

Extracts of Draft Horsham Local Plan HRA Nov 23

Chapter 4

Horsham Local Plan Habitats Regulations
Assessment/Horsham Local Plan - Habitats
Regulations - Assessment

- Strategic Policy 4 - Horsham Town
- Strategic Policy 5: Broadbridge Heath Quadrant
- Strategic Policy 29: New Employment
- Strategic Policy 30: Enhancing Existing Employment
- Strategic Policy 34 - Tourism Facilities and Visitor Accommodation
- Strategic Policy 37 - Housing Provision
- Strategic Policy 43 - Gypsy, Traveller and Travelling Showpeople Accommodation

4.16 The following residential site allocations have the potential to link the Plan to the Arun Valley designated sites via water quality because wastewater produced is likely to discharge to a Wastewater Treatment Works that ultimately drain into the Arun catchment:

- HA4: Land East of Billingshurst
- HA3: Land North West of Southwater
- CW1: Land at Brook Hill & Cowfold Glebe
- CW2: Field West of Cowfold, North of A272
- CW3: Fields West of Cowfold, South of A272/Field W of Cowfold, S of A272, W of Little Potters
- HOR1: Land at Hornbrook Farm
- BGR1: Land South of Smugglers Lane
- BGR2: Land South of Muntham Drive

Land at the Old School Site, Itchingfield,

- BRH1: South of Lower Broadbridge Farm
- HOR1: Land at Hornbrook Farm
- HOR2: Land at Mercer Road
- LWB4: Land At Cyder Farm, Crabtree

Land at Highfields, Codmore Hill

- RD1: Land North of Guildford Road, Bucks Green
- RD2: The former Pig Farm, Bucks Green
- STO1 Land to the North of Melton Drive, Storrington
- STO2: Land at Rock Road (Thakeham Parish)
- TH1: Land North of High Bar Lane
- TH2: Land West of Stream House

Horsham District in the 5km zone around the SPA/Ramsar site including Pulborough, West Chiltington, Thakeham, Storrington and Abingworth. Development within the built-up areas of these settlements would not affect the availability of functionally-linked land, but greenfield development beyond the boundaries could do so if it resulted in the loss of farmland areas large enough to support a significant proportion (i.e. 1% of more) of the SPA/Ramsar population of Bewick swan (i.e. generally 2ha in size and upwards) or the non-breeding bird assemblage and with suitably clear sightlines.

- 4.32 Section 3 mentions the Impact Risk Zones (an inner zone and an outer zone) that are being used by Arun District Council in their Local Plan HRA. Review of the underlying SSSI Impact Risk Zones online indicates that Impact Risk Zone 2 extends to about 6.5km from the SPA / Ramsar.
- 4.33 The following site allocations are located within 6.5km of the SPA / Ramsar site and currently occupy greenfield plots of more than 2ha in size (see **Appendix C1** for locations):



- STO1 Land to the North of Melton Drive, Storrington (5.4ha)
- STO2: Land at Rock Road (Thakeham Parish) (3.6ha)

- 4.34 Therefore, likely significant effects from this pathway cannot be dismissed and an Appropriate Assessment is required.

- 4.35 In particular, the following policies are screened in because they could increase the amount of greenfield development within the south-west corner of Horsham District:

- Strategic Policy 4 - Horsham Town
- Strategic Policy 5: Broadbridge Heath Quadrant
- Strategic Policy 29: New Employment
- Strategic Policy 30: Enhancing Existing Employment
- Policy 33: Equestrian Development
- Strategic Policy 34 - Tourism Facilities and Visitor Accommodation
- Strategic Policy 37 - Housing Provision
- Strategic Policy 43 - Gypsy, Traveller and Travelling Showpeople Accommodation

The Mens SAC and Ebernoe Common SAC

- 4.36 The Mens SAC is owned and managed by Sussex Wildlife Trust. The Mens SAC is important for its barbastelle populations and radio-tracking studies have been undertaken to identify core foraging areas. These reports have identified that the barbastelles of The Mens SAC forage to the east of the SAC, principally on the floodplain of the River Arun from close to Horsham in the north to Parham in the south. They also cross to the Arun floodplain. In some cases, the bats travelled up to 12.2km to visit foraging areas⁵⁵. The currently available radio-tracking

⁵⁵ Greenaway, F. (2008) Barbastelle bats in the Sussex West Weald 1997 - 2008

evidence indicates that 75% of the bat population forage within 9km of the SAC although it is conceivable for barbastelle bats of the SAC to use a wider area for activities such as migrating between hibernation roosts and summer roosts.

4.37 Much of the western half of Horsham District, roughly the area west of the A24 as far south as Storrington and as far north as Horsham, lies within 12km of The Mens SAC. The western-most area also lies within 12km of Ebernoe Common SAC. This includes the settlements of Billingshurst, Pulborough, West Chilington and Storrington. Development within the built-up areas of any of the settlements or villages within this zone is unlikely to materially interfere with commuting or foraging opportunities for barbastelle bats associated with either SAC. However, greenfield development in this part of the District could have an adverse effect if it led to the net loss of linear features in pastoral landscapes including deciduous woodland, wet meadows and waterbodies⁵⁶. Even if it did not lead to their loss but failed to provide an adequate physical buffer zone against construction and operational lighting (for example), it could still result in an adverse effect.

4.38 The following site allocations are located within 12km of The Mens SAC and Ebernoe Common SAC:

4.39 Site Allocations located within 6.5km of The Mens SAC:

- HA4: Land East of Billingshurst

Land at Highfields, Codmore Hill

- Site EM3 - Land at Broomers Hill Business Park, Pulborough

4.40 Site Allocations located between 6.5km and 12km from The Mens SAC:

- ASN1: Land east of Mousdell Close
- BGR1: Land South of Smugglers Lane
- BGR2: Land South of Muntham Drive

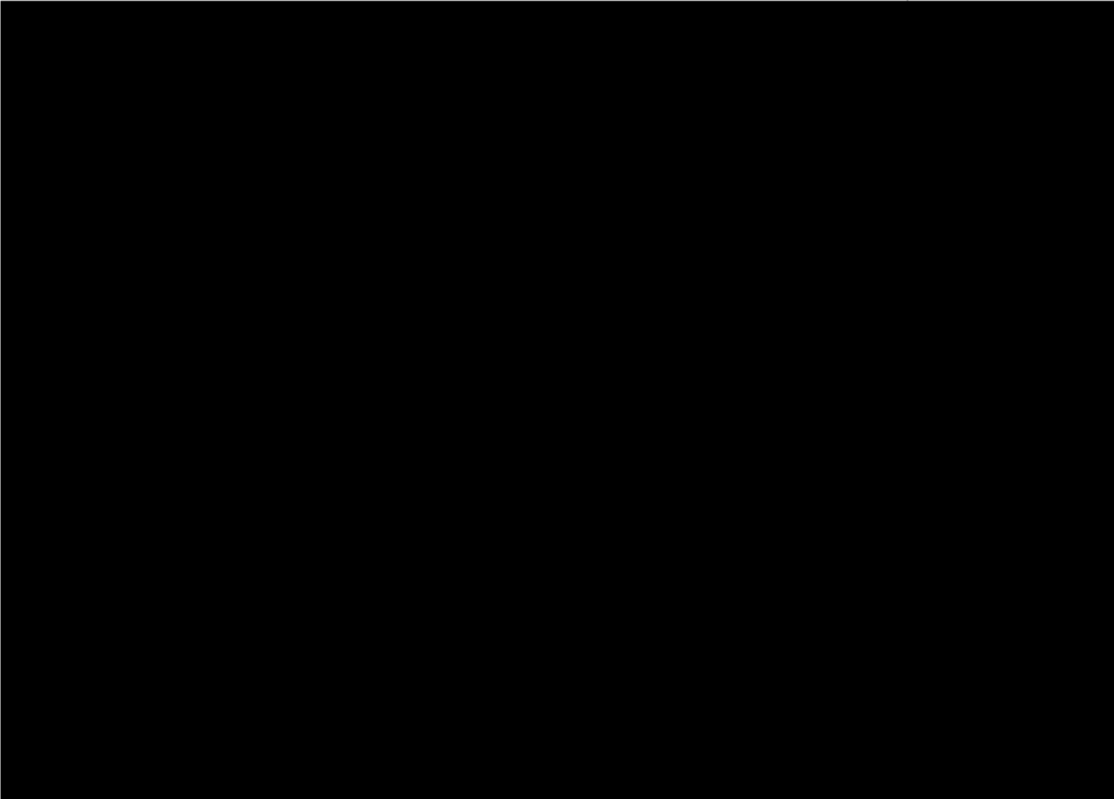
Land at the Old School Site, Itchingfield,

- STO1 Land to the North of Melton Drive, Storrington
- STO2: Land at Rock Road (Thakeham Parish)
- TH1: Land North of High Bar Lane
- TH2: Land West of Stream House
- WCH1: Land at Hatches Estate
- WCH2: Land West of Smock Alley, S of Little Haglands
- WCH3: Land East of Hatches House

4.41 Site Allocations located within 12km of Ebernoe Common SAC:

⁵⁶ http://www.bats.org.uk/data/files/Species_Info_sheets/barbastelle_11.02.13.pdf [accessed 08/02/2018]

Chapter 6



Loss of Functionally Linked Habitat

Arun Valley SPA / Ramsar Site

6.256.29 In the Test of Likely Significant Effects undertaken in Appendix C, the following site allocations, were identified to be located within 6.5km of the Arun Valley SPA / Ramsar site and located within greenfields sites of 2ha in size or more, thus being sufficiently large that they may feasibly constitute significant areas of functionally-linked habitat. It should be noted that Land at New Place Farm has now been granted planning permission and will therefore not be allocated in the Local Plan:

- PLB2: Land at New Place Farm (10.1ha) (formerly PLB2, now permitted)
- ASN1: Land [REDACTED] East of Mousdell Close, Ashington (2.24 ha)
- STO1: Land to the North of Melton Drive (5.4ha)
- STO2: Land at Rock Road (Thakeham Parish) (3.6ha)

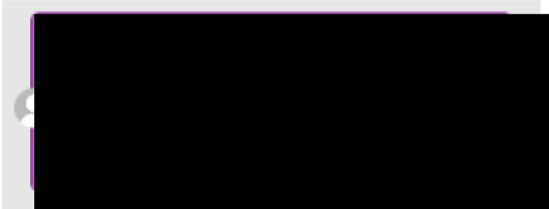
6.266.30 Policy text within policies HA5, HA13 and HA14 that allocate the above four site allocations include the following text: 'To ensure no adverse effect on the integrity of the Arun Valley SPA / Ramsar site any application is supported by a HRA and a wintering bird survey.'

6.276.31 **Analysing matters further.** The screening table (Appendix C) identified reduced this list to that one allocation, STO1: Land to the North of Melton Drive/Land South of Northlands Lane, Storrington, which not only lies within 6.5km of the SPA but has the potential to support a significant population of Bewick's swan and other SPA birds and thus could provide functionally linked land to the SPA / Ramsar site for this feature. From further review of site allocations, it was considered that all other sites located within 6.5km of the SPA / Ramsar site (including the other three sites listed above) were not suitable to act as functionally linked land for Bewick's swan or other SPA birds, even if over 2ha in size, due to a variety of reasons, including being located within/ adjacent to an urban area, subject to existing levels of disturbance, the sites not providing green fields (but rather containing woodland/ buildings), the site comprised multiple small land parcels divided by thick hedgerows or woodland belts (so each field was less than 2ha in size and had disrupted sightlines), or the site offered no sight lines into the wider countryside. Please see Appendix C for full details. Allocation STO1 is assessed further below.

6.286.32 STO1: Land to the North of Melton Drive- From review of freely available online imagery, this site has residential development along its southern boundary (thus within a semi disturbed area) and it appears to be cropped by cereal. The field is surrounded by well-established hedgerows, thus limiting sight lines to the wider countryside. The smallest field is c. 1.5ha in size. It borders industrial land to the east, with a residential property to the north. The smaller field is well enclosed by hedgerows and woodland, thus limiting sight lines, making it unsuitable to support a significant population of Bewick's swan. The larger field is also surrounded by well-established hedgerows, thus limiting sight lines to the wider countryside. From review of aerial imagery, both fields contain many tracks. The ~~aset~~ link up to a public right of way, Northlands Lane and Downsview Avenue and as such it is possible that this site is subject to high levels of disturbance. However, it is not possible to conclude that this site could not potentially providing functionally linked land for Bewick's swan.

6.296.33 In addition to specific allocations, the following policies could not be screened out because they could increase the amount of greenfield development within the south-west corner of Horsham District:

- Strategic Policy 4 - Horsham Town
- Strategic Policy 5: Broadbridge Heath Quadrant
- Strategic Policy 29: New Employment
- Strategic Policy 30: Enhancing Existing Employment
- Policy 33: Equestrian Development
- Strategic Policy 34 - Tourism Facilities and Visitor Accommodation
- Strategic Policy 37 - Housing Provision
- Strategic Policy 43 - Gypsy, Traveller and Travelling Showpeople Accommodation



6.306.34 Strategic Policy 17 - Green Infrastructure and Biodiversity states:

"9. Particular consideration will be given to the hierarchy of sites and habitats within, or functionally linked to, the District as follows:

- a) Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites"

6.346.35 The supporting text to the Strategic Policy 17: Green Infrastructure and Biodiversity (paragraph 6.4752) states: "Applicants will need to be particularly mindful of the impact development within Horsham District could have on the Arun Valley Special Protection Area (SPA), The Mens Special Area for Conservation (SAC) and ~~Ebernoe~~ Common SAC. These sites are of international importance for nature conservation. Applicants will need to demonstrate that development does not result in an adverse effect on the integrity of any of these sites in accordance with relevant legislation."

Recommendations

6.326.36 For ~~site allocations~~ the site allocation that has ~~ve~~ been identified to potential contain suitable habitat that could act as functionally linked land for bird features (STO1) the plan contains the requirement to "ensure no adverse effect on the integrity of the Arun Valley SPA / Ramsar site any application is supported by a HRA and a wintering bird survey." ~~is included within policy text for these sites. For completeness, it also identifies the same requirement for the other three large greenfield sites within 6.5km of the SPA (PLB2: Land at New Place Farm (10.1ha) (now permitted), ASN1: Land East of Mousdell Close, Ashington (2.24ha) and STO2: Land at Rock Road (Thakeham Parish) (3.6ha)), even though this HRA has concluded these probably do not constitute functionally-linked land for the SPA.~~ However, to ensure no adverse effect on the integrity of the Arun Valley SPA / Ramsar site results, it ~~is~~ was recommended that further text is included (either within policy text or supporting text) requiring at least one season of non-breeding survey to confirm that it does not regularly support foraging ~~Bewick~~ swan during the winter. If a site does support a significant⁶⁵ population of ~~Bewick's~~ swan then replacement habitat would be required to ensure no net loss of functionally linked land.

6.336.37 Suggested text is detailed as follows: 'The applicant will be required to provide evidence that the development will not result in an adverse effect on the integrity of the Arun Valley SPA/Ramsar. To achieve this, surveys will be required to determine habitats and current use of the site to determine if it does support a significant population of qualifying species. Where habitats are suitable, non-breeding bird surveys will be required to determine if the site and neighbouring land constitute a significant area of supporting habitat⁶⁶. Surveys should be required to be undertaken during autumn, ~~winter~~ and spring and more than 1 year of surveys may be needed (to be agreed in consultation with the local planning authority and Natural England). If habitat within the site is identified to support significant populations of designated bird features avoidance measures and mitigation will be required, such as the creation of replacement habitat nearby, and the planning application will likely need to be supported by a project specific Habitats Regulations Assessment to ensure that the development does not result in adverse effects on integrity'.

⁶⁵ A significant population is classified as a site that regularly used by more than 1% of the population of qualifying bird species

⁶⁶ A significant population is classified as a site that regularly used by more than 1% of the population of qualifying bird species

6.346.38 It ~~w~~~~as~~~~i~~~~s~~ also recommended that the supporting text in paragraph 6.48-52 of the Plan ~~is~~~~-~~~~b~~~~e~~ amended to state (or similar) *"In the case of Arun Valley, proposals must demonstrate that they will avoid harm to the water quality and water levels on site, and do not result in the loss of significant parcels of functionally linked land that supports Bewick's Swan and qualifying bird assemblage features (shoveler, teal and wigeon) of the Arun Valley Ramsar and SPA". Both these recommended changes have been made to site allocation policies that have been taken forward into the final Regulation 19 Plan.*

6.356.39 It is considered that allocating suitable sites for development prior to at least one season of wintering bird surveys being completed is appropriate and legally compliant in this case. Firstly, the law accepts that ecological investigation to support plan development must be tiered, with more detailed investigation undertaken at each subsequent stage:

- The Court of Appeal⁶⁷ has ruled that provided the competent authority is duly satisfied that mitigation can be achieved in practice (in other words that solutions exist that are likely to be effective) this will suffice to enable a conclusion that the proposed development would have no adverse effect.
- The High Court⁶⁸ has ruled that for 'a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a decision maker is able to conclude that a development will satisfy the requirements of the Habitats Regulations'.
- Advocate-General Kokott⁶⁹ has commented that 'it would also hardly be proper to require a greater level of detail in preceding plans [than lower tier plans or planning applications] 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'.

6.366.40 Moreover, there is a low risk of these sites proving undeliverable due to SPA bird issues. The functionally-linked habitats in question are common, widespread and easily recreated (or managed in a more favourable manner), and the species in question (Bewick swan, black-tailed godwit, lapwing and green sandpiper) do not have highly specific habitat requirements and is sufficiently widespread in their use of this functionally-linked land that development is only likely to affect a small amount of their overall foraging resource.

The Mens SAC and Ebernoe Common SAC

6.376.41 Any development that has potential to impact greenfield sites or existing mature vegetation lines and/ or riverbank corridors has potential to impact upon

⁶⁷ ~~On~~ ~~Ad~~ ~~el~~ ~~ph~~ ~~er~~ ~~s~~ ~~v~~ ~~o~~ ~~l~~ ~~u~~ ~~m~~ ~~e~~ ~~n~~ ~~t~~ ~~v~~ ~~S~~ ~~uff~~ ~~o~~ ~~l~~ ~~k~~ ~~C~~ ~~o~~ ~~a~~ ~~s~~ ~~t~~ ~~a~~ ~~l~~ ~~D~~ ~~i~~ ~~s~~ ~~t~~ ~~r~~ ~~i~~ ~~c~~ ~~t~~ ~~C~~ ~~o~~ ~~u~~ ~~n~~ ~~c~~ ~~i~~ ~~l~~ ~~C~~ ~~o~~ ~~u~~ ~~r~~ ~~t~~ ~~o~~ ~~f~~ ~~A~~ ~~p~~ ~~p~~ ~~e~~ ~~l~~ ~~,17th~~ ~~F~~ ~~e~~ ~~b~~ ~~r~~ ~~u~~ ~~a~~ ~~r~~ ~~y~~ ~~2~~ ~~0~~ ~~1~~ ~~5~~

⁶⁸ High Court case of R (Devon Wildlife Trust) v Teignbridge District Council, 28 July 2015

⁶⁹ Opinion of Advocate General Kokott, 9th June 2005, Case C-6/04. Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland, paragraph 49.

<http://eur-lex.europa.eu/juris/documents/document.jsf?docid=583598&dodlang=EN>

Chapter 7

Table 6: International Designated Sites and Potential Impact Pathways Subject to Appropriate Assessment

Internationally Designated Site	Linking Impact Pathway Subject to Appropriate Assessment
Arun Valley SAC, SPA and Ramsar site	- Water quantity, level and flow - Loss of functionally linked habitat
The Mens SAC	- Loss of functionally linked habitat - Atmospheric pollution
Ebernoe Common SAC	- Loss of functionally linked habitat

- 7.3 In addition, although there is no formal nutrient neutrality requirement for Arun Valley SAC/SPA/Ramsar site, nutrient neutrality calculations have been undertaken as a horizon scanning exercise (Appendix D) to provide Horsham Council with an indication of the likely scale of impact and required mitigation should a nutrient neutrality requirement be introduced.
- 7.4 A conclusion of no adverse effect on integrity of European sites could be drawn for all impact pathways, either due to further assessment identifying that no effect would arise, or because the Local Plan incorporates a sufficient policy framework to manage the delivery of site allocations to ensure no adverse effect on integrity arises. However, recommendations were made for improvements to the Local Plan text regarding [functionally-linked](#) land and the Arun Valley SPA/Ramsar site.

Recommendations

- 7.5 Following Appropriate Assessment, to ensure the Local Plan does not result in an adverse effect on the integrity of an internationally designated site either in combination or in isolation, the following recommendations were made [in earlier iterations of this HRA](#).

Loss of Functionally Linked Land

Arun valley SPA/ Ramsar site

- 7.6 The screening table (Appendix C) identified that [several site allocations: Land to the North of Melton Drive](#) ~~has had~~ the potential to support a significant population of ~~Bewick's~~ swan and thus could provide functionally linked land to the SPA / Ramsar site for this feature.
- 7.7 For site allocation STO1: Land to the North of [Melton](#) Drive, to ensure no adverse effect on the integrity of the Arun Valley SPA / Ramsar site results, ~~it is~~ [earlier iterations of this HRA](#) recommended that policy is included requiring at least one season of wintering bird survey to confirm that they do not regularly support foraging ~~Bewick's~~ swan during the winter. If they do regularly support ~~Bewick's~~ [swan](#) then replacement habitat would be required to ensure no net loss of functionally linked land.
- 7.8 Therefore, ~~in order to~~ support an allocation, [previous versions of this HRA recommended that](#) the policy for allocation STO1 should include the following requirement, or similar: 'The applicant will be required to provide evidence that the development will not result in an adverse effect on the integrity of the Arun Valley SPA/Ramsar. To achieve this, surveys will be required to determine

habitats and current use of the site to determine if it does support a significant population⁷⁷ of qualifying species. Where habitats are suitable, non-breeding bird surveys will be required to determine if the site and neighbouring land constitute a significant area of supporting habitat. Surveys should be required to be undertaken during autumn, winter, and spring and more than 1 year of surveys may be needed (to be agreed in consultation with the local planning authority and Natural England). If habitat within the site is identified to support significant populations of designated bird features avoidance measures and mitigation will be required, such as the creation of replacement habitat nearby, and the planning application will likely need to be supported by a project specific Habitats Regulations Assessment to ensure that the development does not result in adverse effects on integrity'. It is recognised that this is lengthy for inclusion in policy, so a brief reference could be included in the policy with this fuller text in the supporting text. This requirement has been included in Strategic Policy HA18 and in supporting text. For completeness it was also added to policies for the other three two large greenfield sites within 6.5km of the SPA that are being taken forward as allocations.

- 7.9 It was also recommended that the supporting text in paragraph 7.426.52 of the Plan is amended to state (or similar) "In the case of Arun Valley, proposals must demonstrate that they will avoid harm to the water quality and water levels on site, and do not result in the loss of significant parcels of functionally linked land that supports Bewick's Swan, and qualifying bird assemblage features (shoveler, teal and wigeon) of the Arun Valley Ramsar and SPA". This change was also made.
- 7.10 In addition, for correctness, it is recommended that the supporting text in paragraph 7.426.51 of the Plan is amended to state "...these sites are of international importance for nature conservation, and applicants will need to demonstrate that development does not result in an adverse effect on the integrity have adverse impacts on either any of these sites in accordance with relevant legislation." This change was also made.
- 7.11 With the inclusion of the above recommendations it can be concluded that no adverse effect on the integrity of the Arun Valley SPA / Ramsar site will arise.

⁷⁷ A significant population is classified as a site that regularly used by more than 1% of the population of qualifying bird species

...
I checked paragraph 6.52 - 6.53 - No mention of Shoveler, teal or Wigeon or qualifying birds along with the Bewick Swan.

Reply

Appendix C – LSEs Screening Table of Site Allocations

Table C2: Residential Site Allocation Screening

Horsham Local Plan Habitats Regulations Assessment (Horsham Local Plan – Habitats Regulations Assessment)

Site Allocation	HRA Screening Implications Water Quality (Arun Valley SPA / Ramsar)	Water Quantity, Level and Flow (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (The Mens SAC)	Loss of Functionally Linked Land (Ebernoe Common SAC)
STO1 Land to the North of Melton Drive, Storrington	Likely to use Storrington STW which discharges into the River Arun catchment. Thus, potential in combination linking impact pathways.	Only an in-combination potential linking impact pathway is present. The allocation itself is screened out in-isolation.	Located within 6.5km of the Arun Valley SPA/ Ramsar site and larger than 2ha in size (5.4ha). From review of freely available online imagery, this site has residential development along its southern boundary (thus within a semi disturbed area) and it appears to be cropped by cereal. The field is surrounded by well-	Yes, located between 6.5km and 12km of the SAC and located within a greenfield site. Potential linking impact pathways present	No, located more than 12km from the SAC. There are no realistic linking impact pathways present

Horsham Local Plan Habitats Regulations Assessment (Horsham Local Plan – Habitats Regulations Assessment)

Site Allocation	HRA Screening Implications Water Quality (Arun Valley SPA / Ramsar)	Water Quantity, Level and Flow (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (The Mens SAC)	Loss of Functionally Linked Land (Ebernoe Common SAC)
			established hedgerows, thus limiting sight lines to the wider countryside. The smallest field is c. 1.5ha in size. It borders industrial land to the east, with a residential property to the north. The smaller field is well enclosed by hedgerows and woodland, thus limiting sight lines, making it unsuitable to		

Site Allocation	HRA Screening Implications				
	Water Quality (Arun Valley SPA / Ramsar)	Water Quantity, Level and Flow (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (The Mens SAC)	Loss of Functionally Linked Land (Ebernoe Common SAC)
			support a significant population of Bewick's swan or other SPA birds. The larger field is also surrounded by well-established hedgerows, thus limiting sight lines to the wider countryside. From review of aerial imagery, both fields contain many tracks. That link up to a public right of way.		

Site Allocation	HRA Screening Implications				
	Water Quality (Arun Valley SPA / Ramsar)	Water Quantity, Level and Flow (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (Arun Valley SPA / Ramsar)	Loss of Functionally Linked Land (The Mens SAC)	Loss of Functionally Linked Land (Ebernoe Common SAC)
			Northlands Lane and Downsview Avenue and as such it is possible that this site is subject to high levels of disturbance. However, it is not possible to conclude that this site could not potentially providing functionally linked land for Bewick's swan or other SPA birds		

Appendix D – Horizon Scanning: Nutrient Neutrality for the Arun Valley (undertaken in March 2021, updated 2022)

Table 7: Site Allocations that are likely to ultimately discharge to the Arun Valley Designated Site, and associated WwTW



Site Allocation	Site Name	Number of Residential Dwellings	Likely Wastewater Treatment Works (WwTW)	P Budget with 20% buffer	N Budget with 20% buffer
STO1	Land to the North of Melton Drive Storrington	70	Storrington STW	2.57	78.83

Appendix A: Phosphorous Nutrient Neutrality Calculations

Stage 1 – WwTW Effluent

AECOM Imagine it. Deliver it. AECOM Imagine it. Deliver it.

ST01	Land to the North of Melton Drive Stoddington	70	168	110	18480	Storrington STW	0.5	0.45	0.45	8316	0.008316	3.03534
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Stage 2 – Loss of Farm Types

AECOM Imagine it. Deliver it. AECOM Imagine it. Deliver it.

ST01	Land to the North of Melton Drive Stoddington	5.44	1.29	4.15	Mixed	Part cereals, part SA/VC type land	No	Yes	Yes	0.57	2.3655
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Stage 3 – Future Land Use

Site Allocation	Site Name	Area (ha)	Area (ha)	Area (ha)	Land Use	Part cereals, part SANG type land	No	Yes	Yes	0.57	2.3655
ST01	Land to the North of Melton Drive Stourton	5.44	1.29	4.15	Mixed						

Stage 4 – Site Budget

Stage 4 – Site Budget

Potential site allocations		Stage 1 - Treated WwTW Effluent	Stage 3 - Future land use	Stage 2 - Loss of P from current farm types	P Balance Present and Future Land Uses (Column D - Column E)	Overall P Budget (Column C + Column F)	20% Buffer (from values in Column G)	Allocation P Budget with 20% buffer
Site Allocation	Site Name	TP Discharge after WwTW treatment (kg/TP/year) (Stage 1, Column M)	Overall leachate from all surfaces (kg P/ha/yr)(Stage 3, Column M)	Estimated Total P Loss (kg/ha/yr) for whole allocation (Stage 2, Column L)				
ST01	Land to the North of Melton Drive Stourton	3.03534	2.5375	2.3655	0.172	3.20734	-0.641468	2.57

Appendix B: Nitrogen Nutrient Neutrality Calculations

Stage 1 – WwTW Effluent

AECOM Imagine it. Delivered. AECOM Imagine it. Delivered.

STO1	Land to the North of Melton Drive Storrington	70	168	110	18480	Storrington STW	27	24.3	24.3	449064	0.449064	163.90836
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Stage 2 – Loss from Farm Types

AECOM Imagine it. Delivered. AECOM Imagine it. Delivered.

STO1	Land to the North of Melton Drive Storrington	5.44	1.29	4.15	Mixed	Part cereals, part SANG type land	No	Yes	Yes	21.45	89.0175
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Stage 3 – Future Land Use

AECOM Engineering & Construction **AECOM** Engineering & Construction

ST01	Land to the North of Melton Drive Stationston	168	4.2	Urban	1.75	13.51	23.6425	No	0.0	3	0
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Stage 4 – Site Budget

AECOM Engineering & Construction **AECOM** Engineering & Construction

Stage 4 – Site Budget

Potential site allocations		Stage 1 - Treated WwTW Effluent	Stage 3 - Future land use	Stage 2 - Loss of N from current farm types	N Balance Present and Future Land Uses (Column D - Column E)	Stage 4 - Total N budget		
Site Allocation	Site Name	TN Discharge after WwTW treatment (kg TN/year) (Stage 1, Column M)	Overall leachate from all surfaces (kg N/ha/yr) (Stage 3, Column N)	Estimated Total N Loss (kg/ha/yr) for whole allocation (Stage 2, Column L)		Overall N Budget (Column C + Column F)	20% Buffer (from values in Column G)	Allocation N Budget with 20% buffer
ST01	Land to the North of Melton Drive Stationston	163.90836	23.6425	89.0275	-65.375	98.53336	-19.706672	78.8