation, has secured a voluntary minimisation of abstraction at Hardham by Southern Water while a 'sustainability study' is undertaken.

¹⁵ AOEI - Adverse Effect On Integrity

¹⁶ The point has only arisen due to a query raised by Natural England in respect of transmissibility assumptions used within Southern Water's ground water model.

- 5.2.6. Accordingly, the additional precautionary measure of ‘water neutrality’ is not required. To also require ‘water neutrality’ would be to layer precaution upon precaution which is unnecessary. In correspondence dated 11 July 2023 (see Annex 2), the Environment Agency has confirmed that it considers that the steps it has taken to safeguard the SAC are fulfilling its duties under the Habitats Regulations and are in line with the Harris judgement (see sHRA paragraphs 4.9.11 – 4.9.22). In particular the EA comments that:

“in relation to the Hardham abstraction....we are already undertaking the investigation of impacts of licences thus fulfilling our Habitats Regulations duty so long as we then take action depending on the outcome of investigation

The Harris judgment does not mean we must immediately revoke the Hardham licence but rather, so long as we are addressing the issues of effects on the SAC and have a plan to act once the extent of the effects is known, then we are taking appropriate steps as per the Harris judgment”.

- 5.2.7. The Environment Agency’s view is of importance which is emphasised in government guidance on ‘Habitats regulations assessments: protecting a European site’¹⁷. This sets out that:

“Where a proposal overlaps with other competent authorities’ areas of responsibility, you should agree who is the lead competent authority.

For each proposal, decide which authority should lead, based on who has the:

- *best technical expertise - when a technical issue is the most important factor in assessing the impact of the proposal*
- *main interest in cross-boundary cases*

capacity to manage where there are many complex and cross-boundary issues”

- 5.2.8. Reference to section 2 above, shows that in this instance both the Environment Agency and Horsham District Council are relevant Competent Authorities, while it is the Environment Agency that carries the greater expertise in the field. Therefore, while it falls to Horsham District Council to draft the HRA, its findings should follow from those of the Competent Authority with greater expertise. In this regard, given that the Environment Agency is satisfied that it has acted sufficiently to safeguard the SAC, this finding should be carried through by Horsham District Council. This principle accords with that of the Court of Appeal Hinkley Point judgement¹⁸.

¹⁷ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

¹⁸ Court of Appeal judgement R(An Taisce) v SSECC [2014] EWCA Civ1111 at paragraphs 46 – 51

Delivery of minimisation by Southern Water

5.2.9. The magnitude of the minimisation is discussed in the sHRA at paragraph 4.9.9, while this is also confirmed in correspondence from Southern Water dated 07 July 2023 (see Annex 1) which confirms that pre September 2021 the average daily groundwater abstraction at Hardham was 12.7ML/d and since autumn 2021 a target rolling average of 5ML/d ‘minimisation’ has been implemented.

5.2.10. Southern Water, as the operator, does however wish to maintain operational flexibility in the event it is needed and they go on to set out that:

“when dry periods are experienced and these become more severe, the output of several other sources in Sussex North WRZ become constrained by water availability, placing more reliance on the Hardham groundwater source. In the scenario of a severe drought or major operational supply outage we would potentially need to increase our groundwater abstraction to a higher rolling average, including potentially up to the full licensed abstraction limit for short periods, to ensure the expected supply to our existing customers in the Sussex North WRZ. For this reason, we would not be in a position to commit to a cessation of abstraction from Hardham or to a fixed limit of 5 ML/d”.

5.2.11. This position is what gives rise to Natural England’s concern, namely that the voluntary nature of the ‘minimisation’ does not provide the required certainty that this represents a mitigation measure that can be relied on under the tests in the Habitat Regulations. However, whether this is indeed a cause for concern, should be examined further.

Likelihood of abstraction above the minimised level being required

5.2.12. Southern Water set out in their correspondence dated 7 July 2023 (see Annex 3) that:

*“In the scenario of a **severe drought** or major operational supply outage we would potentially need to increase our groundwater abstraction to a higher rolling average, including potentially up to the full licensed abstraction limit for **short** periods, to ensure the expected supply to our existing customers in the Sussex North WRZ” (our emphasis).*

5.2.13. The likelihood of a need to exceed the minimised level has recently been tested. Reference to the drought of summer 2022 (June to August), which was the 5th driest on record with record temperature highs registered (see Annex 4)¹⁹, finds that this did not lead to a) any material increase in groundwater abstraction from Hardham (see data extract of Hardham borehole abstraction volumes June – August 2022 at Annex 5). This was also achieved without the need for a hosepipe ban in the area or indeed the use of further available measures such as drought orders.

5.2.14. Accordingly, it can be concluded that there is currently sufficient water in the system in the North Sussex Supply Zone to readily cope with drought scenarios. It is understandable that Southern Water wish to keep the ability to operationally increase abstraction if required, but under even severe drought scenarios (as tested in 2022) the reality is that this is very unlikely to be required to be drawn upon.

¹⁹ <https://www.ceh.ac.uk/news-and-media/blogs/why-we-are-still-drought-despite-recent-rain>

Effect if the minimised level were exceeded

- 5.2.15. Accordingly, increased abstraction above the ‘minimised’ level is unlikely even in times of drought. In the unlikely event that such increased abstraction was required, this would only be for a short duration while other measures are put in place e.g. hose pipe bans, increased abstraction from rivers and other boreholes or imports from other water companies etc. The effect of a short increase in abstraction at Hardham on ground water levels of the SAC (should a link exist) is considered here.
- 5.2.16. Southern Water’s abstraction minimisation has been effective, with a significant reduction in abstraction having been sustained since autumn 2021. In the event there is a hydrological link between Hardham and the SAC, the effect of the minimisation would be to have allowed ground water recharge to have taken place. Due to the nature of the aquifer, such recharging is a relatively slow process as water takes time to percolate from one location to another. However, as the minimisation has been in place since 2021, ample time has now passed to allow for recharging to have occurred (should there be a link).
- 5.2.17. If a hydrological link is present, then the ground water at the SAC will now sit at an elevated level to that pre-September 2021. Effectively headroom has been created by the minimisation, such that should future increased abstraction at Hardham take place for a short duration, this would not reduce the ground water level at the SAC below the September 2021 level as a) Southern Water has confirmed that any need to increase abstraction above the minimised level would only be for a short period; while b) any effect on ground water at the SAC would be nil to imperceptible because, as discussed above, should a hydrological link exist, short alterations in abstraction volumes would not generate a material effect on ground water at the SAC due to the extended time lag for any effect to percolate through the aquifer.
- 5.2.18. Indeed, other issues affecting the SAC are having a markedly more significant affect on the lesser ramshorn whirlpool snail (see section 4.2 of the sHRA).

Environment Agency’s position

- 5.2.19. The Environment Agency has raised no concern over the potential for abstraction to rise above the minimised level, or that in the unlikely event it did, that they would be in breach of their duties.

5.3. Southern Water’s ability to supply increased demand without increasing groundwater abstraction

- 5.3.1. Natural England comment that *“significant groundwater abstraction is currently unavoidable; given that a voluntary abstraction minimisation and not a voluntary abstraction cessation has been implemented to reduce impacts on the designated sites it should be evident that groundwater abstraction is still required”*
- 5.3.2. It is highlighted that as discussed above, a cessation of abstraction is not required to satisfy Natural England’s position statement. Rather what is required is to ensure that new development does not lead to increased abstraction over the level in September 2021.
- 5.3.3. The application site is accounted for as pre-September 2021 baseline committed development and accordingly does not have a requirement to demonstrate ‘water

neutrality'. In regard to post-September 2021 committed development, the interim mitigation measure of 'minimisation' has created significant headroom in the system.

- 5.3.4. In addition, to this headroom, further demand reduction measures being implemented by Southern Water will be in place from 2025. These measures are considered as part of the December 2022 Part C Mitigation report (see section 4 above) and it is confirmed that this facilitates planned 'committed' development in the WRMP19, which includes the application site. In this regard, Natural England comment that:

"given that the 'offsetting credits' generated from Southern Water's planned measures to reduce water use are already committed to the LPA's offsetting strategy, relying upon these 'credits' without contribution to the developing strategy would be considered double counting".

- 5.3.5. However, as discussed at section 4.5 above, as the Mitigation Strategy is not yet developed, finalised or has been implemented, then the forthcoming planned measures from Southern Water remain available to committed development which is to be permitted such as at the application site.

5.4. Southern Water's measures to facilitate post-2030 development via infrastructure upgrades

- 5.4.1. Natural England has commented that *"Given that no upgrades have been secured via the relevant regulatory frameworks Natural England would note that they are not suitably certain for consideration as a mitigation measure at the appropriate assessment stage of HRA"*.

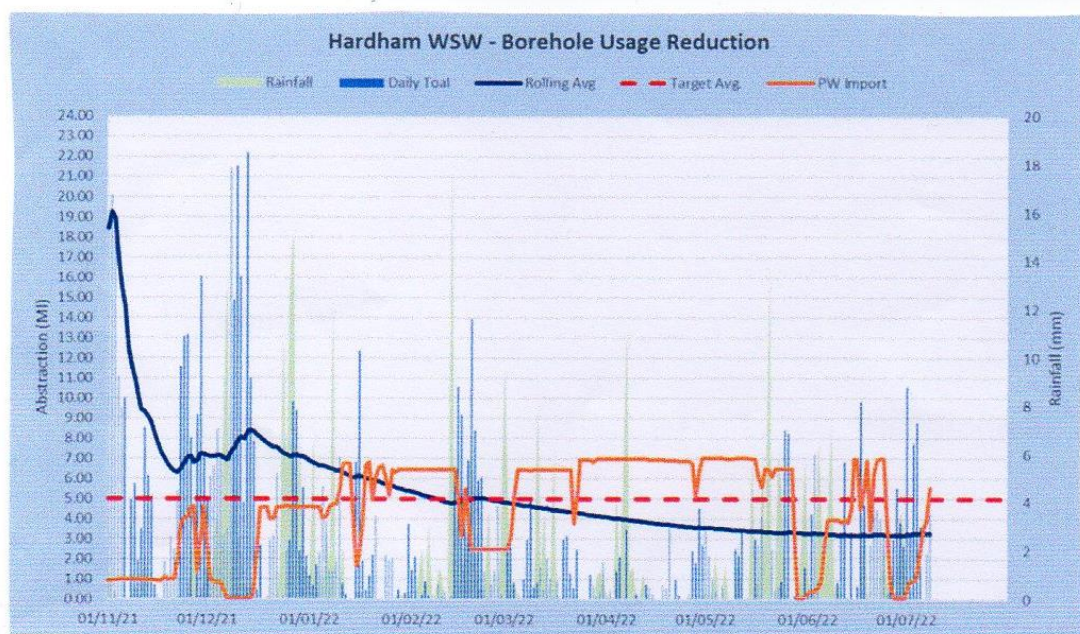
Water availability

- 5.4.2. In making this comment Natural England is correct in as much as where these relate to WRMP24, as this is a draft document which is awaiting finalisation. However, these measures, to be secured under WRMP24, are not being relied upon by this development, as permission can be granted now with occupations delayed until 2025 (albeit there is some 15MI/d available from Portsmouth Water to make up any shortfall prior to 2025).
- 5.4.3. In this regard, it is highlighted that the WRMP19 planned for development growth between 2020 and 2070 (with the assumptions utilised to be updated in the forthcoming WRMP24). This includes the committed developed at Kilnwood. Given the statutory supply duties that Southern Water hold, and that the WRMP19 is in itself a statutory plan (for which Southern Water themselves act as the Competent Authority is HRA terms), there is indeed full certainty that the measures therein will be delivered. In planning for these measures WRMP19 has already allowed for significant sustainability reductions, while WRMP24 sets a baseline of the 'minimised' level and allows for this to decrease to zero if required (see paragraphs 3.4.2 and 3.7.1 above).
- 5.4.4. Indeed, in reviewing these measures it would appear that these may be commercially desirable rather than necessary in any event. As set out above, water abstraction at Hardham has been minimised and now sits at a level of around 5MI/d

(reported in sHRA as ~6MI/d²⁰). An increased demand for water will arise from new development post 2030, while there is also a commitment from Southern Water not to increase abstraction above this minimised level (see WRMP 2024 HRA – at section 3.5 above). As discussed at paragraph 3.4.3 above, estimated housing growth in Sussex North up to 2037 is approximately 22,000 new homes. New water demand during the plan period is estimated to be 5.5MI/d should the authorities adopt a water efficiency target of 100l/p/d for new build houses in planning policy (or this can be significantly reduced if more ambitious targets of 85l/p/d or 62l/p/d were adopted).

- 5.4.5. Southern Water has an agreement with Portsmouth Water to import up to 15MI/d²¹. Information received shows that Southern Water is only importing 6MI/d from Portsmouth Water and therefore there is an additional 9MI/d available.
- 5.4.6. As such, draft WRMP 2024 demonstrates that the water demand of all new housing growth to 2037 (5.5MI/d) could be met by the existing supply infrastructure (without additional reliance on Hardham).

Figure 5.1 – Orange line shows volume of water imported from Portsmouth Water (data supplied by Southern Water)



- 5.4.7. It can therefore be concluded that there is ample water in the system to serve the committed developed at the application site without a requirement for increased abstraction.
- 5.4.8. The decision to provide additional infrastructure in the North Sussex Supply Zone would appear to be a commercial one for Southern Water, albeit the construction of new infrastructure would also have the advantage of building further resilience and flexibility of water supply into the system, which no doubt is desirable.

²⁰ See sHRA section 5.9.9

²¹ See section 7.2.4 of the draft WRMP 2024 Technical Report+

Summary

- 5.4.9. Upon reviewing the availability of water, it is clear that there is a considerable headroom of supply available in the WSZ. In considering the deployable water sources, there is clearly a commercial aspect to Southern Water's decision-making, as well as the actual supply-side availability. However, given that Southern Water operates its undertaking under the same duties imposed by the Habitats Regulations, for the purposes of this sHRA, it is only the latter which is relevant: i.e. whether there is adequate deployable supply to serve the development without increased abstraction from Harden. The evidence is that there is.
- 5.4.10. In this regard, the Part C Strategy confirms that WRMP19 has accounted for all local plan growth as projected at that time. Further growth now projected will be accounted for within WRMP24 (and indeed in WRMP29). These plans allow for significant sustainability reductions including a scenario where abstraction at Hardham is reduced to zero (see paragraphs 3.4.2 and 3.71 above).
- 5.4.11. That said, it would appear that given some 15ML is available from Portsmouth Water, no such infrastructure upgrades would be required to accommodate predicted growth (see paragraph 5.4.5 above), and proposed infrastructure upgrades represent a 'commercially desirable' approach rather than a requirement from a 'supply side'. The only concern raised by Southern Water is the ability to access the Portsmouth Water bulk supply at time of an extreme 1:500 year drought event (see Southern Water correspondence at Annex 3). However, resilience for this extremity of event is not required until 2039 and accordingly does not need to be considered at this point in time²².

²² Water Resources Planning Guideline. Gov.uk. April 2023. <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>

6. Shadow Appropriate Assessment

- 6.1.1. This section sets out a review of the evidence presented above and carries out an Appropriate Assessment of the relevant considerations.

6.2. Requirements of the Habitats Regulations

- 6.2.1. The Habitats Regulations safeguard designations of European Importance through the imposition of the test at section 63 which states:

“63.—(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of that site,

must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives.

(5) In the light of the conclusions of the assessment, and subject to regulation 64, the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).”

6.3. Natural England’s requirement

- 6.3.1. In order to ensure that proposals are in line with the requirements of the Regulations, Natural England sets out in its position statement (September 2021) that:

“As it cannot be concluded that the existing abstraction within Sussex North Water Supply Zone is not having an impact on the Arun Valley site, we advise that developments within this zone must not add to this impact...

The definition of water neutrality is the use of water in the supply area before the development is the same or lower after the development is in place”.

- 6.3.2. Therefore, for this requirement to be satisfied, it is not necessary for abstraction at Hardham to reduced or shut off, but rather any new development coming forward must ensure that it does not lead to an increase in abstraction above the September 2021 level.

6.4. Mitigation measures secured

- 6.4.1. The WRMP19 allows for planned growth which was modelled as part of the production of the plan. This includes the application site which is included as ‘committed development’. WRMP19 includes ‘demand reduction’ measures that ensure this growth is accommodated. Southern Water has a statutory duty to supply water to new developments while the WRMP19 is in itself a statutory document that has been subject to HRA. Therefore there is certainty that the required ‘demand

reduction' measures to accommodate committed development will be brought forward.

- 6.4.2. This position is re-confirmed within the Part C Mitigation Strategy which sets out that 'water neutrality' mitigation measures are not required for the level of committed development (which includes the application site) allowed for in WRMP19. The required demand reduction measures to facilitate the development will be in place in 2025 (see section 4.3 above).
- 6.4.3. As originally intended, these measures should be allocated to such committed development. These should not, as the LPAs propose, be re-allocated to serve all forthcoming future development modelled in WRMP24, as this would not be consistent with the Statutory Plan (WRMP19). Rather, additional development above that 'committed' and assessed in WRMP19 should be required to address 'water neutrality' separately alongside Southern Water.
- 6.4.4. In the meantime, an interim mitigation measure of 'minimisation' has been secured by the Environment Agency. This ensures that abstraction is reduced to below the level of that at the time of Natural England's position statement in September 2021 and creates headroom to allow development to come forward.
- 6.4.5. On the basis that the precautionary mitigation measure of 'minimisation' has been secured by the Environment Agency, the additional precautionary mitigation measure of 'water neutrality' requested by Natural England is not required, as this would layer mitigation upon mitigation, or precaution upon precaution, which is unnecessary.
- 6.4.6. In considering this matter, it should be borne in mind that 'minimisation' is an interim mitigation measure which the Environment Agency has put in place until the hydrological study is concluded in March 2025 (as confirmed in Southern Water correspondence dated 7 July 2023 at Annex 3). Following the conclusion of the study, the Environment Agency will, if necessary, adjust the abstraction level set in the permitted Hardham abstraction licence (including revoking the licence if necessary) to that which is required to ensure that AEOL at the SAC are avoided. This is confirmed in the Environment Agency's correspondence dated 11 July 2023 (at Annex 2):

"The licence review will determine whether the licence should be revoked or not but we cannot prejudge the outcome of that review before we know the extent of effects of abstraction and whether revocation is the only action available to ensure no adverse effects on the SAC".

- 6.4.7. The adjustment or revocation of the abstraction licence would provide a permanent mitigation solution.

6.5. Natural England's concern that as the interim solution of 'minimisation' it cannot be sufficiently relied upon due to its voluntary nature

- 6.5.1. Natural England holds a concern that the minimisation secured is of a voluntary nature and hence cannot be relied upon to deliver the certainty required by the Habitats Regulations. This is discussed below. In considering the matter, it should be

kept in mind that what is required is ‘reasonable certainty’ and not ‘absolute certainty’ (see section 2.3 of sHRA).

Is increased abstraction likely to be required above the ‘minimised’ level?

- 6.5.2. This matter is discussed above (see paragraphs 5.2.13 – 5.2.15) and considered in Southern Water’s correspondence dated 7 July 2023 which sets out:

“Our position is that in most water resource conditions Southern Water has a sufficient supply available to meet demand in the Sussex North WRZ and that we have some flexibility in where water is sourced from, thereby enabling the commitment to reduced abstraction from the Hardham groundwater source while the sustainability study is ongoing”.

- 6.5.3. Therefore, for the majority of the time Southern water confirm that the ‘minimised’ level will be maintained. Southern Water continue and advise:

*“when dry periods are experienced and these become more severe, the output of several other sources in Sussex North WRZ become constrained by water availability, placing more reliance on the Hardham groundwater source. In the scenario of a **severe drought or major operational supply outage** we would potentially need to increase our groundwater abstraction to a higher rolling average, including potentially up to the full licensed abstraction limit for **short periods**, to ensure the expected supply to our existing customers in the Sussex North WRZ. For this reason, we would not be in a position to commit to a cessation of abstraction from Hardham or to a fixed limit of 5 Ml/d” (our emphasis).*

- 6.5.4. Hence, Southern Water confirm that they wish to maintain operational flexibility to have the option at a time of ‘severe’ drought to exceed the ‘minimised level’ for ‘short’ periods.

- 6.5.5. Paragraphs 5.2.13 – 5.2.15 above considers the likelihood of severe drought triggering a need to exceed the ‘minimisation’ and concludes this is very low due to the system having been tested by such a drought in 2022, with no such increase required. Indeed, in 2022 the bulk import option available from Portsmouth Water also remained available and is understood to have been unused, which provides a further option before ‘minimisation’ would need to be exceeded.

- 6.5.6. In addition, paragraphs 5.2.16 – 5.2.19 above examine the effect on ground water levels at the SAC, in the unlikely event a short period of exceedance of the ‘minimised’ level were to occur and finds that ground water levels would be unlikely to be perceptibly altered. In any event, should a hydrological link exist, precaution is now present in the system as ground water recharge levels would exceed those of September 2021 (at the time of Natural England’s position statement) and hence there is no risk that ground water would drop below this level.

- 6.5.7. This analysis similarly holds for any ‘major operational outage’, and indeed in this scenario it would be anticipated that water could be readily sourced from elsewhere as this would be unlikely to coincide with a severe drought event of such a magnitude as to require exceedance of the ‘minimised’ abstraction level²³.

²³ In terms of the rolling average which is the key metric, as it is this ‘on average’ sustained minimisation that facilitates the recharge of ground water levels at the SAC (in the event a hydrological link should exist)

Would this lead to AEOL?

6.5.8. On the basis of the above, matters to consider of relevance to an assessment of potential for AEOL (in the event there is a hydrological link) to arise are:

- i) The likelihood of drought requiring an exceedance of abstraction at the minimised level is very low (as tested by the 2022 drought);
- ii) In the unlikely event this should occur, it would be of a short duration;
- iii) Any effect of increased abstraction above the minimised level for a short duration on ground water levels at the SAC would be imperceptible;
- iv) In any event, should a hydrological link be present, there is headroom in the ground water levels at the SAC due to the additional recharge which has occurred since September 2021 (under the interim mitigation measure of 'minimisation');
- v) The Environment Agency and Southern Water, as Competent Authorities, both operate under the same duties set out in the Habitats Regulations in respect of the protection of European designations;
- vi) Moreover, other issues affecting the condition of the SAC are of greater significance than that of ground water levels alone (see section 4.2 of the sHRA);
- vii) The above measures are of an 'interim' nature and by 2025 finalised mitigation measures in the form of a) any necessary adjustment to the Hardham abstraction licence, and b) demand reduction measures delivered by Southern Water, will be in place.

6.6. Are the tests of the Habitats Regulations satisfied?

6.6.1. The Habitats Regulations require that adverse effects on the integrity (AEOL) of European designations are avoided. Case law (see section 2.3 of sHRA) has determined that any conclusion needs to be beyond 'reasonable scientific doubt' or in other words sufficient certainty is required. In this regard, the courts advise that what is required is 'reasonable certainty' and not 'absolute certainty' and that when considering the matter the risks need to be 'real' or 'identifiable' and not of a 'fanciful' nature.

6.6.2. In this regard, it can be concluded that:

- The demand reduction measures in the WRMP19 will facilitate committed development without additional mitigation and will be in place by 2025;
- In the meantime the interim mitigation measure of 'minimisation' has created sufficient headroom in the system that development can safely proceed prior to implementation of the demand reduction measures;
- Following the conclusion of the sustainability study to determine if any hydrological link exists between Hardham and the SAC, the necessary adjustments to the abstraction licence (including if necessary revocation) will be put place by the Environment Agency.

- 6.6.3. The Environment Agency (the Competent Authority with greatest expertise) has confirmed that it is satisfied that its actions to safeguard the SAC are consistent with its obligations under the Habitats Regulations and in line with the requirements of the Harris case.
- 6.6.4. In summary, the grant of permission at the application site can be made with sufficient certainty that this would not to an increase in abstraction at Hardham and put the SAC at risk, because:
- a) The proposed dwellings are accounted for within the pre September 2021 WRMP19 baseline; and
 - b) The grant of permission would not reduce Southern Water's ability to deliver the planned 'sustainability reductions' at Hardham, if necessary to zero, as i) the Part C Strategy confirms that there is headroom for some 6335 dwellings without the need for further abstraction at Hardham, and ii) that after 2030 further 'demand reduction' measures will be in place (under WRMP19), whilst the potential to call upon the Portsmouth Water bulk supply will still remain available.
- 6.6.5. Therefore, it can be concluded, with the required 'reasonable certainty', that no AEI will arise on the SAC through the grant of planning permission at the application site.

7. Conclusion

- 7.1.1. This document provides an addendum to the Shadow HRA (October 2022) in regard to the site at Kilnwood Vale Phase 3DEFG (ref: DC/23/0856). It reviews new information and comments received since 2022 and presents an updated shadow Appropriate Assessment of the proposals.
- 7.1.2. New material considered includes the Water Neutrality study commissioned by three LPAs and comments from Natural England acting as a consultee on planning applications.
- 7.1.3. Available mitigation measures are assessed and the certainty that can be attached to them examined. The shadow Appropriate Assessment finds that adverse effects on the integrity of the SAC and Ramsar, in light of the designation's conservation objectives, would be avoided by the mitigation measures in place. Accordingly, the Habitats Regulations do not represent a bar to the grant of planning permission.

Annex 6530/1:

Shadow Habitats Regulation Assessment (October 2022)

Land at Kilnwood Vale (Phase 3DEFG),
Faygate, Crawley

Shadow
Habitats Regulations Assessment
(including an Appropriate Assessment)

October 2022

Quality Management	
Client:	Crest Nicholson South
Project:	Land at Kilnwood Vale (Ph3DEFG), Faygate, Crawley
Report Title:	Shadow HRA including Appropriate Assessment
Project Number:	1006530-01
File Reference:	1006530-1 HRA.vf AB
Date:	07/10/2022

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Appendices

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Appendix 6530-01/3	Natural England position statement September 2021
Appendix 6530-01/4	Location plans of SPA/SPA, SSSI components and Ramsar
Appendix 6530-01/5	ODPM Circular 06/2005 Figure 1
Appendix 6530-01/6	Consultation responses from Natural England dated 07 December 2017 (ref: DC/17/2481) dated 15 March 2019 (Reserve Land ref: DC/19/0426)
Appendix 6530-01/7	Distance of site to SAC/SPA/SSSI
Appendix 6530-01/8	Map of Sussex North Water Resource Zone
Appendix 6530-01/9	Natural England FAQs March 2022
Appendix 6530-01/10	Natural England Correspondence 24 November 2021
Appendix 6530-01/11	WRMP Figure 1 'Where your water comes from today'
Appendix 6530-01/12	WRMP Annex 3 Table 44 'Summary of deployable outputs for Sussex North WRZ'
Appendix 6530-01/13	Correspondence from Natural England dated 16 December 2019
Appendix 6530-01/14	Extract from paper 'Spatial and temporal vegetation analysis of Amberley Wild Brooks over two decades' Hicks 2019

Appendix 6530-01/15 Correspondence from Environment Agency dated 26 April 2022

Appendix 6530-01/16 Correspondence from Southern Water dated 14 April 2022

Appendix 6530-01/17 Data on Hardham abstraction point supplied by Southern Water

1. Introduction and Background

- 1.1.1. Aspect Ecology and Fortridge Consulting are advising Crest Nicholson South in respect of ecological issues relating to Land at Kilnwood Vale (Phase 3DEFG), Fayate, Crawley, hereafter referred to as 'the site'.
- 1.1.2. The following report sets out a Shadow Habitats Regulation Assessment (including an Appropriate Assessment) of the proposed development, identifying whether the specific proposals for the site are likely to result in an adverse effect on integrity of any international designations.

1.2. Proposals for development and planning context

- 1.2.1. The wider Kilnwood Vale site is being brought forward in a number of Phases which have been the subject of Reserved Matters or other permissions as required. As part of the phased development of the site, a Reserved Matters Planning Application for Phase 3DEFG (see location Plan at Appendix 1) has been submitted for 280 dwellings (ref: DC/23/0856). This is currently held in abeyance by Horsham District Council pending the resolution of the water neutrality issue discussed herein.
- 1.2.2. This application follows a number of associated previous consents for the site, which centre on a hybrid planning permission Ref: DC/10/1612 granted by Horsham District Council on 17 October 2011 which was later updated by way of a Minor Material Amendment Ref: DC/15/2813 approved in April 2016. The permissions allow for the construction of 2,500 new homes and associated infrastructure and open space along with a number of other associated elements.
- 1.2.3. The outline application considered ecological matters, including European Designations and Horsham District Council prepared a Habitats Regulations Assessment (HRA) and Appropriate Assessment (AA) for the outline application. Natural England was consulted on the HRA/AA and registered no objection to the proposals.
- 1.2.4. Crest Nicholson subsequently applied for permission at the associated Reserve Land in the west of the site for up to 250 dwellings (ref: DC/17/2481) which was granted in October 2018. Nonetheless, the total development at the wider Kilnwood Vale site was capped by an agreement to limit the totality of the development to 2,650 units. However, this was later revised following permission being granted for a further 2,750 units at the unrelated site at North Horsham which was tested for potential effects on the Ashdown Forest SAC. This confirmed that no adverse effects would arise on the integrity of the SAC from traffic emissions either alone or in combination with other developments.
- 1.2.5. Following this permission and its HRA, Crest Nicholson applied to vary the section 106 to remove the cap on occupations at Kilnwood Vale and allow occupations up to 2,750 dwellings consented under the combined consents for Kilnwood Vale (refs: DC/17/2481 and DC/15/2813).
- 1.2.6. Most latterly the Reserved Matters application for sub-Phase 6A was granted consent in May 2021 (ref: DC/20/2223) for 168 dwellings. Natural England was consulted and responded on 01 December 2020 setting out they had no comments to make in regard to this application. Similarly Natural England has confirmed in

correspondence dated 26 October 2021 that they have no objection to the Phase 6B (DC/21/2246) proposals submitted September 2021 (see Appendix 2). Natural England has not responded in regard to the Phase 3 DEFG proposals.

- 1.2.7. However, Natural England has issued a position statement dated September 2021 (overlooked in Natural England's 26 October 2021 response) setting out concerns in regard to new housing proposals in the Sussex North Water Supply Zone (see Appendix 3) and their potential to cause an adverse effect on Arun Valley Special Area of Conservation (SAC) / Special Protection Area (SPA) / Ramsar, which comprises three component SSSIs, namely Waltham Brooks, Amberley Wild Brooks and Pulborough Brooks (see Plans at Appendix 4).
- 1.2.8. Accordingly, it is necessary to screen whether any future development within the site has the potential to result in a likely significant effect on the interest features of any European designation(s) and if so examine these via Appropriate Assessment.

1.3. Purpose of this report

- 1.3.1. The following report sets out information to inform an assessment under the Habitat Regulations of the proposed development at the site, identifying whether the specific proposals for the site are likely to result in an adverse effect on the integrity of any international designations to inform the competent authority (or Inspector or Secretary of State at appeal) in undertaking its HRA/AA.

2. Legislation and Assessment Methodology

2.1. Legislation

2.1.1. All areas in England classified as Special Areas of Conservation (SACs) or Special Protection Areas (SPAs), collectively known as European sites, receive statutory protection under the Conservation of Habitats and Species Regulations 2017 (the Regulations). These Regulations transpose into UK legislation the ‘Habitats Directive’ 1992 (92/43/EEC) and the ‘Birds Directive’ 2009 (2009/147/EC). National planning policy in the form of the National Planning Policy Framework (NPPF) explicitly sets out that listed Ramsar sites should be considered in the same way, as if they had been classified or designated as SACs or SPAs.

2.1.2. The Regulations impose a duty on Local Planning Authorities (competent authorities) to carefully consider whether any proposals may have a significant effect on a European designation, either alone or in combination with other plans or projects. In most circumstances, permission may only be granted for a plan or project to proceed if it has been ascertained that it will not have an adverse effect on the integrity of any such designation.

2.1.3. The process for assessment is set out at regulation 63(1):

“A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which:

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of that site,

must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives”.

2.1.4. Following this assessment, regulation 70(3) outlines when planning permission can be granted:

“... outline planning permission must not be granted unless the competent authority is satisfied (whether by reason of the conditions and limitations to which the outline planning permission is to be made subject, or otherwise) that no development likely adversely to affect the integrity of a European site or a European offshore marine site could be carried out under the permission, whether before or after obtaining approval of any reserved matters.”

2.2. Assessment Methodology

2.2.1. Guidance on the process and procedures for assessment are contained in a number of documents, principally:

- Habitats Regulations Assessments: Protecting a European site (Gov.uk)¹ – government standing advice on HRA;

¹ Habitats Regulations Assessments: Protecting a European site. February 2021
<https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

- National Planning Policy Framework (NPPF) and the accompanying ODPM/DEFRA Circular (ODPM 06/2005, DEFRA 01/2005);
- Managing Natura 2000 sites 'The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Commission. Nov 2018;
- Assessment of plans and projects significantly affecting Natura 2000 sites. European Commission November 2001.

2.2.2. As set out within government standing advice and as laid out within the flow chart (Figure 1) within ODPM circular 06/2005 (see Appendix 5), the procedure for assessment is an ordered process following a number of key stages as discussed below.

Stage 1 :Screening

- 2.2.3. Box 1 of the flow chart is not of relevance to development proposals and hence the first stage is to identify whether the proposals will result in any 'likely significant effect' on the internationally important features of the European sites, either alone or in combination with other plans or projects (box 2 of the flow chart).
- 2.2.4. In line with the Court of Justice of the European Union (CJEU) ruling (People over Wind, Peter Sweetman v Coillte Teoranta, Case C-323/17, dated 12 April 2018), mitigation measures intended to avoid or reduce the harmful effects of a plan or project on a European site should not be taken into account at this screening stage, and instead these must be considered as part of an Appropriate Assessment (Stage 2).
- 2.2.5. Where it is considered that a plan or project will result in no such 'likely significant effects', no further assessment is necessary and permission should not be refused under the assessment.
- 2.2.6. If any 'likely significant effects' are identified or where it remains unclear whether effects will be significant, the assessment procedure should follow on to Stage 2 (box 3 of the flow chart).
- 2.2.7. In reaching this decision, the plan or project should be considered 'likely' to have an effect if the competent authority is unable on the basis of objective information to exclude the possibility that it could have significant effects on any European designation, either alone or in combination with other plans or projects. The test of significance is therefore set at a relatively low bar, with significant effects considered as any negative effects, i.e. effects that are neither negligible nor inconsequential, but which are capable of having an adverse effect².
- 2.2.8. If the proposal can be screened out for effects from it alone, it should then be screened for any potential for it to combine with any other proposals planned or underway. If, in combination the proposal could have a significant effect on a European designation, it is necessary to progress to Stage 2.

² Case C-258/11: Judgment of the Court (Third Chamber) of 11 April 2013 and Opinion of the Advocate General dated 22nd November 2012. Peter Sweetman and Others v An Bord Pleanála. Reference for a preliminary ruling: Supreme Court - Ireland

Stage 2: Appropriate Assessment

- 2.2.9. Should it be determined that a plan or project could result in 'likely significant effects' on a European site, as set out on the flow chart, the Competent Authority should proceed to the next stage within flow chart boxes 3 and 4 onwards. This requires an 'Appropriate Assessment' of the likely effects of the plan or project to be undertaken by the Competent Authority.
- 2.2.10. Under Appropriate Assessment, it is necessary to determine whether the proposals, either alone or in combination with other projects or plans, will result in any adverse effects on the integrity of the European designation as defined by the conservation objectives and status of the relevant SAC/SPA. The precautionary principle should be applied, and the focus should be on objectively demonstrating, with supporting evidence, that there will be no adverse effects on the integrity of the European site. Where this is not the case, adverse effects must be assumed.
- 2.2.11. It is the policy of the government that Ramsar sites should be treated in the same way as European designations.
- 2.2.12. If it is considered that the proposal will not adversely affect the integrity of the designation, either alone or in combination with other projects, permission can be granted. If this cannot be ascertained, or there is uncertainty, the assessment procedure should follow on to Stage 3.

Stage 3: Derogations: allow exceptions

- 2.2.13. Should a proposal fail the integrity test, in certain circumstances, a project may still be able to proceed under a derogation.
- 2.2.14. Under Stage 3, it is necessary to assess if there are alternative solutions and whether there are imperative reasons of overriding public interest. If these tests are passed, authorisation may be granted subject to compensation measures being secured.
- 2.2.15. Further details on the above process can be found in Government Guidance on Habitats Regulations Assessments³.

2.3. Case Law

- 2.3.1. The approach to undertaking Habitats Regulation Assessment has been informed and distilled through a number of court rulings. Accordingly, this assessment takes into account all such case law, and in particular highlights the following as being pertinent:

The need for no reasonable scientific doubt

- 2.3.2. It has been established that the competent authority may grant permission for a project following an appropriate assessment *"only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects"*⁴ (our

³ Habitats regulations assessments: protecting a European site. Government Guidance.
<https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

⁴ C-127/02 Landelijke Vereniging tot Behoud van de Waddenzee & Another v Staatssecretaris van Landbouw ("Waddenzee") [2005] 2 CMLR 31 at [59]

emphasis). In addition, case law advises that the decision maker should be ‘certain beyond reasonable scientific doubt’⁵ that no adverse effects will arise on the integrity of the designation.

- 2.3.3. The application of this test is further clarified by case law which advises that in reaching a conclusion, what is required is ‘reasonable certainty’ rather than ‘absolute certainty’⁶ and that the risk should be ‘real’ (identifiable) rather than ‘hypothetical’ or ‘fanciful’⁷.

The need for no lacunae

- 2.3.4. It has been established that the assessment “cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned”⁸ and that the assessment must “unequivocally demonstrate why the protected habitat types and species are not adversely affected”⁹.

The need to take into account conservation objectives

- 2.3.5. It is relevant that “where such a plan or project is likely to undermine the conservation objectives of the site concerned, it must necessarily be considered likely to have a significant effect on the site”¹⁰

Any mitigation measures must be sufficiently certain

- 2.3.6. Where mitigation measures are proposed (under an Appropriate Assessment), “it is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area, that such a measure may be taken into consideration when the appropriate assessment is carried out.”¹¹

The need to assess cumulative effects

- 2.3.7. It has been established that not only does the project or plan in question need to be considered, but cumulative effects from other relevant projects have to be assessed. In particular “MN2000 makes clear that the phrase “in combination with other plans or projects” in Article 3 (3) refers to cumulative effects caused by the projects or plans that are currently under consideration together with the effects of any existing or proposed projects or plans. When impacts are assessed in combination in this way it can be established whether or not there may be, overall, an impact which may have

⁵ T.C. Briels & others v Minister van Infrastructuur en Milieu C-521/12 [2014]

⁶ WWF UK Ltd And RSPB V SoS for Scotland

⁷ Boggis V Natural England & Waveney District Council [2009] Ewca Civ 1061 and R (Morge) v Hampshire County Council (2011)

⁸ C-258/11 Sweetman v An Bord Plenala [2014] PTSR 1092 at [44]

⁹ C-461/17 Holohan v An Bord Plenala [2019] Env LR 16 per AG Kokott at [30]

¹⁰ Judgment of the Court (Grand Chamber) of 7 September 2004, Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij, Case C-127/02

¹¹ C-164/17 Grace & Sweetman v An Bord Plenala at [51]

*significant effects on a Natura 2000 site or which may adversely affect the integrity of a site”.*¹²

The Assessment should be commensurate with the stage of planning

2.3.8. Appropriate Assessments can be required at every stage of the planning process, from the allocation stage to the detailed or Reserved Matters stage. At each planning stage very different levels of detail are available, and *‘each appropriate assessment must be commensurate to the relative precision of the plans at any particular stage and no more’*¹³ (our emphasis).

2.3.9. These principles are well established. An example, is the case of Commission v UK C-6/04 (2005) and the opinion of Advocate General Kokott¹⁴, which related to a complaint from the Commission that the United Kingdom had failed to transpose adequately various provisions of the Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (‘the Habitats Directive’). It discusses the detail required within an Appropriate Assessment at paragraph 49:

“The United Kingdom Government is admittedly right in raising the objection that an assessment of the implications of the preceding plans cannot take account of all the effects of a measure. Many details are regularly not settled until the time of the final permission. It would hardly be proper to require a greater level of detail in preceding plans or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure”.

2.3.10. In line with the judgement of R (Barker) v Secretary of State & Bromley LBC (2006-7) (European Court and House of Lords) [2007]¹⁵ 1 A.C. 470 and Wingfield, R v Canterbury City Council [2019] EWHC 1974 (Admin)¹⁶, AA can be required at the Reserved Matters and discharge of conditions stages.

2.3.11. This approach has been commented upon by the Secretary of State in a Statement¹⁷ which sets out:

“The Habitats Regulations Assessment provisions apply to any consent, permission, or other authorisation, this may include post-permission approvals; reserved matters or discharges of conditions. It may be that Habitats Regulation Assessment is required in situations including but not limited to:

¹² European Commission DG Environment (November 2001) ‘Assessing Projects Under the Habitats Directive: Guidance for Competent Authorities, September 2011’

¹³ Feeney v Secretary of State for Transport & Ors [2013] EWHC 1238 (Admin)

¹⁴ Opinion of Advocate General Kokott June 2005. Case C-6/04
<https://curia.europa.eu/juris/liste.jsf?language=en&num=C-6/04>

¹⁵ <https://publications.parliament.uk/pa/ld200607/ldjudgmt/jd061206/barker-1.htm>

¹⁶ <http://www.bailii.org/ew/cases/EWHC/Admin/2019/1974.html>

¹⁷ Statement on improving water quality and tackling nutrient pollution. 20 July 2022 <https://questions-statements.parliament.uk/written-statements/detail/2022-07-20/hcws258>

- *where the environmental circumstances have materially changed as a matter of fact and degree (including where nutrient load or the conservation status of habitat site is now unfavourable) so that development that previously was lawfully screened out at the permission stage cannot now be screened out; or*
- *development that previously was lawfully screened in but judged to pass an Appropriate Assessment cannot now do so because the mitigation (if any) secured is not adequate to enable the competent authority to be convinced of no adverse effect on integrity of the habitats site”.*

2.4. Other Relevant guidance and opinions of weight

- 2.4.1. In addition to the interpretation of legislation that has emerged through the above case law, relevant guidance is also available from a number of other sources, as outlined below:

The Precautionary Principle

- 2.4.2. The precautionary principle is a core principle of EU environmental law. The European Commission¹⁸ sets out that “*the classic definition of ‘a precautionary approach’ comes from the 1992 Rio Declaration on Environment and Development, which states that: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (UNEP 1992).*”
- 2.4.3. Following on from the above definition, guidance sets out that “*Non-discrimination means that comparable situations should not be treated differently, and that different situations should not be treated in the same way, unless there are objective grounds for doing so” and “Consistency means that measures should be of comparable scope and nature to those already taken in equivalent areas in which all scientific data are available”*¹⁹.
- 2.4.4. In addition, this guidance also sets out that “*Proportionality means tailoring measures to the chosen level of protection. Risk can rarely be reduced to zero*”. And “*It is also necessary to clarify a misunderstanding as regards the distinction between reliance on the precautionary principle and the search for zero risk, which in reality is rarely to be found*”²⁰.
- 2.4.5. Finally, this guidance also further clarifies that “*measures based on the precautionary principle must not be disproportionate to the desired level of protection and must not aim at zero risk, something which rarely exists.*”²¹

Re-use of an existing HRA

- 2.4.6. If a project has already been assessed by the competent authority or a different competent authority, then there may be no need to repeat the assessment. In this

¹⁸ European Commission Science for Environment Policy (September 2017) ‘Future Brief: The Precautionary Principle: decision-making under uncertainty

¹⁹ Commission of the European Communities (2.2.200) ‘Communication from the Commission on the precautionary principle’

²⁰ Ibid footnote 13

²¹ Ibid footnote 13

regard guidance²² is provided as to when it is appropriate to adopt this approach, namely when:

- there's no new information or evidence that may lead to a different conclusion
- the assessments already done are relevant, thorough and correct
- the conclusions are rigorous and robust
- there's no new case law that changes the way an HRA should be carried out or interpreted

Duties of the Environment Agency

- 2.4.7. For the purposes of ground water abstraction, under its powers at section 52 of the Water Resources Act 1981, the Environment Agency is the Competent Authority. In the exercise of its function, the Agency is subject to the general obligations of Regulation 9(3) of the Habitats Regulations:

“Without prejudice to the preceding provisions, a competent authority, in exercising any of its functions, must have regard to the requirements of the Directives so far as they may be affected by the exercise of those functions”.

- 2.4.8. This is in addition to its obligations under Regulation 63(1) as described at paragraph 2.1.3 above.

²² Habitats Regulations Assessments: protecting a European site. Gov.uk. <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

3. Stage 1 - Screening for Likely Significant Effects

3.1. Site history

- 3.1.1. The site has the benefit of a hybrid and various subsequent planning permissions. As part of the considerations in the granting of these permissions, Habitats Regulations matters were fully taken into account by the Competent Authority, namely Horsham District Council, with no adverse affect concluded to arise on European designations.

3.2. Existing HRA

- 3.2.1. Habitats Regulations were revisited by the applicant again for the application for the Reserve land (ref: DC/17/2481), triggered by an objection received from Wealden District Council in respect of potential air quality effects on Ashdown Forest SAC.

- 3.2.2. This review is set out in the document entitled 'Kilnwood Vale – Reserve Land. Habitats Regulations Assessment: Shadow Screening Report' 2018. This identifies the following relevant European Designations:

- Ashdown Forest SAC
- Lewes Down SAC
- Pevensey Levels SAC

- 3.2.3. An increase in traffic movement was identified as the only potential impact pathway.

3.3. Ashdown Forest SAC – Screening

- 3.3.1. Ashdown Forest SAC is designated for its wet and dry heaths and lies approximately 16.6km from the Reserve land site as the crow flies and approximately 24km by road.

- 3.3.2. The Shadow HRA for the Reserve land considered the potential for traffic emissions to have likely significant effects on the SAC and concluded that this was unlikely. As such it screened out Ashdown Forest SAC.

3.4. Lewes Downs SAC – Screening

- 3.4.1. Lewes Downs SAC is designated for its semi-natural dry grasslands and scrubland facies on calcareous substrates. The SAC is located approximately 30.3km from the Reserve land site as the crow flies and approximately 40km by road.

- 3.4.2. The Reserve land Shadow HRA considered the potential for traffic emissions to have likely significant effects on the SAC and concluded that this was unlikely. As such it screened out Lewes Downs SAC.

3.5. Pevensey Levels SAC – Screening

- 3.5.1. Pevensey Levels SAC is designated for the population of Lesser Ramshorn Snail *Anisus vorticulus* it supports. The SAC is located approximately 44km from the Reserve Land site as the crow flies and approximately 62km by road. The designation is hydrologically well removed from the site and relevant catchments including bore hole extraction points.

- 3.5.2. The Reserve land Shadow HRA considered the potential for traffic emissions to have likely significant effects on the SAC and concluded that this was unlikely. As such it screened out Pevensy Levels SAC.

3.6. Re-use of an existing HRA

- 3.6.1. As set out at paragraph 2.4.6 above, it is appropriate to re-use the findings of an existing HRA when material factors have not altered in terms of the proposals or other matters.
- 3.6.2. In this regard, no such material changes have occurred of relevance to the Ashdown Forest, Lewes Downs SAC or Pevensy Levels SACs and therefore it is not necessary to re-screen for effects on these designations.
- 3.6.3. This assessment is confirmed by reference to consultation responses received from Natural England on the Reserve Land outline dated 07 December 2017 (ref: DC/17/2481) and other phases of the Kilnwood Vale development which raise no objection or comment on the proposals. These include the response from Natural England dated 15 March 2019 in respect of the Reserve Land Reserved Matters application (Phase 3A) ref: DC/19/0426 (see Appendix 6) and the response from Natural England dated 01 December 2020 in respect of Phase 6A ref: DC/20/2223 (see Appendix 2).

3.7. New information

- 3.7.1. While no new information of relevance to the site and its relationship to Ashdown Forest, Lewes Downs or Pevensy Levels SACs has arisen since the outline permission was granted, new information of relevance has arisen in respect of Arun Valley SAC/SPA/Ramsar which lies ~24.6km to the southwest. This is set out in a position statement issued by Natural England dated September 2021 (see Appendix 3) which advises that *"The Sussex North Water Supply Zone includes supplies from a groundwater abstraction which cannot, with certainty, conclude no adverse effect on the integrity of Arun Valley SAC / SPA / Ramsar"*. Accordingly, it is relevant to screen for potential effects which could arise from the proposals on Arun Valley SAC/SPA/Ramsar.

3.8. Arun Valley SAC/SPA/Ramsar – Screening

Designation information

- 3.8.1. Information of relevance in relation to the SAC/SPA designations is set out below:

European site interest features	Arun Valley SAC is designated on the basis of the following features: • Lesser Ram's-horn snail <i>Aniscus vorticulus</i> Arun Valley SPA is designated: a) under Article 4.1 of the Birds Directive (79/409/EEC) as it is regularly used by more than 1% of the Great Britain population of a species listed on Annex 1 in any season:
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	- Bewick Swan <i>Cygnus columbianus</i> (1.6% of GB population) b) Qualifying assemblage of species (Article 4.2). The site is used by over 20,000 waterfowl (as defined by the Ramsar Convention) - Mean peak 27,241 waders and wildfowl (1992/93 – 1996/97)
Conservation objectives of the European site	The conservation objectives for the SAC are to: 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 The conservation objectives for the SPA are to: Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: - The extent and distribution of the habitats of the qualifying features - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features, and, - The distribution of the qualifying features within the site
Condition of European site	The most recent condition assessments for the Sites of Special Scientific Interest (SSSIs) which underpin the European designation state that for: - Waltham Brooks SSSI – all units are in ‘unfavourable recovering’ condition; - Amberley Wild Brooks SSSI – the majority of units are in ‘unfavourable recovering condition’; - Pulborough Brooks SSSI – all units are in ‘favourable condition’
Threats	A Site Improvement Plan (SIP) has been produced by Natural England in relation to Arun Valley SAC and SPA (dated 22/10/2104). This identifies prioritised issues (pressures or threats) affecting the designation, namely : - Inappropriate water levels - Water pollution - Inappropriate ditch management

3.8.2. Information of relevance in relation to the Ramsar designation is set out below:

Ramsar qualifying features	Arun Valley Ramsar is designated on the basis of qualification under the following Ramsar Criteria: Criterion 1 - The site shows a greater range of habitats than any other
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	chalk river in Britain, including fen, mire, lowland wet grassland and small areas of woodland • Criterion 2 - The site supports a diverse assemblage of wetland flora and fauna including several nationally-rare species, including - <i>Cyperus fuscus</i> (IUCN – Vulnerable; Nationally Rare; Wildlife & Countryside Act 1981, Schedule 8; RDB); - <i>Pulicaria vulgaris</i> (IUCN – Vulnerable; Nationally Rare, Wildlife & Countryside Act 1981, Schedule 8; RDB) • Criterion 6 – Species / populations occurring at levels of international importance (<i>Gadwall Anas strepera strepera</i>; Northern pintail, <i>Anas acuta</i>; Black-tailed godwit, <i>Limosa limosa islandica</i>)
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Potential impact pathways

3.8.3. In order to assess potential effects on the designation it is necessary to identify potential impact pathways.

Identification of potential impact pathways	Based on a review of the Natural England position statement (see Appendix 3), a single potential impact pathway has been identified in relation the above designations, namely: • Hydrology / water supply
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Screening of likely significant effects

3.8.4. The potential effect of hydrology / water supply is reviewed below.

Hydrology / water supply	The site is located ~24.6km from the SAC/SPA/Ramsar at its nearest point (see Appendix 7) and within the Sussex North Water Supply Zone (see Appendix 8). Natural England issued a position statement dated September 2021 (see Appendix 3) setting out that “<i>The Sussex North Water Supply Zone includes supplies from a groundwater abstraction which cannot, with certainty, conclude no adverse effect on the integrity of</i> • <i>Arun Valley Special Area Conservation (SAC)</i> • <i>Arun Valley Special Protection Area (SPA)</i> • <i>Arun Valley Ramsar Site</i>”. Subsequent to the issuing of the Position Statement, in December 2021 Natural England published an accompanying set of Frequently Asked Questions (FAQs) which were updated in March 2022 (see Appendix 9). Question 6 in the FAQs is “<i>Why do Natural England think Southern Water’s abstraction is affecting the protected sites and wildlife?</i>”. The FAQ response to this states that: “<i>In early 2019 Southern Water set out its draft plans for reconfiguring (moving) its abstraction wellfield at Pulborough so it could make better use of its existing abstraction. This would bring the abstraction boreholes closer to designated sites. Over the following months Natural England reviewed the water companies’ data as they submitted it, including their draft Habitats Regulations Assessment for the borehole reconfiguration, new water resource models and some of the data that had underpinned the EA review of consents in 2008.</i> <i>Combining all this data with the emerging evidence indicating the sites were slowly drying (e.g., Hicks et al 20193) led Natural England to find that it was not possible to conclude no adverse effect on integrity for the Arun Valley designated sites,</i>
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	<i>should the abstraction go ahead as proposed".</i>
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Conclusion of screening for Arun Valley SAC

- 3.8.5. The information provided in Natural England's position statement and associated FAQs suggests a likely significant effect on the designations is possible. Accordingly, it is necessary to progress to the next step, namely Appropriate Assessment.

3.9. Appropriate Assessment

- 3.9.1. In light of the above conclusions, the following designation is taken forward for further consideration at Stage 2 via Appropriate Assessment.

- Arun Valley SAC/SPA/Ramsar

4. Stage 2: Appropriate Assessment – Arun Valley SAC / SPA / Ramsar

4.1.1. As set out in the Stage 1 Screening, the potential has been identified for effects on:

- Arun Valley SAC / SPA / Ramsar

4.1.2. This Stage 2 Appropriate Assessment examines the data in regard to the identified potential effect of hydrology / water supply on the designations.

4.1.3. A range of evidence is considered including in relation to:

- a) Ecological monitoring data of the designations and the concerns identified;
- b) Water Resources Management Plan (Southern Water);
- c) Change of position by Natural England;
- d) Waltham Brooks SSSI
- e) Amberley Wild Brooks SSSI
- f) Pulborough Brooks SSSI
- g) Additional Considerations

4.1.4. This is discussed below.

4.2. Ecological monitoring data of the designations and the concerns identified

4.2.1. Natural England's FAQs (see Appendix 9) set out at Question 4 "What evidence is there that wildlife in the Arun Valley is declining?" while prior to the publication of FAQ's Aspect Ecology had also independently asked this question of Natural England, with a response received to this query on 24 November 2021 (see Appendix 10). The content of both documents is identical. In response Natural England has put forward the following observations:

"A full Natural England condition assessment survey of ditches, plants, wetlands, invertebrates has now been completed with the final survey undertaken in October 2021. The full condition assessment data analysis will be completed by March 2022. The accompanying report is expected to be published by Autumn 2022, pending the results of the water quality monitoring. Water quality data must be collected for a full year and will be complete in June 2022. This will provide additional data for the assessment of the supporting habitat, reasons for declines in the snail and bird features and information on the Ramsar plant, invertebrate and wetland/ditch habitat features as well as for the SSSI features.

The review to date has shown (with source of information in brackets):

- *The SAC feature (*Anisus vorticulus*) has been reduced to a small population around a single ditch (in Oct 2021 survey) in Amberley Wild Brooks having been moderately widespread previously and has gone entirely from south of Pulborough Brooks where it was present, if uncommon, previously. This is a loss of up to three quarters of its*

former range within the SAC. This former range was a quarter of the species UK population. The SAC is therefore failing its conservation objectives for range and distribution and the species is at risk of going extinct on the site. (various studies including Natural England commissioned October 2021 Survey of Anisus vorticulus - in preparation).

- *SPA and Ramsar wintering bird features – only teal are meeting their conservation objective population targets (wetland bird survey (WeBS) data BTO).*
- *A peer reviewed paper (Hicks et al 2019)²³ shows statistically significant changes in the vegetation community, including those that form part of the Ramsar and SSSI features, in the north of Amberley Wild Brooks, indicative of slowly drying conditions.*
- *Environment Agency (EA) water quality monitoring is limited – but shows ditch water quality is exceeding nutrient targets for total phosphorus -TP values) National guidance recommends more stringent total phosphorus values for sites with groundwater input and total nitrogen (TN) targets on still waters and ditches with aquatic plant and invertebrate interest. Groundwater that is abstracted is less nutrient rich than surface water on which the site must rely currently and the drying on the site makes the impacts of the high nutrients in the surface water greater by reducing the dilution.*
- *A technical study into habitat management for the SAC snail (as part of back from the brink partnership work) shows water quality, in particular suspended solids, are issues for the SAC snail. These suspended solids are likely to be from the clay in banks when they collapse and/ or from overtopping. The water turbidity is exacerbated by the very shallow or dry ditches in summer on Pulborough Brooks*
- *All the impacts on designated sites appear to be exacerbated by climate change. (Hicks et al 2019)²³*

4.2.2. It is observed that a range of issues are highlighted, which can be summarised as:

- Loss of range of *Anisus vorticulus* (unexplained);
- Decline of use of the SAC by wintering birds;
- Changes in the vegetation communities (indicative of slowly drying conditions);
- Elevated phosphorus levels in ditches;
- Water quality and suspended solids are elevated and detrimental to *Anisus vorticulus*;
- Climate range is playing a role.

4.2.3. The role of management issues however, appears to be under emphasized in the issues documented by Natural England. For example leaking sluice gates and proper water level management remain an issue at Amberley Wild Brooks²³. As such, it is noteworthy that ground water supply is but one piece of the puzzle as to why ecological change is occurring at the designations. The above review paints a picture of a slowly drying site, but this does not appear to be founded in a long term data set. It would be beneficial to examine such data should it exist.

²³ Hardham groundwater abstraction licence variation and River Arun licence renewal applications, 2021. Southern Water commitments. Dec 2021

4.2.4. In the absence of such long term data, under the precautionary principle, this Shadow HRA is advanced on the basis that there could be slowly reducing water levels at the SAC/SPA/Ramsar indicative of a slow drying at the designations. However, this could be attributable to a range of causes such as climate change and water supplies.

4.2.5. Of these issues Natural England has identified that water abstraction by Southern Water could be one cause of a reduction of water supply to the designations (see paragraph 3.8.4 above). As such, Natural England has raised the concern of increase in water demand from additional housing and set out that it *“must not add to this impact”* (see Natural England position statement at Appendix 3). This matter is considered below.

4.3. Water Resources Management Plan (Southern Water)

4.3.1. Water Supply for the region is set out by Southern Water in their Water Resources Management Plan (WRMP) 2020 – 2070 (published December 2019)²⁴. This describes how Southern Water *“intend to supply healthy, reliable drinking water to more than one million homes and businesses for the next 50 years.”*

4.3.2. In particular, the WRMP sets out how Southern Water intends to achieve a secure supply of water for its customers and a protected and enhanced environment. The duty to prepare and maintain a WRMP is set out in sections 37A to 37D of the Water Industry Act 1991. A water company must prepare a plan at least every 5 years and review it annually.

4.3.3. The Southern Water WRMP projects growth in water demand over the period 2020 to 2070. The WRMP models ‘supply side’ options and ‘demand side’ options to meet the projected requirements then provides for sufficient water to 2070 so as to achieve a water balance, including allowing for a 1 in 200 year drought event.

4.3.4. The WRMP particularly notes for the Central Area (which includes the North Sussex WRZ) that:

“Whilst we have not yet been notified of any certain sustainability reductions, it is possible that we will need to make changes to our licences by 2027 to protect and enhance the environment. The potential scale of these could be significant, but is not yet certain. We have allowed for this in our estimates”²⁵ (our emphasis).

4.3.5. The WRMP concludes, that despite a proposed reduction in ground water contribution to the Central Area and North Sussex WRZ (see section 4.8 below), there is sufficient water to accommodate growth.

²⁴ <https://www.southernwater.co.uk/our-story/water-resources-planning/water-resources-management-plan-2020-70>

²⁵ See section 5.4.2 p45 of WRMP 2019 ‘Technical Overview’ December 2019. This is also expanded upon at section 7.4.2 on p76 *“The key factor driving the strategy for the Central area is the potential for significant, but as yet unconfirmed sustainability reductions (licence changes). These sustainability reductions will be confirmed by the Environment Agency following the conclusion of the investigations the company is proposing to undertake early in the AMP7 period (by 2022-23). If licence changes are confirmed, then significant new infrastructure will be required to provide new water resources to offset the water that is effectively “lost”.”*

- 4.3.6. The Southern Water Region is made up of three areas (Central, Western and Eastern) which themselves are broken into various Supply Zones (see extract from WRMP at Appendix 11). Supply Zones for the Central Area which are shown on Figure 1:

Figure 1 – Extract from WRMP: Central Area Supply Zones (North Sussex in dark blue; Worthing in mid blue and Brighton in light blue).



- 4.3.7. The site at Kilnwood Vale is located in the North Sussex Supply Zone. The split of the overall Supply Zone water sources is reported in the WRMP as:

Table 1: Split of water sources in the Supply Zones (taken from WRMP)

Supply Zone	Water source			
	Groundwater	River	Reservoir	Transfers
Central Area				
North Sussex	35%	51%	8%	6%
Worthing	98%	0%	0%	2%
Brighton	100%	0%	0%	0%
Western Area				
Kingsclere	100%	0%	0%	0%
Andover	100%	0%	0%	0%
Rural Hampshire	100%	0%	0%	0%
Winchester	100%	0%	0%	0%
Southampton East	48%	52%	0%	0%
Southampton West	100%	0%	0%	0%
Isle of Wight	47%	23%		30%
Easterern Area				
Medway East	100%	0%	0%	0%
Medway West	44%	28%	28%	0%
Thanet	77%	2%	0%	21%
Hastings	5%	0%	79%	16%

4.3.8. As can be seen from this table, of the Central Area Supply Zones, the North Sussex Supply Zone sources the least amount of its water from ground water.

4.3.9. Further details of the deployable outputs for North Sussex Supply Zone are shown at Table 44 of Annex 3 of the WRMP (see Appendix 12). Data are presented in terms of the Peak Deployable Output (PDO)²⁶ and the Minimum Deployable Output (MDO)²⁷. This data can be broken down into its three component sources, namely groundwater, surface water and reservoir so as to understand this further. This breakdown is presented below in Table 2:

Table 2: The Peak and Minimum Deployable Outputs for each water source in the Sussex North WRZ. Ground water source are highlighted in yellow; surface water sources are highlighted in blue; reservoir water sources are highlighted in green.

Water source	PDO(Ml/day)		MDO(Ml/day)	
Pulborough GW	27	27.38%	20	20.28%
Pulborough SW	33	33.47%	30.58	31.01%
River Arun	15	15.21%	10	10.14%
Weir Wood	17	17.24%	8	8.11%
Petworth	2.43	2.46%	2.14	2.17%
Petersfield	0	0.00%	0	0.00%
Midhurst	2.88	2.92%	2.19	2.22%
West Chiltington	0	0.00%	0	0.00%
Steyning	1.3	1.32%	1.2	1.22%
Totals	98.61		74.11	

4.3.10. These sources can then be combined to examine the relative make up of the supply sources and how their Peak and Minimum Deployable Outputs compare:

Table 3: Summary of water sources for North Sussex WRZ and their Peak and Minimum Deployable Outputs²⁸

Water source	Percentage of total supply	
	PDO	MDO
Ground Water	34.08%	25.89%
Surface Water	46.68%	41.15%
Reservoir	17.24%	8.11%

4.3.11. The approach to the WRMP as a whole and water supply has been tested via a HRA process. This analysis is presented at Annex 15 of the WRMP and the HRA particularly tested for potential effects on Arun Valley SAC / SPA/ Ramsar.

4.3.12. This HRA finds that there are no likely significant effects (LSEs) arising from the Central Area while likewise, testing of cumulative effects which could arise on Arun Valley SAC / SPA / Ramsar finds that no likely significant effects are identified.

²⁶ PDO is the volume of water available from a resource during the period of maximum demand. Typically demand peaks in early to mid-summer and so the PDO reflects the ability of a source to meet such demands.

²⁷ MDO is the volume of water available from a source during the period of minimum resource availability. Most typically this is the hydrological yield of a source at the time of lowest flow or groundwater level. It is most commonly calculated in the late autumn after the summer recession and before the onset of winter rainfall and recharge

²⁸ NB: figures differ from Table 1 due to their actual calculated values

4.3.13. Natural England was consulted on the WRMP HRA and confirmed it had no objection to the WRMP²⁹.

4.4. Change of position by Natural England

4.4.1. In 2019 Southern Water brought forward a proposal to re-configure the existing borehole abstraction at Hardham. Natural England was consulted and responded in correspondence dated 16 December 2019 (see Appendix 13). On the basis of the concerns identified (see section 4.2 above), Natural England set out that:

“For the assessment of a new plan or project the evidence, though not strong suggests the existing abstraction may be contributing to existing site declines though declines are very slow and long term”.

4.4.2. Natural England raise a number of concerns in regard to the proposal and that an adverse effect on site integrity could not be ruled out from increased abstraction. A review of the data provided by Southern Water, contained largely in the Arun Valley Vision Report (AVSS), in the Abstraction Impact Report (2019) and draft HRA 2019 for the scheme (including Numerical Ground Water Modelling) was put forward by Natural England to support this view.

4.4.3. Of particular significance is Natural England’s conclusion that:

“This project has highlighted potential risks from the current abstraction (actual not licenced) at.....to the designated SSSI, SPA, SAC and Ramsar sites of the Arun Valley”

4.4.4. It is understood that this conclusion has led directly to Natural England’s position statement (September 2021). The primary premise of Natural England appears to be that set out at section 1.5 of their correspondence dated 16 December 2019 (see Appendix 13) which puts forward:

“The hydrogeology of the designated sites is complex. The underpinning geology varies spatially, and is overlain by a range of drift deposits that vary in their permeability across the three designated sites. It is uncertain what the significance of groundwater supply from the beds to the designated sites would be in a naturalised scenario without the abstraction. The British Geological Survey (BGS) maps and the webmap national peat mapping show there are significant areas of peat on the northern area of Amberley Wild Brooks, on the south Eastern area of Pulborough Brooks and on the eastern margin of the north of Pulborough Brooks. These areas of peat are also reflected by the Amberley citation and by local knowledge. These areas of peat are coincident with areas of the sites underlain by the beds and potentially permeable superficial deposits that may provide a pathway for groundwater

²⁹ Revised draft Water Resources Management Plan 2019. Appendix 7 - Our detailed response to all nonquestionnaire respondent comments. Southern Water. 03 September 2018. Para 1.4.1. Natural England’s response on Arun Valley SAC / SPA / Ramsar. “The Arun Valley sites are extensive areas of alluvial grazing marsh intersected by drainage ditches supporting a rich flora and fauna and their wintering birds. The SAC is notified for populations of Anisus vorticulus. The HRA screened all the dWRMP options as having no likely significant effect on the Arun Valley sites. Littlehampton indirect effluent reuse will discharge treated effluent upstream of the Amberley Wild Brooks and Waltham Brooks parts of the European sites. Provided the water quality and chemistry for this options can be made to approximate unimpacted water quality from the discharge location, Natural England concurs with the screening of this option as having no likely significant effect on the Arun Valley sites. Further work on the effects of the discharge on the downstream sites will be needed at the project stage”.

discharge to the edges of the designated sites. The presence of peat suggests considerably wetter conditions than currently and could be indicative of significant groundwater connectivity in the past” (our emphasis).

- 4.4.5. To investigate the validity of Natural England’s concerns, the issues raised are assessed below in relation to the three constituent SSSIs of the SAC / SPA / Ramsar. In summary, Natural England’s view is that they do not hold a concern in regard to Waltham Brooks SSSI, but potential concerns are held in respect of ground water abstraction at Hardham potentially adversely affecting Amberley Wild Brooks SSSI and Pulborough Brooks SSSI.

4.5. Waltham Brooks SSSI

- 4.5.1. Natural England has agreed in their correspondence of 16 December 2019 (see Appendix 13) that a likely significant effect on Waltham Brooks part of the international sites has been excluded on the basis of objective evidence, namely that bore hole logs show the *“clay extends much further than shown on BGS maps and therefore connectivity to the [Hardham extract point] at Waltham Brooks has been ruled out”*.

4.6. Amberley Wild Brooks SSSI

Published research on Amberley Wild Brooks

- 4.6.1. Research on Amberley Wild Brooks published in 2019³⁰ (see extract at Appendix 14), authored by Natural England, considered management of the SSSI and the relevance of hydrology and set out that:

*“The largest abstraction for public water supply in the greensand aquifer near here is near the confluence of the Arun and its main tributary the Rother, and though the abstraction impacts do travel under the river they are **not** believed to impact Amberley due to the Greenhurst anticline in the geology of the greensand. Further investigation is being sought to confirm this” (emphasis added).*

- 4.6.2. The paper then goes on to note that:

*“We suggest that **management at ditch level is likely to be pivotal** to the plant and animal species for which the site is designated. It seems likely also that some adverse outcomes across the two decades could be attributed to alterations in management, including overall under-grazing and the recent reduction of early-season grazing, and there may be highly localised effects (e.g. reduction of the open mud habitat along ditch margins, shading and/or coarsening of marginal vegetation) which are not detected by the spatial resolution of these surveys” (emphasis added).*

- 4.6.3. As such Natural England’s view at this time was that ditch level management, amongst other factors, was key to issues identified at the SSSI, but that abstraction had no part to play in this.

³⁰ Spatial and temporal vegetation analysis of Amberley Wild Brooks over two decades. D. Hicks, F. Abraham, L. Bardsley*, M. Cousins, E. Webster & J. Whitman. Natural England. British & Irish Botany 1(4): 309-326, 2019. <https://britishandirishbotany.org/index.php/bib/article/view/27>

Change of Natural England's view

- 4.6.4. The above paper was published 14 December 2019, however when Natural England wrote to Southern Water on 16 December 2019 (see Appendix 13), it appears that their view had changed and they set out that:

"The 2019 draft HRAassumed because Amberley is south of Waltham and south of the Greenhurst anticline that there was no hydrological connection and therefore no likely significant effect on Amberley Wild Brooks. Natural England requested further information in summer of 2019 New information has identified a potential hydrogeological connection between the Beds north and south of the Greenhurst anticline (see slides from company on 30/9/19)....The model showed a significant potential drawdown in groundwater head in the [Folkestone] Beds under historic abstraction compared with a naturalised scenario in the northern part of Amberley Wild Brooks.

No recent groundwater monitoring of the [Folkestone] Beds has taken place at Amberley Wild Brooks with which to validate the model prediction. The potential for hydrological connectivity between the peat areas at the wetland surface and the [Folkestone] Beds beneath is uncertain. Combined with the evidence of vegetation community changes indicative of drying, the uncertainty of the impact of the proposals and existing abstraction remains and a likely significant effect has not been excluded on the basis of objective evidence".

4.7. Pulborough Brooks SSSI

- 4.7.1. The Habitats Regulations 2017 set out at Regulation 13(2)a, a duty to not only maintain the 'favourable conservation' status of SACs/SPAs but also to 'restore' interest features if these are degraded.

Natural England correspondence of 16 December 2019

- 4.7.2. It is on this basis that Natural England has examined the effects of extraction on Pulborough Brooks SSSI. In this regard in their correspondence of 16 December 2019 (see Appendix 13) they raise a number of concerns, namely:

- a) Natural England has raised concerns that...early assumptions underestimate the historical importance of groundwater discharge to the eastern margins of Pulborough Brooks in the absence of abstraction³¹;

³¹ Natural England note that "The permeable windows of connectivity with the.....Beds identified in the AVSS are coincident with relic areas of peat deposit suggesting significantly wetter conditions were prevalent in the past, capable of supporting peat formation. The AVSS wetland model was calibrated against an "impacted" baseline, and predictions of naturalised seepage rates involve assumptions about naturalised head in the.....Beds and a 'proportionate relationship' between drawdown in head in the beds and seepage rates to the wetland. The detail behind these assumptions are not provided in the AVSS report. Natural England believe significant uncertainty remains in these predictions of groundwater supply to the designated sites from the.....beds in a naturalised scenario....

Fig 14 in the 2019 abstraction impact report suggests a dramatic impact of abstraction on Groundwater head in the Beds at in the southeast corner of Pulborough Brooks. Naturalised head is predicted to be 4-6 m above ground level whilst abstraction generates a head that hovers around ground level. This has the potential to make the difference between a significant perennial groundwater discharge without abstraction versus a small and intermittent discharge with abstraction."

- b) Under a naturalised scenario, the groundwater model suggests significantly enhanced seepage rates over those assumed in the AVSS study. Moreover, it predicts seepage all year round and at rates an order of magnitude (two orders in some months) above historic rates³².
- c) Natural England is concerned that there is a risk of misrepresenting and understating the degree of groundwater connectivity that may exist at the wetland margins of the South Brooks, particularly where fringing peat deposits are located. Additional ground investigation would be needed to address this uncertainty³³.

4.8. Additional consideration – licence variation

4.8.1. The Hardham ground water abstraction licence is under the jurisdiction of the Environment Agency, acting as Competent Authority under the Water Resources Act. In December 2021, Southern Water Services Ltd submitted an application to vary this licence, which is essentially an administrative exercise to include borehole 10 on the licence, correcting its historical omission.

4.8.2. As part of the application, two new constraints have been offered to amend the existing licence to very significantly limit the groundwater abstraction available under it: A new annual limit of 6000 million litres (ML) is to be added (whereas the existing licence allows 13271 ML per year) and, the current maximum daily abstraction of 36.36 ML is to be reduced to 30 ML (while the annual limit of 6000 ML equates to an average daily abstraction of only 16.4 ML).

4.8.3. A HRA³⁴ accompanies the application, which solely focusses on the variation of the Hardham groundwater licence and does not consider the licence as a whole. The abstraction activity at borehole 10 is currently ongoing, and the variation of the abstraction licence would **not** increase the daily amount of water abstracted or entail any changes to existing abstraction infrastructure. Indeed, the HRA sets out that:

“The introduction of a new reduced annual limit on groundwater abstraction of 6,000 ML/year, where the implicit existing annual limit is the daily limit of 36.36 ML/d multiplied by 365 days; therefore 13,271 ML/year, and a new reduced daily limit from 36.36 ML/d to 30.0 ML/d will have a beneficial effect on the habitats and species present within the site compared to the much greater abstraction that could potentially be taken within the existing licence”.

³² Natural England set out that “In response to a request from Natural England, Southern Water used the Numeric Groundwater Model to predict seepage rates under a naturalised and historical (abstracted) scenario and provide comparison with seepage rates used in the AVSS report. For model cells in the eastern margin of the northern Brooks, the model predicts historical (abstracted) seepage rates similar to those proposed by the AVSS wetland model. Given the latter was calibrated against observed data it probably represents the current impacted state reasonably well i.e. no seepage inputs for half the year, very small volumes at other times”.

³³ Natural England state: “For Pulborough Brooks south, the groundwater model predicts small and intermittent seepage across the year under the historic scenario and relatively little change under a naturalised scenario. From the limited information available to Natural England at this stage it appears these predictions are constrained by low vertical hydraulic conductivity assumed for the model cells used. The values appear to be the same as those assigned for the floodplain more widely where there is a significant depth of alluvium and underlying Gault Mudstone both of which are likely to provide significant hydraulic resistance to up-flow of groundwater from the.....Beds”.

³⁴ Hardham Groundwater Abstraction Licence Supporting Information Information to support an HRA. Royal Haskoning. 22 December 2021

- 4.8.4. Given the above, the HRA concludes that *“the variation of the licence will have no adverse effect on the integrity of the Arun Valley SAC”*. Indeed, this variation would represent a substantial betterment over the existing situation and assures a reduction of extraction over that currently permitted by the licence.

4.9. Assessment

Consultee – Natural England

- 4.9.1. Natural England, acting as a consultee, has raised a concern in regard to potential effects which could arise from ground water extraction at Hardham which, as discussed above, are of potential relevance in respect of Arun Valley SAC/SPA/Ramsar and specifically at Amberley Wild Brooks SSSI and Pulborough Brooks SSSI.
- 4.9.2. As set out at paragraph 2.4.7 above, for the purposes of ground water abstraction, under its powers at section 52 of the Water Resources Act 1981, the Environment Agency is the Competent Authority.

The Competent Authority – Environment Agency

- 4.9.3. Correspondence has been received from the Environment Agency dated 26 April 2022 (see Appendix 15), within which they confirm that they are in agreement with Natural England’s position (i.e. that existing licensed abstraction at Hardham cannot be excluded from having an impact on the European designation; as such it is in breach of Environment Agency duties as Competent Authority under the Water Resources Act).
- 4.9.4. The Environment Agency act as the Competent Authority in regard to ground water abstraction licensing. Under its duty at Regulation 9 of the Habitats Regulations (see paragraph 2.4.7 above), it must ensure that abstraction is at a level where adverse effects on the integrity of the SAC/SPA, in the light of its conservation objectives, can be excluded.
- 4.9.5. In order to address concerns raised, the Environment Agency acting as Competent Authority, has sought to review the points articulated by Natural England. Following this review, in line with Natural England’s conclusion (see correspondence dated 16 December 2019 at Appendix 13), the Environment Agency has also concluded that insufficient evidence is currently available so as to be certain that the current level of abstraction is not having an adverse effect on the SAC/SPA. Should this be the case, there is also insufficient evidence to determine the appropriate abstraction level which should be set to enable this conclusion to be reached.
- 4.9.6. Accordingly, in line with its normal procedure, acting as Competent Authority, to address this currently uncertain position, the Environment Agency has secured a commitment from Southern Water to complete an investigation in the form of a full sustainability assessment (HRA) of the Hardham groundwater licence by the end of March 2025 (see correspondence from Environment Agency dated 26 April 2022 at Appendix 15 and correspondence from Southern Water dated 14 April 2022 at Appendix 16). This investigation will gather new data of any necessary factors (e.g. ground water levels, flows, pathways, geology, ecology) to enable a full assessment

of the impact of the existing groundwater abstraction on the designations to be undertaken. The Environment Agency and Natural England will be consulted on the assessment.

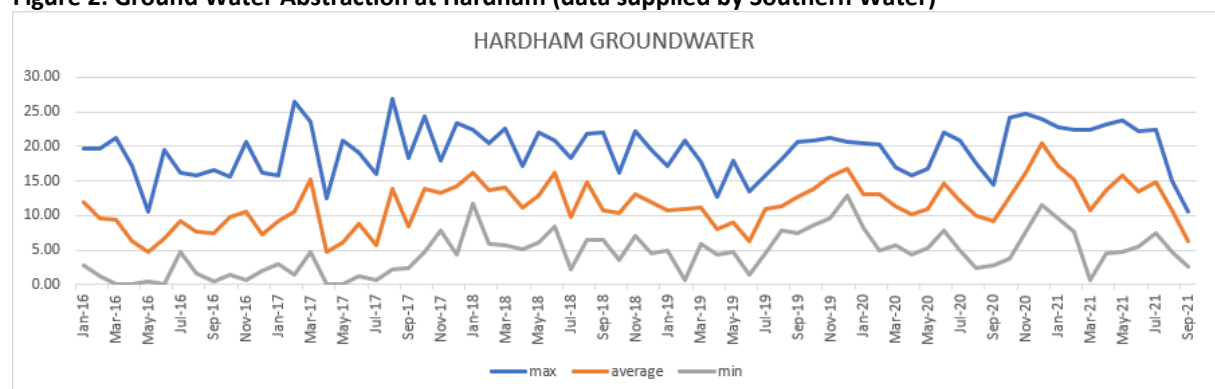
4.9.7. Following this assessment, the Environment Agency as Competent Authority³⁵ will be able to review the Hardham licence and if necessary adjust the terms in respect of the permitted level of water abstraction.

4.9.8. In the interim while this investigation is ongoing, acting under the precautionary principle, so as to ensure that adverse effects on the integrity of the designations are avoided, the Environment Agency, consistent with its obligations under Regulation 9(3), has secured a further commitment from Southern Water, namely to minimise groundwater abstraction from Hardham and, minimise use of transfer within or out of Sussex North that could provoke increase in that abstraction (see correspondence from Southern Water dated 14 April 2022 at Appendix 16).

4.9.9. By way of illustration:

- The existing abstraction licence at Hardham allows for abstraction at 36 mega litres per day (ML/d) (maximum annual quantity of 13,272ML)
- The WRMP's Peak Deployable Output (PDO) is at a reduced level of 27 ML/d³⁶.
- The proposed licence variation (see section 4.8 above) seeks to reduce the annual limit from 13,272ML down to 6000ML.
- The mean daily average abstraction historically at Hardham has been in the order of ~11.4 ML/d with a mean daily maximum abstraction of ~19.42ML/d (derived from actual abstraction figures provided by Southern Water)
- A sharp reduction occurred in September 2021, when the abstraction was voluntarily minimised, with a reduced daily average volume of ~6.4ML/d with a daily maximum ~10.5 ML/d. This data (supplied by Southern Water) is included at Appendix 17 and summarised below in Figure 2.

Figure 2: Ground Water Abstraction at Hardham (data supplied by Southern Water)



4.9.10. These data show that there is a declining reliance on Hardham. There is no resource driven industry requirement to increase the extraction from ~10 ML/d due to the proposed housing at Kilnwood Vale or elsewhere. The action by the Environment

³⁵ Acting under under Section 52 of the Water Resources Act

³⁶ WRMP19 Annex 3: Supply Forecast (Table 44). The PDO figures are 27ML/d up to and including the 1 in 200 year drought

Agency, acting as competent Authority, to reduce the reliance on abstraction at Hardham, fulfils their duties under the Water Resources Act such that Hardham can operate without giving rise to an adverse effect on the integrity of Arun Valley SAC/SPA/Ramsar.

High Court ruling - Harris v Environment Agency September 2022

4.9.11. The above actions are consistent with the Environment Agency's duties as confirmed in a recent High Court ruling, namely *Harris v Environment Agency* September 2022³⁷. Four points are pertinent from this ruling.

4.9.12. Paragraph 50 of the judgement:

"This means that where it becomes apparent that there is a risk to a protected habitat or species [within a SAC] as a result of the licensed abstraction of water, Article 6(2) imposes an obligation to review the applicable licences...The review must be sufficiently robust to guarantee that the abstraction of water will not cause significant damage to ecosystems that are protected under the Habitats Directive...."

4.9.13. This requirement is what the Environment Agency has set in train at Arun Valley SAC, namely they have required Southern Water to put in place a review in the form of a full sustainability assessment (HRA) of the Hardham groundwater licence.

4.9.14. Paragraph 98 of the judgment:

"the authorities are clear that it is not sufficient to wait until damage to a site occurs before taking remedial action ...If there is reason to believe that there is a risk of damage then it is necessary to take remedial steps...."

4.9.15. In accordance with this requirement, whilst the outcome of the sustainability assessment is awaited, the Environment Agency has required with immediate effect that Southern Water minimise its extraction at Hardham.

4.9.16. Paragraph 100 of the judgment:

"the steps taken must.... be sufficiently robust to guarantee that abstraction of water does not cause damage to ecosystems that are protected under the Habitats Directive"

4.9.17. The Court confirms that it is incumbent on the Environment Agency to act sufficiently to safeguard the SAC. By securing the minimization of extraction at Hardham, the Environment Agency must be satisfied that this step avoids harm to the integrity of the SAC.

³⁷ *Harris v Environment Agency* September 2022. [2022] EWHC 2264 (Admin), [2022] WLR(D) 367.
<https://www.bailii.org/ew/cases/EWHC/Admin/2022/2264.html>

4.9.18. Paragraph 103 of the judgment:

“the Environment Agency must act unless it is satisfied that there is no risk of significant damage”

4.9.19. Paragraph 103 confirms that the points above must be acted upon, as the Environment Agency already has by securing the two measures discussed.

Would development at the application site lead to additional abstraction at Hardham?

4.9.20. Housing growth in the region is already factored into the WRMP. Indeed, this is the very purpose of the plan, namely to project the future needs of the area and ensure these are accommodated. Accordingly, the proposed application will trigger no requirement to depart from the WRMP.

4.9.21. Under the WRMP there is a planned reduction of abstraction at Hardham. This is illustrated by the current Southern Water application to vary (reduce) the Hardham abstraction current licence maxima (see section 4.8 above). Therefore the WRMP plans for a reduction in abstraction at Hardham and not an increase (see paragraph 4.3.4-5 above).

4.9.22. Accordingly, as housing growth in the region has been factored into the WRMP, new housing at the application site has already been accommodated within the planned water supply. As such, the application will trigger no requirement to increase abstraction at Hardham, so as to accommodate its needs, nor compromise the planned reductions in abstraction at this location. Rather, there will (pursuant to the actions already taken by the Environment Agency as the Competent Authority for water abstraction) be a reduced reliance on Hardham, whilst ensuring there is sufficient water in the system so as to serve the development.

4.10. Conclusion

4.10.1. Reference to the concerns raised by Natural England arising from the ecological monitoring data (see section 4.2 above) finds that the causative effects of the deterioration of the interest features at the designations are likely the result of a range of factors, potentially acting together such as changes in management, changes in the water quality of ditches, changes in the sediment load of ditches and climate change.

4.10.2. At the current time, the potential for ground water abstraction at Hardham to cause an adverse effect on the SAC/SPA cannot be excluded as data is not available to complete this technical assessment. As such further work is required to establish if any hydrological linkage is present between the Hardham extraction point and Amberley Wild Brooks or Pulborough Brooks SSSI components of the SAC/SPA.

4.10.3. To safeguard the designations, the Environment Agency, as Competent Authority for water abstraction, has secured a commitment from Southern Water to carry out the necessary investigations to establish the presence / absence of any hydrological link between the SAC/SPA/Ramsar and the Hardham extraction point. This investigation

will report in 2025 and if any issue is identified, the Competent Authority will act to adjust the licensed abstraction volumes to the appropriate level. In the meantime, as an interim measure until the investigation is complete, a further commitment has been secured from Southern Water to minimise abstraction at Hardham. In this regard, abstraction has been reduced from the typical previous average level of abstraction at Hardham of ~11MI/day to 6.4MI/day (against a permitted licensing level of 36 MI/day).

- 4.10.4. The WRMP plans for housing growth in the region and ensures resources are in place to accommodate this. Notwithstanding the projected housing growth that is accommodated by the plan, reference to the WRMP finds that potential reductions to protect and enhance the environment are accounted for in any event and indeed an application has been submitted to reduce the licensed abstraction volumes at Hardham.
- 4.10.5. Accordingly, abstraction at Hardham shows a reducing trajectory and not an increasing one. Indeed, at the present time under Southern Water's interim measure, abstraction is minimised.
- 4.10.6. Therefore, there is no pathway for the application site proposals to lead to increased abstraction at Hardham. Accordingly, it can be concluded, beyond reasonable scientific doubt that, in view of the SAC/SPA conservation objectives, that the proposals will have no adverse effect on the integrity of the designations. In other words, the proposals at the application site will not increase any current hydrological issue at the SAC/SPA/Ramsar or perpetuate ground water abstraction from Hardham.
- 4.10.7. Indeed, the Environment Agency has already acted under its Regulation 9 duties to reduce the level of harm to below zero such that there is no pathway for an impact to occur. The implementation of new housing would not lead to any increase in abstraction at Hardham such that any adverse effects on the designations are fully avoided.
- 4.10.8. Accordingly, there is no pathway for adverse effects on the designations to occur and as such there is no requirement to implement additional mitigation measures such as a water neutrality approach.

4.11. In-combination effects

- 4.11.1. As part of the assessment of potential effects on European designations arising from the proposed development, consideration has been given to potential for cumulative effects, arising in combination with other plans or projects.
- 4.11.2. In this respect, guidance (Assessing Projects Under the Habitats Directive: Guidance for Competent Authorities³⁸) states that:

A project with a potential effect, which is insignificant on its own, is not free from the provisions of the Habitats Regulations until it has been checked in combination with

³⁸ Assessing Projects Under the Habitats Directive: Guidance for Competent Authorities. David Tyldesley and Associates for Countryside Council for Wales. Revised September 2011

the effects of other plans and projects. The in combination check must consider whether:

- a) the effects of the plans and projects, in combination, would make effects more likely to occur, or more likely to occur at significant levels, that alone would be unlikely to either occur or be significant;*
- b) the effects of the plans and projects, in combination, would make insignificant effects significant;*
- c) the effects of the plans and projects, in combination, would generate new or different effects that would not occur if the plans and projects proceeded alone.*

4.11.3. In light of the above, it is considered that following implementation of the embedded mitigation set out, namely in the form of the measures written into the WRMP alongside the commitments the Environment Agency has secured from Southern Water, that potential adverse effects on the integrity of the designations are fully avoided, such that no residual effects remain.

4.11.4. Absent the presence of residual effects, there is no potential for these to combine with effects from other proposals, such that it can be concluded that no cumulative effects would arise in combination with other plans or projects.

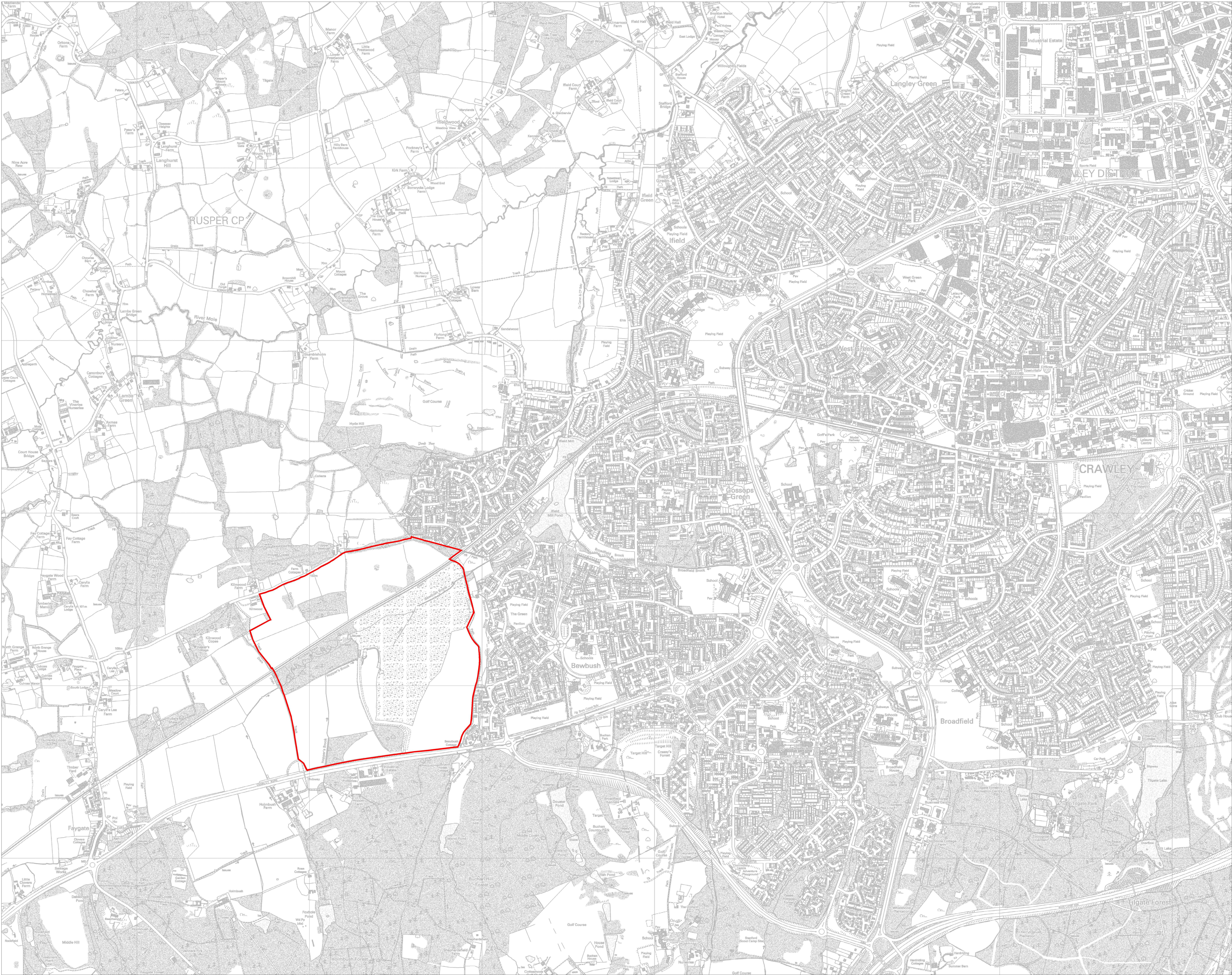
4.11.5. Notwithstanding the above, the WRMP has been drawn up to accommodate the totality of new housing growth in the region. Under this plan, reductions in the abstraction at Hardham are nonetheless projected providing yet further assurance that no cumulative adverse effects would arise.

5. Summary and Conclusions

- 5.1.1. This document provides information to inform a Habitats Regulations Assessment of the proposed development, given the presence of a number of European designations within the site surrounds.
- 5.1.2. The proposals are for Phase 3 DEFG of Kilnwood Vale for 280 dwellings (ref: DC/23/0856).
- 5.1.3. This application follows a number of associated previous consents for the site to which Natural England responded, most latterly comprising the Reserved Matters application for sub-Phase 6A which was granted consent in May 2021 (ref: DC/20/2223). Natural England was consulted on this application and responded on 01 December 2020 setting out they had no comments to make.
- 5.1.4. In regard to the related Phase 6B application, Natural England similarly issued a consultation response (dated 26 October 2021) recording that they have no objection to the proposals. However, this overlooked that Natural England issued a position statement dated September 2021 setting out concerns in regard to new housing proposals in the Sussex North Water Supply Zone and their potential to cause an adverse effect on Arun Valley Special Area of Conservation (SAC) / Special Protection Area (SPA) / Ramsar.
- 5.1.5. Accordingly, to address these concerns, in line with the procedure laid out in the Habitats Regulations, a two stage assessment process has been undertaken. Firstly, the proposals have been screened to identify any likely significant effects which may arise from the proposals (in the absence of mitigation measures).
- 5.1.6. This screening assessment has identified that potential significant effects on Ashdown Forest SAC, Lewes Downs SAC and Pevensey Levels SAC can be excluded, and as such no further assessment in relation to these designations is required. However, potential effects on Arun Valley SAC cannot be screened out and these are taken forward to Stage 2 for Appropriate Assessment.
- 5.1.7. In respect of Arun Valley SAC/SPA/Ramsar, Stage 2 Appropriate Assessment has identified that the proposals at Phase 3 DEFG Kilnwood Vale are part of the planned housing growth in the area and have been fully accounted for within the WRMP. Such housing growth is accommodated whilst also allowing for reductions in water abstraction such as at Hardham. Accordingly, given the proposed reduction (as opposed to an increase) in abstraction, there is no pathway for an adverse effect to arise on the SAC/SPA/Ramsar, in the event it is linked to Hardham hydrologically.
- 5.1.8. No residual effects remain which may affect Arun Valley SAC/SPA/Ramsar such that these cannot combine with other schemes. Accordingly, there are no cumulative adverse effects which could arise on the designation from the Phase 3 DEFG Kilnwood Vale proposals.
- 5.1.9. Accordingly, it can be concluded, with certainty, that in view of the designation's conservation objectives, that no adverse effect will arise on the integrity of Arun Valley SAC/SPA/Ramsar.

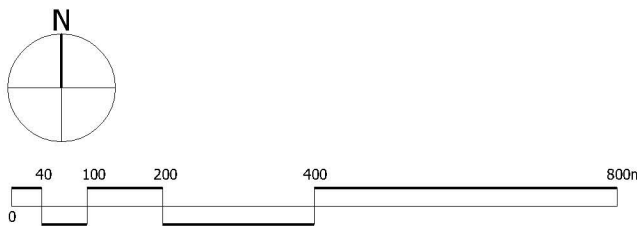
Appendix 6530-01/1:

Site location plan



Legend

Site Boundary



Project
KILNWOOD VALE

Drawing Title
Site Location Plan

Date 21.09.10	Scale 1:10 000@A1	Drawn by NO/BD	Check by TL
Project No 12241	Drawing No 301	Revision	A

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