

Land to the South of Ringwood Road, Alderholt, ES Technical Appendix 9.2Ad: Addendum Information for Habitats Regulations Assessment

1. INTRODUCTION

1.1 An Outline Planning Application was submitted to Dorset Council (DC) in March 2023 for the creation of a garden village settlement at Alderholt Meadows, Dorset (hereafter referred to as 'the Appeal Site').

1.2 The description of the development is as follows:

“Mixed use development of up to 1,700 dwellings including affordable housing and care provision; 10,000sqm of employment space in the form of a business park; village centre with associated retail, commercial, community and health facilities; open space including the provision of suitable alternative natural green space (SANG); biodiversity enhancements; solar array, and new roads, access arrangements and associated infrastructure (Outline Application with all matters reserved apart from access off Hillbury Road).”

1.3 Land in close proximity to the Appeal Site forms part of the Dorset Heaths Special Area of Conservation (SAC) and the Dorset Heathlands Special Protection Area (SPA) and Ramsar Site. The Appeal Site is also within 5km of the River Avon SAC, Avon Valley SPA and Ramsar, and the New Forest SAC, SPA and Ramsar. These designated sites of International conservation importance (hereafter referred to as 'International Sites') are afforded protection under the Conservation of Habitats and Species Regulations 2017 (as amended; the 'Habitats Regulations').

1.4 The submitted Environmental Statement included a report containing 'Information for Habitats Regulations Assessment' (in the form of a 'Shadow HRA') at Technical Appendix 9.2 (Map 1 of this report shows the location of the International Sites listed above in relation to the Appeal Site), to enable the competent authority to determine whether the Proposed Development would be likely to result in significant effects on the International Sites concerned either alone or in combination with other plans and projects. Where likely significant effects could not be excluded on the basis of objective information, or in the absence of impact avoidance and mitigation measures, information to inform an Appropriate Assessment was provided, in accordance with the 'People over Wind' judgment.

1.5 Natural England, the statutory nature conservation advisor under the Habitats Regulations, objected to the planning application on the grounds that further information was required to confirm that the mitigation proposals are certain and can be secured. Their May 2023 consultation letter raised the following issues:

- River Avon SAC, Avon Valley Ramsar : phosphates/nutrient neutrality;
- New Forest SAC/SPA/Ramsar : recreational impacts;
- New Forest SAC/SPA/Ramsar : air quality; and
- Dorset Heathlands SPA/Ramsar and Dorset Heaths SAC :
 - App 9.4 SANG Management Plan – further detail required regarding phasing and future management;
 - Access to the west of the site from the SANG into Cranborne Common;
 - SAMM [Strategic Access Management and Monitoring] – the applicant can rely on a financial contribution towards mitigation via the SPD;
 - Technical Appendix 7.1 Transport Assessment and Appendix 7.3 Walking, Cycling and Horse Riding Assessment – promotion of connections to Alderholt/Verwood; and
 - Requirement for lighting strategy to avoid impacts on foraging Nightjar.

1.6 The planning application was subsequently refused, with nine reasons for refusal (RfR) identified. Reason for Refusal 1 relates to the HRA of the Proposed Development, and was set out in the decision notice as follows:

“1. The proposal would have adverse impacts on the Dorset Heathlands Special Protection Area (SPA), Dorset Heaths Special Area of Conservation (SAC), New Forest SPA/SAC and River Avon SAC and it has not been demonstrated that appropriate mitigation can or will be provided, contrary to Policy ME2 of the adopted Christchurch and East Dorset Local Plan – part 1 2014, the Dorset Heathlands Planning Framework 2020-2025 SPD, and paragraphs 180-182 of the National Planning Policy Framework (NPPF). This forms a clear reason for refusal of the proposal in accordance with NPPF para 11 di).”

1.7 In addition to the points raised by Natural England, DC’s Committee Report (July 2023, paragraph 16.247) also raises an issue with the mechanism for securing a proportionate financial contribution to SAMM via the Dorset Heathlands SPD.

1.8 The appellant and their consultant team have undertaken further work to provide the further information requested by Natural England and DC, in order to address RfR 1, and the scope of this further work was discussed during a meeting held with Natural England in October 2023 and a subsequent meeting with Natural England, Dorset Council and their appointed ecological consultant in April 2024, which was held to discuss common ground.

1.9 This technical note sets out addendum information for HRA concerning: River Avon water quality, New Forest and Dorset air quality, and New Forest and Dorset recreational pressure; and is intended to address the issues raised by Natural England, DC and other consultees, insofar as they relate to RfR 1.

2. WATER QUALITY

Introduction

- 2.1 As relayed in the IfHRA submission, the Appeal Site occupies the fluvial catchment of the River Avon, a zone in which the additional nutrient load exerted by any new residential development is considered to have a likely significant effect on the River Avon SAC, and in which any such development is consequently required to achieve 'nutrient neutrality'.
- 2.2 Section 6 of the IfHRA report set out a nutrient budget calculation, utilising Natural England's calculator tool, to ascertain the mitigation required to achieve nutrient neutrality. Further information is provided below to address comments made by Natural England and DC, as relevant to RfR 1.

Information for Appropriate Assessment

Projected Nutrient Phosphorus Contribution

- 2.3 This section presents an updated projection of the Appeal proposals' contribution to nutrient loading within the Avon catchment on the basis of Natural England's most recent (February 2024) nutrient budget calculator, which weighs up the effects of additional wastewater generated by the occupants of new dwellings against the effects of land use change on the quantity of diffuse nutrient pollution released into the catchment.

Wastewater Effects

- 2.4 The Proposed Development will be fully occupied long after April 2030, when improved treatment standards will come into effect at the receiving Water Recycling Centre (WRC) at Fordingbridge. Under post-2030 standards, the maximum proposed provision of 1,700 new dwellings would generate 40.24 kg/year of total phosphorus in treated wastewater.
- 2.5 Dwellings occupied before April 2030 will generate a temporarily elevated nutrient contribution until the institution of improved standards comes into effect. The project phasing schedule allows for the occupation of 264 new dwellings by the end of 2029 and a further 192 dwellings by the end of 2030; for present purposes, 360 dwellings is considered to represent a reasonably precautionary projection of the maximum likely occupation level by 1 April 2030. At pre-2030 treatment standards, the occupation of 360 units would generate 34.08 kg/year of total phosphorus in treated wastewater.

Land Use Change Effects

- 2.6 The pre-development use of the Appeal Site, as represented in **Map 1**, has been determined through site assessment and review of landowner farm records (provided as **Appendix 1**). The predominant use of the arable parts of the site is a rotation of maize and temporary grass - categorised as 'general cropping' for the purposes of this assessment.
- 2.7 A swathe of land in the central part of the site is occupied by permanent grasslands managed as beef cattle and horse pasture, the use of which is categorised as 'lowland grazing' in the nutrient budget calculator – with the exception of fields used to graze the Warren Park Farm dairy herd, which are consequently in 'dairy' use. 'Lowland grazing' is also applied as a category of best fit to areas of permanent agricultural grasslands predominantly managed by cutting for hay or silage.

- 2.8 Other applicable typologies include ‘residential urban land’ for the curtilage of existing dwellings, ‘poultry’ for poult-rearing sheds to the east of Ringwood Road, and ‘open urban land’ for areas of hardstanding and amenity grassland associated with a camping and caravanning site to the west of Harbridge Drove. Residual areas occupied by semi-natural vegetation are categorised as ‘greenspace’.
- 2.9 The proposed post-development use is represented in **Map 2**. Areas of proposed residential development are duly categorised as ‘residential urban land’; employment and local centre parcels as ‘commercial/industrial land’; and allotments as ‘community food growing land’.
- 2.10 In the absence of landscape details, the SANG, solar array land, and the greater part of the ‘Green infrastructure corridors’ identified in Map 7 of the IfHRA submission are provisionally categorised as ‘greenspace’, whereas smaller areas of open space within the proposed urban fabric, which are likely to receive a more formal landscape treatment, are provisionally categorised, along with the proposed recreation park, as ‘open urban land’. In practice, the ultimate breakdown of these typologies is likely to be rather more granular – for example, the green infrastructure corridors may include small areas of more formal amenity space, and the recreation park may include some areas with a more semi-natural character – but this high-level categorisation is considered to provide a reasonable basis for provisional assessment at this outline stage.
- 2.11 The net effect of the proposed land use change is a projected additional nutrient contribution of 39.61 kg/year: the injurious effects of runoff from the Proposed Development are projected to significantly outweigh the benefits of discontinuing the site’s baseline agricultural use.

Nutrient Budget Summary

- 2.12 Under post-2030 wastewater treatment standards, the overall net effect of wastewater discharge and land use change arising from the Proposed Development is a projected total phosphorus contribution of 79.85 kg/year. The application of a precautionary 20% buffer, as prescribed by Natural England’s guidance, indicates a mitigation requirement of 95.82 kg/year. The relevant stages of the nutrient budget calculation are reproduced as **Appendix 2** – in the absence of a detailed surface water drainage strategy, these necessarily exclude the ‘SuDS’ stage intended to account for the effects of nutrient removal within SuDS features.
- 2.13 Phases of the Proposed Development occupied before 1 April 2030 will generate nutrient phosphorus at a temporarily elevated per dwelling rate. However, the project will incur no additional interim mitigation requirement in this period (*i.e.*, no additional quantity of ‘bridging’ mitigation over and beyond the level of the in-perpetuity requirement), as the occupation of up to 360 dwellings at pre-2030 treatment standards would generate a smaller annual quantity of phosphorus loading than the occupation of 1,700 dwellings at post-2030 standards. In practice, the interim nutrient budget attributed to early phases of the Proposed Development will be significantly lower than the overall post-2030 figure: the interim nutrient contribution from post-development runoff will be relatively modest as only a relatively small quantity of ‘residential urban land’ will have been delivered.
- 2.14 In other words, no pre-2030 bridging solution is required as the project’s interim mitigation requirements will not be greater than the overall in-perpetuity requirement currently estimated at 95.82 kg/year.

Nutrient Mitigation

- 2.15 The nutrient budget calculation set out above represents a preliminary, outline stage projection of the likely nutrient contribution from the Appeal proposals. The proposals will necessarily be subject to further nutrient budget calculation to inform HRA at future planning stages, and these subsequent calculations will take account of:
- the actual number of dwellings delivered (as opposed to the currently proposed maximum);
 - details of site layout and landscape treatment;
 - details of the surface water drainage strategy and its effects on the quantity of nutrient phosphorus released in post-development runoff;
 - further details of phasing and occupation; and
 - external factors such as any subsequent changes in the wastewater permitting regime and nutrient budgeting methodology.

On-Site Mitigation

- 2.16 In accordance with the mitigation hierarchy, the projected impacts of the Proposed Development will be mitigated on-site as far as possible in the first instance, before recourse to offsetting measures undertaken elsewhere in the catchment.
- 2.17 Natural England's nutrient budget calculator attributes an exceptionally high phosphorus export rate to land used for residential development – more than four times higher than the rate ascribed to the existing arable land, which is cultivated and fertilised on an annual basis, and more than six times higher than the rate ascribed to the existing dairy use. The predicted effects of post-development nutrient export consequently make a very substantial contribution to the project nutrient budget: the Proposed Development is projected to generate 74.2 kg/year in post-development nutrient export, before the effects of the surface water drainage strategy are taken into account.
- 2.18 The applicable CIRIA guidance attributes typical SuDS components such as vegetated swales and detention basins with 28% total phosphorus removal efficiency – and significantly higher levels of removal are achievable through the specification of features attributed with greater efficiency values (such as permeable paving, ponds, and stormwater filters) or the combination of several complementary components within a treatment train. By way of a high-level indication, the blanket achievement of a modest 28% phosphorus removal rate through SuDS would reduce the currently projected mitigation liability by approximately 25 kg/year.
- 2.19 Provided that certain applicable criteria can be met, phosphorus in runoff that infiltrates to ground is considered to be removed from the surface water environment and is accordingly discounted from a project's nutrient budget. The capacity of the Appeal Site to accommodate infiltration drainage remains to be fully established through site investigation and modelling; however, in the event that full infiltration is achievable across the site, the currently projected mitigation liability would be very substantially reduced - by up to 89 kg/year.

Offsetting

- 2.20 The residual nutrient mitigation liability will be met by a proportionate in-perpetuity nutrient offsetting solution undertaken elsewhere in the catchment. The actual quantum of mitigation required will be determined by recalculation of the project nutrient budget to inform HRA at subsequent planning stages, undertaken on a per phase basis, and taking account of the detailed layout of the development; the final number and type of dwellings proposed; details of the surface water strategy and its effects on the quantity of phosphorus released from post-development runoff; and the effects of any further subsequent changes in Natural England guidance or the wastewater permitting regime.
- 2.21 The appellant has provided evidence that an approved mitigation provider is capable of meeting the currently projected in-perpetuity mitigation liability even before the considerable benefits of sustainable surface water drainage design are taken into account, thereby demonstrating a clear pathway to the achievement of nutrient neutrality.

Conclusion

- 2.22 Subject to the achievement of nutrient neutrality through the implementation of a nutrient mitigation or offsetting solution, secured by condition or legal obligation, the proposed development will not result in an adverse water quality effect on the integrity of the River Avon SAC either alone or in combination with other plans and projects.

3. AIR QUALITY

Introduction

- 3.1 The Appeal proposals are predicted to contribute towards future increases in vehicle trips on roads in and around Alderholt, with consequent impacts on local air quality. Air quality modelling was therefore carried out in order to inform the HRA of the Proposed Development, with the implications for the Dorset Heathlands SAC/SPA/Ramsar reported in Section 7 of the submitted IfHRA report.
- 3.2 The transport assessment upon which the air quality modelling was derived has been updated in order to respond to wider RfRs (not driven by RfR 1, though relevant to it), and the revised air quality modelling data, which pertains to the operational phase of the Proposed Development, is set out below along with an assessment of any changes relevant to the HRA of the Appeal proposals. The submitted assessment of potential construction phase air quality effects remains valid.
- 3.3 The approach taken with respect to the assessment of potential air quality effects on the New Forest designations is also reviewed, in order to respond to objections raised by Natural England, New Forest District Council (NFDC) and the New Forest National Park Authority (NFNPA), which form part of RfR 1.

Relevant Background Information

- 3.4 Following submission of the IfHRA report, the UK Air Pollution Information System (APIS) published changes (in c. July 2023) to a number of nitrogen deposition Critical Loads (CLs) following a review of scientific research and revision of empirical CLs for nitrogen previously set by the United Nations Economic Commission for Europe (UNECE), as reported by Bobbink et al. (2022¹). Even more recently, many of the nitrogen CL classes used to assign CLs to site interest features (based on Annex 1 feature types and corresponding EUNIS habitats) have been revised.
- 3.5 The nitrogen CL classes, and nitrogen deposition CLs (always the lower CL of the range) previously applied in relation to the qualifying habitats and features of the Dorset Heaths SAC and Dorset Heathlands SPA, and the revised nitrogen CL classes and nitrogen deposition CLs applied within the updated air quality modelling reported below, are set out in **Table 3.1** (with data accessed from apis.ac.uk in April 2024). This table also sets out the nitrogen deposition velocities applied based on vegetation height (tall or short) and the NO_x and NH₃ Critical Levels applied for the airborne pollutants.

¹ Bobbink R., Loran C. & Tomassen H. Eds. (2022) *Review and revision of empirical critical loads of nitrogen for Europe*. TEXTE 110/2022. German Environment Agency.

Table 3.1: Dorset Heathlands SAC/SPA qualifying features, NOx and NH3 Critical Levels, and nitrogen deposition classes/Lower Critical Loads (CL)/deposition velocities as per the submitted IfHRA (previous) and the revised Lower CLs used for the updated air quality assessment

International Site	Qualifying Feature	NOx Critical Level (µg/m ³)	NH ₃ Critical Level (µg/m ³)	Nitrogen Deposition Critical Loads (kg/N/ha/yr)				Deposition Velocity
				Previous		Revised		
				Relevant N CL Class	Lower CL	Relevant N CL Class	Lower CL	
Dorset Heathlands SAC	North Atlantic wet heaths with <i>Erica tetralix</i>	30	1	Wet heath	10	Northern wet heath	5	Short veg.
	European dry heath	30	1	Dry heath	10	Dry heaths	5	Short veg.
	Molinia meadows on calcareous peaty or clayey-silt-laden soils	30	1	Moist and wet oligotrophic grasslands	15	Moist or wet mesotrophic to eutrophic hay meadow	15	Short veg.
	Depressions on peat substrates of the <i>Rhynchosporion</i>	30	1	Valley mires, poor fens and transition mires	10	Valley mires, poor fens and transition mires	5	Short veg.
	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	30	1	Rich fens	15	Rich fens	15	Short veg.
	Alkaline fens	30	1	Rich fens	15	Rich fens	15	Short veg.
	Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains	30	1	Acidophilous Quercus-dominated woodland	10	Acidophilous Quercus forest	10	Tall veg.
	Southern Damsel fly	30	3	Dwarf shrub heath	10	Northern wet heath	5	Short veg.
	Great Crested Newt	30	3	Standing open water	Site specific decision required	No comparable habitat with established critical load estimate available	None	N/A
Dorset Heathlands SPA	Nightjar	30	3	Coniferous woodland	5	Temperate continental Pinus sylvestris forest	5	Tall veg.
		30	3	Dwarf shrub heath	10	Dry heaths	5	Short veg.
	Woodlark	30	3	Coniferous woodland	5	Temperate continental Pinus sylvestris forest	5	Tall veg.
		30	3	Dwarf shrub heath	10	Dry heaths	5	Short veg.
	Dartford Warbler	30	3	Dwarf shrub heath	10	Dry heaths	5	Short veg.
	Hen Harrier	30	3	Dwarf shrub heath	10	Northern wet heath	5	Short veg.
		30	3	Fen, marsh & swamp	15	Rich fens	15	Short veg.
		30	3	Littoral sediment	20	Atlantic upper-mid & mid-low salt marshes	10	Short veg.
	Merlin	30	3	Dwarf shrub heath	10	Dry heaths	5	Short veg.
		30	3	Littoral sediment	20	Atlantic upper-mid & mid-low salt marshes	10	Short veg.

Assessment Methodology

- 3.6 The assessment methodology remains as previously reported, as do the site locations subject to detailed air quality modelling as shown on Map 6 of the submitted IfHRA.

Information for Appropriate Assessment

Results of Revised Air Quality Modelling

Overview

- 3.7 **Tables 3.2-3.4** present the results of the revised air quality modelling for NO_x, NH₃ and N deposition (respectively) for the following scenarios:

- future base year (2041) without committed development or the Proposed Development ('do nothing' or 'DN');
- the future base year with committed development, but not the Proposed Development ('do minimum' or 'DM'); and
- the future year with all development ('do something' or 'DS').

- 3.8 The impacts requiring assessment for the purposes of HRA are therefore as follows:

- PC, project alone = DS-DM; and
- PC, project in-combination = DS-DN.

- 3.9 With regards to nitrogen deposition, the modelling for each designation and location is based on the lowest CL for the range of features and associated tall and short vegetation types present (as set out in **Table 3.1**), in order to present the most precautionary assessment of potential effects. Note that the PC presented is that modelled at the roadside, which represents the maximum concentration or deposition rate. As indicated at paragraph 7.28 of the submitted IfHRA report, pollutant levels drop off rapidly within the first 50m from the roadside, with levels approaching background by approximately 200m.

NO_x

- 3.10 **Table 3.2** shows that, based on the revised data, although the modelled PC for both locations at Cranborne Common exceeds 1% of the CL both alone and in combination with other development, indicating the possibility for harm of qualifying habitats and species, total future NO_x concentrations under the DS scenario do not exceed the CL. For St Leonards and St Ives Heaths the PC in combination with other development exceeds 1% of the CL, however, the future total NO_x concentrations do not exceed the CL. Adverse effects on the Dorset Heathlands SAC/SPA/Ramsar from airborne NO_x emissions are therefore not predicted, either alone or in combination with plans and projects.

NH₃

- 3.11 **Table 3.3** shows that at both Cranborne Common and St Leonards and St Ives Heaths, the modelled PC both alone and in combination with other development significantly exceed 1% of the CL, and total future NH₃ concentrations under both the DM and DS scenarios exceed the CL. In the absence of further data on the distribution of SAC/SPA qualifying habitats and species within the areas of exceedance, the potential for adverse effects cannot be ruled out. Mitigation is therefore required and is described further below.

Table 3.2: Results of NOx Modelling

ID	Receptor	CL	2041 (DN)		2041 + CD (DM)		2041 + CD + Dev. (DS)		Impact Alone (DS-DM)		Impact In-comb. (DS-DN)	
			Total NOx	CL Exceed.	Total NOx	CL Exceed.	Total NOx	CL Exceed.	PC	% of CL	PC	% of CL
9a	Cranborne Common	30	6.96	-23.04	7.11	-22.89	7.95	-22.05	0.84	2.79	0.98	3.28
9b	Cranborne Common	30	6.89	-23.11	7.07	-22.93	7.89	-22.11	0.82	2.73	1.00	3.33
26a	St Leonards and St Ives Heaths	30	21.44	-8.56	21.60	-8.40	21.80	-8.20	0.20	0.66	0.36	1.19
26b	St Leonards and St Ives Heaths	30	22.18	-7.82	22.47	-7.53	22.67	-7.33	0.20	0.68	0.50	1.65

Table 3.3: Results of NH₃ Modelling

ID	Receptor	CL	2041 (DN)		2041 + CD (DM)		2041 + CD + Dev. (DS)		Impact Alone (DS-DM)		Impact In-comb. (DS-DN)	
			Total NH ₃	CL Exceed.	Total NH ₃	CL Exceed.	Total NH ₃	CL Exceed.	PC	% of CL	PC	% of CL
9a	Cranborne Common	1	1.71	0.71	1.75	0.75	1.98	0.98	0.23	22.61	0.26	26.48
9b	Cranborne Common	1	1.67	0.67	1.71	0.71	1.91	0.91	0.20	20.21	0.25	24.76
26a	St Leonards and St Ives Heaths	1	4.13	3.13	4.20	3.20	4.25	3.25	0.05	4.85	0.12	12.11
26b	St Leonards and St Ives Heaths	1	3.95	2.95	4.01	3.01	4.06	3.06	0.04	4.34	0.11	10.61

Table 3.4: Results of Nitrogen Deposition Modelling

ID	Receptor	LCL	Dep. velocity	2041 (DN)		2041 + CD (DM)		2041 + CD + Dev. (DS)		Impact Alone (DS-DM)		Impact In-comb. (DS-DN)	
				Total N dep	LCL Exceed.	Total N dep	LCL Exceed.	Total N dep	LCL Exceed.	PC	% of CL	PC	% of CL
9a	Cranborne Common	5	Short	15.08	10.08	15.11	10.11	15.26	10.26	0.15	2.4	0.18	3
			Tall	25.05	20.05	25.10	20.10	25.41	20.41	0.31	2.4	0.36	3
9b	Cranborne Common	5	Short	15.08	10.08	15.19	10.19	15.26	10.26	0.15	0	0.18	2.2
			Tall	25.05	20.05	25.26	20.26	25.41	20.41	0.29	0	0.36	2.2
26a	St Leonards and St Ives Heaths	5	Short	13.58	8.58	13.61	8.61	13.65	8.65	0.04	0.2	0.07	0.8
			Tall	22.73	17.73	22.83	17.83	22.87	17.87	0.07	0.2	0.14	0.8
26b	St Leonards and St Ives Heaths	5	Short	13.58	8.58	13.63	8.63	13.67	8.67	0.04	3	0.09	4
			Tall	22.73	17.73	22.83	17.83	22.90	17.90	0.07	3	0.17	4

Nitrogen Deposition

- 3.12 Based on the revised modelling, **Table 3.4** shows that the Proposed Development when considered alone would result in nitrogen deposition that exceeds 1% of the CL at location 9a, Cranborne Common, and location 26b, St Leonards and St Ives Heaths, for both tall and short vegetation types associated with the SAC and associated SAC/SPA species. When the PC is considered in combination with other development, location 9b at Cranborne Common also exceeds 1% of the CL for both tall and short vegetation types. The CL is exceeded under all existing and future modelled scenarios. Adverse effects therefore cannot be ruled out in the absence of further information or mitigation. Proposed mitigation is described further below.

Impact Avoidance and Mitigation

- 3.13 As proposed in the submitted IfHRA report, a proportionate financial contribution to the Phase 2 air quality mitigation measures being delivered through the Dorset Heathlands Interim Air Quality Strategy (IAQS) is proposed, to be secured via S106.

Conclusion

- 3.14 Financial contribution towards the delivery of IAQS measures across relevant components of the Dorset Heathlands SAC/SPA/Ramsar will ensure that the Proposed Development does not contribute to adverse air quality effects on the integrity of these International Sites either alone or in combination with other plans and projects.

Approach to the Assessment of Air Quality Effects on the New Forest

- 3.15 Natural England's objection to the Appeal proposals comments on the consideration of potential air quality effects on the New Forest SAC/SPA/Ramsar as follows:

“Natural England note the advice by the national park concerning air pollution (27 April 2023) and advise that the current air pollution modelling is inadequate to allow a conclusion that there will not be a Likely Significant effect on the designated sites either alone or in-combination with a number of significant development coming forward around Fordingbridge.”

- 3.16 The NFNPA advice referred to by Natural England is set out in their consultation response dated 27 April 2023 as follows:

“The National Park Authority does not agree that potential air quality impacts can be scoped out at the HRA stage and not proceed to an appropriate assessment. Uncertainty remains about whether in combination traffic growth and related air pollution could adversely affect the integrity of New Forest SAC, SPA and Ramsar site and the precautionary principle should be applied.”

- 3.17 The above concern has been raised in response to Table 4.1 of the submitted IfHRA, which states that air pollution has been scoped out for the New Forest designations on the basis that there is no viable impact pathway. Reference is then made, via footnote, to research carried out by EPR on behalf of the NFNPA and NFDC, which found no evidence of adverse effects from air pollution on the New Forest vegetation (qualifying habitats of the SAC and Ramsar and supporting habitats for SAC/SPA/Ramsar species)(EPR, 2018). The footnote continues to

make reference to the NFDC 'Air Quality Assessments in New Development Supplementary Planning Document' (Adopted June 2022), which states at paragraph 9.2 *et seq*:

"9.2 The Habitat Regulations Assessment which accompanied the Local Plan Part 1 concluded that implementation of the Local Plan and New Forest National Park Local Plan alone will not have an adverse effect on the integrity of any European site. While there is no evidence of current negative effects from traffic related air pollution, uncertainty remains about whether in combination traffic growth and related air pollution could adversely affect the integrity of New Forest SAC, SPA and Ramsar site during the Local Plan period up to 2036.

9.3 With this uncertainty in the data, the precautionary principle applies requiring a modest financial contribution from development for ongoing monitoring of the effects of traffic emissions on sensitive locations, to trigger management or mitigation measures and developer contributions to implement them if harmful effects are confirmed in the future.

9.4 The Council has instigated a monitoring regime to monitor the condition of sensitive vegetation within the New Forest SPA, SAC and RAMSAR sites, to assess whether or not nutrient nitrogen deposition, acid deposition and ammonia levels from traffic emissions are having an adverse effect on these designated European sites.

9.5 If air quality monitoring identifies that significant adverse effects are occurring or likely, legal agreements or other appropriate mechanisms will be put in place to ensure that homes subsequently permitted would be required to make reasonable and proportionate developer contributions for air quality management or mitigation."

- 3.18 It is therefore the case that the current evidence regarding air quality effects on New Forest SAC/SPA/Ramsar features has not warranted the adoption of an air quality mitigation strategy, in the way that has been done in Dorset, and the New Forest authorities are working to a 'monitor and manage' approach.
- 3.19 The above notwithstanding, and as previously conveyed to Natural England and Dorset Council during the meeting held on 19 April 2024 to discuss common ground, the transport assessment did not intentionally exclude New Forest road links from the transport model. The affected road network was scoped on the basis of the trip distribution analysis carried out by the appellants transport consultant, Paul Basham Associates, and the screening methodology described at paragraph 7.27 of the submitted IfHRA. The transport model has been developed and agreed in consultation with relevant Highways Authorities.
- 3.20 Component patches of International Sites located within 200m of the road links predicted to experience an increase in traffic flows of more than 1,000 AADT either alone or in combination with other developments were then taken forward for detailed air quality assessment, in accordance with published guidance, with the results presented in the submitted report as 'Information for Appropriate Assessment'.
- 3.21 The transport assessment has been revised to include site allocations and other committed developments around Fordingbridge, however, this has not affected the extent of the transport model nor the International Sites requiring air quality assessment. The air quality assessment previously carried out and presented in the submitted IfHRA therefore remains valid in terms of its scope.

4. RECREATIONAL PRESSURE

Introduction

- 4.1 The Appeal Site is located within the 400m-5km zone of influence around the Dorset Heathlands SAC/SPA/Ramsar, within which SANG and SAMM is required to avoid an adverse effect on site integrity as a result of increases in recreational pressure.
- 4.2 The Appeal Site is also located within the 13.8km zone of influence around the New Forest SAC/SPA/Ramsar, where increases in recreational pressure have the potential to act in combination with other development and accordingly where mitigation is also required.
- 4.3 Section 8 of the IfHRA set out proposals for impact avoidance and mitigation measures, comprised of bespoke SANG in relation to both the Dorset Heathlands and the New Forest, and additionally SAMM in relation to the Dorset Heathlands.
- 4.4 This section provides further information on proposed SANG and SAMM measures in order to address comments made by Natural England and DC, as relevant to RfR 1.

Information for Appropriate Assessment

Impact Avoidance and Mitigation

SANG Phasing

- 4.5 The Dorset Heathlands SPD specifies a household occupancy ratio of 2.42 people per house and 1.65 people per flat. For an outline planning application (where housing mix is not detailed), the precautionary assumption is to assume all of the dwellings will be houses.
- 4.6 53.4 ha of SANG for 1,700 dwellings (4,114 residents) would therefore equate to a SANG mitigation provision rate of 12.98 ha/1,000 or 0.01298 ha of SANG per person or 0.0314 ha of SANG per dwelling.
- 4.7 The totality of the proposed SANG does not need to be provided in advance of first occupation, though a) the first SANG compartment delivered should be capable of satisfying 'must have' SANG quality criteria, and b) sufficient SANG mitigation capacity should be available within an operational SANG prior to each and every dwelling occupation. This will require monitoring throughout the construction phase of development and related property sales.
- 4.8 The SANG Phasing Plan P1 and Infrastructure Delivery Plan submitted as part of the planning application outlines indicative residential parcel phasing as summarised in **Table 4.1** and **Map 3**.
- 4.9 Following a meeting with Natural England on 26 October 2023, an additional circular walking route will be delivered from 1st occupation within part of the area proposed as the Alderholt Common SANG, though this walking route will be through the existing countryside landscape until such a time as the SANG upgrade works follow prior to the SANG compartment becoming operational. It is agreed that this is an acceptable phasing strategy, with the final detail regarding SANG habitat design, delivery and management to be secured by planning obligation or condition.

Table 4.1: Indicative SANG and development phasing

SANG compartment	Size (ha)	SANG Phase	Mitigation capacity (no. dwellings)	Indicative phasing
Cross Roads Plantation	20.2 ha	1	643	Prior to 1 st occupation of Development Phase 1. SANG delivery 2026, 24 occupations in 2027.
Harbridge Drove	9.7 ha	2	309	Prior to 1 st occupation of Development Phase 3. SANG delivery 2028, 96 occupations to 2028 (inclusive), Phase 3 occupations 2029.
Alderholt Common	23.5 ha	3	748	Prior to 1 st occupation of Development Phase 5. SANG delivery 2030, 456 occupations to 2030 (inclusive), Phase 5 occupations 2031.
Total	53.4 ha		1,700	

SANG Management

- 4.10 The governance and funding strategy proposed to secure the SANG follows the model agreed for the Canford (Riverside) SANG in Poole. This includes management in perpetuity via a Management Company, with a bond proposed within the S106 to cover management in the event of default. Funding will include a developer endowment sum, plus a resident's service charge.

Access to the West

- 4.11 Natural England has raised concern regarding access from the Appeal Site to the west, which would increase recreational pressure on Cranborne Common, either because of informal access made from the Alderholt Common SANG west across the Sleep Brook wetland valley, or as a result of promotion of sustainable transport routes as part of the previously submitted Transport Strategy.
- 4.12 Natural England proposed the following in their May 2023 consultation response:

“Following on site discussions it appears that the southern parcel which has a consent for a solar facility which is as yet not constructed offers an opportunity to establish an effective barrier. The adjoining land owner is managing an extensive grazing area around the designated sites, and it is proposed that an area, approximately indicated in yellow at Annexe 1, which no longer forms part of an agricultural unit should be incorporated. The mechanism is yet to be considered; however this would establish a clear fenced boundary with grazing stock present with no direct public access and also bring into the wider positive management the smaller parcels of designated site to the west of Sleepbrook.”

- 4.13 A land ownership plan was submitted to DC following receipt of Natural England's objection. This was to demonstrate that the land approximately indicated by Natural England in their Annexe 1 is within the control of the applicant. **Map 4** shows the parcel of land around Sleep Brook that is proposed for incorporation within a grazing regime to provide a barrier to public access westwards, in the context of the Appeal Site and adjoining SANG. This parcel of land would be secured with suitable fencing to enclose grazing stock, which would likely take the

form of post and rail with 50 x 50mm sheep netting to half height. The final details for the grazing regime and boundary fencing can be agreed as part of a 'Sleep Brook Valley Grazing Plan', the delivery of which can be secured by planning obligation or condition.

- 4.14 In terms of wider offsite travel, the Transport Strategy has been amended to remove reference to the promotion of access into Ringwood Forest and via that to Alderholt, in order to ensure that the impact avoidance and mitigation strategy proposed to avoid adverse effects on Cranborne Common, part of the Dorset Heathlands SAC/SPA/Ramsar, remains robust.

SAMM

- 4.15 A proportionate contribution to SAMM via the Dorset Heathlands Planning Framework 2015-2020 SPD is proposed, a total of £625,328, to be secured by S106. Natural England commented on this aspect of the Dorset Heathlands mitigation strategy in their May 2023 consultation response as follows:

"The applicant may reliably make use of the Dorset Heathlands Planning Framework SPD to secure mitigation through a financial contribution and the authority can conclude that there would be no adverse effect."

- 4.16 Natural England's consultation response of May 2023 identified that further mitigation, beyond that secured in line with the Dorset Heathlands SPD, would be required to avoid adverse effects from recreational pressure on the New Forest designations. This requirement was discussed in a meeting held with Natural England in October 2023, following which Natural England confirmed by email (on the 26th of that month, and following separate correspondence with DC's Environmental Assessment Officer, Mr Rendle) that the project should budget for a financial contribution of between £400-500 per dwelling towards the emerging New Forest SAMM project. This sum has been incorporated within the viability assessment of the Proposed Development, and as per the contribution towards SAMM in Dorset, can be secured by S106.

Conclusion

- 4.17 The 53 ha proposed SANG has been confirmed by Natural England as providing sufficient capacity for the Appeal proposal, with the potential to divert people away from Cranborne Common. Additional information regarding the phasing and management of the SANG, as well as other measures to discourage westward travel, is provided above in response to comments raised by Natural England and DC. On the basis that an acceptable SANG can be secured, alongside contributions towards the delivery of SAMM measures on both the Dorset Heathlands and the New Forest, via S106, then adverse effects on the integrity of these International Sites from increased recreational pressure would not arise, either alone or in combination with other plans and projects.

5. SUMMARY AND CONCLUSION

- 5.1 This Addendum Information for HRA technical note has set out further information intended to address the issues captured by RfR 1 relating to the HRA of the Appeal proposals. This includes revised River Avon nutrient mitigation calculations, revised air quality modelling data for the Dorset Heathlands, and further information regarding the phasing and management of SANG and other mechanisms considered necessary by consultees to avoid additional public access to the west. The approach taken to scope the potential for air quality effects on the New Forest designations is also clarified.
- 5.2 This further information has demonstrated that the conclusions reached within the submitted IfHRA report, and overarching ES Ecology chapter (insofar as it relates to International Sites), remain valid.
- 5.3 Adverse effects on the integrity of the River Avon SAC/Avon Valley SPA and Ramsar as a result of waste water discharge, and the Dorset Heathlands SAC/SPA/Ramsar and the New Forest SAC/SPA/Ramsar as a result of air quality and recreational pressure, can be mitigated through the delivery of a comprehensive package of impact avoidance and mitigation measures, which can all be secured through planning obligation or condition. Though not considered further in this addendum note, measures proposed to avoid adverse effects from the loss of offsite supporting habitat for Nightjar remain part of the overarching mitigation strategy. The package of measures necessary to address RfR 1 are therefore summarised in **Table 5.1** below, which should be delivered in advance of first occupation/operation and be secured in perpetuity.
- 5.4 In view of the above, in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended) and taking into account the most recent relevant case law, the Competent Authority can safely conclude that the Appeal proposals will not have an adverse effect on the integrity of the International Sites considered in the Shadow HRA alone or in combination with other plans and projects. Consequently, an Appropriate Assessment of the Appeal proposals under Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017 (as amended) can be passed.

Table 5.1: Components of the proposed HRA mitigation strategy necessary to address RfR 1

Impact Pathway	Relevant Sites (X – scoped in)					Impact Avoidance and Mitigation Measures Proposed to Ensure No Adverse Effect (alone and in combination)
	Dorset Heaths SAC	Dorset Heathlands SPA	Dorset Heathlands Ramsar	River Avon SAC/Avon Valley SPA/Ramsar	New Forest SAC/SPA/Ramsar	
Loss of offsite supporting habitat, Nightjar		X				<ul style="list-style-type: none"> • New and enhanced habitats within SANG and GI network, to be detailed in SANG MP/LEMP • Lighting Strategy
Nutrient neutrality				X		<ul style="list-style-type: none"> • Nutrient budget calculation and purchase of required Phosphate credits to achieve nutrient neutrality • CEMP • SuDS Strategy
Air pollution	X	X	X			<ul style="list-style-type: none"> • CEMP • Contribution to Dorset Heathlands IAQS
Increased recreational pressure	X	X	X		X	<ul style="list-style-type: none"> • Bespoke SANG provision, detailed via SANG MP/LEMP • Contribution to SAMM via Dorset Heathlands SPD • Contribution to New Forest SAMM

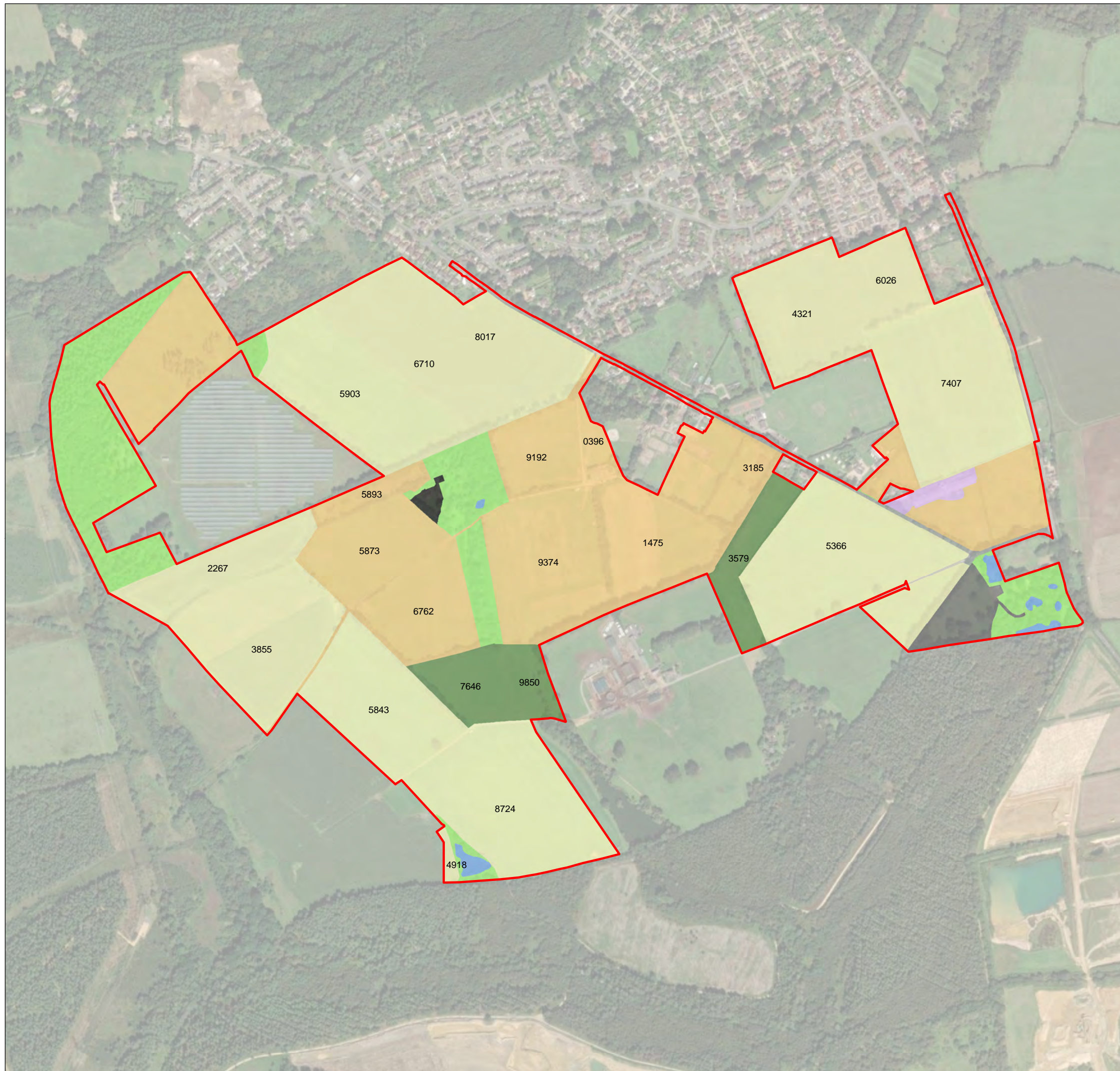
Document Prepared By: Dr Rebecca Brookbank BSc (Hons) PhD MCIEEM

Document Dated: 01/05/2024

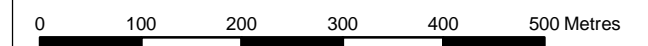
MAP 1 Pre-development Land Use

KEY

- Site boundary
- Dairy (5.65ha)
- General cropping (64.73ha)
- Greenspace (12.54ha)
- Lowland grazing (35.04ha)
- Open urban land (1.65ha)
- Poultry (0.64ha)
- Residential urban land (0.31ha)
- Water (0.60ha)



SCALE: 1:7,500 at A3



CLIENT: Dudsbury Homes (Southern)

PROJECT: Alderholt Meadows, Fordingbridge

DATE: 01 May 2024




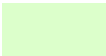


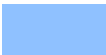
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3043

Aerial Image: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

MAP 2 Proposed Land Use

KEY

-  Site boundary
-  Commercial (2.36ha)
-  Community food growing (0.79ha)
-  Greenspace (68.96ha)
-  Open urban land (5.96ha)
-  Residential (39.13ha)
-  Water (3.96ha)



Indicative Masterplan
 Alderholt Meadows, Dorset

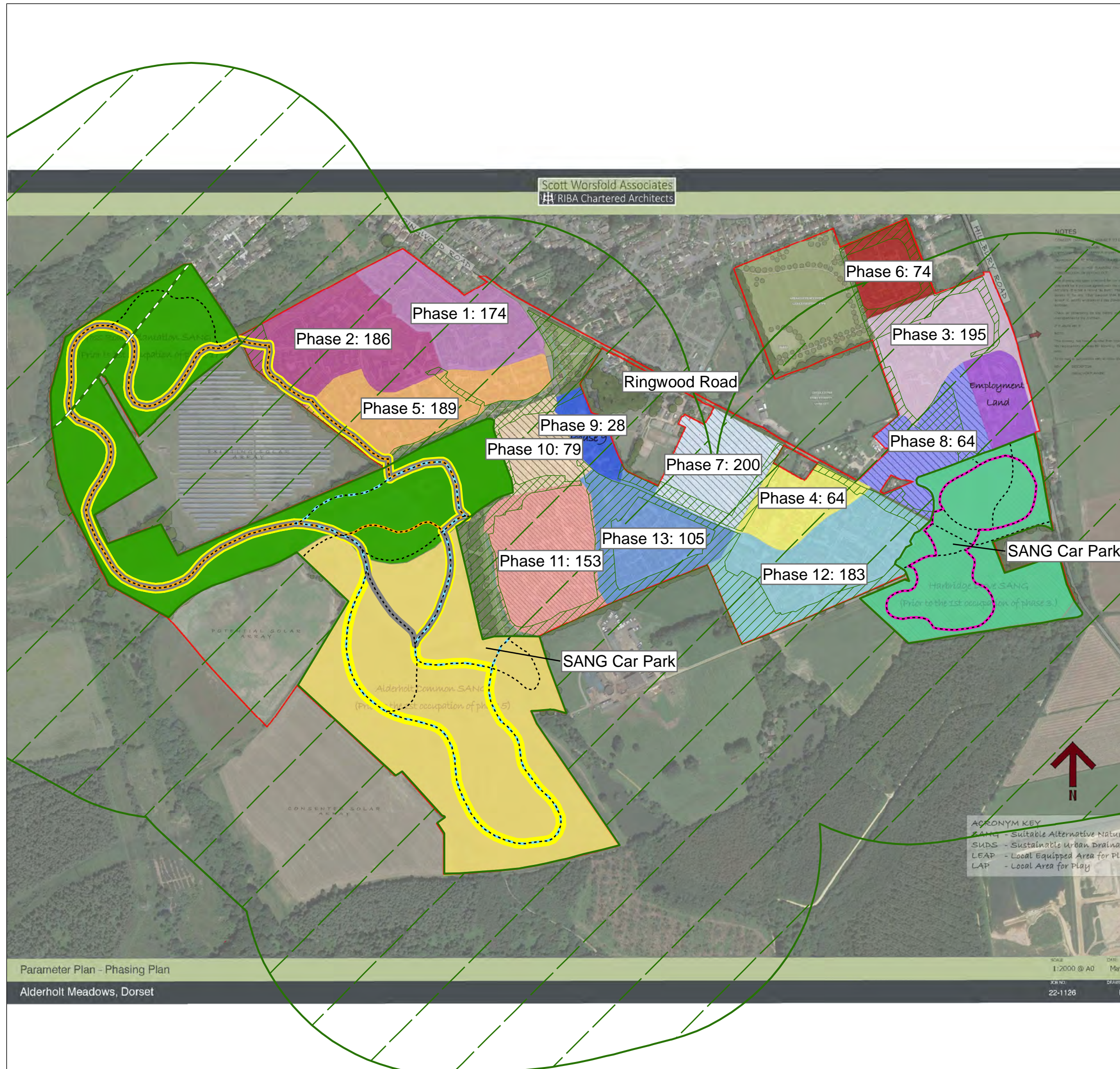
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 DATE: 01 May 2024

MAP 3 Proposed SANG Network & Phasing

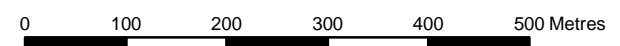


KEY

- SANG Phase 1 - Cross Roads Plantation (20.2 ha)
- SANG Phase 2 - Harbridge Drove (9.7 ha)
- SANG Phase 3 - Alderholt Common (23.5 ha)
- 400m linear distance from Proposed SANGs
- Green infrastructure corridors
- Public right of way
- SANG paths
- SANG Phase 1 walk 1 - 2.5km
- SANG Phase 1 walk, with 'SANG Light' extension - 2.8km
- SANG Phase 2 walk - 1.2km
- SANG Phase 3 walk - 2.4km
- SANG Phase 3 walk extended - 5.9km

The indicative phasing of development parcels is shown inset, with the number of dwellings coming forward within each parcel shown

SCALE: 1:7,500 at A3









ACRONYM KEY
 SANG - Suitable Alternative Natural Greening
 SUDS - Sustainable Urban Drainage
 LEAP - Local Equipped Area for Play
 LAP - Local Area for Play

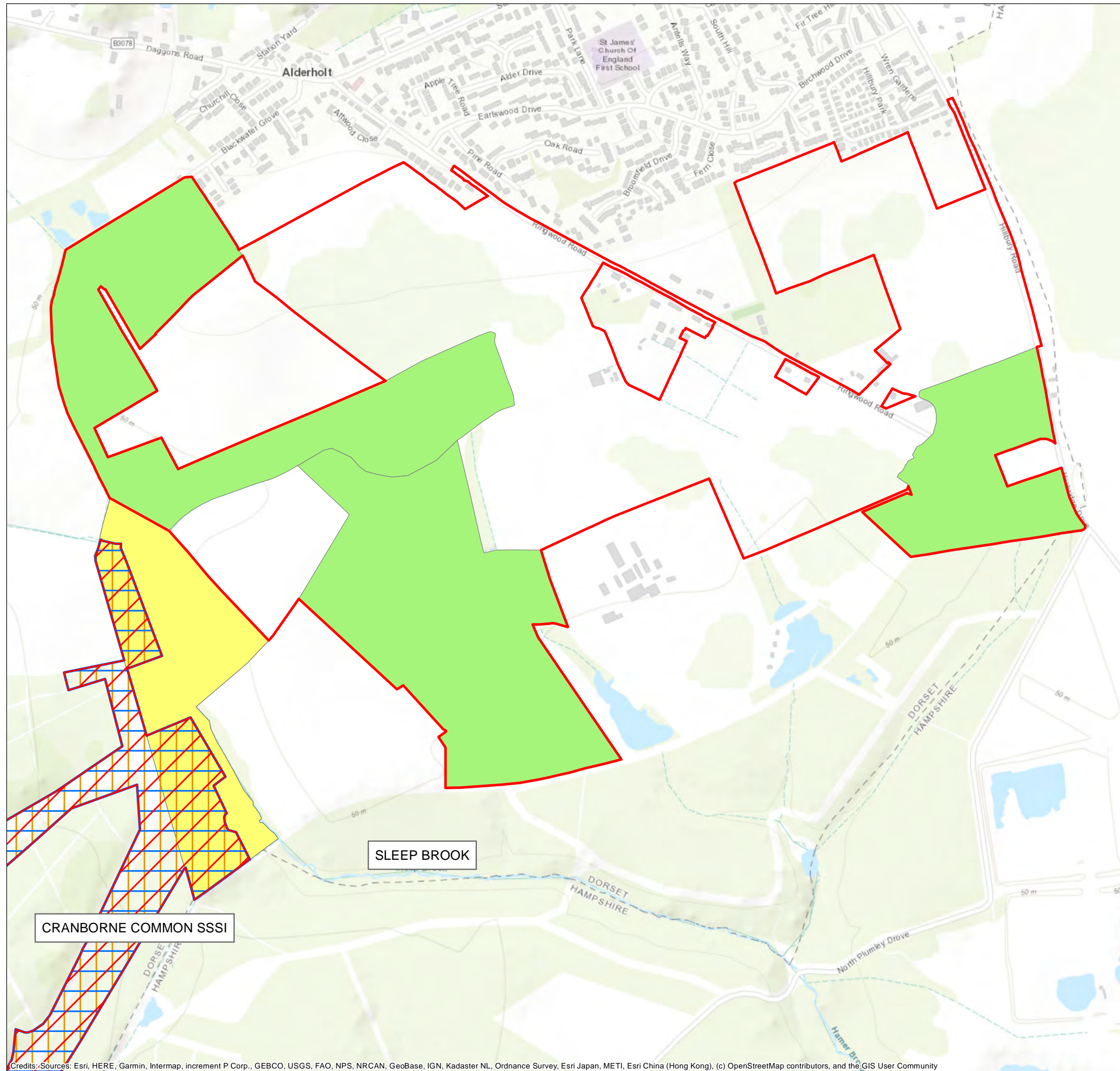


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 DATE: 01 May 2024

MAP 4 Sleep Brook Grazing Parcel

KEY

-  Appeal site boundary
-  Special Protection Areas (SPA)
-  Special Areas of Conservation (SAC)
-  Ramsar
-  Proposed SANG
-  Sleep Brook grazing parcel



SCALE: 1:7,500 at A3



CLIENT: Dudsbury Homes (Southern)

PROJECT: Alderholt Meadows, Fordingbridge

DATE: 01 May 2024

Appendix 1

Agricultural Land Use Records

Field Reference	2023	2022	2021	2020	2019
0396	Permanent grass – horse and pony				
1475	Permanent grass – silage and beef cattle				
2267	Maize	Maize	Turnip / Kale	PG	PG
3185	Permanent grass – horse and pony				
3579	Temporary grass - dairy				
3855	Cover crops	Maize / TG	Maize / TG	PG	PG
4321	Maize	TG	TG	Maize	Maize
4918	Maize	TG	TG	Maize	Legumes
5366	TG	TG	Maize	Maize	Maize
5843	TG	TG	Maize	Maize	Maize
5873	Permanent grass – silage and beef cattle				
5893	Permanent grass – horse and pony				
5903	TG	Maize	Maize	TG	TG
6026	Maize	TG	TG	Maize	Maize
6710	Maize	Maize	TG	TG	TG
6762	Permanent grass – haylage and beef cattle				
7407	TG	TG	TG	TG	TG
7646	Temporary grass - dairy				
8017	Maize	Maize	Legumes	Legumes	Maize
8724	TG	Maize	Maize	Maize	Maize
9192	Permanent grass – silage and beef cattle				
9374	Permanent grass – beef cattle				
9850	Permanent grass – dairy cattle				
Cross Roads	Permanent grass – hay and silage				
Oak Tree Farm	Permanent grass – hay and silage				

TG = temporary grass
PG = permanent grass

Appendix 2

Nutrient Budget Calculation

'Nutrients from Wastewater'

Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may be required
Date of first occupancy (dd/mm/yyyy):	01/01/2027	
Average occupancy rate (people/dwelling or people/unit):	2.40	
Water usage (litres/person/day):	120	
Development proposal (dwellings/units):	1700	
Wastewater treatment works:	Fordingbridge WRC	
Current wastewater treatment works P permit (mg TP/litre):	1.00	
Not applicable	Not applicable	
Post 2030 WwTW P permit (mg TP/litre):	0.25	
Final calculation of nutrient load from wastewater		
Description of values generated	Values generated	
Post-2030 wastewater nutrient Loading		
Additional population (people):	4080.00	
Wastewater by development (litres/day):	489600.00	
Annual wastewater TP load (kg TP/yr):	40.24	
Pre-2030 wastewater nutrient loading		
Annual wastewater TP load (kg TP/yr):	160.94	
Not applicable		
Not applicable	Not applicable	

'Nutrients from Current Land Use'

Description of required information	Data entry column - user inputs required	
Operational catchment:	Avon Hampshire	
Soil drainage type:	Variable	
Annual average rainfall (mm):	800.1 - 850	
Within nitrate vulnerable zone (NVZ):	No	
Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)
Lowland	35.04	4.26
General	64.73	26.36
Dairy	5.65	1.47
Greenspace	12.54	0.25
Open urban land	1.65	1.46
Residential urban land	0.31	0.51
Water	0.60	0.00
Poultry	0.64	0.27
Totals:	121.16	34.59

'Nutrients from Future Land Use'

New land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)
Residential urban land	39.13	64.62
Open urban land	5.96	5.28
Greenspace	68.96	1.38
Community food growing	0.79	0.07
Commercial/industrial urban land	2.36	2.85
Water	3.96	0.00
Totals:	121.16	74.20

'Final Nutrient Budgets'

Total nutrient budget calculations	
Description of values generated	Values generated
Wastewater TP load (kg TP/year):	40.24
Net land use TP change (kg TP/year):	39.61
TP budget:	79.85
TP budget + 20% buffer:	95.82
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	95.82
Pre-2030 nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	240.66
Not applicable	
Not applicable	Not applicable

NB. The pre-2030 nutrient budget figure of 240.66 kg/year would only apply if the proposed development were fully delivered and occupied before 2030. The project's actual nutrient budget in any pre-2030 year of occupation will be lower than the in-perpetuity nutrient budget currently projected at 95.82 kg/year.